

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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

RECOMMENDED DECISION

Adopted: November 7, 1996

Released: November 8, 1996

By the Federal-State Joint Board (Chairman Hundt and Commissioners Johnson, Nelson, and Ness, and the Honorable Martha Hogerty issuing separate statements; Commissioners McClure, Schoenfelder, and Chong concurring in part and dissenting in part and issuing separate statements):

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I. INTRODUCTION

1. The Telecommunications Act of 1996 (1996 Act)¹ fundamentally changes telecommunications regulation. It replaces the paradigm of government-encouraged monopolies with one in which federal and state governments work in concert to promote efficient competition and to remove outdated entry barriers and regulations that protect monopolies.² At the same time, the statute directs the Commission and the states to work together to preserve and advance universal service, in ways consistent with the new, competitive paradigm. The statute directed the Commission to convene this Federal-State Joint Board to recommend changes to the Commission's existing universal service support mechanisms.³ In particular, Congress directed the Joint Board to recommend, and the Commission to adopt, a new set of universal service support mechanisms that are explicit and sufficient to advance the universal service principles enumerated in the statute and such other principles as the Joint Board and the Commission believe are necessary and appropriate for the protection of the public interest, convenience and necessity, and are consistent with the 1996 Act.

2. In this Recommended Decision, we propose rules and policies that will create such an effective universal service support system to "ensure that the goals of affordable service and access to advanced services are met by means that enhance, rather than distort, competition."⁴ We recommend replacing or modifying existing support mechanisms that are inconsistent with the pro-competitive, deregulatory spirit of the 1996 Act, substantially reshaping virtually all remaining mechanisms, and adopting certain new support mechanisms. Our recommendations are fashioned to ensure quality telecommunications services at affordable rates to consumers, including low-income consumers, in all regions of the nation, including rural, insular, and high cost areas. Rural

¹ 1996 Act, Pub. L. No. 104-104, 110 Stat. 56. The 1996 Act amends the Communications Act of 1934, 47 U.S.C. §§ 151 *et. seq.* Hereinafter, all citations to the 1996 Act will be to the relevant sections of the United States Code unless otherwise noted.

² *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, First Report and Order, FCC 96-235 (rel. Aug. 29, 1996) (*Local Competition Order*) at para. 5. On October 15, 1996, the 8th Circuit issued an order staying the pricing provisions and the "pick and choose" rule of the *Local Competition Order*. See *Iowa Utilities Board v. FCC*, 1996 WL 589204 (8th Cir. 1996). The FCC's initial appeal of the 8th Circuit's decision was denied. Acting on a motion filed by AirTouch, the 8th Circuit lifted a small portion of its stay on November 1, 1996. The 8th Circuit reinstated the FCC's "reciprocal compensation" requirements, which dictate how LECs and wireless carriers are compensated for transporting and terminating each other's traffic.

³ 47 U.S.C. § 254(a)(1). In the Joint Explanatory Statement, the Joint Board was directed to "thoroughly review the existing system of federal universal service support." S. Rep. No. 230, 104th Cong., 2d Sess. 131 (1996) (Joint Explanatory Statement).

⁴ *Local Competition Order* at para. 7.

health care providers should have access to telecommunications services at rates comparable to those in urban areas. Libraries and elementary and secondary schools will be able to purchase telecommunications services at discounted rates. As required by the 1996 Act, these universal service mechanisms will be explicit, specific, predictable and sufficient to preserve and advance universal service and will be supported by equitable and nondiscriminatory contributions by all telecommunications carriers that provide interstate telecommunications services.

II. EXECUTIVE SUMMARY

A. Principles

3. Section 254(b) sets forth the principles that are to guide this Joint Board and the Commission in establishing policies for the preservation of universal service. These principles include quality and rates, access to advanced services, access in rural and high cost areas, equitable and nondiscriminatory contributions, specific and predictable support mechanisms, and access to advanced telecommunications services for schools, health care, and libraries.⁵ In addition, the Joint Board and Commission may consider such "additional principles" as are necessary and appropriate for the protection of the public interest, convenience and necessity and are consistent with the 1996 Act.⁶ In addition to the principles specified in section 254(b), the Joint Board recommends that the Commission also be guided by the principle of "competitive neutrality" in that universal service support mechanisms and rules should be applied in a competitively neutral manner.

B. Definition of Universal Service

4. Section 254(c)(1) requires the Joint Board to recommend a definition of telecommunications services that will be supported by universal service support mechanisms. The Joint Board recommends that the definition of supportable services include: voice grade access to the public switched network, with the ability to place and receive calls; touch-tone or dual tone multi-frequency signalling (DTMF) or its functional equivalent; single-party service; access to emergency services; access to operator services; access to interexchange services; and access to directory assistance. In addition, the Joint Board recommends that eligible carriers receive support for the provision of toll blocking and limitation services for low income consumers and access to enhanced 911, to the extent carriers are capable of providing such access, and, with respect to enhanced 911, where local communities request such access. The Joint Board suggests that service to the initial primary residence connection should be fully supported by universal service support mechanisms and that service to single-connection businesses should be supported

⁵ 47 U.S.C. § 254(b).

⁶ 47 U.S.C. § 254(b)(7).

at a reduced rate. The Joint Board, pursuant to section 214(e)(1), also recommends that only carriers that provide all of the services within the definition of universal service be eligible to receive support, with a very limited and temporary exception for carriers that are not currently providing single-party service.

C. Affordability

5. The Joint Board recommends that states monitor rates and non-rate factors, such as subscribership levels, to ensure affordability. The Joint Board finds that there is a correlation between affordability and subscribership and recommends further joint examination by the Commission and the states of the factors that may contribute to low penetration rates in states where the subscribership levels are particularly low.

D. Carriers Eligible for Universal Service Support

6. The Joint Board recommends that the statutory criteria set out in section 214(e) be used to determine which carriers are designated eligible telecommunications carriers. Pursuant to section 214(e), carriers must offer all the services supported by the federal universal service support mechanism throughout their service areas to be eligible for universal service support. Specifically, section 214(e) requires that, throughout its designated service area, an eligible carrier shall: (1) offer all of the services that are supported by the federal universal service mechanism; (2) offer such services using its own facilities or a combination of its own facilities and resale of another carrier's services; and (3) advertise the availability and charges for such services. In the case of areas served by rural telephone companies, we recommend that such a company's existing study area be used as the designated service area. With respect to areas served by non-rural carriers, the states have primary responsibility for designating the service area. We recommend, however, that the service areas chosen by the states should not be unreasonably large.

E. High Cost Support

7. The Joint Board recommends a bifurcated system for determining the level of universal service support for telecommunications carriers. For non-rural telecommunications carriers, the level of support will be based on a proxy cost model, which calculates the cost of providing the supported services in a particular geographic area. Support for "rural telephone companies," as defined in section 153(37),⁷ however, will initially be based on embedded costs.

⁷ The term "rural telephone company" means a local exchange carrier operating entity to the extent that such entity- (A) provides common carrier service to any local exchange carrier study area that does not include either - (i) any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census; or (ii) any territory, incorporated or unincorporated, included in an urbanized area, as defined by the Bureau of the Census as of August 10, 1993; (B) provides telephone exchange service, including exchange access, to fewer than 50,000 access lines; (C) provides telephone exchange service to

Rural telephone companies will be permitted to calculate support levels using embedded costs for three years after large companies begin to use proxy cost models. Rural companies serving Alaska and insular areas⁸ will be permitted to employ embedded costs until further review. The level of support for non-rural carriers will be based on the difference between a benchmark amount and the cost of service determined by the proxy model. For rural companies, high cost assistance, Dial Equipment Minute (DEM) weighting and Long Term Support (LTS) benefits will be frozen on historical per-line amounts. The payment to the carrier may vary if the number of lines in service changes, but the per-line support will remain constant during the transition. The rural companies will then have a three-year transition period to shift to proxy cost models. In addition, the Joint Board recommends that the Commission, with state commission participation, further analyze the proxy cost models, currently in the record, so that a model can be created or adopted to determine universal service support.

F. Support for Low-Income Consumers

8. The Joint Board recommends that the Commission modify the Lifeline and Link Up programs to further competitive and technological neutrality. To that end, the Lifeline program should be de-linked from the subscriber line charge (SLC),⁹ and both programs should be funded through a mechanism consistent with sections 254(d) and (e). We further recommend that the Commission extend the Lifeline and Link Up programs nationwide, including insular areas, and modify the state matching requirement. The Joint Board also recommends that low-income consumers have access to all of the designated services supported by universal service. We recommend prohibiting the disconnection of local service for non-payment of charges incurred for toll calls and providing support for voluntary toll blocking and toll limitation for Lifeline consumers. We also recommend that carriers be prohibited from requiring service deposits from Lifeline customers who elect toll-blocking services. We recognize that, although section 254(j) states "[n]othing in this section shall affect the collection, distribution, or administration of the Lifeline Assistance Program," the recommended changes to the Lifeline and LinkUp programs are necessary to make the programs consistent with certain specific provisions and the overall goals of the 1996 Act.

G. Support for Schools and Libraries

any local exchange carrier study area with fewer than 100,000 access lines; or (D) has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996. 47 U.S.C. § 153(37).

⁸ The 1996 Act does not specifically define "insular areas," but Congress stated that insular areas would include areas such as the Pacific Island territories. Joint Explanatory Statement at 131.

⁹ For a description of the SLC, see section XII *infra*.

9. The Joint Board recommends that, consistent with section 254(h), all eligible schools and libraries should receive discounts of between 20 and 90 percent on all telecommunications services, Internet access, and internal connections, subject to a \$2.25 billion annual cap. In addition, any funds that are not disbursed in a given year may be carried forward and may be disbursed in subsequent years without regard to the cap. We find that this recommendation provides schools and libraries with the maximum flexibility to purchase the package of services they believe will meet their communications needs most effectively. We also conclude that economically disadvantaged schools and libraries, as well as schools and libraries located in high cost areas, should receive greater discounts to ensure that they have affordable access to telecommunications and information services. Further, we recommend that schools and libraries be required to comply with several self-certification requirements, designed to ensure that only eligible entities receive universal support and that they have adopted plans for securing access to all of the necessary supporting technologies needed to use the services purchased under section 254(h).

H. Support for Health Care Providers

10. Sections 254(c) and 254(h) add health care providers serving rural areas to the list of entities that may benefit from universal service support. The Joint Board finds insufficient information on the record to make a recommendation on the exact scope of services that should be supported for the benefit of rural health care providers and accordingly recommends that the Commission seek additional information on this subject prior to issuing final rules. The Joint Board further recommends that the Commission seek additional information on the costs that would be incurred in including distance-based charges, toll-free Internet access and public switched network upgrades in the list of services eligible for support. We also recommend that non-profit and public health care providers located in rural areas be able to obtain the telecommunications services that the Commission ultimately designates as eligible. Carriers providing a telecommunications service to a health care provider at a reduced rate should be entitled to treat the amount that the rate falls short of the average rates for identical or similar services in the same rural area as a part of their universal service obligation. Alternatively, if the service is not offered in the area, carriers should be able to submit a cost-based rate for the service to the state commission for approval.

I. Interstate Subscriber Line Charges/Carrier Common Line Charges

11. Section 254(e) requires that universal service support be explicit. To further this objective, the Joint Board recommends removing LTS from Carrier Common Line (CCL) charges and making similar payments to current LTS recipients out of the new universal service support mechanism. We recommend that the current SLC cap not be increased. In the event that the Commission determines that the revenue base for assessing contributions to the new national universal service support mechanism by interstate telecommunications carriers should include all telecommunications revenue, including intrastate revenue, then we recommend that the

Commission implement a downward adjustment in the SLC cap for primary residential and single-line business lines. If such a downward adjustment is made, we recommend that the reductions in CCL charges resulting from recovering LTS and pay telephone costs from other sources be apportioned equally between primary residential and single-line business subscribers, on the one hand, in lower SLCs, and interstate toll users, on the other, through lower CCL charges. The Joint Board makes no recommendation with respect to the CCL charge but recognizes that, whether or not the present usage-sensitive CCL charge represents universal service support, it is an inefficient mechanism for recovering incumbent local exchange carriers' (LECs') loop costs. One promising alternative would be to allow LECs to recover CCL charges from interexchange carriers (IXCs) on a non-traffic-sensitive, per-line basis from the presubscribed inter-LATA carrier (PIC). The charge could be billed directly to end users who choose not to select a PIC.

J. Administration

12. Section 254(d) states that all carriers that provide interstate telecommunications services must contribute to universal service support mechanisms. The Joint Board recommends that section 254(d) be codified into Commission rules and that the Commission issue a list of examples of interstate telecommunications services. The Joint Board recommends that contributions be based on carriers' gross telecommunications revenues net of payments to other carriers. The Joint Board recommends that support for schools, libraries and rural health care providers be based on both interstate and intrastate telecommunications revenues. We do not make a recommendation on the revenues base for support for high cost areas and low income consumers, but recommend that the Commission seek additional information and parties' comments regarding the funding base for these support programs. The Joint Board recommends that carriers whose contribution would be less than the cost of collecting the contribution be exempt from contribution under the *de minimis* exemption contained in section 254(d). The Joint Board also recommends that the Commission create a universal service advisory board to appoint and oversee a neutral, third party administrator of the universal support mechanism.

III. PRINCIPLES

A. Overview

13. Section 254(b) of the 1996 Act requires that:

The Joint Board and the Commission shall base policies for the preservation and advancement of universal service on the following principles:

(1) **QUALITY AND RATES.** -- Quality services should be available at just, reasonable and affordable rates.

(2) ACCESS TO ADVANCED SERVICES. -- Access to advanced telecommunications and information services should be provided in all regions of the Nation.

(3) ACCESS IN RURAL AND HIGH COST AREAS. -- Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.

(4) EQUITABLE AND NONDISCRIMINATORY CONTRIBUTIONS. -- All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.

(5) SPECIFIC AND PREDICTABLE SUPPORT MECHANISMS. -- There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.

(6) ACCESS TO ADVANCED TELECOMMUNICATIONS SERVICES FOR SCHOOLS, HEALTH CARE, AND LIBRARIES. -- Elementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications services as described in subsection (h).

(7) ADDITIONAL PRINCIPLES. -- Such other principles as the Joint Board and the Commission determine are necessary and appropriate for the protection of the public interest, convenience, and necessity and are consistent with this Act.¹⁰

In light of section 254(b)(7), the NPRM invited interested parties to propose additional principles

¹⁰ 47 U.S.C. § 254(b).

relevant to the choice of services that receive universal service support.¹¹

B. Comments

14. 1996 Act Principles. Commenters generally support the seven guiding principles identified under the Act, with some commenters stating various preferences for prioritization of those goals.¹² New York DPS and others stress the goal of providing quality service at reasonable rates during the transition to a competitive market.¹³ MFS contends that support must be explicit, specific, predictable, sufficient, and competitively neutral.¹⁴ Others emphasize those goals related to access to services.¹⁵

15. In addition to the goals previously identified, numerous comments were filed regarding additional principles that should guide the Commission when addressing universal service issues.¹⁶

16. Competitive Neutrality. A large number of commenters addressing this issue advocate adopting competitively neutral distribution of universal service support as a principle.¹⁷ They cite congressional intent to promote competition in the advancement of telecommunications services.¹⁸ Many commenters also refer to the increased economic efficiency and decreased regulatory burden that stem from a competitive marketplace.¹⁹ Information Industry Ass'n argues

¹¹ NPRM at paras. 4, 8.

¹² Farmers Tel. comments at 1; Ft. Mojave Telecom. comments at 2; GVNW comments at 18; Montana PSC comments at 2. All references in this Recommended Decision to commenters' names are abbreviated. For a list of all commenters' full names, see Appendices A-E.

¹³ Farmers Tel. comments at 1; New York DPS comments at 1; OPC-DC comments at 10-11; Texas OPUC comments at 2-4.

¹⁴ See CompTel comments at 8 (discussing the need for explicit funding); MFS comments at 2.

¹⁵ CWA comments at 2; Farmers Tel. comments at 1; GVNW comments at 18 (discussing access to services in rural and high cost areas); Oklahoma CC comments at 4; People For comments at 2-3.

¹⁶ See 47 U.S.C. § 254(b)(7) regarding additional principles.

¹⁷ GSA comments at 3; MCI comments at 9-10; Oregon PUC comments at 4; Alaska Tel. reply comments at 6; NCTA reply comments at 4-6.

¹⁸ Joint Explanatory Statement at 113.

¹⁹ CompuServe comments at 4-5; GSA comments at 3; Information Industry Ass'n comments at 2; Washington UTC comments at 5.

that the 1996 Act mandates competitively neutral universal service support mechanisms that are more "competitive, explicit, and efficient" than those currently in place.²⁰ Several commenters advocate inclusion of technological neutrality as a concept related to the principle of competitive neutrality.²¹ They contend that the Commission should avoid defining any particular service or technology that must be available and supported by universal service support mechanisms and allow the marketplace to direct development of technology.²²

17. Those opposed to establishing a principle of competitive neutrality contend that Congress also recognized that competitive neutrality is not always in the public interest.²³ They assert that competition has not always benefited those segments of society that universal service is intended to support, particularly in rural areas where there may be only one carrier.²⁴ Telec Consulting expresses concern that, by encouraging new entry, competitive neutrality could create "competition for competition's sake" that would require local markets to support the infrastructure of competing companies when such investment may be duplicative and inefficient.²⁵ Fred Williamson states that regulators should respect the "social contract" whereby regulators and legislators encouraged or ordered network and infrastructure improvements under the promise of fair, equitable, stable and predictable recovery of investment and related costs. Those who invested in the public switched telephone network and infrastructure, they argue, did so in the expectation that they would recover a reasonable rate of return on that investment, and nothing in the 1996 Act revokes those regulatory or capital recovery principles.²⁶ They express concern that a principle establishing competitively neutral distribution would prevent carriers from recovering such investments.

18. Americans with Disabilities. Some commenters urge the Commission to address explicitly the issues faced by Americans with disabilities within the provisions of section 254(b)(7).²⁷ They contend that the 1996 Act intended the special needs of individuals with disabilities be addressed and the public interest be served by inclusion of a recognition of those

²⁰ Information Industry Ass'n comments at 5.

²¹ CWA comments at 2; ARC reply comments at 2; NPTN reply comments at 2, 7.

²² Ameritech comments at 15; Netscape comments at 22.

²³ RTC comments at 4-5.

²⁴ ITC comments at 2; RTC comments at 5; SDITC reply comments at 9-10.

²⁵ Telec Consulting comments at 11.

²⁶ Fred Williamson comments at 3, 5, 9-10, 23-24.

²⁷ Council of Organizational Representatives reply comments at 3-6; NAD reply comments at iv and 4-8.

with special needs within the principles of universal service.²⁸ Commenters contend that individuals with disabilities are often among the lowest income groups and require special equipment to gain access to telecommunications services at home and in classrooms, often at substantial additional expense.²⁹ NAD states that access to telecommunications equipment and services is often a necessity for Americans with disabilities in their employment and education activities.³⁰ NAD further contends that, while individuals with disabilities are covered by section 255, that in no way lessens the responsibility of the Joint Board and the Commission to ensure that individuals with disabilities benefit from universal service provisions.³¹ NAD cites a history of federal legislation, such as the Americans with Disabilities Act, as evidence of congressional intent to ensure that persons with disabilities receive access to telecommunications services.³²

19. Additional Protection for Specific Groups. West Virginia Consumer Advocate contends that concern for, and protection of, low-income consumers and those in rural, insular, and high cost areas should be explicitly set forth as a basic principle of universal service.³³ Catholic Conference contends that the homeless and migrant workers should be given special consideration because they have no access to residential telephones.³⁴ Some commenters, while supportive of universal service support to low-income consumers, contend that the universal service fund is a method of advancing public policy goals and disbursement should not be limited solely to economically disadvantaged individuals.³⁵ They argue the relevant underlying principle is that rates for all subscribers should be just, reasonable and affordable.³⁶ Benton suggests that, as an additional principle, the Joint Board and the Commission should "recognize the cost of not getting all citizens connected" with telecommunications services as they develop universal service policies.³⁷

²⁸ NAD reply comments at 4.

²⁹ Council for Organizational Representatives reply comments at 6-9; NAD reply comments at 8-9; United Cerebral Palsy Ass'n reply comments at 3.

³⁰ NAD reply comments at iv.

³¹ NAD reply comments at 4.

³² NAD reply comments at 4-8.

³³ West Virginia Consumer Advocate comments at 6.

³⁴ Catholic Conference comments at 21.

³⁵ Louisiana PSC comments at 6; United Church of Christ comments at 8.

³⁶ AARP comments at 14.

³⁷ Benton comments at 2.

20. Schools and Libraries. La Raza suggests that allowing community-based organizations providing educational, health, and literary services to receive the same full and equal access to advanced services as libraries and schools should be a principle that stems from either section 254(b)(6) or (b)(7).³⁸

21. Other Suggested Principles. Oregon PUC contends that "administrative simplicity" should be an additional principle.³⁹ PULP suggests recognition of an additional principle that permits users to subscribe to a bundle of basic "core" network services that cannot be tied to other services.⁴⁰ Bar of New York, arguing that the provision in the 1996 Act regarding access to advanced services is too general, advocates an additional principle that is expressly supportive of access to interactive services.⁴¹ CSE Foundation suggests that the Commission adopt principles stating that "all subsidies should be simple, direct and explicit" and "contributions should be clearly specified and apparent to consumers."⁴²

C. Discussion

22. We recommend that policy on universal service should be a fair and reasonable balance of all of those principles identified in section 254(b) and the additional principle we identify in this section. We recognize, however, that our primary responsibility on this matter is to ensure that consumers throughout the Nation are not harmed and are benefited under our recommendation. To this end, we agree with the New York DPS and others that promotion of any one goal or principle in this proceeding should be tempered by a commitment to ensure quality services at just, reasonable, and affordable rates in all areas of the Nation, for those services that meet the section 254(c)(1) criteria.

23. We recommend that the Commission also establish "competitive neutrality" as an additional principle upon which it shall base policies for the preservation and advancement of universal service, pursuant to section 254(b)(7). We ask that the Commission define the principle in the context of determining universal service support, as:

"COMPETITIVE NEUTRALITY -- Universal service support mechanisms and rules should be applied in a competitively neutral manner."

³⁸ La Raza reply comments at 8-9.

³⁹ Oregon PUC comments at 5.

⁴⁰ PULP comments at 4.

⁴¹ Bar of New York comments at 2.

⁴² CSE Foundation reply comments at 2-3.

We believe this recommendation is consistent with the concept of competitive neutral contribution embodied in section 254(b)(4) and the explicit requirement of equitable and nondiscriminatory contributions in section 254(d), where Congress clearly articulated that all providers of interstate telecommunications shall contribute on an "equitable and nondiscriminatory" basis to universal service support mechanisms. We also note that section 254(h)(2) requires the Commission to establish competitively neutral rules relating to access to advanced telecommunications and information services for schools, health care providers and libraries. Competitive neutrality is also embodied in section 254(e)'s requirement that universal service support be explicit, section 254(f)'s requirement that state universal service contributions be equitable and nondiscriminatory and section 214(e)'s requirement that any carrier can be an eligible telecommunications carrier provided that it meets certain statutory criteria. We also believe that the principle of competitive neutrality encompasses the concept of technological neutrality by allowing the marketplace to direct the development and growth of technology and avoiding endorsement of potentially obsolete services. In recognizing the concept of technological neutrality, we are not guaranteeing the success of any technology for all purposes supported through universal service support mechanisms but merely stating that universal service support should not be biased toward any particular technologies. We further believe that the principle of competitive neutrality should be applied to each and every recipient and contributor to the universal service support mechanisms, regardless of size, status or geographic location. We find that the competitively neutral collection and distribution of funds and determination of eligibility in the universal service support mechanism is consistent with congressional intent "to provide for a pro-competitive, de-regulatory national policy framework."⁴³

24. Given the provisions elsewhere in the law that require access to telecommunications equipment and services by people with disabilities, we recommend that the Commission not adopt specific principles related to telecommunications users with disabilities in this universal service proceeding.⁴⁴ We note that persons with disabilities who qualify under the low-income provisions of section 254(b)(3) will benefit from universal service support to low-income consumers. We recognize that access to health care and education is vital for this population, and we believe that individuals with disabilities will be among those who will benefit from the provisions of section 254 regarding these services. We agree with NAD that it is evident that Congress intended to ensure that individuals with disabilities have access to telecommunications services. We note that Congress specifically adopted section 255, which requires all providers of telecommunications services and manufacturers of telecommunications equipment and customer premises equipment (CPE) to ensure that their equipment and services are accessible to individuals with disabilities, if readily achievable.⁴⁵ We also note that interstate

⁴³ Joint Explanatory Statement at 113.

⁴⁴ 47 U.S.C. §§ 225, 255.

⁴⁵ 47 U.S.C. § 25(b) - (c).

telecommunications relay service (TRS),⁴⁶ which allows persons with hearing or speech disabilities to communicate with persons who do not have such impairments through the use of a text telephone (TTY), is funded separately from universal service mechanisms. We conclude that there is no need to recommend additional universal service principles for this population at this time.

25. With respect to the requests for additional principles designed to promote the welfare of other specific groups such as subscribers in rural areas and customers with low incomes, we do not recommend the establishment of any additional principles. Section 254(b)(3) explicitly provides that customers in rural, insular and high cost areas should have access to telecommunications services that are reasonably comparable to those services provided in urban areas and at similar rates to those charge in urban areas.⁴⁷ There is no evidence that Congress intended this Joint Board and the Commission to take additional steps to segment consumers into additional categories. We agree with those commenters that point to the underlying principle requiring "just, reasonable and affordable rates" is applicable to all consumers.

26. We do not agree with La Raza that community-oriented organizations that provide services similar to those provided by schools and libraries should receive the discounts and benefits statutorily accorded to schools and libraries. The 1996 Act specifically defines the categories of institutions that are eligible for discounted telecommunications and information services, and we find no evidence that Congress intended this Joint Board or the Commission to supplement the 1996 Act's definition.⁴⁸

27. Finally, although this Joint Board supports the concept of administrative simplicity, we do not recommend that the Commission formally adopt this concept as a principle. Section 254(b)(5) provides that support mechanisms should be "[s]pecific and *predictable*."⁴⁹ We find that this principle encompasses administrative simplicity. In addition, we decline to recommend that access to the select services commenters have proposed become guiding principles for the Commission's universal service policies. Instead, we consider whether these services, consistent with the principles of the 1996 Act, should be included in the definition of universal service.⁵⁰ In particular, we disagree with the Bar of New York's proposal that universal service definition be altered to include access to interactive services as a principle. We recommend that this concept

⁴⁶ 47 U.S.C. § 225.

⁴⁷ 47 U.S.C. § 254(b)(3).

⁴⁸ See 47 U.S.C. § 254(h)(5)(C).

⁴⁹ 47 U.S.C. 254(b)(5) (emphasis added).

⁵⁰ See *infra* section IV.

should not become a principle. Section 254(c)(1)(A)-(D) set forth the specific principles that Congress intends this Joint Board and the Commission to take into consideration when defining universal service and we believe the definition we recommend herein is consistent with these standards. Accordingly, we decline to recommend the additional principles suggested by these commenters.

IV. DEFINITION OF UNIVERSAL SERVICE: WHAT SERVICES TO SUPPORT

A. Overview

28. Section 254(c) requires the Commission and the Joint Board to define the set of services that should be supported by federal universal service support mechanisms. In this section, taking into consideration all of the goals and principles embodied in section 254 and the 1996 Act, we recommend the services that should be included in the general definition of universal service, and also recommend certain services to be supported for low-income consumers. We also consider the funding implications for carriers who are unable to provide one or more of the designated services. In addition, this section contains our recommendation regarding whether universal service support should be limited to designated services provided to identified classes of customers in high cost areas or whether it should cover designated services provided to all residential and business customers in high cost areas. Because the 1996 Act specifies that "quality services" must be available, we examine the ways to ensure the quality of services provided by eligible carriers, and provide our recommendation on how the Commission should undertake this responsibility. Finally, in this section, we provide our recommendation regarding the frequency with which the Commission should revisit the definition of universal service in order to keep pace with advances in technology.

B. Services Proposed in the NPRM

1. Background

29. Section 254(c)(1) describes "[u]niversal service [as] an evolving level of telecommunications services that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services".⁵¹ In addition, section 254(c)(2) states that "[t]he Joint Board may, from time to time, recommend to the Commission modifications in the definition of the services that are supported by Federal universal service support mechanisms."⁵² Moreover, the 1996 Act's legislative history provides: "[t]he Commission is given specific authority to alter the definition from time to time" in order to

⁵¹ 47 U.S.C. § 254(c)(1).

⁵² 47 U.S.C. § 254(c)(2).

"take into account advances in telecommunications and information technology."⁵³ Accordingly, the NPRM recognized that the definition of services adopted in this proceeding will be reviewed periodically.⁵⁴

30. Section 254(c)(1)(A)-(D) requires the Joint Board and Commission to "consider the extent to which . . . telecommunications services" included in the definition of universal service:

- (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.⁵⁵

The legislative history of this section instructs that "[t]he definition . . . should be based on a consideration of the four criteria set forth in the subsection."⁵⁶ Thus, in the NPRM, the Commission interpreted the language of section 254(c)(1)(A)-(D) as manifesting congressional intent that the Joint Board and the Commission consider all four criteria when deciding what services to support. Moreover, in the NPRM, the Commission also interpreted this language -- particularly the use of the word "consider" -- to allow the Joint Board and the Commission to include services that do not necessarily meet all four criteria.⁵⁷ The Commission asked for comment and the Joint Board's recommendation on these interpretations.⁵⁸

31. Section 254(b) establishes the principle that "consumers in all regions of the Nation . . . should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are

⁵³ Joint Explanatory Statement at 131.

⁵⁴ NPRM at para. 2.

⁵⁵ 47 U.S.C. § 254(c)(1)(A)-(D).

⁵⁶ Joint Explanatory Statement at 131.

⁵⁷ NPRM at para. 9.

⁵⁸ *Id.*

reasonably comparable to those services provided in urban areas. . . ."⁵⁹ In the NPRM, the Commission sought comment on whether the following services should be designated for universal service support: voice grade access to the public switched network, with the ability to place and receive calls; touch-tone; single-party service; access to emergency services; and access to operator services.⁶⁰ The NPRM also asked whether providing universal service support for these services will promote competitive and technological neutrality and further the principles set forth in sections 254(b) and 254(c)(1).⁶¹

2. Comments

32. General Comments. As a preliminary matter, we note that several commenters agree that a service need not meet all four criteria in order to be supported through universal service support mechanisms.⁶² For instance, Florida PSC strongly endorses the FCC's interpretation that the use of the verb "consider" allows selection of services for support that do not meet all four criteria.⁶³ In addition, RTC argues that "a service need not satisfy all four criteria" for inclusion in the federal universal service definition.⁶⁴ Some parties, however, disagree.⁶⁵ Georgia PSC argues that all four principles must be met before designating a service for support, and that a failure to do so could be "an abuse of discretion by the Commission, arbitrary and capricious, and a violation of the intent of Congress."⁶⁶ NCTA, USTA and Florida Cable maintain that the use of the conjunction "and," rather than the disjunctive word "or," indicates a service must meet each and all of the statutory criteria to be included within the definition of universal service.⁶⁷ Florida Cable argues that, at a minimum, all of the criteria must

⁵⁹ 47 U.S.C. § 254(b).

⁶⁰ NPRM at paras. 16, 18-22.

⁶¹ *Id.* at paras. 15, 17.

⁶² *See, e.g.*, Florida PSC comments at 4; LINCT Coalition comments at 2 (stating "all four goals need not be met"); Oregon PUC comments at 5 (urging the FCC and the Joint Board to interpret the four criteria in a way that does not require that every criterion be met before a service can be included in the definition of universal service); RTC comments at 7-8.

⁶³ Florida PSC comments at 4.

⁶⁴ RTC comments at 7-8.

⁶⁵ *See* Florida Cable comments at 5; Georgia PSC comments at 6; NCTA comments at 4; USTA comments at 5.

⁶⁶ Georgia PSC comments at 6.

⁶⁷ Florida Cable comments at 5; NCTA comments at 4; USTA comments at 5.

be considered when determining whether access to a service should be guaranteed.⁶⁸

33. On another matter of statutory interpretation, a few commenters argue that the 1996 Act's statutory language and legislative history indicate that section 254(c)(1) does not permit universal service support for information services, but expressly limits support to telecommunications services.⁶⁹ Specifically, these parties construe the 1996 Act's definition of "telecommunications" as excluding those services that "change . . . the form or content of the information as sent and received."⁷⁰ Further, these parties cite legislative history to bolster their arguments that universal service support must be limited to telecommunications services.⁷¹

34. Defining Universal Service. Some commenters disagree with the NPRM's approach to defining universal service.⁷² Washington UTC, for example, argues that listing specific services to support "freeze[s] universal service policy in the technology and services of 1996."⁷³ Washington UTC proposes instead that a description of functionalities and access, rather than services, be used to define universal service.⁷⁴ Alliance for Public Technology also asserts that defining universal service in terms of specific services is unworkable.⁷⁵ Instead, Alliance for Public Technology recommends that carriers choose the amount of bandwidth they will offer.⁷⁶ Carriers would then earn 100 percent of the maximum support available for maximum bandwidth and lesser percentages for lesser bandwidth offerings.⁷⁷ Other parties argue that access to

⁶⁸ Florida Cable comments at 5.

⁶⁹ ITA/EMA comments at 5-10; TCI comments at 5-6.

⁷⁰ ITA/EMA comments at 6 (citing 47 U.S.C. § 153(43)). *See also* TCI comments at 5-6 (citing 47 U.S.C. § 153(43)).

⁷¹ ITA/EMA comments at 6-7 (noting that Congress adopted the Senate's definition of "telecommunications" which excludes information services and citing H.R. Conf. Rep. No. 458, 104th Cong., 2d Sess. 116 (1996)); TCI comments at 6-7 (noting that Congress rejected an earlier version of a Senate bill which included information services within the description of universal service and citing S. 1822, 103d Cong. 2d Sess. § 102(a) (1994)).

⁷² *See, e.g.*, Georgia PSC comments at 5; Washington UTC comments at 7; Alliance for Public Technology further comments at 4.

⁷³ Washington UTC comments at 7.

⁷⁴ *Id.*

⁷⁵ Alliance for Public Technology further comments at 4.

⁷⁶ *Id.*

⁷⁷ *Id.*

services, but not any service itself, should be eligible for support.⁷⁸

35. A cross-section of commenters -- and most of the commenters that addressed this issue -- including LECs, IXCs, consumer groups and state PUCs, favor designating all five services for federal universal service support for purposes of section 254(c)(1).⁷⁹ Alaska PUC, for example, argues that a substantial majority of customers subscribe to each of these and they are commonly deployed in the public telecommunications network.⁸⁰ Washington UTC, however, advises the Joint Board to allow the market to determine the definition of universal service in order to avoid creating barriers to entry by requiring the provision of certain services.⁸¹ Similarly, Western opposes requiring dialtone, which, it states, effectively discriminates against wireless carriers.⁸² In contrast, some commenters submit that each of these services can be offered by cellular providers and, thus, they do not provide a barrier to entry for cellular carriers.⁸³

36. Voice Grade Access to the Public Switched Network. Parties that address this issue overwhelmingly favor supporting voice grade access to the public switched network with the ability to place and receive calls.⁸⁴ Georgia PSC, however, argues that voice grade access is a group of services rather than one service, and that some of these services will qualify for support while others will not.⁸⁵

37. Several commenters argue that usage of, and not merely access to, the local

⁷⁸ See, e.g., Georgia PSC comments at 5; CompTel further comments at 8-9.

⁷⁹ See, e.g., 360 comments at 3; Ameritech comments at 6; Florida PSC comments at 6; GTE comments at 2; ITA/EMA comments at 4; Michigan Consumer Federation comments at 20; NCTA comments at 5; PULP comments at 9; SBA comments at 5; SWBT comments at 8; Sprint comments at 6; Time Warner comments at 4; U S West comments at 5; Western comments at 7.

⁸⁰ Alaska PUC comments at 2.

⁸¹ Washington UTC comments at 9.

⁸² Western comments at 8 (describing dial tone as "a frequency tone audible to a caller").

⁸³ See, e.g., Commnet Cellular reply comments at 8. See also 360 comments at 4.

⁸⁴ See, e.g., Bell South comments at 5; Florida PSC comments at 6; MCI comments at 3; Michigan Consumer Federation comments at 20; North Dakota PSC comments at 1; Rural Iowa Indep. Tel. Ass'n comments at 2; SWBT comments at 8; AT&T reply comments at 17; NTIA reply comments at 7.

⁸⁵ Georgia PSC comments at 7 (arguing that single party wireline service qualifies for universal service support, but the Commission is prohibited from providing universal service support for cellular service).

network should be supported.⁸⁶ For example, Time Warner states that a basic level of local usage should be included within the definition of universal service because, it argues, the ability to place calls is equally, if not more, important than the ability to receive calls.⁸⁷ Pennsylvania PUC interprets the "single-party service" component of the NPRM's proposed core services to include local service usage.⁸⁸ Illinois CC, in contrast, opposes universal service support for local usage.⁸⁹

38. In addition, Florida PSC proposes supporting flat-rate service and unlimited calling within a subscriber's local calling area.⁹⁰ Some parties note that a large number of consumers consistently choose flat-rate service over measured-rate service.⁹¹ California PUC advocates a support mechanism that would allow consumers to choose between flat- or measured-rate service.⁹² CSE Foundation, in contrast, states that mandating flat-rate service for all subscribers restricts their options, because, it argues, some consumers may desire more limited service at a price lower than that of flat-rate service.⁹³

39. Some parties favor using universal service funding to ensure that consumers may access their "community of interest" or area in which essential public services are located, by placing local calls.⁹⁴ Various commenters note that subscribers in rural areas must often place toll calls in order to access essential services such as schools, health care providers and local government offices.⁹⁵

⁸⁶ AARP comments at 9; Edgemont comments at 12; Florida PSC comments at 6; LINCT Coalition comments at 3-4; MCI comments at 3; People For comments at 11; Texas PSC comments at 8; Time Warner comments at 4; CPI reply comments at 5 n.10; NTIA reply comments at 7 n.14; Ohio Consumers' Council reply comments at 12-13; Pennsylvania PUC reply comments at 6; Citizens Utilities further comments at 5.

⁸⁷ Time Warner further comments at 12.

⁸⁸ Pennsylvania PUC reply comments at 3-4.

⁸⁹ Illinois CC comments at 4. *See also* CSE Foundation reply comments at 4; AirTouch further comments at 5.

⁹⁰ Florida PSC comments at 6. *See also* Texas OPUC comments at 16.

⁹¹ AARP comments at 9; Georgia PSC comments at 8-9; Ohio Consumers' Council comments at 13.

⁹² California PUC comments at 6.

⁹³ CSE Foundation reply comments at 4.

⁹⁴ *See, e.g.*, Colorado PUC comments at 3; Louisiana PSC comments at 3; Michigan Consumer Federation comments at 20; Montana PSC comments at 4; New Jersey Advocate comments at 8; OITA-WITA comments at 3-5.

⁹⁵ *See, e.g.*, AARP comments at 18; Century comments at 4-6; Keystone comments at 8; Montana PSC comments at 4; Rural Iowa Indep. Tel. Coalition comments at 3; Telec Consulting comments at 5; Minnesota

40. Touch-Tone.⁹⁶ Parties express widespread support for providing universal service support for touch tone service.⁹⁷ SBA, for example, maintains that touch-tone service plays an important role in allowing customers to connect to a variety of voice mail systems, information services, and product-ordering services.⁹⁸ In addition, Citizens Utilities contends that touch-tone service meets the statutory criteria of section 254(c)(1)(B), (C) and (D).⁹⁹ Bell Atlantic, however, argues that the decision to provide support for touch-tone service is a matter that should be left to the states.¹⁰⁰

41. Single-Party Service. Many parties support including single-party service in the definition of universal service.¹⁰¹ Bell Atlantic, for example, argues that single-party service meets all four of the criteria of section 254(c)(1).¹⁰² Bar of New York argues that single-party service is essential because it is recognized to be a prerequisite for Internet access.¹⁰³ SWBT contends that a transition period is required to permit upgrades that transform multi-party service to single-party service.¹⁰⁴ Washington UTC, however, states that in some cases, converting to single-party service might be cost-prohibitive.¹⁰⁵

42. Access to Emergency Service. Several commenters favor providing universal service support for access to emergency services, where the actual service, i.e., Public Safety

Indep. Coalition reply comments at 3-4; Alaska Tel. further comments at 5; CFA further comments at 2-3; Western Alliance further comments at 2.

⁹⁶ Florida PSC suggests the Joint Board refer to this function as "dual tone multi-frequency" (DTMF) 116 rather than touch-tone. Florida PSC comments at 6.

⁹⁷ See, e.g., Bell Atlantic comments at 7; Farmers Tel. comments at 2; Michigan Consumer Federation comments at 20; Missouri PSC comments at 4; TCA comments at 5; NENA reply comments at 1; NTIA reply comments at 7.

⁹⁸ SBA comments at 5-6.

⁹⁹ Citizens Utilities comments at 6 (*citing* 47 U.S.C. § 254(c)(1)(B)-(D)).

¹⁰⁰ Bell Atlantic comments at 8.

¹⁰¹ See, e.g., Bell Atlantic comments at 7; Florida PSC comments at 6; Frontier comments at 2; Georgia PSC comments at 7; NASUCA comments at 17-18; CPI reply comments at 6.

¹⁰² Bell Atlantic comments at 7 (*citing* 47 U.S.C. § 254(c)(1)).

¹⁰³ Bar of New York comments at 14.

¹⁰⁴ SWBT comments at 8.

¹⁰⁵ Washington UTC comments at 8.

Answering Point (PSAP), is provided by local authorities.¹⁰⁶ Wisconsin PSC recommends that the Joint Board and Commission carefully define "access to emergency services" to indicate whether this term means the ability to place calls to these numbers or whether it includes the specialized call routing network that delivers calls to the designated government-chosen PSAP.¹⁰⁷ Michigan Consumer Federation argues that emergency services, and not merely access to emergency services such as 911, should be offered at no cost.¹⁰⁸ Some parties assert that carriers should not receive universal service support for 911 service if existing state funding mechanisms already provide support.¹⁰⁹ Texas Emergency suggests that carriers seeking support should certify that 911 service is being provided by the local government in geographic areas they serve and that network costs are not already being recovered by the rates paid by local government authorities for 911 service.¹¹⁰ Georgia PSC believes that access to emergency services should be delegated to the states.¹¹¹

43. Some commenters recommend supporting enhanced 911 (E911) service.¹¹² Alabama-Mississippi Tel. Ass'n, however, contends that most states have their own separate funding mechanisms for E911 and, therefore, E911 should not be supported by the universal service fund at this time.¹¹³ Commnet Cellular asserts that consideration of support for E911 should wait until the Commission concludes its existing public safety proceeding to determine

¹⁰⁶ Oregon PUC comments at 5; SWBT comments at 8; Texas Emergency reply comments at 1-2.

¹⁰⁷ Wisconsin PSC comments at 8.

¹⁰⁸ Michigan Consumer Federation comments at 20.

¹⁰⁹ See Ameritech comments at 7 (stating that support should be provided for the transmission facility that connects a subscriber to the location manned by public safety personnel, but not for the equipment used by those personnel or their training, as these costs are generally supported by tax revenues); Missouri PSC comments at 4-5 (noting that the Commission must distinguish between the cost of the switch necessary for E-911 and the cost of the service itself because Missourians already pay taxes to cover the cost of the service).

¹¹⁰ Texas Emergency reply comments at 3.

¹¹¹ Georgia PSC comments at 7.

¹¹² Michigan Consumer Federation comments at 20; NENA comments at 2. E911 is a system wherein, when a wireline 911 call is placed in a region with E911 capability, the telephone number of the telephone from which the 911 call is made is passed to the LEC central office at which a database, usually maintained by the LEC, is then used to route the call to the most appropriate PSAP. The caller's telephone number and other information are transmitted to the PSAP along with the location of the telephone, as determined from LEC records. See *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Report and Order and Further Notice of Proposed Rulemaking, FCC 96-264 (rel. July 26, 1996).

¹¹³ Alabama-Mississippi Tel. Ass'n comments at 3.

whether to impose E911 requirements on wireless carriers.¹¹⁴

44. Access to Operator Service. Various parties favor supporting access to operator services.¹¹⁵ Bell Atlantic, for example, contends that access to operator service meets each of the criteria set forth in section 254(c)(1), and therefore, it argues, should be supported through universal service mechanisms.¹¹⁶ Georgia PSC, in contrast, submits that access to operator services is competitive in Georgia and does not require federal universal service support.¹¹⁷

3. Discussion

45. As previously mentioned, the 1996 Act defines "telecommunications services" as "the offering of telecommunications for a fee directly to the public . . . regardless of the facilities used."¹¹⁸ With the exception of single-party service and touch-tone dialing, the core services proposed in the NPRM represent functionalities or applications associated with the provision of access to the public network, rather than tariffed services. The Joint Board concludes that defining telecommunications services in a functional sense, rather than on the basis of tariffed services alone, is consistent with the intent of section 254(c)(1). First, a functionalities approach to defining universal service will be more flexible than a services-only approach, particularly with respect to anticipated technological and marketplace changes and evolutions. Second, a functionalities approach is consistent with the overarching goal of the 1996 Act of encouraging competition, since it is technology neutral. Thus, we recommend that for purposes of defining universal service, "telecommunications services" should not be limited to tariffed services, but instead also should include functionalities and applications associated with the provision of services.¹¹⁹

46. Based on the overwhelming support in the record, the Joint Board recommends that the services proposed in the NPRM should be included in the general definition of services supported under section 254(c)(1). We conclude that providing universal service support for each of these services, or access to the services, where applicable, is consistent with the statutory guidelines set forth in the 1996 Act. We reject the arguments of commenters that a service must

¹¹⁴ Comnet Cellular reply comments at 8 (*citing* Commission Docket No. 94-102).

¹¹⁵ *See, e.g.*, AT&T comments at 12; BellSouth comments at 5; Florida PSC comments at 6; Michigan Consumer Federation comments at 20; Cincinnati Bell reply comments at 3; LDDS reply comments at 7.

¹¹⁶ Bell Atlantic comments at 7 (*citing* 47 U.S.C. § 254(c)(1)(A)-(D)).

¹¹⁷ Georgia PSC comments at 7.

¹¹⁸ 47 U.S.C. § 153(46).

¹¹⁹ For discussion purposes, we hereafter refer to these functionalities and applications as "services."

meet all of the statutory criteria of section 254(c)(1)(A)-(D) before it may be included within the definition of universal service.¹²⁰ Instead, we conclude that while the Joint Board must consider all four criteria before determining that a service or functionality should be included, we need not find that a particular service meets each of the four criteria. Accordingly, we recommend that single-party service, voice grade access to the public switched telephone network (PTSN), DTMF or its functional digital equivalent,¹²¹ access to emergency services and access to operator services be designated for universal service support pursuant to section 254(c)(1).

47. We conclude that single-party service is widely available and subscribed to by a majority of residential customers. In addition, we find that single-party service is essential to public health and safety in that it, among other things, allows access to emergency services without delay. Furthermore, single-party service is consistent with the public interest, convenience and necessity. Therefore, the Joint Board recommends that single-party service should receive universal service support. We further find that single-party service means that only one customer will be served by each subscriber loop or access line, although carriers may offer consumers the choice of multi-party service in addition to single-party service and remain eligible for universal service support. In addition, to the extent that wireless providers use spectrum shared among users to provide service, we find that wireless carriers provide the equivalent of single-party service since users are given a dedicated channel for each transmission.¹²² Moreover, we recommend permitting a transition period for carriers to make upgrades to provide single-party service, but only to the extent carriers can meet a heavy burden that such a transition period is necessary and in the public interest. Since state commissions will be responsible for designating carriers as eligible for purpose of receiving federal universal service support,¹²³ we recommend that states make the determination as to the need for a transition period for a particular carrier.

48. We find that the record provides ample support for our conclusion that voice grade access, an essential element to telephone service, is subscribed to by a substantial majority of residential customers and its being deployed in public telecommunications networks by telecommunications carriers. In addition, we find that voice grade access should occur in the frequency range between approximately 500 Hertz and 4,000 Hertz, for a bandwidth of approximately 3,500 Hertz. Because we find that voice grade access should be defined within this range, we decline to adopt the sliding scale approach, which would base an eligible carrier's

¹²⁰ See, e.g., Georgia PSC comments at 6; NCTA comments at 4; USTA comments at 5.

¹²¹ See *infra* para. 23.

¹²² Wireless carriers are not, however, required to provide a single channel dedicated to a particular user at all times; a wireless carrier provides the equivalent of single-party service when it provides a dedicated message path for the length of a user's particular transmission.

¹²³ See *infra* section VI for a discussion of carriers eligible for universal service support.

support amount on the bandwidth offered by the carrier, as advocated by Alliance for Public Technology. Voice grade access should also include the ability to place calls, including the ability to signal the network that the caller wishes to place a call, and the ability to receive calls, including the ability to signal the called party that there is an incoming call.¹²⁴

49. Based on strong support in the record, we also recommend including a local usage component within the definition of voice grade access. The record suggests that local usage is essential to realizing the full benefits of voice grade access. We conclude that the states are best positioned to determine the local usage component that represents affordable service within their jurisdictions.¹²⁵ Nonetheless, for purposes of determining the amount of federal universal service support, we recommend that the Commission determine a level of local usage.

50. We agree with commenters who argue that "touch-tone" is more appropriately termed DTMF signaling. DTMF facilitates the transportation of signaling through the network. DTMF also accelerates call set-up time. As noted in the NPRM, other methods of signaling, such as digital signaling, can provide network benefits equivalent to that of DTMF.¹²⁶ Therefore, we recommend that DTMF or its functional digital equivalent (hereinafter referred to as "DTMF") be supported under section 254(c)(1). We find that the network benefits that emanate from DTMF or its equivalent, particularly rapid call set-up time, are essential to a modern telecommunications system. In addition, we find that supporting DTMF is competitively neutral, consistent with our recommended principle. We note that various wireless carriers favor inclusion of "touch-tone" within the general definition of universal service.¹²⁷

51. Like the other core services, access to emergency service is a functionality that is widely deployed and subscribed to by a majority of residential subscribers. Further, access to emergency service is widely recognized as "essential to . . . public safety." In defining access, the record supports the inclusion of access to 911. Nearly 90 percent of lines today have access to 911 capability. In addition, we recommend *access to* E911 service, where the locality has chosen to implement that service, be included in the definition of universal service. We do not recommend providing universal service support, however, for E911 service itself. As in the case of regular 911 service, the telecommunications network is only one component of E911 service;

¹²⁴ We explicitly do not include call waiting within this definition.

¹²⁵ See *infra* section V for a discussion of affordability.

¹²⁶ NPRM at para. 19 n.53.

¹²⁷ See, e.g., PCIA comments at 14 n.38 (stating "PCIA [concurs] with the Commission's assessment that touch tone service is one of the elements that should be supported by the universal service plan. The Commission correctly points out that touch tone is increasingly essential to completing telecommunications transactions. This is certainly true in connection with the delivery of messages to a messaging service subscriber."); 360 comments at 3; Comnet Cellular reply comments at 8.

local governments provide the PSAP. E911 facilitates the determination of the location of the calling party, but wireless carriers are not currently capable of providing E911 service. The Commission has directed cellular, broadband Personal Communications Service (PCS) and certain Specialized Mobile Radio (SMR) carriers to provide E911 service, but the requirement will not be effective for five years because such a requirement will compel these wireless carriers to make technical upgrades before they will be able to offer E911.¹²⁸ Therefore, requiring carriers to provide E911 would presently exclude all wireless carriers from eligibility to be "eligible telecommunications carriers,"¹²⁹ contrary to the principle that universal service be competitively neutral. Accordingly, we recommend not including E911 service within the definition of services to be supported at this time, but may recommend its consideration when the definition is revisited, as anticipated by section 254(c)(2). Nevertheless, we recommend supporting *access to* E911, in addition to access to 911 and other emergency services, when a local community requests that a carrier provide such access.¹³⁰

52. The record provides support for our conclusion that access to operator service is widely deployed and used by a majority of residential customers. Access to operator service is essential in public health and safety emergencies. In supporting this functionality, we recommend that the Commission adopt the definition of operator services it implemented for purposes of section 251(b)(3), namely, "any automatic or live assistance to a consumer to arrange for billing or completion, or both, of a telephone call."¹³¹ We note that the Commission has recently implemented rules to ensure that LECs permit nondiscriminatory access to operator services by competing providers.¹³²

53. There is no evidence in the record to suggest that any one of these services will create a barrier to entry for potential new competing carriers if it is included in the definition of universal service. One of the explicit goals of the 1996 Act is a "pro-competitive" national

¹²⁸ See *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Report and Order and Further Notice of Proposed Rulemaking, FCC 96-264 (rel. July 26, 1996).

¹²⁹ See *infra* section VI for a discussion of eligibility.

¹³⁰ See discussion of services supported but not mandated, *infra*.

¹³¹ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, *Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, Second Report and Order and Memorandum Opinion and Order, FCC 96-333 (rel. Sept. 6, 1996) (*Local Competition Second Report and Order*).

¹³² *Id.* at paras. 114-137.

telecommunications policy.¹³³ We find that including these services within the definition of universal service will not erect technical barriers that would prevent wireless and other telecommunications carriers from competing. In fact, two wireless providers, Commnet Cellular and 360, assert that each of the services proposed in the NPRM can be provided by wireless carriers. We find Western's argument regarding wireless carriers' inability to provide dialtone to be immaterial because, as discussed *infra*, we recommend that the definition of voice grade access not require the provision of dialtone. Further, we find no merit in Georgia PUC's assertion that the Commission is prohibited from providing universal service support for cellular service, as this prohibition is neither a provision of the 1996 Act, nor consistent with the 1996 Act's pro-competitive principle. Indeed, cellular service falls within the definition of telecommunications services¹³⁴ and section 254(c)(1) specifically requires this Joint Board to recommend telecommunications services for which support will be provided.¹³⁵

C. Other Services

1. Background

54. The NPRM asked whether, consistent with the criteria enumerated in section 254(c)(1), support should be available for services besides those proposed in the NPRM.¹³⁶ Specifically, the NPRM, noting the directive of section 254(b)(3) relating to "access to . . . interexchange services," sought comment on whether access to interexchange service, i.e., the ability to originate and receive toll calls, should be supported.¹³⁷ The NPRM also requested comment on whether services such as relay services, directory listings, and equal access to interexchange carriers, i.e., the ability to access the long distance carrier to which a customer is presubscribed by dialing a 1+ number, should be supported.¹³⁸ In addition, the NPRM requested comment on whether advanced services, for example Internet access, data transmission capability, optional SS7 features or blocking of such features, enhanced services, and broadband services warrant inclusion, now or in the future, in the list of services supported by the federal universal

¹³³ Joint Explanatory Statement at 113.

¹³⁴ 47 U.S.C. § 153(46) (stating that "[t]he term 'telecommunications service' means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used").

¹³⁵ See 47 U.S.C. § 254(c)(1).

¹³⁶ NPRM at paras. 17, 23.

¹³⁷ NPRM at para. 23.

¹³⁸ *Id.*

service fund.¹³⁹

2. Comments

55. Expanding the Definition of Universal Service. Several commenters oppose expanding the definition of services to be supported under section 254(c)(1) beyond those services proposed in the NPRM.¹⁴⁰ A few parties advocate permitting the selection of services by consumers in the marketplace to dictate whether and when the definition of universal service evolves to include additional services.¹⁴¹ Some parties cite as arguments against expanding supported services beyond the services proposed in the NPRM the goals of limiting the amount of contribution needed to support universal service¹⁴² and ensuring the quality and availability of services currently offered.¹⁴³ Ad Hoc Telecom. Users maintains that advanced services should not be supported because they are neither subscribed to by a majority of subscribers nor necessary for health or safety.¹⁴⁴ MCI asserts that other services should be supported only if, after analyzing the cost of the service and the effect of the support on the demand for the service, the subscribership benefit of the service exceeds the cost of the reduced subscribership of the subsidizing service.¹⁴⁵ NARUC contends that the definition of supported services should evolve over time to meet expanding needs and that states must be able to develop and refine universal service policies to meet the needs of subscribers within their jurisdictions.¹⁴⁶

56. As discussed in the following paragraphs, many parties, however, recommend expanding the definition of services to be supported beyond the services proposed in the NPRM

¹³⁹ *Id.*

¹⁴⁰ *See, e.g.*, CSE Foundation comments at 6; DCA comments at 22; ITA/EMA comments at 5; MCI comments at 9; Sprint comments at 7-8; Citizens Utilities further comments at 5.

¹⁴¹ AARP comments at 11; SWBT comments at 9 (asserting that customer demand, marketplace acceptance and deployment of costs should be considered); U S West comments at 6 (urging that "high-market-penetration level" and "a net benefit to society from providing the service universally" should determine whether additional service are supported).

¹⁴² *See, e.g.*, Washington UTC comments at 9; CSE Foundation reply comments at 4.

¹⁴³ Nat'l Retail Fed. comments at 2.

¹⁴⁴ Ad Hoc Telecom. Users comments at 4.

¹⁴⁵ MCI comments at 8-9.

¹⁴⁶ NARUC comments at 11.

and suggest a wide range of other services.¹⁴⁷ According to GVNW, the services proposed in the NPRM will provide nothing more than "plain old telephone service."¹⁴⁸ In addition, Wyoming PSC asserts that providing universal service support for additional services will enhance the viability of rural states which, it states, have become "increasingly reliant on the deployment of modern telecommunications technology for economic growth."¹⁴⁹

57. Access to Interexchange Service. Many commenters favor providing support for access to interexchange service.¹⁵⁰ West Virginia Consumer Advocate, for example, argues that consumers who live in rural areas and must place toll calls to obtain essential services especially require access to interexchange service.¹⁵¹ AirTouch, however, contends that universal service suppresses interexchange usage because, it argues, long distance rates rise as a result of IXC's contributions to universal service.¹⁵²

58. Equal Access to IXCs. Some parties favor supporting equal access to long distance service, i.e., the ability to access the long distance carrier to which a customer is presubscribed by dialing a 1+ number.¹⁵³ Ohio Consumers' Council asserts that consumers should have access to all available long distance carriers, but questions whether universal service support is required to provide access.¹⁵⁴ 360 argues that requiring eligible carriers to provide equal access to IXCs would preclude CMRS providers from receiving universal service support and would be contrary to congressional intent.¹⁵⁵

¹⁴⁷ See, e.g., AARP comments at 10; Cincinnati Bell comments at 4; Farmers Tel. comments at 2-3; Michigan Consumer Federation comments at 20-21; Minnesota Indep. Coalition comments at 9.

¹⁴⁸ GVNW reply comments at 7-8.

¹⁴⁹ Wyoming PSC comments at 8. See also Alaska PSC comments at 3-6.

¹⁵⁰ See, e.g., Florida PSC comments at 7; New Hope Tel. comments at 2-3; OITA-WITA comments at 3-5; Fred Williamson comments at 10-11.

¹⁵¹ West Virginia Consumer Advocate comments at 7. The arguments of commenters who favor providing universal service support for toll usage are discussed *infra*.

¹⁵² AirTouch comments at 13-14.

¹⁵³ See, e.g., AT&T comments at 12; Ardmore Tel. comments at 2; Bledsoe Tel. comments at 3; Blountsville Tel. comments at 2; LDDS comments at 8; Minnesota Indep. Coalition comments at 9; Missouri PSC comments at 6; TCA comments at 5; Wyoming PSC comments at 7.

¹⁵⁴ Ohio Consumers' Council comments at 13.

¹⁵⁵ 360 reply comments at 2, citing 47 U.S.C. § 332(c)(8) ("A person engaged in the provision of commercial mobile services . . . shall not be required to provide equal access to common carriers for the provision of telephone toll services.").

59. TRS. Many commenters favor universal service support for TRS,¹⁵⁶ while others argue that support should be limited to access to TRS.¹⁵⁷ Some parties recognize that TRS is currently supported through a separate TRS fund.¹⁵⁸

60. White Page Directories and Listings. Many commenters favor including a standard white page directory listing and directory assistance among supported services.¹⁵⁹ Florida PSC argues, however, that eligible telecommunications carriers should be required to provide their subscribers with white page listings, but should not recover the cost from universal service support mechanisms.¹⁶⁰ Instead, Florida PSC suggests that telecommunications providers can sell "designer" white page listings to pay for the cost of producing directories.¹⁶¹

61. Directory Assistance. Some parties recommend that access to directory assistance be supported.¹⁶² New York CPB, for example, asserts that directory listings and services are widely deployed by telecommunications providers, are used by "virtually all telephone subscribers," are essential for access to the network, and provide public safety and health benefits, especially to users away from home.¹⁶³

62. Blocking Services. A few parties propose supporting 900 number blocking through universal service mechanisms.¹⁶⁴ Other parties favor providing universal service support

¹⁵⁶ See, e.g., Alaska PUC comments at 6; Michigan Consumer Federation comments at 21; Minnesota Indep. Coalition comments at 9; New York CPB comments at 6; Telec Consulting comments at 4.

¹⁵⁷ See, e.g., California PUC comments at 6; Cincinnati Bell comments at 4; Louisiana PSC comments at 3; Pennsylvania PUC comments at 6.

¹⁵⁸ See, e.g., AT&T comments at 13 n.17; NYNEX comments at 11 n.21.

¹⁵⁹ See, e.g., AARP comments at 10; Blountsville Tel. comments at 2, Michigan Consumer Federation comments at 21; NTIA reply comments at 7; New York DPS comments at 12-13; Rural Iowa Indep. Tel. Ass'n comments at 2; SWBT comments at 8; Wyoming PSC comments at 7.

¹⁶⁰ Florida PSC comments at 7-8.

¹⁶¹ *Id.*

¹⁶² See, e.g., AARP comments at 10; Michigan Consumer Federation comments at 21; NTIA reply comments at 7; New York DPS comments at 12-13; SWBT comments at 8.

¹⁶³ New York CPB comments at 6.

¹⁶⁴ AARP comments at 10; Alaska PUC comments at 6; New York CPB comments at 6-7; Wyoming PSC comments at 7.

for toll blocking or toll control¹⁶⁵ services.¹⁶⁶ Missouri PSC argues that toll blocking might increase subscribership levels by permitting those who have been disconnected due to unpaid toll bills to regain basic telephone service that would enable them to make and receive local calls and to receive toll calls.¹⁶⁷ Missouri PSC cites studies that, it argues, suggest that a large number of individuals currently without phone service were disconnected due to unpaid toll bills.¹⁶⁸

63. Access to the Internet. Several parties argue that Internet access should be supported.¹⁶⁹ Other commenters, however, oppose allocating universal service support for Internet access.¹⁷⁰ Some parties advocate providing universal service support for local-dial up access to the Internet, so that consumers in rural areas do not have to pay for a toll call for access.¹⁷¹ Some parties, however, oppose providing support for services like Internet access, because, they contend, doing so would be contrary to congressional intent that only "telecommunications services" may be included in the definition of universal service.¹⁷²

¹⁶⁵ With toll blocking, a subscriber voluntarily surrenders his ability to place toll calls over his subscriber loop. With toll control, a subscriber's long distance usage is capped at a certain dollar or minute-of-use amount per month. Both mechanisms are designed to enable subscribers to control their long distance service bills.

¹⁶⁶ See, e.g., Alaska PUC comments at 6; Benton comments at 2; GSA comments at 8; Indiana URC comments at 2-3; LDDS comments at 8-9; Missouri PSC comments at 6; PULP comments at 16-17 (noting that NYNEX currently provides voluntary toll blocking to all residents at no charge); RUS comments at 11.

¹⁶⁷ Missouri PSC comments at 6-7.

¹⁶⁸ Missouri PSC comments at 6-7 (*citing* Field Research Corp., *Affordability of Telephone Service S-7, S-19 to S-20* (1993); Milton Mueller and Jorge Reina Schement, Rutgers University Project on Information Policy, *Universal Service from the Bottom Up: A Profile of Telecommunications Access in Camden, New Jersey* (1995); Chesapeake & Potomac Telephone Company, *Submission of Telephone Penetration Studies in Formal Case No. 850* (D.C. PSC, Oct. 1, 1993)).

¹⁶⁹ See, e.g., American Foundation for the Blind comments at 5; Bar of New York comments at 9-14; Community Colleges comments at 11; Iowa Utilities Board comments at 2; Michigan Consumer Federation comments at 20-21.

¹⁷⁰ See, e.g., MCI comments at 9; NYNEX comments at 12; LDDS reply comments at 9.

¹⁷¹ Alaska PSC comments at 5; Iowa Utilities Board comments at 2; Missouri PSC comments at 6.

¹⁷² ITA/EMA comments at 3, 5-10; Information Technology Industry Council comments at 4, 6-7, *citing* 47 U.S.C. § 254(c)(1) (universal service is "an evolving level of *telecommunications services* that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services.") (emphasis added). In addition, both ITA/EMA and ITI cite 47 U.S.C. sections 153(48) [sic] and 153(51) [sic] for the definitions of "telecommunications" and "telecommunications services." Because the new provisions were codified, these definitions are now found at 47 U.S.C. §§ 153(43) and 153(46), respectively.

64. Other services and functionalities. Commenters suggest providing universal service funding for the following services and functionalities: access to basic local directory assistance;¹⁷³ call tracing;¹⁷⁴ call waiting;¹⁷⁵ interoffice digital facilities;¹⁷⁶ equal access to SS7 functionalities;¹⁷⁷ ISDN services;¹⁷⁸ interconnection among carriers;¹⁷⁹ reasonable toll usage;¹⁸⁰ carrier-provided customer support services;¹⁸¹ adequate line quality for facsimile and data transmission;¹⁸² end-to-end digital service;¹⁸³ telecommunications services for handicapped and disabled students and employees;¹⁸⁴ guaranteed functional performance requirements;¹⁸⁵ guaranteed continued power for telephone service in the event of a power outage;¹⁸⁶ no-cost

¹⁷³ See, e.g., Governor of Guam comments at 9-10; Information Technology Industry Council comments at 3-4; Ohio Consumers' Council comments at 11-12; SWBT comments at 8; TCA comments at 5; AT&T reply comments at 18.

¹⁷⁴ AARP comments at 10; Minnesota Indep. Coalition comments at 9.

¹⁷⁵ Texas OPUC comments at 16.

¹⁷⁶ AARP comments at 10.

¹⁷⁷ AARP comments at 10; Blountsville Tel. comments at 3; NorTel reply comments at 2, 5-6.

¹⁷⁸ Alaska Tel. comments at 2-4 (arguing that supporting a lower level of functionality than ISDN would create a two-tiered telecommunications system that would separate those with access to data capabilities from those without such access); Matanuska Tel. Ass'n comments at 2; Southwest Virginia Future comments at 1; Dell Tel. reply comments at 4.

¹⁷⁹ AARP comments at 10.

¹⁸⁰ Michigan Consumer Federation comments at 20.

¹⁸¹ Louisiana PSC comments at 3 (supporting access to customer support services, including billing); Michigan Consumer Federation comments at 21 (advocating free calls to a carrier's office for requesting repairs, making billing inquiries and obtaining information about programs such as Lifeline).

¹⁸² See, e.g., Colorado PUC comments at 2; Michigan Library Ass'n comments at 6; RUS comments at 10 (asserting that voice grade service should allow data transmission at 28.8 kbps rates through modems); Wyoming PSC comments at 7.

¹⁸³ Wyoming PSC comments at 7.

¹⁸⁴ ACE comments at 6.

¹⁸⁵ Alaska Health comments at 2 (supporting "voice grade access to dial-up lines on the public switched network, with the ability to place and receive calls with a guaranteed functional transmission rate of 14.4 Kbps via modem").

¹⁸⁶ Colorado PUC comments at 2-4.

repair of the network on the provider's side of the network demarcation point;¹⁸⁷ and number portability.¹⁸⁸

3. Discussion

65. In addition to the services proposed to be included within the general definition of universal service by the NPRM, the Joint Board recommends that access to interexchange service be included. We find that Congress was unequivocal in its intent that the Commission should include access to interexchange services when it provided "customers in all regions of the nation . . . should have access to telecommunications and information services, including interexchange services."¹⁸⁹ In addition, we find that the majority of residential subscribers currently have access to interexchange service, consistent with the criterion of section 254(c)(1)(B). Moreover, the record in this proceeding supports our finding that access to interexchange service is essential for education, public health and public safety.¹⁹⁰ Customers who live in rural areas, especially, require access to interexchange service to reach medical and emergency services, schools, and local government. Although access may more properly be characterized as a functionality of the loop rather than a service, the record also supports the conclusion that access to interexchange service is demanded by a substantial majority of residential customers and is generally available.¹⁹¹ Further, we find that access to interexchange service is consistent with the public interest.¹⁹² Based on these considerations, and the strong support in the record, we recommend that access to interexchange service -- meaning the ability of a subscriber to place and receive interexchange calls -- be included as a supported service.¹⁹³

66. The Joint Board, however, recommends that access to interexchange service should not be defined, at this time, to include equal access to interexchange carriers. We acknowledge the importance of equal access to interexchange service in a competitive environment, but we conclude that equal access should not be supported because of the potential costs to wireless carriers involved in upgrading facilities and because wireless carriers are not

¹⁸⁷ New Jersey BPU comments at 2.

¹⁸⁸ AT&T reply comments at 18.

¹⁸⁹ 47 U.S.C. § 254(b)(3).

¹⁹⁰ See 47 U.S.C. § 254(c)(1)(A).

¹⁹¹ See 47 U.S.C. § 254(c)(1)(B)-(C).

¹⁹² See AT&T reply comments at 18. See also 47 U.S.C. § 254(c)(1)(D).

¹⁹³ We do not recommend, however, support for interstate usage.

currently required to provide equal access.¹⁹⁴

67. The Joint Board recommends including access to directory assistance, specifically, the ability to place a call to directory assistance, be included in the definition of universal service. Like access to interexchange service, access to directory service is a functionality of the loop. We are recommending support be provided for *access to* directory assistance, not the service itself. We agree with the numerous commenters who favor providing universal service support for access to directory assistance because it is a necessity for consumers to access "telecommunications and information services." Directory assistance provides consumers access to necessary information, such as government, business, and customer listings. Indeed, we believe that without the ability to access directory assistance, consumers' access to other telecommunications and information services is greatly diminished. In considering the statutory factors contained in section 254(c)(1), we find access to directory assistance is essential for education, public health and safety. Although not a service *per se*, directory assistance is used by a substantial majority of residential customers, is widely available, and is consistent with the public interest, convenience and necessity.¹⁹⁵ The Joint Board, therefore, recommends that access to directory assistance be included in the definition of universal service, pursuant to section 254(c)(1). Therefore, we will refer to voice grade access to the public switched network, DTMF or touch-tone, single-party service, access to emergency service, access to operator service, access to interexchange service, and access to directory assistance as the "designated" or "core" services for universal service for purposes of section 254(c)(1).

68. Although the provision of "white page listings" received significant record support, we do not recommend that it be included it within the general definition of universal service. While we agree with the commenters that suggest that this is an important service that facilitates access to the telecommunications network, we do not consider white page listings to be within the 1996 Act's definition of "telecommunication services."¹⁹⁶ Therefore, white page listings should not receive universal service support. We agree with the Florida PSC that carriers have at their disposal the means to recover the costs of these services. Although we find that white page listings should not be included in the definition of universal service support, we strongly recommend that the states take the necessary and appropriate steps to ensure the continued availability of this fundamentally important offering.

69. We recommend that no additional services be included in the general definition of

¹⁹⁴ See 47 U.S.C. § 332(c)(8) ("a person engaged in the provision of commercial mobile services . . . shall not be required to provide equal access to common carriers for the provision of telephone toll services").

¹⁹⁵ 47 U.S.C. § 254(c)(1)(A)-(D). See also Minnesota Indep. Coalition comments at 5.

¹⁹⁶ 47 U.S.C. § 153(46).

universal service at this time.¹⁹⁷ For example, although we recognize the integral role of TRS in the provision of universal telephone service, we agree with the commenters that state that universal service support is not necessary because the service is already supported through a separate fund.¹⁹⁸ We find that access to the Internet, to the extent that this implies non-toll access, is provided through voice-grade access to the public switched network. The Joint Board rejects the position of some commenters that the actual use of Internet services be supported. We find that the provision of Internet service does not meet the statutory definition of a "telecommunications service." In addition, we decline to support toll access to Internet providers. We predict, however, that increasing demand for Internet service will result in broader accessibility of Internet service providers. This should have the effect of reducing or eliminating the need for customers in rural areas to place toll calls to obtain Internet service.¹⁹⁹

70. We further conclude that no other services proposed by commenters in the record substantially meet the criteria stated in section 254(c)(1). Moreover, we find that an overly broad definition of universal service might have the unintended effect of creating a barrier to entry for some carriers because, as discussed *infra*, carriers must provide each of the core services in order to be eligible for universal service support. Because the definition of universal service is evolving, however, we must, as the 1996 Act instructs, consider the definition again in the future.²⁰⁰

D. Feasibility of Providing Designated Services

1. Background

71. Section 214(e)(1)(A) requires eligible carriers to "offer the services that are supported by Federal universal service support mechanisms".²⁰¹ On July 3, 1996, the Common Carrier Bureau released a Public Notice to supplement the NPRM's requests for comment.²⁰² The Public Notice asked, *inter alia*, for comment on the effects on competition if a carrier is denied universal service support because it is technically infeasible for that carrier to provide one or more

¹⁹⁷ We do, however, recommend that toll blocking be provided without charge for low income subscribers. For a further discussion of this subject and other recommendations regarding services for low income consumers, *see infra* section VIII.

¹⁹⁸ *See, e.g.*, AT&T comments at 13 n.17.

¹⁹⁹ *See* 47 U.S.C. §§ 3(46), 254(c)(1). *See also* SWBT reply comments at 4.

²⁰⁰ 47 U.S.C. § 254(c)(1).

²⁰¹ 47 U.S.C. § 214(e)(1)(A).

²⁰² Public Notice, *Common Carrier Bureau Seeks Further Comment on Specific Questions in Universal Service Notice of Proposed Rulemaking*, DA-96-1078 (rel. July 3, 1996) (Public Notice).

of the designated services.²⁰³

2. Comments

72. Carriers' Ability to Provide Designated Services. Several commenters representing various sections of the telecommunications industry maintain that the services proposed in the NPRM are so basic that no telecommunications provider will have difficulty providing them.²⁰⁴ Florida PSC, for example, maintains that requiring carriers to provide the core services, or even additional services, would not be unduly burdensome or adversely affect competition.²⁰⁵ Some parties assert that because the 1996 Act permits carriers to provide services by resale, carriers are able to provide even those services that their facilities do not support.²⁰⁶

73. Some parties contend, however, that expanding the list of services might stifle competition if carriers generally are unable to provide services designated for universal service.²⁰⁷ Various parties argue, therefore, that universal service should be defined as narrowly as possible.²⁰⁸ Teleport contends that, by limiting the definition of universal service to those services that "have . . . been subscribed to by a substantial majority of residential customers" and "are being deployed in public telecommunications networks by telecommunications carriers," Congress has attempted to ensure that the definition of universal service remains competitively and technologically neutral.²⁰⁹ Vanguard argues that a narrow definition of services will promote competition because support will not be limited to only those carriers that can provide extensive

²⁰³ Public Notice at question 4.

²⁰⁴ See, e.g., BellSouth further comments at 7; Bell Atlantic further comments at 2; MFS further comments at 12; NCTA further comments at 2; Vanguard further comments at 3.

²⁰⁵ Florida PSC further comments at 7.

²⁰⁶ Century further comments at 9; NECA further comments at 4; NYNEX further comments at 5; Puerto Rico Tel. Co. further comments at 5; TCI further comments at 10; U S West further comments at 4-5. See also CompTel further comments at 8 (asserting that "the Joint Board should make clear that eligibility may not be denied simply because, for technical and economic reasons, the CLEC purchases ILEC elements necessary to provide core services."). Determining which carriers are eligible for universal service support is discussed further in section VI, *infra*.

²⁰⁷ See, e.g., Ameritech further comments at 10; MCI further comments at 3; Time Warner further comments at 13-14.

²⁰⁸ See, e.g., GCI further comments at 3; GTE further comments at 10; MCI further comments at 3; Time Warner further comments at 12; Vanguard further comments at 3.

²⁰⁹ Teleport further comments at 3 (*citing* 47 U.S.C. § 254(c)(1)(B) - (C)).

services.²¹⁰ Vanguard asserts that a narrow definition of universal service will facilitate the addition of other services at a later time.²¹¹

74. Effect of Interconnection and Unbundled Elements Requirements. Some parties, including AT&T and ALTS, link the ability of competitive carriers to provide core services with the implementation of the 1996 Act's requirements related to interconnection²¹² and access to unbundled elements.²¹³ Specifically, Citizens Utilities argues that competitive carriers have the right to acquire any or all of the network elements they need, at cost-based rates, from the incumbent LEC.²¹⁴ ALTS contends that, if the cost of access to the databases necessary for the provision of emergency services were set at rates that make it economically infeasible for competitive carriers to use the incumbent LEC's databases, then competitive carriers would be unable to provide access to emergency services.²¹⁵ Similarly, some parties argue that, if incumbent LECs deny new entrants access to unbundled elements, it may be technically infeasible for a new entrant to provide one or more of the core services.²¹⁶

75. Provision of Core Services and Eligibility. Some commenters argue that carriers that are unable to provide one or more of the core services should be ineligible to receive universal service support.²¹⁷ SWBT argues that Congress intended to limit universal service funding to "eligible telecommunications carriers" that are required to "offer the services supported by the Federal universal service support mechanisms. . . ." ²¹⁸ Thus, SWBT contends, providing support for a carrier that does not offer all of the core services would be contrary to the language

²¹⁰ Vanguard further comments at 4.

²¹¹ *Id.*

²¹² 47 U.S.C. § 251.

²¹³ *Id.* See ALTS further comments at 1-2; AT&T further comments at 5.

²¹⁴ Citizens Utilities further comments at 4 (*citing* 47 U.S.C. §§ 251(c)(3), 252(d)(1)).

²¹⁵ ALTS further comments at 2.

²¹⁶ AT&T further comments at 5; MCI further comments at 3; MFS further comments at 12.

²¹⁷ See, e.g., Ameritech further comments at 10; ITC further comments at 3; New York DOE further comments at 5; Puerto Rico Tel. Co. further comments at 5; RUS further comments at 4; SWBT further comments at 3; Sprint further comments at 3; Teleport further comments at 4; Time Warner further comments at 13; Vitelco further comments at 3; Washington UTC further comments at 5.

²¹⁸ SWBT further comments at 3 (*citing* 47 U.S.C. §§ 254(e), 214(e)(1)(A)).

of the statute which, SWBT argues, clearly expresses the intent of Congress.²¹⁹ In addition, Ameritech asserts that competition would be harmed if a carrier that did not provide one or more core service was still eligible for support intended for core services, particularly when that carrier is competing with others that are providing core services "in accordance with the rules."²²⁰ Similarly, Minnesota Indep. Coalition contends that providing universal service support for a "partial provider" might raise the cost of full service providers by reducing their revenue bases.²²¹ BellSouth argues that "niche" providers might choose not to provide all of the core services in a given area, and that these carriers should not be eligible for support.²²² ITC maintains that the impact on consumers who might be denied core services should serve as a reason against providing support for carriers that do not provide all the core services.²²³

76. Waivers. A few comments favor permitting carriers that are unable to provide one or more of the core services to apply for waivers in order to receive universal service support.²²⁴ For example, NENA argues that waivers should be granted so that a carrier's failure to offer a service that would be technically infeasible for that carrier to provide would not make the carrier ineligible for universal service support.²²⁵ NENA contends that, in the case of 911, infeasibility of providing access to emergency service could arise from a political determination that an emergency calling system is not needed or wanted in a particular area.²²⁶ In such an area, NENA argues, access to 911 should not be considered a core service.²²⁷ Similarly, PacTel asserts that carriers should be able to apply for waivers based on specific facts and circumstances that make it unable to provide one or more core service.²²⁸

77. PacTel also argues that geographic circumstances might prevent carriers serving a

²¹⁹ *Id.*

²²⁰ Ameritech further comments at 10.

²²¹ Minnesota Indep. Coalition further comments at 7.

²²² BellSouth further comments at 7.

²²³ ITC further comments at 3. *See also* Sprint further comments at 3.

²²⁴ *See, e.g.*, NENA further comments at 3; PacTel further comments at 12.

²²⁵ NENA further comments at 3.

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ PacTel further comments at 12.

particular area from providing a core service.²²⁹ Accordingly, PacTel contends that the Commission could issue different standards relating to the provision of core services for different geographic areas.²³⁰ PacTel, however, asserts that, to receive support, every company serving a particular geographic area should be required to provide the same core services.²³¹ Similarly, Maine PSC contends that, because E911 is not available everywhere, its absence should not disqualify carriers serving a particular area from receiving support.²³²

78. **Transition Period.** Some parties favor implementing a transition period to enable carriers to meet the universal service requirements and provide the core services within a reasonable time period.²³³ For example, GTE maintains that a transition period is necessary to permit some incumbent LECs to provide single-party service.²³⁴ Further, RTC argues that the 1996 Act requires the definition of universal service to evolve and, thus, at some time in the future, the definition of core services is likely to extend beyond the services carriers are capable of providing.²³⁵ RTC recommends that state agencies, in their capacity to determine eligible carriers under section 214(e), should determine whether carriers continue to receive high cost support while they are upgrading their networks in order to provide all universal services in an entire service area.²³⁶

3. Discussion

79. We generally agree with those commenters that argue that carriers designated as eligible telecommunications service providers must provide each of the services designated for support subject to certain exemptions as discussed below. We recommend that telecommunications carriers that are unable to provide one or more of these services should not

²²⁹ *Id.*

²³⁰ *Id.*

²³¹ *Id.*

²³² Maine PSC further comments at 6.

²³³ *See, e.g.*, Century further comments at 9-10; GTE further comments at 10; SWBT further comments at 4. *See also* USTA further comments at 7 (arguing that incumbent carriers should be given additional time to provide core services without losing universal service support, but that competing carriers must provide all core services before they are eligible for support).

²³⁴ GTE further comments at 10. *See also* SWBT comments at 8.

²³⁵ RTC further comments at 9-10.

²³⁶ *Id.*

receive universal service support unless exceptional circumstances exist.²³⁷ We conclude that conditioning a carrier's eligibility for support upon its provision of the core services will not impose an anti-competitive barrier to entry, as discussed *supra*.²³⁸ We agree with Teleport that the statutory principles for defining universal service are designed to ensure competitive and technological neutrality. There is no compelling evidence in the record that demonstrates that requiring eligible carriers to provide these services would unduly burden new competitors or non-wireline carriers. In addition, we agree with commenters observing that the 1996 Act facilitates the provision of services because it permits a telecommunications carrier to provide the supported services by using its own facilities in combination with resale of another carrier's services.²³⁹

80. A few commenters argue that it may not be feasible for competitive carriers to provide the designated services because incumbent LECs may set exorbitant rates for network elements or deny access to unbundled elements. We believe that these arguments are speculative given that section 252 requires network element charges to be based on cost and to be nondiscriminatory²⁴⁰ and section 251 requires incumbent LECs to provide requesting carriers "nondiscriminatory access to network elements on an unbundled basis . . . on rates, terms and conditions that are just, reasonable, and nondiscriminatory."²⁴¹

81. We recommend that the Commission not implement the general transition proposed by GTE, RTC, and others that would allow carriers to draw support from the universal service fund but provide only some of the services designated for universal service support.²⁴² Such a transition period would appear to be inconsistent with section 254(e) which states that "[a]fter the date on which Commission regulations implementing this section take effect, only an eligible telecommunications carrier . . . shall be eligible to receive" Federal universal service support.²⁴³ Moreover, we find that requiring some carriers to provide services while not imposing the same requirements on other carriers would be inconsistent with our recommended principle of competitive neutrality. We find little in the record that indicates that telecommunications carriers

²³⁷ As stated *supra*, we recommend that states have the discretion to provide for a transition period, for good cause, to allow carriers to make upgrades to provide single-party service.

²³⁸ See *supra* section IV.A.3.

²³⁹ 47 U.S.C. § 214(e)(1)(A).

²⁴⁰ 47 U.S.C. § 252(d)(1)(A)(i)-(ii).

²⁴¹ 47 U.S.C. § 251(c)(3).

²⁴² We note, however, that there will be a transition period leading up to the time the Commission's universal service rules take effect. See *infra* section VII.E.

²⁴³ 47 U.S.C. § 254(e).

are generally unable to provide one or more of the recommended core services. A few commenters, however, maintain that some incumbent LECs are currently unable to provide single-party service. Although we find that single-party service is essential to modern life and to a modern telecommunications system, we recognize that exceptional circumstances may prevent some carriers from offering single-party service initially. Accordingly, as discussed *supra*, we recommend that state commissions, in their capacity to designate telecommunications providers that are eligible to receive universal service support, be permitted to grant an eligible carrier's request for a transition period after which the carrier must offer single-party service. Such a request will be granted only if the state commission finds exceptional circumstances warrant an exemption from this requirement.

82. In addition to our general conclusion that carriers must provide each of the designated services in order to receive support, we find that universal service support should be available in limited instances where a carrier is unable to provide a few specific services. For example, based on our analysis of E911, discussed *supra*, we conclude that access to E911 should be among those services supported by universal service mechanisms because, for example, it is "essential to . . . public safety" consistent with section 254(c)(1)(A). We realize, however, that not all carriers are currently capable of providing access to E911 and, in fact, as noted by NENA, not all communities have the facilities in place to provide E911 service. Nevertheless, we conclude that access to E911 should be supported to the extent that carriers are providing such access. Similarly, as discussed *infra*, we find that toll blocking or control services should be supported when provided to qualifying low-income consumers, to the extent that eligible carriers are technically capable of providing these services. Thus, we recommend that eligible carriers be required to provide all of those services we characterize as "designated" services, but we also recommend that the Commission support additional services such as E911 and toll limitation, to the extent eligible carriers are providing these important services.

83. Finally, we conclude that waivers should not generally be available to carriers that do not provide one or more of the designated services. Nevertheless, as discussed *supra*, the record supports the contention that some carriers may currently be unable to offer single-party service. Because section 214(e) requires eligible carriers to "offer the services that are supported by Federal universal service support mechanisms under section 254," we are unwilling to recommend that telecommunications providers be permitted to receive broad waivers from the requirement to provide the services we recommend designating for universal service support. As discussed *supra*, however, we recommend that state commission be permitted to grant a request for a transition to carriers that cannot currently provide single-party service if the circumstances warrant such a transition period.

E. Extent of Universal Service Support

1. Background

84. The 1996 Act states that "[c]onsumers in . . . high cost areas, should have access to telecommunications and information services. . . ." ²⁴⁴ The NPRM asks for comment regarding whether universal service support should be limited to carriers providing designated services to residential users or residential and single-line business users, or whether support should be provided for designated services provided to all users in high cost areas. ²⁴⁵

2. Comments

85. Support for Single Residential Connections. Those commenters that addressed the issue of the extent of universal service generally favor limiting universal service support to designated services carried on the initial line to residences. ²⁴⁶ Washington UTC, for example, opposes supporting two or more single-party lines per residence. ²⁴⁷ NTIA contends that federal universal service support should be targeted toward single-line residential service. ²⁴⁸ GTE argues that a definition of "household" must be established if support is limited to primary residential lines so that carriers are not required to determine whether a customer sharing a house or apartment is a separate household. ²⁴⁹

86. Support for Services Carried to Additional Residences. GTE opposes any attempt to restrict universal service support to designated services carried on lines to primary residences. ²⁵⁰ According to GTE, it would be impractical to make such a distinction and, further, the record does not support this approach. ²⁵¹

87. Support for Designated Services Carried to Businesses. Some commenters favor extending support to connections to businesses in high cost areas. ²⁵² For example, Nat'l Ass'n of Dev. Orgs. argues that rural economic viability depends upon access to communications services;

²⁴⁴ 47 U.S.C. § 254(b)(3).

²⁴⁵ NPRM at para. 24.

²⁴⁶ *See, e.g.*, Illinois CC comments at 5; NCTA comments at 6.

²⁴⁷ *See, e.g.*, Washington UTC comments at 10. *See also* Ameritech comments at 8.

²⁴⁸ NTIA reply comments at 8-9.

²⁴⁹ GTE reply comments at 8-9.

²⁵⁰ GTE reply comments at 8.

²⁵¹ *Id.*

²⁵² *See, e.g.*, Cincinnati Bell comments at 5; LDDS comments at 9-10; Montana Indep. Telecom. comments at 5; SWBT comments at 7-8; Staurulakis comments at 5; Telec Consulting comments at 4.

thus, it argues, support should be extended to multiple-connection businesses.²⁵³ Citizens Utilities argues that, if a proven need for support exists for business lines, a national affordability standard for businesses should be developed that is different from any affordability standard established for residential service.²⁵⁴

88. Several parties, in contrast, oppose providing universal service support for designated services carried to businesses.²⁵⁵ Florida PSC argues that the goal of promoting universal service relates to maximizing the number of households that have telephone service.²⁵⁶ NTIA maintains that the costs of telephone services are likely to be a small fraction of total operating costs for most businesses and, thus, affordability of service should not generally be a problem for business users.²⁵⁷ Florida PSC and NTIA assert that states should provide appropriate funding if they determine that businesses need support.²⁵⁸ West Virginia Consumer Advocate contends support should be limited to designated services provided to residences because, it asserts, even single-line businesses can take tax deductions for telephone services as a cost of doing business.²⁵⁹ MCI opposes extending universal service support to businesses, because, it argues, supporting business lines would cause the level of support to grow excessively.²⁶⁰

3. Discussion

89. We find that support for designated services provided to residential customers should be limited to those services carried on a single connection to a subscriber's principal residence.²⁶¹ We find that supporting one connection per residence is consistent with section

²⁵³ Nat'l Ass'n of Dev. Orgs. comments at 8-9.

²⁵⁴ Citizens Utilities comments at 7.

²⁵⁵ *See, e.g.*, AT&T comments at 13; Ameritech comments at 8; LCI comments at 3 (stating that "universal service support has always been limited to baseline, residential services and the 1996 Act provides no indication that Congress intended otherwise."); Western comments at 9.

²⁵⁶ Florida PSC comments at 7.

²⁵⁷ NTIA reply comments at 9.

²⁵⁸ Florida PSC comments at 7; NTIA reply comments at 9.

²⁵⁹ West Virginia Consumer Advocate comments at 8.

²⁶⁰ MCI comments at 9. *See also* NTIA reply comments at 9.

²⁶¹ In light of our recommended principle of competitive neutrality, we will hereinafter refer to "connections" rather than "lines."

254(b)(3), which states that access to services for low income consumers and those in rural, insular and high cost areas should be reasonably comparable to that available in urban areas.²⁶² We conclude that support for a single residential connection will permit a household complete access to telecommunications and information services. All supported services, including access to emergency services, would be available to a household by providing support for this residential connection. The Joint Board, however, declines at this time to provide support for other residential connections beyond the primary residential connection. Support for a second connection is not necessary for a household to have the required "access" to telecommunications and information services.²⁶³ Moreover, the statutory language does not provide any guidance for determining what, if any, uses of a second connection are consistent with the goals of universal service. Nor does the record provide sufficient basis for supporting second residential lines. GTE contends that carriers will have difficulty determining whether a second connection to a residence is a household's second connection or whether the residence is shared by two or more households. It would appear, however, that carriers can use subscriber billing information to determine the number of households at a given address. Accordingly, we conclude that eligible carriers should receive support for designated services carried on the initial connection to a customer's primary residence.

90. We are unpersuaded that universal service support should be extended to second residences in high cost areas. We conclude that the consumer benefits that result from support should not be extended to second homes, which may not be occupied at all times. There is no evidence that the additional cost of supporting second or vacation residences is justified in light of the presumption that owners of these residences can afford to pay rates that accurately reflect the carrier's costs to provide services carried on connections to second residences.

91. We find that designated services carried to single-connection businesses in rural, insular and other high cost areas should be supported by universal service mechanisms, although we find that a reduced level of support may be appropriate. We find general similarities between residential and single-line business customers. Both single-line business and residential subscribers require access for health, safety and employment reasons. Moreover, like residential subscribers, most single-line businesses have few or no competitive options for local telecommunications service. We disagree with Nat'l Ass'n of Dev. Orgs. that support should be extended to multiple-connection businesses. We note that the Commission has, in the past, elected to treat single-line businesses like residential customers, that is, differently from multiple-line businesses.²⁶⁴ In one instance, the Commission, finding that small businesses lack the ability

²⁶² 47 U.S.C. § 254(b)(3).

²⁶³ *Id.* See also 47 U.S.C. § 254(b)(2) (promoting "access to advanced services").

²⁶⁴ See *In the Matter of MTS and WATS Market Structure*, Memorandum Opinion and Order, 101 FCC 2d 1222 (1985) (determining that all single-line subscribers, whether residential or business, should pay the same SLC).

to use alternatives to the public switched network that are available to large corporations, held that the customer line charges should be the same for single-line business and residential customers.²⁶⁵ We determine that a distinction between single-connection and multiple-connection business is likewise appropriate for universal service purposes. The cost of service is unlikely to be a factor that would cause a multiple-connection business not to subscribe to telephone service. For small, single-connection businesses in high cost areas, however, the price of telephone service may be prohibitive without support. Therefore, we recommend making universal service support available for designated services carried to single-connection businesses in high cost areas.

92. We conclude, however, that designated services carried to businesses subscribing to only one connection should not receive the full amount of support designated for residential connections in high cost areas. We agree with Citizens Utilities that, for business connections, a standard different from that applied to residential connections for determining support should be established. We recommend initially supporting the designated services carried on business connections in a high cost area at a lower level than that provided for residential connections in the same area. As discussed, *infra*, we recommend that the Commission use a benchmark based on the revenue generated per line to determine the amount of support carriers should receive.²⁶⁶ Under this recommended approach, eligible carriers would receive less support for serving single-connection businesses than they would for residential service because business rates are higher than residential rates.²⁶⁷ Moreover, we find that providing support for designated services carried to single-connection businesses in high cost areas at a reduced level is not inconsistent with the 1996 Act. We note that, as competition develops, it may be unnecessary to provide even this reduced support for services carried on the initial connection of businesses in high cost areas.

F. Quality of Service

1. Background

93. The 1996 Act requires that "quality services should be available at just, reasonable and affordable rates."²⁶⁸ Accordingly, the NPRM asked for comment on how the Commission can assess whether quality services are being made available.²⁶⁹ In particular, the NPRM sought

²⁶⁵ *Id.*

²⁶⁶ *See infra* section VII.C.

²⁶⁷ As discussed in greater detail in section VII.C, *infra*, we recommend that the amount of support be derived from calculating the difference between the cost of providing service and the benchmark amount.

²⁶⁸ 47 U.S.C. § 254(b)(1).

²⁶⁹ NPRM at para. 4.

comment on the utility of performance-based measurements to evaluate whether this congressional objective is being met.²⁷⁰ Further, the NPRM stated that the Commission is disinclined to prescribe technical standards for telecommunications carriers or other service providers.²⁷¹ Rather, the NPRM stated that the Commission preferred to let affected entities (such as IXC's, LEC's, equipment manufacturers, and customers) develop technical and performance standards without direct intervention from the Commission, unless necessary.²⁷² The NPRM, expressing the Commission's preference for encouraging existing standard-setting bodies to discuss and establish relevant technical standards, noted that there are currently several industry bodies that address standards for various aspects of communications networks.²⁷³

94. The NPRM also sought comment on whether, in implementing the congressional mandate to ensure that "quality services" are available, it would be useful to collect and publish certain basic information regarding technical performance levels of carriers subject to the Commission's rules.²⁷⁴ The NPRM noted that providing customers with easy access to service quality information could facilitate comparisons between the performance levels of various telecommunications carriers and could potentially create a market-based incentive for carriers to provide quality services.²⁷⁵ In addition, noting that competition will probably not develop in a uniform fashion throughout the Nation, the NPRM sought comment on whether it is necessary to obtain data that could be used by the public, regulators, and regulated entities to monitor service quality performance from carriers, particularly those carriers that serve rural areas and are not currently subject to the Commission's existing service quality monitoring program.²⁷⁶ The NPRM also emphasized that the collection and publication of these data should entail the least possible cost to the companies involved and, accordingly, solicited comment on whether industry organizations or state commissions already collect the information that should be contained in these performance reports.²⁷⁷ The NPRM also asked whether it would be reasonable to rely upon such existing information rather than extending the Commission's reporting requirements to all

²⁷⁰ *Id.*

²⁷¹ NPRM at para. 68.

²⁷² *Id.*

²⁷³ *Id.* (referring to the American National Standards Institute Committee T-1, Electronic Industry Association and Telecommunications Industry Association).

²⁷⁴ NPRM at para. 69.

²⁷⁵ *Id.*

²⁷⁶ *Id.* (citing 47 C.F.R. §§ 43.21-22).

²⁷⁷ *Id.*

carriers.²⁷⁸ Commenters were also asked to estimate the potential costs associated with these various proposals for collecting performance information, in accordance with the 1996 Act's mandate that support mechanisms should be "specific, predictable and sufficient."²⁷⁹ Finally, the NPRM sought comment on whether the Commission should take action at some fixed date to evaluate the need for continuing performance reports.²⁸⁰ The NPRM requested that the Joint Board address in its recommended decision all of the issues raised in the NPRM with respect to monitoring of telecommunications services.²⁸¹

2. Comments

95. Assessing Existing Service Quality. As a preliminary matter, some parties maintain that high quality services currently exist, largely due to existing universal service support.²⁸² A few commenters, however, contend that LECs operating under price cap formulas are motivated to reduce costs to the extent that lower service quality often results.²⁸³ Harris argues that telephone customer service indicators should continue to be used to assess service quality.²⁸⁴ ACTA maintains that the concept of quality of service must incorporate service provided by one carrier to other carriers, such as underlying service provided by carriers to resellers and by access carriers to IXCs.²⁸⁵

96. Quality of Service Standards. Some parties generally support the imposition of service quality standards on telecommunications providers.²⁸⁶ GCI, for example, argues that the Commission should adopt certain quality standards for core services including an evaluation of

²⁷⁸ *Id.*

²⁷⁹ *Id.* (citing 47 U.S.C. § 254(b)(5)).

²⁸⁰ NPRM at para. 70.

²⁸¹ *Id.*

²⁸² *See, e.g.*, NECA comments at 3.

²⁸³ *See* International Communications Ass'n comments at 2; Michigan Consumer Federation comments at 5; NASUCA comments at 8.

²⁸⁴ Harris comments at 17-18 (noting that current methods of evaluating customer service rely on engineering and customer service objectives such as central office blocking, time to clear out-of-service reports, customer service call answer times, operator service call answer times, call completion rates, trouble reports and commission complaints).

²⁸⁵ ACTA comments at 2.

²⁸⁶ *See, e.g.*, CWA comments at 6; GCI comments at 7; NTIA reply comments at 7 n.13.

valid complaints filed by consumers and customers (such as IXCs) and the amount of time taken to fill customer service orders.²⁸⁷ In addition, International Communications Ass'n recommends that the Commission impose quality of service rules that measure service availability, errors per second, mean time to restore outages, and service disruption.²⁸⁸ Some parties argue that, if competition comes to rural areas, the Commission should institute sufficient safeguards to assure that the quality of service is equivalent to the standards met by the incumbent provider.²⁸⁹ USTA, in contrast, opposes the implementation of quality of service standards, because, it argues, the market will provide the best means to enforce quality services in competitive areas.²⁹⁰

97. Some commenters provide specific models on which to base quality of service standards. Wyoming PSC recommends that the Commission adopt on a nationwide basis its service quality rules, which are based on the National Regulatory Research Institute service quality framework model.²⁹¹ Michigan Library Ass'n also recommends the use of the National Regulatory Research Institute model for a service quality framework.²⁹² Texas PUC cites NARUC's Model Telecommunications Service Quality Rules and Telephone Service Quality Handbook as models for regulators to use to implement quality of service standards.²⁹³ Some parties argue that the Commission should base its service quality standards on existing standards in the states²⁹⁴ or supplement those state standards.²⁹⁵

98. A few parties argue that the receipt of universal service support should be contingent on maintaining certain quality of service levels.²⁹⁶ For example, CWA argues that any carrier wishing to receive federal universal service support must meet quality standards in all four prior calendar quarters in order to receive support, and that a carrier that does not reach this goal

²⁸⁷ GCI comments at 7.

²⁸⁸ International Communications Ass'n comments at 3-4.

²⁸⁹ GVNW comments at 2; Montana Indep. Telecom. comments at 2.

²⁹⁰ USTA comments at 14.

²⁹¹ Wyoming PSC comments at 2-3.

²⁹² Michigan Library Ass'n comments at 5.

²⁹³ Texas PUC comments at 2.

²⁹⁴ NASUCA comments at 9; Virginia CC comments at 1.

²⁹⁵ CWA comments at 9.

²⁹⁶ *See, e.g.*, CWA comments at 6; GCI comments at 7.

should be required to pay a penalty in the form of a contribution to universal service.²⁹⁷

99. State Roles. Several commenters believe state commissions should enforce quality of service standards.²⁹⁸ A few state public utility commissions argue that the Commission should defer to the states to monitor service quality.²⁹⁹ Other state commissions submit that quality standards should be based on existing state standards.³⁰⁰ A few parties maintain that states should monitor the quality of services provided by incumbent LECs until a competitive market emerges.³⁰¹ Taconic Tel. argues that states will have the responsibility to designate which carriers will be eligible to receive support, and, thus, states should have the responsibility to establish and monitor service quality levels.³⁰²

100. Technical Standards. Some parties propose specific technical standards, such as transmission rates. For example, Merit argues that carriers should be required to provide voice grade access to the public switched network capable of supporting high-speed modem access.³⁰³ Michigan Consumer Federation contends that quality standards tied to performance level requirements are preferable to technical specifications that may become obsolete.³⁰⁴ Michigan Consumer Federation argues that the Commission must ensure that any technical standard setting bodies to which it defers include public representation.³⁰⁵ NorTel, in contrast, supports the Commission's tentative conclusion that it is unnecessary for the Commission to prescribe specific technical standards to ensure quality telecommunications services.³⁰⁶

²⁹⁷ CWA comments at 6.

²⁹⁸ See, e.g., Alabama-Mississippi Tel. Ass'n comments at 4; Century comments at 9; GTE comments at 7 n.15; MCI comments at 22; OITA-WITA comments at 16; Pennsylvania PUC comments at 8; Fred Williamson comments at 6.

²⁹⁹ Idaho PUC comments at 6; Oregon PUC comments at 3.

³⁰⁰ New York DPS comments at 3; Wyoming PUC comments at 2.

³⁰¹ LDDS comments at 10; Oregon PUC comments at 3.

³⁰² Taconic Tel. reply comments at 4.

³⁰³ Merit comments at 2 (proposing an initial definition of "high speed" equal to 28,000 kbps). See also People For comments at 10.

³⁰⁴ Michigan Consumer Federation comments at 8.

³⁰⁵ Michigan Consumer Federation comments at 7.

³⁰⁶ NorTel reply comments at 4 (also arguing that the industry should focus on the development of standards specifically adapted to the needs of rural and high costs areas).

101. Quality of Service Reporting Requirements. Several commenters contend that imposing reporting requirements would be unduly burdensome to carriers.³⁰⁷ For example, MCI argues that new entrants have no incentive to provide lower quality services, and, thus, although states should monitor quality of service generally, they should not burden new entrants with the cost of collecting and filing service quality data.³⁰⁸ USTA contends that efforts to increase regulatory requirements are contrary to the 1996 Act's intent to provide for a pro-competitive, deregulatory national policy framework.³⁰⁹ A few state commissions, however, argue that information that would enable comparisons between the performance levels of various telecommunications carriers must be available to consumers.³¹⁰

102. Using Publicly-Available Data. A few parties maintain that carriers are already required to file quality of service reports with state agencies to which the Commission could have access if necessary.³¹¹ GTE argues that the Commission's ARMIS reporting requirements on certain price cap carriers already provide the Commission with service quality information on mandatory price cap carriers.³¹² North Dakota PSC, in contrast, states that the Commission would have to extend its reporting requirements to obtain quality of service information because many small carriers are currently exempt from its quality of service oversight and from the Commission's existing reporting requirements.³¹³ In addition, CWA argues that many states do not have service standards and that some that do have standards do not make quality information available to the public.³¹⁴

103. Future Evaluation of Continued Monitoring. North Dakota PSC argues that the Commission should review the need for quality of service reports as local service competition

³⁰⁷ See, e.g., Alabama-Mississippi Tel. Ass'n comments at 4; Taconic Tel. reply comments at 4.

³⁰⁸ MCI comments at 22 (also arguing that the Commission and Joint Board should create a higher burden for any state that seeks to implement reporting requirements on new entrants that are equivalent to those imposed on incumbents).

³⁰⁹ USTA comments at 14. See also ALTS comments at 20.

³¹⁰ Florida PSC comments at 18-19; NASUCA comments at 10; North Dakota PSC comments at 3; OPC-DC comments at 14.

³¹¹ Alabama-Mississippi Tel. Ass'n comments at 4; Pennsylvania PUC reply comments at 17.

³¹² GTE comments at 7 n.15.

³¹³ North Dakota PSC comments at 3.

³¹⁴ CWA comments at 6 (referring to a 1992 NARUC publication).

develops.³¹⁵

3. Discussion

104. The 1996 Act enunciates the principle that "quality services" should be available.³¹⁶ We refrain from recommending that the Commission require that eligible carriers meet specific technical standards established by the Commission as a condition to receiving universal service support. We have already recommended the specific definitions of the services a telecommunications carrier must provide before receiving support. While we decline to recommend that the Commission establish federal service quality standards beyond the basic capabilities that carriers receiving universal service support must provide, we recognize that states may adopt and enforce service quality rules, on a competitively neutral basis, consistent with section 253(a), which furthers the congressional intent of ensuring that all Americans have quality services at just, reasonable and affordable rates.

105. We recommend that the Commission, to the extent possible, rely on existing data to monitor service quality. Because many states already have adopted service quality requirements,³¹⁷ we do not recommend that the Commission undertake efforts to collect quality of service data in addition to those already in place with respect to price cap LECs. In many cases, additional requirements by the Commission would duplicate the states' efforts. Instead, we recommend that state commissions submit to the Commission the service quality data provided to them by carriers. We further recommend that the Commission not impose data collection requirements on carriers at this time.³¹⁸ Therefore, we conclude that the Commission should rely

³¹⁵ North Dakota PSC comments at 4.

³¹⁶ See 47 U.S.C. § 254(b)(1).

³¹⁷ See, e.g., National Regulatory Research Institute, *Telecommunications Service Quality* (March 1996) (indicating that 32 state regulatory commissions and the District of Columbia have instituted quality of service standards since the AT&T divestiture).

³¹⁸ We note that the Commission already imposes quality reporting requirements on some carriers. For example, price cap LECs are required to file service quality reports with the Commission. The ARMIS 43-05 and ARMIS 43-06 reports provide measures of service quality. Specifically, the ARMIS 43-05 report covers service LECs provide to IXC's (Table I), the provision of local service (Table II), blockage on common trunk groups between the LEC wire centers and access tandems (Table III), LEC switch downtime (Table IV), and service quality complaints filed with the Commission and with state commissions (Table V). Table I of the ARMIS 43-06 report covers subjective measures of customer satisfaction. See Second Report and Order, 5 FCC Rcd 6786 (1990) and Erratum, 5 FCC Rcd 7664 (1990) (*LEC Price Cap Order*), modified on recon., 6 FCC Rcd 2637 (1991), further modified on recon. 6 FCC Rcd 4524 (1991) (ONA Part 69 Order), Second Further Recon. *aff'd* 7 FCC Rcd. 5235 (1992), upheld on appeal, *National Rural Telecom Association v. FCC*, 988 F.2d 174 (D.C. Cir. 1993). See also Policy and Rules Concerning Rates for Dominant Carriers, Memorandum Opinion and Order, 6 FCC Rcd 2974, *pet. for recon. denied* 6 FCC Rcd 7482 (1991).

on service quality data collected at the state level in making its determination that "quality services" are available, consistent with section 254(b)(1).

106. Further, we agree with NECA that competition should ultimately give carriers the incentive to provide quality services by allowing consumers to choose among various telecommunications providers. We are unpersuaded by the arguments of GVNW and Montana Indep. Telecom., which contend that the Commission should institute specific standards to ensure that competitors provide the same quality service as the incumbent. We believe that most competitors will strive to attain a level of service quality at least equal to the level currently provided by incumbents in order to attract and maintain subscribers. In addition, to the extent quality is readily observable to potential customers, competitive carriers will have an incentive to maintain service quality even in the absence of competition.

G. Revisiting the Definition of Universal Service

1. Background

107. Section 254(c)(2) states that "[t]he Joint Board may, from time to time, recommend to the Commission modifications in the definition of the services that are supported by Federal universal service support mechanisms."³¹⁹ Accordingly, the NPRM provided that the Commission will periodically review, after obtaining Joint Board recommendations, the definition of services supported by universal service mechanisms.³²⁰ The NPRM suggested that the Joint Board and the Commission may wish to revisit the definition of universal service at fixed intervals such as five-year periods,³²¹ but stated that, contingent upon the information collected in a Commission proceeding mandated by section 706 of the 1996 Act, the topic may be reconsidered even sooner.³²² The NPRM stated that, in order to apply the criteria set forth in section 254(c)(1), additional information -- specifically, the extent to which particular services "are being deployed in public telecommunications networks" and "have been subscribed to . . . by a

³¹⁹ 47 U.S.C. § 254(c)(2).

³²⁰ NPRM at para. 2.

³²¹ NPRM at para. 67 (citing Rulemaking on the Commission's Own Motion into Universal Service and to Comply with the Mandates of Assembly Bill 3643, R.95-01-020; and Investigation on the Commission's Own Motion into Universal Service and to Comply with the Mandates of Assembly Bill 3643, I.95-01-020, *Interim Opinion* (Cal. Pub. Utils. Comm'n, filed Jan. 24, 1995)).

³²² NPRM at para. 67 n.147 (citing 47 U.S.C. § 706(b) which states "[t]he Commission shall, within 30 months after the date of enactment of this Act, and regularly thereafter, initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans. . . . The Commission shall determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.").

substantial majority of residential customers" -- must be obtained.³²³ The NPRM recognized that, although periodic review could help to ensure that the definition does not remain static, it could also entail the expenditure of resources on unnecessary proceedings.³²⁴ Therefore, the NPRM proposed to rely on information sources that already exist and to initiate additional data collection efforts only if existing information is inadequate to assess proposed changes to the definition of universal service and a cost/benefit analysis demonstrates that the burden of collection would not outweigh the value of the information requested.³²⁵

2. Comments

108. Periodic Reassessment. GTE proposes adopting the California PUC's plan for reviewing the definition of universal service.³²⁶ Under the California PUC plan, a review is made no more frequently than every three years.³²⁷ According to GTE, the California plan avoids too-frequent review, which can entail "unnecessary expenditure of resources"³²⁸ and allows eligible carriers to plan their network investments efficiently over time.³²⁹ GTE and California PUC propose a system whereby parties wishing to amend the definition can petition the Commission to add a new element if three years have passed since the last review.³³⁰ GTE also recommends that the Commission could set a maximum interval, such as five years, after which it would undertake a review if no petition has been acted upon.³³¹

109. Harris advocates allowing NARUC to decide when to reconsider the definition of universal service.³³² North Dakota PSC suggests that the list of services supported should be revisited each year for the first five years after implementation, and, thereafter, considered every

³²³ NPRM at para. 67 (*citing* 47 U.S.C. § 254(c)(1)).

³²⁴ NPRM at para. 67.

³²⁵ NPRM at para. 67.

³²⁶ GTE comments at 3.

³²⁷ California PUC comments at 17; GTE comments at 3.

³²⁸ GTE comments at 3 (*citing* NPRM at para. 67).

³²⁹ GTE comments at 3.

³³⁰ California PUC comments at 18; GTE comments at 3.

³³¹ GTE comments at 3.

³³² Harris comments at 6.

two years, with a monitoring report filed during the "off" years.³³³ New York DPS recommends a triennial review.³³⁴ Ohio Consumers' Council suggests a review no later than two years after the Commission's rules are issued and no less often than every two years thereafter.³³⁵ USTA recommends implementing a review at least every five years, but not more frequently than every three years.³³⁶ Telec Consulting recommends a periodic review set at fixed intervals such as every two or three years.³³⁷ Wisconsin PSC advocates a biennial review, but believes that public comment and a Joint Board recommendation on the issue of reporting conditions should not be addressed until after new universal service programs are in place, so that the effectiveness of any new programs can be measured.³³⁸

3. Discussion

110. We recommend that the Commission convene a Joint Board no later than January 1, 2001, to revisit the definition of universal service. We find that the Joint Board's and Commission's approach to revisiting the definition of universal service must strike a reasonable balance between too frequent reviews, which could result in an unnecessary expenditure of resources, and sporadic evaluation, which may not produce a definition of universal service that is consistent with the principles enumerated in section 254(b) and reflect the definitional criteria of section 254(c). In addition, the Commission may institute a review at any time upon its own motion or in response to petitions by interested parties.³³⁹

111. We find the record to be insufficient at this time to support our recommending that the Commission adopt reporting requirements in order to collect data that may assist the Commission in reevaluating the definition of universal service. We recognize that, in order to apply the criteria set forth by Congress in section 254(c)(1), the Commission will need information regarding, for example, whether a proposed service has "been subscribed to by a substantial majority of residential customers" and is "being deployed in public telecommunications

³³³ North Dakota PSC comments at 3.

³³⁴ New York DPS comments at 16.

³³⁵ Ohio Consumers' Council comments at 18.

³³⁶ USTA comments at 13.

³³⁷ Telec Consulting comments at 15.

³³⁸ Wisconsin PSC comments at 12-13.

³³⁹ We note that, in complying with the statutory mandate of section 706(b) of the 1996 Act, the Commission may take additional steps to determine whether advanced telecommunications capability is being deployed to all Americans. *See* 1996 Act, § 706(b).

networks by telecommunications carriers." Nevertheless, we recommend that the Commission base future analyses of the definition of universal service, *inter alia*, on data derived from the Commission's existing data collection mechanisms such as those collected through ARMIS.

V. AFFORDABILITY

A. Overview

112. The 1996 Act states that "quality services should be available at just, reasonable, and *affordable* rates."³⁴⁰ This section examines the various ways the term "affordable" may be defined. In addition, it considers what factors should be considered in examining affordability including subscribership levels and other non-rate factors that may influence a consumer's decision to subscribe to local telephone service. Finally, in this section, the Joint Board considers the roles the Commission and state commissions should play in ensuring rates are affordable.

B. Affordability

1. Background

113. Section 254(b)(1) provides that "[q]uality services should be available at just, reasonable and affordable rates."³⁴¹ In addition, section 254(i) requires that "[t]he Commission and the states should ensure that universal service is available at rates that are just, reasonable and affordable."³⁴² The NPRM, noting that the "affordable" criterion has not previously been addressed in the context of universal service, requested comment on how the Joint Board can assess whether affordable service is being provided to all Americans.³⁴³ To facilitate discussion of the concept of affordability, the NPRM cited a dictionary definition of the term "afford."³⁴⁴ The NPRM also sought comment proposing standards for evaluating the affordability of all telecommunications, not merely telephone exchange, services.³⁴⁵ Specifically, the NPRM asked

³⁴⁰ 47 U.S.C. § 254(b)(1) (emphasis added).

³⁴¹ 47 U.S.C. § 254(b)(1).

³⁴² 47 U.S.C. § 254(i). *See also* S. Rep. No. 230, 104th Cong., 2d Sess. 134 (1996) (Joint Explanatory Statement).

³⁴³ NPRM at para. 4.

³⁴⁴ NPRM at para. 4 (*citing Webster's New World Dictionary* at 23 (William Collins, Second College ed. 1980) ("afford" is defined as follows: "to have enough or the means for; bear the cost of without serious inconvenience")).

³⁴⁵ NPRM at para. 14 (*citing* 47 U.S.C. § 254(c), (i)).

commenters to identify the criteria or principles that should be used to determine "affordable" rates, and whether there should be procedures to recalibrate these rates to reflect changes in inflation or other factors that may make periodic readjustment necessary.³⁴⁶

114. In addition to seeking public comment in the NPRM, on July 3, 1996 the Commission's Common Carrier Bureau released a Public Notice to supplement the NPRM's requests for comment ("Public Notice").³⁴⁷ The Public Notice asked, *inter alia*, whether it is appropriate to assume that current rates for services included within the definition of universal service are affordable, despite variations among companies and service areas.³⁴⁸ In addition, the Public Notice requested comment on the extent to which factors other than rate levels, such as subscribership levels, telephone expenditures as a percentage of income, cost of living, or local calling area size, should be considered in determining the affordability and reasonable comparability of rates.³⁴⁹

2. Comments

115. In General. As a preliminary matter, a few parties address how the word "affordable" should be defined. Texas OPUC, for example, maintains that "affordable" is not determined by whether one can pay a certain rate, but whether that price causes a serious detriment, consequence, or inconvenience.³⁵⁰ United Church of Christ opposes defining "affordability" as "acceptable harm."³⁵¹ Michigan Consumer Federation argues that the Webster definition cited in the NPRM is misplaced because, it argues, the concept of affordability "clearly means rates that are at or below the true and reasonable cost of providing service."³⁵² AARP asserts that the relative concept of affordability, i.e., "to bear the cost of without serious inconvenience," must be given equal emphasis as the absolute concept, "to have enough or the means for."³⁵³ Specifically, AARP avers that the concept of affordability should be defined to

³⁴⁶ NPRM at para. 25.

³⁴⁷ Public Notice (DA-96-1078) (rel. July 3, 1996).

³⁴⁸ Public Notice (DA-96-1078) (released July 3, 1996) at question 1.

³⁴⁹ Public Notice at question 2. The Public Notice also asked for comment on whether a specific national benchmark rate for core services should be established. This issue is discussed *infra* in section IV.

³⁵⁰ Texas OPUC comments at 12.

³⁵¹ United Church of Christ comments at 5.

³⁵² Michigan Consumer Federation comments at 18.

³⁵³ AARP comments at 6; CPI reply comments at 8; Ohio Consumer's Council reply comments at 10.

mean that people are not forced to pay so much for a necessity that it causes serious inconvenience or detriment.³⁵⁴ America's Carriers warns against defining "affordability" so that it equates with "free" and creates an entitlement to telecommunications services.³⁵⁵

116. Current Rates. Many commenters believe it is appropriate to conclude that current rates are affordable.³⁵⁶ Time Warner contends that there is a high rate of acceptance of prevailing prices which indicates that rates are within an affordable range.³⁵⁷ BellSouth, AirTouch, and TCI argue that rates could be raised without significantly affecting affordability.³⁵⁸ Other parties conclude that urban rates may be considered affordable, but that rural rates must be equivalent to urban rates in order to be deemed affordable.³⁵⁹ A few parties argue that the Commission cannot make a determination that existing rates are affordable without explicitly defining "affordable."³⁶⁰

117. Several commenters argue that the Commission may not conclude that current rates are affordable.³⁶¹ For example, Maine PUC cites "formidable measurement problems" that must be overcome before any conclusion regarding the effect of rates on universal service for a

³⁵⁴ AARP comments at 7.

³⁵⁵ America's Carriers comments at 3.

³⁵⁶ See, e.g., AT&T comments at 16; BellSouth comments at 1; MCI comments at 4 n.4; Missouri PSC comments at 4; NCTA comments at 3-4; Time Warner comments at 6; Sprint comments at 9; West Virginia Consumer Advocate comments at 8; CPI reply comments at 8; AT&T further comments at 3; AirTouch further comments at 2; Ameritech further comments at 4; Bell Atlantic further comments at 1; Century further comments at 6; NYNEX further comments at 1; PacTel further comments at 5-7; Time Warner further comments at 2; Vanguard further comments at 2-3.

³⁵⁷ Time Warner further comments at 2.

³⁵⁸ AirTouch further comments at 2-3; BellSouth further comments at 1-2; TCI further comments at 5.

³⁵⁹ Pennsylvania RDC comments at 2; Sprint comments at 9.

³⁶⁰ See, e.g., Media Access Project further comments at 2.

³⁶¹ See, e.g., Alliance for Public Technology further comments at 2 (stating that "a rate is not affordable unless it is the lowest rate that would be possible if the least cost transmission mode were used for that bandwidth"); ITC further comments at 1 (stating that local rates are often "subject to political considerations, the target of contributions, the product of 'value of service' pricing, subject to concurrence in other Exchange Carrier local tariffs and often [set] absent any knowledge of true costs"); Maine PUC further comments at 1-3 (arguing that rates set by states are influenced by a variety of factors); Media Access Project further comments at 1 (arguing that current rates are likely to be artificially high as telecommunications providers are operating in a monopoly market); Vitelco further comments at 1-2 (stating that a company's existing rates must be measured against service areas and subscribers' income levels); Washington UTC further comments at 2 (arguing that affordability of current rates depends on the relationship between a serving company's costs and prices and non-rate factors).

particular area can be made, including differences among state policies on which rates are based.³⁶² In addition, ITC contends that rates are "far from being usable as a measure of affordability" because they are often subject to political considerations and other variable factors.³⁶³

118. Subscribership Levels and Other Non-Rate Factors. Some parties oppose considering affordability in terms of factors other than rates, such as subscribership and household income levels.³⁶⁴ Ameritech argues that any relationship that may exist between non-rate factors and affordability has not been established.³⁶⁵ Similarly, Sprint asserts that rates have little to do with subscribership levels.³⁶⁶ Time Warner maintains that, before mandating that non-rate factors be considered when determining affordability, the Commission should consider whether data reflecting these non-rate factors are readily available, whether it will be difficult to obtain any necessary data, and what costs are associated with gathering and processing the requested data with respect to individual consumers or groups.³⁶⁷ United Church of Christ opposes linking affordability to subscribership levels because, it argues, in some markets consumers have no choice but to pay rate increases or do without telecommunications services.³⁶⁸ PacTel asserts that affordability is not necessarily correlated with income because, it argues, "affordability is a very personal decision based on many different factors for each individual."³⁶⁹

119. Many parties contend that the present subscribership level indicates that current rates are affordable.³⁷⁰ Vanguard argues that the Commission should take official notice of its

³⁶² Maine PUC further comments at 2.

³⁶³ ITC further comments at 1-2.

³⁶⁴ AT&T further comments at 3; Ameritech further comments at 7; CompTel further comments at 6; GTE further comments at 5.

³⁶⁵ Ameritech further comments at 7 (arguing that the Commission should undertake an empirical study on impediments to subscribership before considering non-rate factors).

³⁶⁶ Sprint further comments at 2.

³⁶⁷ Time Warner further comments at 6.

³⁶⁸ United Church of Christ comments at 6. *See also* Edgemont reply comments at 3.

³⁶⁹ PacTel comments at 23.

³⁷⁰ NTIA reply comments at 12; AT&T further comments at 3; Ameritech further comments at 4-6; Citizens Utilities further comments at 2; GTE further comments at 5; MCI further comments at 1-2; MFS further comments at 2; Minnesota Indep. Coalition further comments at 1; NECA further comments at 1; NCTA further comments at 2; NYNEX further comments at 1; SWBT further comments at 2; TCI further comments at 5; Teleport further

own subscribership reports as demonstrating that current rates are sufficiently low to promote widespread subscribership.³⁷¹ Ameritech asserts that, even considering the lowest penetration rate in the various states -- referring to an 85 percent subscribership rate in New Mexico -- it is not unreasonable to conclude that telephone services are generally available when at least 85 percent of households subscribe to "core" services.³⁷²

120. Other commenters argue that current subscribership levels demonstrate that rates are not affordable to all Americans.³⁷³ For example, New Mexico AG contends that the difference in subscribership rates between households with incomes above \$50,000.00 and those below that amount indicate that affordable service is not currently available to all Americans.³⁷⁴ Similarly, Idaho PUC argues that although prices could probably rise without a drastic reduction in subscribership, this does not mean that rates should be allowed to rise, as affordability is a question of consumers' priorities, not just service prices.³⁷⁵

121. Some commenters contend that affordability should be linked to subscriber incomes.³⁷⁶ For example, some parties view the percentage of a subscriber's income that is spent on telecommunications expenditures as an appropriate way to assess affordability.³⁷⁷ SWBT and USTA support identifying the "affordable rate" for local service as 1 percent of the statewide and national median household income, respectively.³⁷⁸ AARP, however, arguing that residential rates would increase because residential customers currently spend less than this amount on basic

comments at 1-2; U S West further comments at 1-2; Vanguard further comments at 2-3.

³⁷¹ Vanguard further comments at 2 (citing "Telephone Subscribership in the United States," Industry Analysis Division, Common Carrier Bureau, Federal Communications Commission (released June 1996) (estimating that 93.8 percent of all households in the United States have telephone service).

³⁷² Ameritech further comments at 4.

³⁷³ Maine PUC comments at 3; Benton further comments at 2; CFA further comments at 1; Puerto Rico Tel. Co. further comments at 1-2.

³⁷⁴ New Mexico AG comments at 2. *See also* Benton further comments at 2.

³⁷⁵ Idaho PUC comments at 8-9.

³⁷⁶ Ad Hoc Telecom. Users. comments at 20; California Dept. of Consumer Affairs comments at 18; Puerto Rico Tel. Co. comments at 10; SWBT comments at 10; AirTouch further comments at 3; Bell South further comments at 3. *See also* GTE comments at 8.

³⁷⁷ *See, e.g.*, CFA further comments at 2.

³⁷⁸ SWBT comments at 10-11; USTA comments at 15 n.21. *See also* BellSouth further comments at 2.

services on average, opposes these approaches.³⁷⁹ Other parties favor measuring affordability by considering consumers' disposable income.³⁸⁰ U S West, for example, supports comparing telephone service expenditures to expenditures for cable television services, entertainment services, other communication services, or other discretionary household expenditures.³⁸¹ BellSouth argues that the affordability criteria should be based on what subscribers or households on the margins of the poverty level, specifically at 125 percent of the poverty level, consider to be affordable.³⁸²

122. Some commenters argue that the concept of affordability must account for a consumer's entire telecommunications expenditure, and not just include the cost of local service.³⁸³ For example, PULP recommends considering the costs to a consumer of connection charges, deposits, advanced payments, late payment charges, and other costs needed to obtain or reinstate service.³⁸⁴ Similarly, OPC-DC argues that affordability might be measured by the number of terminations or suspensions for nonpayment.³⁸⁵ In addition, ITC argues that underlying costs such as access charges and wholesale rates for resold services must also be affordable so that carriers can offer affordable services to end users.³⁸⁶ Several parties argue that calling scope must be factored into a determination of affordability, as rural consumers must often place toll calls outside their local calling areas.³⁸⁷ For example, Rural Iowa Indep. Tel. Ass'n asserts that rural subscribers may have to place toll calls to reach schools, health care providers, and other institutions.³⁸⁸ NECA contends that calling scope and total amount of bills should be considered, but subscribership levels, consumer income, and cost of living should not be presumed to affect

³⁷⁹ AARP reply comments at 7-8.

³⁸⁰ PULP comments at 7; Puerto Rico Tel. Co. comments at 6.

³⁸¹ U S West further comments at 2.

³⁸² BellSouth comments at 31-32.

³⁸³ Century comments at 4-5; Minnesota Indep. Coalition comments at 7-9; USTA comments at 14-15; Virginia CC reply comments at 2; AirTouch further comments at 3; Minnesota Indep. Coalition further comments at 3.

³⁸⁴ PULP comments at 9.

³⁸⁵ PULP comments at 8-9; OPC-DC reply comments at 7.

³⁸⁶ ITC comments at 5-6.

³⁸⁷ *See, e.g.*, AARP comments at 18; Century comments at 4-6; Keystone comments at 8; Rural Iowa Indep. Tel. Ass'n comments at 3; Telec Consulting Resources comments at 5; Minnesota Indep. Coalition reply comments at 3-4; Alaska Tel. further comments at 5; CFA further comments at 2-3; Western Alliance further comments at 2.

³⁸⁸ Rural Iowa Indep. Tel. Ass'n comments at 3.

affordability.³⁸⁹

123. State and Federal Determination of Affordability. A substantial number of commenters advocate permitting the states to define affordable rates, because of the unique circumstances of consumers in each state.³⁹⁰ PacTel argues that states, in their rate-making capacities, should determine what is affordable.³⁹¹ Other parties favor the establishment of a nationwide affordability rate.³⁹² Citizens Utilities suggests that a national price affordability standard be created, but that states be permitted to create their own affordability standards and create their own support mechanism to fund the difference between federal support levels and carrier costs that are above the state standard.³⁹³ ITC believes that national subscribership goals should be established and affordability should then be determined at the local level.³⁹⁴

124. Readjustment of Affordability. Texas OPUC opposes recalibrating rates to reflect changes in inflation because, it argues, the real cost of providing services is declining.³⁹⁵ Ohio Consumer's Council argues that any recalibration should be based on the growth or decline in consumers' incomes, but that declining industry costs should also be considered.³⁹⁶ Citizens Utilities argues that periodic adjustments to national price affordability standards are necessary to account for inflation and pricing changes.³⁹⁷ Similarly, GTE supports an automatic adjustment for inflation to prevent support from being diluted over time and to avoid future concerns regarding

³⁸⁹ NECA further comments at 3.

³⁹⁰ See, e.g., AARP comments at 18; California Dept. of Consumer Affairs comments at 17; NARUC comments at 5; New York DPS comments at 5; Ohio Consumer's Council comments at 11; PacTel comments at 20; Pennsylvania PUC comments at 9; Texas PUC comments at 5; Washington UTC comments at 7; Fred Williamson comments at 6, 12; CPI reply comments at 8-9; Virginia CC reply comments at 2; Bell Atlantic further comments at 1; GTE further comments at 8; NYNEX further comments at 2.

³⁹¹ PacTel further comments at 7.

³⁹² See, e.g., AT&T comments at 17; Time Warner comments at 7. The comments of additional parties who advocate a nationwide affordability benchmark for purposes of establishing high cost support are discussed *infra*, section VII.C.

³⁹³ Citizens Utilities comments at 11-12.

³⁹⁴ ITC further comments at 2.

³⁹⁵ Texas OPUC comments at 14.

³⁹⁶ Ohio Consumer's Council comments at 11.

³⁹⁷ Citizens Utilities comments at 11.

the growth of funding levels.³⁹⁸

3. Discussion

125. In the 1996 Act, Congress not only reaffirmed the continued applicability of the principle of “just and reasonable” rates, but also introduced the concept of “affordability.”³⁹⁹ Although we believe an increasingly refined understanding of the term affordability will evolve over time,⁴⁰⁰ we find that the Webster Dictionary definition is instructive in determining how to interpret the concept for purposes of crafting universal service policies consistent with the congressional intent underlying section 254. As AARP and other commenters appropriately note, the definition of affordable contains both an absolute component (“to have enough or the means for”) and a relative component (“to bear the cost of without serious detriment”). Therefore, we conclude that both the absolute and relative components must be considered in making the affordability determination required under the statute. We find that an evaluation that considers price alone does not effectively address either component of affordability.

126. In general, we find that factors other than rates, such as local calling area size, income levels, cost of living, population density, and other socio-economic indicators may affect affordability.⁴⁰¹ Washington UTC and other commenters observe that these other factors may vary by region. We conclude that the concept of affordability should encompass a consideration of factors other than rates.

127. Although subscribership levels can be influenced by many factors,⁴⁰² we agree with the many commenters finding a general correlation between subscribership level and affordability. We find that a relatively high penetration rate suggests, but does not ensure, that rate levels are

³⁹⁸ GTE comments at 8 n.16.

³⁹⁹ 47 U.S.C. §§ 254(b)(1), 254(i).

⁴⁰⁰ The principle of “just and reasonable” has been interpreted in numerous judicial and administrative proceedings. See, e.g., *Bluefield Water Works & Improvement Co. v. Public Serv. Comm’n of West Virginia*, 262 U.S. 679, 693 (1923) (finding just and reasonable rate “depends on circumstances, locality and risk”); *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944) (holding “fixing of ‘just and reasonable’ rates involves a balancing of the investor and the consumer interests”).

⁴⁰¹ We note that the specific needs of low income consumers are addressed in section VIII, *infra*.

⁴⁰² Subscribership levels may also be influenced by such factors as the level of toll charges or service connection charges.

affordable.⁴⁰³ We further conclude, however, that a low or declining penetration rate may be an indicator that rate levels in a jurisdiction are not affordable. In general, we find subscribership levels provide relevant information addressing the basic question of whether consumers have the means to subscribe to telephone service. We find monitoring subscribership to be a tool in evaluating the affordability of rates. It should not, however, be the exclusive tool in measuring affordability.⁴⁰⁴ Subscribership levels do not address the second component of the definition of affordability, namely, whether paying the rates charged for services imposes a hardship for those who subscribe.

128. We also find, consistent with the arguments of Montana PSC and other parties, that the scope of the local calling area directly and significantly impacts affordability. The rate design described by Puerto Rico Tel. Co. illustrates the correlation between scope of calling area and rate.⁴⁰⁵ According to Puerto Rico Tel. Co., its rates for unlimited basic residential calling range from \$18.80 in the densely populated San Juan area with access to more than 340,000 access lines to \$6.45 in an area with access to 200 or fewer access lines.⁴⁰⁶ Implicit in the Puerto Rico Tel. Co. rate design is recognition that, with more limited local calling areas, subscribers may have to incur greater toll charges to reach an equivalent number of lines. If rates charged for local service were the only consideration, the \$6.45 rate would be considered "more affordable" than the \$18.80 rate. Yet consideration of the scope of the calling area suggests that rates disparate on their face may in fact be similarly affordable for a given level of toll charges. Conversely, identical rates may not be equally affordable when the extent of their associated local calling areas differ. Therefore, the Joint Board concludes that the scope of the local calling area should be considered as another factor to be weighed when determining the affordability of rates. In addition, we find that in considering this last factor, examining the number of subscribers to which one has access for local service in a local calling area alone is not sufficient. A determination should be made that the calling area reflects the pertinent "community of interest," allowing subscribers to call hospitals, schools, and other essential services without incurring a toll charge.

129. Customer income level also is a factor that should be examined when addressing

⁴⁰³ See PULP comments at 6 (arguing that subscription data do not reveal whether a particular service can be afforded without hardship). As a number of commenters noted, because telephone service is considered a modern necessity, some consumers subscribe irrespective of whether the rate causes serious inconvenience. See, e.g., CFA further comments, (App. I) at 12.

⁴⁰⁴ See Alaska Tel. further comments at 4.

⁴⁰⁵ Puerto Rico Tel. Co. comments at 9-10.

⁴⁰⁶ Puerto Rico Tel. Co. subscribers with access to between 10,000 and 40,000 callers in their local calling area pay \$15.10; with access to 5,001 to 10,000, the rate is \$14.00; and with access to 201 to 1,000, the rate is \$7.60. *Id.* See also Alaska Tel. further comments at 5; Minnesota Indep. Coalition further comments at 3-4; RTC further comments at 7.

affordability. While a specific rate may be affordable to most customers in an affluent area, the same rate may not be affordable to lower income customers. We agree with the conclusions of many commenters regarding the nexus between income level and ability to afford telephone service.⁴⁰⁷ We reject, however, SWBT's proposal to define affordability based on a percentage of national median income. Such an approach would be inequitable because of the significant disparity in income levels throughout the country. For example, a rate equal to 1 percent of the national median income level would equal 7 percent of the average annual income level for a household in Birch Creek, Alaska.⁴⁰⁸ Therefore, we conclude that per capita income of a local or regional area, and not a national median, should be considered in determining affordability. In addition to income level, we agree with CNMI and other commenters that conclude that the cost of living in an area may affect the affordability of a given rate.

19. We also agree with Maine PUC when it recognizes that many variations in a state's rates reflect "legitimate local variations in rate design." Such variations include the proportion of fixed costs allocated between local services and intrastate toll services; proportions of local service revenue derived from per-minute charges and monthly recurring charges; and the imposition of mileage charges to recover additional revenues from customers located a significant distance from the wire center.⁴⁰⁹ We find that these factors too should be considered in making the determination of affordability of rates.

130. In summary, we find that a determination of affordability must take into consideration both rates and other factors.⁴¹⁰ In addition, we agree with commenters that argue that scope of local calling area should be considered in determining whether rates are affordable. We also find that customer income level and cost of living are factors that should be considered on a local rather than nationwide basis in order to accurately capture the effects of local circumstances on affordability. Finally, we conclude that, because a variety of factors contribute to the establishment of local rates, these factors should also be considered when determining whether rates are affordable.

131. In light of our conclusions regarding the importance of the particular factors other than rates identified in the preceding paragraphs, we recommend that the states exercise primary responsibility, consistent with the standard enumerated above, for determining the affordability of rates. As many commenters note, the characteristics of each jurisdiction are unique, and the states possess both the knowledge and expertise to understand and evaluate these factors and to

⁴⁰⁷ See, e.g., Benton reply comments at 10.

⁴⁰⁸ Alaska PUC comments at 3-4. See also Florida PSC further comments at 3.

⁴⁰⁹ Maine PUC comments at 11-12.

⁴¹⁰ See *supra* for a list of those factors.

determine ultimately how they affect rate affordability. In finding that states should assume the primary responsibility in ensuring affordability, we expressly reject the approach favored by some commenters that the Commission designate a nationwide affordable rate. A nationwide affordable rate would ignore the vast differences within and between regions that can affect what constitutes affordable service. Because, as commenters have noted, various factors contribute to the establishment of rates, we further reject the assertion that an average of current unadjusted rates would accurately reflect an affordable rate. To the extent that consumers wish to challenge whether a rate is truly "affordable," we find the state commissions, in light of their rate-setting roles, are the appropriate forums for raising such issues. Additionally, we conclude that the Commission will continue to oversee the development of the concept of affordability, and may take action to ensure rates are affordable, where necessary and appropriate.

132. Although we recommend that the states should make the primary determination of rate affordability, we recognize that Congress, through the 1996 Act, gave the Commission a role in ensuring universal service affordability. Subscriberhip levels, while not dispositive on the issue of affordability, provide an objective criterion to assess the overall success of state and federal universal service policies in maintaining affordable rates. Therefore, we recommend that, to the extent that subscriberhip levels fall from the current levels on a statewide basis, the Commission and affected state work together informally to determine the cause of the decrease and the implications for rate affordability in that state. If necessary and appropriate, the Commission may open a formal inquiry on such matters and, in concert with the affected state, take such action as is necessary to fulfill the requirements of section 254. We find that this proposed dual approach in which both the states and the Commission play roles in ensuring affordable rates is consistent with the statutory mandate embodied in section 254(i).

133. While we view local rates as generally affordable throughout the nation based on subscriberhip levels, a formal determination that current rates are affordable is unnecessary at this time given the recommended decisions we reach in the paragraph above. Each state will continue to have the primary responsibility for making the finding that rates for local service are affordable based upon its consideration of the rates in question in light of the above-described non-rate factors.

VI. Carriers Eligible for Universal Service Support

A. Overview

134. In this section of the Recommended Decision, we discuss which telecommunications carriers will be eligible to receive support from the federal universal service support mechanisms. We recommend that the statutory criteria set out in section 214(e) be used to determine which carriers are designated eligible telecommunications carriers. Pursuant to section 214(e), carriers must offer all the services supported by the federal universal service

support mechanism throughout their service areas to be eligible for universal service support, except that only carriers with the technical capability to offer toll limitation services should be required to offer such services to qualifying low-income consumers, as discussed *infra* in section VIII. Specifically, section 214(e) requires that, throughout its designated service area, an eligible carrier: (1) offer all of the services that are supported by the federal universal service mechanism; (2) offer such services using its own facilities or a combination of its own facilities and resale of another carrier's services; and (3) advertise the availability and charges for such services. In the case of areas served by rural telephone companies, we recommend that such a company's existing study area be used as the designated service area. With respect to areas served by non-rural carriers, the states have primary responsibility for designating the service area. We recommend, however, that the service areas chosen by the states not be unreasonably large.

B. Eligible Telecommunications Carriers

1. Background

135. Section 254(e) provides that, after the effective date of the Commission's regulations implementing section 254, "only an eligible telecommunications carrier designated under section 214(e) shall be eligible to receive specific Federal universal service support."⁴¹¹ Section 254(e) further prescribes that a carrier receiving universal service support "shall use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended."⁴¹² Additionally, section 254(k) prohibits a carrier from using non-competitive services to subsidize services that are subject to competition.⁴¹³

136. Section 214(e)(1) of the 1996 Act provides that:

"A common carrier designated as an eligible telecommunications carrier under paragraph [214(e)(2)] or [214(e)(3)] shall be eligible to receive universal service support in accordance with section 254 and shall, throughout the service area for which the designation is received-

- (A) offer the services that are supported by Federal universal service support mechanisms under section 254(c), either using its own facilities or a combination of its own facilities and resale of another carrier's services (including the services offered by another eligible telecommunications carrier); and
- (B) advertise the availability of such services and the charges

⁴¹¹ 47 U.S.C. § 254(e).

⁴¹² 47 U.S.C. § 254(e).

⁴¹³ 47 U.S.C. § 254(k).

therefor using media of general distribution."⁴¹⁴

137. Pursuant to section 214(e)(2), state commissions must, either upon their own motion or upon a carrier's request, designate a common carrier that meets the requirements of section 214(e)(1) "as an eligible telecommunications carrier for a service area designated by the State commission."⁴¹⁵ Section 214(e)(2) also provides for the designation of more than one carrier as an eligible telecommunications carrier. It states:

Upon request and consistent with the public interest, convenience, and necessity, the State commission may, in the case of an area served by a rural telephone company,⁴¹⁶ and shall, in the case of all other areas, designate more than one common carrier as an eligible telecommunications carrier for a service area designated by the State commission, so long as each additional requesting carrier meets the requirements of paragraph (1). Before designating an additional eligible telecommunications carrier for an area served by a rural telephone company, the State commission shall find that the designation is in the public interest.⁴¹⁷

⁴¹⁴ 47 U.S.C. § 214(e)(1).

⁴¹⁵ 47 U.S.C. § 214(e)(2).

⁴¹⁶ The term "rural telephone company" is defined at 47 U.S.C. § 153(37) as follows:

"The term 'rural telephone company' means a local exchange carrier operating entity to the extent that such entity-

(A) provides common carrier service to any local exchange carrier study area that does not include either-

(i) any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census; or

(ii) any territory, incorporated or unincorporated, included in a urbanized area, as defined by the Bureau of the Census as of August 10, 1993;

(B) provides telephone exchange service, including exchange access, to fewer than 50,000 access lines;

(C) provides telephone exchange service to any local exchange carrier study area with fewer than 100,000 access lines; or

(D) has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996."

⁴¹⁷ 47 U.S.C. § 214(e)(2). Section 214(e) also contains provisions governing a carrier's relinquishment of its eligible carrier designation in areas served by more than one eligible carrier. The statute requires states to permit eligible carriers to relinquish their designation after giving the state notice. The statute requires remaining eligible carriers to serve the relinquishing carrier's customers and requires the state to give remaining carriers time to construct or purchase facilities if necessary. 47 U.S.C. § 214(e)(4). The NPRM noted that section 214(e)(4) reserves to the states the consideration of requests from designated eligible carriers to relinquish their designation. The Commission invited commenters to identify any of the Commission's regulations that may be inconsistent with

138. The NPRM sought comment and the Joint Board's recommendation on various issues raised by the provisions of sections 214(e) and 254(e). It sought comment regarding the need for any measures to ensure that universal service support is used for its intended purpose, as required by section 254(e).⁴¹⁸ The Commission also invited commenters to propose means to ensure that all eligible carriers -- and no ineligible carriers-- receive the appropriate amount of universal service support.⁴¹⁹ The Commission sought comment on the need to ensure that telecommunications carriers do not use services that are not competitive to subsidize competitive services, which is barred by section 254(k).⁴²⁰ The NPRM further sought comment regarding standards for compliance with the requirement in section 214(e)(1) that eligible telecommunications carriers provide universal service using their own facilities or a combination of their own facilities and resale.⁴²¹ The Commission also stated its belief that it may be useful to develop guidelines defining the steps that would be sufficient to meet the 1996 Act's requirement that carriers advertise the availability of universal services and the rates charged for those services throughout the service area. The NPRM invited parties to suggest guidelines for such advertising.⁴²²

139. In its Public Notice seeking further comment in this proceeding, the Common Carrier Bureau raised specific questions relating to the provision of high cost support to companies subject to price cap regulation. The Bureau asked whether companies subject to price cap regulation should be eligible for high cost support, and if not, whether the exclusion of price cap carriers would be consistent with the provisions of section 214(e).⁴²³ Alternatively, the Bureau asked if high cost support should be structured differently for price cap carriers than for other carriers. The Public Notice also solicited comment on how a price cap company should be defined, assuming that such companies are treated differently. It asked whether a company participating in a state, but not a federal price cap plan, should be deemed a price cap company.⁴²⁴ Finally, the Bureau asked if there should be a distinction between carriers operating under price caps and carriers that have agreed, for a specified period of time, to limit increases in some or all

that reservation of authority to the states. NPRM at para. 49.

⁴¹⁸ NPRM at para. 41.

⁴¹⁹ NPRM at para. 41.

⁴²⁰ NPRM at para. 41.

⁴²¹ NPRM at para. 43.

⁴²² NPRM at para. 46.

⁴²³ Public Notice at 5.

⁴²⁴ Public Notice at 5.

rates as part of a "social contract" regulatory approach.⁴²⁵

2. Comments

140. Eligibility in general. Most commenters argue that any telecommunications carrier that meets the eligibility criteria contained in section 214(e)(1) (e.g., offers and advertises universal services throughout the service area) should be eligible to receive universal service support.⁴²⁶ Commenters specifically argue that the definition of eligible carriers must be technologically neutral, so that CMRS providers, for example, can become eligible for universal service support, particularly since such companies must contribute to universal service support mechanisms and can be cost efficient providers of services in rural areas.⁴²⁷ As discussed in section IV above, some commenters suggest that carriers should be eligible to receive support even if they provide only some of the defined core services, at least during a transition period, but that any such carrier's support would be reduced.⁴²⁸ Bell Atlantic argues that eligibility should be determined by which states are high cost, not which carriers are high cost. Funds would then be distributed by eligible states to eligible carriers that provide universal service over their own loops.⁴²⁹

141. Some commenters maintain that the Commission should issue guidelines to aid the states in determining which carriers are eligible.⁴³⁰ Several commenters assert that such guidelines

⁴²⁵ Public Notice at 5.

⁴²⁶ *See, e.g.*, 360 comments at 4; ALTS comments at 12-13; Colorado PUC comments at 6-7; CompTel comments at 16; LCI comments at 5; LDDS comments at 4-7; NASUCA comments at 22-23; NCTA comments at 12; PacTel comments at 13; Sprint comments at 15-16; WinStar comments at 10; MFS reply comments at 6; Ohio Consumers' Council reply comments at 17-18. *See also* California PUC comments at 10 (arguing that all carriers of last resort, defined as those willing to serve all customers in a census block group either with their own facilities or on a resale basis, should be eligible.)

⁴²⁷ *See, e.g.*, 360 comments at 3-5; CTIA comments at 3-4; Vanguard comments at 7-8; Western comments at 14; AT&T reply comments at 15-16; Comnet Cellular reply comments at 6; MCI reply comments at 15-16; MFS reply comments at 6.

⁴²⁸ New Jersey Advocate comments at 16. *See also* Missouri PSC comments 7-8 (proposing a five-year transition period during which carriers could offer some, but not all, core services).

⁴²⁹ Bell Atlantic comments at 10.

⁴³⁰ *See, e.g.*, AT&T comments at 21; GTE comments at 6; Pennsylvania PUC comments at 22; CompTel reply comments at 13; LDDS reply comments at 6.

should include requiring carriers to provide the core universal services on a stand-alone basis.⁴³¹ NECA argues that the Commission's rules should emphasize that support would be available only to carriers who actually serve the entire service area, not simply portions thereof or selected high-volume customers.⁴³² Some states, however, contend that the designation of eligible carriers should be left entirely to them, perhaps as an adjunct of their certification process.⁴³³

142. Other commenters contend that additional requirements must be imposed on carriers before they may receive universal service support. For example, some commenters argue that, as a condition of eligibility, new entrants must meet the same regulatory obligations as are imposed by the states on the incumbent.⁴³⁴ Certain commenters contend that these requirements specifically include carrier of last resort (COLR) obligations.⁴³⁵ GTE argues that universal service support can be competitively neutral only if all carriers receiving such support are subject to the same obligations.⁴³⁶ GTE contends that, without symmetrical regulation of all carriers receiving universal support, new entrants may offer the core services throughout the service area in theory only, while in fact targeting low cost customers by quoting them far better prices than it would charge high cost customers.⁴³⁷ GTE further maintains that, unless new entrants are subject to the same exit barriers imposed on incumbents, new entrants would race to flee an area, rather than become the sole remaining eligible carrier once any other carrier announced its intention to

⁴³¹ AT&T comments at 21; Lincoln reply comments at 6-7; Ohio Consumers' Council reply comments at 18. *See also* NASUCA comments at 22-23 (proposing that, to receive funds, carriers must agree to provide basic telephone service on an unbundled basis at prescribed rates); NYNEX reply comments at 2 (arguing that services must be provided as a single package).

⁴³² NECA comments at 8. *See also* SDITC reply comments at 6 (supporting NECA's comments).

⁴³³ *See, e.g.*, Florida PSC comments at 13; Ohio Consumers' Council comments at 6. *See also* SWBT comments at 18 (contending that statute expressly leaves to states to certify eligible carriers and Commission has no role in this process).

⁴³⁴ *See, e.g.*, Ameritech comments at 12; BellSouth comments at 14 n.26; GTE comments at 6-7; USTA comments at 2-3; Tel. Assoc. of Michigan reply comments at 5.

⁴³⁵ *See, e.g.*, California PUC comments at 13; Telec Consulting comments at 14. *See also* ICORE comments at 8-9 (viewing section 214 requirements as establishing carrier of last resort requirement for rural LECs); Ameritech reply comments at 4-5. GTE defines a COLR as a carrier eligible for universal support that undertakes the obligations established by a state agency, within federal guidelines, as a condition of receipt of federal universal service support. GTE comments at 8 n.19. GTE suggests that such obligations might include a ceiling on the rate the COLR can charge, terms and conditions of service and quality standards, limits on the carrier's ability to exit, and an obligation to serve all customer in the area. GTE further comments at 46-48.

⁴³⁶ *See, e.g.*, GTE reply comments at 4-5.

⁴³⁷ GTE comments at 6-7. *See also* Tel. Assoc. of Michigan reply comments at 5.

relinquish its eligibility designation pursuant to section 214(e)(4).⁴³⁸ Ameritech expresses concern that new entrants that are not required to meet COLR obligations, which it defines as a requirement to serve all customers in an area and a barrier to exit, could nevertheless receive the same level of universal service support as the incumbent, which is subject to such obligations.⁴³⁹ Ameritech argues that such a situation would threaten the incumbent COLR because the new entrant would receive the same level of compensation but with lesser obligations and therefore a lower financial burden.⁴⁴⁰ Commenters also propose that carriers be required to meet service quality standards as a condition of eligibility.⁴⁴¹ WinStar argues that telecommunications carriers, to be eligible, must meet the minimum broadband capability standards set forth in the Rural Electrification Loan Restructuring Act.⁴⁴²

143. Some commenters would exclude certain classes of carriers from eligibility. Certain rural carriers contend that only state-certified carriers should be eligible for support and that, for the foreseeable future, the incumbent LEC will continue to be the carrier of last resort for rural areas and should be the proper recipient for such support.⁴⁴³ Cincinnati Bell asserts that the new entrants should not be eligible for support because their decisions to enter new markets should be based on market forces, not the availability of subsidies, and because new entrants do not have any of the obligations from past regulatory decisions, such as average pricing, implicit cross-product subsidies, and depreciation rates that do not reflect a competitive environment.⁴⁴⁴ Rural Iowa Indep. Tel. Ass'n argues that only private sector entities should receive universal service support because of Congress's expressed goal of rapidly accelerating private sector deployment of advanced telecommunications.⁴⁴⁵ Frontier argues that only small companies -- defined as those with less than 50,000 access lines in a state -- should be eligible for support.⁴⁴⁶

⁴³⁸ Letter from Whitney Hatch, GTE, to Mr. William Caton, FCC, September 18, 1996, at 4 (GTE *ex parte*).

⁴³⁹ Ameritech Ex Parte Materials Regarding Competitive Bidding Process, July 31, 1996 at 8-9.

⁴⁴⁰ Ameritech Ex Parte Materials Regarding Competitive Bidding Process, July 31, 1996 at 8-9.

⁴⁴¹ Alaska PUC comments at 17; CWA comments at 6; GTE comments at 7 n.15; Texas PUC comments at 3.

⁴⁴² WinStar reply comments at 4.

⁴⁴³ *See, e.g.*, Alabama-Mississippi Tel. Ass'n comments at 6; Farmers Tel. comments at 4; Mon-Cre comments at 4; New Hope Tel. comments at 4.

⁴⁴⁴ Cincinnati Bell comments at 10-11.

⁴⁴⁵ Rural Iowa Indep. Tel. Ass'n comments at 2.

⁴⁴⁶ Frontier comments at 6. Frontier achieves this result by proposing that, in determining the service areas that a designated eligible carrier must serve, the states include in that area all of an incumbent LEC's access lines in the state. Any area that is served by an incumbent LEC that serves more than 50,000 access lines would not

Alliance for Public Technology, on the other hand, suggests that small telephone companies should not receive support because they are "uneconomic business enterprises."⁴⁴⁷ GVNW responds that excluding small telephone companies from support would discourage the development of advanced telecommunications since small companies provide advanced services to consumers that larger companies traditionally have not served well.⁴⁴⁸

144. Exclusion of price cap companies. Several commenters argue that carriers subject to price cap regulation should not be eligible for universal service support.⁴⁴⁹ Time Warner, for example, asserts that carriers subject to incentive regulation, such as price caps, have flexibility and increased earnings opportunities and are expected to accept and anticipate risks from which rate-of-return regulated companies have been insulated. Time Warner argues that price cap regulated companies, having been given the opportunity for increased earnings, should not have increased earnings guaranteed through universal service support.⁴⁵⁰ Teleport maintains that price cap companies should not be eligible because they have agreed that they have full responsibility for their costs. It further contends that permitting universal service subsidies would undermine the incentive of price caps. To retain competitive neutrality, Teleport proposes to exclude any carrier from receiving support in an area where the incumbent is a price cap carrier and for that reason is excluded from eligibility.⁴⁵¹

145. Some commenters maintain that, while price cap companies should be eligible for universal service support, such companies should receive different treatment. Some commenters argue price cap companies should not receive high cost support unless they can demonstrate the need for such support on a statewide or company-wide basis.⁴⁵² ALTS contends that such

qualify for high cost support. Frontier comments at 7.

⁴⁴⁷ Alliance for Public Technology comments at 14 n.11.

⁴⁴⁸ GVNW reply comments at 3-4.

⁴⁴⁹ See, e.g., Time Warner comments at 11-12; Staurulakis comments at 11-12; NCTA further comments at 8; Teleport further comments at 7-8 .

⁴⁵⁰ Time Warner comments at 11-12.

⁴⁵¹ Teleport further comments at 7-8.

⁴⁵² ALTS further comments at 7-9 (arguing that carriers subject to price cap regulation should not receive universal service support unless and until they can show that without an explicit subsidy the company as a whole will be unable to earn a fair return); AirTouch further comments at 21 (arguing that price cap regulated companies must be required to base claims of high costs on the same level of aggregation as the price cap ceilings, i.e, an RBOC must show high costs on average over its entire multi-state service area); SNET further comments at 6 (arguing that "[p]rice cap companies should not be eligible for high-cost support unless they meet the high-cost support test for their entire service area").

different treatment is entirely reasonable given the flexibility that price cap regulation grants these companies and that these companies, by agreeing to price cap regulation, have signalled their ability to manage overall costs and make a reasonable firm-wide profit, even if they operate in some high cost areas.⁴⁵³ CFA argues that companies should be eligible for support only if the price cap includes an exogenous factor that would allow rates to be adjusted up or down if the level of high cost support changes.⁴⁵⁴ CFA further maintains that such an adjustment should not occur if the carrier's loss of revenue is the result of competition rather than a loss or reduction of high cost support.⁴⁵⁵ MCI argues that price cap companies should not be treated differently if costs are computed using MCI's proposed methodology but that these companies should not be eligible for high cost support that is computed based on the carrier's booked costs as this would dilute the price cap incentives to control costs.⁴⁵⁶ NYNEX, while arguing that price cap companies are eligible to receive support, contends that support should be structured differently for price cap companies. It maintains that the Commission should use a cost proxy model like the Benchmark Cost Model (BCM) to identify areas served by price cap LECs that are likely to have higher-than-average costs. NYNEX argues that carriers subject to rate-of-return regulation, however, should have universal service support levels based on such company's "actual" costs determined on a study area basis.⁴⁵⁷

146. Most commenters, however, argue that price cap companies should not be excluded from receiving universal service support or treated differently from other companies receiving such support.⁴⁵⁸ They argue that excluding price cap companies would be contrary to the statute and that the cost characteristics of a particular area and the obligations that the carrier

⁴⁵³ ALTS further comments at 7-9.

⁴⁵⁴ CFA further comments at 13. Maine PUC notes that many state price caps expressly provide for rate adjustments following changes in high cost assistance levels. Maine PUC further comments at 17 n.12.

⁴⁵⁵ CFA further comments at 13.

⁴⁵⁶ MCI further comments at 13-14. *See also* TCI further comments at 26 (arguing that price cap companies should not be eligible in areas where they face little or no competition and where the universal service subsidy is based on booked costs).

⁴⁵⁷ NYNEX further comments at 20-21, 24-26.

⁴⁵⁸ *See, e.g.*, AT&T further comments at 26-27; Ameritech further comments at 26-27; BellSouth further comments at 34-35; Bell Atlantic further comments at 10; Citizens Utilities further comments at 8-9; GSA further comments at 5-6; GTE further comments at 31-33; MFS further comments at 36; Maine PUC further comments at 16-18; NECA further comments at 20-21; PacTel further comments at 30; Puerto Rico Tel. Co. further comments at 9; RTC further comments at 18-19; SWBT further comments at 24-25; Sprint further comments at 8-9; USTA further comments at 21-22; U S West further comments at 15. *See also* ITC further comments at 12-13 (arguing that, while price cap companies should not be excluded, there may be a need for some special cost allocation rules or other minor changes in the way they are treated).

has agreed to undertake, not the carrier's regulatory regime, govern the determination of eligibility.⁴⁵⁹ Alliance for Public Technology asserts that price cap regulation is an important tool to promote competition and excluding price cap companies from receiving support would discourage the use of price caps.⁴⁶⁰ Bell Atlantic contends that excluding price cap companies would increase the incentive of such companies to sell high cost exchanges.⁴⁶¹ Bell Atlantic also contends that it would be very difficult to define a price cap carrier.⁴⁶² Citizens Utilities points out that many smaller companies that serve rural, high cost areas are subject to price cap regulation and an exclusion of price cap companies would not just affect the large companies.⁴⁶³ NYNEX contends that, since the Commission has decided in the *Local Competition Order* to remove most of the access charge revenue stream from the rates for unbundled elements, the price cap LECs will require universal service support to replace the contribution from access charge revenues that they have used to support affordable service to high cost areas.⁴⁶⁴ Sprint argues that excluding price cap carriers would result in a policy that is not competitively neutral, since a non-price cap competitor could receive a subsidy in a high cost area served by the excluded price cap LEC.⁴⁶⁵ Sprint also asserts that excluding price cap carriers would violate the statute's directive to make universal service funding explicit because many price cap carriers today maintain internal, implicit subsidies between low cost and high cost areas in their regions.⁴⁶⁶ Washington UTC opposes any blanket exclusion of price cap companies and contends that the issue should be decided by state commissions on a case-by-case basis.⁴⁶⁷

⁴⁵⁹ See, e.g., BellSouth comments at 34-35; Ameritech further comments at 26-27; Bell Atlantic further comments at 10; Citizens Utilities further comments at 8-9; GTE further comments at 32-33 (arguing that price cap companies cannot be excluded from eligibility as a matter of law); Maine PUC further comments at 16-18; PacTel further comments at 30; SWBT further comments at 24-25; Sprint further comments at 8-9; USTA further comments at 21-22.

⁴⁶⁰ Alliance for Public Technology further comments at 10-12. See also Maine PUC further comments at 17 (excluding price cap companies would have the perverse effect of discouraging the form of regulation the 1996 Act encourages). Alliance for Public Technology also argues that the Commission should utilize the universal service proceeding to address ways to require or ensure that price cap regulation can be used to finance the deployment of advance telecommunications services. Alliance for Public Technology further comments at 11-12.

⁴⁶¹ Bell Atlantic further comments at 10.

⁴⁶² Bell Atlantic further comments at 10. See also Citizens Utilities further comments at 9.

⁴⁶³ Citizens Utilities further comments at 8-9.

⁴⁶⁴ NYNEX further comments at 24.

⁴⁶⁵ Sprint further comments at 8-9.

⁴⁶⁶ Sprint further comments at 8-9.

⁴⁶⁷ Washington UTC further comments at 18.

147. Those carriers proposing to exclude or vary the treatment of carriers subject to price cap regulation suggest varying definitions of what would constitute a price cap company for these purposes. Some argue that a price cap company should be defined as a company subject to price cap regulation at the federal or state level or pursuant to a social contract.⁴⁶⁸ Some commenters also maintain that the definition should include any form of regulation that is, in substance, similar to price cap regulation.⁴⁶⁹ ITC contends that only carriers subject to the Commission's price caps should be considered for these purposes.⁴⁷⁰ MCI maintains that only companies under the price caps at the federal level should be included if the Commission adopts an interstate-only fund and, if the Commission adopts a unitary fund, then companies under price caps at the state or federal level would be included.⁴⁷¹ In either case, MCI would include companies under either explicit price caps or a "social contract" to limit price increases.⁴⁷² SWBT maintains that a price cap company should be defined, in both the federal and state jurisdictions, as one under price cap regulation with no obligation to share earnings above certain levels with its customers and no price freezes on any of the regulated services.⁴⁷³

148. Ensuring that universal service support is used as intended. In response to the Commission's question concerning how to ensure that carriers use universal service support for its intended purposes, several commenters suggest that carriers certify that the funds received will only be used for their intended purposes,⁴⁷⁴ or that carriers must follow accounting standards or cost allocation rules required by the 1996 Act and be subject to federal or state audits to ensure

⁴⁶⁸ See, e.g., AirTouch further comments at 22.

⁴⁶⁹ ALTS further comments at 9 (companies subject to any plan that gives the carrier sufficient pricing flexibility to warrant different treatment); AirTouch further comments at 22; (any company subject to any plan in which rate-of-return review is suspended); NCTA further comments at 8 (any carrier under a form of regulation, at the federal or state level, that permits it to retain earnings substantially above what it could earn under rate-of-return regulation); Teleport further comments at 8 ("If it looks like price caps, then it should be treated like price caps."); Time Warner further comments at 36 (any incentive regulation that offers the incumbent LEC significant regulatory and pricing flexibility and the ability to increase earnings substantially).

⁴⁷⁰ ITC further comments at 13-14; SNET further comments at 6 (arguing that, for a federal universal service mechanism, a price cap company should be defined as one under price cap regulation at the federal level).

⁴⁷¹ MCI further comments at 13-14.

⁴⁷² MCI further comments at 13-14.

⁴⁷³ SWBT further comments at 26.

⁴⁷⁴ AT&T comments at 21 n.33; Governor of Guam comments at 12.

that funds are used properly.⁴⁷⁵ ALTS contends that the most important thing the Commission can do to ensure that funds are used as intended is to make support mechanisms explicit.⁴⁷⁶ Moreover, argues ALTS, to the extent that support is set at the "appropriate level," there will be far less ability to use universal service support for inappropriate purposes.⁴⁷⁷ GVNW argues that reimbursing companies on the basis of "actual cost[s]" will ensure that companies have used universal service support for the intended purpose and that it would be extremely difficult to make this determination using a proxy model.⁴⁷⁸ NCTA suggests that using high cost credits or customer vouchers given to the service provider could minimize carrier misuse of funding.⁴⁷⁹ MCI suggests that the Commission require recipients of universal service support to provide specified network features, such as use of digital switches, that will enhance the ability of carriers to provide more advanced and reliable service.⁴⁸⁰ Ohio Consumers' Council argues that the states are best equipped to address whether carriers are misusing funds and no specific, national rules are necessary.⁴⁸¹

149. Prohibiting cross-subsidization. Some commenters argue that the prohibition against cross-subsidization contained in section 254(k) can only be enforced if cost data are regularly collected and audited.⁴⁸² AirTouch maintains that carefully targeting support to only those groups that need it -- as opposed to subsidizing local services to everyone -- will reduce cross-subsidization.⁴⁸³ AirTouch further contends that carriers offering non-competitive services must put in place accounting methods and other non-structural safeguards to prevent cross-

⁴⁷⁵ See Alaska Tel. reply comments at 3. See also Alaska PUC comments at 17; Pacific Telecom comments at 3 (proposing that recipients of support should demonstrate annually the source and application of the funds).

⁴⁷⁶ ALTS comments at 14.

⁴⁷⁷ ALTS comments at 14.

⁴⁷⁸ GVNW comments at 14-15. See also Montana Indep. Telecom. comments at 10-11.

⁴⁷⁹ NCTA comments at 12.

⁴⁸⁰ MCI comments at 16-17.

⁴⁸¹ Ohio Consumers' Council comments at 6-7.

⁴⁸² Michigan Consumer Federation comments at 14; Michigan Library Ass'n comments at 10. See also NCTA comments at 12 (arguing that stringent reporting rules or cost allocations rules are appropriate); Texas PUC comments at 10 (encouraging further study of incremental costs of telecommunications services and maintaining current monitoring programs such as ARMIS); NorTel reply comments at 6 n.11 (contending that accounting safeguards should be sufficient; separate networks or facilities for universal services are unnecessary).

⁴⁸³ AirTouch comments at 7. See also PCIA comments at 14 (suggesting that narrow targeting and limiting of the size of the fund will prevent cross-subsidization).

subsidization.⁴⁸⁴ MCI states that competition will ensure that rates are set at the carrier's cost and that the Commission must adopt regulations to ensure that result in non-competitive markets.⁴⁸⁵ WinStar argues that cross-subsidization can be mitigated by ensuring that universal service support payments not be used to allow less efficient providers to match the rates charged by more efficient competitors.⁴⁸⁶

150. Ensuring only eligible carriers get support. Few commenters addressed the issue of how the Commission could ensure that only eligible carriers receive universal service support. ALTS argues that the Commission's concerns about ineligible carriers obtaining support are probably unfounded because only carriers found eligible by a state commission would receive support.⁴⁸⁷ MCI contends that, as long as carriers must offer services throughout the service area and the area the LEC carrier must serve coincides with the area used to compute support, there should be no problem with ineligible carriers receiving support.⁴⁸⁸ Ohio Consumers' Council argues that this issue should be left to the states and that the states can provide the Commission with a list of companies they find eligible to receive support.⁴⁸⁹

151. Use of a carrier's own facilities. Various commenters address the question of whether the Commission should establish standards concerning compliance with the requirement in section 214(e)(1) that eligible telecommunications carriers provide universal service using their own facilities or a combination of their facilities and resale. Several commenters contend that "facilities" should include any unbundled network elements obtained by the carrier and any network transmission capacity obtained on a leased basis.⁴⁹⁰ CompTel argues that a carrier is using its own facilities when it purchases unbundled elements at cost from the incumbent and creates a local service product using them.⁴⁹¹ AT&T argues that any carrier using its own facilities, using another carrier's network elements, or using any combination of such facilities and

⁴⁸⁴ AirTouch further comments at 21.

⁴⁸⁵ MCI comments at 17.

⁴⁸⁶ WinStar comments at 3-4.

⁴⁸⁷ ALTS comments at 13.

⁴⁸⁸ MCI comments at 18.

⁴⁸⁹ Ohio Consumers' Council comments at 6.

⁴⁹⁰ CompTel comments at 16; Ohio Consumers' Council reply comments at 18. *See also* LDDS comments at 6-7 (arguing that the term "facilities" should not only include facilities constructed and deployed by the carrier, but also facilities that are leased from incumbent LECs and other carriers).

⁴⁹¹ CompTel reply comments at 12-13.

elements should be eligible.⁴⁹² Sprint asserts that, while carriers may offer services in part through resold facilities, such carriers must also use some of their own facilities.⁴⁹³ LDDS contends that a carrier should be eligible as long as at least some portion of its services is not resold service.⁴⁹⁴

152. TRA argues that carriers that offer service solely through the resale of another carrier's telecommunications services or through the use of unbundled network elements should be eligible to receive universal services support.⁴⁹⁵ TRA asserts that resellers should be eligible for universal service support because they have "stepped into the shoes" of the underlying carrier and, by purchasing services or elements, have guaranteed the underlying carrier a return on its investment and thus assumed some of the underlying carrier's risk. It further contends that denying resellers universal service support would provide the underlying carrier with a competitive advantage.⁴⁹⁶ TRA contends that reading section 214(e) as precluding "pure" resellers would be unduly narrow, but if that reading is valid, the Commission should exercise its forbearance authority to allow universal support to such carriers.⁴⁹⁷

153. Other commenters contend that only facilities-based carriers should be eligible for support.⁴⁹⁸ They argue that, if new entrants are allowed to offer universal service via resale, new entrants could disadvantage incumbents by constructing facilities only for the lowest cost customers in the area and reselling the incumbent's services to serve the high cost customers, creating a potentially confiscatory situation for incumbents.⁴⁹⁹ Still others contend that, while carriers may provide services through a combination of their own facilities and resale, support for the resold services should go to the underlying carrier providing the facilities since that carrier

⁴⁹² AT&T comments at 21.

⁴⁹³ Sprint comments at 15-16.

⁴⁹⁴ LDDS reply comments at 4.

⁴⁹⁵ TRA comments at 8-10. *See also* CompTel reply comments at 12-13.

⁴⁹⁶ TRA comments at 8-10. *But see* Colorado Indep.Tel. comments at 5 (maintaining that pure resellers should not be eligible because they have made no investment in the facilities supported by universal service support mechanisms).

⁴⁹⁷ TRA comments at 9.

⁴⁹⁸ *See, e.g.,* Alaska Tel. comments at 3; Minnesota Tel. Ass'n comments at 3; TCA comments at 5; Telec Consulting comments at 14; United Utilities comments at 1; Siskiyou reply comments at 4. *See also* Bell Atlantic comments at 10 (proposing that universal service funds should be distributed to eligible LECs that "provide local service using their own loop facilities"); RTC comments at 9 (contending that support "must only go to those carriers that actually own and maintain facilities").

⁴⁹⁹ Alaska Tel. comments at 3.

bears the cost of building and maintaining those facilities.⁵⁰⁰ USTA argues that, when eligible carriers resell the incumbent's universal service package, the incumbent should continue to receive the support, but when the eligible carrier purchases unbundled network elements "at the market price" to provide universal service, the new carrier, not the incumbent, should receive the support.⁵⁰¹ PacTel contends that, if the reseller pays the underlying carrier full deaveraged cost (including some recovery of shared and common costs) and that cost is above the benchmark, the reseller should get the subsidy; if the reseller purchases a line at rates below full deaveraged cost, the underlying facilities-based carrier should receive the subsidy.⁵⁰² CompTel maintains that, if the new entrant pays economic costs for the unbundled element, the underlying carrier receives full compensation, and the new entrant, as the retail provider of the services, is entitled to the universal support payment.⁵⁰³

154. Guidelines for advertising. Washington UTC urges the Commission to take an affirmative role and define as narrowly as possible the types and scope of advertising that should be considered as being required by section 214(e)(1).⁵⁰⁴ Washington UTC contends that rate-of-return regulated carriers might seek to justify including in their rates the costs of image-enhancing advertising just because such advertising may mention universal services.⁵⁰⁵ Governor of Guam recommends the development of standards that include a minimum of consumer education through advertising in local media outlets.⁵⁰⁶ New Jersey Advocate argues that adequate, understandable information is essential in a competitive market and recommends that the Commission adopt or strengthen standards relating to truth-in-advertising; the presentation of

⁵⁰⁰ See, e.g., BellSouth comments at 6 n.8; Colorado Indep .Tel. comments at 5; NECA comments at 8-9; RTC comments at 8-10; SWBT comments at 21-22; NYNEX reply comments at 2 n.6; TCA reply comments at 3 (arguing that eligible carriers should not receive support for the portion of the service provided through resale).

⁵⁰¹ USTA comments at 17 n.24. See also TCA reply comments at 3 ("If a reseller becomes eligible for funding on a facility that they are leasing from a facilities based carrier, then the rate they pay must be fully cost-based"); TCG reply comments at 7-8 (proposing that universal service support should flow to the reseller when the reseller pays the facilities-based carrier the full cost, otherwise the underlying carrier should receive the subsidy).

⁵⁰² PacTel reply comments at 10. See also WinStar reply comments at 6 (contending that carriers that purchase unbundled elements at cost should be eligible; pure resellers should be eligible only if they purchase resold service at or above "actual cost").

⁵⁰³ CompTel reply comments at 13.

⁵⁰⁴ Washington UTC reply comments at 6.

⁵⁰⁵ Washington UTC reply comments at 5-6.

⁵⁰⁶ Governor of Guam comments at 12.

clear, written terms of service and rates; and the provision of bilingual information.⁵⁰⁷ Several commenters propose guidelines that require carriers to publicly post information concerning available services and rates at appropriate government agencies and libraries and that ensure that this information is accessible to persons with disabilities or language barriers.⁵⁰⁸ Florida PSC, on the other hand, suggests leaving to the states the establishment of any guidelines governing advertising.⁵⁰⁹ MCI argues that no standards are necessary because competition will ensure that LECs make known the services they will offer to their potential customers.⁵¹⁰

3. Discussion

155. Determination of eligible carriers. We recommend that the Commission adopt, without further elaboration, the statutory criteria contained in section 214(e)(1) as the rules for determining whether a telecommunications carrier is eligible to receive universal service support. Pursuant to these criteria, a telecommunications carrier would be eligible to receive universal service support if the carrier is a common carrier⁵¹¹ and if, throughout the service area for which the carrier is designated by the state commission as an eligible carrier, the carrier: (1) offers all of the services that are supported by federal universal service support mechanisms under section 254(c);⁵¹² (2) offers such services using its own facilities or a combination of its own facilities and resale of another carrier's services, including the services offered by another eligible telecommunications carrier; and (3) advertises the availability of and charges for such services using media of general distribution. We agree with the majority of commenters who argue that any carrier that meets these criteria is eligible to receive federal universal service support,

⁵⁰⁷ New Jersey Advocate comments at 13.

⁵⁰⁸ ACE comments at 7; Catholic Conference comments at 22; Michigan Library Ass'n comments at 10-11; Benton reply comments at 16; NAD reply comments at 21-22.

⁵⁰⁹ Florida PSC comments at 13-14.

⁵¹⁰ MCI comments at 18.

⁵¹¹ The Circuit Court for the District of Columbia defines a common carrier as one that undertakes to carry for all people indifferently. *National Association of Regulatory Utility Commissioners v. FCC*, 525 F.2d 630, 641-42 (D.C. Cir. 1976), *cert. denied*, 425 U.S. 992 (1976) (*NARUC I*); *National Association of Regulatory Utility Commissioners v. FCC*, 533 F.2d 601, 608 (D.C. Cir. 1976) (*NARUC II*). The *NARUC I* Court established a test to determine whether a carrier may be regulated as a common carrier. This test requires a determination of "whether there will be a legal compulsion . . . to serve [the public] indifferently, and, if not, . . . whether there are reasons implicit in the nature of . . . [the] operations to expect an indifferent holding out to the eligible user public." *NARUC I*, 525 F.2d at 642.

⁵¹² We recommend, however, that carriers that lack the technical capability to offer toll limitation services not be required to offer such services to qualifying low-income consumers, as otherwise provided *infra* in section VIII.

regardless of the technology used by that carrier.⁵¹³ We conclude that this approach best embodies the pro-competitive, de-regulatory spirit of the 1996 Act and ensures the preservation and enhancement of universal service.

156. We recommend that the Commission not impose eligibility criteria in addition to those contained in section 214(e)(1). For example, some commenters argue that the Commission should require competing telecommunications carriers to meet all the obligations imposed by the state on the incumbent LEC, such as COLR requirements or rate regulation.⁵¹⁴ The proponents of this point of view argue that such symmetrical regulation is necessary to prevent new entrants from selectively targeting only the lowest cost customers in an area, and to prevent unfair treatment of incumbent LECs.⁵¹⁵ We conclude that establishing specific federal rules or guidelines that would impose symmetrical regulatory obligations on all carriers receiving universal service support are unnecessary to protect the incumbent and would chill competitive entry into high cost areas.⁵¹⁶ The statute already conditions eligibility for support on the requirement that telecommunications carriers be common carriers and offer the defined services "throughout the service area."⁵¹⁷ The plain meaning of these two requirements is that eligible carriers must hold themselves out to provide the specified services to any customer in the service area. We find that GTE's concern that eligible carriers will fulfill this mandate in theory only and attempt to "cherry pick" customers by offering differential rates is misplaced. The 1996 Act requires carriers to advertise their rates for universal service throughout the service area. Any attempt to "cherry pick" or "cream skim" customers through differential charges would thus be readily detected.

157. We also reject arguments that a carrier must be subject to whatever exit barriers

⁵¹³ See, e.g., 360 comments at 4; ALTS comments at 12-13; Colorado PUC comments at 6-7; CompTel comments at 16; LCI comments at 5; LDDS comments at 4-7; NASUCA comments at 22-23; NCTA comments at 12; PacTel comments at 13; Sprint comments at 15-16; WinStar comments at 10; MFS reply comments at 6; Ohio Consumers' Council reply comments at 17-18.

⁵¹⁴ See, e.g., Ameritech comments at 12; BellSouth comments at 14 n.26; GTE comments at 6-7; USTA comments at 2-3; Tel. Ass'n of Michigan reply comments at 5.

⁵¹⁵ See, e.g., GTE comments at 6-7; Tel. Ass'n of Michigan reply comments at 5; GTE further comments at 47-48; Ameritech Ex Parte Materials Regarding Competitive Bidding Process, July 31, 1996 at 8-9.

⁵¹⁶ We note that, in the *Local Competition Order*, the Commission concluded that states may not unilaterally impose on non-incumbent LECs the additional obligations imposed on incumbent LECs in section 251(c). *Local Competition Order* at para. 1247-48. The Commission there ruled that it would not anticipate imposing such additional obligations on non-incumbent LECs absent a clear and convincing showing that the LEC occupies a position in the telephone exchange market comparable to the position held by an incumbent LEC, has substantially replaced an incumbent LEC, and that such treatment would serve the public interest, convenience, and necessity and the purposes of section 251. *Local Competition Order* at para. 1248.

⁵¹⁷ 47 U.S.C. § 214(e)(1).

are imposed on the incumbent LEC as a condition of eligibility. The 1996 Act limits the ability of an eligible carrier to exit a market in which there is more than one eligible carrier. Section 214(e)(4) requires an eligible carrier to notify the state of that carrier's intent to relinquish its designation as an eligible carrier. Section 214(e)(4) also requires the state commission, before permitting the carrier to cease providing service, to ensure that the remaining carriers can serve the relinquishing carrier's customers.⁵¹⁸ The state commission must also ensure sufficient notice to permit the purchase or construction of adequate facilities by any remaining eligible carrier.⁵¹⁹ This obligation to serve the entire service area upon the cessation of service by another carrier or carriers applies to incumbents and new entrants alike. We find that additional exit restrictions are unnecessary.

158. We recommend that the Commission reject arguments to disqualify certain classes of carriers from eligibility. Commenters suggest, for example, that only incumbents should be eligible for universal service support⁵²⁰ or that price cap companies should be excluded from eligibility.⁵²¹ We believe that any such wholesale exclusion of classes of carriers from eligibility is inconsistent with the plain language of the 1996 Act. Section 214 contemplates that any telecommunications carrier that meets the eligibility criteria of section 214(e)(1) shall be eligible to receive universal service support. The statute directs a state commission "upon its own motion or upon request [to] designate a common carrier that meets the requirements of [section 214(e)(1)] as an eligible telecommunications carrier for a service area designated by the State commission."⁵²² Moreover, section 214(e)(2) provides that more than one carrier could be eligible for universal service support in an area. It requires the designation of multiple eligible carriers in areas not served by rural telephone companies as long as such carriers meet the eligibility criteria of section 214(e)(1).⁵²³ Even for areas served by rural telephone companies, section 214(e)(2) gives state commissions the discretion to designate more than one common carrier as an eligible carrier, as long as such designation is found by the state commission to be in the public interest.⁵²⁴ Moreover, we recommend against limiting eligibility for universal service support to incumbents. We conclude that restricting universal service support to incumbent local

⁵¹⁸ 47 U.S.C. § 214(e)(4).

⁵¹⁹ 47 U.S.C. § 214(e)(4).

⁵²⁰ *See, e.g.*, Cincinnati Bell comments at 10-11.

⁵²¹ *See, e.g.*, Staurulakis comments at 11-12; Time Warner comments at 11-12; NCTA further comments at 8; Teleport further comments at 7-8.

⁵²² 47 U.S.C. § 214(e)(2).

⁵²³ 47 U.S.C. § 214(e)(2).

⁵²⁴ 47 U.S.C. § 214(e)(2).

exchange carriers would not be in accord with section 214(e).

159. In addition, we recommend that companies subject to price cap regulation be eligible to receive universal service support. No persuasive rationale has been advanced to explain why the flexibility and the opportunity for increased earnings that companies obtain when they are subject to price caps⁵²⁵ should disqualify such companies from receiving universal service support as long as they otherwise meet the statutory criteria for eligibility. Rather, we agree with those commenters that argue that price cap regulation is an important tool to smooth the transition to competition and that its use should not foreclose price cap companies from receiving universal service support.⁵²⁶ Having recommended against the exclusion of price cap companies, we conclude that we need not address how to define precisely which carriers are subject to price cap regulation.

160. Section 214(e)(1) requires that, in order to be eligible for universal service support, a common carrier must offer universal service throughout the state-designated service area either using its own facilities or a combination of its own facilities and the resale of another carrier's services, including those of another eligible carrier.⁵²⁷ We find that the plain meaning of this provision is that a carrier would be eligible for universal service support if it offers all of the specified services throughout the service area using its own facilities or using its own facilities in combination with the resale of the specified services purchased from another carrier, including the incumbent LEC or any other carrier.

161. We recommend that the Commission reject the arguments of TRA and others that a carrier that offers universal service solely through reselling another carrier's universal service package should be eligible for universal support.⁵²⁸ We find that the statute precludes such a result because it plainly states that a carrier shall be eligible for support only if the carrier offers universal service by using its own facilities and reselling another carrier's services.⁵²⁹ Similarly, we recommend that the Commission reject arguments that only those telecommunications carriers that offer universal service wholly over their own facilities should be eligible for universal

⁵²⁵ See e.g., Teleport comments at 7-8; Time Warner comments at 11-12. See also ALTS further comments at 7-9 (proposing to treat price cap companies differently).

⁵²⁶ See e.g., Alliance for Public Technology further comments at 10-12; Maine PUC further comments at 17.

⁵²⁷ 47 U.S.C. § 214(e)(1).

⁵²⁸ TRA comments at 8-10. See also CompTel reply comments at 12-13.

⁵²⁹ 47 U.S.C. § 214(e)(1)(A).

service.⁵³⁰ The statute precludes this result because section 214 permits a carrier to offer universal service through a combination of its own facilities and resale and still be eligible for support.

162. We also recommend that the Commission reject TRA's request that the Commission exercise its forbearance authority to permit "pure" resellers to become eligible for universal service support.⁵³¹ We find that TRA's pleading does not sufficiently address the statutory criteria for forbearance. TRA's sole argument in support of forbearance is that it is necessary "to avoid discriminatory treatment that might either discourage competitive entry by resale carriers . . . or provide incumbent LECs with an unjustified competitive advantage. . . ."⁵³² Yet, in order to exercise its authority under section 160(a) to forbear from applying a provision of the Act, the Commission must determine that three criteria are met. It must determine that: (1) enforcement of the provision "is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory;" (2) enforcement of such provision "is not necessary for the protection of consumers;" and (3) "forbearance from applying such provision . . . is consistent with the public interest."⁵³³ TRA's pleading fails to show that these criteria are met. For example, it fails to address whether enforcement of the facilities requirement in section 214(e) is not necessary for the protection of consumers.

163. Other issues related to eligibility. The NPRM sought comment on various other issues related to eligibility. Specifically, it sought comment on whether rules should be developed to: (1) ensure that universal service support be used as intended (i.e., for the "provision, maintenance, and upgrading of facilities and services for which the support is intended");⁵³⁴ (2) ensure that only eligible carriers receive support; and (3) set guidelines for advertising. Because relatively few commenters addressed these issues, there are few detailed proposals in the record

⁵³⁰ See, e.g., Alaska Tel. comments at 3; Minnesota Tel. Ass'n comments at 3; TCA comments at 5; Telec Consulting comments at 14; United Utilities comments at 1; Siskiyou reply comments at 4. See also Bell Atlantic comments at 10; RTC comments at 9.

⁵³¹ TRA comments at 9 (citing 47 U.S.C. § 160). In this case, TRA asks the Commission to forbear from the requirement that, in order to be eligible for universal services support, a carrier must offer the supported services through its own facilities or its own facilities in combination with resale. TRA requests that the Commission forbear from applying this provision in order to allow pure resellers to be eligible for support.

⁵³² TRA comments at 10.

⁵³³ 47 U.S.C. § 160(a). Section 160(b) provides that a Commission determination that forbearance will promote competition may be the basis for a finding that forbearance is in the public interest. 47 U.S.C. § 160(b).

⁵³⁴ 47 U.S.C. § 254(e).

on how to resolve them. For the first of these issues, developing rules to ensure that universal service support is used as intended, we believe that concerns about misuse of funds would largely be alleviated once competition arrives. We find that a competitive market would minimize the incentives and opportunities to misuse funds. In the absence of competition, we find that the optimal approach to minimizing misuse of funds is to adopt a mechanism that will set universal support at levels that reflect the costs of providing universal service efficiently. Should additional measures be necessary, we recommend that the Commission, to the extent that states monitor carriers to ensure the provision of the supported services, rely on the states' monitoring.⁵³⁵ Where necessary, for example, if the state has insufficient resources to support such monitoring programs, we recommend that the Commission conduct periodic reviews to ensure that universal service is being provided. On the question of ensuring that only eligible carriers receive support, we agree with commenters that additional rules are unnecessary because only carriers found eligible by the states will receive funding.⁵³⁶ We recommend no additional rules at this time.

164. We recommend that the Commission not adopt, at this time, any national guidelines relating to the requirement that carriers advertise throughout the service area the availability of and rates for universal service using media of general distribution. We agree with the Florida PSC that states should, in the first instance, establish guidelines, if needed, to govern such advertising.⁵³⁷ Pursuant to the 1996 Act, the states designate eligible carriers, and area-wide advertising is an explicit condition of eligibility. The states may be in the better position to monitor the effectiveness of advertising by carriers offering universal service. We also agree with MCI that competition will help ensure that carriers make known the services they offer.⁵³⁸

C. Definition of Service Areas

1. Background

165. Section 214(e)(5) defines the term "service area" as "a geographic area established by a State commission for the purpose of determining universal service obligations and support mechanisms."⁵³⁹ For areas served by a rural telephone company,⁵⁴⁰ section 214(e)(5) provides

⁵³⁵ See, e.g., Ohio Consumers' Council comments at 6-7 (arguing that states are best equipped to address whether carriers are misusing funds).

⁵³⁶ See ALTS comments at 13; Ohio Consumers' Council comments at 6.

⁵³⁷ Florida PSC comments at 13-14.

⁵³⁸ MCI comments at 18.

⁵³⁹ 47 U.S.C. § 214(e)(5).

⁵⁴⁰ The term rural telephone company is defined *supra*.

that the term "service area" means the rural telephone company's study area⁵⁴¹ "unless and until the Commission and the States, after taking into account the recommendations of a Federal-State Joint Board instituted under section 410(c), establish a different definition of service area for such company."

166. The Commission sought comment on issues relating to the definition of the service areas for which carriers would receive designation. The Commission asked parties to comment on the appropriate basis to define the "service area" of a rural telephone company, taking into account the possible effect on competition, and requested comment on whether the Commission should amend its rules to revise existing study area boundaries.⁵⁴² In the context of implementing a "pro-competitive, de-regulatory national policy framework",⁵⁴³ the Commission asked the Joint Board to prepare recommendations regarding the appropriate "service area" boundaries of areas served by a "rural telephone company."⁵⁴⁴

2. Comments

167. Service areas for rural telephone companies. Many commenters support retaining the current study areas for rural telephone companies as the service area for universal service support.⁵⁴⁵ Commenters contend that the intent of the statute in retaining existing study areas is to protect rural companies from the effects of competitors entering a market and serving only the lowest cost portion of a rural telephone company's territory.⁵⁴⁶ Century asserts that simply retaining a rural telephone company's study area as its new service area may not be sufficient to protect against this sort of "cream skimming" by new entrants. It proposes that, once a new entrant is allowed to compete in a rural telephone company's area, the rural telephone company should be allowed to redistribute its universal service high cost compensation to any

⁵⁴¹ A "study area" is generally an incumbent LEC's pre-existing service area in a given state. The study area boundaries are fixed as of November 15, 1984. *MTS and WATS Market Structure: Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, Decision and Order*, 50 Fed. Reg. 939 (1985 *Lifeline Order*) (adopting with minor modifications the Joint Board recommendations issued in *MTS and WATS Market Structure: Amendment of the Commission's Rules and Establishment of a Joint Board*, Recommended Decision and Order, 49 Fed. Reg. 48,325 (1984)).

⁵⁴² NPRM at para. 45.

⁵⁴³ Joint Explanatory Statement at 113.

⁵⁴⁴ NPRM at para. 45.

⁵⁴⁵ See, e.g., Century comments at 14-15; Evans Tel. comments at 14; Pacific Telecom comments at 2; Pennsylvania PUC comments at 20; RTC comments at 10; Rural Iowa Indep. Tel. Ass'n. comments at 4; Sprint comments at 15; USTA comments at 18; Fred Williamson comments at 12-13; SDITC reply comments at 6.

⁵⁴⁶ See, e.g., Evans Tel. comments at 14; SDITC reply comments at 6.

geographically disaggregated area within its study area. At the same time, Century argues, the new entrant should receive support only for its own demonstrably high cost, facilities-based locations.⁵⁴⁷ Montana Indep. Telecom. similarly argues that areas smaller than study areas will be needed if a competitor begins serving only a portion of incumbent's study area. It recommends that the service area be based on the area of the incumbent's wire centers or exchanges, at least initially.⁵⁴⁸ It further asserts that an area smaller than a wire center should be used as the service area in rural areas only upon a finding by the state that using such a smaller area is in the public interest.⁵⁴⁹ RTC also argues that, in a competitive environment, incumbents must have the option to disaggregate per-unit costs to areas smaller than the study area in order to address "cream skimming" concerns.⁵⁵⁰ RTC contends that these smaller areas would be used solely for the purpose of targeting support and would not affect the size of the service area that a competitor must serve in order to receive funding as an eligible carrier.⁵⁵¹ It proposes that the support amounts for these smaller areas would be derived from the known and existing "actual cost levels already established for the larger, total study area."⁵⁵²

168. Service areas in general. Most commenters addressing the question regarding the appropriate geographic service area for eligibility did not limit their comments to areas served by rural telephone companies. Instead, they address the question of appropriate service area size for all universal service support purposes. Potential competitors argue that, to ensure that the new universal program is competitively neutral, service areas in which new entrants would be designated to serve should not be based on the existing study areas of the incumbent LECs.⁵⁵³ Beyond this, industry and state commenters differed sharply on the appropriate size of the service area.

169. Missouri PSC recommends using a LEC's entire service area within a state or local

⁵⁴⁷ Century comments at 14-15.

⁵⁴⁸ Montana Indep. Telecom. comments at 8.

⁵⁴⁹ Montana Indep. Telecom. comments at 8.

⁵⁵⁰ RTC comments at 13-14.

⁵⁵¹ RTC comments at 14 n.27.

⁵⁵² RTC comments at 13-14.

⁵⁵³ See, e.g., 360 comments at 7-8; ALTS reply comments at 4; Commnet Cellular reply comments at 7 (arguing that the Commission should design service areas so that it would be technically and economically feasible for CMRS providers to serve the subscribers in that service area); MFS reply comments at 6-7 (contending that it would be anticompetitive to require new entrant's service areas to mimic an incumbent's study area or certified area).

access and transport area (LATA).⁵⁵⁴ It contends that analysis of costs in such a large area best reflects the overall circumstance of each LEC and will prevent a large LEC from receiving universal service funding related to its high cost areas even though the LEC's overall costs are no higher than average.⁵⁵⁵ SWBT, however, argues that continuing to use statewide areas would retain the current implicit subsidy flows between low cost areas and high cost areas served by a LEC within a state and will discourage competitive entry into high cost areas while concentrating entry in urban population centers.⁵⁵⁶ Others oppose using study areas because they are too large to accurately distribute high cost support.⁵⁵⁷ AirTouch maintains that the use of large areas, such as statewide study areas, to determine eligibility will have the effect of "freezing out" new entrants that initially may need to enter a market in more limited areas.⁵⁵⁸

170. Most commenters support using areas smaller than existing study areas as the service area. New Jersey BPU, for example suggests using county-wide areas.⁵⁵⁹ NECA asserts that carriers should have the option to disaggregate costs below the study area level.⁵⁶⁰ Various commenters support using census block groups (CBGs)⁵⁶¹ as the appropriate service area.⁵⁶²

⁵⁵⁴ Missouri PSC comments at 8. A LATA generally is defined as a "contiguous geographic area" established by a Bell Operating Company (BOC) before the date of enactment of the 1996 Act or an area established or modified after the date of enactment by a BOC and approved by the Commission. 47 U.S.C. § 153(25).

⁵⁵⁵ Missouri PSC comments at 8. *See also* Dell Tel. reply comments at 3-4 (suggesting inclusion of all operations within a state in order to remove support for large companies).

⁵⁵⁶ SWBT comments at 12-13.

⁵⁵⁷ Cincinnati Bell comments at 8.

⁵⁵⁸ AirTouch reply comments at 6.

⁵⁵⁹ New Jersey BPU comments at 3.

⁵⁶⁰ NECA comments at 9.

⁵⁶¹ The proponents of the BCM define a census block group as "a geographic unit defined by the Bureau of Census which contains approximately 400 households." MCI, NYNEX, Sprint/United Management Co., and U S West, Benchmark Costing Model: A Joint Submission, Copyright 1995, CC Docket No. 80-826, filed December 1, 1995, at I-1. The Bureau of the Census defines "census blocks" as "small areas bounded on all sides by visible features such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, and county limits, property lines, and short, imaginary extensions of streets and roads." Bureau of the Census, United States Department of Commerce, 1990 Census of Population and Housing A-3 (1992). It further defines a "geographic block group" as "generally contain[ing] between 250 and 550 housing units, with the ideal size being 400 housing units." *Id.*

⁵⁶² *See, e.g.*, California PUC comments at 9-10 (noting that it will develop costs on a CBG level for intrastate services); PacTel comments at 18 n.33; Sprint comments at 15; Wyoming PSC comments at 8.

Sprint, for example, argues that the use of CBGs will better target high cost areas and will keep service areas in line with how costs are developed through the use of cost proxy models.⁵⁶³ Sprint also contends that using CBGs will eliminate the implicit subsidy that occurs when costs are averaged over wire centers, exchanges or larger areas that contain both high cost and low cost areas.⁵⁶⁴ Opponents of using CBGs contend that they are inaccurate because they bear no relation to the actual telecommunications network and associated costs⁵⁶⁵ and, in very sparsely populated areas, CBGs may be so large that cost may vary greatly within a CBG.⁵⁶⁶ GVNW argues that using CBGs will be administratively burdensome.⁵⁶⁷

171. Some commenters suggest that the service area be based on LEC wire centers (or areas no smaller than wire centers)⁵⁶⁸ or exchanges (or areas no larger than exchanges).⁵⁶⁹ USTA recommends using an area no larger than a wire center for non-rural telephone companies to determine costs.⁵⁷⁰ Proponents of using wire center areas to determine costs contend that such areas are small enough to represent reasonably homogenous cost characteristics and that LECs can disaggregate their costs to those areas much more readily than they can disaggregate costs to the CBG level.⁵⁷¹ They argue that wire center boundaries have evolved to reflect the specific characteristics of the telephone plant required to serve an area and thus are a much more accurate area to determine costs than are CBGs, which bear no direct relationship with how the telephone plant is designed or installed.⁵⁷² Teleport recommends using areas no larger than a wire center and no smaller than a CBG to establish costs. It contends that establishing service areas at this

⁵⁶³ Sprint comments at 15.

⁵⁶⁴ Sprint reply comments at 13.

⁵⁶⁵ *See, e.g.*, GSA comments at 8-10; GVNW reply comments at 14 (arguing that CBGs are inherently inaccurate and administratively costly to use).

⁵⁶⁶ Alaska PUC comments at 13-14; Citizens Utilities comments at 12.

⁵⁶⁷ GVNW reply comments at 14.

⁵⁶⁸ BellSouth comments at 14 (proposing wire centers or groups of wire centers); GSA comments at 9-10.

⁵⁶⁹ *See, e.g.*, Citizens Utilities comments at 12-13 (suggesting that exchanges or wire centers would be appropriate); Montana Indep. Telecom. comments at 8 (same); GVNW reply comments at 14.

⁵⁷⁰ USTA comments at 18.

⁵⁷¹ Citizens Utilities comments at 12-13.

⁵⁷² GSA comments at 9-10; GVNW reply comments at 14.

level will encourage competition by facilitating entry.⁵⁷³ GVNW proposes that, for non-rural companies, support areas smaller than wire centers should be used only after a showing that competition exists only in a portion of a wire center. For rural companies, the decision to use areas smaller than a wire center should be part of the state's public interest determination.⁵⁷⁴

3. Discussion

172. Service areas for areas served by rural telephone companies. We recommend that the Commission retain the current study areas of rural telephone companies as the service areas for such companies. Section 214(e)(5) provides that for an area served by a rural telephone company, the term "service area" means such company's study area "unless or until the Commission and the States, after taking into account the recommendations of a Federal-State Joint Board instituted under section 410(c), establish a different definition of service area for such company."⁵⁷⁵ We find no persuasive rationale in the record for adopting, at this time, a service area that differs from a rural telephone company's present study area.⁵⁷⁶ We note that some commenters argue that Congress presumptively retained study areas as the service area for rural telephone companies in order to minimize "cream skimming" by potential competitors.⁵⁷⁷ Potential "cream skimming" is minimized because competitors, as a condition of eligibility, must provide services throughout the rural telephone company's study area. Competitors would thus not be eligible for universal service support if they sought to serve only the lowest cost portions of a rural telephone company's study area.

173. We note that the 1996 Act in many respects places rural telephone companies on a different competitive footing from other local exchange companies. For example, rural telephone companies are initially exempt from the interconnection, unbundling, and resale requirements of 47 U.S.C. § 251(c). The 1996 Act continues this exemption until the relevant state commission finds, *inter alia*, that a request of a rural telephone company for interconnection, unbundling, or resale would not be unduly economically burdensome, would be technically feasible, and would be consistent with section 254.⁵⁷⁸ Moreover, while a state commission must designate other eligible

⁵⁷³ Teleport comments at 15-16.

⁵⁷⁴ GVNW reply comments at 14.

⁵⁷⁵ 47 U.S.C. § 214(e)(5).

⁵⁷⁶ *See, e.g.*, Century comments at 14-15; Evans Tel. comments at 14; Pacific Telecom comments at 2; Pennsylvania PUC comments at 20; RTC comments at 10; Rural Iowa Indep.Tel. Ass'n comments at 4; Sprint comments at 15; USTA comments at 18; Fred Williamson comments at 12-13; SDITC reply comments at 6.

⁵⁷⁷ *See, e.g.*, Evans Tel. comments at 14; SDITC reply comments at 6.

⁵⁷⁸ 47 U.S.C. § 251(f)(1).

carriers for non-rural areas, states may designate additional eligible carriers for areas served by a rural telephone company only upon a specific finding that such a designation is in the public interest.⁵⁷⁹

174. Another reason to retain existing study areas is that it is consistent with our recommendation that the determination of the costs of providing universal service by a rural telephone company should be based, at least initially, on that company's embedded costs. Rural telephone companies currently determine such costs at the study-area level. We conclude, therefore, that it is reasonable to adopt the current study areas as the service areas for rural telephone companies rather than impose the administrative burden of requiring rural telephone companies to determine embedded costs on a basis other than study areas.

175. Service areas for areas not served by rural telephone companies. We find that sections 214(e)(2) and 214(e)(5) grant to the state commissions the authority and responsibility to designate the area throughout which a carrier must provide the defined core services in order to be eligible for universal service support. We further conclude that, while this authority is explicitly delegated to the state commissions, states should exercise this authority in a manner that promotes the pro-competitive goals of the 1996 Act as well as the universal service principles of section 254. The Joint Board thus recommends that the Commission urge the states to designate service areas for non-rural telephone company areas that are of sufficiently small geographic scope to permit efficient targeting of high cost support and to facilitate entry by competing carriers.

176. We recommend that the Commission encourage states, where appropriate to foster competition, to designate service areas that do not disadvantage new entrants. Consequently, we recommend that the geographic size of the state designated service areas should not be unreasonably large. An unreasonably large area may deter entry because fewer competitors may be able to cover start-up costs that increase as the size of the area they must serve increases. This would be especially true if the states adopt as the service area the existing study areas of larger local exchange companies, such as the BOCs, which usually include most of the geographic area of a state, urban as well as rural. Additionally, if states simply structure service areas to fit the contours of an incumbent's facilities, a new entrant, especially a CMRS-based provider, might find it difficult to conform its signal or service area to the precise contours of the incumbent's area.⁵⁸⁰

177. We note that state adoption of unreasonably large service areas could potentially violate section 254(f), which prohibits states from adopting regulations that are "inconsistent with

⁵⁷⁹ 47 U.S.C. § 214(e)(2).

⁵⁸⁰ See, e.g., 360 comments at 7-8; ALTS reply comments at 4; Commnet Cellular reply comments at 7.

the Commission's rules to preserve and advance universal service."⁵⁸¹ State designation of an unreasonably large service area could also implicate section 253 if it "prohibit[s] or ha[s] the effect of prohibiting the ability of an entity to provide any interstate or intrastate telecommunications service,"⁵⁸² and is not "competitively neutral" and "necessary to preserve and advance universal service."⁵⁸³

178. Even if the state commission were to designate a large service area, however, we believe that it would be consistent with the 1996 Act to base the actual level of support, if any, that non-rural telephone company carriers would receive for the service area on the costs to provide service in sub-units of that area. We recommend that the Commission, where necessary to permit efficient targeting of universal support, establish the level of universal service support based on areas that may be smaller than the service area designated by the state. The service area designated by the state is the geographic area used for "the purpose of determining universal support obligations and support mechanisms."⁵⁸⁴ We find that this language refers to the designation of the area throughout which a carrier is obligated to offer and advertise universal service. It defines the overall area for which the carrier will receive support from the "specific, predictable, and sufficient mechanism established by the Commission to preserve and advance universal service."⁵⁸⁵ We conclude that this language would not bar the Commission from disaggregating the state-designated service area into smaller areas in order to: (1) identify high cost areas within the service area; and (2) determine the level of support payments that a carrier would receive for the overall service area based on the sum of the support levels as determined by the costs of serving each of the disaggregated areas.

D. Unserved Areas

1. Background

179. Section 214(e)(3) provides that, if no common carrier is willing to provide the services supported by universal service support mechanisms to a community or portion of a community that requests such services, "the Commission, with respect to interstate services, or a State, with respect to intrastate services, shall determine which common carrier or carriers are best able to provide such service to the requesting unserved community or portion thereof and

⁵⁸¹ 47 U.S.C. § 254(f).

⁵⁸² 47 U.S.C. § 253(a).

⁵⁸³ 47 U.S.C. § 253(b).

⁵⁸⁴ 47 U.S.C. § 214(e)(5).

⁵⁸⁵ 47 U.S.C. § 254(d).

shall order such carrier or carriers to provide such services for that unserved community or portion thereof."⁵⁸⁶ Any carrier so ordered shall be designated as the eligible telecommunications carrier for that community or portion of a community.⁵⁸⁷ The Joint Explanatory Statement states that section 214(e)(3) "makes explicit the implicit authority of the Commission, with respect to interstate services, and a State, with respect to intrastate services, to order a common carrier to provide [the supported services]."⁵⁸⁸

180. The NPRM solicited comment on how the Commission should implement its responsibilities under section 214(e)(3) to designate carriers for unserved areas and whether the Commission and the state commissioners should develop a cooperative program to ensure that all areas receive each of the services supported by federal universal support mechanisms.⁵⁸⁹

2. Comments

181. Few commenters responded to the Commission's request for comments on whether the Commission and the states should develop a cooperative program to ensure service for unserved areas. Some of these commenters support the concept of a cooperative program between the Commission and the states.⁵⁹⁰ Some commenters recommend using a competitive bidding system to select carriers to provide universal service to customers in areas that no carrier is serving.⁵⁹¹ USTA argues that unserved areas should be defined as those areas no carrier is willing to serve voluntarily. Such areas, USTA maintains, should be unique and not combined with any established universal service area.⁵⁹² Some cellular carriers argue that wireless technology can play an important role in ensuring that remote areas receive basic telephone

⁵⁸⁶ 47 U.S.C. § 214(e)(3).

⁵⁸⁷ 47 U.S.C. § 214(e)(3).

⁵⁸⁸ Joint Explanatory Statement at 141.

⁵⁸⁹ NPRM at para. 47.

⁵⁹⁰ Alaska Library comments at 5; California PUC comments at 13-14; Missouri PSC comments at 9.

⁵⁹¹ California PUC comments at 13-14. Under California's proposal, the carrier with the lowest bid, or subsidy request, would win and become the carrier of last resort for the area. California PUC comments at 13-14. *See also* MCI comments at 18-19 (advocating use of competitive bidding to select carriers in those few areas that no carrier is willing to serve at the established support level); USTA comments at 19-20. USTA recommends that the Commission should adopt a voluntary bidding process to identify carriers willing to serve unserved areas at the lowest cost per line. The carrier submitting the lowest bid would be declared the eligible carrier for both interstate and intrastate services and would receive the universal service support targeted to that area from the high cost support mechanism. USTA comments at 19-20.

⁵⁹² USTA comments at 19-20.

service and that they should be given an opportunity to provide such service in these areas.⁵⁹³ AMSC urges the Commission to permit LECs to receive universal service support for the costs of using Mobile Satellite Service technology to provide universal service to remote areas, just as the Commission allows LECs that provide basic exchange telecommunications radio systems (BETRS)⁵⁹⁴ as a substitute for wireline local service in rural areas to be eligible for high cost assistance.⁵⁹⁵ Washington UTC cautions against adopting rules that will require universal support to every community, no matter how expensive providing that service would be.⁵⁹⁶ Washington UTC offers an example of a small community of about a dozen families located on the eastern side of the Cascade Mountains that currently is not receiving even basic telephone service because the installation of facilities would cost about \$8,000.00 per customer and would cost approximately \$260.00 per access line per month after installation.⁵⁹⁷

3. Discussion

182. Other than the requirements contained in section 214(e)(3), we recommend that the Commission not adopt any particular rules to govern how carriers for unserved areas are designated. While a few commenters support the concept of a cooperative state and federal program to select such carriers,⁵⁹⁸ no specific program was proposed. Similarly, while several commenters support using competitive bidding to select carriers for unserved areas, no detailed proposal was submitted for use of competitive bidding for this limited purpose.

VII. RURAL, INSULAR, AND HIGH COST

A. Overview

183. In this section of the Recommended Decision, we discuss the universal service support mechanisms for rural, insular, and high cost areas. There are three pieces of information required to calculate the amount of support an eligible telecommunications carrier may draw from federal universal service support mechanisms. The first is the number of subscribers that the

⁵⁹³ See, e.g., Vanguard comments at 7-8; Western comments at 5-7, 14.

⁵⁹⁴ BETRS uses radio frequencies to connect subscribers at fixed locations to LEC central offices. AMSC comments at 6 (citing *Basic Exchange Telecommunications Radio Service*, 3 FCC Rcd 214 (1988)).

⁵⁹⁵ AMSC comments at 6.

⁵⁹⁶ Washington UTC reply comments at 3.

⁵⁹⁷ Washington UTC reply comments at 3.

⁵⁹⁸ See e.g., Alaska Library comments at 5; California PUC comments at 13-14.

carrier is serving in the high cost area. The second is the cost of providing the supported services to those subscribers. The third is the amount of that cost that the carrier must recover from sources other than the federal universal support mechanisms. In this section the Joint Board presents its recommendations concerning the process that should be used to determine the level of support to be provided for the supported services and related issues. We also present our recommendations on how the amount the carrier needs to recover from other sources should be set.

184. We first discuss how to determine the cost of providing the supported services to subscribers. We conclude that the proper measure of "cost" for purposes of calculating universal service support is the forward-looking economic cost of developing and operating the network facility and functions used to provide services supported under section 254(c)(1). The Joint Board recommends that the Commission work with the state commissions to develop a proxy cost model for calculating these forward-looking economic costs, and what support, if any, that a carrier should receive for serving a particular geographic area. We believe that all of the costs of the network and retail costs that are incurred to provide the supported services should be included in the cost calculation. We recognize, however, that the use of a proxy model could cause some small carriers to receive levels of support different from what they currently receive. In order to allow those carriers a reasonable period to adjust to the use of proxy models, we recommend that "rural telephone companies," as defined in the Communications Act, as amended,⁵⁹⁹ be allowed to continue using embedded costs as the basis for calculating their universal service support levels for three years after non-rural carriers begin to use proxy models.⁶⁰⁰ We recommend that, during that period, high cost assistance, DEM weighting, and LTS benefits for rural carriers be frozen based on historical per-line amounts. At the end of that three-year period, rural companies will transition to a proxy model over three years. Because of the nature of providing service in Alaska and the insular areas, we recommend that rural carriers serving those areas continue to use embedded costs until further review.

185. We next discuss the benchmark amount or share of carrier proxy-derived cost that must be recovered from other sources. We believe it is desirable that the benchmark be based on the amount the carrier would expect to recover from other services to cover the cost of providing supported services, but final determination of the methodology for selecting the benchmark must also consider the revenue base for universal service contributions. The amount of support a carrier would receive would be calculated by subtracting this benchmark amount from the cost of service determined for that carrier.

⁵⁹⁹ 47 U.S.C. § 153(37).

⁶⁰⁰ Many of the commenters use the term "embedded costs" when referring to a carrier's historic loop or switching costs. For the purpose of our discussion in this proceeding, we will also use the term "embedded costs," but note that we mean it to be synonymous with the terms "booked costs" and "reported costs."

186. Finally, we look at an alternative means of establishing support levels. Competitive bidding would allow the marketplace to determine the level of support by having competing carriers bid for the support level they need to serve high cost areas. We recommend that the Commission, together with the state commissions, continue to explore the possibility of using competitive bidding in the future.

B. Calculation of Cost

1. Background

187. The existing universal service support mechanisms. Currently there are three mechanisms designed expressly to provide support for high cost and small telephone companies: the Universal Service Fund (high cost assistance fund),⁶⁰¹ the DEM weighting program,⁶⁰² and LTS.⁶⁰³

188. The jurisdictional separations rules currently assign 25 percent of each LEC's loop costs⁶⁰⁴ to the interstate jurisdiction.⁶⁰⁵ As a result, a portion of each LEC's local loop costs are recovered through rates charged to its customers for interstate services.⁶⁰⁶ For LECs with above-average loop costs, the existing high cost assistance fund shifts a larger percentage of the loop costs to the interstate jurisdiction and permits those LECs to recover this incremental allocation from the high cost assistance fund.⁶⁰⁷ Each LEC's embedded costs determine the support payments the LEC will receive. Currently, a LEC is eligible for support if its embedded loop costs exceed 115 percent of the national average loop cost. LECs with study areas⁶⁰⁸ of 200,000 or fewer loops receive a greater percentage of their above-average loop costs than those with

⁶⁰¹ 47 C.F.R. § 36.601 *et. seq.*

⁶⁰² 47 C.F.R. § 36.125(b).

⁶⁰³ 47 C.F.R. §§ 69.105, 69.502, 69.603(e), 69.612.

⁶⁰⁴ Loop cost is the fixed cost of connecting customers to the LEC central office. LECs' local loop costs vary widely due to many factors, including subscriber density, terrain, local exchange size, and labor costs.

⁶⁰⁵ 47 C.F.R. Part 36.

⁶⁰⁶ Currently, the Commission's access charge rules require that these costs be recovered through subscriber line charges and carrier common line charges. The operation of both types of charges is discussed *infra* in section XII.

⁶⁰⁷ The high cost assistance fund is currently administered by NECA.

⁶⁰⁸ A study area is a geographic segment of a carrier's telephone operations within a state. Carriers perform jurisdictional separations at the study area level.

study areas with more than 200,000 loops.⁶⁰⁹ LECs with study areas of 200,000 or fewer working loops receive an additional interstate allocation of 65 percent of the unseparated cost per loop between 115 percent and 150 percent of the national average cost per loop, multiplied by the number of working loops. This 65 percent additional allocation coupled with the 25 percent allocation for all carriers means that these companies allocate 90 percent of the loop costs between 115 percent and 150 percent of the national average to the interstate jurisdiction. Those carriers receive an additional interstate allocation of 75 percent of the cost per loop that exceeds 150 percent of the national average cost per loop. That additional allocation, coupled with the 25 percent allocation for all carriers, means that carriers with loop costs greater than 150 percent of the national average receive a 100 percent allocation to the interstate jurisdiction for the costs above 150 percent of the national average. In other words, they receive a dollar from the interstate jurisdiction for each dollar of loop costs above 150 percent of the national average loop cost. For LECs with study areas of more than 200,000 working loops, the additional interstate allocation of unseparated loop costs is as follows: 10 percent of such costs between 115 percent and 160 percent of the national average, 30 percent of such costs between 160 percent and 200 percent of the national average, 60 percent of such costs between 200 percent and 250 percent of the national average, and 75 percent of such costs in excess of 250 percent of the national average. This program is funded entirely by IXCs.⁶¹⁰

189. The Commission's jurisdictional separations rules include a second universal service subsidy mechanism known as DEM weighting.⁶¹¹ At the time the DEM weighting subsidy was created, it was assumed that smaller telephone companies would have higher local switching costs than larger LECs because the smaller companies cannot take advantage of certain economies of scale. LECs with fewer than 50,000 access lines are directed to apportion a greater proportion of these local switching costs to the interstate jurisdiction than larger LECs may allocate.⁶¹² For these small LECs, the actual DEMs are weighted (multiplied by a factor) to shift what would otherwise be intrastate costs to the interstate jurisdiction. DEM weighting applies independent of, and unrelated to, the high cost assistance fund.

190. The LTS program supports carriers with higher-than average subscriber line costs by providing carriers which are members of the NECA pool with enough support to enable them

⁶⁰⁹ 47 C.F.R. § 36.631(c), (d).

⁶¹⁰ Each IXC with at least .05 percent of presubscribed lines nationwide contributes to the fund an amount based on the number of its presubscribed lines. 47 C.F.R. § 69.116.

⁶¹¹ 47 C.F.R. § 36.125(b). Dial equipment minutes, or DEM, are the minutes of holding time of local switching equipment used to originate and terminate a call. The jurisdictional separations rules allocate local switching equipment costs between the interstate and intrastate jurisdictions on the basis of each jurisdiction's relative number of dial equipment minutes of use.

⁶¹² 47 C.F.R. § 36.125(b).

to charge IXCs only a nationwide average CCL interstate access rate.⁶¹³ Under the current LTS support system, NECA annually projects the common line revenue requirement (which includes an 11.25 percent return on investment) for ILECs that participate in the common line pool.⁶¹⁴ NECA then computes the total amount of LTS support needed by subtracting the amount pooling carriers will receive in SLCs and CCL charges from the pool's projected revenue requirement (after removing pay telephone costs and revenues). LTS is funded by ILECs that do not participate in the common line pool. Non-pooling ILECs' LTS contributions to the common line pool are set annually based on the total projected amount of LTS, converted to a monthly payment amount. NECA computes the monthly "draws" for the ILEC common line pool members based on the pooling carriers' submissions to NECA of reported cost data (except for average schedule companies, whose monthly payments are based on average schedule data). As a result, each participating pool member receives a draw from the "pooled" common line revenues rather than a "LTS payment."

191. The Commission initiated a rulemaking proceeding in CC Docket No. 80-286 to modify the current support mechanism for high cost and small telephone companies.⁶¹⁵ The primary goals of that proceeding were to eliminate barriers to competitive entry, contain the size of the fund at a reasonable level, and promote efficient investment and operation of local service networks.⁶¹⁶

192. In the *80-286 NPRM*, the Commission sought comment on ways to improve the high cost assistance fund, including: (1) using credits to deliver high cost assistance in a competitively neutral manner; (2) excluding administrative costs from the loop costs that form the basis for high cost assistance; (3) basing assistance on the average number of subscriber lines; (4) increasing the threshold for receiving assistance; (5) reconsidering the distinctions in the current rules between large and small study areas; (6) adopting a permanent indexed cap; (7) using high

⁶¹³ Prior to 1989 all local exchange carriers were required to participate in a pool of carrier common line costs and revenues. Beginning in April 1989, LECs were permitted to withdraw from the pool, but LECs with below average subscriber line charges that choose to exit the pool are required to contribute enough so that LECs remaining in the pool would be able to charge the same industry average CCL rates they would have charged if the pool were still mandatory for all LECs. See *MTS and WATS Market Structure; Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board*, Report and Order, 2 FCC Rcd 2953 (1987).

⁶¹⁴ The actual rate of return that pooling companies earn on a monthly basis is determined by the total rate of return that the pool earns, i.e., the difference between the total costs that the pooling companies submit and the total amount of revenue in the pool, as a percentage of all pooling companies' total common line investment.

⁶¹⁵ *Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board*, Notice of Inquiry, 9 FCC Rcd 7404 (1994); Order, 9 FCC Rcd 7962 (1994) (Data Request); Notice of Proposed Rulemaking and Notice of Inquiry, 10 FCC Rcd 12309 (1995) (*80-286 NPRM*).

⁶¹⁶ *80-286 NPRM* at para. 5.

cost credits for large carriers' study areas only; and (8) using proxy factors to compute high cost assistance.⁶¹⁷ The Commission also proposed to modify DEM weighting by: (1) establishing a high cost test to qualify for DEM weighting; (2) determining DEM weighting factors on the basis of average local switch size; or (3) determining DEM weighting assistance through the use of a scale sliding on the basis of the number of access lines.⁶¹⁸

193. NPRM in this Proceeding. In the NPRM, the Commission sought comments to identify methods for determining the level of support required to ensure that carriers are financially able to provide universal service in rural, insular, and high cost areas.⁶¹⁹ The Commission specifically sought comment on whether continuing to use the Commission's jurisdictional separations rules to provide support to LECs with high loop costs, or local switching costs of small LECs, is consistent with Congress's intent "to provide for a pro-competitive, de-regulatory national policy framework . . . opening all telecommunications markets to competition,"⁶²⁰ or with its intent relating to the characteristics of universal service support mechanisms to be adopted pursuant to section 254.⁶²¹ In addition, the Commission sought comment regarding the statutory requirement "that any support mechanisms continued or created under new section 254 should be explicit."⁶²² The Commission sought comment on whether the DEM weighting assistance mechanism should be retained in light of the principles enunciated in the 1996 Act.⁶²³ The NPRM also asked commenters to identify the total amount of support currently required for each proposed core service.⁶²⁴

194. The Commission also incorporated into this proceeding by reference the portion of the record from CC Docket No. 80-286 that relates to changing the support mechanisms found in Part 36 of its rules.⁶²⁵ The Commission noted, however, that the legislative history of the 1996 Act indicates that Congress determined that CC Docket No. 80-286 was not an appropriate

⁶¹⁷ *Id.* at paras. 17-75.

⁶¹⁸ *Id.* at paras. 9-16.

⁶¹⁹ NPRM at paras. 27-39.

⁶²⁰ *See* S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 1 (1996).

⁶²¹ NPRM at para. 30.

⁶²² 47 U.S.C. § 254(e).

⁶²³ NPRM at para. 30.

⁶²⁴ *Id.* at para. 15.

⁶²⁵ *Id.* at para. 39.

foundation on which to base the section 254 universal service proceeding.⁶²⁶

195. Regarding LTS, the NPRM observed that the CCL charges of ILECs not participating in the NECA pool recover LECs' LTS obligations.⁶²⁷ As noted in the NPRM, LTS payments serve to equalize access charges among LECs by requiring larger LECs that no longer participate in the NECA access charge pool to contribute funds sufficient to reduce pooling companies' access charges to the national average.⁶²⁸ The NPRM tentatively concluded that "LTS payments, which directly increase interstate access charges assessed by some LECs so as to reduce charges assessed by other LECs, are an identifiable support flow in the existing interstate access charge system" and "propose[d] to eliminate the recovery of LTS revenues through ILECs' interstate CCL charges."⁶²⁹

196. In the NPRM, the Commission noted that several telecommunications carriers had jointly filed a proxy model to calculate a "benchmark" cost for providing local telecommunications access in every CBG in the nation.⁶³⁰ As explained in the NPRM, the purpose of that proxy model -- the BCM -- is to identify areas where the cost of service is expected to be high enough to require cost support to preserve and advance universal service.⁶³¹ The Commission incorporated the BCM into the record of this proceeding, and asked for comment on the merits of using a proxy model to calculate universal service support requirements. The Commission sought comment on, among other things, whether the model could be made technology neutral, whether a proxy model should use embedded costs or forward-looking costs, what engineering assumptions should be used in the model, and whether the model's choice of CBGs as the geographic unit for calculating the costs of local telephone service was the best alternative. The NPRM also sought comment on a proxy model that had been developed by PacTel for use in the California state universal service proceeding -- the Cost Proxy Model (CPM).⁶³²

197. Public Notice. The Common Carrier Bureau's July 3 Public Notice sought comments on approximately 50 questions regarding the calculation of the cost of providing

⁶²⁶ *Id.* at para. 39 (citing S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 131 (1996)).

⁶²⁷ NPRM at para. 115.

⁶²⁸ *Id.* at para. 115.

⁶²⁹ *Id.* at para. 115.

⁶³⁰ *Id.* at para. 31 (citing MCI, NYNEX, Sprint/United Management, and U S West, *Benchmark Costing Model: A Joint Submission*, Copyright 1995, CC Docket No. 80-286, filed Dec. 1, 1995).

⁶³¹ NPRM at para. 32.

⁶³² *Id.* at para. 33 n.81.

universal service. The Public Notice requested comment on whether loop costs accurately represent the actual cost of providing services such as access to directory assistance and emergency assistance, and the advanced services that commenters have proposed for inclusion among those services to be supported. To the extent that loop costs do not fully represent the costs associated with including a service in the definition of universal service, the question also asked parties to identify and quantify other costs that should be considered.⁶³³ Parties were also asked to comment on what modifications to the existing universal service support mechanisms, if any, are required to comply with the 1996 Act.⁶³⁴ The Public Notice also asked for comment on how existing support mechanisms could be better targeted for rural areas.⁶³⁵

198. Twenty-eight questions in the Public Notice dealt with proxy models -- 15 asked about proxy models in general,⁶³⁶ eight asked about the BCM,⁶³⁷ and five asked about the CPM.⁶³⁸ Further comment was requested on what, if any, activities were being undertaken to harmonize the proposed proxy models; and, how support should be calculated for insular areas and Alaska, which were not included in the BCM.⁶³⁹ Comment was sought on how the costs calculated by the BCM compare to the book costs of ILECs for the same geographic areas; what the default inputs were for the BCM (e.g., the fill factors);⁶⁴⁰ and, whether it is possible to integrate the grid cell structure used in the CPM into the BCM model.⁶⁴¹ Comment was sought on whether the CPM could be used on a nationwide basis and whether it could be modified to identify terrain and soil type by grid cell.⁶⁴²

199. Cost Models Public Notice. On July 10, 1996, the Common Carrier Bureau released another Public Notice (Cost Models Public Notice) on the proxy models that had been filed in this proceeding -- the BCM, a revised version of the BCM (BCM2), the CPM, and the

⁶³³ Public Notice (DA-96-1078) (rel. July 3, 1996) question 5.

⁶³⁴ *Id.*, question 26.

⁶³⁵ *Id.*, question 27.

⁶³⁶ *Id.*, questions 34-48.

⁶³⁷ Public Notice, questions 56-63.

⁶³⁸ *Id.*, questions 56-63.

⁶³⁹ *Id.*, questions 36, 41, 45-48.

⁶⁴⁰ A fill factor represents the percentage of the loop facility that is currently being used.

⁶⁴¹ Public Notice, questions 56, 60, 63.

⁶⁴² *Id.*, questions 65, 66.

Hatfield model⁶⁴³ -- and gave notice on how interested parties could obtain copies of the models.⁶⁴⁴ That Public Notice also set out procedures for interested parties to file comments on the models.⁶⁴⁵

200. Data Request. On August 2, 1996, the Common Carrier Bureau sent a letter to each of the proponents of the BCM2, CPM, and Hatfield models requesting additional information about the models.⁶⁴⁶ The letter asked how the costs calculated by the model compare with actual embedded loop costs of incumbent local exchange carriers and asked each proponent to submit the results from its model for three specific study areas. The letter also requested further information needed to answer model-specific questions, such as how the current versions compared to the previous versions of these models.

2. Comments

a. Cost of Providing Universal Services

201. Loop Costs. MCI and NYNEX maintain that loop costs represent the actual costs of providing core services for the purpose of universal service.⁶⁴⁷ Bell Atlantic argues that the local loop is the principal component of supported services, and thus, loop costs are a reasonable surrogate for the costs of all supported services in determining relative costs among exchange carriers.⁶⁴⁸ According to Bell Atlantic, the costs of providing non-loop core services should not affect the state wide average costs enough to change the amount of universal service support flowing to the states, nor should these costs vary significantly among carriers.⁶⁴⁹ Similarly,

⁶⁴³ The BCM was submitted by MCI, NYNEX, Sprint, and U S West. The BCM2 was submitted by Sprint and U S West. The CPM was submitted by PacTel. The Hatfield model was submitted by MCI and AT&T. *See* Public Notice, Common Carrier Bureau Seeks Further Comment on Cost Models in Universal Service Notice of Proposed Rulemaking, CC Docket 96-45, DA 96-1094 (rel. July 10, 1996)("Cost Models Public Notice").

⁶⁴⁴ *See* Cost Models Public Notice.

⁶⁴⁵ *See Id.*

⁶⁴⁶ *See* Letters from John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau to (1) Glenn Brown, Executive Director-Public Policy, U S West, Inc., (2) Alan Ciamporcero, Vice President-Federal Regulatory Relations, PacTel, (3) Mike Pelcovits, Chief Economist, MCI, and Joel Lubin, Vice President-Law and Government Affairs, AT&T (dated Aug. 2, 1996).

⁶⁴⁷ MCI further comments at 3 (arguing, however, that some trunking costs may also be involved for providing services such as 911); NYNEX further comments at 5.

⁶⁴⁸ Bell Atlantic further comments at 2.

⁶⁴⁹ *Id.* at 2.

CompTel argues that access to supported services is provided by the loop and that loop costs do not vary according to the services the end user connects through the use of the loops.⁶⁵⁰ USTA argues that the local loop cost is the actual cost of providing access to emergency services and directory assistance.⁶⁵¹

202. NCTA and the Washington UTC contend that it is not appropriate to allocate 100 percent of loop costs to universal service because not all of loop costs are attributable to the provision of supported services, but are also used to provide toll and other services.⁶⁵² MFS argues that additional costs should not be included in loop costs for purposes of calculating universal service support unless the costs of providing a particular service vary by census block and contribute to making a census block a high cost area.⁶⁵³

203. Costs in Addition to Loop Costs. Several parties, however, contend that loop costs do not represent the total cost involved in providing core services.⁶⁵⁴ Commenters assert that other joint, common and residual costs must be included in calculating total costs.⁶⁵⁵ Commenters contend that switching,⁶⁵⁶ transport⁶⁵⁷ or transmission,⁶⁵⁸ signaling,⁶⁵⁹ unbundled

⁶⁵⁰ CompTel further comments at 9.

⁶⁵¹ USTA further comments at 8.

⁶⁵² NCTA further comments at 3; Washington UTC further comments at 6 (*citing Washington Utilities and Transportation Commission v. U S West Communications, Inc.*, Docket No. UT950200, Fifteenth Supplemental Order, April 11, 1996).

⁶⁵³ MFS further comments at 13.

⁶⁵⁴ *See, e.g.*, Florida PSC further comments at 8; Maine PUC further comments at 5; New York DOE further comments at 5; PacTel further comments at 12; SWBT further comments at 4; Sprint further comments at 3; Time Warner further comments at 15; Vitelco further comments at 4.

⁶⁵⁵ Ameritech further comments at 11.

⁶⁵⁶ AT&T further comments at 6; Citizens Utilities further comments at 4; Florida PSC further comments at 8; Maine PUC further comments at 5; RTC further comments at 10; SWBT further comments at 4; Vitelco further comments at 4.

⁶⁵⁷ Citizens Utilities further comments at 4; Maine PUC further comments at 6; RTC further comments at 10; Vitelco further comments at 4.

⁶⁵⁸ AT&T further comments at 6.

⁶⁵⁹ *Id.* at 6.

element costs⁶⁶⁰ and other costs⁶⁶¹ are implicated in the provision of a service. For example, Ameritech argues that the cost of single-party, voice grade service includes not only the cost of the loops, but also a portion of the local switch, as well as maintenance and other joint and common costs and residual costs.⁶⁶² In addition, USTA argues that the provision of voice grade access to the public switched network, touch-tone and single-party service entail switching and transport costs in addition to loop costs.⁶⁶³ SWBT asserts that providing operator service requires substantial costs for facilities and the provision of customer assistance.⁶⁶⁴ Maine PUC contends that even basic services such as the ability to connect with the interexchange network require switches and trunks at the local wire center.⁶⁶⁵

204. A few parties argue that support for high switching costs associated with low-volume switching, which are currently compensated through DEM weighting, should be maintained.⁶⁶⁶ In addition, RTC maintains that the Commission should provide support for access charges that cause significant disparities between rural and urban areas.⁶⁶⁷ RTC also maintains that support must be available for any network upgrades that rural telephone companies will have to undertake to offer number portability.⁶⁶⁸ NECA argues that the current method for assigning loop costs, wherein loop costs include not only the direct costs of providing physical loop plant facilities but also a portion of other costs such as general and administrative costs, must be maintained as part of any new universal service support mechanism.⁶⁶⁹

⁶⁶⁰ *Id.* at 6.

⁶⁶¹ Florida PSC further comments at 9 (billing and collections costs); SWBT further comments at 6 (services expenses and support costs); Sprint further comments at 3 (maintenance, depreciation and overhead expenses); Vitelco further comments at 4 (information services costs and billing costs).

⁶⁶² Ameritech further comments at 11.

⁶⁶³ USTA further comments at 8.

⁶⁶⁴ SWBT further comments at 5, 7.

⁶⁶⁵ Maine PUC further comments at 5.

⁶⁶⁶ Century further comments at 10-11 (arguing that the Joint Board should develop an explicit high cost mechanism to reduce the disparity between traffic sensitive access charges in rural and urban areas); NECA further comments at 5; USTA further comments at 8.

⁶⁶⁷ RTC further comments at 10 (arguing that such support would facilitate toll rate averaging required by 47 U.S.C. § 254(g) and promote long distance competition).

⁶⁶⁸ RTC further comments at 11 (arguing that carriers will have to develop and install software and hardware to provide number portability even if they have no customer requesting the service from whom to recover the costs).

⁶⁶⁹ NECA further comments at 5.

205. Costs of Additional Services. Few parties commented on the costs associated with advanced services. SWBT asserts that the provision of ISDN requires special switching equipment and that the cost of that equipment should be supported.⁶⁷⁰ USTA contends that access to some advanced services may require a different form of loop connection, such as fiber optic cable, and, thus, loop cost would not represent the actual cost of providing the service in those instances.⁶⁷¹ We note that a few parties state or reiterate their belief that support should be limited to core services, with no universal service support going toward advanced services.⁶⁷²

b. Existing Universal Service Support Mechanisms

i. Retain existing Universal Service mechanisms

206. In General. Commenters greatly disagree on whether to retain the current universal service support mechanisms. Most small and rural LECs insist that the existing high cost assistance fund should be retained in its current form.⁶⁷³ Many IXCs, large LECs, and others, however, criticize the existing support mechanisms as contrary to the principles and goals of the 1996 Act.⁶⁷⁴ They contend that the current system encourages inefficiencies and inhibits competition.

207. Continue using embedded costs. Supporters of the current program contend that it has successfully achieved the goals of universal service.⁶⁷⁵ They argue that the current accounting and jurisdictional separation rules are the most accurate method for computing support levels.⁶⁷⁶ In addition, Ft. Mojave Telecom. asserts that the current program is "equitable and nondiscriminatory."⁶⁷⁷ West Virginia Consumer Advocate insists that the existing universal

⁶⁷⁰ SWBT further comments at 5.

⁶⁷¹ USTA further comments at 8.

⁶⁷² Citizens Utilities further comments at 5; GCI further comments at 3.

⁶⁷³ *See, e.g.*, Century comments at 10; Mon-Cre comments at 3-4; Montana Indep. Telecom. comments at 6; John Staurulakis comments at 7; SDITC reply comments at 3; Vitelco reply comments at 1.

⁶⁷⁴ *See, e.g.*, Ad Hoc Telecom. Users comments at 12; NARUC comments at 13-15; Texas PUC comments at 9; AT&T reply comments at 6-7.

⁶⁷⁵ *See, e.g.*, Harris comments at 12; Minnesota Indep. Coalition comments at 13; OITA-WITA comments at 11-12.

⁶⁷⁶ Park Region Tel. comments at 4. *See also* Mon-Cre comments at 3-4; New Hope Tel. Coop. comments at 3-4; Ragland Tel. Co. comments at 3-4.

⁶⁷⁷ Ft. Mojave Telecom. comments at 4.

service fund is an explicit support mechanism as contemplated in section 254(e).⁶⁷⁸ While acknowledging that the current jurisdictional separations rules may not advance the cause of creating a pro-competitive, de-regulatory policy framework, Montana PSC argues that they do "advance the cause of keeping rural rates and services comparable to urban rates and services, and therefore the Commission should maintain these subsidies during the transition to a competitive market."⁶⁷⁹ Michigan Library Ass'n offers that inefficiencies can be audited by state and Commission staff.⁶⁸⁰ Meanwhile, SDITC states that it objects to the idea that universal service is a subsidy because it believes "it is a "quid pro quo" for artificially capping at 25 percent those common costs which are allocated between interstate and intrastate jurisdictions, implying that the interstate allocation does not sufficiently recover its costs."⁶⁸¹ This commenter also argues that the current system should be maintained because "local competition is unlikely to occur in rural America for some time."⁶⁸²

208. Furthermore, many commenters maintain that any new universal service support mechanisms must continue to be based on embedded costs.⁶⁸³ These commenters dispute the reliability of proxy models to set adequate support levels.⁶⁸⁴ NECA argues further that allowing support levels to be set on the basis of competitive bids or proxy models would trigger a "race for the bottom" because competitors would seek to capture funding without maintaining or improving the quality of service or investing in new technology.⁶⁸⁵ Alaska PUC, Vitelco, and Puerto Rico Tel. Co. contend the peculiar topography and extreme weather in their service areas result in high loop costs and argue that any resulting loss of revenues from the existing fund levels would

⁶⁷⁸ West Virginia Consumer Advocate comments at 9-10.

⁶⁷⁹ Montana PSC comments at 10.

⁶⁸⁰ Michigan Library Ass'n comments at 10.

⁶⁸¹ SDITC reply comments at 10 (citing *Smith v. Illinois Bell Tele. Co.*, 282 U.S. 133 (1930) and *Decision and Order*, 96 FCC 2d 781, 789 (1984)).

⁶⁸² SDITC reply comments at 4.

⁶⁸³ *See, e.g.*, 360 comments at 7-8; BellSouth comments at 2; Frederick & Warinner comments at 2-3; Keystone comments at 7; LDDS comments at 11-12; Maine PUC comments at 4; Michigan PSC comments at 2; OITA-WITA comments at 11-12; Rock Port Tel. comments at 2; Rural Iowa Indep. Tel. Ass'n comments at 2; SWBT comments at 13-14; South Carolina PSC comments at 2; Staurulakis comments at 7; TCA comments at 5; Telec Consulting comments at 4; United Utilities comments at 1; Fred Williamson comments at 12-13.

⁶⁸⁴ *See, e.g.*, Ameritech comments at 12; NECA comments at 6.

⁶⁸⁵ NECA comments at 6. *See also* ITC comments at 4; TCA reply comments at 2, 5.

greatly increase local rates.⁶⁸⁶ In addition, some commenters assert that small rural companies will not be able to compete under a system that does not use embedded costs.⁶⁸⁷

209. Some commenters rely on particular interpretations of the 1996 Act to support their position that universal service mechanisms must be based on an incumbent carrier's embedded costs. Western Alliance asserts that the 1996 Act and the Fifth Amendment of the U.S. Constitution require a system of universal service supports based on embedded costs of service.⁶⁸⁸ Alaska claims that nothing in the legislative history of the 1996 Act requires abolition of jurisdictional separations-based support mechanisms and not all support mechanisms are required to be explicit.⁶⁸⁹ Moreover, Alaska Tel. argues that the embedded costs method is necessary to meet the sufficiency requirement of section 254(b)(5).⁶⁹⁰ In addition, Cincinnati Bell contends that the LECs' obligations under the 1996 Act as COLRs for universal service obligations mandate the recovery of their investment in facilities.⁶⁹¹ Alaska Tel. concludes that the requirement for cost allocation rules and accounting safeguards found in the 1996 Act clearly demonstrates Congress's intent to use historical costs as a basis for determining universal service support.⁶⁹²

210. Many commenters contend that a universal service mechanism based on embedded costs, rather than costs determined using a proxy model, will be the easiest to administer when CLECs want to serve a study area that already receives universal service support.⁶⁹³ Pacific

⁶⁸⁶ Alaska PUC comments at 12; Puerto Rico Tel. Co. comments at 8-9; Vitelco reply comments at 4.

⁶⁸⁷ See, e.g., Alaska Tel. comments at 4; Harris comments at 11; OITA-WITA comments at 11-12; SDITC reply comments at 5.

⁶⁸⁸ Western Alliance comments at 1 (citing *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 307 (1989) to argue that the implementation of any system that results in a sharp reduction of universal service support will effectively confiscate incumbent LECs' investments without just compensation in violation of the 5th Amendment).

⁶⁸⁹ Alaska comments at 8-9 (citing § 103(d) of the Senate bill, 141 Cong. Rec. S 8570, S 8575 (daily ed. June 16, 1995) and interpreting the prefaced phrase, "To the extent possible, .." of the Joint Explanatory Statement.

⁶⁹⁰ Alaska Tel. comments at 4. Section 254(b)(5) of the 1996 Act states that "[T]here should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service."

⁶⁹¹ Cincinnati Bell comments at 11. See also Western Alliance comments at 4.

⁶⁹² Alaska Tel. reply comments at 3.

⁶⁹³ See, e.g., Ardmore Tel. comments at 3; BellSouth comments at 10-14; Bledsoe Tel. comments at 3; Hopper comments at 3; Ragland Tel. Co. comments at 3; Puerto Rico Tel. Co. further comments at 8. But see, USTA further comments at 20-21 (arguing that a competitive carrier in a rural area should receive support based on its own costs to discourage cream skimming and a competitive carrier in high cost areas served by non-rural telephone companies should use the incumbent's costs to encourage competition).

Telecom states that basing payments on the embedded costs of ILECs has the advantages of (i) being "specific, predictable and sufficient" for rural needs; (ii) being auditable; (iii) preventing over-recovery and incentives for gaming the system; (iv) being technologically neutral; and (v) serving as the best economic signal for potential competitive entry.⁶⁹⁴ Washington UTC suggests that this method might encourage the resale of embedded LEC facilities, while allowing competition, because it argues that competitors are more likely to want to use ILEC facilities if they are compensated for doing so.⁶⁹⁵ BellSouth further contends that, when CLECs with lower end-user rates receive the same support as the incumbent, they lower the end-user cost. BellSouth explains that the end-user rates would eventually fall due to competition and the support could be adjusted to reflect the lower rates.⁶⁹⁶ Vitelco advocates that a CLEC that meets all COLR obligations should be entitled to high cost funds based on its own embedded costs, subject to a cap at the embedded costs of the incumbent.⁶⁹⁷

211. Discontinue use of embedded costs. Commenters who maintain that LEC embedded costs are not a reasonable basis for determining support express concern that this method does not encourage companies to operate efficiently.⁶⁹⁸ MCI contends that the ILEC's embedded costs are likely to include many inefficiencies, and thus be higher than necessary. This would result in a competitor receiving more support than required.⁶⁹⁹ In addition, AirTouch asserts that the use of embedded costs would create incentives for inefficient bypass of ILEC networks and manipulation and inflation of the costs, as well as an increase in the burden borne by subscribers.⁷⁰⁰ NARUC contends that an ILEC's embedded costs do not reflect the true cost of providing local service. It reports that many states have determined that cost studies produced by LECs overstate the costs significantly by assuming that the cost of a local loop is the real cost of local service, even though the loop cost is a joint cost shared among many services, and by including costs associated with redesign of network for non-basic services.⁷⁰¹ Ad Hoc Telecom.

⁶⁹⁴ Pacific Telecom further comments at 8-9.

⁶⁹⁵ Washington UTC further comments at 17-18. Washington UTC, however, also notes that the disadvantages of using the incumbents embedded costs are that those costs may not reflect newer, less expensive technology and would result in over recovery by the competitors. *See also* AT&T further comments at 25-26.

⁶⁹⁶ BellSouth further comments at 33-34.

⁶⁹⁷ Vitelco further comments at 7.

⁶⁹⁸ *See, e.g.*, TRA comments at 11. *But see*, Western Alliance further comments at 5 (arguing that no commenter has ever demonstrated that the high cost fund has led to abuse or inefficiency by rural carriers).

⁶⁹⁹ MCI further comments at 12. *See also* Citizens Utilities further comments at 8.

⁷⁰⁰ AirTouch further comments at 20-21.

⁷⁰¹ NARUC comments at 13-15.

Users argues that the LECs have deployed more transmission capacity than required to provide one line per household.⁷⁰² Moreover, Time Warner contends that the use of embedded costs does nothing to cure what it considers the fundamental problems with using embedded costs as the basis for universal service support. These include verification of embedded costs, obsolete past engineering practices and investment decisions, past investment initiatives that were not undertaken to serve any legitimate universal service objective, and no incentive to control or reduce expenses.⁷⁰³

212. Moreover, commenters assert that the use of embedded costs does not promote competitive neutrality.⁷⁰⁴ RUS argues that “historical costs” as a basis of support is inconsistent with the goals of the 1996 Act because this method would provide no incentive for competition.⁷⁰⁵ AT&T contends that forcing the recovery of embedded costs distorts the competitive market and allows the ILEC to thwart entry by other more efficient competitors.⁷⁰⁶ Time Warner asserts that allowing rural companies to retain universal service support based on embedded costs, in combination with the section 251(f) exceptions,⁷⁰⁷ creates a protected environment that would operate to consumers’ long-term detriment by insulating these companies from competitive pressure to lower costs.⁷⁰⁸ In addition, MCI argues that ILECs are not entitled to a guaranteed complete recovery of their past investments, any more than is any other competitive firm.⁷⁰⁹ Teleport further contends that prior investment is not an implicit subsidy and an ILEC’s ability to recover its investment will not be hindered by the development of competition.⁷¹⁰

213. ITA/EMA argue that the collection of universal service support through interstate access charges would violate the express mandate of the 1996 Act that all universal service

⁷⁰² Ad Hoc Telecom. Users comments at 12.

⁷⁰³ Time Warner further comments at 32-33.

⁷⁰⁴ *See, e.g.*, Ad Hoc Telecom. Users comments at 6; California PUC reply comments at 5; Time Warner further comments at 31.

⁷⁰⁵ RUS reply comments at 1-3.

⁷⁰⁶ AT&T further comments at 23-26.

⁷⁰⁷ Section 251(f) of the 1996 Act exempts rural carriers with fewer than 2 percent of nationwide subscriber lines from complying with all of the interconnection requirements of subsections (b) and (c) of section 251.

⁷⁰⁸ Time Warner further comments at 31.

⁷⁰⁹ MCI reply comments at 11. *See also* ALTS reply comments at 1-2.

⁷¹⁰ Teleport reply comments at 5-6.

supports be made explicit.⁷¹¹ RUS also contends that the use of embedded costs fails to provide for the future evolution of telecommunications services and fails to ensure affordable service by ignoring probable revenue losses from the appearance of new entrants.⁷¹² AT&T also argues that this method would result in state commissions having to undertake frequent, unwieldy and expensive inquiries into the value and prudence of claimed costs.⁷¹³ TCI also argues that targeting the support only to high cost areas under the embedded costs approach will be difficult because ILECs report costs on a study area basis.⁷¹⁴

214. Use of ILEC costs for CLECs. Some ILEC commenters support the use of embedded costs to calculate assistance for ILECs to determine the universal service support they would receive, but oppose their use for calculating such support to CLECs.⁷¹⁵ Alaska Tel. claims that providing payments to a competitor based on the embedded costs of an incumbent is not lawful because it contends that the language of section 254 is explicit in limiting the use of universal service support “only for the provision, maintenance, and upgrading of facilities and services for which the support is intended.”⁷¹⁶ Minnesota Indep. Coalition contends that basing the support for CLECs on the incumbent’s embedded costs may lead to payments to the new competitors that are far in excess of the costs of providing service and that these payments would unreasonably subsidize new competitors and cause uneconomic investment.⁷¹⁷ SWBT argues that such a system of competition would not reflect the competitor’s actual costs, would reduce incentives for efficiency, would disadvantage ILECs by requiring cost studies, and would require continued monitoring and regulation.⁷¹⁸ Several other commenters, including IXCs, large LECs,

⁷¹¹ ITA/EMA comments at 11.

⁷¹² RUS reply comments at 1-3.

⁷¹³ AT&T further comments at 23-26. *See also* TCI further comments at 25-26.

⁷¹⁴ TCI further comments at 25-26.

⁷¹⁵ *See, e.g.*, Minnesota Indep. Coalition comments at 13; PacTel further comments at 30; RTC further comments at 18 (it is unlawful, uneconomic and unfair to base high cost payments to CLECs on the ILEC’s costs).

⁷¹⁶ Alaska Tel. further comments at 10.

⁷¹⁷ Minnesota Indep. Coalition comments at 10. *See also* NYNEX further comments at 24 (noting that because CLECs tend to concentrate initial entry on areas with loop costs below the statewide average cost, basing the support for a CLEC on the ILEC’s study area average book cost would give windfall profits to the competitor); PacTel further comments at 30.

⁷¹⁸ SWBT further comments at 23-24. At the same time, SWBT asserts that new entrants should only receive support for an area if an ILEC receives support, but limited to costs associated with its own facilities. Moreover, SWBT states that competitors should have the same reporting requirements as ILECs and be required to justify their own costs. It maintains that the ILEC’s costs should be the cap on support levels. It notes, however, that

and non-wireline telecommunication companies, also oppose the use of an ILEC's embedded costs as a basis for calculating the support to be provided to a CLEC for the same reasons they criticize the use of embedded costs generally.⁷¹⁹ Ameritech and NCTA maintain that the incumbent's embedded costs bear no relationship to the new entrant's costs.⁷²⁰ NYNEX, however, argues that the CLEC should use the ILEC's booked costs only if it offers universal service throughout the ILEC's study area.⁷²¹ Time Warner contends that, if the embedded costs methodology is maintained, CLECs should be allowed to use the ILEC's embedded costs in order for the fund to be competitively neutral.⁷²²

ii. Modify the Existing High Cost Assistance Fund

215. In General. Commenters in both the current proceeding and the CC Docket No. 80-826 proceeding have suggested modifications to the current system that would continue to use embedded costs to determine the level of support. The proposed modifications that appear to enjoy more widespread support include: adjusting the existing support formula by increasing the qualifying threshold; reducing the support percentages; eliminating specific ILECs from eligibility; excluding particular categories of administrative and overhead expenses for calculating loops; readjusting study areas; and changing the methodology of counting loops.

216. Increasing the threshold for receiving assistance. NYNEX contends that the current threshold is too low to distinguish a high cost area from an average cost area effectively.⁷²³ AT&T, Time Warner, and Citizens Utilities join NYNEX in supporting raising the eligibility threshold from the current 115 percent to 130 percent⁷²⁴ above national average loop

allowing a new entrant to use an ILEC's costs would be simple to administer, and each carrier would receive the same level of support.

⁷¹⁹ See, e.g., AT&T further comments at 7; AirTouch further comments at 26; Ameritech further comments at 26; Citizens Utilities further comments at 8; MCI further comments at 12; NCTA comments at 32-33; Sprint further comments at 7; TCI further comments at 25-26; U S West further comments at 13.

⁷²⁰ NCTA comments at 32-33; Ameritech further comments at 26.

⁷²¹ NYNEX further comments at 20.

⁷²² Time Warner further comments at 27.

⁷²³ NYNEX further comments at 18-20.

⁷²⁴ This would be the approximate equivalent of one standard deviation above national average loop costs per-line.

costs per-line to target the support more effectively.⁷²⁵ In response to the *80-286 NPRM*, the Maine PUC and Vermont DPS agreed with this modification because it would more accurately target funding.⁷²⁶ In the *80-286* proceeding, SWBT, however, opposed increasing the per-line threshold because it claimed that this would shift over \$200 million to the state jurisdiction and would harm small ILECs.⁷²⁷ Century argued in the *80-286* proceeding that increasing the threshold does not better target high cost assistance, but simply reduces the size of the fund.⁷²⁸

217. Lower the high cost fund payout percentages. Citizens Utilities proposes that the current payout percentages of up to 75 percent⁷²⁹ recovery that applies when an ILEC with 200,000 or fewer loops has per-loop costs in excess of 150 percent of the national average be reduced in order to encourage efficiencies in operation.⁷³⁰ In response to the *80-286 NPRM*, GVNW argued that reducing the payout percentage to 70 percent will reduce the size of the fund.⁷³¹ Arvig Enterprises in the *80-286* proceeding suggested that the current payout percentage be reduced to 65 percent to eliminate the perception that current cost methodologies discourage efficient operation.⁷³² In response to the *80-286 NPRM*, SWBT, however, contended that reducing the recovery level in this manner violated the Commission's proper targeting principle by reducing support to those companies most in need of assistance.⁷³³

⁷²⁵ See, AT&T further comments at 2-4, App. A; Citizens Utilities further comments at 6-7; NYNEX further comments at 18-20; Time Warner further comments at 28. These four commenters also continue to oppose the use of embedded costs in calculating the support levels. See also Bledsoe Tel. *80-286 NPRM* comments at 5.

⁷²⁶ Maine PUC *80-286 NPRM* comments at 3; Vermont DPS *80-286 NPRM* comments at 22. See also Ad Hoc Telecom. Users *80-286 NPRM* comments at 12; Frontier *80-286 NPRM* comments at 6-9; Sprint *80-286 NPRM* comments at 10-14; Teleport *80-286 NPRM* comments at 16-18; Time Warner further comments at 28.

⁷²⁷ SWBT *80-286 NPRM* comments at 46-52, Att. 1. See also Ohio PUC *80-286 NPRM* comments at 9-11.

⁷²⁸ Century *80-286 NPRM* comments at 18-21

⁷²⁹ If a company has 200,000 or fewer lines in its study area, for its loop costs in excess of 150 percent of the national average, an additional 75 percent of the LEC's costs may be recovered from the interstate jurisdiction. As 25 percent of its loop costs are already recoverable under the regular jurisdictional separations rules, the additional 75 percent support from the high cost assistance fund allows that LEC to recover 100 percent of their incremental loop costs in excess of the national average from the interstate jurisdiction.

⁷³⁰ Citizens Utilities further comments at 6-7. See also Great Plains *80-286 NPRM* comments at 111-12; MCI *80-286 NPRM* comments at 10-16.

⁷³¹ GVNW *80-286 NPRM* comments at 34.

⁷³² Arvig *80-286 NPRM* comments at 4.

⁷³³ SWBT *80-286 NPRM* comments at 46-52, Att. 1. See also GTE *80-286 NPRM* comments at 43-52; North Carolina UC *80-286 NPRM* comments at 3-4.

218. Eliminate the inclusion of administrative costs. To integrate efficiency incentives, AT&T recommends eliminating the inclusion of administrative costs in the calculations of loop costs receiving high cost support.⁷³⁴ Ad Hoc Telecom. Users contends that administrative expenses, such as advertising and sales, should be eliminated because they are not necessary for the provision of universal service.⁷³⁵ New York DPS also advocates eliminating the inclusion of any costs not necessarily related to the provision of subscriber loops.⁷³⁶ Missouri PSC proposes that, instead of using actual administrative costs, an average administrative cost per-line imputed to the carrier should be used to prevent ILECs from obtaining high cost support for excessive administrative costs.⁷³⁷ Meanwhile, SDITC recommends replacing the compensation of administrative expenses with compensation for "telephone plant investment" to encourage development of advanced telecommunications facilities in all areas.⁷³⁸ NECA, however, suggests that, if the Commission is concerned about excessive levels of general and administrative expenses in the high cost assistance fund, the Commission could consider using statistical measures, such as a two-standard-deviation test to limit the amount of such expenses.⁷³⁹

219. Eliminate *de minimis* loop cost support. AT&T and Time Warner propose that high cost assistance to LECs receiving less than \$1.00 in universal service support per loop be eliminated to reduce the size of the fund.⁷⁴⁰ Maine PUC also favors this proposal on the basis that these payments are too low to make much difference to the recipients.⁷⁴¹ In response to the 80-286 NPRM, Cincinnati Bell and SWBT also supported elimination of *de minimis* assistance since applying this modification to large ILECs will pose the least potential harm to small LECs, while

⁷³⁴ AT&T further comments at 2-4, App. A. *See also* ACTA 80-286 NPRM comments at 9; MFS 80-286 NPRM comments at 12; Sprint 80-286 NPRM comments at 10-14 (arguing that this will help deter "gold plating"); Washington UTC further comments at 17.

⁷³⁵ Ad Hoc Telecom. Users comments at 12. *See also* MCI 80-286 NPRM comments at 10-16.

⁷³⁶ New York DPS comments at 6. *See also* NASUCA 80-286 NPRM comments at 11-12; Nebraska PSC 80-286 NPRM comments at 7.

⁷³⁷ Missouri PSC comments at 9. *See also* Florida PSC 80-286 NPRM comments at 9-10.

⁷³⁸ SDITC reply comments at 3, 7.

⁷³⁹ NECA further comments at 19. *See also* Pacific Bell 80-286 NPRM comments at 6; USTA 80-286 NPRM comments at 24-25.

⁷⁴⁰ AT&T further comments at 2-4, App. A; Time Warner further comments at 28. *See also* MCI 80-286 NPRM comments at 10-16.

⁷⁴¹ Maine PUC comments at 10. *See also* Alaska PUC 80-286 NPRM comments at 16-17; Iowa Utilities Board 80-286 NPRM comments at 2-5; Nebraska PSC 80-286 NPRM comments at 7-10.

still reducing the size of the high cost support mechanism.⁷⁴² In their response to the 80-286 NPRM, however, GTE, Pacific Bell, and BellSouth opposed eliminating *de minimis* loop cost support.⁷⁴³ BellSouth contended that the Commission's proposal to withdraw assistance to ILECs receiving less than \$1.00 per month is predicated on the "fiction" that, if the carrier is large, it can internalize the subsidies. BellSouth said this "easy way out" is no longer available and argued that, if the Commission eliminates high cost support below \$1.00, the rules should be modified to permit the eliminated amount to be assessed as an end user surcharge.⁷⁴⁴

220. Eliminate or reduce support to large carriers. AT&T, Time Warner, and SDITC promote the proposal of disqualifying Tier 1 LECs⁷⁴⁵ from receiving high cost support to target the support more appropriately.⁷⁴⁶ In response to the 80-286 NPRM, ICORE recommends disqualifying Class 1 and Class 2 LECs from eligibility to target funding to smaller ILECs.⁷⁴⁷ Alaska PUC supported the adoption of a sliding-scale distinction between small and large ILECs to target high cost support better.⁷⁴⁸ Missouri PSC also supported implementing a sliding scale in the 80-286 NPRM proceeding on the basis that it would eliminate the need to reconsider the distinction between large and small companies.⁷⁴⁹ In addition, Montana PSC and New York DPS stated that limiting the higher levels of assistance to study areas with 100,000 lines or less might be more consistent with the goal of targeting assistance to smaller LECs.⁷⁵⁰ Frontier

⁷⁴² Cincinnati Bell 80-286 NPRM comments at 10; SWBT 80-286 NPRM comments at 46-52, Att. 1.

⁷⁴³ GTE 80-286 NPRM comments at 43-52.

⁷⁴⁴ BellSouth 80-286 NPRM comments at 20-23.

⁷⁴⁵ For tariff review purposes, the term Tier 1 LEC has traditionally referred to a company having annual revenues from regulated operations of \$100 million or more. For accounting purposes, the Commission uses the terms Class A and B companies as defined in 47 C.F.R. § 32.11(a)(1) and (2) to differentiate large and small carriers. Pursuant to section 402(c), the revenue threshold of Class A LECs has been indexed to inflation using the Gross Domestic Chain-Type Price Index (GDP-CPI). See, Implementation of the Telecommunications Act of 1996, Reform of Filing Requirements and Carrier Classifications, *Order and Notice of Proposed Rulemaking*, CC Docket 96-193, FCC 96-370 (Sept. 12, 1996).

⁷⁴⁶ SDITC reply comments at 8; AT&T further comments at 2-4, App. A; Time Warner further comments 29. See also NCTA 80-286 NPRM comments at 2, 23.

⁷⁴⁷ ICORE 80-286 NPRM comments at 16-17.

⁷⁴⁸ Alaska PUC 80-286 NPRM comments at 17-18. See also TCA 80-286 NPRM comments at 15-17.

⁷⁴⁹ Missouri PSC 80-286 NPRM comments at 13-16.

⁷⁵⁰ Montana PSC 80-286 NPRM comments at 5-6; New York DPS 80-286 NPRM comments at 7-8. See also Northeast Florida Tel. Coop. 80-286 NPRM comments at para. 42.

recommended capping the amount of assistance to study areas with 50,000 or less lines.⁷⁵¹ Roseville Tel., however, opposed limiting higher levels of assistance to study areas with 100,000 or fewer lines, arguing that to suggest that large companies serving high cost areas do not need high cost support assumes the large company's ability to continue internal subsidies from rates in low cost areas to rates in high cost areas. It stated that it cannot be assumed that this situation will continue in the face of growing competition.⁷⁵²

221. Readjust study areas. NYNEX states that some large carriers have been able to qualify for assistance intended for small carriers by maintaining small study areas within a state. Thus, it recommends combining study areas within a state that are owned by the same ILEC to apply the high cost assistance mechanisms uniformly and consistently.⁷⁵³ Missouri PSC also promotes combining such study areas because it contends that the analysis of such broad areas will best reflect the overall circumstances of each ILEC. It explains that currently smaller study areas might permit a large ILEC to receive high cost assistance related to its high cost areas even though the ILEC's overall costs were no higher than average.⁷⁵⁴ In response to the 80-286 NPRM, GSA, however, opposed this proposal on the basis that it does not address the problem of internal subsidization of supporting high cost areas with revenues from low cost areas.⁷⁵⁵ New York DPS also opposed combining loop costs for affiliated companies within a state because several small affiliated companies operate in New York and each company operates in a distinct service territory and charges rates unique to that company.⁷⁵⁶ Pennsylvania PUC also stated that it was opposed to combining all affiliated study areas in a state because this would immediately disqualify large carriers from high cost assistance even though they have high cost areas within a study area.⁷⁵⁷

222. Citizens Utilities and BellSouth recommend using a smaller geographic area than a

⁷⁵¹ Frontier 80-286 NPRM comments at 6-9.

⁷⁵² Roseville Tel. 80-286 NPRM comments at 5-9. *See also* Vitelco reply comments at 10-11.

⁷⁵³ NYNEX further comments at 19. *See also* Bell Atlantic 80-286 NPRM comments at 8-11; MCI 80-286 NPRM comments at 10-16; AT&T further comments at 2-4, App. A.

⁷⁵⁴ Missouri PSC comments at 8. *See also* Iowa Utilities Board 80-286 NPRM comments at 2-5; Nebraska PSC 80-286 NPRM comments at 7.

⁷⁵⁵ GSA 80-286 NPRM comments at 6-7.

⁷⁵⁶ New York DPS 80-286 NPRM comments at 6-7.

⁷⁵⁷ Pennsylvania PUC 80-286 NPRM comments at 11-14.

study area, such as a wire center,⁷⁵⁸ as the basis for determining eligibility to target the support better and reduce the size of the fund.⁷⁵⁹ Cincinnati Bell, in response to the *80-286 NPRM*, stated that wire centers are appropriate because they are a compromise between study areas and CBGs.⁷⁶⁰ Also, Ameritech argued that collecting data by wire center may be less difficult than collecting data by CBG.⁷⁶¹ BellSouth asserted that the use of a wire center as the geographic basis for determining support would eliminate the need to divide carriers into large and small categories.⁷⁶²

223. GTE proposes using a unit smaller than a wire center, such as a CBG, because, it states, this will result in better targeted support, minimize the amount of support provided, and send more accurate price signals to new entrants.⁷⁶³ In response to the *80-286 NPRM*, California PUC also advocating the use of CBGs, stated that the CBG is small enough to make the costs of an area more homogenous while keeping the distribution of the fund manageable.⁷⁶⁴ Bell Atlantic, however, opposed the use of CBGs to identify high cost areas. It argued that attempting to administer a national CBG-based high cost support mechanism would become overly complex and cumbersome.⁷⁶⁵ BellSouth also opposed the use of CBGs. It claimed that CBGs have no relationship to a local service obligation, have nothing to do with local service areas as defined by state commissions, and have no operational significance to ILECs, and that no credible evidence exists that they bear any relationship to costs.⁷⁶⁶

224. Adjust Rate Structure. GTE advocates imposing a rate ceiling to achieve specific level of end-user prices. It proposes that the level of support must initially be based upon a

⁷⁵⁸ A wire center is the location where the telephone company terminates subscriber outside cable plant (i.e. their local lines) with the necessary testing facilities to maintain them.

⁷⁵⁹ BellSouth further comments at 32; Citizens Utilities further comments at 7. *See also* Ameritech *80-286 NPRM* comments at 13-14; Cincinnati Bell *80-286 NPRM* comments at 6; NASUCA *80-286 NPRM* comments at 8-9, 19; SWBT *80-286 NPRM* comments at 19, Att. 1.

⁷⁶⁰ Cincinnati Bell *80-286 NPRM* comments at 6.

⁷⁶¹ Ameritech *80-286 NPRM* comments at 13-14.

⁷⁶² BellSouth *80-286 NPRM* comments at 20-23.

⁷⁶³ GTE comments at 10. *See also* Jones Intercable *80-286 NPRM* comments at 4-5; Pennsylvania PUC *80-286 NPRM* comments at 7-9, 14-15; Sprint *80-286 NPRM* comments at 10-14.

⁷⁶⁴ California PUC *80-286 NPRM* comments at 4.

⁷⁶⁵ Bell Atlantic *80-286 NPRM* comments at 8-11.

⁷⁶⁶ BellSouth *80-286 NPRM* comments at 8-11, 26-28. *See also* Alaska PUC *80-286 NPRM* comments at 7-9.

measure of the cost of service with a rate ceiling.⁷⁶⁷ In the *80-286 NPRM* proceeding, the California PUC stated that it is addressing rate caps in certain areas as well.⁷⁶⁸ ALLTEL recommended implementing rate rebalancing to reduce the fund size by allowing ILECs with a per-line contribution of less than \$1.00 to increase their SLCs, especially if the proposal to eliminate *de minimis* support is adopted.⁷⁶⁹

225. Implement additional accounting safeguards. Washington UTC proposes that the Commission implement additional accounting safeguards to book, track, and report appropriate revenues to explicit accounts to ensure that high cost funds are used for intended purposes.⁷⁷⁰

226. Make the support portable. BellSouth and AT&T propose making the universal service support fully "portable" so that the support should move with the customer. They state that this will encourage competition and eventually reduce end-user rates for local service.⁷⁷¹

227. Adopt an indexed cap. AT&T recommends adopting an indexed cap on the growth of the universal service support to reduce the size of the fund and encourage efficient operation.⁷⁷² In response to the *80-286 NPRM*, Alaska PUC expressed concern that a permanent cap would reduce support available to needy companies in an arbitrary manner.⁷⁷³

228. Implement usage-sensitive support. ITC and ETEX Tel. Coop. propose implementing a "usage-sensitive" universal service mechanism, based on a company's embedded costs, that lowers the high cost assistance funding as the usage per-minute for each access line increases. These commenters contend that this methodology will promote toll and resale

⁷⁶⁷ GTE comments at 8-9. GTE also asserts that the support should fund the difference when the rate ceiling is less than the embedded costs. A competitive bidding process should replace this cost-based comparison to determine the support amount once carriers enter the market.

⁷⁶⁸ California PUC *80-286 NPRM* comments at 4.

⁷⁶⁹ ALLTEL *80-286 NPRM* comments at 7. *See also* BellSouth *80-286 NPRM* comments at 20-23; Citizens Utilities further comments at 7.

⁷⁷⁰ Washington UTC further comments at 16.

⁷⁷¹ BellSouth comments at 10-14; AT&T further comments at 20. *See also* Sprint *80-286 NPRM* comments at 10-14.

⁷⁷² AT&T further comments at 2-4, App. A. *See also* Frontier *80-286 NPRM* comments at 6-9; MCI *80-286 NPRM* comments at 10-16; Sprint *80-286 NPRM* comments at 10-14.

⁷⁷³ Alaska PUC *80-286 NPRM* comments at 17-18. *See also* USTA *80-286 NPRM* comments at 31-32; Vermont DPS *80-286 NPRM* comments at 27-28.

competition in rural areas while maintaining monopoly efficiencies of low-density rural areas.⁷⁷⁴

229. Change current assessment structure. Many commenters recommend changing the current assessment structure to promote competitive neutrality to make the contribution mechanism more equitable. For example, ACTA in the *80-286 NPRM* proceeding argued that preserving high cost assistance should not be the burden of one segment of the telecommunications industry, namely the interexchange segment.⁷⁷⁵ AT&T, GTE, NYNEX, and Lincoln propose that high cost support be funded on the basis of a single, uniform surcharge to all end-user telecommunications services. Thus, all telecommunications service providers, including IXC's, ILECs, CLECs, wireless carriers, and resellers, would finance high cost support.⁷⁷⁶ AT&T contends that this surcharge will foster greater efficiency and new entry that will result in lower prices for customers.⁷⁷⁷ Citizens Utilities recommends creating a contribution mechanism that assesses all interstate carriers, instead of just IXC's.⁷⁷⁸ In response to the *80-286 NPRM*, Nebraska PSC proposed that the current threshold should be eliminated and all telecommunications carriers should contribute to support high cost assistance based on a percentage of gross revenues that would "establish that large carriers support the fund but small carriers would also invest in the fund."⁷⁷⁹

230. Redefine current small and large company distinction. In response to the *80-286 NPRM*, Pennsylvania PUC and BellSouth supported changing the definition of a small study area to be one with 100,000 loops or fewer to target the support better.⁷⁸⁰ In order to achieve the goals of high cost support, however, Maine PUC recommends eliminating the 200,000 line distinction between large and small companies in defining the level of support.⁷⁸¹

231. Use of average loop counts. In response to the *80-286 NPRM*, Florida PSC,

⁷⁷⁴ ITC comments at 10; ETEX Tel. Coop. reply comments at 2.

⁷⁷⁵ ACTA *80-286 NPRM* comments at 9.

⁷⁷⁶ AT&T comments at 7; GTE comments at 8-9; Lincoln reply comments at 7; NYNEX further comments at 20.

⁷⁷⁷ AT&T comments at 8.

⁷⁷⁸ Citizens Utilities further comments at 7.

⁷⁷⁹ Nebraska PSC *80-286 NPRM* comments at 6.

⁷⁸⁰ BellSouth *80-286 NPRM* comments at 20-23; Pennsylvania PUC *80-286 NPRM* comments at 11-14. *See also* MCI *80-286 NPRM* comments at 10-16.

⁷⁸¹ Maine PUC comments at 9. *See also* Ohio PUC *80-286 NPRM* comments at 9-11; SWBT *80-286 NPRM* comments at 46-52, Att. 1; Vermont DPS *80-286 NPRM* comments at 22-27.

Montana PSC, and Nebraska PSC supported the determination of high cost support eligibility based on the average lines per year rather than on a count at the end of the year as a more accurate method to calculate loop costs.⁷⁸² In that proceeding, USTA contended that using the average number of lines over a year instead of the year end number would impose a substantial administrative burden on small exchange carriers that do not have mechanized line counts.⁷⁸³ USTA argued that this could also understate loop counts for carriers that are declining in size and overstate loop costs for growing carriers. USTA maintained that a better approach would be to permit exchange carriers involved in mergers and acquisitions to adjust expense levels for the year in which a transaction occurred to produce a consistent match between expenses and loops investment data.⁷⁸⁴

iii. DEM Weighting Program

232. Maintain existing DEM weighting program. Several commenters, including many small and rural ILECs, want the existing DEM weighting program to continue.⁷⁸⁵ Siskiyou argues that the DEM weighting program is a valid and appropriately focused program because switching costs are three or more times higher per access line in small rural exchanges than they are in larger exchanges.⁷⁸⁶ OITA-WITA explain that switching costs are higher for small ILECs because they are forced to buy components of a switch sized for 10,000 customers, even though they might be serving only 1,000 customers. Moreover, these commenters state that they are disadvantaged because they are too small to implement volume discounts.⁷⁸⁷ Some commenters argue that eliminating the DEM weighting program or combining it with the Federal universal service support would raise rural rates.⁷⁸⁸ Century also asserts that eliminating or modifying this program would make universal service support methods less specific and violate the 1996 Act "by creating an internal cross-subsidy between distinct service elements that [flies] in the face of the

⁷⁸² Florida PSC 80-286 NPRM comments at 9-11; Montana PSC 80-286 NPRM comments at 5; Nebraska PSC 80-286 NPRM comments at 7. *See also* ACTA 80-286 NPRM comments at 12-13.

⁷⁸³ USTA 80-286 NPRM comments at 25.

⁷⁸⁴ *Id.* at 25.

⁷⁸⁵ *See, e.g.*, Mon-Cre comments at 3-4; New Hope Tel. comments at 3-4; RTC comments at 15; Telec Consulting comments at 6-8; West Virginia Consumer Advocate comments at 9-10.

⁷⁸⁶ Siskiyou reply comments at 3.

⁷⁸⁷ OITA-WITA comments at 7-10. *See also* Northeast Florida Tel. Co. 80-286 NPRM comments at para. 10; Rural Iowa Indep.Tel. Ass'n 80-286 NPRM comments at 1.

⁷⁸⁸ Century comments at 12. *See also* Alaska Tel. comments at 4; ICORE comments at 10-12; Mid-Rivers Tel. Coop. 80-286 NPRM comments at 2-6.

Act's preference for unbundling in a competitive environment."⁷⁸⁹ In addition, ICORE contends that the DEM weighting program is not a subsidy or assistance mechanism.⁷⁹⁰

233. Modify the current DEM weighting rule. Commenters proposed several modifications to the current rule. NYNEX, Maine PUC, Citizens Utilities, BellSouth, and New York DPS recommend combining switching and loop costs in one high cost "fund" to make the support for switching costs explicit by removing the revenue requirements associated with it from smaller ILECs' interstate switched access rates.⁷⁹¹ Maine PUC also adds that this will reduce the size of the fund because companies with high loop costs but low switching costs will not receive as much assistance.⁷⁹² In response to the *80-286 NPRM*, Colorado PUC, however, opposed combining DEM weighting with high cost support. It claimed that this action would merely shift the targeted support among recipients and it would be particularly harmful to small ILECs.⁷⁹³ NECA and ICORE also argue that DEM weighting should not be combined with the universal service support mechanisms because they serve different purposes and the administration of both programs would be burdensome.⁷⁹⁴ Instead, they advocate replacing the current stepped formulas to calculate DEM weighting amounts for study areas between 10,000 and 50,000 access lines using a "sliding-scale" approach.⁷⁹⁵ United Utilities argues that the current program should be changed to more accurately reflect the use of Category 3 switching costs,⁷⁹⁶ the amount of Category 3 switching costs eligible for universal service support should be determined and the DEM weighting factors should be revised.⁷⁹⁷

234. Eliminate the DEM weighting program. New Jersey Advocate, Time Warner,

⁷⁸⁹ Century comments at 14 (*citing* 47 U.S.C. § 251 (c)(3)).

⁷⁹⁰ ICORE comments at 10-12.

⁷⁹¹ BellSouth comments at 10-14; Maine PUC comments at 11; New York DPS comments at 7; Citizens Utilities further comments at 6-7; NYNEX further comments at 22. *See also* GSA *80-286 NPRM* comments at 3-4; Pacific Bell *80-286 NPRM* comments at 1; Staurulakis comments at 7; Texas PUC *80-286 NPRM* comments at 3-4; Lincoln reply comments at 4.

⁷⁹² Maine PUC comments at 11.

⁷⁹³ Colorado PUC *80-286 NPRM* comments at 7-8.

⁷⁹⁴ ICORE comments at 10-12; NECA further comments at 18-19.

⁷⁹⁵ ICORE comments at 10-12; NECA further comments at 18-19. *See also* Missouri PSC *80-286 NPRM* comments at 6-7; South Dakota PUC *80-286 NPRM* comments at 1; USTA *80-286 NPRM* comments at 41.

⁷⁹⁶ Category 3 switching costs are the costs associated with operating local switching equipment. *See* 47 C.F.R. § 36.125.

⁷⁹⁷ United Utilities comments at 3-4.

AT&T, and Lincoln contend that the DEM weighting mechanism creates an implicit subsidy because it is embedded in interstate access charges, and is therefore, contrary to the 1996 Act's mandate that all subsidies be explicit.⁷⁹⁸ AT&T further argues that the current DEM weighting mechanism has "no economically sound cost-based or need-based eligibility requirement" and recommended eliminating the DEM weighting program altogether.⁷⁹⁹ Time Warner also contends that it is unclear that the average cost per access line varies significantly with switch size and that there is no evidence that eliminating the support provided through DEM weighting would make local service less affordable.⁸⁰⁰ Moreover, New Jersey Advocate argues that subsidizing switching costs may no longer be appropriate because central office switches are now largely special purpose computers that are widely available at very standardized prices.⁸⁰¹ Meanwhile, Lincoln questions the need to subsidize any switching costs because it maintains that switching is a service, and asserts that services do not need to be subsidized. It states that only access to services should receive a subsidy.⁸⁰² Thus, these commenters recommend eliminating the DEM weighting program.⁸⁰³

235. In response to the *80-286 NPRM*, Sprint argued that DEM weighting should be eliminated because modern digital switches have almost completely eliminated the switching cost differentials between large and small study areas that originally motivated the adoption of DEM weighting and that this program creates a powerful economic incentive to miscategorize certain equipment costs in order to qualify for additional subsidies.⁸⁰⁴ Teleport, Ad Hoc Telecom. Users, and GCI in the *80-286 NPRM* proceeding recommended a gradual elimination of this program over five years to comply with the principles stated in the *80-286 NPRM*.⁸⁰⁵

iv. Long Term Support

⁷⁹⁸ New Jersey Advocate comments at 12; Lincoln reply comments at 4; AT&T further comments at 2-4, App. A; Time Warner further comments at 28.

⁷⁹⁹ AT&T further comments at 2-4, App. A. *See also* Frontier *80-286 NPRM* comments at 3; MCI *80-286 NPRM* comments at 3-7.

⁸⁰⁰ Time Warner further comments at 40.

⁸⁰¹ New Jersey Advocate comments at 12.

⁸⁰² Lincoln reply comments at 4.

⁸⁰³ New Jersey Advocate comments at 12; AT&T further comments at 2-4, App. A; Time Warner further comments at 28.

⁸⁰⁴ Sprint *80-286 NPRM* comments at 7-8.

⁸⁰⁵ Ad Hoc Telecom. Users *80-286 NPRM* comments at 1; GCI *80-286 NPRM* comments at 2-5; Teleport *80-286 NPRM* comments at 4-5.

236. No party appears to have attempted to refute the NPRM's tentative conclusion that LTS represents an impermissible implicit support mechanism.⁸⁰⁶ A few commenters assert that the collection of LTS could be restructured to be consistent with the 1996 Act's non-discrimination requirements.⁸⁰⁷ Missouri PSC argues that retaining the LTS mechanism in some form will increase interexchange competition in rural and high cost areas.⁸⁰⁸ Several argue that any elimination of LTS should occur over time or through some other type of transition mechanism.⁸⁰⁹ Finally, a few commenters contend that proposals to change LTS payments are outside the scope of the universal service proceeding.⁸¹⁰

c. Proxy Models

237. In General. Numerous parties propose to determine the cost of service on which to base universal service support on a proxy model, rather than embedded costs.⁸¹¹ They argue that the use of forward-looking costs in a proxy model, rather than historic costs, best represents the costs for providing universal service over an efficient network.⁸¹² NTIA argues that forward-looking costs should be used since a subsidy based on book costs weakens the carrier's incentive to be efficient in the deployment of its network.⁸¹³ Proponents also argue that use of a proxy model is competitively neutral because it does not use the costs of the incumbent carrier to

⁸⁰⁶ See NPRM at para. 115.

⁸⁰⁷ Missouri PSC comments at 21; Pennsylvania PUC comments at 24; Winnebago Tel. comments at 1.

⁸⁰⁸ See Missouri PSC comments at 20-21. Missouri PSC observes that the LTS system has historically served to reduce pressure on IXCs to de-average rates. *Id.* The 1996 Act requires IXCs to charge geographically averaged rates, however, and the Commission recently adopted rules implementing this provision. 47 U.S.C. § 254(g); See also *Policy and Rules Concerning the Interstate, Interexchange Marketplace*, Report and Order, CC Docket No. 96-61, FCC 96-331 (rel. August 7, 1996). Missouri PSC argues that, under a mandate to deaverage rates and absent access charges equalized by LTS, IXCs might choose not to serve high cost areas. Missouri PSC comments at 21.

⁸⁰⁹ Citizens Utilities comments at 7-9; Florida PSC comments at 22; Montana Indep. Telecom. comments at 7; West Virginia Consumer Advocate comments at 12-13.

⁸¹⁰ Rural Iowa Indep. Tel. Ass'n comments at 6; Fred Williamson comments at 17-18.

⁸¹¹ See, e.g., Citizens Utilities comments at 13-14; Frontier comments at 6; Ad Hoc Telecom. Users reply comments at 6.

⁸¹² See, e.g., ALTS comments at 11; Ohio PUC comments at 5; AARP reply comments at 19; AirTouch reply comments at 5.

⁸¹³ NTIA reply comments at 16-17. See also TCI comments at 11-12; CPI reply comments at 7.

determine support levels, but instead uses the projected costs for an efficient new entrant into that market.⁸¹⁴ Some parties, however, note that until proxy models incorporate wireless technology cost structures their results may be too high because they are not predicated on the use of the most efficient network to deliver services.⁸¹⁵ Commenters also argue that use of a proxy model is administratively efficient since it would not require incumbent carriers to keep accounting records at levels below the current study area and would not require new entrants, who may not have reporting requirements, to file cost reports with regulators.⁸¹⁶

238. Other parties contend, however, that proxy models do not satisfy the requirements of the 1996 Act that support be specific, predictable, and sufficient.⁸¹⁷ They argue that, unless the universal service support covers the embedded cost of the carrier to provide service in the area, it is not sufficient support under the 1996 Act.⁸¹⁸ Opponents state that, because the models project the costs of facilities needed to connect the serving wire center to customers if the network were to be built now, rather than the recorded costs of facilities that are being used, proxy models are not based on a "real" network.⁸¹⁹ They argue that incumbent carriers often cannot realize the efficiencies assumed in a proxy model because they have built their networks over time.⁸²⁰ They also argue that the proxy models are not reliable, and point to the divergent costs calculated by the various proxy models for the same service area and the difference between those results and the costs currently embedded by the carriers for determining universal service support today.⁸²¹ GSA claims that, because of the wide variations in the costs calculated through proxy models and the historic costs of service, some high cost areas that need support would not be served because the proxy indicates no subsidy is warranted, while other areas would get unneeded support.⁸²²

⁸¹⁴ See, e.g., Florida PSC comments at 10; NYNEX comments at 10; MFS reply comments at 6.

⁸¹⁵ Texas OPUC comments at 14; WinStar reply comments at 2.

⁸¹⁶ See, e.g., Citizens Utilities comments at 13; *contra* Telec Consulting (FCC will face administrative burdens in handling complaints by those who claim they are aggrieved by proxy cost determination); CPI reply comments at 7; Cathey, Hutton reply comments at 7.

⁸¹⁷ See 47 U.S.C. § 254(b)(5), (d).

⁸¹⁸ See, e.g., Rural Iowa Indep. Tel. Ass'n comments at 4; Cathey, Hutton reply comments at 6-7; Century reply comments at 7; Minnesota Indep. Coalition reply comments at 7-8.

⁸¹⁹ See BellSouth comments at 2; CBT comments at 9.

⁸²⁰ See Fred Williamson comments at 12-13; Dell Tel. reply comments at 6.

⁸²¹ See Mon-Cre comments at 3-4; Minnesota Indep. Coalition reply comments at 11-12.

⁸²² GSA reply comments at 11.

239. Some commenters also argue that, before a proxy model can be used, it will need to be thoroughly tested and produce results that are consistent with a carrier's embedded costs.⁸²³ Ameritech argues that, before a proxy model is adopted, the Commission should undertake a systematic evaluation of the models and put the results in the public record for industry-wide review.⁸²⁴ ITC argues that support should be cost-based so that carriers are obligated to install plant as a condition precedent to receiving any funding.⁸²⁵ Some parties also expressed concern that the results of proxy models, unlike embedded costs, are not auditable.⁸²⁶ Western Alliance is concerned that the use of proxies will discourage investment in high cost areas.⁸²⁷

240. Small, rural telephone companies are particularly concerned about the use of a proxy model to determine universal service support for high cost areas.⁸²⁸ In addition to the general concerns set out above, the small companies argue that the proxy models are not appropriate for them because these were developed for large companies.⁸²⁹ According to the small companies, the averages used in a proxy model would adversely affect them since they have a smaller customer base over which to spread costs.⁸³⁰ Consequently, they contend that only large companies should be required to use proxy models.⁸³¹

241. Some of the LEC proponents of the proxy models agree, and propose that proxy models be used only for large carriers, with small, rural carriers continuing to use their embedded costs to determine universal service support levels.⁸³² Winnebago Tel. argues that small telephone

⁸²³ See, e.g., Ardmore Tel. comments at 4; Blountsville Tel. comments at 4; Farmers Tel. comments at 3-4.

⁸²⁴ Ameritech comments at 12.

⁸²⁵ ITC comments at 4.

⁸²⁶ See Harris comments at 10; Michigan Library Ass'n comments at 10.

⁸²⁷ Western Alliance comments at 5. See also GVNW comments at 12.

⁸²⁸ See, e.g., SDITC reply comments at 3,5; Siskiyou reply comments at 3-4; TCA reply comments at 5; Virginia CC reply comments at 2.

⁸²⁹ See, e.g., CITA comments at 4; Telec Consulting comments at 8; Century reply comments at 7.

⁸³⁰ See Montana Tel. Ass'n comments at 5-6; Park Region Tel. comments at 4.

⁸³¹ See, e.g., Evans Tel. comments at 12; Alaska PUC further comments at 3-4; USTA cost model comments at 5.

⁸³² See, e.g., NYNEX comments at 10 (asserting that BCM should only be used to calculate support amounts for LECs subject to price cap regulation); PacTel further comments at 32 (stating that bifurcation may be most practical way to move to new support mechanism); U S West further comments at 15-16 (urging that price cap company support be based on proxy model, while non-price cap companies receive support based on embedded

companies should be allowed, but not required, to use proxy models.⁸³³ CPI proposes the use of three groupings for carriers. Large carriers, those with over 2 percent of the nation's access lines, would move to a total service long run incremental cost (TSLRIC) approach immediately. The smallest LECs would continue to use embedded costs for one year, and then be transitioned to TSLRIC over seven years. Medium-size carriers, those with less than 2 percent of the nation's access lines, would have a four-year transition to a TSLRIC approach.⁸³⁴

242. Other parties argue that the same methodology should be used to determine universal support for all carriers, although they diverge over which system should be used -- embedded costs or proxy models.⁸³⁵ Ameritech argues that universal service support should be based on the characteristics of the service area, not the size of the carrier.⁸³⁶ GCI and MCI raise concerns that a bifurcated system could encourage the sale of exchanges to maximize the subsidy received for those areas.⁸³⁷ Some parties argue that small carriers should not be required to use a proxy model initially, either from a concern about potential disruption to the carriers' support or because the proxy models need to be further refined for use for small carriers before they move to proxy models.⁸³⁸ OITA-WITA argues that the transition should not occur until the proxy models have been refined to reflect the cost structure of small companies.⁸³⁹ Other commenters propose that companies move from embedded costs to a proxy model when a competitor enters the market or after a set period of time.⁸⁴⁰ Most parties agree that, if a bifurcated system is used, the

costs).

⁸³³ Winnebago Tel. comments at 1. *See also* Montana Tel. Ass'n comments at 6; Vitelco reply comments at 5; GTE further comments at 34-35 (arguing that company should have one-time option to proxy model determination of costs).

⁸³⁴ CPI *ex parte* at 5-6 (Oct. 4, 1996).

⁸³⁵ *See, e.g.*, BellSouth further comments at 36; Bell Atlantic further comments at 10; NCTA further comments at 8.

⁸³⁶ Ameritech further comments at 28. *See also* Pacific Telecom comments at 6 (asserting that the Joint Board and Commission should separately undertake to study the proxy models).

⁸³⁷ GCI further comments at 9; MCI further comments at 14.

⁸³⁸ OITA-WITA comments at 13.

⁸³⁹ *See, e.g.*, Century further comments at 20; Maine PUC further comments at 18-19; RTC further comments at 20.

⁸⁴⁰ *See, e.g.*, AT&T further comments at 27 (transition when another carrier determined to be eligible for support); CFA further comments at 15 (three year transition); MCI further comments at 15 (three year transition); NCTA further comments at 8 (three year transition).

Commission should apply the 1996 Act's definition of "rural telephone company"⁸⁴¹ to determine which telephone companies would continue to draw universal service support based on their book costs.⁸⁴²

243. Parties in Alaska and insular areas are particularly concerned that the proxy models are inappropriate for determining the costs of service for those areas. These groups note that Alaska and insular areas were not even included in the original BCM.⁸⁴³ U S West notes that BCM2 includes all fifty states, as well as Puerto Rico, the Virgin Islands and Micronesia.⁸⁴⁴ Alaska PUC claims, however, that the conditions in Alaska are so unique (e.g., permafrost, glaciers, extreme remoteness) that the factors used in the BCM2 cannot adequately capture the costs incurred in serving Alaska.⁸⁴⁵ Likewise, Vitelco argues that insular areas are not adequately represented because none of the models reflects their unique circumstances, such as the added corrosion from sea water or damage from hurricanes and other tropical storms.⁸⁴⁶ Because of those unique characteristics, those parties argue that insular areas and Alaska should continue to use embedded costs to calculate universal service support, even if other areas use proxy models.⁸⁴⁷

244. Some of the states have noted that they are currently reviewing versions of the proxy models proposed in this proceeding in their state proceedings on universal service. The California PUC filed an Administrative Law Judge's (ALJ) proposal that discussed a version of the

⁸⁴¹ 47 U.S.C. § 153(37).

⁸⁴² *See, e.g.*, Alaska Tel. further comments at 9; Citizens Utilities further comments at 10; NECA further comments at 22; RTC further comments at 20. *But see* AT&T further comments at 27 (arguing in favor of the use of the definition in 47 U.S.C. § 251(f)(1)); U S West further comments at 16 (arguing that whether company is regulated under price caps should determine whether proxy model defines universal service support).

⁸⁴³ *See, e.g.*, Alaska Tel. comments at 5; CNMI comments at 17; Matanuska Tel. Ass'n comments at 2-3.

⁸⁴⁴ U S West further comments at 19. *See also* Sprint further comments at 12. MCI also submitted estimates for Alaska, Hawaii, Puerto Rico, Guam, and the Mariana Islands using the Hatfield model. MCI notes, however, that the cost per line was approximated by taking the weighted average for the RBOCs in the Hatfield model, and are not specific to those areas. Consequently, according to MCI, the estimates for these areas are only "ballpark estimates." Letter from Kimberly M. Kirby, Senior Manager, FCC Affairs, MCI, to William F. Caton, Acting Secretary, FCC (dated Oct. 25, 1996).

⁸⁴⁵ Alaska PUC cost model comments at 3.

⁸⁴⁶ Vitelco further comments at 9-11.

⁸⁴⁷ *See, e.g.*, Alaska Tel. further comments at 11-12; Alaska PUC further comments at 5-8; Puerto Rico Tel. Co. further comments at 13-14. *See also* NYNEX further comments at 33 (to extent insular areas and Alaska are served by small telephone companies, they should continue to have support based on embedded costs).

Hatfield model and the CPM that were filed in the state proceeding.⁸⁴⁸ The ALJ proposed to use the CPM, with modifications to the model's inputs, as the basis for determining the costs on which to base the California state universal service fund for large carriers in the state.⁸⁴⁹ (Subsequently, the California PUC adopted an order which uses the CPM to calculate the cost of service in particular geographic areas in California, but makes several modifications to the model as submitted by PacTel in that proceeding.⁸⁵⁰) New York and Pennsylvania are also currently reviewing versions of the Hatfield model that have been submitted in their respective state universal service proceedings.⁸⁵¹

245. The Benchmark Costing Model. The BCM was filed in the record of the CC Docket No. 80-286 proceeding, and was incorporated into this proceeding.⁸⁵² The BCM is an engineering cost model designed to produce "benchmark" costs for the provision of basic telephone service in each CBG within a state. According to its proponents, the model uses current technology and efficient engineering and design criteria to build a state-of-the-art loop and switching network to serve consumers from existing incumbent switching locations.⁸⁵³ The model is meant to identify CBGs with higher than average costs of providing service.⁸⁵⁴

246. Its proponents explain that the BCM develops investment costs for loop plant and switches, and then adds an annual charge factor. The estimation of the outside plant cost begins with the determination of the distance between the center of the CBG and the nearest wire center. The feeder cable is sized on the basis of the number of loops to be served and an estimate of spare capacity. The fill factor, the number of wire pairs in use as a percent of the total wire pairs placed, determines the spare capacity. The distribution cable is sized based on the assumption that customers are uniformly distributed within the CBG. There is a separate fill factor for the distribution cable. The cost of support structures (conduit and poles) and placement (e.g.,

⁸⁴⁸ California PUC cost model comments (attaching Proposed Decision of ALJ Wong, Cal. P.U.C. R.95-01-020/I.95-01-021 (Aug. 5, 1996)).

⁸⁴⁹ Small carriers would remain under the current state universal service mechanism, which is based on their embedded costs as reported to the California PUC.

⁸⁵⁰ Cal. P.U.C. R.95-01-020/I.95-01-021 (Oct. 25, 1996).

⁸⁵¹ New York DPS comments at 7-8; Pennsylvania PUC comments at 6.

⁸⁵² See NPRM at para. 31.

⁸⁵³ See MCI comments at 10-11; NYNEX comments at Exh. A; Sprint comments at 12-14; U S West comments at 8.

⁸⁵⁴ See NYNEX comments at 10; Sprint comments at 12-13; U S West reply comments at 8-9; *but cf.* MCI comments at 10 (BCM can be used to determine the universal service support level).

digging the trenches) is determined by multiplying the cable investment by various factors. These factors are functions of soil conditions, depth of water table, and other geographic conditions. Switching costs are estimated assuming all lines are served by Northern Telecom DMS 100 digital switches. Costs include a fixed cost per switch plus a cost that varies according to the number of lines served.⁸⁵⁵ An annual charge factor for determining expenses and overhead loadings associated with basic telephone service is then applied to determine the cost of service for a CBG. The BCM presents monthly costs results using two alternative annual charge factors. One is based on historical accounting data, and the other is based on a Hatfield/MCI study.⁸⁵⁶

247. Several parties, including some of the BCM's proponents, suggest modifications to the model. MCI, for instance, notes that the BCM assumes a uniform distribution of households within a CBG. It states that this presumption is probably not true for rural areas.⁸⁵⁷ NCTA commissioned a study of the BCM by Economics and Technology, Inc. (ETI) that, while commending the proponents, suggests several changes to the BCM to correct what ETI terms key engineering/economic assumptions and input data upon which the BCM is constructed. Among the modifications proposed by ETI are: adjustments to the fill factors on the assumption that residential service does not require the excess capacity needed to offer other services, such as business service, and using a forward-looking, rather than historic, expense factor. ETI also argued that the BCM does not use an economic least cost method for determining the fiber-copper cross-over point in deciding how the feeder line would be deployed. ETI also states that the model unrealistically deploys DMS 100 switches in all instances and uses a historical cost per switch.⁸⁵⁸

248. In their reply comments, the proponents, while stating their continued support for the BCM, acknowledge some of these criticisms of the model, and state that many of those concerns will be addressed in a subsequent version of the BCM.⁸⁵⁹ They argue that it is inappropriate for parties to criticize the BCM for developing cost numbers that are different from the ILEC's embedded costs.⁸⁶⁰ U S West explains that the model was not meant to calculate the

⁸⁵⁵ See MCI Communications, Inc, NYNEX Corporation, Sprint/United Management Co., and U S West., Inc, *Benchmark Costing Model: A Joint Submission*, Copyright 1995, CC Docket No. 80-286, filed Dec. 1, 1995 at section IV.

⁸⁵⁶ See *Id.* at I-2; NYNEX comments at Exh. A, p.1.

⁸⁵⁷ MCI comments at 11.

⁸⁵⁸ NCTA comments at 9, Att. A ("The Cost of Universal Service: A Critical Assessment of the Benchmark Cost Model," Susan M. Baldwin, Lee Selwyn (April 1996)).

⁸⁵⁹ See MCI reply comments at 7-8; U S West reply comments at 5.

⁸⁶⁰ See MCI reply comments at 4-7; U S West reply comments at 3.

historic costs of service, but merely to identify high cost areas.⁸⁶¹ U S West notes that the BCM does not include many components necessary to provide local service, and that urban distribution costs are underestimated.⁸⁶² It also defends the use of CBGs, stating that CBGs should be used rather than wire centers. According to U S West, using wire centers would allow new entrants to receive high cost support without necessarily serving high cost customers, by serving only customers located near the wire center.⁸⁶³

249. The Benchmark Costing Model Version 2. On July 3, 1996, Sprint Corporation and U S West submitted BCM2.⁸⁶⁴ According to its proponents, BCM2 was developed to respond to the comments on the BCM in this proceeding and a series of workshops held by the proponents, and to address the misuse of the model as a proxy for historic costs.⁸⁶⁵ They contend that BCM2 significantly enhances the engineering and costing assumptions in the original version, and allows users to input their own underlying cost factors and user prices.⁸⁶⁶

250. BCM2 follows the same organizational structure as the original model, but makes several changes to the assumptions upon which the model is based. According to the proponents, BCM2, unlike the BCM, includes all cost elements necessary for the provision of basic telephone service. Among the changes made, BCM2 no longer assumes a uniform distribution of households in low-density areas. Instead it assumes that all households are located within 500 feet of either side of roadways and adjusts the CBGs to remove areas with little or no households. BCM2 also increases the feeder and distribution fill factors, and uses estimates of total residential lines and business lines rather than equating lines to households. The model now uses five different digital switch sizes, each with unique fixed or start-up costs. Urban cost elements, e.g., conduit, street cutting, boring, are now included. In addition, BCM2 uses four annual expense factors, which are based on 1995 ARMIS data. BCM2 constrains loop costs to be less than \$10,000.00; it assumes that wireless technologies would be an economically reasonable substitute for loops of higher costs.⁸⁶⁷

⁸⁶¹ U S West reply comments at 7.

⁸⁶² *Id.* at 8-9; U S West further comments at 24.

⁸⁶³ U S West reply comments at 3-4; U S West further comments at 24-25. *See also* Sprint further comments at 15.

⁸⁶⁴ *See* Letter from Jay C. Keithley, Sprint, and Glenn Brown, U S West, to William F. Caton, Acting Secretary, FCC, in regard to CC Docket 96-45 (dated July 3, 1996).

⁸⁶⁵ U S West further comments at 27; Sprint cost model comments at 6; U S West cost model comments at 3.

⁸⁶⁶ Sprint cost model comments at 6; U S West cost model comments at 3.

⁸⁶⁷ *See* Sprint cost model comments at 5-7; U S West cost model comments at 3-4.

251. Most of the commenters agree that the BCM2 is an improvement over the original version. BellSouth and GTE state that the cost numbers generated by BCM2 are close to their embedded costs of providing service.⁸⁶⁸ SWBT notes that the BCM2 shows significantly higher service costs than the original model.⁸⁶⁹ NECA filed studies, however, that show that the average loop cost calculated by BCM2 is higher than the average under the existing universal service support mechanism, and on a service area basis the loop costs calculated using BCM2 ranges from 90 percent below the current support levels to 728 percent above.⁸⁷⁰

252. NYNEX finds that, while BCM2 is an improvement, there are still further refinements that could be made to approximate the costs of the local network more closely. For example, NYNEX contends that BCM2 still does not take into account all of the additional costs incurred to install cable in urban areas.⁸⁷¹ AT&T states that BCM2 still has many of the problems of the original model, including unrealistic fill and capacity assumptions.⁸⁷² MCI complains that the source of the business line estimate used in BCM2 is not identified.⁸⁷³ Maine PUC argues that BCM2 still vastly underestimates the impact on loop length caused by slope.⁸⁷⁴ RTC and Maine PUC also question the model's assumption that households are located within 500 feet of a roadway, and that the model adequately identifies costs associated with terrain and other factors.⁸⁷⁵ The commenters also question the assumption in BCM2 that, if loop costs exceed \$10,000.00, wireless technologies would be used.⁸⁷⁶

253. In response to the Common Carrier Bureau's information request,⁸⁷⁷ the

⁸⁶⁸ BellSouth cost model comments at 3-4; GTE cost model comments at 5, 20. *See also* Maine PUC further comments at 23; *but cf.* Alaska PUC cost model comments at 5-6 (under BCM2, Alaska would receive substantially less universal support than the state receives under the current system).

⁸⁶⁹ SWBT further comments at 32.

⁸⁷⁰ NECA cost model comments at 5.

⁸⁷¹ NYNEX cost model comments at 6.

⁸⁷² AT&T cost model comments at 24.

⁸⁷³ MCI cost model comments at 5.

⁸⁷⁴ Maine PUC cost model comments at 3, 5.

⁸⁷⁵ *Id.* at 8; RTC cost model comments at 14.

⁸⁷⁶ NCTA further comments at 14; Maine PUC cost model comments at 8; NYNEX cost model comments at 6.

⁸⁷⁷ Letter from John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, to Glenn Brown, Executive Director-Public Policy, U S West (dated Aug. 2, 1996).

proponents, U S West and Sprint, provided additional information about the model and cost runs using BCM2.⁸⁷⁸ The response includes cost runs showing the difference in cost calculations between BCM2, CPM, and the current universal service cost information provided by NECA. They also provided study area comparisons between the original BCM and BCM2 for the three study areas requested by the Bureau.⁸⁷⁹ The proponents also submitted results for those study areas using the Commission's Part 32 uniform system of accounts. They explained that switching costs were calculated using generic switch investments because it was not possible to use detailed pricing due to the proprietary nature of manufacturers' switch prices. In addition, the proponents provided examples of cable and wire statistics for the original BCM and BCM2. Finally, the proponents stated that the significant enhancements to the original BCM found in BCM2 reflect actual engineering practices followed in the development of a local network and also cause the increase in projected costs over the costs projected by the original version of the model.⁸⁸⁰

254. The Cost Proxy Model. The CPM was filed as part of PacTel's comments in this proceeding. In its comments, PacTel notes that the California PUC was currently conducting a proceeding to establish a new state universal service mechanism that would be nondiscriminatory and competitively neutral.⁸⁸¹ According to PacTel, in its proceeding the California PUC was considering two proxy models, including the CPM, which was jointly developed by Pacific Bell and INDETEC, International.⁸⁸² PacTel suggests that the CPM could be used at the federal level to implement a competitively neutral model for high cost area funding,⁸⁸³ and submits a design overview of the model.⁸⁸⁴

255. According to PacTel, the major advantage of the CPM is its flexibility. PacTel

⁸⁷⁸ Letter from Glenn H. Brown, U S West, and Warren D. Hannah, Sprint Corporation, to William F. Caton, Acting Secretary, FCC (dated Aug. 22, 1996).

⁸⁷⁹ The Bureau requested that all the proponents of the three different proxy models provide study area results for Pacific Bell, GTE SW-Arkansas, and Southwestern Bell-Texas. See Letters from John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau to (1) Glenn Brown, Executive Director-Public Policy, U S West, Inc., (2) Alan Ciamporcerro, Vice President-Federal Regulatory Relations, Pacific Telesis, (3) Mike Pelcovits, Chief Economist, MCI Telecommunications, Inc., and Joel Lubin, Vice President-Law and Government Affairs, AT&T Corporation (dated Aug. 2, 1996).

⁸⁸⁰ See Letter from Glenn H. Brown, U S West, and Warren D. Hannah, Sprint Corporation, to William F. Caton, Acting Secretary, FCC (dated Aug. 22, 1996).

⁸⁸¹ PacTel comments at 15 (*citing* Cal. P.U.C. D.95-07-050 (July 19, 1995)).

⁸⁸² PacTel comments at 16.

⁸⁸³ *Id.* at 17.

⁸⁸⁴ *Id.* at App. D.

states that a variety of inputs can be used with the model, including publicly available information.⁸⁸⁵ As described by PacTel, the CPM examines the network components that are combined to form the customer's service, e.g., cost per foot of aerial and buried copper, cost per-line terminations, cost per switched minutes of use. Customer information is derived from using approximately four-tenths of a square mile (3,000 ft by 3,000 ft) grids and census data to determine the location of households, and the distance from the households to the carrier's switches. The values of the cost components are adjusted based on the specific characteristics of the grid area, including density, terrain, and soil type. Using that information, the investment cost for the household is determined. Once investment costs are derived, company-specific estimates of operating costs per line are applied, e.g., average monthly repair costs. Once the costs are derived for the grids, they can be aggregated to correspond to any larger geographic unit, such as CBGs or serving wire centers (SWCs).⁸⁸⁶

256. Many parties argue that the major advantage of the CPM over other proxy models is its use of grid cells, rather than CBGs, to calculate the cost of providing service. The commenters argue that the use of grid cells allows for more precision in determining where households are, particularly in sparsely-populated areas, and consequently will lead to more accurate distances of the loops between the households and switches -- the basis upon which the costs in the model are derived.⁸⁸⁷ PacTel notes that use of grid cells along with wire center boundaries minimizes the likelihood of misassigning households to the wrong wire center or to the wrong carrier.⁸⁸⁸ GTE advocates a hybrid approach that uses CBGs for high-density areas and grids for low-density areas.⁸⁸⁹ NCTA, however, states that use of grid cells does not improve the accuracy of customer locations of terrain.⁸⁹⁰ NECA states that, while grids provide more accuracy in identifying population distribution in sparsely populated areas, there still remains mapping problems for some areas served by small carriers.⁸⁹¹ Sprint notes that talks are ongoing between the proponents of BCM2 and PacTel to integrate the use of grid cells into BCM2.⁸⁹²

⁸⁸⁵ PacTel comments at 16-17.

⁸⁸⁶ *See Id.* at App. D.

⁸⁸⁷ *See* BellSouth further comments at 52; Maine PUC further comments at 29.

⁸⁸⁸ PacTel further comments at 54-55.

⁸⁸⁹ GTE cost model comments at 6-8.

⁸⁹⁰ NCTA further comments at 21-22.

⁸⁹¹ NECA further comments at 35.

⁸⁹² Sprint further comments at 17. *See also* NYNEX further comments at 42 (an industry task force is exploring integrating the grid cell structure into BCM2); USTA cost model comments at 4 (incumbent exchange

257. MCI argues that CPM should not be used because it relies upon proprietary data, and has only been developed for California, not the entire nation.⁸⁹³ NCTA agrees that the CPM is not suitable for use outside of California because it is based on Pacific Bell's network.⁸⁹⁴ NASUCA states that the BCM is superior to the CPM because, unlike CPM, it relies on public data. NASUCA claims that parties in the California proceeding have not been able to verify how the CPM derived the costs in that proceeding because of its use of proprietary data.⁸⁹⁵ PacTel replies that the CPM can be used to calculate the costs of service on a national level; all that is needed is to obtain the proper household-location data for the nation.⁸⁹⁶ PacTel also argues that, while it used company-specific data to calculate costs in the California proceeding, the CPM allows for variable inputs through which a user can modify the cost inputs to reflect either a carrier's specific cost structure or average costs.⁸⁹⁷

258. In reviewing the CPM in response to the Cost Models Public Notice, parties discuss many specific concerns. For instance, AT&T claims that the CPM is inconsistent in its use of terrain modifying factors, which artificially inflate loop investment costs.⁸⁹⁸ AT&T also states that the CPM bases central office switch and feeder costs solely on average population density of the grid, ignoring the number of lines served by the switch, and uses unrealistically short depreciation lives.⁸⁹⁹ BellSouth compared the results of BCM2 and CPM for Georgia and Florida and found that, when the two models are compared on a wire center basis, they arrive at similar results.⁹⁰⁰ GTE raises a concern that switching costs in the CPM do not fully capture the difference in unit costs between large and small switches. GTE also notes that the costs used by PacTel in the CPM are not representative of those experienced by other carriers because they reflect PacTel's negotiated prices.⁹⁰¹

industry is working together to harmonize the two models).

⁸⁹³ MCI cost model comments at 12-13. *See also* CPI reply comments at 7.

⁸⁹⁴ NCTA further comments at 22-23.

⁸⁹⁵ NASUCA comments at 20-21.

⁸⁹⁶ PacTel further comments at 56.

⁸⁹⁷ PacTel reply comments at 5-6; PacTel further comments at 58.

⁸⁹⁸ AT&T cost model comments at 30.

⁸⁹⁹ *Id.* at 31.

⁹⁰⁰ BellSouth cost model comments at 4-5, Att. 1.

⁹⁰¹ GTE cost model comments at 18.

259. In response to the Common Carrier Bureau's information request,⁹⁰² PacTel provides additional information and cost runs on the model. For some of the material it submitted, however, PacTel requested confidential treatment because the information contains Pacific Bell's cost studies for California.⁹⁰³ PacTel provides a comparison between the costs calculated using CPM, and the current universal service costs provided by NECA only for Arkansas, California, and Texas.⁹⁰⁴ PacTel has subsequently provided the costs calculated by the CPM for all fifty states and the District of Columbia.⁹⁰⁵ PacTel also argues that, contrary to the assertions of critics, the CPM is a stand-alone model, and that for future runs for the whole nation the model will not rely on PacTel proprietary data.⁹⁰⁶

260. In California, the California PUC has recently decided to use the CPM to calculate costs for the state universal service program.⁹⁰⁷ Comparing the CPM and Hatfield models,⁹⁰⁸ the California PUC found that the CPM is a more appropriate model for estimating the cost of providing basic service in California than the Hatfield model, in part because CPM's grid cell design is more conducive to an accurate representations of costs.⁹⁰⁹ The California PUC, however, made a number adjustments to the CPM as submitted by PacTel.⁹¹⁰ For example, the California PUC changed the fiber-copper break point for feeder from 9,000 feet to 12,000 feet. This change resulted in a \$78 million decrease in the annual support requirement as calculated by the CPM.⁹¹¹ The California PUC also changed the allocations for shared and common costs that PacTel had proposed in the CPM, with the result of decrease of \$400 million in the support

⁹⁰² Letter from John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, to Alan Ciamporcero, Vice President-Federal Regulatory Relations, Pacific Telesis (dated Aug. 2, 1996).

⁹⁰³ Letter from Nancy C. Woolf, Attorney, Pacific Telesis, to John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, FCC (dated Aug. 16, 1996).

⁹⁰⁴ Letter from Nancy C. Woolf, Attorney, Pacific Telesis, to John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, FCC (dated Aug. 22, 1996).

⁹⁰⁵ Letter from Alan C. Ciamporcero, Vice President, Pacific Telesis, to William F. Caton, Acting Secretary, FCC (dated Oct. 17, 1996).

⁹⁰⁶ Letter from Nancy C. Woolf, Attorney, Pacific Telesis, to John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, FCC (dated Aug. 16, 1996).

⁹⁰⁷ Cal. PUC R.95-01-020/I.95-01-021 (Oct. 25, 1996).

⁹⁰⁸ The California PUC reviewed a Hatfield Model which is based on the BCM. *See id.* at 113.

⁹⁰⁹ Cal. PUC R.95-01-020/I.95-01-021 at 124.

⁹¹⁰ *See id.* at 124-161.

⁹¹¹ *Id.* at 137.

requirement.⁹¹² The result of the adjustments to the CPM mandated by the California PUC was to decrease the amount of support determined by the model by \$1.116 billion.⁹¹³

261. The Hatfield Model. The Hatfield model has been developed by Hatfield Associates, Inc under the sponsorship of AT&T and MCI.⁹¹⁴ On June 7, 1996, the proponents submitted the Hatfield 2.2, Release 1 model for the Joint Board's consideration in this proceeding.⁹¹⁵ They have subsequently submitted a later version, Hatfield 2.2, Release 2.⁹¹⁶

262. According to AT&T, the Hatfield model is "a flexible, publicly available engineering model that estimates the economic costs of providing basic narrowband telephone services to consumers in any and all geographic areas in the United States."⁹¹⁷ As described by the proponents, the Hatfield model uses seven modules to compute the costs of the network. The Input Data File module contains information on households, businesses, terrain, and the location of central offices. Estimates of the loop costs for each CBG are determined by the Loop Module and the Data Module, which calculate feeder, sub-feeder, and distribution cable lengths.⁹¹⁸ The Wire Center Module computes the costs associated with switching, signaling, and interoffice transport, based on the outputs from the Loop and Input Data modules. The Convergence Module combines the investment computed in the Loop and Wire Center Modules and adds investment in servicing area interfaces, the network interface devices, and the subscriber drops. The Expense Module takes that investment and converts it into monthly costs based on asset lives and capital cost, and adds certain administration costs.⁹¹⁹ According to the proponents, the use of

⁹¹² *Id.* at 156-157.

⁹¹³ *See id.* at 124-125, App. C. Overall, all the changes required by the California PUC, including raising the benchmark, result in the size of the California state fund being reduced from \$1.7 billion, as submitted by PacTel, to \$352 million.

⁹¹⁴ There have been several prior versions of the Hatfield model. *See* AT&T cost model comments at 4 n.5.

⁹¹⁵ Letter from Leonard S. Ceca, MCI, to William F. Caton, Acting Secretary, FCC (dated June 7, 1996).

⁹¹⁶ Letter from Richard N. Clarke, AT&T, to William F. Caton, Acting Secretary, FCC (dated Aug. 27, 1996). *See also* letter from Richard N. Clarke, AT&T, to William F. Caton, Acting Secretary, FCC (dated Sept. 10, 1996).

⁹¹⁷ AT&T cost model comments at 3.

⁹¹⁸ The Data and Loop Modules use components of a BCM derivative, "BCM+," developed by MCI. BCM+ has user-adjustable inputs, uses 1995 household data, bases zone density categories on the number of lines in a CBG, and modifies BCM's estimate of business lines. AT&T cost model comments at 4 n.4, Appendix A.

⁹¹⁹ *See* AT&T cost model comments at 4-14; MCI cost model comments at 2-4. The changes between Hatfield 2.2.1 and 2.2.2 are outlined in AT&T cost model comments at App. A. The default inputs used in Hatfield 2.2.2 are set forth in AT&T cost model comments at App. B.

this modular architecture allows users to modify data inputs as necessary to reflect new or state-specific data.⁹²⁰

263. Critics of the Hatfield model make several arguments against using the model for calculating the cost of providing universal service. Initially, many parties complain that it has been difficult to analyze the Hatfield model because it is constantly changing and contains algorithms that have not been disclosed.⁹²¹ Parties also argue that, since Hatfield is based, at least in part, on BCM, it, like BCM, is flawed.⁹²² The proponents, however, claim that the model is publicly available, uses public data, and allows for user specific inputs.⁹²³ They also note that the model no longer relies on input from BCM, but uses refined inputs, which they call "BCM+."⁹²⁴

264. GTE argues that the Hatfield model is not really a forward-looking cost model. According to GTE, Hatfield's use of historical expense factors makes it backward-looking.⁹²⁵ PacTel also argues that Hatfield uses embedded cost factors.⁹²⁶

265. LECs also complain that the Hatfield model uses an unrealistic network configuration to calculate costs.⁹²⁷ According to SWBT, these flawed assumptions about ILECs' networks lead to faulty cost-factor assumptions and invalid estimates of capital and operating expenses.⁹²⁸ PacTel argues that Hatfield does not model the way that distribution plant is actually engineered.⁹²⁹ RTC opposes the Hatfield model, in part, because it assumes that all ILECs have

⁹²⁰ AT&T cost model comments at 5.

⁹²¹ *See, e.g.*, BellSouth further comments at 44; PacTel cost model comments at 17; U S West cost model comments at 5.

⁹²² *See, e.g.*, BellSouth further comments at 39; RTC cost model comments at 11.

⁹²³ AT&T further comments at 36; AT&T cost model comments at 3, 5.

⁹²⁴ *See* AT&T cost model comments at 4, App. A p. 1-2.

⁹²⁵ GTE cost model comments, Att. 1 ("A Critique of the Hatfield Model" by Gregory M. Duncan, NERA) at 8.

⁹²⁶ PacTel cost model comments at App. B, p. 3.

⁹²⁷ *See* BellSouth cost model comments, Att. 3 (Comments of William E. Taylor and Anirudda Banerjee, NERA) at 7-8;

⁹²⁸ SWBT cost model comments at 12.

⁹²⁹ PacTel cost model comments at 10.

fully deployed SS7, when, according to RTC, some small, rural carriers have not deployed SS7.⁹³⁰ MCI responds that it is irrelevant that the model may not reflect an ILEC's actual network because it is meant to calculate the cost of an efficient network, not the cost of an existing network.⁹³¹ AT&T states that the model does not start with a "blank slate," but uses actual minutes of use and access lines embedded by ILECs and models the network from the existing wire centers and STP locations.⁹³²

266. Parties also argue that Hatfield uses improper cost inputs, which leads to unrealistic cost calculations. For example, NYNEX argues that the model uses excessive fill factors.⁹³³ PacTel argues that the Hatfield model understates switch investment and switching prices.⁹³⁴ They also argue that the depreciation rates used in the model are too low.⁹³⁵ MCI states that the model uses depreciation lives and cost of capital that have been approved by the Commission and state commissions.⁹³⁶ AT&T claims that the model reflects all the forward-looking costs of installing, maintaining, and operating facilities to provide residential service, including a reasonable share of joint and common costs.⁹³⁷

267. In response to the Common Carrier Bureau's information request,⁹³⁸ the proponents -- AT&T and MCI -- provide additional information and costs runs on Hatfield 2.2.2. The proponents state that from Hatfield 2.2.1 to Hatfield 2.2.2 there have been significant improvements to the modeling logic and descriptive outputs. Among those changes Hatfield

⁹³⁰ RTC cost model comments at 19.

⁹³¹ MCI cost model comments at 4. *See also* AT&T cost model comments at 20.

⁹³² AT&T cost model comments at 15.

⁹³³ NYNEX cost model comments at 11, Att. C (Rebuttal Statement of Timothy J. Tardiff) at 610-14. *See also* SWBT cost model comments at 12; U S West cost model comments at 8.

⁹³⁴ PacTel cost model comments at 10.

⁹³⁵ NYNEX cost model comments at 11; PacTel cost model comments at 11; SWBT cost model comments at 12.

⁹³⁶ MCI cost model comments at 4.

⁹³⁷ AT&T cost model comments at 16.

⁹³⁸ Letter from John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, to Mike Pelcovits, Chief Economist, MCI Telecommunications, Inc., and Joel Lubin, Vice President-Law and Government Affairs, AT&T Corporation (dated Aug. 2, 1996).

2.2.2 uses an MCI-developed derivative of the original BCM called BCM+.⁹³⁹ The changes allows Hatfield 2.2.2 to compute investment explicitly for aerial, buried, and underground cable, for both feeder and distribution facilities. The proponents also argue that the improvements embedded in Hatfield 2.2.2 make it superior to BCM2. For example, they contend that Hatfield 2.2.2 has more detailed cost components than BCM2. Hatfield 2.2.2 also includes investment in Serving Area Interfaces that BCM 2 does not. The proponents explain the fill factors used in Hatfield 2.2.2, noting that the effective fill factor is substantially lower than the maximum engineered fill.⁹⁴⁰ The proponents also compare the costs calculated by Hatfield 2.2.2 for the BOCs and for SNET. They explain that, because the model uses ARMIS data that are only embedded by Class A LECs, the proponents are currently unable to run the model for non-Class A LECs.⁹⁴¹

3. Discussion

a. Overview

268. We cannot recommend that any of the proxy models submitted in this proceeding thus far -- the BCM, the BCM2, the CPM, and the Hatfield model -- should be used to determine universal service support levels. While the proxy models continue to evolve and improve, none of those submitted in this proceeding are sufficiently developed to allow us to recommend a specific model at this time. We do believe, however, that a properly crafted proxy model can be used to calculate the forward-looking economic costs for specific geographic areas, and be used as the cost input in determining the level of support a carrier may need to serve a high cost area. The Joint Board therefore recommends that the Commission continue to work with the state commissions to develop an adequate proxy model that can be used to determine the cost of providing supported services in a particular geographic area, and in calculating what support, if any, a carrier should receive for providing services designated for universal service support.

269. We recommend that a proxy model be developed such that it can be adopted by

⁹³⁹ BCM+ has user-adjustable inputs, uses 1995 household data, bases zone density categories on the number of lines in a CBG, and modifies BCM's estimate of business lines. See Letter from Michael Pelcovits, Chief Economist, MCI Telecommunications Corporation and Joel Lubin, Regulatory Vice President, AT&T Corp., to John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, FCC (dated Aug. 19, 1996).

⁹⁴⁰ Letter from Michael Pelcovits, Chief Economist, MCI Telecommunications Corporation and Joel Lubin, Regulatory Vice President, AT&T Corp., to John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, FCC (dated Aug. 19, 1996).

⁹⁴¹ Letter from Michael Pelcovits, Chief Economist, MCI Telecommunications Corporation and Joel Lubin, Regulatory Vice President, AT&T Corp., to John S. Morabito, Deputy Chief, Accounting and Audits Division, Common Carrier Bureau, FCC (dated Aug. 26, 1996).

the Commission by May 8, 1997, the statutory deadline for the Commission to implement our recommendations in this proceeding. It is understood that, in the time between this Recommended Decision and the Commission's final order, the Commission "shall afford the State members of the Joint Board an opportunity to participate in its deliberations . . ." ⁹⁴² As a practical matter, this means that the federal and state staffs should coordinate and consult to the fullest extent necessary, and that the State members of the Joint Board are free to communicate their views, orally or in writing, together or separately, at any time. In particular, it is expected that the state and federal staffs will work collaboratively to conduct workshops with interested parties on the issues associated with the proxy models. To the extent that there may be independent State views on the proxy models, the state members of the Joint Board shall, at a minimum, submit a report on the outcome of the Joint Board staff efforts with sufficient time for the Commission to review prior to the issuance of an Order implementing this Recommended Decision. Such input would supplement the ongoing cooperative, consensus-oriented teamwork of the Joint Board members and staff.

270. We find that forward-looking economic costs should be used to determine the cost of providing universal service. Those costs best approximate the costs that would be incurred by an efficient competitor entering that market. We believe that support should be based on the cost of an efficient carrier and should not be used to offset the costs of inefficient provision of service, or costs associated with services that are not included in our definition of supported services, such as private lines, interexchange services, and video services. For purposes of administering a national universal service system, proxy models are the most efficient method for determining forward-looking costs, and provide other benefits, such as the ability to determine costs at smaller geographic levels than would be practical using the existing cost accounting system. The actual level of support that a carrier receives from federal universal service support mechanisms, if any, would be based on the difference between the cost of service as determined by a proxy model and the benchmark amount, which we discuss in section VII.C.

271. While we recommend the use of proxy models in general, we recognize that the operations of some carriers could be placed at risk if their support was immediately determined by the use of a proxy model. As suggested by various commenters, the proposed proxy models' designs do not reflect the special characteristics of these carriers. First, none of the models adequately represents the costs for rural carriers as all the models are currently based on expense data for large LECs, serving predominantly urban areas. Second, small carriers, with their limited revenue streams, will be significantly affected if the model does not accurately reflect their costs. Third, the proxy models should be refined and modified to reflect the special characteristics of rural carriers before requiring those carriers to move to a proxy model for determining universal service support.

⁹⁴² 47 U.S.C. §410(c).

272. We therefore recommend that rural telephone companies, as defined in the 1934 Act, as amended,⁹⁴³ be allowed to continue using embedded costs as the basis for calculating universal service support for three years after the non-rural companies begin to use proxy models, which we anticipate would be on January 1, 1998. This would allow time to make any necessary refinements to the proxy model to tailor the model for rural companies. We recommend that the Commission include a review of the proxy model to ensure the appropriateness of the proxy model for rural carriers before requiring them to use a proxy model. In order to minimize any disruption or adverse impact of this change on the rural carriers, we recommend that during this three-year period rural carriers receive support from the high cost assistance, DEM weighting, and LTS based on historical per line amounts. At the end of the three-year period, rural companies would begin a transition to the use of a proxy model for determining their costs of providing the supported services. That transition would occur over three years. The unique nature of service in Alaska and the insular areas causes us to recommend that rural companies in those areas should not be shifted to a proxy model at that time, but should continue to receive support based on their embedded costs per line pending further review of their situation.

b. Which costs to support

273. We recommend basing the universal service support for the non-rural eligible carriers on the forward-looking cost of providing the network used to provide the services included in our list of services recommended for universal service support pursuant to section 254(c)(1). The Joint Board recommends that the forward-looking economic cost of providing supported services should include all of the costs of the telephone network elements that are used to provide supported services. We acknowledge that the loop is essential for the provision of all services, not just those supported by the federal universal service mechanisms. We note, however, that supported services include not only local service but also access to interexchange service. The cost of loop can vary depending on the type of services provided. We recognize that the provision of ISDN and video services could increase the cost of the loop, but the additional loop costs incurred to provide these services should be excluded from costs considered here.⁹⁴⁴ In the proxy models, the fiber-copper cross-over point determines the relative share of fiber in the loop plant. We believe that the reasonable cross-over point should reflect the least cost provision of the supported services rather than the provision of video or advanced services.

⁹⁴³ 47 U.S.C. § 153(37).

⁹⁴⁴ *See, e.g.*, SWBT further comments at 5; USTA further comments at 8. We note that the Commission intends to initiate another proceeding to address the directive in Section 254(k) to "establish any necessary cost allocation rules, accounting safeguards and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services." 47 U.S.C. § 254(k).

274. Bell Atlantic and CompTel argue that the cost of providing supported services does not vary with non-loop costs, and thus, these costs do not affect average cost enough to change the amount of support received by any carrier.⁹⁴⁵ We disagree with their argument. Even if non-loop costs do not vary across density zones, we must still include non-loop costs in the cost estimate in order to estimate the total cost of providing the supported services. We note that, if any parts of the switch can be separately identified as required for only specific advanced services, such as a packet switch auxiliary used to process the ISDN signaling channel, then the costs associated with that part of the switch should not be included as costs of supported services.

c. Use of a proxy model

275. In order to ensure that a universal service support mechanism provides the correct signals for entry, investment, and innovation in the long-run, it is vital that the Commission use forward-looking economic costs as the basis for determining support levels. If support is based on embedded costs for the long-run, then incumbents and new entrants alike will receive incorrect signals about where they should invest. Where embedded costs are above forward-looking costs, support of embedded costs would direct carriers to make inefficient investments that may not be financially viable when there is competitive entry. Where embedded costs are below forward-looking costs, support only of embedded costs will drive firms from the market, because the revenue per customer plus the support will be less than the forward-looking cost of providing the supported services. Therefore, support based on embedded costs could jeopardize the provision of universal service.

276. We conclude that setting support at forward-looking economic cost levels will allow us to construct a universal service support mechanism that will preserve and advance universal service and encourage efficiency. Competitive firms will provide service using an approximately efficient level of resources because, in those instances when revenues are not sufficient, the support mechanism will provide the additional funds required to maintain service. In principle, using cost estimates generated by proxy models is a reasonable technique for determining forward-looking costs. Proxy models, because they are not based on any individual company's costs, provide a competitively neutral estimate of the cost of providing supported services. In addition to estimating the forward-looking economic cost of deployment and operation of network facilities used to provide services supported under section 254(c), any proxy model adopted by the Commission should also include an estimate of forward-looking common costs so that universal service support based on such a model will cover a reasonable share of common costs and that together all services allow for recovery of all forward-looking costs.

277. We recommend that the Commission consider the following criteria in order to

⁹⁴⁵ Bell Atlantic further comments at 2; CompTel further comments at 9. Non-loop costs include switching, transport, signaling, corporate overheads, and billing and collection and other retail costs.

evaluate the reasonableness of any proxy model that it would use to estimate the forward-looking economic cost of providing the supported services:

- (1) Technology assumed in the model should be the least-cost, most efficient and reasonable technology for providing the supported services that is currently available for purchase, with the understanding that the models will use the incumbent LECs' wire centers as the center of the loop network for the reasonably foreseeable future.
- (2) Any network function or element, such as loop, switching, transport, or signaling, necessary to produce supported services must have an associated cost.
- (3) Only forward-looking costs should be included. The costs should not be the embedded cost of the facilities, functions or elements.
- (4) The model should measure the long-run costs of providing service by including a forward-looking cost of capital and the recovery of capital through economic depreciation expenses. The long run period used should be a period long enough that all costs are treated as variable and avoidable.
- (5) The model should estimate the cost of providing service for all businesses and households within a geographic region. This includes the provision of multi-line business services. Such inclusion allows the models to reflect the economies of scale associated with the provision of these services.
- (6) A reasonable allocation of joint and common costs should be assigned to the cost of supported services. This allocation will ensure that the forward-looking costs of providing the supported services do not include an unreasonable share of the joint and common costs incurred in the provision of both supported and non-supported services, e.g., multi-line business and toll services.
- (7) The model and all underlying data, formulae, computations, and software associated with the model should be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible.
- (8) The model should include the capability to examine and modify the critical assumptions and engineering principles. These assumptions and principles include, but are not limited to, the cost of capital, depreciation rates, fill factors, input costs, overhead adjustments, retail costs, structure sharing percentages, fiber-copper cross-over points, and terrain factors. The models should also allow for different costs of capital, depreciation, and expenses for different facilities,

functions or elements.

278. The parties have brought three models to our attention in this proceeding. In general, the models submitted are based on a local exchange telephone network designed to meet the total demand on the network, where demand is measured by the number of lines served and minutes of use. The network consists of outside plant facilities and central office equipment. Investment is expressed as an annual expense by applying annual charge factors to the models' estimates of investment. Joint and common costs and retail costs are added to the plant related costs to define the total cost of service.⁹⁴⁶

279. While the models hold much promise, at this time, we cannot endorse a specific model as the tool the Commission should use for calculating costs of supported services. We conclude that the BCM2 and the Hatfield Model Version 2.2. Release 2 (Hatfield Model) are the best available basis for future development of an acceptable proxy model at this time. We cannot evaluate the CPM at this time, because a complete working version of the model, that includes all formulae and data, has only recently been filed in this proceeding.⁹⁴⁷ The CPM suffers from the flaw that significant amounts of input values and information are considered proprietary.⁹⁴⁸

280. Appendix F contains a cursory review of the models and highlights some of the differences between BCM2 and the Hatfield model. Among the issues that will need to be addressed before a specific proxy model can be accepted are the different assumptions regarding basic input levels; the relationships between the inputs; why certain functionalities included in one model are not present in the other models; and the unique set of engineering design principles in each model. Until we can establish reasonable values for the assumptions and technical relationships that underlie the models we cannot recommend the adoption of a particular model or combination of the models.

281. We urge the Commission to conduct a series of workshops at which federal and state staff can work with industry participants to refine the models so that it could become possible to select or create a proxy model that could then be used in calculating universal service

⁹⁴⁶ Letter from Glenn Brown, U S West, to William F. Caton, Acting Secretary, FCC (dated Sept. 4, 1996). Letter from Richard N. Clarke, AT&T, to William F. Caton, Acting Secretary, FCC (dated Sept. 10, 1996). PacTel comments at App. D.

⁹⁴⁷ On October 25, 1996, PacTel filed a demonstration CD ROM disk of the national run of the CPM. However, because, according to PacTel, the software contains trade secrets, PacTel filed it with a Request for Confidential Treatment, and included a software license agreement that parties must sign before being able to obtain a copy of the CD ROM. *See* Letter from Alan Ciamporcero, Vice President, Pacific Telesis, to William F. Caton, Acting Secretary, FCC (dated Oct. 25, 1996).

⁹⁴⁸ Letter from Alan F. Ciamporcero, Pacific Telesis, to William F. Caton, Acting Secretary, FCC (dated Oct. 25, 1996).

support. We recommend that these workshops begin no later than January 1997.

282. The state members of the Joint Board will submit a report to the Commission on the use of proxy models and their application in this proceeding for funding universal service. The report of the state members will be filed prior to a Commission decision in this proceeding on proxy models. The Commission and state members should continue to work cooperatively and remain integrally involved in the development of an acceptable proxy model.

d. Rural Carriers

283. While we recommend using forward-looking economic costs calculated through the use of a proxy model to determine high cost support for all carriers, we are concerned that moving small, rural carriers to a proxy model too quickly may result in large changes in the support that they receive. Since rural carriers generally serve fewer subscribers relative to the large incumbent LECs, serve more sparsely populated areas, and do not generally benefit from economies of scale and scope as much as non-rural carriers, they often cannot respond to changing operating circumstances as quickly as large carriers.⁹⁴⁹ We therefore recommend that those carriers not move immediately to a proxy model, but transition to a proxy over six years. For three years, starting on January 1, 1998, high cost assistance, DEM weighting and LTS benefits for rural carriers will be frozen based on historical per line amounts. Rural carriers would then transition over a three year period to a mechanism for calculating support based on a proxy model. Prior to that transition, however, we recommend that the Commission, working with the state commissions, review the proxy model to ensure that it takes into consideration the unique situations of rural carriers. We emphasize our recommendation that, after the transition, the calculation of support for rural telephone companies should be based on a proxy model, although we recognize that alternative support mechanisms, such as competitive bidding, may also promote efficient service provision. Further, we recommend that, on request, any rural carrier should be permitted to elect to use a proxy model to determine its support level, and that any carriers electing to use the proxy model not be allowed to use the embedded cost approach thereafter.

284. As we stated in discussing the use of a proxy model, we conclude that a properly designed cost proxy model would allow carriers serving high cost areas to charge affordable rates. We thus disagree with those who contend that using embedded costs is the only way to set the level of universal service support needed to accomplish affordable rates because no statutory or economic reason exists for calculating high cost support based on embedded costs. We are also not persuaded that, as Cincinnati Bell asserts, a carrier of last resort must recover its costs

⁹⁴⁹ See, e.g., Alaska Tel. comments at 4; Harris comments at 11; OITA-WITA comments at 11-12; SDITC reply comments at 5.

through an embedded cost methodology.⁹⁵⁰

285. We find, however, that, because of the difficulty in precisely modelling small, rural carriers' costs, they should continue to draw high cost support calculated based on an embedded cost methodology until we have more experience with the proxy models. We therefore recommend that rural carriers transition to the proxy methodology adopted for calculating high cost support in areas served by non-rural incumbent LECs. The Joint Board recommends that rural carriers should begin shifting to a proxy-based system three years after the implementation of a proxy-based methodology for non-rural LECs and the Commission, working with the state commissions, has reviewed the appropriateness of using a proxy model for rural carriers. At that time, rural carriers will begin draw an increasing percentage of their high cost support based upon a proxy-based system during the subsequent three years. The Joint Board concludes, however, that rural companies operating in Alaska and insular areas should not be required at this time to use a proxy model until further review. Thus, at the end of a six-year period after proxies are initiated for large LECs, all LECs including rural LECs, but excepting LECs in Alaska and insular areas, will be on a proxy-based system.

286. The Joint Board recommends, however, that rural carriers be able to move to a proxy-based system earlier if they choose to do so. We recognize that rural carriers will choose to move earlier only when the proxy cost is greater than the embedded cost. Providing the rural carriers this opportunity is necessary to ensure that rural carriers have an incentive to invest in the facilities required to provide the supported services. The alternative, limiting rural carriers to embedded costs when forward-looking economic costs are greater than embedded costs, would encourage rural carriers to withdraw service in high cost areas or require rural carriers to incur an economic loss in the provision of the supported services.

287. We recommend that the Commission define "rural" as those carriers that meet the statutory definition of a "rural telephone company."⁹⁵¹ In order for the administrator to know which carriers are to receive support payments based on the proxy model or their embedded costs, we recommend that carriers notify the Commission and the state commissions that for purposes on universal service support determinations they meet the definition of a "rural telephone company." Carriers should make such a notification each year prior to the beginning of the payout period for that year. The carriers may also use that notification as the means by which to let the Commission, the state commissions, and the administrator know if they have chosen to voluntarily move to a proxy model before the end of the transition period.

288. Although many of the suggestions on how to improve the existing high cost

⁹⁵⁰ See Cincinnati Bell comments at 11.

⁹⁵¹ 47 U.S.C. § 153(37).

support mechanisms provided by the commenting parties have merit, we do not find it appropriate to radically change the method of calculating such support in light of the short time period that will elapse between now and when rural carriers receive support based on a proxy methodology. We also find that LTS payments constitute a universal service support mechanism. As the Commission noted in the NPRM, LTS payments serve to equalize LECs' access charges by raising some carriers' charges and lowering others'. While some commenters have noted the beneficial purposes currently served by LTS, no commenter argued that LTS was not a support flow.

289. We therefore recommend that beginning in 1998 and continuing to the end of the year 2000, support payments for high cost assistance, DEM weighting and Long Term Support, be frozen for each carrier at the same amounts paid on a per line basis to qualifying carriers. High cost support would be based on the assistance received in 1997, and DEM weighting and LTS benefits received during calendar year 1996. Beginning in the year 2001, and through the year 2003, we recommend that support be gradually shifted to a proxy-based methodology. In the year 2001, support would be based on 75 percent frozen levels and 25 percent proxy; in 2002 support will be based on 50 percent frozen levels and 50 percent proxy; in 2003 support will be based on 25 percent frozen levels and 75 percent proxy. Beginning in 2004 support will be 100 percent based on a proxy methodology. The total period for transition for rural carriers to a proxy based system is six years.

290. Freezing support will encourage rural carriers to operate efficiently because no additional support will be provided for increased costs. We recognize that the number of subscribers served by rural carriers could increase and associated with such increases is an increase in costs. Therefore, we recommend that support not be frozen at a total dollar amount, but instead, at a per line amount. Rural carriers would receive additional support at the same amount per line as the number of subscribers increase. A frozen level of high cost support will prepare these LECs for both their move to a proxy model and the advent of a more competitive marketplace.

291. High cost assistance to carriers with high loop costs that will be paid during 1997 are based on those carriers' 1995 embedded costs. Additionally, loop counts to determine the 1995 average costs per loop for each carrier are based on year-end 1995 loop counts. To determine the amount of frozen high cost support per line for carriers with high loop costs, we recommend that the total amount paid to each carrier during 1997, based on 1995 embedded costs, be divided by the number of loops served at the end of 1995. The amount of high cost assistance to be paid in 1998 will then be the same per line amount paid in 1997 multiplied by the year end loop count for 1996. Calculation of payments would continue in this manner throughout the transition period.

292. Currently, DEM weighting assistance is an implicit support mechanism that is recovered through the switched access rates charged to interexchange carriers by those carriers serving less than 50,000 lines. In order to calculate the per-line DEM weighting benefit, we

recommend that the amount of additional revenues collected by each carrier above what would be collected without DEM weighting, be calculated for the calendar year 1996. That amount, divided by the number of loops served at the year-end 1996 would be the basis for the frozen per line support to be paid beginning in 1998. Until December 31, 1997, DEM weighting benefits would continue under the present rules. Although we could have recommended the calendar year 1997 as the basis for determining the frozen per-line amount for DEM weighting benefits during the transition period, we find that sufficient time will be needed for the fund administrator to gather the data and calculate payments before frozen DEM weighting benefits begin in 1998. We chose to use year-end 1996 loop counts because this calculation would have already been made for loop high cost assistance purposes. For 1999, the amount of frozen DEM weighting support would be based on the frozen per line amount multiplied by the number of lines served for the year-end 1997. Calculation of payments would continue in this manner throughout the transition period.

293. LTS payments are currently determined by comparing the amount pool members will receive in SLCs and CCL charges to the pool's projected revenues requirement. In order to determine the frozen LTS payment for the Common Line pool members, we recommend that each member be allocated a percentage of the total LTS contribution from the non-pooling LECs. We recommend that the allocation be made on the basis of each member's common line revenue requirement relative to the total common line pool revenue requirement. We recommend that the frozen LTS payments to pool members during the year ending 1996 and the loop counts at year-end 1996 be used as the historical basis for computing the frozen per line LTS payment beginning in 1998. For 1999, the amount of frozen LTS payments would be based on the frozen per line amount multiplied by the number of lines served for the year-end 1997. Calculation of payments would continue in this manner throughout the transition period.

294. We recognize that, unlike the current LTS system, the frozen LTS mechanism will not result in CCL charges for ILECs participating in the NECA pool being set equal to the national average CCL charge for all ILECs. Currently, LECs that contribute to LTS support recover those funds by increasing their own CCL charges. Under the frozen LTS mechanism, the funds for this support will come instead from all carriers providing interstate telecommunications services based on their revenues.

295. We also recognize that we have limited participation in the frozen LTS mechanism to rural telephone companies, as defined in the 1996 Act, that currently participate in the NECA pool. We find that this limitation is proper because we have also recommended that ILECs not qualifying as rural telephone companies should receive high cost universal service support based on a proxy model for costs, including loop costs. Because the proxy model includes the total unseparated loop costs, non-rural ILECs would receive double compensation if they also received frozen LTS payments.

296. Support Levels for Competitive Carriers. We recommend that the Commission

make frozen support payments portable. A CLEC should be allowed to receive support payments to the extent that it is able to capture subscribers formerly served by carriers eligible for frozen support payments or to add new customers in the ILEC's study area. Because we have recommended that frozen support payments be computed on the basis of working loops, ILECs will, under our recommendation, automatically lose frozen support payments for loops serving subscribers lost to a competitor. We find that competition would best be served if the frozen support payment attributable to that line were paid instead to the CLEC that won the subscriber. Likewise, a CLEC should receive support for new customers that it serves in the ILECs study area. In order to avoid creating a competitive disadvantage for alternative facilities-based LECs, we recommend that frozen support payments shift to the CLEC irrespective of whether the CLEC actually uses the ILEC's loop to serve the subscriber.⁹⁵² Since rural ILECs have the option at any time to convert their support basis to a proxy methodology, we find that a CLEC should also have the opportunity to choose proxy-based support when it enters a rural ILEC's study area.

297. We conclude that using the rural ILECs' embedded costs to calculate universal service support for all eligible telecommunications carriers serving customers within that rural ILEC's study area will be the easiest way to administer the support mechanism. Besides using a proxy or embedded costs system, the alternative for calculating support levels for such CLECs consists of requiring the CLECs to submit cost studies. Compelling a CLEC to use a proxy methodology without requiring the ILEC's support to be calculated in the same manner, however, could place either the ILEC or the CLEC at a competitive disadvantage. Also, requiring CLECs to submit cost studies would be problematic because CLECs are not required to follow Commission accounting and jurisdictional separations rules and thus would be unlikely to produce information by which a meaningful comparison could be made. We thus disagree with Alaska Tel.'s claim that providing support to CLECs based on the incumbents' embedded costs would violate Section 254(e). CLECs, as well as ILECs, will be expected to adhere to Section 254(e) which provides that "[a] carrier that receives such support shall use that support only for the provision, maintenance, and upgrading of facilities and services for which the support is intended." We also disagree with the Minnesota Indep. Coalition's claim that basing support to CLECs on the incumbents' embedded costs may compensate the CLEC in excess of its costs. Because CLECs must provide service to and advertise its service throughout the entire study area, consistent with section 254(e), the CLEC cannot "cream skim" or only serve low cost areas. If the CLEC can serve the entire study area at a much lower cost than the incumbent, this may be an indication of a less than efficient operation of the ILEC. Because support would be provided on a per line basis, if a customer chooses to receive service from a CLEC rather than an ILEC, only the CLEC would receive the support.

298. Alaska and Insular areas. We propose that rural carriers in Alaska and in insular

⁹⁵² The CLEC might use the ILEC's loop to serve the customer by obtaining access to that loop through unbundling or resale. See 47 U.S.C. § 251. See also *Local Competition Order*.

areas not be required to shift to a support system in which support levels are calculated based on a proxy model at this time. Many commenters explain why rural carriers in Alaska and insular areas face circumstances unlike those encountered by other rural carriers in the continental United States.⁹⁵³ For example, the extreme remoteness of many communities in Alaska and the unique climatological problems Alaskan carriers encounter, such as permafrost, limit the period in which carriers can construct and perform maintenance on their facilities, and thus make the cost of providing service in those areas different than in other rural areas.⁹⁵⁴ In addition, the proxy models did not originally include Alaska and insular areas, and even now only BCM2 claims to be able to consider the unique cost calculations that rural carriers in Alaska and insular areas face.⁹⁵⁵ Therefore, while we believe that proxy models may provide an appropriate determination of costs on which to base high cost support, we are less certain that they may do so for rural carriers in Alaska and insular areas. Consequently, we recommend that rural carriers serving Alaska and insular areas should be able to continue to use embedded costs to determine their costs of offering universal service. We further recommend that this system for rural carriers in Alaska and insular areas be revisited in the future to determine whether changes in proxy models allow them to be utilized effectively in Alaska and insular areas.

C. Determining the Level of Support Using a Benchmark

299. We recommend that the Commission establish a benchmark to calculate the support that eligible telecommunications providers will receive when a proxy model is used to calculate the costs of providing services designated for support from universal service mechanisms. We believe it is desirable that the benchmark be based on the amount the carrier would expect to recover from other services to cover the cost of providing supported services in rural, insular, and high cost areas, but final determination of the methodology for selecting the benchmark must also consider the revenue base for universal service contributions. Those eligible telecommunications providers for which the cost of providing supported services exceeds the benchmark would be permitted to receive universal service support.

⁹⁵³ See, e.g., Alaska PUC cost model comments at 3; Alaska Tel. comments at 5; Matanuska Tel. Ass'n comments at 2-3.

⁹⁵⁴ See Alaska PUC, Public Hearing, Aug. 22, 1996.

⁹⁵⁵ PacTel has provided cost calculations from the CPM model for Alaska, but not for the insular areas other than Hawaii. See letter from Alan Ciamporcerro, Vice President, Pacific Telesis, to William F. Caton, Acting Secretary, FCC (dated Oct. 17, 1996). MCI has provided estimates of the universal service support that would be required for Alaska, Hawaii, Puerto Rico, Guam, and the Mariana Islands. MCI notes, however, that the cost per line was approximated by taking the weighted average for the RBOCs in the Hatfield model, and are not specific to those areas. Consequently, according to MCI, the estimates for these areas are only "ballpark estimates." Letter from Kimberly M. Kirby, Senior Manager, FCC Affairs, MCI, to William F. Caton, Acting Secretary, FCC (dated Oct. 25, 1996).

1. Background

300. Under the Commission's existing high cost support assistance rules,⁹⁵⁶ LECs with unseparated loop costs greater than 115 percent of the nationwide average loop cost may allocate an additional share of their local loop costs to the interstate jurisdiction.⁹⁵⁷ The threshold amount equal to 115 percent of nationwide average loop costs operates like a benchmark with the main difference being carriers receive support under the current system if their costs exceed the threshold, whereas under a proxy model approach, the level of universal service support is determined by the difference between forward-looking costs and the benchmark.

301. The NPRM also requested comment on how to ensure that any new universal service support mechanism is simple to administer, technology-neutral, and designed to identify the minimum subsidy required to achieve the statutory goal of affordable and reasonably comparable rates throughout the nation.⁹⁵⁸ The NPRM also sought comment on the relationship between affordability and the benchmark that would be one component of a proxy model approach to calculating support for eligible telecommunications carriers serving rural, high cost or insular areas. In its Public Notice, the Commission's Common Carrier Bureau asked, *inter alia*, for comment on the advantages and disadvantages of using a specific national benchmark rate for services designated for support with a proxy model to calculate high cost support as the standard for determining whether core service rates meet the "affordability" requirement of section 254(i).⁹⁵⁹

2. Comments

302. Nationwide Benchmark Based on Affordability. Several parties advocate the establishment of an "affordability benchmark" that would also be used to calculate high cost support.⁹⁶⁰ Many of these commenters support the creation of a federal benchmark that would set the maximum rate an average residential subscriber would pay for local service⁹⁶¹ and the level

⁹⁵⁶ 47 C.F.R. Part 36.

⁹⁵⁷ 47 C.F.R. § 36.631.

⁹⁵⁸ NPRM at para. 27.

⁹⁵⁹ Public Notice, question 3.

⁹⁶⁰ *See, e.g.*, USTA comments at 14-16; MCI further comments at 2.

⁹⁶¹ Time Warner comments at 7.

above which a carrier can seek universal service support.⁹⁶² For example, GTE proposes a plan wherein an initial threshold level that is equal to the maximum desired rate for core services triggers the availability of funding for core services.⁹⁶³ Sprint maintains that such a benchmark would enable the Commission to assure a reasonable rate to consumers regardless of where they live.⁹⁶⁴ AT&T argues that a national benchmark will prevent states from attempting to obtain additional federal support by setting their own benchmarks at unduly low levels.⁹⁶⁵ Some parties believe a national affordability benchmark would be easy to administer.⁹⁶⁶ BellSouth also favors the administrative simplicity of a national benchmark, but contends that the federal benchmark should reflect average state incomes.⁹⁶⁷ TCI contends that business planning for carriers will become simpler and less expensive under a national benchmark than it would be under a more complex, localized system.⁹⁶⁸ In addition, Florida PSC maintains that because all the information necessary to derive a national affordability benchmark is in the public domain, such information would be easy to obtain and use.⁹⁶⁹

303. Some commenters oppose basing a national benchmark on affordability because, they argue, such a benchmark would not account for local circumstances that affect affordability.⁹⁷⁰ For example, the Alaska Tel. argues that a national benchmark based on affordability cannot be reflective of small companies and circumstances found in rural areas.⁹⁷¹ In addition, the Media Access Project contends that a single national affordability benchmark would leave services unaffordable for many low-income customers while providing an unnecessary

⁹⁶² Ameritech comments at 10; PacTel comments at 20; Sprint comments at 9; USTA comments at 14-15; U S West comments at 8; NCTA further comments at 2.

⁹⁶³ GTE comments at 7-8.

⁹⁶⁴ Sprint further comments at 2.

⁹⁶⁵ AT&T further comments at 4. *See also* Florida PSC further comments at 5-6.

⁹⁶⁶ *See, e.g.*, CompTel further comments at 6-7; GCI further comments at 2; MCI further comments at 2; TCI further comments at 8.

⁹⁶⁷ BellSouth further comments at 3.

⁹⁶⁸ TCI further comments at 9.

⁹⁶⁹ Florida PSC further comments at 6.

⁹⁷⁰ *See, e.g.*, Citizens Utilities further comments at 3; ITC further comments at 2; MFS further comments at 11; NECA further comments at 3; NYNEX further comments at 1-2; RTC further comments at 8; Time Warner further comments at 10; Washington UTC further comments at 5.

⁹⁷¹ Alaska Tel. further comments at 6.

subsidy for wealthier consumers.⁹⁷² Teleport suggests that, instead of establishing a nationwide affordability benchmark, the Commission should establish guidelines for the states to follow in prescribing rates within their jurisdictions.⁹⁷³

304. Other opponents of a national affordability benchmark include PacTel, which argues that the plain language of the statute calls into question any effort to establish a national affordability standard.⁹⁷⁴ Further, PacTel contends that states might raise their local rates to the national benchmark in order to qualify for federal universal service support.⁹⁷⁵ PacTel maintains that, if a national affordability benchmark were to be compared to the results of a proxy model for purposes of determining how much interstate support a carrier should receive, as it believes the third question of the Public Notice implies, jurisdictional separations problems could result.⁹⁷⁶ NECA contends that the establishment of a nationwide affordability benchmark might be viewed as a significant expansion of federal regulation into an area traditionally regulated by state commissions.⁹⁷⁷ In addition, MFS argues that the Joint Board should not attempt to incorporate an affordability benchmark into a proxy model, but, instead, should base support amounts on the costs generated by the models.⁹⁷⁸ Washington UTC argues that a nationwide benchmark rate might be higher than those rates produced in a competitive market.⁹⁷⁹

305. Methodologies. Commenters propose various methods for setting an affordability benchmark, linked either to loop costs, telephone rates, or consumer income. For example, USTA advocates an interstate affordability benchmark that is equal to the nationwide average loop cost.⁹⁸⁰ Ameritech argues in favor of basing an affordability benchmark on statewide average

⁹⁷² MAP further comments at 2-3.

⁹⁷³ Teleport further comments at 3.

⁹⁷⁴ PacTel further comments at 8.

⁹⁷⁵ *Id.* at 11.

⁹⁷⁶ PacTel further comments at 8-9 (arguing that changes in jurisdictional separations, a true-up of other interstate prices, or restricting a company's high cost federal funding to current levels of federal CCL and universal service funding would be required if support was determined by comparing a national benchmark rate with proxy costs).

⁹⁷⁷ NECA further comments at 4.

⁹⁷⁸ MFS further comments at 6-7.

⁹⁷⁹ Washington UTC further comments at 4.

⁹⁸⁰ USTA comments at 15.

rates or costs for "core" services, or a specified percentage of statewide median income.⁹⁸¹ Citizens Utilities advocates the establishment of a national price affordability standard for each universal service "basket" of similar services.⁹⁸² Under Citizens Utilities' plan, a national price affordability standard would be based on the total unseparated cost to end users for the service, and would be set at one standard deviation above the national average for the services within a given "basket" plus the federal subscriber line charge.⁹⁸³

306. Some commenters advocate basing an "affordability benchmark" on existing rates. For example, Florida PSC asserts that an initial affordability benchmark should be the nationwide average rate for residential service, which, it states, equals approximately \$20.00.⁹⁸⁴ West Virginia Consumer Advocate concludes that either existing rates or an amount equal to 115 percent of the national average rates should be designated as the affordability benchmark.⁹⁸⁵ OITA-WITA suggests that a benchmark be developed from existing rates on a nationwide or statewide basis.⁹⁸⁶ Similarly, Time Warner proposes establishing an affordability benchmark at the highest rate currently being charged by the ILEC, on a local basis.⁹⁸⁷ Under Time Warner's plan, service would be deemed affordable if the price is set at or below the highest rate level applicable for any exchange within a given jurisdiction for which residential penetration is within five percentage points of the jurisdiction-wide average.⁹⁸⁸ Sprint supports creating a benchmark based on the national average for basic residential telecommunications service in urban areas.⁹⁸⁹ Siskiyou argues that any affordability benchmark for rural areas should be based on urban rates.⁹⁹⁰

⁹⁸¹ Ameritech comments at 10.

⁹⁸² Citizens Utilities comments at 10.

⁹⁸³ *Id.* at 10-11.

⁹⁸⁴ Florida PSC further comments at 4 (*citing* FCC publication entitled *Reference Book: Rates, Price Indexes and Household Expenditures for Telephone Service*).

⁹⁸⁵ West Virginia Consumer Advocate comments at 9.

⁹⁸⁶ OITA-WITA comments at 15-16.

⁹⁸⁷ Time Warner comments at 7. *See also*, Time Warner further comments at 10 (opposing the establishment of a nationwide affordability benchmark).

⁹⁸⁸ Time Warner comments at 7.

⁹⁸⁹ Sprint comments at 4, 9 (arguing that the urban rate may be determined by considering the Commission's residential service prices in *Trends in Telephone Service* or the service prices collected by Balcer and published by NARUC in *Exchange Service Telephone Rates*).

⁹⁹⁰ Siskiyou reply comments at 2.

AT&T favors a nationwide affordability benchmark based on the weighted average of current local rates for Tier 1 territories, plus the SLC.⁹⁹¹

307. Revenue-Based Benchmark. Some parties suggest that the benchmark be based on the revenues-per-line earned by the carrier. AARP argues that all sources of revenue should be considered in determining how to establish the amount a carrier may receive from the universal service support fund.⁹⁹² AARP states that carriers generate revenues from a variety of services, such as CLASS services, and that, since those services use the loop, they should help cover its costs. Therefore, AARP asserts that the revenues from all services that use the loop should be included when determining whether carriers in high cost areas need support to maintain the loop.⁹⁹³ Ad Hoc Telecom Users also contends that total revenues must be considered in determining the amount of support a carrier should receive.⁹⁹⁴ Ad Hoc Telecom Users suggests that the Commission look at yellow pages revenues, as well as the revenues from the entire package of service purchased by residential customers in connection with the purchase of the dialtone line.⁹⁹⁵

308. Other. Maine PUC maintains that proxy models are engineering models that estimate costs, but do not use rates as an input nor predict rates as an output.⁹⁹⁶ Maine PUC recommends that the Commission base universal service support on the costs of providing universal service support, not upon rates.⁹⁹⁷ NYNEX states that high cost support should be provided through the use of a benchmark level. It states that the Commission could decide, for instance, to use a number of levels of support based on the cost of providing service in a CBG. For example, carriers could be given \$10.00 per month in support for CBGs that have total monthly cost of \$60.00 to \$70.00, \$15.00 per month for CBGs that have costs of \$70.00 to \$80.00, and so on.⁹⁹⁸ U S West suggests the establishment of a Federal Funding Benchmark (FFB), and recommends that FFB be set at \$30.00 per month since that would result in a fund of

⁹⁹¹ AT&T comments at 16-17 (also arguing in favor of increasing the SLC).

⁹⁹² AARP comments at 19.

⁹⁹³ *Id.* at 19-20.

⁹⁹⁴ Ad Hoc Telecom. Users comments at 13.

⁹⁹⁵ *Id.* at 17.

⁹⁹⁶ Maine PUC further comments at 4.

⁹⁹⁷ *Id.* at 4.

⁹⁹⁸ NYNEX comments at 14.

approximately \$5 billion according to the original BCM with the ARMIS expense factor.⁹⁹⁹ In addition, several parties argue that, regardless of whether an affordability benchmark is established, current amounts of high cost support must be retained to ensure affordable rates in rural areas.¹⁰⁰⁰

3. Discussion

309. We believe that it is desirable for the Commission to set a nationwide benchmark to use in calculating the amount of support eligible telecommunications providers will receive. This is consistent with comments filed by several parties. Final determination of this issue, however, must also take into consideration the contribution base for the federal universal service mechanisms. We recommend that the benchmark the Commission adopts should be easy to administer and should be set to minimize the probability that residential rates would increase while the new support mechanisms are being implemented. The carrier's draw from the federal universal service support mechanism for serving a customer would be based on the difference between the costs of serving a subscriber calculated using a proxy model and the benchmark. A carrier could draw from the fund for providing supported services to a subscriber only if the cost of serving the subscriber, as calculated by a proxy model, exceeds the benchmark.

310. There are essentially three approaches to setting such a nationwide benchmark to be used with the proxy model for calculating support. In setting a benchmark, the Commission could use average revenues per line, average rates, or relative cost. We recommend that the Commission adopt a benchmark based on the nationwide average revenue-per-line. We agree with those commenters who argue that revenues from local exchange and access services should be considered in determining support payments. They argue effectively that revenues from discretionary services are tied to the purchase of supported services.¹⁰⁰¹ Revenues-per-line are the sum of the revenue generated by local, discretionary,¹⁰⁰² access services and others as found appropriate divided by the number of loops served. In determining the level of the benchmark, we must be cognizant of the potential effect from competition on these anticipated revenues. In particular, competition could drive the rates for local, discretionary and exchange access services towards incremental cost, thereby reducing the revenues per line; alternatively, it could spur carriers to offer new services that could increase their revenues. We therefore also recommend

⁹⁹⁹ U S West comments at 12.

¹⁰⁰⁰ See, e.g., NECA comments at 11-12; New Hope Tel. comments at 1; Ragland Tel. Co. comments at 1; SDITC reply comments at 4-5; Minnesota Indep. Coalition further comments at 6-7.

¹⁰⁰¹ AARP comments at 19-20; Ad Hoc Telecom. Users comments at 17; CPI *ex parte* at 6 (dated Oct. 4, 1996)

¹⁰⁰² Discretionary services include services that are added on to basic local service, e.g., call waiting, call forwarding or caller ID.

that the Commission review the benchmark on a periodic basis, and consider the need to make appropriate adjustments.

311. We believe that setting the benchmark at the nationwide average revenue-per-line is desirable because that average reflects a reasonable expectation of the revenues that a telecommunications carrier would be reasonably expected to offset its cost, as estimated in the proxy model. A revenue benchmark should be based on local, access, and other telecommunications revenues. The cost estimated by the proxy models includes the cost of the facilities used to provide those services.¹⁰⁰³ For example, the total forward-looking cost of the loop is included in the costs estimated by the proxy models rather than assigned to the various services that use the loop. The proposed proxy models' switch costs include the cost of the software that allows the switch not only to process a local call but also to provide the entire array of discretionary services. But other costs are not included in the proposed proxy models, such as the cost of tandem switches used to provide interexchange toll service or other costs of a toll network, and thus revenue from toll services should not be included in the benchmark. A revenue-per-line benchmark, therefore, would be consistent with the cost estimation process used to determine the cost of service in high cost support areas.

312. We find that it is advisable to construct two benchmarks, one for residential service and a second for single line business service, since we are recommending that primary residential and single business lines be supported. The residential benchmark, if ultimately adopted by the Commission, should be set equal to the sum of the revenue generated by local, discretionary, and access services provided to residential subscribers divided by the number of residential lines. The single line business benchmark should be set equal to the sum of the revenue generated by local, discretionary, and access services provided to single line business subscribers divided by the number of single line business lines.

313. Once the form of revenue benchmark is selected, a decision must be made as to whether the benchmark is set at the nationwide average or by some other method. Using the nationwide average revenue would encourage carriers to market and introduce new services in high cost areas. Carriers that successfully introduce and market new services will benefit from doing so, and those carriers that fail to introduce new services or who lose customers to their competitors will not receive universal service support funds to replace the foregone revenue. This decision will provide carriers the incentive to upgrade their service offerings in high cost areas, and therefore, maintain high quality service in rural areas that is comparable to the service offered in urban areas.

314. We are unpersuaded by the argument of some commenters that the benchmark

¹⁰⁰³ Letter from Glenn Brown, U S West, to William F. Caton, Acting Secretary, FCC (dated Sept. 4, 1996). Letter from Richard N. Clarke, AT&T, to William F. Caton, Acting Secretary, FCC (dated Sept. 10, 1996).

should vary in accordance with the average household income in each state.¹⁰⁰⁴ We note that the telephone penetration rate is relatively constant across large ranges of income, except that telephone penetration decreases significantly for low-income households.¹⁰⁰⁵ Therefore, we conclude that the impact of household income should be addressed through programs directed at helping low-income households obtain and retain telephone service, rather than as part of our high cost mechanism.¹⁰⁰⁶ We agree with commenters' arguments that a national benchmark would enable the Commission to assure a reasonable support level to all carriers, and would be easier to administer than state or local benchmarks.¹⁰⁰⁷ Final determination of this issue, however, must also take into consideration the revenue base for universal service contributions.

315. We also do not support tying the benchmark to average rates for residential and single line business service because residential and single business service are only two of the services provided over the facilities for which costs are included in the proxy model cost estimates.¹⁰⁰⁸ Therefore, a rate benchmark would be inconsistent with the method we are recommending for determining the cost of providing the network used to provide the supported services. The average rate benchmark ignores the revenue generated from the customer that contributes to the joint and common costs of providing both that service and those services designated for support. Setting the benchmark equal to average residential and single line business rates would allow carriers to recover revenue for some discretionary services twice, once from the customer and once from the universal service fund. We are also concerned with proposals that tie the benchmark to rates because some proposals are tied to the highest available residential rate and others are tied to the weighted average of all residential rates.¹⁰⁰⁹

316. Using a national benchmark set at the average local rate will also result in a outcome that is inappropriate in conjunction with a proxy cost model. Use of such an amount will

¹⁰⁰⁴ SWBT comments at 9-12; BellSouth further comments at 3.

¹⁰⁰⁵ Monitoring Report, CC Docket No. 87-339, May 1996, Prepared by Federal and State Staff for the Federal-State Joint Board in CC Docket No. 80-286, Table 1.4.

¹⁰⁰⁶ See *infra* section VIII.

¹⁰⁰⁷ See, e.g., CompTel further comments at 6-7; GCI further comments at 2; MCI further comments at 2; Sprint further comments at 2; TCI further comments at 8.

¹⁰⁰⁸ The average residential flat service rate including the SLC and excluding taxes, 911, and other surcharges is currently approximately \$17.20, while the average lowest generally available rate is \$10.14. Monitoring Report, CC Docket No. 87-339, May 1996, Prepared by Federal and State Staff for the Federal-State Joint Board in CC Docket No. 80-286, Table 5.7. (The table shows average rates, including SLC and taxes and other surcharges, for 95 urban areas across the nation.)

¹⁰⁰⁹ See, e.g., OITA-WITA comments at 15-16; Time Warner comments at 7; West Virginia Consumer Advocate comments at 9; Florida PSC further comments at 4.

tend to produce a universal service fund that will over compensate the provider of service. Such an amount could create a large universal service fund that ultimately will be recovered from customers through higher rates, and may result in some customers having to drop off the network.

317. We do not believe that a benchmark that is tied to average cost calculated by the proxy models should be relied on at this time.¹⁰¹⁰ In order to establish the need for support it is best to compare revenue to cost rather than to examine only the cost side of the equation. Other service revenue can offset the high cost so that residential and single business rates remain affordable even in above average cost areas.¹⁰¹¹ We recognize, however, that in the future the use of nationwide average revenues may no longer be appropriate because of the changing nature of the telecommunications marketplace. Some carriers may package local and long distance services as part of their array of service offerings to the public in order to distinguish themselves from other providers of telecommunications services. At such time it might be necessary to reevaluate the use of a benchmark based on average nationwide revenues per line for local, discretionary, and access services. We note that the California PUC recently decided to use such a cost benchmark to determine support levels for the California state universal service fund.¹⁰¹²

D. Competitive Bidding

1. Background

318. The NPRM sought comment on whether competitive bidding could be used to set the level of universal service support in rural, insular, and high cost areas.¹⁰¹³ Specifically, the Commission asked whether relying on competitive bidding would be consistent with section 214(e), the provision that specifies the circumstances under which telecommunications carriers are eligible to receive universal service support.¹⁰¹⁴ The NPRM sought comment on a competitive bidding system in which carriers offering all of the services supported by universal service mechanisms would bid on the level of assistance per line that they would need to provide such services. The NPRM explained that such an approach would attempt to harness competitive forces to minimize the cost of universal service. The NPRM suggested that the level of support that any eligible carrier could receive would be set by the lowest bid. To induce competitors to underbid one another, rather than merely accepting the established level of assistance, the NPRM

¹⁰¹⁰ Ameritech comments at 10; USTA comments at 15.

¹⁰¹¹ For example, rural telephone companies often have low local exchange rates, but high access revenues.

¹⁰¹² See Cal. P.U.C. R.95-01-020/I.95-01-021 (Oct. 25, 1996).

¹⁰¹³ NPRM at para. 35.

¹⁰¹⁴ *Id.*

suggested that the low bidder might receive an "incentive bonus."¹⁰¹⁵ Finally, the Commission acknowledged that the level of competition in high cost areas may not warrant using competitive bidding yet.¹⁰¹⁶

319. In its Public Notice, the Common Carrier Bureau sought further comment about implementing a competitive bidding system. The Bureau sought comment on whether a competitive bidding plan should be altered when applied to areas in which there is little competition; what safeguards, if any, should be adopted to prevent collusion or the use of competitive bidding by large carriers to drive out small incumbents; what safeguards, if any, are needed to ensure quality of service; how to provide incentives to ensure aggressive bidding; and how to determine the appropriate geographic area for which eligible carriers bid for universal service support.¹⁰¹⁷

2. Comments

320. General comments. The commenters are divided in their views on whether to adopt a competitive bidding system. A few LECs and some industries that would potentially compete with ILECs to provide local service, such as wireless and cable companies, support the use of competitive bidding.¹⁰¹⁸ Opponents of using a competitive bidding system include most LECs and some IXC's, such as AT&T and MCI.¹⁰¹⁹ PacTel argues that competitive bidding could be used to adjust the level of universal support to any given area once the initial support level has

¹⁰¹⁵ *Id.* at para. 36.

¹⁰¹⁶ *Id.* at para. 37.

¹⁰¹⁷ Public Notice at 7.

¹⁰¹⁸ *See, e.g.*, ALTS comments at 12; AirTouch comments at 12-13; Frontier comments at 9; GTE comments at 11; NCTA comments at 11; PCIA comments at 15-16; Time Warner comments at 10-11; Western comments at 12-13; Comnet Cellular reply comments at 6. *See also* CSE Foundation comments at 11-12; LDDS comments at 12-13 (arguing that bidding cannot take place until competitors enter the market -- until then, the Commission should continue to rely on the ILEC's underlying costs of service); Alliance of Public Technology further comments at 12 (contending that competitive bidding can speed the development of advanced networks).

¹⁰¹⁹ *See, e.g.*, ACTA comments at 7; Alabama-Mississippi Tel. Ass'n comments at 6; Alaska Tel. comments at 8; BellSouth comments, Att. 1 at 35-35; GVNW comments at 13; NYNEX comments at 10 n.15; OITA-WITA comments at 14-15; RTC comments at 17; SWBT comments at 16-17; Telec Consulting at 11-12; Teleport comments at 9-10; United Utilities comments at 2; Fred Williamson comments at 14; NECA reply comments at 13; AT&T further comments at 36; Ameritech further comments at 37; MCI further comments at 24; MFS further comments at 44; Minnesota Indep. Coalition further comments at 15-16; TCI further comments at 31-32; USTA further comments at 29-30; U S West further comments at 23; Western Alliance further comments at 13.

been set using the CPM.¹⁰²⁰ PacTel recommends that the Commission open a further proceeding to address questions on how competitive bidding could be structured fairly and appropriately.¹⁰²¹ GSA believes that the Commission should approve the concept of competitive bidding and should leave its implementation to the individual state commissions.¹⁰²² The few state agencies that commented on this issue also have divergent views.¹⁰²³ California PUC, for example, agrees with the Commission's statement in the NPRM that market conditions may not warrant the introduction of a competitive bidding plan at present.¹⁰²⁴ Florida PSC, although finding merit in competitive bidding after entry has occurred, expresses concern that any bidding plan that explicitly or implicitly results in exclusion of carriers may be inconsistent with section 214(e). Florida PSC concludes that this question need not be resolved now.¹⁰²⁵

321. Several commenters recommend that a competitive bidding system be used only for the more limited purpose of selecting carriers to serve areas that no carrier is serving or for areas that no carrier is willing to serve at the subsidy level established through another mechanism.¹⁰²⁶ California PUC contends that such a limited use of competitive bidding is appropriate and administratively feasible.¹⁰²⁷ AT&T contends that unserved areas are likely to have few customers, making it economical for service to be offered by only one carrier that can be selected through a bidding process.¹⁰²⁸ MCI suggests that bidding be used only in "those few areas" where a carrier becomes unwilling or unable to offer service at the price and universal

¹⁰²⁰ PacTel further comments at 44.

¹⁰²¹ *Id.* at 44.

¹⁰²² GSA reply comments at 13.

¹⁰²³ *Compare* New York CPB comments at 11 (arguing that the Commission should consider a bidding process in areas where more than one provider is willing to offer core services); Wisconsin PSC comments at 10 (contending that bidding should be considered where competition is evolving between legitimate, established and comparable providers), *with* CNMI comments at 18 (maintaining that markets most in need of support are unlikely to see competition and bidding would be of no utility in uncompetitive markets); New Jersey Advocate comments at 13 (suggesting that bidding may not focus on problems requiring support).

¹⁰²⁴ California PUC comments at 12.

¹⁰²⁵ Florida PSC comments at 11-12.

¹⁰²⁶ *See, e.g.*, California PUC comments at 13-14; USTA comments at 20; AT&T further comments at 37; MCI further comments at 21-22.

¹⁰²⁷ California PUC comments at 14.

¹⁰²⁸ AT&T further comments at 37.

service support level determined by the proxy model.¹⁰²⁹

322. Supporters of adopting a competitive bidding system argue that it best comports with the pro-competitive principles of the 1996 Act because it is a market-based approach.¹⁰³⁰ Many commenters that support a competitive bidding system contend that it would reduce the costs of universal services support.¹⁰³¹ CSE Foundation argues that, because of the importance of understanding the true costs of providing service, the appropriate level of support for high cost areas should be determined whenever possible through a process of competitive bidding for a specific geographical area, possibly CBGs.¹⁰³² Time Warner asserts that, with an appropriately structured incentive, competitive bidding can best assure that areas are served by telecommunications carriers in the most economically efficient manner possible.¹⁰³³ GTE contends that competitive bidding has advantages over the use of proxy cost models. These advantages include the elimination of the need to modify cost models over time and the incorporation of non-price considerations, such as regulatory burdens, that are not captured by the models.¹⁰³⁴

323. Some commenters supporting a competitive bidding proposal argue that only

¹⁰²⁹ MCI further comments at 21.

¹⁰³⁰ *See, e.g.*, Frontier comments at 9; GTE comments at 11 (arguing that bidding is consistent with intent of the 1996 Act to maximize reliance on market forces and minimize regulation); Western comments at 12-13. *See also* NCTA comments at 11 (arguing that competitive bidding would give new entrants a reasonable opportunity to receive funds); CSE Foundation reply comments at 6 (maintaining that bidding would encourage competition); Comnet Cellular reply comments at 6 (contending that competitive bidding would put all prospective eligible carriers on an equal footing).

¹⁰³¹ *See, e.g.*, ALTS comments at 12; AirTouch comments at 12-13; Frontier comments at 9; GTE comments at 11; NCTA comments at 11; PCIA comments at 15; Western comments at 12-13; Comnet Cellular reply comments at 6.

¹⁰³² CSE Foundation comments at 11-12.

¹⁰³³ Time Warner comments at 10-11.

¹⁰³⁴ GTE comments at 11.

carriers willing to accept COLR obligations¹⁰³⁵ should be allowed to bid to serve an area.¹⁰³⁶ GTE argues that a COLR requirement is essential to establishing a competitive bidding plan that would be consistent with the 1996 Act. It contends that a bidding plan would not be competitively neutral if one carrier, most likely the incumbent, were required to meet COLR obligations, while a new entrant would receive the same level of universal service support without those same obligations.¹⁰³⁷ Moreover, GTE asserts, a competitive bidding plan that does not have a COLR requirement would never be "sufficient" to preserve universal service as required by the 1996 Act. It maintains that the incumbent, subject to COLR requirements, would never be able to sustain its obligation to serve all customers in the service area in the face of entry by other carriers that could selectively serve only the customers they wished, yet receive the same level of funding.¹⁰³⁸ Finally, GTE contends that, although section 214 requires as a condition for receiving universal service support that a carrier agree to provide the core universal services to all customers in the service area,¹⁰³⁹ the Commission and the states must specify the terms and conditions of that obligation. GTE maintains that the most important of these conditions is that all carriers receiving support be required to meet the same obligations.¹⁰⁴⁰ GSA argues that a competitive bidding system is beneficial only if it supports universal service, minimizes the level of support payments and maintains competitive neutrality -- which can be accomplished only if universal service support is restricted to carriers agreeing to be COLRs.¹⁰⁴¹

324. The commenters opposing adoption of a competitive bidding system raise various arguments. Some commenters argue that competitive bidding would degrade service quality

¹⁰³⁵ GTE defines a COLR as a carrier eligible for universal support that undertakes the obligations established by a state agency, within federal guidelines, as a condition of receipt of federal universal service support. GTE comments at 8 n.19. GTE suggests that such obligations might include a ceiling on the rate the COLR can charge, terms and conditions of service and quality standards, limits on the carrier's ability to exit, and an obligation to serve all customers in the area. GTE further comments at 46-48.

¹⁰³⁶ *See, e.g.*, CSE Foundation comments at 12; GTE comments at 8-9; GTE further comments at 46-47. *See also* Ameritech Ex Parte Materials Regarding Competitive Bidding Processes, July 31, 1996 at 6 (arguing that universal support must be portable only to other COLRs); GSA further comments at 11-12; SWBT further comments (erratum) at ii (stating that, although it opposes use of competitive bidding system, if one is adopted, all winning bidders must be willing to be bound by all of the carrier of last resort and other obligations imposed on the incumbent LEC).

¹⁰³⁷ GTE further comments at 46.

¹⁰³⁸ *Id.* at 46-47.

¹⁰³⁹ *See* 47 U.S.C § 214(e)(1) & (2).

¹⁰⁴⁰ GTE further comments at 47-48.

¹⁰⁴¹ GSA further comments at 11-12.

because carriers would achieve low bids by reducing quality.¹⁰⁴² Other commenters contend that a competitive bidding system would be costly, difficult to administer, and not likely to be an improvement over other methods of establishing costs.¹⁰⁴³ Several commenters contend that a competitive bidding system would be susceptible to "gaming,"¹⁰⁴⁴ either by the ILEC who might set artificially low bids to keep competitors out,¹⁰⁴⁵ or by large carriers with ample resources that might underbid smaller incumbents in order to drive them out.¹⁰⁴⁶ BellSouth argues that a new entrant, a major IXC for example, that would provide service primarily through resale, could enter a very low bid in order to effectively eliminate support to the underlying facilities-based competitor.¹⁰⁴⁷ SWBT contends that a new entrant might construct facilities only to serve the lowest cost customers and serve the remainder by resale of the ILEC's services or by use of the ILEC's network elements.¹⁰⁴⁸ It argues that the new entrant would have an unfair advantage in the bidding process because, as a result of its lower facilities costs to serve a select few customers, it can underbid the ILEC that must provide facilities for all remaining higher cost customers.¹⁰⁴⁹

325. Many rural and smaller LECs assert that setting support levels through competitive bidding would be disastrous for ILECs that have deployed significant infrastructure to serve high cost areas and that rely on the current level of support for financial viability.¹⁰⁵⁰ Fred Williamson argues that bidding could be unfair to ILECs that have been required by regulatory authorities to build facilities for future use and might not be able to obtain funds for those facilities if a

¹⁰⁴² See, e.g., Ardmore Tel. comments at 4-5; Mon-Cre comments at 3-4; NECA comments at 11; RTC comments at 17; Western Alliance comments at 6-7; NECA further comments at 29.

¹⁰⁴³ See, e.g., BellSouth comments, Att. 1 at 35-36; NYNEX comments at 10 n.15 (contending that bidding would be costly and not necessarily better than proxy system); SWBT comments at 16-17 (maintaining that the costs of properly structuring a bidding process, even if could be done, could best be spent elsewhere); Teleport comments at 9-10 (arguing that auctions are inferior to using cost proxy models to set support levels).

¹⁰⁴⁴ See, e.g., SWBT comments at 17 n.29.

¹⁰⁴⁵ See, e.g., Merit comments at 3; United Utilities comments at 2.

¹⁰⁴⁶ See, e.g., OITA-WITA comments at 14-15; RUS comments at 5; United Utilities comments at 2-3.

¹⁰⁴⁷ BellSouth further comments at 45-46.

¹⁰⁴⁸ SWBT further comments at 36.

¹⁰⁴⁹ *Id.*

¹⁰⁵⁰ See, e.g., GVNW comments at 13 (arguing that bidding process might result in "death spiral" for incumbent LECs that have deployed significant infrastructure and rely on current level of support for financial viability); Montana Indep. Telecom. comments at 9-10 (same).

competitive bidding system were used.¹⁰⁵¹ NECA contends that issues of confiscation could arise if ILECs are required to provide facilities or services at non-compensatory rates established by unrealistic bids submitted by new entrants.¹⁰⁵² NECA also argues that competitive bidding would require "unprecedented Commission involvement in intrastate issues such as local service quality and monitoring."¹⁰⁵³

326. Opponents of competitive bidding also argue that it is inconsistent with the 1996 Act.¹⁰⁵⁴ RTC, for example, contends that, because the 1996 Act grants to the states the authority to designate carriers eligible for universal service support, the Commission does not have the authority to compel states to use a competitive bidding process.¹⁰⁵⁵ Century contends that the Commission does not have authority to establish the size of a service area for competitive bidding purposes that would differ from the size of the service area established by the state pursuant to section 214(e)(5).¹⁰⁵⁶ GVNW argues that a bidding process will likely not meet the 1996 Act's mandate for the establishment of specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service as required by sections 254(b) and 254(d).¹⁰⁵⁷ AT&T contends that competitive bidding is fundamentally at odds with the 1996 Act's pro-competitive goals if its result is the award of exclusive rights to one carrier, thus denying consumers the choice of service providers.¹⁰⁵⁸

327. Competitive bidding proposals. Among commenters offering competitive bidding proposals, GTE submitted the most comprehensive, detailed competitive bidding plan. Under GTE's proposal, the initial level of support for the incumbent would be based on the difference between the rates the incumbent COLR is allowed to charge and the "estimate of the market rate

¹⁰⁵¹ Fred Williamson comments at 13-14.

¹⁰⁵² NECA further comments at 29-30.

¹⁰⁵³ *Id.* at 29.

¹⁰⁵⁴ *See* Alabama-Mississippi Tel. Ass'n comments at 6 (arguing that bidding is of "doubtful legality").

¹⁰⁵⁵ RTC comments at 17. *See also* United Utilities comments at 2 (supporting a federal competitive bidding scheme that has the Commission designating carriers eligible for support by awarding high-cost assistance to the successful bidder usurps the role assigned to the states in section 214).

¹⁰⁵⁶ Century further comments at 28.

¹⁰⁵⁷ GVNW comments at 13-14. *See also* ITC further comments at 21 (arguing that the result of any auction will not fulfill the requirement of "predictable" support); NECA further comments at 29 (contending that the levels set by bidding would likely result in insufficient support payments, in violation of section 254); RTC further comments at 26 (maintaining that bidding would not be a predictable mechanism).

¹⁰⁵⁸ AT&T further comments at 36-37.

derived from a proxy cost model."¹⁰⁵⁹ Under this plan, once other carriers want to enter a given market and are willing to accept all the COLR obligations imposed on the incumbent LEC, a competitive bidding process would replace the proxy-based system used to establish universal service support levels in that market. Competitors that wish to become COLRs in a given area would submit a notice of intent to bid to the state commission.¹⁰⁶⁰ The notice would trigger for that area an auction process that GTE proposes be held at regular intervals, perhaps twice a year.¹⁰⁶¹ The form of the auction would be a sealed bid, single-round auction.¹⁰⁶² The auction process would be administered by the states subject to Federal guidelines.¹⁰⁶³ GTE proposes that an entrant could nominate a set of CBGs as the area it wishes to serve.¹⁰⁶⁴ Those companies making nominations would be required to establish their qualifications to satisfy the COLR requirement.¹⁰⁶⁵ Subject to penalties, bidders would be permitted to withdraw winning bids.¹⁰⁶⁶

328. GTE proposes that, initially, the Commission or the states would establish a maximum support rate for the area to be auctioned based on a multiple of the predicted cost under an adopted proxy cost model.¹⁰⁶⁷ In order to induce aggressive and low bidding, only those carriers that bid within a specified range of the lowest bidder would be eligible to receive support.¹⁰⁶⁸ The support levels would be the same for each of the carriers in this range and would be set equal to the highest accepted bid in that range.¹⁰⁶⁹ If the auction results in a new COLR for the area, either in addition to the incumbent or in place of the incumbent, the support levels and obligations for that area would be frozen for three years. No new entrants could receive universal

¹⁰⁵⁹ GTE further comments at 44.

¹⁰⁶⁰ *Id.* at 44.

¹⁰⁶¹ *Id.* at 44.

¹⁰⁶² *Id.* at 45. Under this form of auction, each bidder tenders a single sealed bid. Bidders would not know what others are bidding and the bidders would have only one opportunity to submit a bid for an area. GTE further comments, Att. 1 at 21-22.

¹⁰⁶³ GTE reply comments at 19.

¹⁰⁶⁴ GTE further comments at 54-55.

¹⁰⁶⁵ GTE further comments, Att. 1 at 18.

¹⁰⁶⁶ GTE further comments, Att. 1 at 19.

¹⁰⁶⁷ GTE further comments, Att. 1 at 17.

¹⁰⁶⁸ GTE comments at 11-12.

¹⁰⁶⁹ GTE further comments, Att. 1 at 4.

support during this time, although they could enter and provide service without such support. After the three-year period, the area could be bid upon again.¹⁰⁷⁰

329. MCI contends that GTE's proposal will reduce both actual and potential competition because subsidies would not be available to carriers that lose the auction or do not bid.¹⁰⁷¹ It also argues that the proposal hampers the ability of carriers to enter multiple markets and thus recognize potential cost synergies and interferes with their ability to implement their entry strategies. This could occur, states MCI, if a bidder is among the winners for some areas, but not in others, that the carrier deems important to its entry strategy. MCI contends that GTE's solution to this problem -- allowing bidders to withdraw bids if the failure to win in one or more areas interferes with the entrant's global entry strategy -- would not be effective. MCI also argues that, by forcing new entrants to participate in an auction for each market it wants to enter, GTE's proposal would raise new entrants' costs and thus would create a barrier to entry. MCI also raises questions about how GTE's auction proposal would affect the rates charged for unbundled network elements. Finally, MCI asserts that, as "in any regulatory regime that prohibits entry," regulators would have to monitor carriers to ensure a specified level of performance. MCI asks what remedies regulators would have if the carrier fails to adequately perform if other carriers do not have access to universal service support for that market. MCI concludes that, if all firms have access to such support, the need to monitor performance would be substantially reduced.¹⁰⁷²

330. A few other commenters offered general proposals or suggestions on how to structure a competitive bidding process. CSE Foundation, while generally supportive of the competitive system initially outlined in GTE's comments,¹⁰⁷³ identified certain potential problems with GTE's proposal and suggested possible solutions. It argues that basing bids on small areas like CBGs, as GTE proposes, might prevent carriers from enjoying the economies of scale or scope that could be obtained from bidding on larger areas. To assist carriers in bidding for larger areas, CSE Foundation suggests an open, multiple-round auction that would allow bidders to gain information about the costs of providing services to different areas as the carrier learns what other carriers have bid on those areas.¹⁰⁷⁴ It also recognizes that incentives must be developed to encourage low cost providers to bid aggressively. CSE Foundation asserts that GTE's proposal

¹⁰⁷⁰ GTE further comments, Att. 1 at 18.

¹⁰⁷¹ Letter from Kimberly M. Kirby, Senior Manager of FCC Affairs for MCI, to William F. Caton, Secretary, FCC, October 25, 1996.

¹⁰⁷² Letter from Kimberly M. Kirby, Senior Manager of FCC Affairs for MCI, to William F. Caton, Secretary, FCC, October 25, 1996.

¹⁰⁷³ GTE's proposal underwent modifications after filing the initial comments upon which CSE Foundation's analysis is based.

¹⁰⁷⁴ CSE Foundation reply comments at 8-9.

to provide universal support payments only to bidders within a specified range of the low bid could provide such an incentive, but may be problematic if it restricts entry.¹⁰⁷⁵ Alternatively, CSE Foundation suggests that higher bidders obtain reduced universal service support.¹⁰⁷⁶ Finally, because the need to finance an investment over many years is particularly important when large-scale, capital-intensive projects are involved, CSE Foundation argues that it is important that the universal service support be guaranteed over some period of time, perhaps five years. It expresses concern, however, over GTE's proposal to exclude from support any new provider during the period of time the support level is guaranteed. As a solution, CSE Foundation tentatively suggests that the right to receive support for a particular market be made transferable.¹⁰⁷⁷

331. Time Warner proposes that the ILEC or any other certificated LEC could submit bids on areas identified by a proxy cost model as high cost areas.¹⁰⁷⁸ Time Warner notes that the 1996 Act appears to preclude using an auction to award exclusive rights to receive universal support for serving a high cost area. Therefore, an incentive to encourage low bids other than exclusive rights must be designed. Time Warner proposes an incentive bonus structure in which the winning (lowest) bidder would receive 100 percent high cost support while all other bidders would receive a smaller percentage.¹⁰⁷⁹ Time Warner also contends that a competitive system cannot work unless all participants have equal access to relevant information. Time Warner thus proposes to require ILECs to disclose fully information about the market, including costs and

¹⁰⁷⁵ *Id.* at 11.

¹⁰⁷⁶ CSE Foundation suggests reducing the subsidy for higher bidders by an amount equal to the difference between their submission and the lowest bid. Thus, if the lowest bid is for \$30.00 in support, then eligible providers bidding \$40.00 would receive \$10.00 less than the winner's amount of support, for total per-subscriber support of \$20.00 (\$30.00 minus \$10.00). CSE Foundation reply comments at 11.

¹⁰⁷⁷ CSE Foundation reply comments at 12-14. Under its proposal, a recipient (or multiple recipients) would still receive a set subsidy for each subscriber it serves. If an alternative carrier without such a subsidy discovers a lower-cost means to provide the same service, the alternative carrier could buy the subsidy rights from any currently eligible provider. CSE Foundation reply comments at 13-14.

¹⁰⁷⁸ Time Warner comments at 9-11.

¹⁰⁷⁹ *Id.* at 11. *See also* TCE further comments at 3 (stating that an incentive payment to the lowest bidder could be considered but would add cost and complexity to the bidding scheme). Time Warner argues that its bonus approach could be enhanced by combining a percentage-based penalty for LECs with non-winning bids with a variable penalty, based on the difference between the low bid and the other LEC's high bid. Time Warner offers this example: Assume a contest in which the low bid, by Carrier A, is \$10.00, and the two other participants, Carriers B and C, bid \$12.00 and \$15.00, respectively. As a starting point, Carriers B and C should receive no more than 80 percent of the winning (low) support amount. Then, in addition, there should be an incremental discount to that support, based on how much the bids by Carriers B and C exceeded the low bid (i.e., some portion of the \$3.00 and \$5.00 dollar differential between their bids and Carrier A's \$10.00 bid). Time Warner further comments at 42.

revenues.¹⁰⁸⁰ Finally, Time Warner recommends periodic rebidding of areas to ensure support levels reflect current costs and competitive conditions.¹⁰⁸¹

332. Century opposes a bonus incentive plan. It argues that a winner's premium to induce low bidding would conflict with the 1996 Act's requirements for high cost compensation that is sufficient and that does not allocate an excessive share of costs to universal service.¹⁰⁸² Century also contends that a winner's premium would be shifted to ratepayers, would give the winning bidder an unwarranted competitive advantage, and would ensure that losing bidders would not recover the amount they had bid as necessary and sufficient to provide universal service.¹⁰⁸³

333. MCI proposes a bidding system only for those few areas that are not served or areas where a carrier becomes unwilling to serve at the established universal support level.¹⁰⁸⁴ MCI suggests that the Commission and the state should together hold the auction that will determine the level of support available in the area.¹⁰⁸⁵ The state would certify the carriers eligible to participate in the auction, and the eligible carriers would bid the amount of support they require to serve the area.¹⁰⁸⁶ Any carrier willing to provide service in that area would then be eligible to receive support at the level submitted by the lowest bidder. If the incumbent was not the winning (low) bidder, it would have to make its network available for resale at net book value to the winning bidder.¹⁰⁸⁷

334. Other commenters addressed, in general, the question of how to provide incentives for carriers to submit low bids. CFA proposes that the lowest bidder should be the only carrier permitted to obtain universal support in the area.¹⁰⁸⁸ MCI, on the other hand, notes that a competitive bidding system is effective in a winner-take-all situation but may be less effective in

¹⁰⁸⁰ Time Warner further comments at 42.

¹⁰⁸¹ *Id.* at 42-43.

¹⁰⁸² Century further comments at 26 (*citing* 47 U.S.C. § 254(e), (k)).

¹⁰⁸³ Century further comments at 26.

¹⁰⁸⁴ MCI comments at 18-19; MCI reply comments at 2.

¹⁰⁸⁵ MCI comments at 18-19.

¹⁰⁸⁶ *Id.* at 19.

¹⁰⁸⁷ MCI further comments at 21-22.

¹⁰⁸⁸ CFA further comments at 21.

this situation because, under section 214(e), all eligible carriers would be entitled to receive universal support at the level determined by the lowest bid.¹⁰⁸⁹ NCTA contends that carriers would have sufficient incentives to offer lower bids because the total level of funding will be reduced for all parties, not just the low bidder.¹⁰⁹⁰ NCTA also argues that the bidding system should be structured so that the total funding level would not increase over that of today.¹⁰⁹¹

335. Areas without competition. Some commenters argue that competitive bidding should not be allowed, or would not be feasible, in areas with no competition.¹⁰⁹² Others propose alternative ways to set the level of support in these circumstances: use the level set by the adopted proxy model;¹⁰⁹³ use the level set by competitive bidding in comparable areas;¹⁰⁹⁴ use some combination of these;¹⁰⁹⁵ or use the level bid by the sole bidder.¹⁰⁹⁶

336. Safeguards. The Public Notice asked what safeguards, if any, should be adopted to ensure that large carriers do not submit excessively low bids as a way to drive out competition.¹⁰⁹⁷ Most commenters responding to this question argue that specific safeguards are unnecessary.¹⁰⁹⁸ Some commenters argue that there would be no incentive for large companies to

¹⁰⁸⁹ MCI further comments at 24.

¹⁰⁹⁰ NCTA further comments at 16.

¹⁰⁹¹ *Id.* at 16.

¹⁰⁹² *See, e.g.*, Century further comments at 25-26; GSA further comments at 11; MCI further comments at 23-24; NCTA further comments at 16; RTC further comments at 26 (arguing that bidding in a non-competitive area violates the 1996 Act).

¹⁰⁹³ *See, e.g.*, CFA further comments at 21; GTE further comments at 45; Time Warner further comments at 41.

¹⁰⁹⁴ *See, e.g.*, Bell Atlantic further comments at 14.

¹⁰⁹⁵ *See, e.g.*, AirTouch further comments at 24.

¹⁰⁹⁶ *See, e.g.*, Ameritech further comments at 37-38. Ameritech further argues that if only one company bids, it should be the sole recipient of universal support if it is the only carrier taking on carrier of last resort obligations. Ameritech further comments at 37-38.

¹⁰⁹⁷ Public Notice at 7.

¹⁰⁹⁸ *See, e.g.*, AirTouch further comments at 25; Alliance for Public Technology further comments at 13 (contending that existing antitrust laws are sufficient); Ameritech further comments at 38; Bell Atlantic further comments at 14 (arguing that there is no reason to believe large companies would bid so low as to lose money and, if they submit compensatory bids, smaller companies, which may have lower costs, should be able to compete); MCI further comments at 24-25; NCTA further comments at 16 (suggesting that, if there is a concern about

submit excessively low bids.¹⁰⁹⁹ AirTouch asserts that predation would be unlikely,¹¹⁰⁰ and it argues that any form of a price floor on bidding would undermine the central goal of a bidding process -- to reduce support levels by encouraging companies to bid down to the underlying service costs and to engage in innovation.¹¹⁰¹ Time Warner agrees, arguing that, if a company is willing to serve an area with little or no support, support levels should not be increased for the purpose of attracting other providers who are not willing to provide service without higher subsidies.¹¹⁰² AirTouch and others contend that one potential problem might involve winning bidders that underbid and then try to renegotiate their support levels upward after the auction closes. To address this problem, they propose precluding winning bidders from renegotiating their bids.¹¹⁰³ ITC recommends comparing bid costs with either actual costs or a proxy and investigating significant deviations as a way to expose predatory conduct.¹¹⁰⁴ Finally, Century asserts that this question exposes a problem with competitive bidding not limited to circumstances of predation, namely that high cost compensation based on the winning (low) bidder's cost is likely to eliminate the ability of the losing companies to provide universal service and to leave their actually-incurred costs uncompensated.¹¹⁰⁵ The result, argues Century, would be to reduce competition and defeat the 1996 Act's intent to make universal service support available to multiple carriers in large and urban LEC service areas.¹¹⁰⁶

337. The Bureau asked what safeguards should be adopted to ensure service quality under a competitive bidding system.¹¹⁰⁷ Many commenters addressing this question suggest that quality standards should be part of the bidding process so that bidders would know in advance

predatory pricing in a particular case, the courts and regulatory agencies should be available to address such concerns); Time Warner further comments at 44.

¹⁰⁹⁹ See, e.g., Ameritech further comments at 38-39; Time Warner further comments at 44.

¹¹⁰⁰ AirTouch further comments at 25-26.

¹¹⁰¹ *Id.* at 25.

¹¹⁰² Time Warner further comments at 44.

¹¹⁰³ AirTouch further comments at 25-26; CFA further comments at 21.

¹¹⁰⁴ ITC further comments at 22.

¹¹⁰⁵ Century further comments at 26-27.

¹¹⁰⁶ *Id.* at 27.

¹¹⁰⁷ Public Notice at 7.

what level of quality was required and then bid accordingly.¹¹⁰⁸ Additionally, some commenters suggest that carriers be penalized, perhaps by a reduction in support, for failure to meet quality standards.¹¹⁰⁹ AT&T contends that, in those limited circumstances in which it would support competitive bidding, state commissions should verify the credentials and capabilities of bidding carriers.¹¹¹⁰ GTE asserts that the requirement in its bidding proposal that carriers comply with state imposed COLR obligations as a condition of obtaining support obviates the need for additional measures.¹¹¹¹ GTE further argues that quality of service concerns attributable to insufficient support levels are more likely to arise because of errors in cost models than when the support level is set by the carriers themselves through the bidding process.¹¹¹² ITC maintains that standards, which must be applied to all carriers, should cover installation speed, repair response, transmission quality, dialtone availability, emergency response, billing quality, and call completions (in areas where concentrators are used).¹¹¹³ Time Warner proposes that, as a condition of being certified as a winning bidder, the carrier must agree to meet the prevailing state quality of service standards.¹¹¹⁴ TCI argues that competition should reduce incentives to lower quality, but any lingering concerns can be diminished by relying on the states to establish safeguards.¹¹¹⁵ Finally, some commenters reiterate their concern that a competitive bidding system would invariably result in quality degradation.¹¹¹⁶

338. Potential collusion. The Bureau also asked how collusion could be avoided in a competitive bidding system.¹¹¹⁷ Some commenters suggest that the Commission rely on its

¹¹⁰⁸ See, e.g., AirTouch further comments at 26; Ameritech further comments at 39; CFA further comments at 22; MCI further comments at 25.

¹¹⁰⁹ See, e.g., Bell Atlantic further comments at 14; CFA further comments at 22; ITC further comments at 22; MCI further comments at 25; Time Warner further comments at 45.

¹¹¹⁰ AT&T further comments at 39.

¹¹¹¹ GTE further comments at 53-54.

¹¹¹² *Id.* at 54.

¹¹¹³ ITC further comments at 22.

¹¹¹⁴ Time Warner further comments at 45. See also NCTA further comments at 16 (arguing that state quality of service standards should be applied to a system of competitive bidding).

¹¹¹⁵ TCI further comments at 33-34.

¹¹¹⁶ See, e.g., RTC further comments at 28-29; RUS further comments at 52. See also Western Alliance further comments at 14.

¹¹¹⁷ Public Notice at 7.

experience in operating the spectrum auctions to devise similar protections against collusion for universal service support auctions.¹¹¹⁸ Time Warner agrees that the Commission must impose stringent penalties for collusion and that the Commission should rely on its experience with other auctions to formulate fair and efficient bidding rules.¹¹¹⁹ Consumer Federation of America argues that collusion would violate criminal statutes and should be fully prosecuted.¹¹²⁰ GTE asserts that its proposed sealed-bid, single-round auction would minimize collusion because, under such a system, there would be powerful incentives for carriers to defect from any pre-bid collusive agreement.¹¹²¹ TCI contends that the Commission set the bonus for the winning (low) bidder at a level sufficient for parties to forgo collusion.¹¹²² Ameritech contends that there is little incentive to collude. It asserts that companies would not submit predatorily low bids because, if successful, the carrier would have to provide service below cost, a difficult tactic to sustain, even if the company could engage in cross-subsidization. Ameritech further argues that companies have no incentive to collude to increase support levels because all companies must contribute to universal service support mechanisms and would seek to keep the overall contribution low.¹¹²³

339. Auction structure. The Public Notice sought comment on whether the structure of the auction should differ if there are fewer bidders and, if so, how.¹¹²⁴ Most commenters that address this specific point argue that there is no reason to change the structure of the auction if there are only a few bidders.¹¹²⁵ GTE contends that its auction proposal will work even if there are only two qualified bidders and, if only one qualified bid is received, the auction would be cancelled.¹¹²⁶ Several commenters, however, do recommend changing the structure of the auction

¹¹¹⁸ See, e.g., Bell Atlantic further comments at 14; NCTA further comments at 16; TCI further comments at 34; Western Alliance further comments at 14. See also MCI further comments at 25 (proposing that, as with PCS auctions, Commission must adopt rules against collusion and advise all bidders that the Commission and the Department of Justice will enforce those rules).

¹¹¹⁹ Time Warner further comments at 46.

¹¹²⁰ CFA further comments at 22.

¹¹²¹ GTE further comments at 54, Att. 1 at 22.

¹¹²² TCI further comments at 34.

¹¹²³ Ameritech further comments at 39.

¹¹²⁴ Public Notice at 7.

¹¹²⁵ See, e.g., Ameritech further comments at 54; Bell Atlantic further comments at 14; ITC further comments at 23; NCTA further comments at 17; Time Warner further comments at 47. Time Warner assumes that the normal case will involve few bidders.

¹¹²⁶ GTE further comments at 45, 54.

and offer some general suggestions. MCI asserts that the structure of the auction should be geared to the anticipated number of bidders, as is the case in the PCS auctions. Thus, for example, the greater the number of bidders, the fewer rounds there should be in a day, as bidders need more time to assess the information in the bids.¹¹²⁷ TCI argues that the risk of collusion increases as the number of bidders decreases and, to mitigate this risk, the Commission may need to increase the bonus payment to the winning bidder if there are only a few bidders.¹¹²⁸ Western Alliance asserts that auctions should not be held unless there is large of pool of bidders, perhaps 20, with at least five bidding in each round.¹¹²⁹ Finally, AT&T contends that the fact that there might be few bidders or only one bidder in a serving area is further indication that a bidding system is inefficient.¹¹³⁰

340. Service area. The Bureau also sought comment on how it should determine the size of the areas for which eligible carriers bid for universal service support and what would be the optimal basis for determining the size of those areas, in order to avoid giving an unfair advantage to either the incumbent LEC or competitive carriers.¹¹³¹ Commenters support using geographic areas of different size for bidding purposes. Some argue that the optimal area on which to bid should be the wire center,¹¹³² and some suggest exchange areas,¹¹³³ while others propose using CBGs¹¹³⁴ or some combination.¹¹³⁵ Ameritech argues that the size of the area should be competitively neutral and bear a reasonable relationship to the way telecommunications services

¹¹²⁷ MCI further comments at 25.

¹¹²⁸ TCI further comments at 34.

¹¹²⁹ Western Alliance further comments at 14.

¹¹³⁰ AT&T further comments at 39.

¹¹³¹ Public Notice at 7.

¹¹³² *See, e.g.*, Ameritech further comments at 40; NCTA further comments at 17 (proposing that, although competitive bidding should take place at the wire center level, no carrier should be required to serve an entire wire center nor would any geographic restrictions on service boundaries be appropriate); Time Warner further comments at 48-49.

¹¹³³ Bell Atlantic further comments at 14; CFA further comments at 23.

¹¹³⁴ GTE further comments at 54.

¹¹³⁵ ITC further comments at 23. ITC proposes that a combination of a wire center and a community of interest within which the population shares common economic, social and political structures should be used as a starting point. If greater granularity is needed, ITC proposes using portions of an exchange or perhaps using a grid as proposed by PacTel, but notes that the smaller the area, the greater the administrative burdens. ITC further comments at 23-24.

are technically provided.¹¹³⁶ Ameritech contends that a wire center is the optimal serving area because it is the basis on which the network is engineered and costs incurred.¹¹³⁷ GTE argues that entrants should be able to nominate a set of CBGs as the area they wish to serve.¹¹³⁸ It contends that the use of CBGs allows bidding to establish separate support levels that would capture differences in costs among areas. It also contends that bidding on a CBG basis will facilitate entry because the requirement to serve a small area will not create an unreasonable barrier for prospective carriers of last resort.¹¹³⁹ Time Warner, on the other hand, contends that only incumbents can efficiently serve areas as small as CBGs, giving incumbents an unfair advantage if that were the size of the area used for bidding.¹¹⁴⁰ CFA contends that using smaller areas, such as CBGs, creates unrealistic market definitions and additional complexity because all network functionalities needed to provide telecommunications services for a CBG, transport and switching for example, should be included in the bid.¹¹⁴¹ Finally, several commenters contend that the Commission has no authority to designate service areas for competitive bidding because the 1996 Act grants that authority to the states, at least for areas not served by a rural telephone company.¹¹⁴² Some commenters reiterate their position that competitive bidding should be used only for unserved areas and that the states should identify such areas.¹¹⁴³

3. Discussion

341. We recommend that the Commission not adopt any specific competitive bidding plan at this time. While the record in this proceeding persuades us that a properly structured competitive bidding system could have significant advantages over other mechanisms used to determine the level of universal service support for high cost areas, we find that the information contained in the record does not support adoption of any particular competitive bidding proposal at this time. We recommend that the Commission, together with the state commissions, continue

¹¹³⁶ Ameritech further comments at 40.

¹¹³⁷ *Id.*

¹¹³⁸ GTE further comments at 54-55.

¹¹³⁹ *Id.* at 54.

¹¹⁴⁰ Time Warner further comments at 48-49.

¹¹⁴¹ CFA further comments at 23.

¹¹⁴² *See, e.g.*, Century further comments at 28; NECA further comments at 31; RTC further comments at 29.

¹¹⁴³ *See, e.g.*, AT&T further comments at 39-40; MCI further comments at 25-26 (proposing that bidding should be used only for areas that no carrier will serve at the level of support established through a proxy model; auction areas should be no smaller than CBGs).

to explore the possibility of using competitive bidding for determining the level of federal universal support.

342. Perhaps the greatest advantage of competitive bidding is that it holds the promise of using a market-based approach to establishing the level of universal service support for any given area. A properly designed competitive bidding system would reduce the role of regulators in determining the costs of providing universal service once an area becomes subject to bidding. The support level would reflect the bidding carriers' assessment of the costs of serving the market as well as their assessment of revenues, including current and future follow-on net revenues, which may well be harder for regulators to assess than costs. Such assessments would be well-suited to capture the effect of new technologies on service costs. In addition, these assessments could reflect many more factors, such as regulatory burdens or market opportunities, than can be incorporated into a cost model. We thus concur with those commenters that argue that competitive bidding comports with the intent of the 1996 Act to rely on market forces and to minimize regulation.¹¹⁴⁴ Moreover, as stated by one of the commenters, competitive bidding would put all prospective eligible carriers on an equal footing.¹¹⁴⁵

343. Another potential advantage of a properly structured competitive bidding system is that it could reduce the amount of overall support needed for universal service. Competitive bidding should encourage more efficient carriers to submit bids that reflect their lower costs. The bids reflecting the lower costs of the more efficient carriers would be used to set the level of universal service support for the entire service area. Additionally, competitive bidding would convert the efficiency gains from new technologies or improved productivity into cost savings for universal service.

344. Whether these and other potential advantages of competitive bidding can be realized will depend, of course, on the structure of the competitive bidding process. Commenters proposed both a broad use of competitive bidding to set support levels for areas subject to competition¹¹⁴⁶ and a more limited use of competitive bidding to select carriers for areas that are currently unserved or in which no carrier, not even the incumbent, would serve at the established support levels.¹¹⁴⁷ With regard to the latter proposal, competitive bidding could be viewed as a market-based mechanism to correct for potential errors arising from reliance on a proxy cost model to set support levels. We do not agree, however, that a carrier should be automatically

¹¹⁴⁴ See, e.g., GTE comments at 11; CSE Foundation reply comments at 6.

¹¹⁴⁵ Comnet Cellular reply comments at 6.

¹¹⁴⁶ See, e.g., GTE comments at 10-11; Time Warner comments at 10.

¹¹⁴⁷ See, e.g., California PUC comments at 13-14; USTA comments at 20; AT&T further comments at 37; MCI further comments at 21-22.

allowed to withdraw service solely on the basis of how the support level is established.

345. We find that sections 254 and 214(e) and the record developed in this proceeding provide some guidance about how competitive bidding should be structured. We recommend that any competitive bidding system be competitively neutral and not favor either the incumbent or new entrants. Any carrier that meets the eligibility criteria for universal service support should be permitted to participate in the auction. Any competitive bidding proposal must be consistent with the goals and requirements of the 1996 Act, including that universal service support be "specific, predictable and sufficient."¹¹⁴⁸ Any competitive bidding system adopted should minimize the ability of bidders to collude. Various commenters, for example, urge the Commission to establish and enforce stiff penalties against collusion,¹¹⁴⁹ while others suggest that the Commission rely on its experience with spectrum auctions to devise protections against collusion.¹¹⁵⁰ We recommend that any final competitive system be designed to minimize the incentives to collude and that any colluding carrier be subject to stiff penalties.

346. Various commenters contend that service quality standards should be built into the competitive bidding process.¹¹⁵¹ We conclude that the question of quality standards is not unique to competitive bidding. We have stated above that competition will give carriers the incentive to provide quality service. Moreover, we have recommended that the Commission monitor service quality by relying upon service quality data collected at the state level.¹¹⁵² To the extent that the definition of core services incorporates any standards for the provision of such services, carriers must comply with such standards in order to be eligible for universal service support and to participate in any auction process.

347. There is little support in the record for changing the structure of the bidding process in the event that there are few bidders. A few commenters, however, raise the issue of how many bidders would be required to have an effective auction.¹¹⁵³ GTE contends that its

¹¹⁴⁸ See 47 U.S.C. § 254(d).

¹¹⁴⁹ See, e.g., CFA further comments at 22; Time Warner further comments at 46.

¹¹⁵⁰ See, e.g., Bell Atlantic further comments at 14; NCTA further comments at 16.

¹¹⁵¹ See, e.g., AirTouch further comments at 26; Ameritech further comments at 39; CFA further comments at 22; MCI further comments at 25.

¹¹⁵² See *supra* Section IV.

¹¹⁵³ See e.g., Western Alliance further comments at 14 (arguing that auctions should not be held unless there are large number of bidders).

bidding system would be effective even with only two bidders.¹¹⁵⁴ We recommend that any final competitive bidding proposal should either specify the minimum number of bidders required for the auction to be effective, or be designed to be effective for any number of bidders. Finally, we recommend that, in determining the geographic area on which carriers would be bidding, any final proposed bidding plan use areas sized to promote competition and target universal service support efficiently.

348. We find that GTE's proposal poses serious questions that warrant further inquiry. These questions would be applicable to any proposed competitive bidding plan. For example, should only those carriers willing to accept carrier of last resort obligations in addition to those obligations contained in section 214(e) be permitted to bid, as proposed by GTE? Should all bidding carriers be eligible for universal service support? Some commenters argue that any bidding plan that excludes carriers may be inconsistent with section 214(e).¹¹⁵⁵ Finally, GTE's proposal assumes that carriers may designate the geographic areas, based on aggregating CBGs, that they wish to serve. This aspect of GTE's proposal raises the issue of whether bidders may designate areas for auction that differ from the service areas designated by the states pursuant to section 214(e)(5).¹¹⁵⁶ We emphasize that we have reached no conclusions and make no recommendations concerning these issues but cite them because they highlight the need for further inquiry and investigation.

349. We recommend that the Commission continue to investigate how to structure a fair and effective competitive bidding system.¹¹⁵⁷ GTE is the only commenter to propose a detailed competitive bidding plan in this proceeding, and it amended its proposal during the course of this proceeding. Its most recent proposal was submitted as part of its response to the further questions posed by the Common Carrier Bureau's Public Notice and has not been subject to further public comment. Even this proposal was characterized by GTE as an outline rather than a final, fixed proposal.¹¹⁵⁸

E. High Cost Transition

1. Background

¹¹⁵⁴ GTE further comments at 45, 54.

¹¹⁵⁵ *See, e.g.*, Florida PSC comments at 11-12. Florida PSC also concludes that this issue need not be resolved at this time.

¹¹⁵⁶ *See, e.g.*, Century further comments at 28.

¹¹⁵⁷ *See, e.g.*, PacTel further comments at 44. *See also* California PUC comments at 12; Florida PSC comments at 11-12; GSA reply comments at 13.

¹¹⁵⁸ GTE further comments, Att. 1 at 1.

350. Section 254(b) requires the Joint Board to recommend a specific timetable for the completion of its recommended decision.¹¹⁵⁹ In the NPRM, the Commission requested comment on whether there should be a transition period from the existing universal service fund to the new mechanism established in this proceeding. A transition would allow carriers that are receiving funding through the existing mechanisms an opportunity to adjust to the requirements of the 1996 Act and rules adopted in this proceeding.¹¹⁶⁰

351. The NPRM also sought comment on whether the interim cap on the growth of the existing universal service fund should be extended until the completion of this proceeding.¹¹⁶¹ The cap was due to expire on July 1, 1996. This Joint Board issued a Recommended Decision on June 19, 1996, recommending that the cap be extended until the new universal service rules adopted in this proceeding become effective.¹¹⁶² The Commission agreed with our recommendation, and on June 26, 1996, amended its rules to extend the cap until the rules adopted in this proceeding become effective.¹¹⁶³

2. Comments

352. Many commenters argue that there needs to be some transition period before the new universal service support mechanism takes full effect. Some commenters argue that if carriers currently receiving subsidies lose that support abruptly, then rate shock will result.¹¹⁶⁴ Small and rural carriers are especially worried about the potential impact of any changes to the support mechanisms on their local service rates.¹¹⁶⁵ Alaska PUC argues that any changes should be implemented for large carriers before they are applied to small carriers.¹¹⁶⁶ NARUC notes that there have been several NARUC resolutions that expressly contemplate a transition period to any

¹¹⁵⁹ 47 U.S.C. § 254(a)(1).

¹¹⁶⁰ NPRM at para. 40.

¹¹⁶¹ *Id.*

¹¹⁶² Federal-State Joint Board on Universal Service, *Recommended Decision*, FCC 96J-1 (rel. June 19, 1996).

¹¹⁶³ Federal-State Board on Universal Service, *Report and Order*, FCC 96-281 (rel. June 26, 1996).

¹¹⁶⁴ *See, e.g.*, Montana PSC comments at 3; Telec Consulting comments at 13; Washington UTC comments at 12; Wisconsin PSC reply comments at 7.

¹¹⁶⁵ *See* OITA-WITA comments at 14; Dell Tel. reply comments at 6-7. *See also* Colorado PUC comments at 8.

¹¹⁶⁶ Alaska PUC comments at 16-17.

new universal service support mechanisms.¹¹⁶⁷

353. The parties have different views on how long any transition should last. The Idaho PSC argues that a short transition is appropriate.¹¹⁶⁸ GVNW, Oregon PUC, and Iowa Tel. Ass'n state that a transition period should last several years.¹¹⁶⁹ USTA proposes that its plan be phased in over four years.¹¹⁷⁰ Montana Tel. Ass'n states that the transition period should be at least five years.¹¹⁷¹ United Utilities suggests a ten year transition.¹¹⁷² Alaska Tel. and Western Alliance argue that a transition should be long enough to allow carriers to fully recover the embedded costs of their existing facilities.¹¹⁷³ CPI proposes the use of three groupings of carriers for any transition process. Large carriers, those with over 2 percent of the nation's access lines, would move to a TSLRIC approach immediately. The smallest LECs would continue to use embedded costs for one year, and then be transitioned to TSLRIC over seven years. Medium-size carriers, those with less than 2 percent of the nations access lines, would have a four year transition to a TSLRIC approach.¹¹⁷⁴

354. Several commenters disagree, however, and assert that no transition period is needed.¹¹⁷⁵ MCI argues that the new support mechanisms should be instituted without delay. It claims that the reduction in subsidy burden will lead to an immediate reduction in rates to consumers.¹¹⁷⁶ AT&T contends that there will be no significant rate shock since existing local service rates in most areas are already compensatory. In addition, AT&T argues that a long transition period, such as the four years proposed by USTA, would be inconsistent with the 1996 Act since it would maintain implicit subsidies of the current support mechanisms.¹¹⁷⁷ Some argue

¹¹⁶⁷ NARUC comments at 11.

¹¹⁶⁸ Idaho PSC comments at 10.

¹¹⁶⁹ GNVW comments at 14; Iowa Tel. Ass'n. comments at 3; Oregon PUC comments at 6-7.

¹¹⁷⁰ USTA comments at 18.

¹¹⁷¹ Montana Tel. Ass'n comments at 8.

¹¹⁷² United Utilities reply comments at 10.

¹¹⁷³ Western Alliance comments at 10; Alaska Tel. reply comments at 6.

¹¹⁷⁴ CPI *ex parte* at 5-6 (Oct. 4, 1996).

¹¹⁷⁵ *See, e.g.*, Cincinnati Bell comments at 10; CompTel reply comments at 14; WinStar reply comments at 5.

¹¹⁷⁶ MCI comments at 13.

¹¹⁷⁷ AT&T reply comments at 11.

that some of the changes, but not necessarily all, should be done immediately. For example, Ameritech argues that DEM weighting should be eliminated immediately, but that a transition period may be necessary for other changes.¹¹⁷⁸

3. Discussion

355. The Joint Board recommends that the new universal service support mechanism for rural, insular, and high cost areas that we have set out in this section of the Recommended Decision take effect beginning January 1, 1998. The current universal service support mechanisms operate on a calendar year, and January 1, 1998 will be the beginning of the first calendar year after the Commission adopts rules establishing the new support mechanisms.¹¹⁷⁹ Starting at that date, carriers other than rural telephone companies would begin to receive support based upon the proxy model. Rural telephone companies would not immediately use a proxy model to determine their costs, but would have their support based on the per line support those carriers received from the high cost assistance, DEM weighting, and LTS mechanisms for a twelve month period prior to 1998.

356. The changes that we recommend to the universal service support mechanisms may lead to changes in the support levels currently received by some carriers. We find that a short transition period will expedite achieving the requirements of the 1996 Act, with minimal adverse impact on carriers. The recommended changes to the system will likely not have an adverse impact on the non-rural carriers or require any rate restructuring because non-rural carriers generally do not receive a significant portion of their revenues from the universal service support mechanisms. Consequently, we believe it is appropriate to move non-rural carriers to a proxy model first. We agree with the commenters that argue that there should be a transition for small, rural carriers.¹¹⁸⁰ Therefore we have recommended that rural carriers continue to use embedded costs for three years after the non-rural companies begin to use proxy models. During that period, carriers would receive a payment based on the support they received from the high cost assistance, DEM weighting, and LTS mechanisms for a twelve-month period prior to 1998. The payments to the rural carriers may vary if the numbers of lines they serve change, but the payment level per line would remain constant. At the end of that period, rural carriers will then shift to proxy models for calculating their draw from universal service funds for providing designated

¹¹⁷⁸ Ameritech comments at 12-13.

¹¹⁷⁹ Under section 254(a)(2), the Commission has fifteen months from the date of enactment (on or before May 8, 1997) to implement the recommendations of this Joint Board. 47 U.S.C. § 254(a)(2).

¹¹⁸⁰ *See, e.g.*, Alaska PUC comments at 16-17; Colorado PUC comments at 8; Dell Tel. reply comments at 6-7.

services to customers in rural, insular, and high cost areas over three additional years.¹¹⁸¹ This will allow rural carriers time to adjust to the new system and to minimize any possible rate shock to their customers. In addition, due to the unusual nature of providing service in Alaska and the insular areas, we are not requiring rural companies serving those areas to transition to a proxy model, subject to later review.

VIII. SUPPORT FOR LOW-INCOME CONSUMERS

A. Overview

357. The 1996 Act states that low-income consumers should have access to telecommunications services at rates that are just, reasonable, and affordable, and comparable to rates charged in urban areas.¹¹⁸² Section 254(i) requires that rates for universal service be "just, reasonable, and affordable." Since 1985, the Commission has, pursuant to its general authority under Titles I and II of the 1934 Act, and in cooperation with state regulators and local telephone companies, administered two programs designed to increase subscribership by assisting low-income consumers. The Commission's Lifeline Assistance program ("Lifeline") reduces qualifying consumers' monthly charges by waiving all or part of the federal SLC and requires a matching reduction in state rates. The Lifeline Connection Assistance program ("Link Up") provides federal support to reduce qualifying consumers' initial connection charges by up to one half. Currently, the cost of both programs is recovered from IXCs with at least .05 percent of presubscribed lines. Section 254(j) provides that "[n]othing in [section 254] shall affect the collection, distribution, or administration of the Lifeline Assistance Program provided for by the Commission."¹¹⁸³

358. In this section, we consider low-income universal service support in light of the 1996 Act. Pursuant to sections 254(a), (b)(1) and (b)(3), we first discuss what telecommunications services and rules should be supported for low-income consumers. Next, we consider the extent to which the Joint Board should recommend that the Commission modify its current programs to comply more fully with Congress's mandate to provide low-income universal service support "in all regions of the Nation" and through explicit, competitively-neutral support mechanisms. We therefore recommend that the Lifeline and Link Up programs be modified to make them competitively neutral and to ensure their availability to low-income consumers in all regions of the nation.

¹¹⁸¹ The rural companies will have the option to voluntarily change to the proxy model system before the end of the five-year period.

¹¹⁸² 47 U.S.C. § 254(b)(3).

¹¹⁸³ 47 U.S.C. § 254(j).

B. Services to be Supported for Low-Income Consumers

1. Background

359. In the NPRM, the Commission sought comment on what services should be supported for low-income consumers, and referred these issues to the Joint Board. The Commission proposed a number of services to receive federal universal support in rural, insular, and high cost areas.¹¹⁸⁴ The Commission also proposed that these same services be supported with respect to low-income consumers.¹¹⁸⁵ The services identified in the NPRM were: (1) voice-grade access to the public switched network, with the ability to place and receive calls; (2) touch-tone; (3) single-party service; (4) access to emergency services; and (5) access to operator services. The Commission also sought comment on whether additional services such as access to interexchange services and directory assistance should receive universal service support,¹¹⁸⁶ and whether these services should be available to and supported for low-income consumers.¹¹⁸⁷ The Commission also sought comment on what additional services, if any, meeting one or more of the criteria enumerated in section 254(c)(1), would be particularly appropriate for low-income consumers.¹¹⁸⁸

360. In the NPRM, the Commission also sought comment on whether toll-limitation services and reduced service deposits should be supported for low-income consumers.¹¹⁸⁹ As the Commission noted in the NPRM, toll-limitation services include both toll blocking, which prevents the placement of long distance calls for which the subscribers would be charged, and toll-control services, which limit the toll charges subscribers can incur during a billing period.¹¹⁹⁰ Based on studies indicating that disconnection for nonpayment of toll charges is a significant barrier to universal service, the Commission observed that toll blocking and toll limitation might significantly affect subscribership.¹¹⁹¹ The Commission also recognized the potential tension between providing consumers with the ability to receive toll-limitation services and the principle

¹¹⁸⁴ NPRM at para. 15.

¹¹⁸⁵ NPRM at para. 50.

¹¹⁸⁶ NPRM at para. 23.

¹¹⁸⁷ NPRM at para. 50.

¹¹⁸⁸ NPRM at para. 50.

¹¹⁸⁹ NPRM at para. 54, 56.

¹¹⁹⁰ NPRM at para. 54.

¹¹⁹¹ NPRM at para. 56.

set forth in the 1996 Act that consumers should possess access to "telecommunications and information services, including interexchange services."¹¹⁹² As the Commission observed in the NPRM, recent studies indicate that, in addition to disconnection for non-payment of toll charges, the high deposits carriers charge as a condition for re-establishing service may be more significant barriers to universal service than the cost of local service itself.¹¹⁹³ The NPRM noted that the Commission's Subscribership Notice suggested that LECs generally require deposits before connecting or reconnecting subscribers, which presents a formidable obstacle to initiating service for low-income individuals.¹¹⁹⁴ In the NPRM, the Commission sought comment on whether toll-limitation services and reduced service deposits meet the criteria enumerated in section 254(c)(1).¹¹⁹⁵

361. In addition, the Commission noted in the NPRM that there may be several ways to advance the statutory principle set forth in section 254(b)(3) to ensure that "low-income consumers . . . have access to . . . interexchange services."¹¹⁹⁶ In particular, the Commission solicited comment on whether and how it should encourage domestic IXCs to provide optional calling plans for low-income consumers to promote the statutory principles enumerated in section 254(b)(3). Additionally, the Commission sought comment on the potential impact of such plans on subscribership to telecommunications services.¹¹⁹⁷

362. The Commission asked whether free access to information about telephone service for low-income consumers should be included in the group of services receiving universal service support.¹¹⁹⁸ Such free telephone access primarily would benefit measured-rate subscribers who are charged for each local call on either a per-minute or per-call basis. Additionally, the Commission suggested that Lifeline and Link Up customers could benefit significantly from free access to information regarding those programs.¹¹⁹⁹

363. Because consumers' access to certain basic information regarding their telephone

¹¹⁹² NPRM at para. 54 n.120 (*citing* 47 U.S.C. § 254(b)(3)).

¹¹⁹³ NPRM at para. 56 (*citing* *Subscribership Notice* at 13003-06).

¹¹⁹⁴ NPRM at para. 56 (*citing* *Subscribership Notice* at 13003-05).

¹¹⁹⁵ NPRM at paras. 54, 56 (*citing* 47 U.S.C. § 254(c)(1)).

¹¹⁹⁶ NPRM at para. 55 (*citing* 47 U.S.C. § 254(b)(3)).

¹¹⁹⁷ NPRM at para 55.

¹¹⁹⁸ NPRM at para. 52 (*citing* 47 U.S.C. § 254(i)).

¹¹⁹⁹ NPRM at para. 52.

service may be a prerequisite to maintaining service, the NPRM also sought comment on whether, like access to the loop itself, access to telephone service information is essential to public health and safety and is otherwise consistent with the public interest, convenience, and necessity.¹²⁰⁰ The types of information that the Commission suggested might fall into this category include information regarding service activation and termination, repairs, and low-income support programs.¹²⁰¹

364. In the past, the Commission's universal service policies have focused on the rates charged for traditional residential service. Nevertheless, the Commission recognized in the NPRM that people who move frequently or have no residence, such as seasonal workers and homeless individuals, do not have ready access to residential service. Therefore, the Commission sought comment on specific services that would enable such low-income individuals to gain access to the telecommunications network.¹²⁰² The NPRM offered several examples of such services, including community phone banks, community access centers, special discounted service plans for short-term subscribers, and support for voice mail services.¹²⁰³ The Commission asked parties to address the potential for wireless carriers to provide services to highly mobile groups.¹²⁰⁴ Finally, the Commission sought comment on whether the suggested services meet the criteria set forth in section 254(c)(1)(A)-(D), so as to be eligible for inclusion in the list of supported services.¹²⁰⁵

2. Comments

365. Designated Services. Nearly every commenter agrees that low-income consumers should receive, at a minimum, the same services designated for universal service support for other subscribers.¹²⁰⁶ Georgia PSC, for example, recommends limiting supported services for low-income consumers to those supported in rural and high cost areas.¹²⁰⁷ Nat'l Black Caucus, which

¹²⁰⁰ NPRM at para. 53 (*citing* 47 U.S.C. § 254(c)(1)(A),(D)).

¹²⁰¹ NPRM at para. 53.

¹²⁰² NPRM at para. 57.

¹²⁰³ NPRM at para. 57 n. 128.

¹²⁰⁴ NPRM at para. 57.

¹²⁰⁵ NPRM at para. 57.

¹²⁰⁶ *See, e.g.*, CNMI comments at 19-20; Florida PSC comments at 14-15; Georgia PSC comments at 8-11; ITA/EMA comments at ii, 4; Michigan Consumer Federation comments at 20.

¹²⁰⁷ Georgia PSC comments at 8.

stated that it was pleased that the NPRM recognized that the services supported for rural, insular, and high cost areas should also be supported for low-income consumers, notes that these groups are not mutually exclusive, because certain urban areas are also high cost areas.¹²⁰⁸ Similarly, Edgemont maintains that under-served inner city neighborhoods must receive access and affordable rates in a manner comparable to the receipt of such access and rates in rural and insular areas.¹²⁰⁹

366. Less Than Designated Services. Other commenters suggest supporting fewer services for low-income consumers than are designated for other subscribers. Georgia PSC opposes providing universal service support for access to operator services for low-income people.¹²¹⁰ Michigan PSC suggests a special low-income local service package with low prices and very limited features, including toll restriction and limited local calling plus free calls to schools and medical and emergency services.¹²¹¹

367. State-Determined Services. Some commenters recommend against providing federal universal service support for any new services, including the designated services, targeted to low-income consumers.¹²¹² Cincinnati Bell claims that state commissions and local authorities should fund services for low-income consumers because they are best suited to develop responses to specific populations.¹²¹³ Additionally, NARUC, TCI, and PacTel argue that states must be permitted to continue developing and redefining the universal service policies that best meet the needs of subscribers in their jurisdictions, as long as they do not conflict with federal statutory mandates.¹²¹⁴ Washington UTC contends that a special definition of universal service for low-income consumers that identifies individual services will confine universal service policy to today's technology and services and claims that such a definition is inconsistent with competitive neutrality.¹²¹⁵

¹²⁰⁸ Nat'l Black Caucus comments at 7-9.

¹²⁰⁹ Edgemont reply comments at 6.

¹²¹⁰ Georgia PSC comments at 7-8.

¹²¹¹ Michigan PSC comments at 2.

¹²¹² *See, e.g.*, Cincinnati Bell comments at 7; NARUC comments at 7; PacTel comments at 23; TCI comments at 17-18; Washington UTC comments at 13. *See also* Texas OPUC comments at 12-13 (stating that the proposals in the NPRM will increase rates, resulting in the need for additional low-income support programs).

¹²¹³ Cincinnati Bell comments at 7.

¹²¹⁴ NARUC comments at 7; PacTel comments at 23; TCI comments at 17-18.

¹²¹⁵ Washington UTC comments at 7, 13.

368. Toll-Limitation Services. Some parties argue that toll limitation¹²¹⁶ helps subscribers maintain access to telecommunications services by helping them control their expenditures.¹²¹⁷ These commenters point to studies showing that the main reason subscribers lose their telephone service is excessive toll bills.¹²¹⁸ A large majority of commenters addressing the issue of toll limitation or toll blocking agree that support should be provided for these services in some form, with commenters fairly evenly divided between those advocating it as a service that should be available to all consumers,¹²¹⁹ and those advocating it as a service to be supported for low-income users only.¹²²⁰ Edgemont asserts that toll-limitation services should be offered to low-income subscribers without charge and on a voluntary basis, so as not to frustrate the purpose of the 1996 Act by cutting off access to interexchange services.¹²²¹ Iowa Utilities Board, noting that toll blocking often restricts access to operator assistance, states that the Commission should draft rules so that, if access to operator services is made a designated service, it does not preclude low-income customers from choosing toll-blocking services.¹²²² Benton proposes a service program with three options under which customers are guaranteed incoming calls and access to emergency numbers even when there has been failure to pay tolls.¹²²³ With respect to involuntary toll limitation, NARUC maintains that if involuntary toll blocking is instituted for non-

¹²¹⁶ As the Commission noted in the NPRM, toll-limitation services include both toll-blocking services, which prevent toll calls billed to the subscriber's telephone number, and toll-control services, which allow subscribers to preset toll spending limits during a given billing period. NPRM at para. 54. We observe that toll blocking is a form of toll limitation. We will refer to both services generically as "toll limitation," or to each respective service by name, as relevant.

¹²¹⁷ See, e.g., Bell Atlantic comments at 15 (suggesting making toll limitation available to all consumers, and subsidizing it for low-income consumers); California PUC comments at 15; Florida PSC comments at 15-16; Illinois CC comments at 5; Indiana URC comments at 3-4.

¹²¹⁸ See, e.g., Benton comments at 2; California PUC comments at 15; Illinois CC comments at 5; Indiana URC comments at 3-4; Missouri PSC comments at 13; OPC-DC comments at 12-13; Rural Iowa Indep. Tel. Ass'n comments at 5.

¹²¹⁹ See, e.g., Alaska PUC comments at 2, 6; Benton comments at 2-3; Georgia PSC comments at 8 (supporting toll blocking/limitation as designated service, but not mandatory); Indiana URC comments at 2-4.

¹²²⁰ See, e.g., CNMI comments at 19-20; California Dept. of Consumer Affairs comments at 23; California PUC comments at 15; New Jersey BPU comments at 2; Oregon PUC comments at 5; Rural Iowa Indep. Tel. Ass'n comments at 5.

¹²²¹ Edgemont comments at 17.

¹²²² Iowa Utilities Board comments at 5.

¹²²³ Benton reply comments at 12-14.

payment, it should be limited to the unpaid service or unpaid provider, if possible.¹²²⁴

369. CompTel argues that offering toll limitation to low-income consumers could result in increased universal service costs.¹²²⁵ BellSouth maintains that such services fall short of the compelling public interest test that would justify their inclusion in universal service, and are not widely subscribed to by residential customers nor essential to education, public health or safety.¹²²⁶ GTE says toll limitation should not be a mandatory component of service for low-income customers because not all such customers want or need toll limitation.¹²²⁷ Time Warner supports universal service support for voluntary toll blocking but not toll limitation. Time Warner argues that toll limitation is more expensive to provide, more difficult to administer, and the ability to offer such services may vary according to switching technology and billing systems.¹²²⁸ Georgia PSC favors toll blocking or limitation, but believes that these services should not be services designated for universal service support because competitive forces will assure their availability.¹²²⁹ Pennsylvania PUC, New York DPS, and NARUC maintain that state public utility commissions should decide whether to offer such services.¹²³⁰

370. Reduced Service Deposits. Commenters assert that service deposits constitute a barrier to service for low-income consumers because many low-income consumers cannot afford to pay the service deposits charged by carriers to initiate service, particularly to reinstate service disconnected for non-payment.¹²³¹ Thus, some commenters suggest providing universal service support to reduce or eliminate service deposits.¹²³² Florida PSC suggests letting consumers pre-set their spending limit for toll usage in exchange for a reduced or eliminated deposit, and argues that this would provide an incentive for service providers to make toll limitation available.¹²³³

¹²²⁴ NARUC comments at 8.

¹²²⁵ CompTel comments at 17-18.

¹²²⁶ BellSouth comments at 12 n. 22.

¹²²⁷ GTE comments at 22-23.

¹²²⁸ Time Warner comments at 13.

¹²²⁹ Georgia PSC comments at 8-9. *See also* Sprint comments at 21.

¹²³⁰ NARUC comments at 8; New York DPS comments at 13-14; Pennsylvania PUC comments at 22.

¹²³¹ *See, e.g.*, Edgemont comments at 17; OPC-DC comments at 12-13; Virginia CC comments at 4.

¹²³² *See, e.g.*, AT&T comments at 13 n.16; California Dept. of Consumer Affairs comments at 20-21; Michigan Consumer Federation comments at 20-22; Virginia CC comments at 4.

¹²³³ Florida PSC comments at 15-16.

Other commenters also recommend linking reduced service deposits to voluntary toll limitation and blocking, with companies providing reduced service deposits to those customers who accept toll limitation.¹²³⁴ CompTel opposes any reduced service deposits, suggesting that they "would add unknown costs to universal service with unproven results," work against the public interest, and cause higher overall rates.¹²³⁵ GTE argues that if service deposits are reduced or eliminated, LECs should be reimbursed for such reduction because universal service support should be explicit, as required by section 254(e).¹²³⁶ Noting that many states already offer such plans, Pennsylvania PUC, NARUC, and New York DPS also oppose the Commission's mandating reduced service deposits.¹²³⁷

371. Access to Telephone Service Information at No Charge. Offering low-income consumers free access to information about telephone service (such as service activation and termination and low-income support programs) is favored by many commenters as a service deserving universal service support.¹²³⁸ These commenters appear to be concerned that low-income consumers will be unable to place calls to gain telephone service information if the calls would otherwise be an in-region toll call, or, more commonly, if the state's Lifeline program allows only a limited number of free calls. Commenters maintain that access to the LEC's (both ILECs and CLECs) customer service center is important to the public health and safety and is in the public interest.¹²³⁹ NCTA recommends providing free access to information for certified low-income consumers only.¹²⁴⁰ No state directly opposes free access to information, but Georgia PSC and Washington UTC assert that no new programs are needed.¹²⁴¹ NAD advocates that, because many information numbers are not accessible directly to TTYs (a typewriter-style device for communicating alphanumeric information over telecommunications networks), TTY users

¹²³⁴ See, e.g., CNMI comments at 19-20; Georgia PSC comments at 8.

¹²³⁵ CompTel comments at 17-19.

¹²³⁶ GTE comments at 23.

¹²³⁷ NARUC comments at 5-8; New York DPS comments at 13-14; Pennsylvania PUC comments at 22.

¹²³⁸ See, e.g., CNMI comments at 19-20; Edgemont comments at 11-12; Florida PSC comments at 14-15; Indiana URC comments at 3-4; Michigan Consumer Federation comments at 20-21; Missouri PSC comments at 12-13; NARUC comments at 8; NCTA comments at 13; New Jersey Advocate comments at 18; New Mexico AG comments at 4; North Dakota PSC comments at 2; OPC-DC comments at 9; Ohio Consumers' Council comments at 16-17; PacTel comments at 22.

¹²³⁹ See, e.g., Louisiana PSC comments at 3.

¹²⁴⁰ NCTA comments at 13-14.

¹²⁴¹ Georgia PSC comments at 4-5; Washington UTC comments at 4-5.

must use relay services for access to such numbers; therefore, relay users should not be charged for relay calls to numbers providing LEC service information.¹²⁴² NYNEX, Frontier, and GTE, however, do not favor universal service support for service calls. These carriers assert that support for this service is unnecessary and contrary to Congress's deregulatory intent, and the decision to make such support available is better left to states' discretion.¹²⁴³

372. No Disconnection for Non-payment of Toll. Several commenters advocate prohibiting disconnection of local service for non-payment of toll charges.¹²⁴⁴ Based on analysis of Census Bureau data from 1994, NTIA concludes that telephone subscribership appears to be consistently higher in states with a policy of no disconnection for non-payment of toll charges.¹²⁴⁵ NTIA further maintains that low-income consumers benefit the most from a policy of no disconnection for non-payment of toll charges. OPC-DC¹²⁴⁶ maintains that disconnection of local service for non-payment of toll charges runs afoul of the four criteria in section 254(c)(1).¹²⁴⁷ It asserts that households with young children, elderly residents, and handicapped individuals are in need of access to basic telephone service.¹²⁴⁸ Therefore, it favors a policy prohibiting disconnection for non-payment of toll.¹²⁴⁹ Sprint, PacTel, and CompTel, however, oppose no disconnection for non-payment of toll.¹²⁵⁰ Sprint contends that competitors will strive to meet the needs of the marketplace and will respond by developing programs to encourage customers to use their services.¹²⁵¹ Sprint argues that telecommunications service providers have an inherent incentive to keep customers on the network, and that this incentive will increase as competition

¹²⁴² NAD reply comments at 22-23.

¹²⁴³ Frontier comments at 5-6; GTE comments at 22-24; NYNEX comments at 17.

¹²⁴⁴ *See, e.g.*, AARP comments at 22-23; NASUCA comments at 6; NTIA reply comments at 10-17.

¹²⁴⁵ NTIA reply comments at 10-17.

¹²⁴⁶ OPC-DC comments at 2-6.

¹²⁴⁷ Those criteria are "the extent to which such telecommunications are essential to education, public health or public safety; have, through the operation of market choices by customers, been subscribed to by a substantial majority of residential customers; are being deployed in public telecommunications networks by telecommunications carriers; and are consistent with the public interest, convenience, and necessity."

¹²⁴⁸ OPC-DC comments at 4.

¹²⁴⁹ OPC-DC comments at 6.

¹²⁵⁰ CompTel comments at 18; PacTel comments at 22; Sprint comments at 21-22.

¹²⁵¹ Sprint comments at 21-22.

develops in the local exchange marketplace.¹²⁵²

373. Other Services. The Governor of Guam and New Mexico AG, among others, advocate supporting interexchange and advanced services for low-income subscribers.¹²⁵³ The Governor of Guam notes that while low-income consumers in Guam may receive access to interexchange services that are reasonably comparable to services provided elsewhere, they may not be affordable; thus, universal service support should be provided for affordable interexchange and advanced services for low-income individuals.¹²⁵⁴

374. Several commenters support subsidizing special-needs equipment for low-income people with disabilities (such as speech, hearing, mobility, and cognitive disabilities).¹²⁵⁵ New York DPS submits that disabled people are often poor, and while they may qualify for Lifeline service,¹²⁵⁶ they may be unable to purchase the equipment to access the network.¹²⁵⁷ NENA maintains that 911, E911, and DTMF should receive universal service support in areas where state and local authorities have previously approved the emergency service system.¹²⁵⁸ National Telecommuting Institute proposes that employers that hire low-income, homebound individuals with disabilities should receive a waiver for all voice and data line charges incurred between the employee and the company, with the service provider receiving support from universal service support mechanisms.¹²⁵⁹

¹²⁵² Sprint comments at 21-22.

¹²⁵³ Governor of Guam comments at 12-13; New Mexico AG comments at 4. *See also* Alaska comments at 5-6 (noting that because of difficult topographic and climatologic conditions, a sparse population, and low incomes, penetration would be extremely low if not for programs promoting universal service); CNMI comments at 9-11 (noting that the mixed domestic/international treatment afforded CNMI ratepayers results in very high telecommunications rates being imposed on subscribers whose income levels rank among the lowest in the nation); Guam Tel. Authority comments at 7.

¹²⁵⁴ Governor of Guam comments at 13.

¹²⁵⁵ *See, e.g.*, Michigan PSC comments at 2; New York DPS comments at 15; Council of Organizational Representatives reply comments at 3; NAD reply comments at 8; United Cerebral Palsy Ass'n reply comments at 2.

¹²⁵⁶ For a description of the federal Lifeline program, *see* section VIII. C., *infra*.

¹²⁵⁷ New York DPS comments at 15.

¹²⁵⁸ NENA reply comments at 1 (arguing that any costs incurred by carriers in providing E911 access should be eligible for support unless it would result in double recovery).

¹²⁵⁹ Letter from M.J. Willard, Ed.D., Executive Director, National Telecommuting Institute, Inc., and the President's Committee on Employment of People with Disabilities, to William F. Caton, Acting Secretary, FCC (National Telecommuting Institute, Inc. *Ex Parte*) (also recommending that if training is necessary to prepare a homebound individual for a telecommuting position, the cost of connecting the trainee to the trainer via telephone

375. NTIA advocates universal service support to enable low-income individuals to receive caller ID at a reduced rate in addition to the designated services.¹²⁶⁰ At least one commenter, Benton, maintains that the pro-competitive spirit of the 1996 Act, which will result in multiple services and facilities offered to consumers, requires that low-income consumers be allowed to choose which services meet their needs and are entitled to support.¹²⁶¹ For example, Benton notes that voice telephony is useless to deaf consumers.¹²⁶² Consistent with the 1996 Act's requirement that funding mechanisms be predictable, Benton suggests that the Commission set an allowance or some other mechanism under which a user could choose from an array of services.¹²⁶³

376. Edgemont, PacTel, Ohio Consumers' Council, and Montana Indep. Telecom. recommend a "soft dial tone" or "warm line," which enables an otherwise disconnected phone line to be used to contact emergency services (911), as well as the provider's central business office.¹²⁶⁴ Access to emergency services, commenters assert, is essential to public health and safety.¹²⁶⁵

377. Texas OPUC advocates providing support for low-income consumers' buying optional services at regular rates.¹²⁶⁶ Some commenters suggest providing universal service support for Internet access for low-income consumers.¹²⁶⁷ Brite advocates universal service support for information services (news via satellite to community distribution sites and to individual consumers via mobile phones), speech activation (voice recognizing services to complement DTMF services), and two-way paging and short-text messaging.¹²⁶⁸ In addition, some commenters address which services should be supported for low-income individuals in their

lines be covered by universal service support mechanisms).

¹²⁶⁰ NTIA reply comments at 7.

¹²⁶¹ Benton comments at 3.

¹²⁶² Benton comments at 3.

¹²⁶³ Benton comments at 3.

¹²⁶⁴ *See, e.g.*, Edgemont comments at 16; Ohio Consumers' Council comments at 16-17; PacTel comments at 22.

¹²⁶⁵ *See, e.g.*, Edgemont comments at 17.

¹²⁶⁶ Texas OPUC comments at 17.

¹²⁶⁷ *See, e.g.*, Bar of New York comments at 9-14; Edgemont comments at 13-15; Kinko's comments at 5-10.

¹²⁶⁸ Brite comments at 1-2.

general discussion of what services should receive universal service support.¹²⁶⁹ Such comments are addressed in Part IV of the Recommended Decision.

378. Commenters assert that all consumers should receive adequate information about low-income assistance programs.¹²⁷⁰ Many suggest requiring carriers to provide consumer awareness information describing the programs that are implemented.¹²⁷¹ La Raza states that the Commission should require carriers to develop marketing plans directed at low-income and multi-lingual communities and to provide multi-lingual information regarding billing and the availability and rates of services.¹²⁷²

3. Discussion

379. As we have observed, Congress in section 254(b) instructs the Joint Board and the Commission to base policies for the preservation and advancement of universal service on the principle that universal service should be available for low-income individuals in all regions of the nation.¹²⁷³ At the same time, however, Congress included section 254(j), which provides that "[n]othing in [section 254] shall affect the collection, distribution, or administration of the Lifeline Assistance Program provided for by the Commission."¹²⁷⁴

380. We find that the provisions of section 254(j) can be reconciled with other sections of 254 regarding competitive neutrality and support for low-income consumers in all regions of the nation. As an initial matter, we believe that Congress did not intend for section 254(j) to codify the existing Lifeline program. Had Congress intended for section 254(j) to have that effect, it would have chosen clearer, less equivocal language. Instead, Congress simply provided that nothing *in section 254* should affect the collection, distribution, or administration of the

¹²⁶⁹ See, e.g., Matanuska Tel. Ass'n comments at 2; PULP comments at 11-17; West Virginia Consumer Advocate comments at 6.

¹²⁷⁰ See, e.g., La Raza comments at 6-7; Virginia CC comments at 4; Ohio Consumers' Council reply comments at 16.

¹²⁷¹ See, e.g., Catholic Conference comments at 22; NASUCA comments at 6; Ohio Consumers' Council reply comments at 16.

¹²⁷² La Raza reply comments at 4-5. See also Public Advocates comments at 6.

¹²⁷³ 47 U.S.C. § 254(b)(3). We also find that the principle of affordable rates in section 254(b)(1) is relevant to our policies with respect to low-income consumers.

¹²⁷⁴ 47 U.S.C. § 254(j).

program.¹²⁷⁵ We therefore conclude that Congress intended, in section 254(j), to give the Joint Board and the Commission *permission* to leave the Lifeline program in place without modification, despite its inconsistencies with other provisions of section 254 and the 1996 Act generally.

381. We further conclude that a necessary corollary to this interpretation of section 254(j) is that this Joint Board has the authority to recommend, and the Commission has the authority to adopt, changes to the Lifeline program to make it more consistent with Congress's mandates in section 254 if such changes would serve the public interest. We arrive at this conclusion in part because the existing Lifeline program is supported solely by IXC's and is unavailable to low-income consumers in areas where the incumbent LEC or the state regulatory authorities have chosen not to participate.¹²⁷⁶ Given these circumstances, we find that the current Lifeline program is inconsistent with sections 254(b)(3) and (4).

382. We find no statutory basis to recommend continuing to fund the federal Lifeline program in a manner that places some IXC's at a competitive disadvantage, or that provides no support for low-income consumers in several portions of the nation. We conclude that our recommendations would make universal service support mechanisms for low-income individuals more consistent with Congress's express goals without fundamentally changing the basic nature of the existing Lifeline program. Moreover, this approach is consistent with Congress's expression of approval for the current Lifeline program in section 254(j).

383. The Joint Board agrees with the vast majority of commenters and recommends that, through universal service support mechanisms, low-income consumers should have access to the same services designated for support for rural, insular, and high cost areas.¹²⁷⁷ Our recommendation is based, in part, on the statutory principle that access to services should be

¹²⁷⁵ The Commission established the Lifeline program in 1985 pursuant to its authority under Titles I and II of the 1934 Act, as amended. *See MTS and WATS Market Structure; Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board*, Decision and Order, 50 Fed. Reg. 939 (1985). *See also MTS and WATS Market Structure; Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board*, 51 Fed. Reg. 1371 (1986). Congress did not restrict the Commission's authority in this area in the 1996 Act. We therefore conclude that the Commission possesses the authority, separate from section 254, to modify the Lifeline program. *See Fogerty v. Fantasy, Inc.*, 510 U.S. 517, 114 S. Ct. 1023, 1030 (1994), *citing Lorillard v. Pons*, 434 U.S. 575, 580 (1978) (Congress is presumed to be aware of an administrative or judicial interpretation of a statute). *See also Goodyear Atomic Corp. v. Miller*, 486 U.S. 174, 184 (1988) (Congress is presumed to know the existing law pertinent to the legislation it enacts). This also bolsters our conclusion that Congress would have chosen stronger language in section 254(j) had it intended to codify the Lifeline program.

¹²⁷⁶ The states without Lifeline programs are: Delaware; Indiana; Iowa; Kansas; Kentucky; Louisiana; Nebraska; New Hampshire; New Jersey; and Puerto Rico.

¹²⁷⁷ For a discussion of the services designated for support, *see supra* section IV.

available to “[c]onsumers in all regions of the Nation, including low-income consumers.”¹²⁷⁸ We find that the overarching universal service goals may not be accomplished if low-income universal service support is provided for services inferior to those supported for other subscribers. We further recommend that the services listed above should be made part of the modified Lifeline Assistance program that we recommend adopting in section VIII. C., *infra*. Thus, low-income consumers eligible for Lifeline Assistance would receive, at a minimum, the designated services.

384. In the NPRM, the Commission also sought comment on providing universal service support for toll-limitation services in light of studies demonstrating that a primary reason subscribers lose access to telecommunications services is failure to pay long distance bills.¹²⁷⁹ Many commenters support toll-limitation services for low-income individuals.¹²⁸⁰ In a number of jurisdictions, however, it appears that voluntary toll-limitation services may not be affordable for low-income consumers. The Joint Board recommends that the Lifeline Assistance program for eligible low-income consumers include voluntary toll limitation, in addition to the services mentioned above. Because voluntary toll blocking allows customers to block toll calls, and toll control allows customers to specify in advance a certain amount of toll usage per month or billing cycle, these services assist customers in avoiding involuntary termination of their access to telecommunications services. Therefore, we find that providing voluntary toll limitation free of charge to low-income consumers should help increase subscribership among low-income consumers. Furthermore, we find that toll-limitation services are "essential to education, public health or public safety"¹²⁸¹ and "consistent with the public interest, convenience, and necessity"¹²⁸² in that they maximize the opportunity of customers to remain on the telecommunications network.

385. We recommend, however, that only carriers that currently possess the capability of providing these services be required to provide them to Lifeline-eligible consumers and receive universal service support for such services. We understand that most carriers are currently capable of providing toll-blocking service,¹²⁸³ and that some carriers are capable of providing toll

¹²⁷⁸ 47 U.S.C. § 254(b)(3).

¹²⁷⁹ NPRM at para. 54 (*citing Subscribership Notice* at 13005-06).

¹²⁸⁰ *See, e.g.*, Florida PSC comments at 15-16; California PUC comments at 15; Indiana URC comments at 3-4; Illinois CC comments at 5; Bell Atlantic comments at 15.

¹²⁸¹ 47 U.S.C. § 254(c)(1)(A).

¹²⁸² 47 U.S.C. § 254(c)(1)(D).

¹²⁸³ Some of the carriers offering toll blocking include: Ameritech, Bell Atlantic, BellSouth, GTE, NYNEX, Pacific Telesis Group, and Southwestern Bell Telephone Company.

control.¹²⁸⁴ Eligible telecommunications carriers that are technically incapable of providing any toll-limitation services should not be required to provide either service, and such an incapability should not affect their designation as eligible telecommunications carriers. We recommend, however, that eligible telecommunications carriers not currently capable of providing these services be required to add the capability to provide at least toll blocking in any switch upgrades (but we do not recommend that universal service support be provided for such switch upgrades). We further recommend that carriers offering voluntary toll-limitation services receive support based on the incremental cost of providing those services.

386. We do not recommend, as some commenters suggest,¹²⁸⁵ providing support for toll-limitation services for consumers other than low-income consumers. We find that subscribership levels among low-income consumers are well below the national average and that a principal reason for service termination is the failure to pay toll charges. Therefore, we conclude that toll-limitation services should be supported only for low-income consumers at this time.

387. Further, the Joint Board recommends that the Commission prohibit carriers receiving universal service support for providing Lifeline service from disconnecting such service for non-payment of toll charges.¹²⁸⁶ As the NPRM noted, recent studies suggest that disconnection for non-payment of toll charges is a significant barrier to universal service.¹²⁸⁷ We find that low-income consumers should not be prevented from making local telephone calls because they did not pay long distance charges, because such local calls could be emergency telephone calls or calls to schools, government offices, or health care providers. We conclude that this requirement is consistent with section 254(c) because access to calls is "essential to education, public health, or public safety" and "consistent with the public interest, convenience, and necessity."¹²⁸⁸ We also find that a rule prohibiting carriers from disconnecting Lifeline subscribers' local service for non-payment of toll charges will create an incentive for carriers to offer low-income consumers toll-limitation services to manage their toll expenditures.

388. We further recommend, however, that the Commission provide state utilities regulators with the authority to grant carriers a limited waiver of this requirement if the carrier can establish that: (1) it would incur substantial costs in complying with such a requirement; (2) it

¹²⁸⁴ The following are some of the carriers offering toll control: Bell Atlantic - Pennsylvania; Denver and Ephrata Telephone and Telegraph Company; Southwestern Bell Telephone Company; and Pacific Telesis Group.

¹²⁸⁵ See, e.g., Alaska PUC comments at 2, 6; Benton comments at 2-3; Indiana URC comments at 2-4.

¹²⁸⁶ This recommendation should not be construed to affect the ability of the states to implement a policy prohibiting disconnection of local service for non-payment of toll charges for non-Lifeline customers.

¹²⁸⁷ NPRM at para. 56 (citing *Subscribership Notice* at 13005-06).

¹²⁸⁸ 47 U.S.C. § 254(c)(1)(A), (D).

offers toll-limitation services to its Lifeline subscribers at no charge; and (3) telephone subscribership among low-income consumers in the carrier's service area is at least as high as the national subscribership level for low-income consumers. We recommend that this waiver be extremely limited and that a carrier should be required to meet a very heavy burden to obtain a waiver. Furthermore, we recommend that the waiver would terminate after two years, at which time carriers could reapply for the waiver.

389. The Joint Board also recommends, in its discussion of Link Up in section VIII. C., *infra*, that the Commission implement a national policy prohibiting telecommunications carriers from requiring Lifeline-participating subscribers to pay service deposits in order to initiate service if the subscriber voluntarily elects to receive toll blocking.¹²⁸⁹

390. Some commenters suggest that free access to information about telephone service for low-income consumers should receive universal service support.¹²⁹⁰ These commenters appear to be concerned that low-income consumers will be unable to place calls to gain telephone service information if the calls would otherwise be an in-region toll call, or if the state's Lifeline program allows only a limited number of free calls. Similarly, NAD suggests that universal service support mechanisms should provide support so that TTY users can make free relay calls to numbers providing LEC service information.¹²⁹¹ We conclude that the states are best suited to determine, pursuant to section 254(f), whether to require carriers to provide free access to information about telephone service for low-income consumers, because they are most familiar with the number of consumers in their state affected by charges for these calls and may do so pursuant to 254(f) through their own universal service support mechanism. We also find that the record in this proceeding is inadequate to permit a recommendation on this subject that would comport with competitive neutrality by assuring consumers' access to such information for all service providers. We find that the same concerns militate against providing support for low-income consumers with disabilities making relay calls to gain access to LEC service information.

391. Some commenters favor universal service support for usage of interexchange and advanced services for low-income consumers.¹²⁹² We find, however, that it is unclear whether providing support for such services is necessary at this time. We believe the steps we suggest today for ensuring universal service for low-income consumers are likely to increase their access

¹²⁸⁹ Our recommendation does not address the issue of whether states may allow a LEC to request a service deposit from a customer with an outstanding balance owed to another LEC.

¹²⁹⁰ See, e.g., CNMI comments at 19-20; Edgemont comments at 12; Michigan Consumer Federation comments at 20.

¹²⁹¹ NAD reply comments at 22.

¹²⁹² See, e.g., Brite comments at 1-2; Governor of Guam comments at 12-14; New Mexico AG comments at 4.

to interexchange and advanced services. In the event that low-income consumers lack access to such services in the future, impeding the achievement of universal service goals, we recommend that the Commission revisit this issue.

392. Other commenters propose support for special-needs equipment for low-income subscribers with disabilities.¹²⁹³ We note, however, that the 1996 Act specifically addresses access to telecommunications services and equipment by individuals with disabilities outside the context of section 254.¹²⁹⁴ We therefore conclude that these matters need not be addressed by this Joint Board because they will be addressed in a separate proceeding to implement section 255.

393. Commenters propose other services and functionalities for low-income consumers that they assert should be supported through universal service support mechanisms, such as caller ID at a reduced rate,¹²⁹⁵ "soft dial tone" or "warm line,"¹²⁹⁶ support for optional services at regular rates,¹²⁹⁷ and multi-lingual information regarding billing and rates.¹²⁹⁸ Although these proposed services may benefit low-income customers, we find that the states are best positioned to ascertain, pursuant to section 254(f), whether these types of proposed support should be provided to low-income customers, due to the states' greater familiarity with regional and local demographic, socio-economic, and rate-making factors and may do so pursuant to 254(f) through their own universal service support mechanism.

394. Moreover, the inclusion of additional services and functionalities beyond those necessary to effectuate a comprehensive federal universal service policy would be inappropriate and may have the effect of unreasonably and unnecessarily expanding all carriers' universal service obligations, with inevitable effects on rates.¹²⁹⁹ Therefore, we limit our recommendation to the services and rules described *supra* and the modifications to Lifeline and Link Up described *infra*.

¹²⁹³ See, e.g., Council of Organizational Representatives reply comments at 3; Michigan PSC comments at 2; NAD reply comments at 8; New York DPS comments at 15; United Cerebral Palsy Ass'n reply comments at 2.

¹²⁹⁴ See 47 U.S.C. § 255.

¹²⁹⁵ NTIA reply comments at 7.

¹²⁹⁶ See, e.g., Edgemont comments at 16; PacTel comments at 22.

¹²⁹⁷ Texas OPUC comments at 17.

¹²⁹⁸ See, e.g., La Raza comments at 6-7; Virginia CC comments at 4; Ohio Consumers' Council reply comments at 16; .

¹²⁹⁹ Increases in the size of the fund, regardless of the magnitude, will in most cases be reflected through increased rates. This result, of course, negatively affects the overall affordability of rates.

C. Reevaluation of Existing Low-Income Support Programs

1. Background

395. Section 254(b)(3) states that consumers in all regions of the Nation, including low-income consumers, "should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas."¹³⁰⁰ Section 254(b)(1) provides that telecommunications services should be "affordable," and section 254(d) requires all providers of interstate telecommunications service to contribute to universal service support on an equitable and nondiscriminatory basis. Section 254(j), however, provides that "[n]othing in [section 254] shall affect the collection, distribution, or administration of the Lifeline Assistance Program provided for by the Commission under regulations set forth in section 69.117 of title 47, CFR, and other related sections of such title."¹³⁰¹

396. As noted in the NPRM, the Commission's Lifeline program currently provides support that reduces the charges low-income consumers in participating jurisdictions incur for some state-specified level of local service that includes access to the public switched telephone network (PSTN) and some local calling.¹³⁰² States may choose to participate in either of two Lifeline Assistance plans. Under Plan 1, an eligible subscriber's monthly telephone bill is reduced by an amount equal to the \$3.50 federal subscriber line charge imposed on such subscribers.¹³⁰³ Half of the reduction comes from a 50 percent waiver of the charge; the other half comes from the participating state, which matches the federal contribution by an equal reduction in the local rate. Under this plan, subscribers who satisfy a state-determined means test may receive assistance for a single telephone line in their principal residence. Under Plan 2, which expands Plan 1 to provide for waiver of the entire residential SLC (up to the amount matched by the state), a subscriber's bill may be reduced by twice the SLC (or more, if the state more than matches the value of the federal waiver).¹³⁰⁴ The state contribution may come from any intrastate source, including state assistance for basic local telephone service, connection charges, customer deposit requirements,

¹³⁰⁰ 47 U.S.C. § 254(b)(3).

¹³⁰¹ 47 U.S.C. § 254(j). Section 69.117 of the Commission's rules addresses the conditions and mechanisms for waiver of the subscriber line charge for Lifeline participants. 47 C.F.R. § 69.117.

¹³⁰² 47 C.F.R. § 69.104(j)-(l). Currently, 41 states plus the U.S. Virgin Islands and the District of Columbia participate.

¹³⁰³ 47 C.F.R. § 69.104(j).

¹³⁰⁴ 47 C.F.R. § 69.104(k).

or state taxes. Under both plans, the interstate portion of Lifeline is billed to IXC's by NECA.¹³⁰⁵ While Plan 2 requires the verification of participating subscribers' eligibility, Plan 1 requires only that subscribers' eligibility be "subject to verification."¹³⁰⁶ Of the 43 states or other jurisdictions participating in Lifeline, only California offers a Lifeline program under Plan 1.¹³⁰⁷

397. Link Up helps low-income subscribers initiate telephone service by paying half of the first \$60.00 of installation charges.¹³⁰⁸ Where a LEC has a deferred payment plan, Link Up will also pay the interest on any balance up to \$200.00, for up to one year.¹³⁰⁹ To be eligible for this program, subscribers must meet a state-established means test, and may not, unless over 60 years old, be another's dependent for federal income tax purposes.¹³¹⁰

398. The NPRM sought comment generally on whether "changes to our Lifeline and Link Up programs should be made as part of an overall mechanism to ensure that quality services are available at just, reasonable, and affordable rates for low-income subscribers."¹³¹¹ The NPRM proposed to amend the Link Up program by removing it from the jurisdictional separations rules through which it is now funded for low-income subscribers of incumbent LECs and funding the program through a new universal service mechanism consistent with sections 254(d) and (e). In the NPRM, the Commission also sought "comment and a Joint Board recommendation on how to define eligible low-income customers."¹³¹² The NPRM observed that the states currently determine Lifeline eligibility based on means-tested criteria they select.¹³¹³

399. In its Public Notice, the Commission's Common Carrier Bureau asked: (1) whether the new universal service fund should provide support for Lifeline and Link Up in order to make the subsidies technologically and competitively neutral, and (2) if so, whether the amount

¹³⁰⁵ 47 C.F.R. § 69.117.

¹³⁰⁶ 47 C.F.R. § 69.104(j).

¹³⁰⁷ Indus. Analysis Div., FCC, *Monitoring Report May 1995 CC Docket No. 87-339*, at tbl. 2.1 (1995) (*Monitoring Report*). California allows subscribers to self-certify their eligibility to participate in the Lifeline program.

¹³⁰⁸ 47 C.F.R. § 36.711.

¹³⁰⁹ 47 C.F.R. § 36.711(a)(2).

¹³¹⁰ 47 C.F.R. § 36.711(b).

¹³¹¹ NPRM at para. 65.

¹³¹² NPRM at para. 59.

¹³¹³ NPRM at para. 61.

of the Lifeline subsidy still should be tied to the amount of the SLC.¹³¹⁴

2. Comments

400. Retain Lifeline and Link Up in their Current Form. A majority of commenters support the Lifeline and Link Up programs, with most asking only that support for these programs be maintained or increased.¹³¹⁵ Missouri PSC, Washington UTC, and Ohio PUC support Lifeline and Link Up in their current form.¹³¹⁶

401. Effect of Section 254(j). A few commenters appear to read section 254(j) as precluding the Commission from making any changes to the Lifeline program.¹³¹⁷ Bell Atlantic, however, interprets section 254(j) to permit the Commission to leave the Lifeline program in place if it wishes to do so, even though the program may currently conflict with other goals in the statute.¹³¹⁸

402. Change Lifeline and Link Up. NTIA and Citizens Utilities propose changes to the Lifeline program. Some commenters suggest mandating that all states participate in the Lifeline program.¹³¹⁹ NTIA, for example, maintains that the 1996 Act appears to require federal support for low-income consumers regardless of whether the state in which they live matches federal low-income support.¹³²⁰ NTIA observes, however, that removing the matching requirement might reduce the incentive for currently-participating states to continue providing support, and therefore advocates reducing the matching requirement to 25 percent of the federal support level.¹³²¹ North

¹³¹⁴ Public Notice at Question 71.

¹³¹⁵ See, e.g., Farmers Tel. comments at 4-5; Michigan PSC comments at 2; Mon-Cre comments at 5; Ohio PUC comments at 7 (advocating expanding Lifeline to waive the entire subscriber line charge); South Dakota comments at 1-7; Sprint comments at 21 (suggesting that more effort be made to educate low-income consumers about the existence of Lifeline and Link Up); TCA comments at 5; Telec Consulting comments at 15; Winnebago Tel. comments at 1; U S West further comments at 31 (supporting the programs but believing the Commission should re-examine the caps placed on these programs as rates are rebalanced).

¹³¹⁶ Missouri PSC comments at 12; Ohio PUC comments at 7; Washington UTC comments at 12.

¹³¹⁷ See, e.g., Ad Hoc Telecom. Users comments at 2 n.1; Associated Communications comments at 3; PacTel comments at 22; Washington UTC comments at 14; Puerto Rico Tel. Co. further comments at 22.

¹³¹⁸ See, e.g., Bell Atlantic further comments at 15.

¹³¹⁹ Citizens Utilities comments at 17; NTIA reply comments at 14-15.

¹³²⁰ NTIA reply comments at 14-15.

¹³²¹ NTIA reply comments at 14-15.

Dakota PSC would make participation in Lifeline and Link Up a condition for carriers to receive any type of universal service support.¹³²² Michigan PSC proposes that the Commission modify the programs so that federal and the state funds would each contribute 50 percent of customers' costs associated with Link Up, Lifeline, and special needs equipment; federal support mechanisms and the provider would each contribute 50 percent of customers' costs associated with a special low-income local service package including, among other options, toll restriction.¹³²³ Western Alliance notes that while rural subscribers may pay only \$10.00 per month for local, flat-rate calling, they may pay at least twice that much for short-haul toll calls to the nearest schools, hospitals, local government offices, and other destinations.¹³²⁴ Western Alliance therefore suggests that Lifeline support be provided for such toll calls.¹³²⁵

403. Change Lifeline and Link Up to Support Competitive Neutrality. A large number of commenters argue for changing the way Lifeline and Link Up are funded in order to achieve competitive neutrality.¹³²⁶ Specifically, many commenters contend that the new universal service support mechanism should provide support for Lifeline and Link Up because having all telecommunications providers -- not just IXCs -- contribute will make the subsidies competitively neutral.¹³²⁷ Additionally, several commenters suggest basing contributions on a contributor's revenue rather than on the carrier's number of presubscribed lines, as the current Lifeline and Link Up programs do. They assert that this change would make the assessment more competitively neutral.¹³²⁸ But other parties, such as NCTA, PacTel, and SNET, propose that Lifeline and Link Up should not receive support through universal service support mechanisms.¹³²⁹ PacTel and

¹³²² North Dakota PSC comments at 2-3.

¹³²³ Michigan PSC comments at 2.

¹³²⁴ Western Alliance further comments at 16.

¹³²⁵ Western Alliance further comments at 16.

¹³²⁶ See, e.g., CompTel comments at 19-20; GTE comments at 22; MCI comments at 5-6; RTC further comments at 34-35; USTA further comments at 31-32; Vitelco further comments at 15.

¹³²⁷ See, e.g., AT&T reply comments at 21 (adding that states can establish separate state-specific funds if they deem it necessary); Ameritech further comments at 47; BellSouth further comments at 56; CompTel further comments at 14; CFA further comments at 27; GSA further comments at 16; GTE further comments at 60; MCI further comments at 32-33; MFS further comments at 53; NYNEX further comments at 48; Sprint further comments at 19.

¹³²⁸ CompTel comments at 19-20; NECA further comments at 39; USTA further comments at 31-32; Vitelco further comments at 15.

¹³²⁹ See, e.g., NCTA further comments at 25; PacTel further comments at 59; SNET further comments at 7; SWBT further comments at 46.

SNET oppose changing the current contribution mechanism because the current programs are explicit support mechanisms specifically targeted to individual subscribers.¹³³⁰

404. Commenters suggest that in addition to changing the way in which Lifeline and Link Up funds are collected, the Commission should alter the basis on which Lifeline benefits are determined for low-income consumers in order to further competitive neutrality.¹³³¹ Specifically, some commenters suggest not basing the amount of support on the SLC.¹³³² These commenters propose several alternatives for determining support for low-income individuals. For example, some commenters suggest that Lifeline support should be based on a rate determined to be affordable by low-income consumers.¹³³³ Professor Patricia Worthy proposes a federal low-income rate set at one percent of the federal minimum wage, based on research showing that low-income consumers spend approximately one percent of their incomes on telephone service.¹³³⁴ Universal service support mechanisms would provide support for the difference between one percent of the minimum wage and a low-income subscriber's monthly bill.¹³³⁵ This would mean low-income consumers should pay a maximum rate of \$8.93 per month for telephone service (which would include a flat rate with a 120-free call allowance, DTMF, access to emergency services, access to operator services and 12 free calls per month, access to long distance carriers, a white pages listing, free toll blocking, and blocking for 900, 976, and 976-like services).¹³³⁶

405. Puerto Rico Tel. Co. recommends giving a LEC an \$8.00 per month universal service support payment for each customer living below the poverty line.¹³³⁷ The LEC would

¹³³⁰ PacTel further comments at 59 (also stating that all Lifeline and Link Up providers should be potential recipients of funds); SNET further comments at 7.

¹³³¹ *See, e.g.*, Ameritech further comments at 47; CompTel further comments at 14; MCI further comments at 32; Time Warner further comments at 56; U S West further comments at 31; Professor Patricia Worthy further comments 8-11.

¹³³² *See, e.g.*, Ameritech further comments at 47; CompTel further comments at 14; MCI further comments at 32.

¹³³³ *See, e.g.*, Puerto Rico Tel. Co. reply comments at 7-11; Professor Patricia Worthy further comments at 8-11.

¹³³⁴ Professor Patricia Worthy further comments at 8-11. *See also* USTA comments at 16 n.21 (concluding that Americans spend an average of one percent of their income on universal services).

¹³³⁵ Professor Patricia Worthy further comments at 8-11. Alternatively, Professor Worthy would set the federal low-income rate at the average of current state Lifeline rates.

¹³³⁶ Professor Patricia Worthy further comments at 10.

¹³³⁷ Puerto Rico Tel. Co. reply comments at 7-10.

credit the customer's account \$6.00 per month and keep \$2.00 to cover costs. Based on the average residential service rate of \$15.00 per month (excluding the SLC, taxes, and DTMF service), low-income consumers' monthly rates would be approximately \$9.00.¹³³⁸

406. LCI recommends providing low-income consumers a subsidy that is the difference between prevailing rates for the package of designated services and the rate level at which these services become affordable.¹³³⁹ It states that under the 1996 Act, explicit and predictable support mechanisms must be developed to ensure that low-income individuals can afford the designated services.¹³⁴⁰ It argues that the best way to determine who is eligible for low-income support is through the existing Lifeline and Link Up programs.¹³⁴¹

407. MCI maintains that Lifeline and Link Up should be tied to the total costs of the loop, rather than the SLC.¹³⁴² Under MCI's proposal, support would be determined by the difference between the nationwide average local rate and the economic cost of the service.¹³⁴³ Citizens suggests expanding support beyond the SLC to cover an eligible consumer's total monthly cost of universal service.¹³⁴⁴ MFS proposes that Lifeline support be fixed at current levels and adjusted as the Commission believes necessary to address the needs of low-income individuals.¹³⁴⁵

408. Some commenters advocate keeping the amount of support for low-income consumers tied to the SLC.¹³⁴⁶ GSA takes this position because the SLC is the portion of the

¹³³⁸ *Id.* (also suggests stimulating network expansion of services to low-income people by providing incentive payments to eligible carriers that extend service to previously unserved residential subscribers).

¹³³⁹ LCI comments at 7.

¹³⁴⁰ LCI comments at 7.

¹³⁴¹ LCI comments at 7.

¹³⁴² MCI further comments at 32-33.

¹³⁴³ MCI further comments at 32-33. *See also* Sprint further comments at 19 (advocating de-linking the amount of support from the SLC and tying it to a specified percentage of local rates).

¹³⁴⁴ Citizens Utilities comments at 17.

¹³⁴⁵ MFS further comments at 53.

¹³⁴⁶ *See, e.g.*, Bell South further comments at 56; Florida PSC further comments at 17 (at least at the outset tied to the subscriber line charge); NCTA further comments at 25; SWBT further comments at 46; TCI further comments at 40.

subscriber's local service bill that is subject to federal regulation.¹³⁴⁷ BellSouth and TCI argue that keeping support linked to the SLC will prevent increases to low-income consumers' bills if the SLC is otherwise increased.¹³⁴⁸ If the SLC increases, BellSouth, Ohio Consumers' Counsel, Wisconsin PSC, Maine PUC and USTA maintain that Lifeline support should increase accordingly.¹³⁴⁹

409. Some commenters advocate making Lifeline benefits "portable," i.e., assignable to the provider of the subscriber's choice.¹³⁵⁰ Because the federal component of Lifeline currently is a waiver of the SLC, Lifeline benefits cannot be applied to services without a SLC (such as wireless services or voice mail). GTE suggests that Lifeline customers receive a credit that can be applied to any telecommunications service they select, whether wireline or wireless.¹³⁵¹ GTE further contends that the amount of the credit should equal at least the subscriber line charge and be linked to an inflation index so that the passage of time does not dilute the effectiveness of the program.¹³⁵² 360 recommends giving the subsidy directly to consumers through vouchers consumers could use with the telecommunications provider of their choice.¹³⁵³ TIA and Michigan Consumer Federation also suggest vouchers, with the latter emphasizing that vouchers should be convenient and non-stigmatizing.¹³⁵⁴ AT&T maintains that small, rural carriers should be exempted from a portability requirement because the administrative costs of portability could outweigh the benefits.¹³⁵⁵

¹³⁴⁷ GSA further comments at 16.

¹³⁴⁸ BellSouth further comments at 56; TCI further comments at 40.

¹³⁴⁹ BellSouth comments at 13; Maine PUC comments at 21; Wisconsin PSC comments at 11-12; Ohio Consumers' Council reply comments at 16; USTA reply comments at 9.

¹³⁵⁰ *See, e.g.*, California PUC comments at 16-17; CompTel comments at 19-20; MCI comments at 19 (allowing consumers to select the services they want); New Jersey BPU comments at 5; PCIA comments at 15; PacTel further comments at 60 (suggesting that a flexible credit applicable to a call control/spending feature may be of more value to consumers); Time Warner further comments at 56.

¹³⁵¹ GTE further comments at 22.

¹³⁵² GTE further comments at 22 n.47. *See also* Time Warner further comments at 56 (supporting "portable" subsidies expressed as specific dollar amounts, rather than as percentage "discounts" off the regular price of the service).

¹³⁵³ 360 comments at 8.

¹³⁵⁴ Michigan Consumer Federation comments at 23; TIA comments at 2 n.2.

¹³⁵⁵ AT&T comments at 9 n.12 (once a state commission determines that it is in the public interest for a rural carrier to interconnect with new entrants in their territory pursuant to § 251(f)(1)(B), however, the subsidy should become portable).

410. Modify Link Up. Some commenters also propose modifications to the Link Up program. MCI, NCTA, and LDDS, for example, suggest modifying the Link Up program so that it is no longer based on jurisdictional separations rules, and therefore all telecommunications carriers can be required to participate.¹³⁵⁶ PULP argues that support should be increased so that qualifying customers pay no more than \$10.00 in installation charges.¹³⁵⁷ Texas OPUC suggests that the Link Up program be supported by new universal service support mechanisms, rather than by IXCs.¹³⁵⁸ Catholic Conference would amend Link Up to provide assistance for more than one initiation of service per year.¹³⁵⁹

411. Who Should Determine Eligibility. Most states and state public utility commissions argue that the states should determine eligibility criteria for universal service low-income support.¹³⁶⁰ Michigan Consumer Federation argues that states should possess wide latitude to tailor eligibility criteria to reflect local needs and circumstances.¹³⁶¹ It maintains that use of national standards could result in support that is too generous for some states and insufficient for others.¹³⁶² Other commenters note that the states should base eligibility on enrollment in a federal program.¹³⁶³ AT&T maintains that states initially should set the maximum income threshold to establish eligibility and then identify one or more assistance programs in which a consumer must participate in order to qualify.¹³⁶⁴ NCTA, however, maintains that low-income customers eligible for support should be defined consistently across the country, rather than on a state-by-state basis.¹³⁶⁵

¹³⁵⁶ LDDS comments at 19; MCI comments at 5-6; NCTA comments at 15.

¹³⁵⁷ PULP comments at 20.

¹³⁵⁸ Texas OPUC comments at 17.

¹³⁵⁹ Catholic Conference comments at 22. *See also* NTIA reply comments at 18-19 (suggesting allowing subscribers to receive more frequent assistance with installation charges if they accept toll blocking).

¹³⁶⁰ *See, e.g.*, Alaska comments at 14; Ohio PUC comments at 11 (but recommending that no household earning more than 150 percent of the poverty level be eligible for support); Virginia CC comments at 4.

¹³⁶¹ Michigan Consumer Federation comments at 19.

¹³⁶² Michigan Consumer Federation comments at 19.

¹³⁶³ *See, e.g.*, AT&T comments 17-18 n.22; Virginia CC comments at 4 (advocating reliance on existing identifiers, e.g., Medicaid and Food Stamps, rather than inventing new definitions).

¹³⁶⁴ AT&T comments at 17-18 n.22.

¹³⁶⁵ NCTA comments at 14.

412. Bases on Which to Determine Eligibility. Commenters suggest a variety of methods to determine eligibility for support. Florida PSC recommends providing support to individuals who receive state assistance.¹³⁶⁶ NCTA¹³⁶⁷ suggests basing eligibility on whether the consumer receives federal assistance from one of the four major assistance programs: Aid to Families with Dependent Children (AFDC);¹³⁶⁸ Supplemental Security Income (SSI);¹³⁶⁹ Food Stamps;¹³⁷⁰ and Medicaid.¹³⁷¹ PULP proposes to include customers receiving either federal or state-funded assistance, while providing the states with the ability to include consumers who have incomes slightly above the levels required to receive federal government assistance.¹³⁷² MPSC, among others, emphasizes that enrollment should be automatic, so that recipients of AFDC, for example, are automatically enrolled in Lifeline.¹³⁷³ New York DPS supports automatic enrollment and re-evaluating eligibility using merged telephone company and social service agency databases.¹³⁷⁴ New York DPS claims that the merged databases reduce costs by terminating support to ineligible households, while also increasing subscribership among qualifying households.¹³⁷⁵ Other commenters suggest providing support to people who receive an Earned Income Credit on their tax returns.¹³⁷⁶ Community Colleges maintains that community colleges

¹³⁶⁶ Florida PSC comments at 17.

¹³⁶⁷ NCTA comments at 14-16.

¹³⁶⁸ AFDC provides transitional financial assistance to needy families. Federal and state governments share the cost. The federal government provides broad guidelines and program requirements, and states are responsible for program formulation, benefit determinations, and administration.

¹³⁶⁹ SSI provides financial assistance to people who are 65 or older, blind, or have a disability and who meet certain income guidelines.

¹³⁷⁰ The Food Stamp Program is designed to increase the food purchasing power of eligible low-income households. Benefits are available to nearly all households that meet federal eligibility tests. Recipients of AFDC and SSI generally are automatically eligible for food stamps.

¹³⁷¹ States are required to provide Medicaid coverage for most individuals who receive federally assisted income maintenance payments, such as AFDC and SSI. In addition, states have the option of providing Medicaid coverage to other groups.

¹³⁷² PULP comments at 19.

¹³⁷³ Montana PSC comments at 5.

¹³⁷⁴ New York DPS comments at 14.

¹³⁷⁵ New York DPS comments at 14.

¹³⁷⁶ Florida PSC comments at 17.

should be considered low-income consumers.¹³⁷⁷ Catholic Conference recommends extending subsidies to schools and shelters that supply telephone service free of charge to the indigent, homeless, migrant workers, and victims of domestic violence.¹³⁷⁸ La Raza advocates providing support to non-profit charitable organizations that offer advanced telecommunications services to low-income consumers.¹³⁷⁹

413. Several commenters suggest that households living below a certain percentage of the poverty line should be eligible for support.¹³⁸⁰ Puerto Rico Tel. Co. uses the poverty line as the demarcation of eligibility for support.¹³⁸¹ AARP, for example, suggests that households with income below 125 percent of the poverty line are eligible for support, while Edgemont advocates a 150 percent demarcation level.¹³⁸² Several parties explicitly oppose using poverty levels as the determining factor.¹³⁸³ NCTA believes that poverty levels do not define with sufficient certainty who is covered and, ultimately, the size of the subsidy.¹³⁸⁴

414. Ameritech, NYNEX, MFS, and NCTA emphasize that universal service support should be specifically targeted to only those customers who in fact need assistance to obtain the designated services.¹³⁸⁵ In this way, Ameritech contends, assistance for low-income consumers can work in tandem with the affordability benchmark rate for high cost areas.¹³⁸⁶

415. La Raza recommends that the Commission set a universal service goal with regard

¹³⁷⁷ Community Colleges comments at 5.

¹³⁷⁸ Catholic Conference comments at 21-22.

¹³⁷⁹ La Raza comments at 17-18.

¹³⁸⁰ *See, e.g.*, AARP comments at 20-21 (advocating self-certification, with verification, for qualifying households); Puerto Rico Tel. Co. comments at 10; Edgemont reply comments at 4. *See also* NASUCA comments at 7 (advocating self-certification).

¹³⁸¹ Puerto Rico Tel. Co. comments at 10.

¹³⁸² AARP comments at 20-21; Edgemont reply comments at 4.

¹³⁸³ *See, e.g.*, Virginia CC comments at 3-4; NCTA reply comments at 17.

¹³⁸⁴ NCTA comments at 17.

¹³⁸⁵ NCTA comments at 17; NYNEX comments at 13; Ameritech reply comments at 17; MFS reply comments at 3.

¹³⁸⁶ Ameritech reply comments at 17.

to low-income consumers to give effect to section 254(b).¹³⁸⁷ The goal La Raza advocates would be that carriers in each state should work to achieve the statewide average rate of subscribership among low-income, minority, and limited-English-speaking communities in that state.¹³⁸⁸ Similarly, NTIA recommends that the Commission adopt a "National Subscribership Goal" to ensure that the number of households with telephones among low-income households is at least equal to the national average.¹³⁸⁹

3. Discussion

a. Lifeline

416. We continue to be concerned about the low subscribership levels among low-income consumers. Current penetration rates are only 87.1 percent among households with annual incomes less than \$10,000.00 and 75 percent among households with annual incomes less than \$5,000.00.¹³⁹⁰ Affordable access is also an issue in insular jurisdictions, where the cost of providing service is high and incomes are often low. In Puerto Rico, which has a higher than average percentage of low-income consumers, telephone subscribership is 72 percent, compared to almost 94 percent in the rest of the United States.¹³⁹¹ Additionally, the Governor of Guam maintains that low-income consumers in Guam may not have access to interexchange and advanced services at affordable rates.¹³⁹² Subscribership levels among low-income consumers indicate that changes in the current Lifeline program are warranted.

417. Currently, only 41 states, the District of Columbia and the U.S. Virgin Islands participate in Lifeline.¹³⁹³ Therefore, the Joint Board recommends modifying the federal Lifeline

¹³⁸⁷ La Raza reply comments at 4.

¹³⁸⁸ La Raza reply comments at 4.

¹³⁸⁹ NTIA reply comments at 12.

¹³⁹⁰ Indus. Analysis Div., FCC, *Monitoring Report May 1995 CC Docket No. 87-339* (1996) (*Monitoring Report*).

¹³⁹¹ Puerto Rico Tel. Co. comments at 8.

¹³⁹² Governor of Guam comments at 12-13.

¹³⁹³ Indus. Analysis Div., FCC, *Monitoring Report May 1995 CC Docket No. 87-339*, at tbl. 2.1 (1996) (*Monitoring Report*). The states without Lifeline programs are: Delaware; Indiana; Iowa; Kansas; Kentucky; Louisiana; Nebraska; New Hampshire; New Jersey; and Puerto Rico.

program to reach low-income consumers in every state.¹³⁹⁴ We further recommend that, in order to be eligible for support from the new national universal service support mechanism pursuant to section 214(e)(1), carriers must offer Lifeline assistance to eligible low-income customers. We find that these modifications will serve as a means of fulfilling the statutory principle that telecommunications services should be available to low-income consumers "in all regions of the Nation."¹³⁹⁵ Moreover, we conclude that these proposed changes are consistent with section 254 and the pro-competitive goals of the 1996 Act. The Commission's current Lifeline program requires states to provide support from intrastate sources to reduce Lifeline subscribers' bills by an amount at least equal to the amount of federal support. As a result, low-income consumers in states choosing not to provide such matching support lack the opportunity to benefit from the Lifeline program. We recommend that the Commission modify the Lifeline program to ensure that low-income consumers may receive Lifeline support without regard to the state in which they reside.¹³⁹⁶ We are reluctant, however, to recommend mandatory participation by states or carriers in a program that requires states to generate support from the intrastate jurisdiction.

418. One possible solution to this problem would be to eliminate the requirement of intrastate matching support as a condition of receiving federal support for Lifeline. We are concerned, however, that eliminating the matching requirement might reduce a state's incentive to provide intrastate support to reduce Lifeline rates further. Although the current Lifeline program, which provides for total reductions of at least \$7.00 in Lifeline subscribers' bills (including state matching support)¹³⁹⁷ has been successful,¹³⁹⁸ we are uncertain whether \$3.50 in federal support, absent state matching, would reduce low-income consumers' monthly bills sufficiently to achieve our goals here. Moreover, we find that it would be desirable to maintain a state role in the Lifeline program, to the extent possible, because of the states' greater familiarity with income levels, demographic patterns, and other factors affecting low-income subscribership.

¹³⁹⁴ Hereinafter, "states" will refer to all states, territories, and commonwealths within the jurisdiction of the United States.

¹³⁹⁵ 47 U.S.C. § 254(b)(3).

¹³⁹⁶ See 47 U.S.C. § 254(c)(3) (establishing a policy of universal service support for "[c]onsumers in all regions of the Nation, including low-income consumers").

¹³⁹⁷ All states that currently participate in Lifeline participate in Plan 2, which provides for a full waiver of the \$3.50 SLC and requires state matching (for a total of \$7.00 in support), with the exception of California. See *FCC Monitoring Report*, CC Docket No. 80-286, Table 2.1 (rel. May 1996). Although California participates in Plan 1, and therefore receives only \$1.75 in federal support per subscriber, California generates intrastate support to allow Lifeline rate reductions of at least \$7.00 in total.

¹³⁹⁸ Its success is demonstrated by commenters' widespread support of the program, as well as Congress's endorsement of it in section 254(j).

419. In order to reconcile our finding that Lifeline support should be extended to all states with our desire to maximize states' incentives to generate matching intrastate support for the program, we recommend that the Commission eliminate the state matching requirement and provide for a baseline level of federal support that would be available to low-income consumers in all states. In order to ensure adequate Lifeline support in states that choose not to generate intrastate matching funds, we believe this baseline federal support level should exceed the current \$3.50. To maximize matching incentives, however, we believe the baseline support level should be less than \$7.00. We therefore propose a baseline federal level halfway between the two figures at \$5.25, and recommend that the Commission seek additional information on this issue before establishing a precise baseline level. To create further incentives for matching, we recommend that the Commission provide for additional federal support equal to one half of any support generated from the intrastate jurisdiction, up to a maximum of \$7.00 in federal support.

420. Although we believe this recommendation will best reconcile our competing objectives of providing adequate nationwide support and maximizing state matching incentives, we are concerned that the implementation of this recommendation could have no direct effect on Lifeline subscribers' rates in many populous states with existing Lifeline programs, and could instead result only in a larger percentage of the total support being generated from federal sources. Therefore we recommend that the Commission seek additional information on ways to avoid this unintended consequence before implementing this recommendation.

421. We also find it essential that the state members of the Joint Board maintain a continuing role in refining specific aspects of the Lifeline program. The state members of the Joint Board will submit a report to the Commission on Lifeline issues. The report of the state members will be filed prior to the Commission's decision on the Lifeline program in this proceeding. Thereafter, the Commission and the state members should continue to work cooperatively and remain integrally involved in refining the Lifeline program.

422. We observe that many states currently generate their matching funds through the rate-regulation process. These states allow incumbent LECs to recover the revenue the carrier loses from charging Lifeline customers less by charging other subscribers more. This creates two potential problems. First, this mechanism represents an implicit subsidy, with non-Lifeline subscribers paying more to support Lifeline subscribers. Second, it raises the question of how states would meet their matching requirement for carriers whose rates they do not regulate. Thus, we recommend that matching funds from the intrastate jurisdiction must be generated in a manner that is not inconsistent with the Commission's rules to preserve and advance universal service.¹³⁹⁹

423. To make the Commission's Lifeline program competitively neutral, the Joint Board recommends that support for eligible low-income consumers no longer be achieved through

¹³⁹⁹ See 47 U.S.C. § 254(f).

charges levied on only IXC's. We recommend that the programs be supported by a fund to which all telecommunications carriers that provide interstate service contribute on an equitable and nondiscriminatory basis as a function of their revenues, consistent with sections 254(d) and (e). Thus, for example, LECs, wireless carriers, and other interstate telecommunications service providers would contribute. De-linking Lifeline from the Commission's Part 69 rules would promote competitive neutrality by allowing the participation of carriers who do not charge SLCs, such as CLECs and wireless providers. Some commenters oppose changing the current contribution mechanism because the current programs are specifically targeted to individual subscribers.¹⁴⁰⁰ Nevertheless, we conclude, as do many commenters,¹⁴⁰¹ that the new funding mechanism we recommend will be more competitively neutral than the current system, which passes the entire federal burden of low-income support to IXC's, without sacrificing the targeting that has characterized the current program. We also conclude that low-income consumers will continue to benefit directly under our recommendation.

424. In addition to changing the contribution method for the Lifeline program, we recommend amending the program to enable all eligible telecommunications carriers, not just LECs, to be eligible to receive support for serving qualified low-income consumers. Currently, only ILECs serving eligible low-income consumers can receive support. With the approval of state utility commissions, ILECs offer eligible low-income individuals reduced local rates, with reductions equal to at least the full amount of the SLC (\$3.50), or more, depending on the level of state support.¹⁴⁰² The Commission currently certifies state programs based on a demonstration that they offer eligible subscribers a Lifeline rate that is discounted by at least twice the level of SLC waiver that is requested (to account for state matching).¹⁴⁰³ Currently, NECA bills IXC's and disburses funds to the ILECs to compensate them for SLCs not recovered from end users.¹⁴⁰⁴ We find, however, that eligible telecommunications carriers other than ILECs should have the ability to compete to serve low-income consumers and in turn receive Lifeline support in a manner similar to the current program. We recommend that in order to participate, a carrier must demonstrate to the public utility commission of the state in which it operates that it offers a Lifeline rate to qualified individuals. We recommend that the Lifeline rate be the carrier's lowest comparable non-Lifeline rate reduced by at least the \$5.25 amount of federal support. We further

¹⁴⁰⁰ PacTel further comments at 59; SNET further comments at 7.

¹⁴⁰¹ See, e.g., AT&T reply comments at 21; Ameritech further comments at 47; BellSouth further comments at 56; CFA further comments at 27; CompTel further comments at 14; GSA further comments at 16; GTE further comments at 60; MCI further comments at 32-33; MFS further comments at 53; NYNEX further comments at 48; Sprint further comments at 19.

¹⁴⁰² See *supra*.

¹⁴⁰³ See 47 C.F.R. § 69.203(g).

¹⁴⁰⁴ 69 C.F.R. § 69.117.

recommend that support be provided directly to carriers based on the number of eligible consumers they serve under administrative procedures determined by the fund administrator.¹⁴⁰⁵ In the interest of administrative ease, we recommend against the use of vouchers, as proposed by some commenters.¹⁴⁰⁶

425. Currently, state agencies or telephone companies administer customer eligibility determinations pursuant to narrowly-targeted programs approved by the Commission.¹⁴⁰⁷ We recommend that the Commission maintain this basic framework for administering Lifeline eligibility in states that provide matching support for the Lifeline program. We believe such criteria provide states with sufficient flexibility to target support based on each state's particular needs and circumstances. We also recommend that the Commission require states that provide matching funds to base eligibility criteria solely on income or factors directly related to income (such as participation in a low-income assistance program). Currently, some states only make Lifeline assistance available to low-income individuals who, for example, are elderly or have disabilities. We find that Congress's intent would best be served if all low-income consumers had access to Lifeline assistance. We further recommend that the Commission adopt specific means-tested eligibility standards to apply in states that choose not to provide matching support from the intrastate jurisdiction. Specifically, we recommend that low-income consumers participating in a state-administered, low-income welfare program (and who are not considered dependents for federal income tax purposes, with the exception of dependents over the age of 60) would be eligible for Lifeline assistance.

b. Link Up

426. The Joint Board recommends that the Commission adopt the changes to the Link Up program's funding mechanism proposed in the NPRM.¹⁴⁰⁸ We recommend that the Link Up funding mechanism be removed from the jurisdictional separations rules, and that the program be funded through equitable and non-discriminatory contributions from all interstate telecommunications carriers. Funding the program through contributions from all interstate carriers will allow for an explicit and competitively neutral funding mechanism consistent with sections 254(d) and (e).

427. We recommend that the Commission amend its Link Up rules to make the present level of Link Up support available to qualifying low-income consumers requesting service from

¹⁴⁰⁵ See *infra* section XIII (Administration).

¹⁴⁰⁶ See, e.g., 360 comments at 8; Michigan Consumer Federation comments at 23; TIA comments at 2 n.2.

¹⁴⁰⁷ See 47 C.F.R. § 69.104(j)-(k).

¹⁴⁰⁸ NPRM at para. 64.

any telecommunications carrier providing local exchange service. Support would be available only for the primary residential connection. As amended, the Link Up rules should thus provide that any eligible telecommunications carrier may draw support from the new Link Up funding mechanism described above if that carrier offers to eligible customers a reduction of its service connection charges equal to one half of the carrier's customary connection charge or \$30.00, whichever is less. Where the carrier offers eligible customers a deferred payment plan for connection charges, we recommend that the Commission provide support to reimburse carriers for waiving interest on the deferred charges for eligible subscribers as Link Up currently provides for incumbent LECs' charges. To ensure that the opportunity for carrier participation is competitively neutral, we recommend that the Commission's rules be amended to eliminate the requirement that the commencement-of-service charges eligible for support be filed in a state tariff.¹⁴⁰⁹ In the absence of evidence that increasing the level of Link Up support for connecting each eligible customer would significantly further universal service goals, however, we recommend that the level of support for Link Up not be increased.¹⁴¹⁰

428. With respect to subscribers' eligibility to participate in the Link Up program, the Joint Board recommends that the same modifications be made to the Link Up program that we have recommended for the Lifeline program. That is, we encourage states to set means-tested eligibility criteria, and we recommend that a federal eligibility "floor" be established that would serve as eligibility criteria in states that choose not to define means-tested eligibility criteria of their own. Consistent with some commenters' proposals,¹⁴¹¹ we also recommend that the Commission prohibit states from restricting the number of service connections per year for which low-income consumers who relocate can receive Link Up support.

429. We find that carriers' high service deposits deter subscribership among low-income consumers.¹⁴¹² Research suggests that carriers often require customers to pay high service deposits in order to initiate service, particularly when customers have had their service disconnected previously.¹⁴¹³ We recommend that the Commission address this barrier to low-income consumers' gaining or regaining access to the network for primary residential channels. We recommend that the Commission implement a national rule prohibiting telecommunications carriers from requiring Lifeline-participating subscribers to pay service deposits in order to initiate service if the subscriber voluntarily elects to receive toll blocking. We recommend in section

¹⁴⁰⁹ See 47 C.F.R. § 36.711(d).

¹⁴¹⁰ See, e.g., PULP comments at 20.

¹⁴¹¹ See, e.g., Catholic Conference comments at 22.

¹⁴¹² NPRM at para. 56.

¹⁴¹³ NPRM at para. 56 (citing *Subscribership Notice* at 13005-06).

VIII. B., *supra*, that universal service support be provided so that toll blocking is made available to all Lifeline participants at no additional charge. Although this rule regarding service deposits would not be a part of the Link Up program itself, it would serve the goal of assisting low-income consumers to gain access to the network. GTE maintains that if service deposits are reduced or eliminated, LECs should be reimbursed for such reduction because universal service support should be explicit.¹⁴¹⁴ We find, however, that our recommendation will not place an undue burden on carriers because service deposits currently serve primarily to guard against the risk of non-payment of toll charges, which many ILECs bill to customers on behalf of IXC. This same protection will be created by the customer's election to receive toll blocking, a precondition to the restriction against requiring service deposits.

IX. ISSUES UNIQUE TO INSULAR AREAS

A. Background

430. The 1996 Act states that consumers in insular areas should have access to telecommunications and information services, including interexchange services, advanced telecommunications services, and information services, (1) that are reasonably comparable to those services provided in urban areas and (2) that are available at rates that are reasonably comparable to rates charges for similar services in urban areas.¹⁴¹⁵ Congress stated that the Joint Board and the Commission were to consider consumers of insular areas, such as the Pacific Island territories, when developing support mechanisms for consumer access to telecommunications and information services.¹⁴¹⁶ In the NPRM, the Commission requested comment on all issues affecting rural, insular and high cost areas.¹⁴¹⁷ The Common Carrier Bureau's Public Notice asked three questions concerning consumers in insular areas: what, if any, programs (in addition to those aimed at high cost areas) are needed to ensure that insular areas have affordable telecommunications service; if a proxy model is used to determine the amount of universal service support, what, if any, measures are necessary to ensure that urban rates and rates in rural, insular, and high cost areas are reasonably comparable, as required in section 254(b)(3); and how should support be calculated for those areas (e.g., insular areas and Alaska) that are not included under the proxy models.¹⁴¹⁸

¹⁴¹⁴ GTE comments at 23.

¹⁴¹⁵ 47 U.S.C. § 254(b)(3).

¹⁴¹⁶ Joint Explanatory Statement at 131.

¹⁴¹⁷ *See, e.g.*, NPRM at paras. 15-17, 23-27.

¹⁴¹⁸ Public Notice at question 6.

B. Comments

431. In General. Several commenters present special circumstances or issues pertaining to insular areas. Guam Tel. Authority states that insular areas are particularly affected by distance-sensitive costs and suggests that the Joint Board and Commission create support for services that are most likely to be affected by distance. For example, it suggests including Guam in flat, non-distance-sensitive calling plans, and supporting services that may be prohibitively expensive due to distance, such as toll-free calling, calling card, directory assistance, credit card verification, and number portability.¹⁴¹⁹ The Governor of Guam notes that distance-sensitive rates are high in Guam, because it is over 6,000 miles from San Francisco and 3,700 miles from Honolulu. The Governor of Guam advocates that differences in the cost of providing service due to remoteness or distance be offset by universal service support mechanisms.¹⁴²⁰ The Governor supports total and seamless rate and service integration, domestic rate averaging and universal support between Guam, other insular areas, and all U.S. locations.¹⁴²¹ Since Guam does not contain any urban areas, the Governor suggests that rates within Guam be compared to rates in urban areas located on the U.S. west coast.¹⁴²²

432. Toll-Free Access. CNMI suggests universal service support should be provided for access to toll-free services in insular areas. Currently, the Pacific Island territories are not part of the North American Numbering Plan (NANP). Consequently, in order for residents of the Northern Mariana Islands to place toll-free calls to the U.S., they must pay 99 cents per minute to the Micronesia Telephone Company, which places international (011+1880) calls to Hawaii, where the link to the U.S. domestic 800 network occurs. Thus, toll-free calls in the islands are not currently toll-free.¹⁴²³ CNMI expresses concern that once the Northern Mariana Islands are part of the NANP, businesses that use toll-free numbers (800, 888) will not want to incur the expense of serving the islands. CNMI suggests, that if that happens, its residents will be cut-off from toll-free services because, under the Commission's pay-per-call rules Micronesia Telephone Company will not be able to charge for transporting a call to Hawaii where the call could be linked to the business's toll-free number, as currently occurs. CNMI asserts that Section 254(b)(3), which mandates that all consumers should have access to interexchange services,

¹⁴¹⁹ Guam Tel. Authority comments at 6-7. *See also* Governor of Guam comments at 6-7; Vitelco reply comments at 6-7.

¹⁴²⁰ Governor of Guam comments at 4, 6-7, 18.

¹⁴²¹ Governor of Guam comments at 2.

¹⁴²² Governor of Guam reply comments at 5.

¹⁴²³ Letter from Thomas K. Crowe, Counsel for the Commonwealth of the Northern Mariana Islands, to William F. Caton, Secretary, FCC, September 24, 1996 (Commonwealth of Northern Mariana Islands *Ex Parte*).

authorizes the Joint Board and the Commission to ensure that genuine toll-free service without paid access charges is available in insular areas, like CNMI.¹⁴²⁴

433. Similarly, CNMI notes that calls to information service providers located in the U.S. are subject to the same charges as "toll-free calls" and therefore are considerably more expensive than rates for information services in the continental U.S.¹⁴²⁵ CNMI asserts that Section 254(b)(3), which requires that all consumers have access to information services at comparable rates, also authorizes the Joint Board and Commission to support access to information services in the Northern Mariana Islands.¹⁴²⁶ Furthermore, CNMI states that telecommunications service costs are extraordinarily high in the Northern Mariana Islands because international ratemaking practices apply to long distance calls between the Northern Mariana Islands and off-island points, including the U.S.; IXC's are subject to high carrier access charges,¹⁴²⁷ and, although consumers must place international calls to reach the U.S., Northern Mariana Islands' consumers are assessed domestic subscriber line charges.¹⁴²⁸

C. Discussion

434. We recognize the special circumstances faced by carriers and consumers in the insular areas of the United States, particularly the Pacific Island territories. We note at the outset that carriers in these areas, like all other carriers, will be eligible for universal service support if they serve high cost areas. In their comments, Vitelco and Puerto Rico Tel. Co. set out some of the problems that carriers in insular areas face in providing telephone service, such as increased costs of shipping equipment and damage caused by hurricanes and tropical storms.¹⁴²⁹ The Hawaii Division of Consumer Advocacy also notes because of Hawaii's remoteness from the mainland carriers faces high costs and technical obstacles in providing service.¹⁴³⁰ For those reasons, we recommend that rural carriers serving high cost insular areas, as well as rural carriers

¹⁴²⁴ CNMI *ex Parte* at 2, 5.

¹⁴²⁵ CNMI comments at 14.

¹⁴²⁶ CNMI *Ex Parte* at 5.

¹⁴²⁷ GTE's terminating premium carrier common line charge in CNMI is \$0.0835754 per minute. This rate is 7.66 times higher than GTE's rate in Alaska. *See* CNMI comments at 10.

¹⁴²⁸ CNMI comments at 9-10.

¹⁴²⁹ *See* Puerto Rico Tel. Co. reply comments at 12; Vitelco further comments at 9-11.

¹⁴³⁰ State of Hawaii Division of Consumer Advocacy, *ex parte* (dated Oct. 9, 1996).

serving high cost areas in Alaska,¹⁴³¹ should continue to receive universal service support based on their embedded costs. We also note that low-income residents living in these areas would benefit from the modifications that we have recommended to the Lifeline and Link-up programs. Likewise, schools, libraries, and rural health care providers in insular areas will benefit from the programs we recommend for providing telecommunications services to those institutions.

435. We recommend that the Commission take no specific action regarding cost support for toll service to the Northern Mariana Islands at this time, but revisit this issue at a later date. Guam and the Northern Mariana Islands will be included in the North American Numbering Plan by July 1, 1997. To implement section 254(g),¹⁴³² the Commission will require interstate carriers serving the Pacific Island territories to integrate their rates with the rates for services that they provide to other states no later than August 1, 1997.¹⁴³³

436. Once those carriers integrate their rates, the residents of Guam and the Northern Mariana Islands will be able to make 1+ calls to the mainland United States at domestic instead of international rates. Residents of Guam and the Northern Mariana Islands will also have direct access to toll-free (e.g., 800, 888) services. The decision whether to provide toll-free services to a specific area, such as the Pacific Island territories, is a business decision of the carrier's business customer, weighing the cost of toll charges to the islands against the economic benefit of providing toll free access. Businesses currently make that same determination in deciding in which areas to provide toll free access within the fifty states, and, for business reasons, some of them choose to limit access to certain areas.¹⁴³⁴ Similarly, information service providers make the

¹⁴³¹ Carriers in Alaska also confront unique circumstances in providing service, such as limited construction periods and the extreme remoteness of the many rural communities. See Alaska Public Utilities Commission, Public Hearing, August 22, 1996.

¹⁴³² 47 U.S.C. § 254(g).

¹⁴³³ An interexchange carrier must establish rates for services provided to the Northern Mariana Islands and Guam consistent with the rate methodology that it employs for services it provides to other states. Carriers can choose among several ways to integrate the rates for services to these islands, including expanding mileage bands, adding mileage bands or offering postalized rates. A carrier must also offer optional calling plans, contract tariffs, discounts, promotions, and private line services using the same rate methodology and structure that it uses in offering those services to subscribers on the mainland. *Policy and Rules Concerning the Interstate, Interexchange Marketplace, Implementation of Section 254(g) of the Communications Act of 1934, as amended*, Report and Order, 11 FCC Rcd 9564, 9596-97 (1996).

¹⁴³⁴ AT&T sells printed yellow page directories of 800 numbers. For each 800 number, the directory indicates whether the number is accessible from the entire U.S. or from only selected geographic areas. Where the number is accessible only from certain states, the relevant states are listed. Geographic restrictions are more common for firms tending to serve specific geographic areas (for example, home improvement contractors) than for firms serving more widely distributed customers (for example, hotels). See AT&T Toll-Free 800 Directory: 1993 Business Edition.

same type of business decision as to whether to locate in a certain area or provide toll-free access to an area. Until the islands join the NANP and are included in carriers' rate averaging, it is difficult for businesses to make such judgments as to whether, and how, to serve the islands.

437. We are concerned that residents of Guam and the Northern Mariana Islands have access to toll free service and information services. We therefore recommend that the Commission revisit the question of comparable access and rates for toll-free and information services at some time after the Pacific Island territories have been included in the NANP and have integrated rates to determine whether there is any need to support these services. We also note that there will periodic review of the definition of universal service and that any change in that definition may justify providing support for these services.

X. SCHOOLS AND LIBRARIES

A. Overview

438. The 1996 Act explicitly designates elementary and secondary schools and libraries among the entities eligible to receive the benefits of universal service support.¹⁴³⁵ Specifically, section 254(c)(3) defines universal service for schools and libraries as telecommunications services and any "additional services" designated by the Commission,¹⁴³⁶ and section 254(h)(2) defines universal service in terms of access to "advanced telecommunications and information services."¹⁴³⁷ Section 254(h)(2) requires the Commission to establish competitively neutral rules designed to enhance access, "to the extent technically feasible and economically reasonable," to advanced telecommunications and information services for elementary and secondary school classrooms and libraries.¹⁴³⁸ The joint conferees stated that they expected the Joint Board to consider the specific needs of schools and libraries in defining the services eligible for universal service support.¹⁴³⁹

439. Section 254(h)(1)(B) provides that services within the definition of universal service shall be provided to schools and libraries at a discount. The discount shall result in "rates

¹⁴³⁵ See generally 47 U.S.C. § 254.

¹⁴³⁶ 47 U.S.C. § 254(c)(3).

¹⁴³⁷ 47 U.S.C. § 254(h)(2)(A).

¹⁴³⁸ 47 U.S.C. § 254(h)(2)(A).

¹⁴³⁹ Joint Explanatory Statement at 133.

less than the amounts charged for similar services to other parties,"¹⁴⁴⁰ and be sufficient to ensure affordable access to and use of such services.¹⁴⁴¹ Section 254 also places several restrictions on schools and libraries receiving services funded by universal service support mechanisms. Schools and libraries must meet statutory eligibility criteria, may not resell any services provided under section 254, must make a bona fide request for the services, and must use the services for educational purposes.¹⁴⁴² Carriers providing services to eligible schools and libraries shall be compensated for any discount they are required to grant through either an offset to their universal service obligations or reimbursement from universal service support mechanisms.¹⁴⁴³

440. In this section, we recommend that, consistent with section 254(h), all eligible schools and libraries may receive discounts of between 20 and 90 percent on all telecommunications services, Internet access, and internal connections, subject to a \$2.25 billion annual cap. In addition, any funds that are not disbursed in a given year may be carried forward, and may be disbursed in subsequent years without regard to the cap. We find that this recommendation provides schools and libraries with the maximum flexibility to purchase the package of services they believe will be most effective to meet their respective communications needs. We also conclude that economically disadvantaged schools and libraries, as well as schools and libraries located in high cost areas, should receive greater discounts to ensure that they have affordable access to telecommunications and information services. Further, we recommend that schools and libraries be required to comply with several self-certification requirements, designed to ensure that only eligible entities receive universal support and that they have adopted plans for securing cost-effective access to and use of all of the services purchased under section 254(h).

B. Functionalities/Services Eligible for Support

1. Background

441. Section 254 defines the services that are to be supported for schools and libraries in terms of "telecommunications services,"¹⁴⁴⁴ "special" or "additional" services,¹⁴⁴⁵ and access to

¹⁴⁴⁰ 47 U.S.C. § 254(h)(1)(B).

¹⁴⁴¹ 47 U.S.C. § 254(h)(1)(B).

¹⁴⁴² 47 U.S.C. § 254(h)(1)(B).

¹⁴⁴³ 47 U.S.C. § 254(h)(1)(B).

¹⁴⁴⁴ 47 U.S.C. § 254(c)(1).

¹⁴⁴⁵ 47 U.S.C. § 254(c)(3).

"advanced telecommunications and information services."¹⁴⁴⁶ Specifically, section 254(c)(3) states that "in addition to the services included in the definition of universal service under paragraph [c] (1), the Commission may designate additional services for such support mechanisms for schools, [and] libraries . . . for the purposes of subsection [254] (h)."¹⁴⁴⁷ Section 254(h)(2) states that "[t]he Commission shall establish competitively neutral rules to enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services for all public and non-profit elementary and secondary school classrooms . . . and libraries."¹⁴⁴⁸

442. Congress recognized the importance of telecommunications and related services to schools and libraries when it enacted the 1996 Act:

The provisions of subsection [254] (h) will help open new worlds of knowledge, learning and education to all Americans - rich and poor, rural and urban. They are intended, for example, to provide the ability to browse library collections, review the collections of museums, or find new information on the treatment of illness, to Americans everywhere via schools and libraries. This universal access will assure that no one is barred from benefiting from the power of the Information Age.¹⁴⁴⁹

443. In terms of specific services that Congress anticipated would be included in the definition of section 254(h)(2) "advanced telecommunications and information services," Congress enumerated the following possibilities:

For example, the Commission could determine that telecommunications and information services that constitute universal service for classrooms and libraries shall include dedicated data links and the ability to obtain access to educational materials, research information, statistics, information on Government services, reports developed by Federal, State, and local governments, and *information services which can be carried over the Internet*.¹⁴⁵⁰

¹⁴⁴⁶ 47 U.S.C. § 254(h)(2)(A).

¹⁴⁴⁷ 47 U.S.C. § 254(c)(3).

¹⁴⁴⁸ 47 U.S.C. § 254(h)(2)(A).

¹⁴⁴⁹ Joint Explanatory Statement at 132-33.

¹⁴⁵⁰ *Id.* at 133 (emphasis added).

444. Congress also provided in section 254(c)(2) that "[t]he Joint Board may, from time to time, recommend to the Commission modifications in the definition of the services that are supported by Federal universal service support mechanisms."¹⁴⁵¹ Congress anticipated that the definition of universal service would develop over time when it described universal service as an "evolving" concept.¹⁴⁵² Congress specifically gave the Commission the authority to "alter the definition from time to time, and to provide a different definition for schools, [and] libraries."¹⁴⁵³ Moreover, in its consideration of "additional" services under section 254(c)(3), Congress authorized the Commission to specify a distinct definition of universal service that would apply only to public institutional telecommunications users.¹⁴⁵⁴ The conferees stated that they expected "the Commission and the Joint Board to take into account the particular needs of . . . K-12 schools and libraries."¹⁴⁵⁵

445. In the NPRM, the Commission sought comment on services to be included within the section 254(c)(1) definition of "core" telecommunications services.¹⁴⁵⁶ The NPRM proposed incorporating the "core" services included in the general definition of universal service under section 254(c)(1), as well as "any other services designated for support pursuant to section 254(c)(3)," in the category of services eligible for a discount for schools and libraries.¹⁴⁵⁷ Further, the NPRM sought comment and Joint Board recommendation on how the definition of universal service for schools and libraries should reflect the section 254(c)(1) mandate to consider future "advances in telecommunications and information technologies and services."¹⁴⁵⁸ In the Public Notice, the Common Carrier Bureau sought further comment on whether the services and functionalities eligible for discount should be specifically limited or identified, or whether the discount should apply to all available services.¹⁴⁵⁹

¹⁴⁵¹ 47 U.S.C. § 254(c)(2). *See also* 47 U.S.C. § 254(a)(2) (providing that "the Commission shall complete any proceeding to implement subsequent recommendations from any Joint Board on universal service within one year after receiving such recommendations").

¹⁴⁵² 47 U.S.C. § 254(c)(1).

¹⁴⁵³ Joint Explanatory Statement at 131.

¹⁴⁵⁴ *Id.* at 133.

¹⁴⁵⁵ *Id.*

¹⁴⁵⁶ NPRM at para. 77. *See supra* section IV for a discussion of core services.

¹⁴⁵⁷ NPRM at para. 77.

¹⁴⁵⁸ NPRM at para. 81.

¹⁴⁵⁹ Public Notice.

446. The Commission asked commenters to identify what "additional" services carriers must make available to schools and libraries pursuant to section 254(c)(3) and what services must be provided at a discount pursuant to section 254(h)(1)(B).¹⁴⁶⁰ The NPRM also sought comment on what functionalities should be supported through universal service mechanisms for schools and libraries, as well as what facilities are required to provide those functionalities.¹⁴⁶¹ The NPRM noted that different kinds of services may require different capacity and different speed links. For example, schools and libraries requiring video links to permit teleconferencing may require T-1 links,¹⁴⁶² while schools and libraries wishing to provide high quality, full-motion video may require a DS-3 link.¹⁴⁶³ The NPRM also sought comment on whether wireless technologies could provide a more efficient way of delivering any of the services designated for universal service support.¹⁴⁶⁴

447. In the NPRM, the Commission asked commenters to identify which services would qualify as "advanced telecommunications and information services" pursuant to section 254(h)(2).¹⁴⁶⁵ The NPRM also sought comment on the features and functionalities necessary to give classrooms, libraries, and health care providers access to those services.¹⁴⁶⁶ The NPRM asked whether the "advanced telecommunications and information "services identified pursuant to section 254(h)(2) should be broader, narrower, or identical to the services supported under sections 254(c)(3) and (h)(1).¹⁴⁶⁷ In addition, the NPRM asked how the Commission should assess whether specific services providing access to advanced telecommunications and information services are "technically feasible and economically reasonable."¹⁴⁶⁸

2. Comments

448. In General. Some commenters assert that universal service support should be provided only for the "core" telecommunications services provided under section 254(c)(1) and

¹⁴⁶⁰ NPRM at paras. 78 and 80.

¹⁴⁶¹ NPRM at para. 80.

¹⁴⁶² A T-1 line is equivalent to 24 voice channels, or 1.544 Mbps.

¹⁴⁶³ NPRM at para. 80 n.174. A DS-3 link, also known as a T-3 line, is equivalent to 672 voice channels, or 44.736 Mbps.

¹⁴⁶⁴ NPRM at para. 81.

¹⁴⁶⁵ NPRM at para. 109.

¹⁴⁶⁶ NPRM at para. 109.

¹⁴⁶⁷ NPRM at para. 109.

¹⁴⁶⁸ NPRM at para. 110.

that were proposed for rural, insular, and high cost areas.¹⁴⁶⁹ TCI, for example, contends that requiring carriers to provide services beyond the "core" services would impose costs on the carriers, thereby limiting and delaying the ability of new entrants to enter the local telephone market.¹⁴⁷⁰ Ameritech adds that additional federal mandates regarding which specific services and technologies should be deployed for schools and libraries would be inadvisable in light of the "bold initiatives [that] are already underway in various states to bring telecommunications services and technology into various states."¹⁴⁷¹

449. Other commenters contend that universal service support should be provided for "core" services plus some complement of supplementary services.¹⁴⁷² Some commenters, for example, identify specific sets of functionalities that they would like to see funded as either "additional" or "advanced" services. NSBA I, which filed comments in conjunction with 23 other schools and libraries groups, asserts that internal connections should be included in the definition of services eligible for universal service support.¹⁴⁷³ West Virginia Consumer Advocate "recommends that carriers be required to provide at least one 56 kbps dedicated line to each school in their geographic service territory at a discount."¹⁴⁷⁴ Florida PSC recommends that the Commission initially establish a dollar limit on expenditures that reflects the connection charge of a 56 kilobits per second (kbps) digital service and the monthly service charge of ISDN-BRI.¹⁴⁷⁵ Louisiana PSC advocates support for ISDN and T-1 service,¹⁴⁷⁶ Missouri PSC supports inclusion of interactive video,¹⁴⁷⁷ and North of Boston Library Exchange suggests that T-3 lines should be

¹⁴⁶⁹ See, e.g., Cincinnati Bell comments at 14; TCI comments at 18-23; Ameritech reply comments at 18.

¹⁴⁷⁰ TCI comments at 19-20.

¹⁴⁷¹ Ameritech reply comments at 19. Ameritech outlines the investments it has made in educational infrastructure and classroom solutions, as well as recent pilot projects and programs, in its five-state area. See Ameritech reply comments, Att. A.

¹⁴⁷² Florida Cable comments at 13; NCTA comments at 17; West Virginia Consumer Advocate comments at 10-11.

¹⁴⁷³ NSBA I comments at 7, 14. See *infra* section X.C. for a discussion of internal connections.

¹⁴⁷⁴ West Virginia Consumer Advocate comments at 10-11.

¹⁴⁷⁵ Florida PSC reply comments at 2-3, 6-7. ISDN (basic rate), or ISDN-BRI, is equivalent to two 64 kbps voice channels plus one 16 kbps signaling channel, or 144 kbps. ISDN (primary rate) is equivalent to 1.5 mbps.

¹⁴⁷⁶ Louisiana PSC comments at 5-6.

¹⁴⁷⁷ Missouri PSC comments at 14.

funded.¹⁴⁷⁸ U S West states that additional services for schools and libraries should consist of a 56/64 kbps access line, and favors limiting services in order to minimize the size of the universal service fund and to maximize the available discount for schools and libraries.¹⁴⁷⁹ Mass Library asserts that discounts should be applied to maintenance of lines providing telecommunications services to schools and libraries.¹⁴⁸⁰

450. Numerous commenters assert that any telecommunications service available in the marketplace should be funded for schools and libraries through universal service support mechanisms.¹⁴⁸¹ NTIA's proposal, which incorporates a more narrowly defined package of free services, would permit schools and libraries to apply the value of that package to any other telecommunications services.¹⁴⁸² NTIA asserts that "[a]ll schools and libraries must have flexibility in procuring needed telecommunications and information services."¹⁴⁸³ These commenters argue that schools and libraries should be encouraged to purchase the services that best match their needs, and that limiting the services available for discounts would place artificial constraints on their choices. This limitation may lead to less useful purchases. Many commenters contend that the Commission should not specify services that must be made available and funded through universal service support mechanisms.¹⁴⁸⁴ Washington Library contends that to "describe either `core' or `advanced' services in terms of a service or technology would be difficult at least, and quickly obsolete at best."¹⁴⁸⁵ Alliance for Public Technology maintains that "no one

¹⁴⁷⁸ North of Boston Library Exchange comments at 1.

¹⁴⁷⁹ U S West comments at 20-22. *See also* Lincoln reply comments at 7 (stating that "only *access* to services, except for core universal services, should be subsidized for [schools and libraries]").

¹⁴⁸⁰ Mass Library comments at 3.

¹⁴⁸¹ *See, e.g.*, ALA comments at 1; Alaska Library comments at 6; Ameritech comments at 15; Guam comments at 14; NSBA I comments at 13-17; NYNEX comments at 18-21; Pennsylvania Library Ass'n reply comments at 6; Union City Board of Education reply comments at 6; Colorado Library further comments at 6; EDLINC further comments at 8-10. Under Bell Atlantic's revised universal service proposal, schools and libraries would have the right to use universal service funds for any available telecommunications service obtained from any carrier. *See* Bell Atlantic further comments at 3 and Att. B.

¹⁴⁸² Letter from Richard W. Riley, Secretary of Education, Daniel R. Glickman, Secretary of Agriculture, and Michael Kantor, Secretary of Commerce to Reed E. Hundt, Chairman, Federal Communications Commission, transmitting NTIA further comments at 9, 13-15 (Oct. 10, 1996) (NTIA submission).

¹⁴⁸³ NTIA submission at 7, 14-15.

¹⁴⁸⁴ *See, e.g.*, Ameritech comments at 15; Citizens Utilities comments at 20; Idaho PUC comments at 10; Sprint comments at 23; Union City Board of Education reply comments at 6.

¹⁴⁸⁵ Washington Library comments at 9 (suggesting that the best way to determine what services to support is to articulate desired results and aggregate an overall inventory of technologies needed).

technology or type of electronic service can address adequately the complex and emerging needs of schools and libraries."¹⁴⁸⁶ Union City Board of Education emphasizes that the services available at a discount to schools and libraries should "evolve over time, so that they keep pace with the developments in communications and information technology."¹⁴⁸⁷

451. Several commenters argue that the Commission should not be involved with defining services eligible for support for schools and libraries. For example, PacTel supports deferring to the states to determine what services their schools and libraries need, provided certain guidelines are met.¹⁴⁸⁸ PacTel notes that "the needs of educational institutions may vary from state to state and a definition of what advanced service is needed for education in one state may not be appropriate in another."¹⁴⁸⁹ Benton supports allowing educational professionals, rather than regulators, to determine the services and functionalities they need.¹⁴⁹⁰

452. Several commenters note that wireless services, if they are available for schools and libraries, should be eligible for federal universal service support.¹⁴⁹¹ New York Regents contends that "[i]t may not be as important to consider whether wireless technologies are more or less efficient for the delivery of service as it is to consider how these technologies will complement the others currently in use."¹⁴⁹² Apple recommends that a mix of wireless and wireline options be provided to maximize efficiency and minimize costs.¹⁴⁹³ Metricom states that wireless, unlicensed, and other services providing alternatives to traditional wireline services, should be eligible for universal service support because "[a]ny subsidy program must present to these users a range of choices and incentives that replicates those in the competitive

¹⁴⁸⁶ Alliance for Public Technology comments at 16.

¹⁴⁸⁷ Union City Board of Education reply comments at 6.

¹⁴⁸⁸ PacTel comments at 4.

¹⁴⁸⁹ PacTel comments at 4. *See also Promoting Educational Infrastructure and the Role of the Florida Public Service Commission* at 33-34 (May 1996) (including a study of 17 states indicating those states have employed approximately a dozen different plans to discount telecommunications services for schools).

¹⁴⁹⁰ Benton further comments at 3. *See also* West Virginia Consumer Advocate reply comments at 5 (stating that "schools and libraries themselves should decide which services they need most"); CFA further comments at 1 (stating that institutional users should determine what services they need).

¹⁴⁹¹ *See, e.g.,* ALA comments at 12; Apple comments at 3; Merit comments at 2; Missouri Library comments at 3.

¹⁴⁹² New York Regents comments at 8.

¹⁴⁹³ Apple comments at 3.

marketplace."¹⁴⁹⁴ Michigan Library Ass'n asserts that since wireless technologies, personal communications service, and satellite technology may provide services more efficiently, those technologies should be eligible for universal service support.¹⁴⁹⁵ ALA notes that wireless technologies may be particularly useful in older schools and libraries where asbestos removal may make the cost of inside wiring prohibitive.¹⁴⁹⁶ Iowa Communications Network, on the other hand, recommends that the Commission adopt rules that discourage the use of wireless technologies as a delivery platform because "wireless technology offers difficulties in both the ability to equip advanced services with multiple channels, and also, in the ability to acquire frequency licensing in some areas."¹⁴⁹⁷

453. Numerous commenters address the question of what services and functionalities should be included under the category of "advanced" services.¹⁴⁹⁸ Some commenters advocate the inclusion of specific services or functionalities, including broadband services,¹⁴⁹⁹ interactive services,¹⁵⁰⁰ voice messaging,¹⁵⁰¹ video conferencing and teleconferencing capabilities,¹⁵⁰² and high-speed data transmission.¹⁵⁰³ United States Secretary of Education Richard Riley states that the Commission should adopt a broad definition of services that would include advanced

¹⁴⁹⁴ Metricom comments at 6-8. *See also* ACE comments at 14 (stating that, in the interest of competition, "it is not appropriate for the Commission to make any special provision or discount to either encourage or discourage development of wireless technologies").

¹⁴⁹⁵ Michigan Library comments at 12. *See also* Washington Library comments at 12 (citing the state of Alaska as a wireless success story and the Fort Vancouver Regional Library in Washington State as a less-than-successful story).

¹⁴⁹⁶ ALA comments at 13. *See also* Missouri Library comments at 3 (noting that in addition to solving problems related to inside wiring, wireless connections may be an economical alternative for schools with multiple buildings).

¹⁴⁹⁷ Iowa Communications Network comments at 2.

¹⁴⁹⁸ *See, e.g.*, MCI comments at 22-23; Michigan Library Ass'n comments at 12; Missouri PSC comments at 14; Oakland School District comments at 7-8; Libraries for the Future reply comments at 1-3.

¹⁴⁹⁹ *See, e.g.*, Ohio Consumers' Council comments at 15; Libraries for the Future reply comments at 3.

¹⁵⁰⁰ *See, e.g.*, CWA comments at 12-13; Iowa Communications Network comments at 2; Michigan Library Ass'n comments at 12; Missouri PSC comments at 14.

¹⁵⁰¹ *See* New York Regents comments at 8.

¹⁵⁰² *See* New York Regents comments at 10.

¹⁵⁰³ *See, e.g.*, CWA comments at 12-13; Iowa Communications Network comments at 2; Ohio Consumers' Council comments at 15.

services.¹⁵⁰⁴ Some parties contend that specific services should not be mandated if the market is adequately providing advanced services or until a needs assessment is conducted.¹⁵⁰⁵ Missouri PSC asserts that states should be able to include additional services, as well as additional subsidies, if they believe that is necessary.¹⁵⁰⁶ Information Renaissance, Georgia Tech Research Institute, and Morris Brown Research Institute ask that funding also be provided for telecommunications consulting services.¹⁵⁰⁷

454. Internet Access. Numerous commenters maintain that Internet access is a service that should be eligible for universal service support for schools and libraries.¹⁵⁰⁸ Oklahoma Libraries, for example, states that "the Internet is the emerging network of the future," and maintains that rural libraries would particularly benefit from flat-rate pricing for connection to an Internet provider.¹⁵⁰⁹ NTIA states that "a recent survey of educators regarding the scope of universal service found that respondents overwhelmingly view connectivity (98 percent) and Internet data services (94 percent) as their most important service and educational need, respectively."¹⁵¹⁰ Florida PSC believes that the Commission should establish a nationwide minimum standard for "special" services that consists of Internet access by means of a computer lab.¹⁵¹¹ New York DOE supports Internet access via local loop interconnection to an Internet service provider, so that schools and libraries would not have to incur long distance charges for

¹⁵⁰⁴ Richard Riley, Secretary of Education comments at 5. *See also* Libraries for the Future reply comments at 1 (stating that "[r]ather than begin with a limited definition of Universal Service, the FCC should begin with the broadest definition possible and restrict it only in cases where absolutely necessary").

¹⁵⁰⁵ *See, e.g.*, CCV comments at 5; Florida Cable comments at 13, 16-17; NCTA comments at 23.

¹⁵⁰⁶ Missouri PSC comments at 14-15.

¹⁵⁰⁷ *See* Information Renaissance supplemental further comments at 3 (Oct. 17, 1996); *ex parte* presentation by Jeffrey Evans, Georgia Tech Research Institute, Roosevelt Thomas, Jr., Morris Brown Research Institute, and Christopher Evans, OutSource Integration, Inc., to Mark Nadel, Federal Communications Commission (Sept. 6, 1996); Letter from Timothy F. Coen, King and Spalding, to Georgia Tech Research Institute, Morris Brown Research Institute, and Christopher Evans (Sept. 17, 1996). For a further discussion of the parties' proposals, *see infra* section X.E.

¹⁵⁰⁸ *See, e.g.*, ALA comments at 9; Lincoln Trail Libraries comments at 1-2; Merit comments at 2; Michigan Library comments at 12; Missouri PSC comments at 14; New Jersey Advocate comments at 21; New York DOE comments at 8; Oakland School District comments at 7; Oklahoma Libraries comments at 1-2; Pennsylvania Library Ass'n reply comments at 6.

¹⁵⁰⁹ Oklahoma Libraries comments at 1-2.

¹⁵¹⁰ NTIA submission at 10.

¹⁵¹¹ Florida PSC reply comments at 2-3, 6-7.

gaining access.¹⁵¹² Michigan Library Ass'n states that "direct Internet access" should be eligible for universal service support.¹⁵¹³ MCI supports providing Internet access at or below cost to schools and libraries,¹⁵¹⁴ and NTIA proposes providing schools and libraries with free Internet service.¹⁵¹⁵

455. Several commenters assert that Internet access should be included within the category of "advanced" services.¹⁵¹⁶ Netscape argues that since "the 1996 Act does not repeal, and in fact codifies the Commission's longstanding Computer II distinction between basic telecommunications and `enhanced' information services, . . . Internet access is assuredly an `information' service, not a `telecommunications' service."¹⁵¹⁷ As such, Netscape contends, Internet access may be encouraged through the rules adopted pursuant to section 254(h)(2), but not supported under section 254(h)(1).¹⁵¹⁸ PacTel subscribes to a similar interpretation.¹⁵¹⁹

456. Other commenters oppose the inclusion of Internet access among the services eligible for universal service support.¹⁵²⁰ ITA/EMA, for example, maintains that Internet access is an unregulated information service and is thus not eligible for universal service support.¹⁵²¹ They further contend that Internet access includes protocol conversion and information storage, both of which are unregulated enhanced services. In addition, ITA/EMA asserts that providing universal service support to Internet access would run counter to the intent of the 1996 Act, and that the

¹⁵¹² New York DOE comments at 8. *See also* Oakland School District comments at 7 (supporting dial-up service); Syracuse University comments at 9 (supporting dial-up Internet access points within the local area); U S West comments at 20-22 (supporting toll free dial-up access to an Internet Service Provider).

¹⁵¹³ Michigan Library comments at 12. *See also* Lincoln Trail Libraries comments at 1 (stating that "each library needs a direct connection to an Internet provider").

¹⁵¹⁴ *Connecting Schools and Libraries to the Internet: An MCI Proposal* (June 27, 1996).

¹⁵¹⁵ NTIA submission at 9-10.

¹⁵¹⁶ *See, e.g.*, Michigan Library Ass'n comments at 12; Missouri PSC comments at 14; New York Regents comments at 8; Oakland School District comments at 7-8; Syracuse University comments at 9-10; U S West comments at 22; Washington SPI comments at 2.

¹⁵¹⁷ Netscape further comments at 3 (*citing* Netscape comments at 14-17).

¹⁵¹⁸ Netscape further comments at 3.

¹⁵¹⁹ PacTel further comments at 14-15.

¹⁵²⁰ *See, e.g.*, CompuServe comments at 9-11; Interactive Service Ass'n comments at 6, 8-13; ITA/EMA reply comments at 5-11.

¹⁵²¹ ITA/EMA reply comments at 5-11.

1996 Act "does not authorize the Commission to define universal service so as to include information services."¹⁵²² Interactive Services Ass'n adds that "a decision by the FCC that . . . Internet access services are subject to the new universal service surcharge on the theory that they are telecommunications services would undermine the longstanding regulatory distinction made by the Commission between 'basic service' and 'enhanced service.'"¹⁵²³

457. Netscape describes the Internet as an unregulated, non-governmental and self-administered network for global information exchange.¹⁵²⁴ More specifically, Netscape characterizes the Internet as a complex global network consisting of thousands of independent computer networks run by private businesses, government agencies, and educational and research institutions. Netscape states that the Internet is a set of standards or protocols that enable various types of networks to communicate. The protocol, Transmission Control Protocol/Internet Protocol (TCP/IP) enables communications between private and public networks running over any medium and over any kind of computer.¹⁵²⁵

3. Discussion

458. Telecommunications Services. We recommend that the Commission adopt a rule that provides schools and libraries with the maximum flexibility to purchase whatever package of telecommunications services they believe will meet their telecommunications service needs most effectively and efficiently. We conclude that maximum flexibility will satisfy the goals of section 254, given the varying needs and preferences of different schools and libraries. We also find that allowing schools and libraries to choose appropriate services will maximize the value generated by universal service support and minimize inefficient uses of services. Empowering schools and libraries to choose the services best suited for their needs is critical to achievement of the important universal services goal of pervasive technology deployment and use in all schools and libraries, regardless of wealth and location.

459. Some commenters ask the Commission to limit discounts to only the "core" telecommunications services identified pursuant to section 254(c)(1).¹⁵²⁶ We reject that position based on a careful reading of the statute and its legislative history. We find that Congress clearly desired to permit schools and libraries to have access to and use of services beyond those

¹⁵²² ITA/EMA reply comments at 5-11.

¹⁵²³ Interactive Service Ass'n comments at 12.

¹⁵²⁴ Netscape comments at 2, 11.

¹⁵²⁵ Netscape comments at 2, 11.

¹⁵²⁶ *See, e.g.*, Cincinnati Bell comments at 14; TCI comments at 18-23; Ameritech reply comments at 18.

designated for support under section 254(c)(1). Section 254(c)(3) states that "in addition to the services included in the definition of universal service under paragraph [c] (1), the Commission may designate additional services for such support mechanisms for schools, [and] libraries . . . for the purposes of subsection [254] (h)."¹⁵²⁷ Congress explained this sentence in stating that it expected the Commission and Joint Board to take into account the particular needs of K-12 schools and libraries.¹⁵²⁸ Thus, the Commission should not limit schools and libraries to services to be supported by the universal service mechanism under section 254(c)(1), i.e., to basic voice grade lines, when higher speed capabilities may be a more effective and efficient means of implementing telecommunications technology and applications within their respective activities.

460. A number of commenters recommend that we select a specific limited package of services that would be available at a discount.¹⁵²⁹ Other commenters suggest different sets of services. For example, 17 states that were surveyed by the Florida PSC on this issue selected more than a dozen different sets of services for discounts.¹⁵³⁰ We recommend that the Commission permit different schools and libraries the flexibility to address their needs in the best way they see fit. We further recommend that the Commission adopt a rule that makes available discounts on all telecommunications services pursuant to sections 254(h)(1)(B) and 254(h)(2)(A). Section 254(h)(2)(A) provides a broader framework for facilitating deployment of services to schools and libraries because the competitively neutral rules contemplated under that section are applicable to all service providers.¹⁵³¹ The discounts mandated under section 254(h)(1)(B), in contrast, are limited to the provision of services by telecommunications carriers.¹⁵³² The discounting of telecommunications services under section 254(h)(2)(A) will enable schools and libraries to have access to the broadest array of services possible. This approach is also most consistent with the evolving competitive telecommunications market.

461. Permitting schools and libraries full flexibility among telecommunications services also eliminates the potential impediment that new technologies will not be available to schools and libraries until the Commission has had the opportunity to conduct a proceeding to review evolving technological needs. Thus, schools and libraries will be able to use and teach students to use state

¹⁵²⁷ 47 U.S.C. § 254(c)(3).

¹⁵²⁸ Joint Explanatory Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 132-33 (1996).

¹⁵²⁹ See, e.g., Missouri PSC comments at 14; NSBA I comments at 7, 14; U S West comments at 20-22; West Virginia Consumer Advocate comments at 10-11.

¹⁵³⁰ Florida PSC, *Promoting Educational Infrastructure and the Role of the Florida Public Service Commission* at 33-34 (1996).

¹⁵³¹ See 47 U.S.C. § 254(h)(2)(A).

¹⁵³² See 47 U.S.C. § 254(h)(1)(B).

of the art telecommunications technologies as they arrive on the commercial market. This flexibility should encourage schools and libraries to use both the most efficient services and the most efficient technologies, including wireless and other emerging new media. We decline to recommend the suggestion of the Iowa Communications Network that the Commission discourage the use of wireless because of any disadvantages that may be inherent in the current version of that technology.¹⁵³³ We recognize that all technologies have their advantages and disadvantages and conclude that it would be best to permit individual schools and libraries to evaluate those relative costs and benefits with respect to their individual needs and circumstances.

462. Internet Access. We recommend that the Commission adopt a rule providing that discounts for Internet access, as defined below, shall be available to schools and libraries pursuant to section 254(h)(2)(A). As explained by Netscape, Internet Service Providers (ISPs) and online service providers that also offer Internet access "rely to a large degree on existing telecommunications carriers for the underlying transport facilities that constitute the Internet's backbone, as well as for local loop connections to individual Internet servers and users."¹⁵³⁴ Any attempt to disaggregate the network transmission component of Internet access from the information service component could serve to undermine the competitive forces that currently characterize the Internet access market at this time. By adopting a rule that allows Internet access costs to be eligible for discounts under section 254(h)(2)(A), we find that schools and libraries will be afforded the flexibility they may need to procure whatever Internet access arrangements they determine to be cost-effective.

463. As stated above, we recommend that the Commission provide discounts for Internet access pursuant to section 254(h)(2). This discount would apply to basic conduit, i.e., non-content, access from the school or library to the backbone Internet network. This access would include the communications link to the ISP, whether through dial-up access or via a leased line, and the subscription fee paid to the ISP, if applicable. The discount would also apply to electronic mail. We find that such access would enable schools and libraries to retrieve all free information available on world wide web sites. Schools and libraries that choose to pay subscription or other fees to receive additional information services could access such information via this connection, but any charges for such content services would not be subject to the discount discussed herein. Schools and libraries, however, would be permitted to apply the discount to the entire "basic" charge by an ISP that bundled access to some minimal amount of content, but only under those circumstances in which the ISP basic subscription charge represented the most cost-effective method for the school or library to secure non-content conduit access to the Internet.

464. Parties raise one other Internet access issue concerning the pricing of access to an

¹⁵³³ Iowa Communications Network comments at 2.

¹⁵³⁴ Netscape comments at 8.

ISP. In areas where local dial-up access to the Internet is not available, carriers would likely offer customers either a private line, foreign exchange (FX) line, or possibly even flat-rate toll-free service. Comments of the potential users reflect their desire that these or related services be available at ordinary local calling rates.¹⁵³⁵ This suggestion would require universal service support mechanisms to fund 100 percent of the difference between the pre-discount price for the appropriate service and the cost of an ordinary local calling link. As we explained above, we are not inclined to recommend, at this time, that the Commission single out the transmission component of Internet access from the information service component. We find that it is neither necessary nor appropriate to make findings regarding the regulatory treatment or classification of Internet access within this proceeding.

465. We also do not recommend that a discount mechanism for other information services be established at this time. By establishing a discount mechanism for telecommunications services and Internet access, we conclude that the intent of Congress will be met, and it is not necessary to support the full panoply of information services at this time. The Joint Statement of Managers stated that:

For example, the Commission could determine that telecommunications and information services that constitute universal service for classrooms and libraries shall include dedicated data links and the ability to obtain access to educational materials, research information, statistics, information on government services, reports developed by Federal, State and local governments, and information services which can be carried over the Internet.¹⁵³⁶

The legislative history articulates the congressional intent to enable schools and libraries to:

browse library collections, review the collections of museums, or find new information on the treatment of illness, to Americans everywhere via schools and libraries. This universal access will assure that no one is barred from benefiting from the power of the Information Age.¹⁵³⁷

By providing for discounts on all telecommunications services, as well as discounted Internet access, we find that schools and libraries will have access to the wealth of information available on

¹⁵³⁵ See, e.g., New York DOE comments at 8; Oakland School District comments at 7; Syracuse University comments at 9.

¹⁵³⁶ Joint Explanatory Statement at 133.

¹⁵³⁷ *Id.* at 132-33.

the Internet, and, therefore, will have access to advanced telecommunications and information services, in compliance with section 254(h)(2)(A).

C. Intra-School and Intra-Library Connections

1. Background

466. Sections 254(b)(6) and 254(h)(2)(A) specifically refer to the provision of telecommunications and other services directly to classrooms. Section 254(b)(6) states that "elementary and secondary school *classrooms* should have *access* to advanced telecommunications services."¹⁵³⁸ Further, section 254(h)(2) provides that "[t]he Commission shall establish competitively neutral rules . . . to enhance, to the extent technically feasible and economically reasonable, *access* to advanced telecommunications and information services for all public and non-profit elementary and secondary school *classrooms*. . . and libraries."¹⁵³⁹ Congress explained that "[n]ew subsection (h) of Section 254 is intended to ensure that . . . elementary and secondary school *classrooms* and libraries have affordable *access* to modern telecommunications services."¹⁵⁴⁰ Congress further stated that "[t]he ability of K-12 [kindergarten to 12th grade] *classrooms*, [and] libraries . . . to obtain *access* to advanced telecommunications services is critical to ensuring that these services are available on a universal basis."¹⁵⁴¹ In the floor debate, Senators Snowe and Rockefeller noted that, while thirty-five percent of schools have access to the Internet, only three percent of classrooms are connected to the Internet.¹⁵⁴² Senator Rockefeller noted that cost was a significant factor when he stated that internal connections are an expensive facet of Internet access,¹⁵⁴³ and he specifically referred to getting schools "wired up."¹⁵⁴⁴

467. The NPRM noted that only nine percent of all instructional rooms, including classrooms, labs, and library media centers, are currently connected to the Internet, and that "[s]chools with large proportions of students from poor families are half as likely to provide

¹⁵³⁸ 47 U.S.C. § 254(b)(6) (emphasis added).

¹⁵³⁹ 47 U.S.C. § 254(h)(2) (emphasis added).

¹⁵⁴⁰ Joint Explanatory Statement at 132 (emphasis added).

¹⁵⁴¹ *Id.* at 132-33 (emphasis added).

¹⁵⁴² 141 Cong. Rec. S7978, S7981 (daily ed. June 8, 1995).

¹⁵⁴³ 141 Cong. Rec. S7978, S7981 (daily ed. June 8, 1995).

¹⁵⁴⁴ 141 Cong. Rec. S7978 (daily ed. June 8, 1995).

Internet access as schools with small proportions of such students."¹⁵⁴⁵ The NPRM also stated that the most frequently cited barriers to the provision of such services are "funding and inadequate telecommunications links."¹⁵⁴⁶ The NPRM sought comment on what functionalities and services providing access to advanced telecommunications services for elementary and secondary schools and classrooms and libraries should be supported through universal service mechanisms.¹⁵⁴⁷ The NPRM also asked what facilities would be required to support those functionalities.¹⁵⁴⁸ The Public Notice asked the explicit question of whether section 254(h) contemplates that "inside wiring or other internal connections to classrooms may be eligible for universal service support of telecommunications services provided to schools and libraries."¹⁵⁴⁹ In addition, the Public Notice sought comment on the estimated cost of inside wiring and other internal connections.¹⁵⁵⁰

2. Comments

468. Numerous commenters assert that intra-school and intra-library connections should be eligible for federal universal service support.¹⁵⁵¹ Some parties find support for funding internal connections in both the 1996 Act and the legislative history. EDLINC, for example, asserts that support can be found in both section 254(c)(3) and section 254(h), contending that "the Commission has broad authority to determine what services constitute 'special services' under [s]ection 254(c), and in defining those services, the Commission is to consider the *purposes* of [s]ection 254(h)."¹⁵⁵² EDLINC further states that both the statutory and congressional references to "classrooms" support the legislative intent to include internal connections within the definition

¹⁵⁴⁵ NPRM at para. 79 (*citing* National Ctr. for Educ. Statistics, U.S. Dep't of Ed., *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools 1995* (Feb. 1996)).

¹⁵⁴⁶ NPRM at para. 79 (*citing* National Ctr. for Educ. Statistics, U.S. Dep't of Ed., *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools 1995* (Feb. 1996)).

¹⁵⁴⁷ NPRM at para. 80.

¹⁵⁴⁸ NPRM at para. 80.

¹⁵⁴⁹ Public Notice at question 7.

¹⁵⁵⁰ Public Notice at question 7.

¹⁵⁵¹ *See, e.g.*, Mass Library comments at 2-3; NSBA I comments at 7; West Virginia Consumer Advocate reply comments at 5-7; ALA further comments at 3-4; Apple further comments at 2-3; Benton further comments at 3-4; EDLINC further comments at 11-13; Great City Schools further comments at 3; Maine PUC further comments at 3-5; NCLIS further comments at 3; NYNEX further comments at 6-7; Union City further comments at 2; U.S. Distance Learning Ass'n further comments at 4; Vanguard further comments at 5-6; NTIA submission at 10.

¹⁵⁵² EDLINC further comments at 10.

of "special services" under section 254(c)(3).¹⁵⁵³ Benton contends that, considering the explicit mention of "classrooms" found in both the statutory language and the legislative history, "it is the plain intent of Congress to connect classrooms, not just to reach the school house door."¹⁵⁵⁴ Benton also asserts that if inside wiring or internal connections are not contemplated by section 254(h), that provision "will be little more than an empty promise to the nation's public institutions."¹⁵⁵⁵ Great City Schools asserts that "[u]niversal service and access are not realities if they stop at the street."¹⁵⁵⁶ In a letter to the Joint Board, a group of 26 Senators that includes the co-authors of section 254(h), states that "we believe that connecting the classrooms is necessary to truly enhance education so connectivity should be defined to include *internal connections*, in ways that are technology neutral."¹⁵⁵⁷ NTIA also supports discounts for internal connections.¹⁵⁵⁸

469. Some commenters address the cost of intra-school and intra-library connections.¹⁵⁵⁹ NYNEX, for example, relies on estimates provided by McKinsey and Company when it states undiscounted figures of \$5.025 billion in initial costs for schools, and \$410 million per year for ongoing costs, based on deployment of the "partial classroom" model over five years.¹⁵⁶⁰ NYNEX notes that those figures would have to be adjusted to include private

¹⁵⁵³ EDLINC further comments at 10-11. *See also* NYNEX further comments at 6-7 (*citing* section 254(c)(3) and section 254(h)(2), NYNEX states that "the Commission should define universal service to include the inside wiring and other internal connections needed to ensure that telecommunications and information services are delivered to the classroom"); Union City Board of Education further comments at 2 (stating that "[s]ection 254 specifically states that not just schools but *classrooms* should have access to advanced telecommunications services, and therefore inside wiring and internal networks should be considered as eligible for universal service support, because they are necessary if advanced services are to be accessible to individual school classrooms").

¹⁵⁵⁴ Benton further comments at 3-4.

¹⁵⁵⁵ Benton further comments at 3.

¹⁵⁵⁶ Great City Schools further comments at 3.

¹⁵⁵⁷ Letter from 26 Senators to Members of the Joint Board (Sept. 26, 1996) (emphasis added).

¹⁵⁵⁸ NTIA submission at 10.

¹⁵⁵⁹ *See, e.g.*, Ameritech further comments at attachments A through C (schools); Bell Atlantic further comments at 3 (schools); EDLINC further comments at 13 (schools); Great City Schools further comments at 3 (schools); NYNEX further comments at 7 (schools); U.S. Libraries further comments at 3 (libraries); Washington UTC further comments at 8 (schools).

¹⁵⁶⁰ NYNEX further comments at 7. The McKinsey "partial classroom" model assumes one computer for every five students in half of the classrooms and a T-1 connection. *See* McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 21 (1995).

schools.¹⁵⁶¹ EDLINC relies on the KickStart Report when it cites initial undiscounted costs for schools of up to \$6.11 billion, and undiscounted annual operation and maintenance costs of \$560 million, based on deployment of the McKinsey "full classroom" model over ten years.¹⁵⁶² NCLIS, the only party to address the cost of internal connections for libraries, estimates that each public library spends between \$12,625.00 and \$168,220.00 on annual ongoing costs to provide public terminals for accessing advanced telecommunications and information services. NCLIS further estimates that the cost of inside wiring and other internal connections would amount to between 20 percent and 35 percent of those libraries' initial costs.¹⁵⁶³

470. Numerous other commenters maintain that intra-school and intra-library connections should not be eligible for universal service support.¹⁵⁶⁴ First, several commenters contend that inside wiring is not a telecommunications service as defined in the 1996 Act, and therefore, cannot be eligible for universal service support.¹⁵⁶⁵ BellSouth, for example, asserts that since section 254(h) is entitled "Telecommunications Services for Certain Providers," the only services covered by the subsection are telecommunications services.¹⁵⁶⁶ Sprint maintains that even

¹⁵⁶¹ NYNEX further comments at 7. NYNEX Education Plan assumes a five-year deployment with a 75 percent discount for initial costs and a 50 percent discount for ongoing costs. See Ameritech further comments at Att. A through C.

¹⁵⁶² EDLINC further comments at 13. See also Great City Schools further comments at 3 (citing an "overall cost" for internal connections within schools of approximately \$6 billion). The McKinsey "full classroom" model assumes one computer for every five students in all classrooms, with a T-1 connection. See McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 21 (1995).

¹⁵⁶³ NCLIS further comments at 3.

¹⁵⁶⁴ See, e.g., AT&T comments at 19-20; AT&T reply comments at 21-22; ALTS further comments at 5; AirTouch further comments at 9-11; Alaska Tel. further comments at 7; Ameritech further comments at 13,14; BellSouth further comments at 11-15; Bell Atlantic further comments at 3; CFA further comments at 5-6; Century further comments at 11; Citizens Utilities further comments at 6; GCI further comments at 4; GTE further comments at 11-13; Information Renaissance further comments at 5; MCI further comments at 4-5; NCTA further comments at 3; NECA further comments at 7; Netscape further comments at 4-7; New York DOE further comments at 6; Oakland School District further comments at 3; PacTel further comments at 15; RTC further comments at 11; SWBT further comments at 9; Sprint further comments at 4; TCI further comments at 12-13; USTA further comments at 9-10; U S West further comments at 6-7; Vitelco further comments at 5; Washington UTC further comments at 8-9; Letter from United States Representative Jack Fields to Sharon Nelson, Chairperson, Washington Utilities and Transportation Commission (Oct. 17, 1996).

¹⁵⁶⁵ See, e.g., AT&T reply comments at 21-22; Ameritech further comments at 13-14; BellSouth further comments at 11-15; GTE further comments at 13-15; MCI further comments at 4-5; Sprint further comments at 4; USTA further comments at 9-10; U S West further comments at 6-7. The definition of "telecommunications service" can be found at 47 U.S.C. §153(46).

¹⁵⁶⁶ BellSouth further comments at 11.

qualifying simply as a "service" under section 254(h)(1)(B) would not be sufficient to make inside wiring eligible for universal service support, since section 254(c)(3) defines "universal service" as "an evolving level of telecommunications service."¹⁵⁶⁷ MCI points out that internal connections refer to facilities and do not fit into a service classification.¹⁵⁶⁸ United States Representative Jack Fields objects to providing universal service support for internal connections when he states:

Another example of well-intentioned suggestions is that federal universal service must be used to wire the interiors of schools, hospitals, and libraries. The letter of the law is clear that the federal universal service fund can only support subsidies for *services*, not plant and equipment.¹⁵⁶⁹

471. Second, a number of parties assert that, because inside wiring is not a regulated service, it is not eligible for universal service support.¹⁵⁷⁰ For example, PacTel states that including inside wiring in the definition of universal service would require all inside wire vendors to be subject to universal service obligations,¹⁵⁷¹ while Bell Atlantic contends that non-carrier providers of inside wire would be ineligible to participate since only carriers are entitled to receive universal service funds under the 1996 Act.¹⁵⁷² SWBT maintains that it would not be practical, given regulatory, legal, and collections issues, to include inside wire vendors as participants in the process.¹⁵⁷³ CFA notes that including internal connections within the definition of universal service would be in direct conflict with the Commission position that wire inside the home or

¹⁵⁶⁷ Sprint further comments at 4.

¹⁵⁶⁸ MCI further comments at 4-5.

¹⁵⁶⁹ Letter from United States Representative Jack Fields to Sharon Nelson, Chairperson, Washington Utilities and Transportation Commission and all members of the Federal-State Joint Board on Universal Service (Oct. 17, 1996).

¹⁵⁷⁰ See, e.g., Bell Atlantic further comments at 3; Century further comments at 11; PacTel further comments at 15; RTC further comments at 11; USTA further comments at 9-10.

¹⁵⁷¹ PacTel further comments at 16.

¹⁵⁷² Bell Atlantic further comments at 3. See also SWBT further comments at 9-10 (asserting that "[s]ince the Act is clear that only telecommunications providers are eligible to receive universal service funding, the multitude of providers who specialize in inside wiring and internal connections (e.g., electricians, LAN providers) would be at a competitive disadvantage because they would be ineligible to participate in a universal service fund under Section 254"); TCI further comments at 13 (stating that "given the Commission's long-standing policy of deregulated inside-wiring, this market is comprised of literally thousands of small companies whose business could be dramatically affected by the adoption of a subsidy program").

¹⁵⁷³ SWBT further comments at 9-10.

premises is "the property and responsibility of the property owner."¹⁵⁷⁴ USTA states that the provision of internal connections is highly competitive and non-regulated.¹⁵⁷⁵ Bell Atlantic asserts that, since state regulation of inside wiring has not been preempted, states should be free to decide whether to support inside wiring for schools and libraries as part of their universal service support mechanisms.¹⁵⁷⁶

472. Third, some parties contend that if it had intended that inside wiring be included in the definition of universal service, Congress would have explicitly expressed that intent.¹⁵⁷⁷ AirTouch asserts that, while the legislative history contains a "laundry list" of possible elements to be included in universal service, that list does not contain internal connections.¹⁵⁷⁸ Ameritech notes that sections 706 and 708 are the only statutory provisions in the 1996 Act that specifically address the issue of inside wiring.¹⁵⁷⁹ Moreover, AirTouch asserts that the costs of inside wiring are incremental costs and, because its provision is open to competition, it may already be sold at close to incremental cost. AirTouch maintains, therefore, that providing discounts for the provision of inside wiring may place a heavy financial burden on telecommunications users.¹⁵⁸⁰

3. Discussion

473. In General. We recommend that the Commission expressly acknowledge that schools and libraries may receive discounts on charges for internal connections, as well as for all commercially available telecommunications services and Internet access and other information services, as discussed above. We find that the applicable statutory provisions and the legislative history evidence that Congress gave the Commission the discretion to provide support to allow schools and libraries to obtain these internal connections at a discount. We also find that Congress recognized that such connections are a critical element for achieving the congressional purpose of section 254(h), and thus contemplated that schools and libraries receive universal service support for internal connections.

474. Installation and Maintenance of Internal Connections is a Service. Some parties

¹⁵⁷⁴ CFA further comments at 5-6.

¹⁵⁷⁵ USTA further comments at 9-10.

¹⁵⁷⁶ Bell Atlantic further comments at 3.

¹⁵⁷⁷ *See, e.g.*, Citizens Utilities further comments at 6; Washington UTC further comments at 8.

¹⁵⁷⁸ AirTouch further comments at 10.

¹⁵⁷⁹ Ameritech further comments at 13,14.

¹⁵⁸⁰ AirTouch further comments at 10-11.

argue that the physical facilities that provide intraschool and intralibrary connections are "goods" or "facilities" rather than (c)(3) "services" and thus that they are not eligible for universal service support under section 254(h)(1)(B), which only provides support for services.¹⁵⁸¹ We find, however, that the *installation and maintenance* of such facilities are services. In fact, the cost of the actual facilities may be relatively small compared to the cost of labor involved in providing internal connections.¹⁵⁸² The D.C. Circuit agrees, as it repeatedly refers to the installation and maintenance of inside wiring as services in its review of the Commission's inside wiring detariffing decision.¹⁵⁸³

475. Moreover, the attempted distinction between facility and service in describing the fundamental nature of internal connections is not practical. CFA contends that the wire inside the home or premises is "the property and responsibility of the property owner," and thus different from outside wiring.¹⁵⁸⁴ It concludes that universal service funding cannot be used to aid customers seeking to purchase and install the inside wiring.¹⁵⁸⁵ This rationale, however, implies that when a carrier owns a facility, and sells others the opportunity to use it, then those who use the facility are purchasing a service, but when a school buys a facility directly, its use of the facility is not a service. While this reasoning is logical, it is somewhat strained. Under this rationale, the use of inside wiring would be a service if a school did not own the facilities itself, but rather sold the facilities to a non-school party and then leased them back.

¹⁵⁸¹ See, e.g., AT&T reply comments at 21-22; GTE further comments at 13-15; Sprint further comments at 4; USTA further comments at 9-10; U S West further comments at 6-7. The definition of "telecommunications service" can be found at 47 U.S.C. §153(46).

¹⁵⁸² Union City Board of Education further comments at 6 n.3. On the other hand, the cost of routers, hubs, and network file servers may be significant.

¹⁵⁸³ *NARUC v. FCC*, 880 F.2d 422, 430 (D.C. Cir. 1989) (stating that "charges for *inside wiring services* are separated from charges for basic transmission service") (emphasis added); *id.* (stating that "the Commission may properly proscribe state tariffs that would result in the subsidization of the installation and maintenance of inside wiring by the general ratepayers because it would allow telephone companies to undercut alternative providers of *inside wiring services*.")) (emphasis added); *id.* at 430-31 (asserting that states maintain "that they should be able to require local telephone companies to serve as providers of last resort of *installation and maintenance services*.")) (emphasis added). In contrast, the court refers to CPE as "equipment." *Id.* at 431. Similarly, the Commission has repeatedly characterized the installation and maintenance of inside wiring as services. See, e.g., *Revision of Filing Requirements*, Notice of Proposed Rulemaking, CC Docket No. 96-23, FCC 96-64, 1996 WL 80021, ¶¶ 13-14, (released Feb. 27, 1996) (regarding LEC reports on "inside wiring services"); *Telecommunications Services Inside Wiring*, Notice of Proposed Rulemaking, 11 FCC Rcd 2747, 2760 (1996) (stating that "[t]his standardization . . . promotes competition for *inside wiring services* and telephone customer premises equipment.") (emphasis added).

¹⁵⁸⁴ CFA further comments at 5-6.

¹⁵⁸⁵ CFA further comments at 5-6.

476. Internal Connections Enhance Access to Advanced Telecommunications and Information Services. We recommend that the Commission adopt rules providing discounts for internal connections under the authority of section 254(h)(2)(A), which states that "[t]he Commission shall establish competitively neutral rules . . . to *enhance . . . access* to advanced telecommunications and information services for all public and nonprofit elementary and secondary school *classrooms . . .* and libraries."¹⁵⁸⁶ The provision of services by computer over the Internet appears to fall squarely within the phrase "advanced telecommunications and information services." A primary way for "classrooms" to have *access* to such services is for computers in each classroom to be connected to a telecommunications network.

477. Furthermore, given that many schools have already secured internal connections, we conclude that the provision of such connections is both technically feasible and economically reasonable. Consistent with our recommendation to establish a competitively neutral program for discounting all telecommunications services and Internet access under section 254(h)(2)(A), we recommend that internal connections, which may include such items as routers, hubs, network file servers, and wireless LANs, but specifically excluding personal computers, be included within the section 254(h) discount program.

478. In addition to the statutory support discussed above, the legislative history also supports finding internal connections eligible for support. We note that, in its Joint Explanatory Statement, Congress makes three explicit references to "classrooms."¹⁵⁸⁷ We conclude that these references to providing access to "classrooms" rather than simply schools indicate congressional intent to assure that classrooms and libraries will benefit from the availability of discounted services.

479. In addition, while some commenters contend that if Congress had intended to include inside wiring in the definition of universal service, it would have stated so explicitly,¹⁵⁸⁸ we note that Congress did not identify in section 254 any specific services or functionalities that should be supported. Thus, while the legislation does not specifically identify internal connections as eligible for universal service support, neither does it explicitly cover 56 kbps service, T-1 service, wireless service, coaxial cable service, or any other comparable service. AirTouch argues that the legislative history includes a list of possible elements to be included in universal service,¹⁵⁸⁹ but that the list does not include internal connections. The excerpt from the legislative history to which AirTouch refers states:

¹⁵⁸⁶ 47 U.S.C. § 254(h)(2)(A).

¹⁵⁸⁷ See Joint Explanatory Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 132-33 (1996).

¹⁵⁸⁸ Citizens Utilities further comments at 6; Washington UTC further comments at 8.

¹⁵⁸⁹ AirTouch further comments at 9-11.

For example, the Commission could determine that telecommunications and information services that constitute universal service for schools and libraries shall include dedicated data links and the ability to gain access to educational materials, research information, statistics, information on Government services, reports developed by Federal, State, and local governments, and information services which can be carried over the Internet.¹⁵⁹⁰

We note that the list is not exhaustive because it is preceded by the phrase "for example." We further note that internal connections to the classroom facilitate access to the reference materials. Discounting of internal connections will facilitate schools' and libraries' ability to connect to these services.

480. As further evidence that Congress intended that internal connections may be eligible for universal service support, we note that during Senate consideration of this provision, Senators Snowe and Rockefeller emphasized the fact that thirty-five percent of public schools have access to the Internet, but only three percent of classrooms are connected to the Internet.¹⁵⁹¹ Senator Rockefeller cited the lack of funds to buy computer equipment as one reason, and stated:

But another reason, which becomes more serious as schools do scrape together the money for the one-time expense of buying equipment, is their inability to pay excessive rates to hook into those services. It is one thing to have the computer on the table or the desk. It is another to have that hooked up to the wall *and then through that wall to the other wall*. That is expensive.¹⁵⁹²

481. In addition, in the September 26, 1996 letter from 26 Senators, including the four sponsors of the Snowe-Rockefeller-Exon-Kerrey amendment, the Senators state their intent clearly and directly:

For schools, we believe that connecting the *classrooms* is necessary to truly enhance education. ~~Classroom connectivity should be a neutral.~~¹⁵⁹³

On the other hand, we note the sentiments of United States House of Representatives

¹⁵⁹⁰ AirTouch further comments at 9-11 (emphasis added).

¹⁵⁹¹ 141 Cong. Rec. S7978, S7981 (daily ed. June 8, 1995).

¹⁵⁹² 141 Cong. Rec. at S7981 (daily ed. June 8, 1995) (emphasis added).

¹⁵⁹³ Letter from 26 Senators to Members of the Joint Board at 1 (Sept. 26, 1996) (emphasis added).

Telecommunications and Finance Subcommittee Chairman Jack Fields, who objects to the provision of universal service support for internal connections because he believes that "[t]he letter of the law is clear that the federal universal service fund can only support subsidies for *services*, not plant and equipment."¹⁵⁹⁴

482. Finding internal connections ineligible for support would create an anomaly. Congress clearly intended to encourage competition among technologies, including competition between wireline and wireless technologies. Moreover, the McKinsey Report found that wireless connections would be the more efficient alternative for connecting schools to telephone carrier offices for more than 25 percent of public schools.¹⁵⁹⁵ No parties dispute that the wireless services that such schools purchase are services eligible for support. It would seem to follow that those wireless services would still represent services if school personnel also used them for communications between classrooms within a school rather than between schools and outside parties. There is nothing on the record or in the statute that would suggest any reason that such services are not eligible for universal service support. Yet if wireless intraschool connections are services eligible for a discount and Congress sought to ensure technological neutrality rather than favoring wireless services, it follows that schools purchasing wireline intraschool connections should also be permitted to apply discounts to those services.

483. We note that AirTouch makes a policy argument opposing the provision of universal service support for internal connections. AirTouch asserts that, because internal connections are likely available at incremental cost today, due to competitive forces, it would be impossible to provide significant discounts to schools and libraries without permitting them to pay less than the long run incremental cost of the service. AirTouch contends that permitting services to be available at such low rates would heavily burden providers of support and distort other telecommunications markets.¹⁵⁹⁶ We find, however, that section 254 directs the Commission to employ such support mechanisms to achieve the important social benefits designated by Congress. Moreover, we would expect that the support mechanism adopted by the Commission will permit many disadvantaged schools and libraries to pay below-cost rates for telecommunications services.

484. Finally, we recommend that, just as with other eligible services, the Commission permit schools and libraries to secure internal connections under the discount structure discussed further below. To the extent that the Commission exercises authority under section 254(h)(2), we

¹⁵⁹⁴ Letter from United States Representative Jack Fields to Sharon Nelson, Chairperson, Washington Utilities and Transportation Commission and all members of the Federal-State Joint Board on Universal Service (Oct. 17, 1996).

¹⁵⁹⁵ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 58 (1995).

¹⁵⁹⁶ AirTouch further comments at 10-11.

recommend, as we did with respect to Internet Service Providers, that the Commission establish "competitively neutral rules" which provide support to any provider of internal connections that the school or library selects. As we explained above, we conclude that section 254(h)(2) requires competitively neutral rules,¹⁵⁹⁷ rather than limits on support to providers that meet the statutory definition of "telecommunications carrier."¹⁵⁹⁸

D. Discount Methodology

1. Background

485. Section 254(b)(5) establishes the principle that "there should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service."¹⁵⁹⁹ Section 254(b)(1) states that "[q]uality services should be available at just, reasonable, and affordable rates."¹⁶⁰⁰ Furthermore, section 254(e) directs that any universal service support "should be explicit and sufficient to achieve the purposes of" section 254.¹⁶⁰¹ These obligations extend to the mechanism to support discounts on eligible services for schools and libraries. Moreover, section 254(h)(1)(B) states:

All telecommunications carriers serving a geographic area shall, upon a bona fide request for any of its services that are within the definition of universal service under subsection (c)(3), provide such services to elementary schools, secondary schools and libraries for educational purposes at *rates less than the amounts charged for similar services to other parties*. The *discount* shall be an amount that the Commission, with respect to interstate services, and the States, with respect to intrastate services, determine is *appropriate and necessary to ensure affordable access to and use of such services by such entities*.¹⁶⁰²

486. Section 254(d) provides that "[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory

¹⁵⁹⁷ 47 U.S.C. § 254(h)(2).

¹⁵⁹⁸ See 47 U.S.C. § 153(44).

¹⁵⁹⁹ 47 U.S.C. § 254(b)(5).

¹⁶⁰⁰ 47 U.S.C. § 254(b)(1).

¹⁶⁰¹ 47 U.S.C. § 254(e).

¹⁶⁰² 47 U.S.C. § 254(h)(1)(B) (emphasis added).

basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service."¹⁶⁰³ Section 254(h)(1)(B) requires "telecommunications carriers serving a geographic area" to provide services included within the definition of universal service to schools and libraries "at rates less than the amounts charged for similar services to other parties."¹⁶⁰⁴

487. Congress emphasized affordability in the Joint Explanatory Statement when it stated that "[n]ew subsection (h) of section 254 is intended to ensure that . . . elementary and secondary schools classrooms, and libraries have affordable access to modern telecommunications services that will enable them to provide . . . educational services to all parts of the Nation."¹⁶⁰⁵ In addition, in the floor debates on the Snowe-Rockefeller-Exon-Kerrey amendment, Senator Snowe stated that, under section 254(h)(1)(B), "[b]y changing the basis for the discount from incremental cost to an amount necessary to ensure an affordable rate, the Federal-State joint board in conjunction with the FCC and the States have some flexibility to target discounts *based on a community's ability to pay*."¹⁶⁰⁶

488. In the NPRM, the Commission proposed to interpret section 254(h)(1)(B) to entitle schools and libraries to receive discounts on all services falling either within the list of subsection (c)(1) "core" telecommunications services or the list of subsection (c)(3) "additional" or "special" services for schools and libraries.¹⁶⁰⁷ The NPRM also noted that the 1996 Act gives the Commission the authority to establish discounts on interstate services, while the states are authorized to establish discounts on intrastate universal services.¹⁶⁰⁸

489. The NPRM sought comment on how to formulate discount methodologies that would ensure that each discount is "an amount that . . . is appropriate and necessary to ensure affordable access to and use of" services deemed eligible for universal service support.¹⁶⁰⁹ Specifically, the NPRM sought comment and Joint Board recommendation on the factors to be used in formulating a discount methodology for universal service support for schools and libraries. The NPRM noted that "[t]he methodology could reflect whether the services used are tariffed or

¹⁶⁰³ 47 U.S.C. § 254(d).

¹⁶⁰⁴ 47 U.S.C. § 254(h)(1)(B).

¹⁶⁰⁵ Joint Explanatory Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 132 (1996).

¹⁶⁰⁶ 141 Cong. Rec. S7984 (June 8, 1995) (emphasis added).

¹⁶⁰⁷ NPRM at para. 82.

¹⁶⁰⁸ NPRM at para. 82.

¹⁶⁰⁹ NPRM at para. 74 (quoting 47 U.S.C. § 254(h)(1)(B)).

whether the charges are for capital investments or recurring expenses."¹⁶¹⁰ The NPRM also stated that "[t]he methodology could also be based on the incremental costs of providing services rather than retail prices."¹⁶¹¹ Moreover, the NPRM noted that "[s]ection 254(h)(1)(B) specifies that all discounts shall apply to the amounts charged for similar services to other parties."¹⁶¹² The NPRM sought comment and Joint Board recommendation on how those amounts might be determined.¹⁶¹³ The Public Notice sought further comment on the discount methodology and asked whether the base service prices to which discounts would be applied should be: "(a) total service long-run incremental cost; (b) short-run incremental costs; (c) best commercially-available rate; (d) tariffed rate; (e) rate established through a competitively-bid contract in which schools and libraries participate; (f) lowest of some group of the above; or (g) some other benchmark."¹⁶¹⁴ In addition, the Public Notice sought comment on how the commercially-available rate could best be ascertained, "in light of the fact that such rates may be established pursuant to confidential contract arrangements."¹⁶¹⁵

490. Further, the NPRM sought comment on how each discount methodology would conform with the mandate of section 254(b) to provide "specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service."¹⁶¹⁶ The NPRM also sought comment and a Joint Board recommendation on how to harmonize state and federal discount methodologies to ensure that Congress's goal to provide access to advanced telecommunications services for elementary and secondary schools, classrooms, and libraries throughout the Nation is realized.¹⁶¹⁷

491. The NPRM sought comment on additional issues related to the discount methodology. First, the NPRM asked how to define "geographic area" for purposes of section 254(h)(1)(B).¹⁶¹⁸ Second, the NPRM noted that "[u]nlike all other universal service support,

¹⁶¹⁰ NPRM at para. 83.

¹⁶¹¹ NPRM at para. 83.

¹⁶¹² NPRM at para. 88.

¹⁶¹³ NPRM at para. 88.

¹⁶¹⁴ Public Notice at question 16.

¹⁶¹⁵ Public Notice at question 16.

¹⁶¹⁶ NPRM at para. 83 (*quoting* 47 U.S.C. § 254(b)(5)).

¹⁶¹⁷ NPRM at para. 83.

¹⁶¹⁸ NPRM at para. 80.

which is to be restricted to "eligible telecommunications carriers" under the terms of section 214(e) of the Act . . . the offset or reimbursement provided under section 254(h)(1)(B), pertaining to schools and libraries, must be given to "all telecommunications carriers serving a geographic area."¹⁶¹⁹ The NPRM sought comment and Joint Board recommendation on how to implement these provisions.¹⁶²⁰ The NPRM also sought comment on the estimated costs associated with each proposed discount methodology.¹⁶²¹

492. The Public Notice sought further comment on several discounting issues, including whether discounts should be directed to the states in the form of block grants or direct billing credits, and if so, what, if any, measures should be implemented to ensure that the funds are used for their intended purposes.¹⁶²² The Public Notice also sought comment on whether the cost estimates contained in the McKinsey Report and the KickStart Initiative provide an accurate funding estimate for schools and libraries, assuming that tariffed rates are used as the basis.¹⁶²³ Moreover, the Public Notice sought comment on whether other such cost estimates are available,¹⁶²⁴ and on whether there are cost estimates that specifically address the funding estimates for private schools.¹⁶²⁵

493. The Public Notice sought further comment on several specific issues regarding the discount methodology. The Public Notice sought comment, first, on what discount should be applied, if any, for schools and libraries that are already receiving special rates,¹⁶²⁶ and, second, on whether schools and libraries located in rural, insular, high cost and economically disadvantaged areas should receive an additional discount.¹⁶²⁷ Third, the Public Notice asked whether the Commission should use a sliding-scale approach or a step approach to allocate any such additional discount.¹⁶²⁸ Finally, the Public Notice asked whether the Commission should use an existing

¹⁶¹⁹ NPRM at para. 88.

¹⁶²⁰ NPRM at para. 88.

¹⁶²¹ NPRM at para. 83.

¹⁶²² Public Notice at questions 12, 13, and 14.

¹⁶²³ Public Notice at question 23.

¹⁶²⁴ Public Notice at question 24.

¹⁶²⁵ Public Notice at question 25.

¹⁶²⁶ Public Notice at question 17.

¹⁶²⁷ Public Notice at question 19.

¹⁶²⁸ Public Notice at question 21.

model to determine the degree to which a school is disadvantaged, such as Title I or the national school lunch program, and whether the Commission should make modifications to any such existing model.¹⁶²⁹

2. Comments

494. Setting a Pre-Discount Price. Numerous commenters suggest methods for determining a pre-discount price, which would serve as the base price to which a discount would be applied for schools and libraries. Ameritech advocates use of the rate charged to other subscribers,¹⁶³⁰ while BellSouth advocates a discount off the tariffed rate of a service.¹⁶³¹ NSBA I proposes "a method that is based on the competitive market price or a surrogate for the competitive market price for each service (if no such price is readily ascertainable)."¹⁶³² U.S. Distance Learning Ass'n advocates "calculating a discount from the lowest, competitive rate secured by the beneficiary institutions, presumably at a state-wide or even regional level."¹⁶³³ U.S. Distance Learning Ass'n supports using the lowest competitive interstate and intrastate telephone rates as a baseline.¹⁶³⁴

495. To ensure that schools and libraries pay for the network elements they use, MCI contends that "the price of service for schools and libraries must reflect at least the capital costs of the plant used to provide the service."¹⁶³⁵ MCI contends that "the FCC should require that the actual economic cost of telecommunications services be the maximum rate charged by a telecommunications provider to any school or library before any discount is applied."¹⁶³⁶ MCI

¹⁶²⁹ Public Notice at question 20.

¹⁶³⁰ Ameritech comments at 17.

¹⁶³¹ BellSouth comments at 19-20.

¹⁶³² NSBA I comments at 19-21.

¹⁶³³ U.S. Distance Learning Ass'n comments at 14-15. *But see* EDLINC further comments at 28 (opposing a discount based on tariffed rates because it is likely "there will be no tariffs on which to base the discount" and because "the Commission does not conduct a quantitative analysis of tariffed rates").

¹⁶³⁴ U.S. Distance Learning Ass'n comments at 14-15.

¹⁶³⁵ MCI comments at 20. *See also* Syracuse University comments at 9-10 (asserting that "the Commission should adjust tariffs of qualified public institutions for all telecommunications services (whether intrastate or interstate) to reflect only the actual costs of providing service including a fair return on capital investments").

¹⁶³⁶ *Connecting Students and Teachers to the Internet: An MCI Proposal* (June 27, 1996).

further maintains that the "actual economic cost" should be based on TSLRIC.¹⁶³⁷ EDLINC asserts that a national benchmark should be established, which "should be calculated based on the least of three possible rates: the price paid by schools and libraries in areas in which there is competition; the lowest commercially-available rate; and the TSLRIC."¹⁶³⁸

496. Some commenters support basing the price of service for schools and libraries on competitive bids for serving aggregated sets of schools and libraries.¹⁶³⁹ NCTA, for example, believes that a competitive bid process in which the low bid represents a discount from prevailing market rates and in which the lowest bidder would become the provider of services with no entitlement to a subsidy "has major benefits in ease and economy of administration, and is pro-competitive, ensuring that the benefiting institutions have maximum choice."¹⁶⁴⁰ NCTA also proposes "use of a competitive bid process to ensure the lowest possible rate for schools and libraries in lieu of the suggested discount methodology," suggesting that no funded discount is necessary.¹⁶⁴¹ NTIA also proposes using competitive bidding and a competitive rate when it is available. When competition does not exist, NTIA supports using the lowest commercial rate for similarly situated customers or, if that is not available, a cost-plus price.¹⁶⁴² ACE, however, maintains that the 1996 Act does not permit the Commission to require that schools and libraries participate in a competitive bidding process, and that such a requirement "would constitute an unnecessary unfunded mandate with administrative costs to some schools and libraries being more than the anticipated annual cost of the requested telecommunications services."¹⁶⁴³

497. Definition of "Geographic Area." Several commenters address the way in which "geographic area" should be defined for purposes of section 254(h)(1)(B). Washington Library, for example, suggests that, since the service areas of schools and libraries tend to overlap, "the summary of their areas might form the nucleus for determining the geographic area for receiving

¹⁶³⁷ *Connecting Students and Teachers to the Internet: An MCI Proposal* (June 27, 1996).

¹⁶³⁸ EDLINC further comments at 27. *See also* Union City Board of Education reply comments at 12 (recommending that the price paid by schools and libraries should be the lower of "1. [t]he carrier's current rate or bid; 2. [t]he lowest price offered for such service to any other customer; or 3. [t]he TSLRIC").

¹⁶³⁹ Florida Cable comments at 14, 17; NCTA comments at 18; NSBA I comments at 22.

¹⁶⁴⁰ NCTA comments at 18.

¹⁶⁴¹ NCTA comments at 18.

¹⁶⁴² NTIA submission at 12-13.

¹⁶⁴³ ACE reply comments at 6.

universal service support."¹⁶⁴⁴ Alaska Library maintains that "geographic area" should be defined as an entire state,¹⁶⁴⁵ while USTA asserts that "it should be interpreted to mean the service area in which the qualified educational institution or library is located."¹⁶⁴⁶ Oakland School District contends that "geographic area" should be defined as the LATA.¹⁶⁴⁷ NSBA I states that the Commission should not create geographic service areas in which schools and libraries will be required to obtain service from a particular carrier.¹⁶⁴⁸

498. Definition of "Telecommunications Carriers Serving a Geographic Area."

Other commenters address the entities that should be included within the definition of "telecommunications carriers serving a geographic area." Continental Cablevision, for example, asserts that any carrier, including those that do not provide "core" telecommunications services, should be considered a telecommunications carrier for purposes of providing advanced services to schools and libraries at a discount.¹⁶⁴⁹ Such a result will enhance competition in the provision of services to schools and libraries.¹⁶⁵⁰ Iowa Tel. Ass'n maintains that "private network providers (such as electric company networks or corporate networks) and state sponsored private networks (such as Iowa Communications Network) that do not provide services directly to the public should not be eligible for these support funds."¹⁶⁵¹ U.S. Distance Learning Ass'n, on the other hand, states that the Iowa Communications Network and other specialized private or public carriers dedicated to providing telecommunications services to schools and libraries should be considered telecommunications carriers for the purposes of section 254(h)(1)(B).¹⁶⁵²

¹⁶⁴⁴ Washington Library comments at 6-7.

¹⁶⁴⁵ Alaska Library comments at 6. *See also* ACE comments at 13 (asserting that "[i]n order to facilitate universal service fund administration . . . the applicable 'geographic area' should be each State or combination thereof").

¹⁶⁴⁶ USTA comments at 8 n.13. *See also* NCTA comments at 18 (asserting that "[t]he geographic area served by a particular company should be each company's self-defined service area").

¹⁶⁴⁷ Oakland School District comments at 10.

¹⁶⁴⁸ NSBA I reply comments at 16.

¹⁶⁴⁹ CCV comments at 13-14. *See also* Citizens Utilities comments at 20.

¹⁶⁵⁰ CCV comments at 13-14. *See also* Citizens Utilities comments at 20 (stating that "[s]ection 254(h)(1)(B)'s extension of universal service offsetting credits or reimbursement to all telecommunications carriers, not just Section 214(e) eligibles, should spur competition to provide service").

¹⁶⁵¹ Iowa Tel. Ass'n comments at 4.

¹⁶⁵² U.S. Distance Learning Ass'n reply comments at 7-8.

499. Discounted Rate. In general, commenters suggest several different methods for determining what the "discount" should be for schools and libraries. ALA, for example, recommends that the discount rate for schools and libraries should be the "lower of the TSLRIC for the service or the lowest price offered commercially."¹⁶⁵³ ALA supports a discount price based on TSLRIC because that method "would ensure that the provider recovers its full cost, including the cost of capital."¹⁶⁵⁴ USTA, however, asserts that the use of TSLRIC should be rejected because "TSLRIC is not appropriate for pricing and is irrelevant to determine universal service support amounts."¹⁶⁵⁵ ACE maintains that the use of incremental cost in any form was considered and rejected by Congress when it substituted "rates less than" and "discount" language in section 254(h)(1)(B).¹⁶⁵⁶

500. Other commenters suggest different methods for determining the discounted rate. For example, some schools and libraries groups, citing the need for predictability in the budgeting process, support a flat rate that is neither distance- nor time-sensitive.¹⁶⁵⁷ U.S. Distance Learning Ass'n suggests using the following discount rates as target: 45 percent discount on the lowest competitive interstate and intrastate telephone rates; 50 percent discount on installation of hardware necessary to access telecommunications services; and 50 percent discount for ongoing maintenance.¹⁶⁵⁸ NSBA I supports basing the discount price on the "95 percent affordability price point" (i.e., a price low enough to allow 95 percent of schools to afford the rate) or, in the alternative, on TSLRIC.¹⁶⁵⁹ Great City Schools supports a declining rate based on the school's or

¹⁶⁵³ ALA reply comments at 3-9. *See also* Colorado Library reply comments at 3.

¹⁶⁵⁴ ALA reply comments at 3-9 (asserting that "[t]he true economic costs of supply for any market sector have been found to be the provider's TSLRIC"). *See also* AFT comments at 4 (asserting that "[u]sing a method for determining rates based on the Total Service Long Run Incremental Cost can substantially increase the cost savings to carriers and the larger schools they serve" because in urban areas with dense populations, "[t]elecommunications hook-ups to a single school will serve larger numbers of students and classrooms than in smaller schools").

¹⁶⁵⁵ USTA comments at 7.

¹⁶⁵⁶ ACE reply comments at 5.

¹⁶⁵⁷ *See, e.g.*, Mendocino School District comments at 4; Michigan Library Ass'n comments at 12 (stating that "[s]elected discount methodologies should be distance insensitive"); Oakland School District comments at 11 (asserting that "[s]chools should have flat-rate access to the network at the same cost as residential customers"). *See also* PacTel comments at 5-6 (stating that "[p]rices which vary by amount of usage and from month-to-month introduce an element of unpredictability that schools told us they could not tolerate").

¹⁶⁵⁸ U.S. Distance Learning Ass'n comments at 14-15.

¹⁶⁵⁹ NSBA I reply comments at 21-22.

library's ability to pay,¹⁶⁶⁰ while NECA proposes using mechanisms similar to those used for the Lifeline Assistance program to support discounted services for schools and libraries.¹⁶⁶¹ Pennsylvania Library asserts that the discounted rate for schools and libraries should represent the wholesale price of the service.¹⁶⁶² Sailor recommends that pre-1996 Act rates should be compared with post-1996 Act rates, so that it can be determined whether a genuine discount exists.¹⁶⁶³ Sprint, on the other hand, asserts that "at least in the schools and library context, it is premature to prescribe a discount methodology until the specified services, and most importantly the cost of implementing and provisioning such services, are determined."¹⁶⁶⁴

501. EDLINC proposes basing the size of the discount on "two factors that determine affordability: the price of the service, and ability to pay."¹⁶⁶⁵ EDLINC maintains that the ability to pay is particularly important in low-income and rural areas, and proposes ranking school districts based on a combination of the lower of the median value of owner-occupied housing or median household income, plus population density.¹⁶⁶⁶ Based on its ranking, each school district would receive a minimum discount of 30 percent, and a maximum discount of 70 percent. EDLINC chooses median value of owner-occupied housing as the "best indicator of district wealth in non-inner city areas,"¹⁶⁶⁷ and median household income as "a better indicator of the relative ability to pay of an inner city area."¹⁶⁶⁸ EDLINC selects population density as a factor to apply to all districts "because of the lower potential sparsely populated areas have for recovering costs by spreading them out over the population as a whole," but acknowledges that the current density factor may have to be adjusted to accommodate extremely dense urban areas that may have

¹⁶⁶⁰ Great City Schools comments at 2.

¹⁶⁶¹ NECA comments at 15-17. *See also* Alliance for Distance Education comments at 1 (supporting equating each classroom and library to a low-income consumer unit, thereby entitling it to "an amount equal to rate 10 percent below the lowest rates offered by a telecommunications service provider to its lifeline customers or 20 percent below the lowest contract rates offered to corporations or institutions for a particular service, whichever rate is lower").

¹⁶⁶² Pennsylvania Library Ass'n reply comments at 6.

¹⁶⁶³ Sailor comments at 15-19.

¹⁶⁶⁴ Sprint comments at 23.

¹⁶⁶⁵ EDLINC further comments at 29.

¹⁶⁶⁶ EDLINC further comments at 30.

¹⁶⁶⁷ EDLINC further comments at 30.

¹⁶⁶⁸ EDLINC further comments at 31.

substantial low-income populations.¹⁶⁶⁹ In terms of applying the discount percentage, EDLINC proposes having service providers submit competitive bids to schools and libraries. If the lowest bid is above the national benchmark proposed by EDLINC, or if there is only one bid, the discount will be calculated by applying the discount percentage to the national benchmark price. In the event of no bidders, the school or library can request service from the carrier of last resort, and the discount will also be calculated by applying the discount percentage to the national benchmark price. If the lowest competitive bid is below the national benchmark price, the discount will be calculated by applying the discount to the bid price.¹⁶⁷⁰

502. Some commenters recommend providing selected telecommunications services at no cost to schools and libraries (i.e., give them a 100 percent discount). United States Secretary of Education Richard Riley, Vice President Al Gore, and United States Representative Edward Markey have proposed free "basic" service rates and highly discounted rates for advanced services, which they refer to as "E-rates."¹⁶⁷¹ Benton asserts that, to ensure affordable telecommunications services for schools and libraries, it may be necessary to provide free services.¹⁶⁷² NYNEX, however, contends that the 1996 Act contemplates discounted, rather than free services, and that providing such free services may encourage wasteful purchases.¹⁶⁷³

503. NTIA proposes that services be split into two categories, with the discount for a specific service determined by the category into which the service falls. In the first category of services, NTIA recommends providing a basic package of services, which would include basic connectivity and Internet access at a maximum bandwidth of 1.5 Mbps, at the "E-rate" (i.e., free to eligible schools and libraries).¹⁶⁷⁴ The price for this basic package would be established through several possible means, which are intended to obtain a competitive price. The package could, for

¹⁶⁶⁹ EDLINC further comments at 31.

¹⁶⁷⁰ EDLINC further comments at 31-32.

¹⁶⁷¹ See Letter from Vice President Al Gore to Secretary Richard Riley (June 26, 1996); Statement of Richard W. Riley, U.S. Secretary of Education, Press Conference on Free Access to the Internet (June 27, 1996); Statement of United States Representative Edward J. Markey, *Schools Need Free "E-Rate" to Educate for 21st Century* (June 27, 1996). See also U.S. Distance Learning Ass'n comments at 13-14 (stating that "the Commission should require telecommunications service providers to both install and deliver free of charge at least one voice-grade, curricular-purpose line to each such eligible institution").

¹⁶⁷² Benton reply comments at 9.

¹⁶⁷³ NYNEX reply comments at 17.

¹⁶⁷⁴ NTIA submission at 9. Basic connectivity would include "both installation and monthly rates for external access, and the inside connections and 'networking' required to ensure that at least one personal computer (located in an area accessible to students) is on-line," and Internet access would include E-mail and the resources of the World Wide Web. *Id.* at 10.

example, be competitively bid. If, on the other hand, there are no bidders because there are no competitors to the ILEC, a bid ceiling value could be established based on competitive prices in other locations, or could be based on economic costs, including a reasonable profit margin, to simulate a competitive result.¹⁶⁷⁵ NTIA expects that schools and libraries will include the non-telecommunications components of a technology plan, such as competing architectures or technologies, in their competitive bids, which will enable technological innovations to drive down the cost of the basic service package.¹⁶⁷⁶ NTIA proposes that carriers would be reimbursed for the basic package from universal service support mechanisms.¹⁶⁷⁷

504. In the second category of services, NTIA proposes that all other telecommunications services would be provided to eligible schools and libraries at rates no greater than the best available commercial rate.¹⁶⁷⁸ Schools and libraries that chose not to subscribe to the basic package of services could apply the cost of the basic package to their total purchase of special or advanced services, and that amount would be recovered by its chosen carrier from universal service support mechanisms.¹⁶⁷⁹ Low income and high cost schools and libraries would be eligible for a deeper discount, based on an "affordability index."¹⁶⁸⁰ For these other telecommunications services, carriers would only be reimbursed from universal service support mechanisms for the cost of the deeper discount.¹⁶⁸¹

505. Cost Estimates. To establish what level of support is appropriate and necessary, the Commission must estimate a baseline cost for what schools and libraries are likely to spend as they secure access to the Internet, engage in distance learning applications, use video conferencing, and purchase whatever other telecommunications and information services they find useful for achieving their educational purposes. The most comprehensive estimate, on the record, of the costs of providing schools with the services proposed by Congress in section 254(h) is provided by *K-12 Schools to the Information Superhighway*, ("McKinsey Report") prepared by McKinsey & Company, a management consulting firm, for the National Information Infrastructure

¹⁶⁷⁵ NTIA submission at 12.

¹⁶⁷⁶ NTIA submission at 12. *See also* Teleport *ex parte* filing (Sept. 26, 1996) (proposing that telecommunications services that are included within a basic package would be competitively bid, and other components of the technology configuration could be included).

¹⁶⁷⁷ NTIA submission at 12-13.

¹⁶⁷⁸ NTIA submission at 13-14.

¹⁶⁷⁹ NTIA submission at 14.

¹⁶⁸⁰ NTIA submission at 13-14.

¹⁶⁸¹ NTIA submission at 15.

Advisory Council (NIIAC).¹⁶⁸²

506. The McKinsey Report estimates the costs for four models of computer-based infrastructures: basic lab; lab plus; partial classroom; and full classroom. The basic lab model assumes that every school will install connections for 25 computers in a single room served by an Ethernet LAN in the lab and ten telephone lines to the public network. The lab plus model would include all components of the lab model plus one computer and modem per teacher. The partial classroom model would include one computer per every five students for half of the classrooms in each school, served by an Ethernet LAN across and within all classrooms and a T-1 connection to the public network.¹⁶⁸³ The full classroom model would include all of the components of the partial classroom model for every classroom.

507. The McKinsey Report estimates both initial and ongoing costs for six categories of costs: connection to the school, connection within the school, hardware, content, professional development, and systems operation,¹⁶⁸⁴ but only the first two categories are costs of providing non-content conduits for transmitting data, and have been identified by parties as relevant to the establishment of universal service mechanism and competitively neutral rules under section 254(h) of the 1996 Act.¹⁶⁸⁵ The estimated (initial/ongoing) costs for connections to the schools according to each of the four models are: lab (\$815/\$580 million), lab plus (\$1,345/\$595 million), partial classroom (\$1,715/\$1,030 million), and full classroom (\$1,645/\$920 million). The estimated costs for internal connections are: lab (\$1,325/\$200 million), lab plus (\$1,325/\$200 million), partial classroom (\$5,025/\$410 million), and full classroom (\$6,285/\$570 million). The estimated total costs for these models are: lab (\$10.6/\$3.9 billion), lab plus (\$21.8/\$7.4 billion), partial classroom (\$28.9/\$7.5 billion), and full classroom (\$46.8/\$13.9 billion). These figures assume a five year deployment period for the first three models and a ten year deployment for the

¹⁶⁸² The National Information Infrastructure Advisory Council (NIIAC) was created by executive order at the end of 1993 and formally established and appointed in early 1994. The 37 member advisory panel represents many of the key constituencies with a stake in the NII, including private industry, state and local governments, community, public interest, education, and labor groups, creators and distributors of content, privacy and security advocates, and leading experts in NII-related fields. The NIIAC is responsible for advising the Secretary of Commerce and the Administration on a national strategy for promoting the development of the NII and the Global Information Infrastructure (GII). See Russell Rothstein, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits* 25 n.9 (1996) (unpublished masters thesis, Massachusetts Institute of Technology). McKinsey cost information was also integrated into a report published by the U.S. Advisory Council on the National Information Infrastructure. See *KickStart Initiative: Connecting America's Communities to the Information Superhighway* (1996).

¹⁶⁸³ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 20-25 (1995).

¹⁶⁸⁴ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 57 (1995).

¹⁶⁸⁵ 47 U.S.C. § 254(h).

full classroom model. As these data indicate, the combined total of the categories of the internal and external connections represents about 18 percent of the total initial costs of the models and 15 percent of the ongoing costs.¹⁶⁸⁶ Those costs are the identified base which we will consider in implementing section 254(h). Therefore, schools will have to depend on other sources to provide the additional 80-plus percent of funding.

508. The McKinsey Report makes a number of assumptions to reach its estimates. It assumes, for example, that 27 percent of connections to the school and 50 percent of internal connections would be provided via wireless radio, as the most cost-effective technology. It also assumes that seven-percent of schools already have internal connections in place. The services are priced at tariffed rates, although McKinsey assumes that the price of many elements will decline over time.¹⁶⁸⁷

509. The record also includes Russell Rothstein's May 1996 master's thesis entitled, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits*.¹⁶⁸⁸ In his thesis, Rothstein estimates a range of costs for five different models of school access: single PC dial-up; local area network (LAN) with shared modem; LAN with router; LAN with local server and dedicated line; and ubiquitous LAN with high-speed connection. He states that his results are consistent with the McKinsey models. Furthermore, Rothstein disaggregates the cost of access to the Internet and estimates that cost at between \$150 and \$630 million per year.¹⁶⁸⁹

510. The *KickStart Initiative: Connecting America's Communities to the Information Superhighway* ("KickStart Initiative"),¹⁶⁹⁰ produced by the United States Advisory Council on the National Information Infrastructure, incorporates data from the McKinsey Report on schools, estimates the cost of providing service to the libraries in the nation.¹⁶⁹¹ It estimates the cost of providing T-1 connections to libraries serving populations of more than 25,000, while 60 percent of libraries serving populations of less than 25,000 would have access to ISDN lines (56 to 128

¹⁶⁸⁶ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 28 (1995).

¹⁶⁸⁷ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 54-59 (1995).

¹⁶⁸⁸ Russell Rothstein, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits* (1996) (unpublished masters thesis, Massachusetts Institute of Technology).

¹⁶⁸⁹ Russell Rothstein, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits*, at 50 (1996) (unpublished masters thesis, Massachusetts Institute of Technology).

¹⁶⁹⁰ The United States Advisory Council on the National Information Infrastructure was created by executive order at the end of 1993 by President Clinton. The 36-member advisory panel was formally established and appointed by the Secretary of Commerce in early 1994. This report was published in January 1996.

¹⁶⁹¹ *KickStart Initiative* at 94-98.

kbps service) and 40 percent would have access to ordinary voice lines.¹⁶⁹² It estimates the total initial cost to libraries at \$1.6 billion and \$1.3 in ongoing costs. It also estimates that the costs of connections to the library would represent 4 percent of the total initial and 9 percent of total ongoing costs and that internal connections would represent 17 percent of initial costs and 3 percent of ongoing costs.¹⁶⁹³

511. NCLIS submitted its June 1995 report entitled *Internet Costs and Cost Models for Public Libraries*.¹⁶⁹⁴ The report describes five Internet connectivity models: (1) single workstation, text-based; (2) single workstation, multimedia; (3) multiple terminals, text-based; (4) multiple workstations, multimedia, with existing LAN and OPACs; and (5) multiple libraries, multiple workstations, multimedia.¹⁶⁹⁵ NCLIS estimates the cost of model 4, which would include providing T-1 connections and Internet access with an existing LAN and online public access catalog system, at \$7,475 in initial costs and \$27,220 in ongoing annual costs (i.e., primarily Internet access) per library.¹⁶⁹⁶

512. Several commenters maintain that it is important to establish the size of the universal service fund.¹⁶⁹⁷ In the same way that schools and libraries require predictability in the budgeting process,¹⁶⁹⁸ service providers must have a sense of what they need to contribute towards universal service support. It may be necessary, according to several commenters, to make adjustments to the fund, consistent with the 1996 Act.¹⁶⁹⁹

513. Some commenters assert that the cost estimates provided in the McKinsey Report and the KickStart Initiative provide reasonable bases to estimate funding for schools and

¹⁶⁹² KickStart Initiative at 97.

¹⁶⁹³ KickStart Initiative at 96.

¹⁶⁹⁴ NCLIS, *Internet Costs and Cost Models for Public Libraries, Final Report* (June 1995).

¹⁶⁹⁵ NCLIS, *Internet Costs and Cost Models for Public Libraries, Final Report* 15-22 (June 1995).

¹⁶⁹⁶ NCLIS, *Internet Costs and Cost Models for Public Libraries, Final Report* 26-27 (June 1995).

¹⁶⁹⁷ See, e.g., BellSouth further comments at 31; SWBT further comments at 18; USTA further comments at 18.

¹⁶⁹⁸ See PacTel comments at 5-6 (asserting that "[p]rices which vary by amount of usage and from month-to-month introduce an element of unpredictability that schools told us they could not tolerate").

¹⁶⁹⁹ See, e.g., BellSouth further comments at 31; USTA further comments at 18.

libraries.¹⁷⁰⁰ USTA, for example, states that the McKinsey Report and the KickStart Initiative represent the best available estimates of the funding necessary for schools and libraries."¹⁷⁰¹ In terms of private schools, several commenters assert that McKinsey's per-school estimates can be extrapolated to include private schools.¹⁷⁰² Other commenters maintain that there are flaws in the McKinsey Report and the KickStart Initiative.¹⁷⁰³ Oakland School District asserts that the estimated costs and prices are likely to change once competition takes hold.¹⁷⁰⁴ ALA contends that, while the KickStart Initiative may provide some useful guidance for funding, the cost estimates are based on misleading assumptions of what small and rural libraries need, as well as the services those libraries need to provide.¹⁷⁰⁵ ALA suggests, alternatively, the use of its simplified cost model which estimates "ongoing connectivity costs only" (i.e., data connections for Internet-type service only).¹⁷⁰⁶

514. Limitation on Funds. Some commenters support a limit on the amount of money available to schools and libraries under section 254. TCI, for example, recommends that the Commission limit the amount of the discount required for schools and libraries so that the discount does not go beyond the requirements of the 1996 Act.¹⁷⁰⁷ Florida PSC supports a maximum dollar limit on expenditures for schools and libraries.¹⁷⁰⁸ Teleport asserts that there should be an initial limit on funds for the first year and a cap on funds in the third year, pending further review of the discount program.¹⁷⁰⁹

¹⁷⁰⁰ See, e.g., BellSouth further comments at 30-31; GTE further comments at 26; SWBT further comments at 18; USTA further comments at 17-18.

¹⁷⁰¹ USTA further comments at 17-18.

¹⁷⁰² See, e.g., BellSouth further comments at 31; MCI further comments at 11. See also TCI further comments at 20-21 (stating that the McKinsey estimates are accurate, but recommending that "those estimates be altered for the use of TS-LRIC costs determined by an appropriate proxy model").

¹⁷⁰³ See, e.g., ALA further comments at 18-19; Information Renaissance further comments at 10; Oakland School District further comments at 10.

¹⁷⁰⁴ Oakland School District further comments at 10.

¹⁷⁰⁵ ALA further comments at 18-19.

¹⁷⁰⁶ ALA further comments at 19-22.

¹⁷⁰⁷ TCI comments at 20-21.

¹⁷⁰⁸ Florida PSC reply comments at 6-7.

¹⁷⁰⁹ Teleport *ex parte* filing (Sept. 26, 1996).

515. Block Grant Approach. The block grant approach would provide a specified quantity of money to states, to be disbursed among the various schools and libraries for their purchases of telecommunications services. Ameritech, for example, asserts that the use of block-grants could be a "reasonable approach" to fulfilling the statutory requirements applicable to schools and libraries.¹⁷¹⁰ GTE states that the use of block grants "could satisfy the requirements of the 1996 Act, be administratively feasible, and enable the entire process to be managed in an efficient and consistent manner."¹⁷¹¹ Most commenters, however, oppose the block grant approach and state that the 1996 Act contemplates discounted rates for schools and libraries.¹⁷¹² Parties opposing the block grant approach state that such an approach would create bureaucratic problems,¹⁷¹³ would make it impossible to determine affordability,¹⁷¹⁴ and would distort the competitive services market.¹⁷¹⁵ The Senate Working Group, a bipartisan group of 16 Senators that includes the co-authors of section 254(h), states:

We are seriously concerned about the issue of block grants. Such grants would be incompatible with the statute's architecture of discounts based on affordability on flexible *bona fide* requests submitted by schools and libraries. Block grants are not based on individual needs and priorities of schools and libraries for education technology. Affordability cannot be determined under a block grant approach. It is imperative that the Commission and the Joint Board structure discounted rates for schools and libraries in such a way that all schools and libraries will have access to telecommunications services. We believe that a block grant approach cannot satisfy the objectives of [s]ection 254(h).¹⁷¹⁶

516. Funds to Schools Approach. Whereas the block grant proposals would allocate a

¹⁷¹⁰ Ameritech further comments at 17.

¹⁷¹¹ GTE further comments at 18.

¹⁷¹² See, e.g., ALA further comments at 12; EDLINC further comments at 20-21; Illinois State Library further comments at 3; NECA further comments at 9; Senate Working Group further comments at 2; Time Warner further comments at 23; Union City Board of Education further comments at 2, 9.

¹⁷¹³ See, e.g., ALA further comments at 12; New York DOE further comments at 7; Puerto Rico Tel. Co. further comments at 6-7.

¹⁷¹⁴ Senate Working Group further comments at 2.

¹⁷¹⁵ AT&T further comments at 14.

¹⁷¹⁶ Senate Working Group further comments at 2.

set amount of money to be disbursed among various schools and libraries, NYNEX proposes a formula for computing the amount of money available for each school and library to be used as discounts toward the purchase of telecommunications services. NYNEX's Education Plan would compute funding based on a determination of the nationwide average cost of providing information technology access on a per student basis. This calculation would be established as a benchmark price that would be used as the basis for establishing a benchmark discount. Each school and library would develop a proposal for telecommunications services procurement that would be reviewed and/or approved by a state administrator for compliance with an advisory council's guidelines.¹⁷¹⁷ Telecommunications service providers would obtain the funding associated with the discounts from universal service support mechanisms, with the balance billed to the school or library.¹⁷¹⁸

517. NYNEX clarifies that data should be disaggregated between urban and rural areas for both the benchmark prices and discounts, to account for the differences in costs between urban and rural areas in acquiring similar telecommunications capabilities. By varying the discounts between urban and rural areas, schools and libraries located in rural and urban areas could be assured of obtaining services at the same price. Under this proposal, schools and libraries would not be in competition with one another for the funds representing the discounts.¹⁷¹⁹

518. Direct Billing Credits Approach. Some commenters assert that providing direct billing credits from service providers to schools and libraries would be a simple and direct method of providing support to schools and libraries.¹⁷²⁰ Most commenters supporting this approach anticipate that direct billing credits will be used in conjunction with discounts.¹⁷²¹ Other commenters assert that the 1996 Act specifies discounts as the appropriate mechanism for providing support to schools and libraries, and that discounts and credits are not one and the same.¹⁷²²

519. Schools and Libraries Located in High Cost Areas. Numerous commenters

¹⁷¹⁷ See *infra* section X.E. for discussion of an Education Council.

¹⁷¹⁸ NYNEX comments at 21-23 and reply comments at 14-18.

¹⁷¹⁹ NYNEX reply comments at 16.

¹⁷²⁰ See, e.g., Ameritech further comments at 18; Bell Atlantic further comments at 4; Information Renaissance further comments at 8; NCTA further comments at 5; NYNEX further comments at 10-11; Netscape further comments at 14; New York DOE further comments at 8; PacTel further comments at 20.

¹⁷²¹ See, e.g., NCTA further comments at 5; NYNEX further comments at 10-11.

¹⁷²² See, e.g., ALA further comments at 12; Colorado State Library further comments at 9; EDLINC further comments at 22-23; Great City Schools further comments at 3-4.

advocate providing additional support to schools and libraries located in high cost areas.¹⁷²³ Senate Working Group asserts that, in determining the level of federal universal support for schools and libraries, the Commission must consider what schools and libraries in high cost areas can reasonably afford.¹⁷²⁴ In a letter to the Joint Board, a group of 26 Senators stated that "discounts must . . . consider if the school or library is in a rural or high cost area and ensure affordable access for all eligible schools and libraries."¹⁷²⁵

520. In suggesting that schools and libraries in high cost areas ought to receive a greater discount, several parties focus on the additional toll costs that rural schools and libraries may incur relative to urban schools and libraries.¹⁷²⁶ California Library Ass'n asserts that, in some rural areas, libraries may provide the sole public access point to electronic information resources,¹⁷²⁷ and that access to advanced telecommunications services in remote areas is both expensive and difficult to obtain.¹⁷²⁸ NCLIS notes that significant disparities exist in the types of service available to libraries based on the size of the population and the region in which libraries are located. For example, NCLIS research indicates that while approximately half of the libraries serving populations of 500,000 or more have T-1 connectivity to the Internet, very few libraries serving populations of less than 50,000 have T-1 connectivity.¹⁷²⁹ NCLIS advocates providing additional support to schools and libraries in high cost areas to correct such disparities.¹⁷³⁰

¹⁷²³ See, e.g., Union City Board of Education reply comments at 12; ALA further comments at 16-17; AirTouch further comments at 18-19; California Library Ass'n further comments at 5; Colorado State Library further comments at 10; Illinois State Library further comments at 4-5; Maryland DOE further comments at 10-11; NECA further comments at 12; National Coalition for the Homeless further comments at 8-9; PacTel further comments at 25-26; U S West further comments at 11; NTIA submission at 14-16.

¹⁷²⁴ Senate Working Group further comments at 2-3.

¹⁷²⁵ Letter from 26 Senators to Members of the Joint Board (Sept. 26, 1996).

¹⁷²⁶ See, e.g., BellSouth further comments at 28; Bell Atlantic further comments at 6; Illinois State Library further comments at 4-5; NECA further comments at 12; PacTel further comments at 26; Washington SPI further comments at 2.

¹⁷²⁷ California Library Ass'n further comments at 5. See also ALA further comments at 16-17 (stating that "ALA urges strongly that deep discounts be provided for such areas, where often, libraries and schools are the key, perhaps even the only public access points to electronic information resources").

¹⁷²⁸ California Library Ass'n further comments at 5. See also NECA further comments at 12 (explaining that additional discounts may be necessary for schools and libraries in rural, insular, and high cost areas because of long transport mileage and/or toll charges, as well as the difficulties in providing advanced services to such areas).

¹⁷²⁹ NCLIS further comments at 6.

¹⁷³⁰ NCLIS further comments at 6. See also Pennsylvania Library Ass'n reply comments at 6 (advocating additional support for schools and libraries in high cost areas to overcome obstacles such as distance and poor

521. ALA advocates providing additional support for schools and libraries in high cost areas because "[p]roviding incentives for these institutions to get on-line and for the carriers to provide service will promote broad public access (the ultimate goal of all universal service), as well as hasten the widespread deployment of high-end services."¹⁷³¹ ALA also notes that telecommunications costs for libraries in high cost areas represent a much higher percentage of overall library budgets than for libraries in lower cost areas.¹⁷³² Great City Schools asserts that whether additional discounts are provided to schools and libraries in high cost areas should be a federal determination, rather than a decision left to state public utility commissions.¹⁷³³ Century and TDS Telecom contend that discounts to schools located in high cost areas "must be 'sufficient' to place them in a position to obtain services and access (e.g., Internet) reasonably comparable to what their urban counterparts are able to obtain - and at reasonably comparable rates."¹⁷³⁴ MAP supports basing rates for schools and libraries on the ability to pay by first applying a sliding- scale concept of affordability, based on income levels in a particular area. Discounts would then be applied on top of the sliding-scale rates.¹⁷³⁵ ALA and the Illinois State Library assert that schools and libraries located in areas that are both high cost and economically disadvantaged should benefit from two sets of additional discounts.¹⁷³⁶

522. EDLINC acknowledges that the discount formula it proposes may not be sufficient for certain high cost school districts, so it proposes "that each state PUC have the authority to order lower discounts if a district is able to demonstrate that the standard discount . . . does not yield an affordable price."¹⁷³⁷ If a school's telecommunications expenditures exceed one percent of its total expenditures, EDLINC asserts that the school should be eligible for an additional

infrastructure).

¹⁷³¹ ALA further comments at 16-17.

¹⁷³² ALA comments at ii.

¹⁷³³ Great City Schools further comments at 4.

¹⁷³⁴ Century further comments at 14. *See also* MAP comments at 7 n.1 (in discussion of support for schools and libraries located in high cost areas, noting that "[s]ection 254(b)(3) requires that rates in rural, insular, and high cost areas be reasonably comparable to rates charged for similar services in urban areas").

¹⁷³⁵ MAP further comments at 7.

¹⁷³⁶ ALA further comments at 16 (stating that "[i]n the case in which a region is both high-cost and low-income, these additional discounts should be combined"); Illinois State Library further comments at 4 (asserting that "additional discounts should be given to both rural and economically disadvantaged areas with an additional discount provided to schools and libraries that are located in areas that are both rural and economically disadvantaged").

¹⁷³⁷ EDLINC further comments at 38.

discount, in an amount to be determined by the state PUC. Federal universal service mechanisms would fund two-thirds of the additional discount, and state universal service mechanisms would fund the remaining one-third.¹⁷³⁸

523. Several commenters oppose providing additional support to schools and libraries located in high cost areas.¹⁷³⁹ Ameritech, for example, contends that the 1996 Act does not provide for such an additional level of discount.¹⁷⁴⁰ Information Renaissance sees no need for an additional discount.¹⁷⁴¹ AT&T maintains that no additional discount should be provided, and states that if the best commercial rate in a rural area is considered excessive, the affected schools and libraries could request the best commercial rate in an urban area within the state.¹⁷⁴² MFS believes that "generic high-cost support" is sufficient for schools and libraries located in high cost areas, and that an additional discount is not appropriate.¹⁷⁴³ Time Warner asserts that an additional discount is not necessary because schools and libraries in high cost areas will be eligible for general high cost universal support as well as the discount that will be available to schools and libraries regardless of location.¹⁷⁴⁴ Washington UTC maintains that the 1996 Act does not mandate additional discounts for schools and libraries in high cost areas, and that "expansion of universal service funding on this basis is not consistent with the goal of limited, targeted support, or of allowing competition to work."¹⁷⁴⁵

524. Time Warner asserts that an additional discount is not necessary because schools and libraries in high cost areas will receive the benefit of general high cost universal service support for these areas, as well as the discount that will be available to schools and libraries regardless of location.¹⁷⁴⁶ Time Warner further observes that many states have begun regulatory initiatives that benefit schools and libraries, and suggests that the federal universal service support

¹⁷³⁸ EDLINC further comments at 38-39.

¹⁷³⁹ See, e.g., AT&T further comments at 16; Ameritech further comments at 21; Information Renaissance further comments at 9-10; MFS further comments at 31-32; NCTA further comments at 6; TCI further comments at 18; Time Warner further comments at 24-26.

¹⁷⁴⁰ Ameritech further comments at 21.

¹⁷⁴¹ Information Renaissance further comments at 9-10.

¹⁷⁴² AT&T further comments at 16.

¹⁷⁴³ MFS further comments at 31-32.

¹⁷⁴⁴ Time Warner further comments at 24-25.

¹⁷⁴⁵ Washington UTC further comments at 13.

¹⁷⁴⁶ Time Warner further comments at 24-25.

mechanism should complement, rather than duplicate, such state efforts and should be structured in a competitively neutral manner.¹⁷⁴⁷

525. Economically Disadvantaged Schools and Libraries. Numerous commenters support providing additional assistance to disadvantaged schools and libraries.¹⁷⁴⁸ National Coalition for the Homeless states that recent statistics indicate that the gap between access to telecommunications services afforded to rich and poor students continues to widen.¹⁷⁴⁹ Public Advocates notes that NetDay `96, a California program aimed at wiring the state's 13,000 schools for access to the Internet, failed to reach poor schools in Los Angeles.¹⁷⁵⁰ AFT states that the infrastructure problems are greater in urban schools, and asserts that to deny access to urban students in resource-poor schools "will negatively affect their educational opportunities, their employment prospects, and help reproduce economic disparities between those who have technological proficiencies and those who do not."¹⁷⁵¹ New Jersey Advocate maintains that schools and libraries in economically disadvantaged areas are likely to be most in need of access to the Internet and the information superhighway,¹⁷⁵² and, therefore, most likely to need additional assistance. At a recent Federal-State Joint Board meeting, United States Representative Major Owens emphasized the need to provide greater discounts to economically disadvantaged schools and libraries.¹⁷⁵³

¹⁷⁴⁷ Time Warner further comments at 24-25.

¹⁷⁴⁸ See, e.g., AFT comments at 3-4; New Jersey Advocate comments at 22; U.S. Distance Learning Ass'n comments at 15-16; ALA further comments at 16-17; AirTouch further comments at 18-19; CFA further comments at 10-11; California Library Ass'n further comments at 5; Illinois State Library further comments at 4-5; National Coalition for the Homeless further comments at 8-11; U S West further comments at 11; Urban Libraries Council further comments at 7-12; NTIA submission at 14-16.

¹⁷⁴⁹ National Coalition for the Homeless further comments at 8. National Coalition for the Homeless states, for example, that "[o]nly 31 percent of all schools with poor children have access to the Internet compared to 62 percent of schools with affluent students." *Id.*

¹⁷⁵⁰ Public Advocates comments at 18-19 and Exhibit 5 (asserting that "[p]erhaps the most critical issue here is designing policies that ensure that schools, [and] libraries . . . in poor communities achieve levels of access equal to those in wealthy communities. Policies that perpetuate the status quo will merely deepen the disparities that are presently occurring"). See also Black Community Crusade for Children reply comments at 1-2 (stating that "[s]tudents who are poor clearly have less access than their better-off peers to these increasingly fundamental tools, and when poor students do have access, it is more often for routine drill and practice than for the kind of advanced-level programming offered to students in more affluent schools").

¹⁷⁵¹ AFT comments at 3-4.

¹⁷⁵² New Jersey Advocate comments at 22.

¹⁷⁵³ Testimony of United States Representative Major Owens before the Federal-State Joint Board on Universal Service (Oct. 17, 1996).

526. The Senate Working Group, referring to both the principles of section 254(b) and the provisions of section 254(h)(1)(B), states that the Commission and the Joint Board must formulate a "discount mechanism" that takes into consideration what economically disadvantaged schools and libraries can "reasonably afford."¹⁷⁵⁴ The Senate Working Group urges that the discounts should be implemented in a manner that ensure all schools and libraries have access to telecommunications and information services.¹⁷⁵⁵ Moreover, in a letter to the Joint Board, a group of 26 Senators asserts that "[a]ffordability must be defined so that the discounted rates are related to a school's or library's ability to pay," and discounts must be "real, significant and meaningful."¹⁷⁵⁶ The Senators also contend that we should "not create a division of 'haves' and 'have nots' in the Information Age when it comes to the educational uses of schools and libraries."¹⁷⁵⁷

527. U.S. Distance Learning Ass'n states that justification for providing additional assistance to disadvantaged schools and libraries can be found in the principles of section 254 of the 1996 Act, which state that any discount methodology established by the Commission must be specific, predictable, and sufficient,¹⁷⁵⁸ and that rates should be affordable.¹⁷⁵⁹ New Jersey Advocate similarly focuses on the concept of affordability when it asserts that "there is an obvious correlation between the income of residents of an area, their ability to afford basic, as well as advanced, services that are included in the definition of universal service, and the ability of schools and libraries serving these areas to afford those services."¹⁷⁶⁰ AFT contends that, in order to provide equal access to telecommunications services at just, reasonable, and affordable rates, schools serving large populations of poor students will require discount rates greater than other schools.¹⁷⁶¹

528. Commenters suggest various ways that additional assistance could be administered for disadvantaged schools and libraries. Some commenters, for example, contend that a sliding-

¹⁷⁵⁴ Senate Working Group further comments at 2-3.

¹⁷⁵⁵ Senate Working Group further comments at 2.

¹⁷⁵⁶ Letter from 26 Senators to Members of the Joint Board (Sept. 26, 1996).

¹⁷⁵⁷ Letter from 26 Senators to Members of the Joint Board (Sept. 26, 1996).

¹⁷⁵⁸ U.S. Distance Learning Ass'n comments at 15-16 (*citing* 47 U.S.C. § 254(b)(5)).

¹⁷⁵⁹ U.S. Distance Learning Ass'n comments at 16 (*citing* 47 U.S.C. § 254(b)(1)).

¹⁷⁶⁰ New Jersey Advocate comments at 22.

¹⁷⁶¹ AFT comments at 3.

scale approach would be the most equitable way to proceed.¹⁷⁶² NSBA I supports a system under which "[t]he amount of the subsidy would be proportional to the amount by which the average income in the district falls below the national average, so that an area with only 25 percent of the national average income would pay only 25 percent of the discounted price."¹⁷⁶³ Great City Schools also supports providing discounts in direct proportion to the ability to pay.¹⁷⁶⁴ Other commenters support using a step approach to allocate an additional discount to disadvantaged schools and libraries, under which the discount would not need to be adjusted for every change in the percentage of children from economically disadvantaged families.¹⁷⁶⁵ Commenters suggest basing a step-approach model on either the three-step national school lunch program¹⁷⁶⁶ or the two-step Lifeline and Link-Up programs currently available to needy residential customers.¹⁷⁶⁷ PacTel, for example, asserts that a step approach is easier to apply and administer than a sliding scale.¹⁷⁶⁸

529. Consistent with its approach to providing a supplemental discount to high cost schools and libraries, EDLINC acknowledges that the discount formula it proposes may not be sufficient for certain economically disadvantaged school districts, so it proposes "that each state PUC have the authority to order lower discounts if a district is able to demonstrate that the standard discount . . . does not yield an affordable price."¹⁷⁶⁹ If a school's telecommunications expenditures exceed one percent of its total expenditures, EDLINC asserts that the school should

¹⁷⁶² See, e.g., CFA further comments at 11; EDLINC further comments at 40-41; MAP further comments at 7-8; MCI further comments at 9; NECA further comments at 14-15; Western Alliance further comments at 4;. See also U.S. Distance Learning Ass'n comments at 13-17 (supporting either a sliding scale approach or a Lifeline-type program).

¹⁷⁶³ NSBA I comments at 24. See also Great City Schools comments at 2 (stating that, "[i]n recognition of the direct relationship between the ability to pay even a discounted rate and the overriding principle of access, the Commission should consider establishing discount rates in declining amounts for schools in direct proportion to their ability to pay such rates").

¹⁷⁶⁴ Great City Schools comments at 2. Great City Schools supports basing any model on data provided by the Department of Education. *Id.*

¹⁷⁶⁵ See, e.g., NECA comments at 15-16; U.S. Distance Learning Ass'n comments at 13-17; TCI further comments at 19.

¹⁷⁶⁶ 42 U.S.C. § 1758.

¹⁷⁶⁷ U.S. Distance Learning Ass'n comments at 17. Several other commenters support a Lifeline approach. See, e.g., NSBA I comments at 23-24; AFT comments at 6; U.S. Distance Learning Ass'n comments at 17. The Lifeline Assistance Plan and the Link-Up American Program are discussed in detail at section VIII *supra*.

¹⁷⁶⁸ PacTel further comments at 26-27.

¹⁷⁶⁹ EDLINC further comments at 38.

be eligible for an additional discount, in an amount to be determined by the state PUC. Federal universal service mechanisms would fund two-thirds of the additional discount, and state universal service mechanisms would fund the remaining one-third.¹⁷⁷⁰

530. Several commenters suggest ways to define disadvantaged schools and libraries. U.S. Distance Learning Ass'n defines disadvantaged schools and libraries as "those which are situated in communities which, according to U.S. census income data, are in the lowest 20 percentile in terms of income."¹⁷⁷¹ New Jersey Advocate also supports consideration of income and the ability of the underlying populations to pay for advanced services in determining whether a school is disadvantaged.¹⁷⁷² Great City Schools advocates considering a school's ability to pay, or in the alternative, the rate of poverty in the school district.¹⁷⁷³ Some commenters support using eligibility requirements from the national school lunch program as a model for providing an additional universal service discount to disadvantaged schools and libraries.¹⁷⁷⁴ Under the national school lunch program, a child is either eligible for no assistance, a reduced price lunch, or a free lunch.¹⁷⁷⁵ A child whose family income is between 130 percent and 185 percent of applicable family size income levels contained in the nonfarm poverty guidelines prescribed by the Office of Management and Budget is eligible for a reduced price lunch. A child whose family income is 130 percent or less of applicable family size income levels contained in the nonfarm income poverty guidelines prescribed by the Office of Management and Budget is eligible for a free lunch.¹⁷⁷⁶

531. AFT supports determining eligibility on a formula such as the one used to distribute federal educational funding under Title I of the Elementary and Secondary Education Act of 1965 (Title I),¹⁷⁷⁷ which relies on Census Department poverty data, eligibility for AFDC, or participation in the national school lunch program, to determine whether a school is

¹⁷⁷⁰ EDLINC further comments at 38-39.

¹⁷⁷¹ U.S. Distance Learning Ass'n comments at 16.

¹⁷⁷² New Jersey Advocate comments at 22.

¹⁷⁷³ Great City Schools comments at 1-2.

¹⁷⁷⁴ See, e.g., MCI further comments at 10; New York DOE further comments at 10; NYNEX further comments at 16.

¹⁷⁷⁵ 42 U.S.C. § 1758(b).

¹⁷⁷⁶ 42 U.S.C. § 1758(b).

¹⁷⁷⁷ 20 U.S.C. § 6301. The Improving America's Schools Act of 1994 (P.L. 103-382) reauthorized the Elementary and Secondary Education Act of 1965. See United States Department of Education, *Policy Guidelines for Title I, Part A -- Improving Basic Programs Operated by Local Educational Agencies* at i (April 1996).

disadvantaged.¹⁷⁷⁸ AFT argues that basing eligibility on such existing programs would not be administratively burdensome because school officials have used such poverty data for decades.¹⁷⁷⁹ PacTel supports basing eligibility requirements on poverty data provided by the Department of Education.¹⁷⁸⁰ TCI and the Urban Libraries Council assert that any model used should be based on the wealth of all inhabitants in a school district or within a library's service area, rather than based just on the wealth of the students enrolled in a school district.¹⁷⁸¹

532. Some commenters oppose providing additional support to economically disadvantaged schools and libraries.¹⁷⁸² Ameritech, for example, asserts that the 1996 Act does not contemplate any such additional discount.¹⁷⁸³ MFS contends that "[i]t is inappropriate and beyond the scope of the Telecommunications Act to require telecommunications companies and telecommunications customers to bear the burden of financing economically disadvantaged schools."¹⁷⁸⁴

533. Existing Special Rates. Some commenters support requiring the carriers to offer to schools and libraries already receiving special rates the lower of that special rate or the discounted rate offered pursuant to section 254.¹⁷⁸⁵ Florida PSC, for example, asserts that the federal discount should be applied to the rate that would be charged in the absence of any special

¹⁷⁷⁸ AFT comments at 4. *See also* NSBA I comments at 23 (supporting use of Census Bureau data or some other appropriate state or federal formula). Title I is a federal program that provides financial assistance aimed at helping disadvantaged students meet academic content and student performance standards. *See* United States Department of Education, *Policy Guidelines for Title I, Part A -- Improving Basic Programs Operated by Local Educational Agencies* at i (April 1996).

¹⁷⁷⁹ AFT comments at 6. *See also* ALA further comments at 17-18; USTA further comments at 16; U S West further comments at 11.

¹⁷⁸⁰ PacTel further comments at 26.

¹⁷⁸¹ TCI further comments at 19; Urban Libraries Council further comments at 12-14.

¹⁷⁸² *See, e.g.,* AT&T further comments at 16; Ameritech further comments at 21; Information Renaissance further comments at 9-10; MFS further comments at 31-32; Time Warner further comments at 24-25.

¹⁷⁸³ Ameritech further comments at 21. *See also* Washington UTC further comments at 13 (asserting that "[t]he discount mechanism is limited to the circumstances set out in Section 254(h)(1) and should not be expanded").

¹⁷⁸⁴ MFS further comments at 31-32.

¹⁷⁸⁵ *See, e.g.,* GCI further comments at 7; NCTA further comments at 5-6; Oakland School District further comments at 17; TCI further comments at 18.

rate, and the state should be free to further discount that rate.¹⁷⁸⁶ CFA maintains that carriers should not be able to collect universal service support for any services currently being offered at a special rate.¹⁷⁸⁷ Some commenters caution that schools and libraries should be precluded from receiving double support, once through existing special rates and again through any new discount programs.¹⁷⁸⁸ RUS, on the other hand, asserts that discounts offered pursuant to section 254 should be applied on top of any low rates that schools and libraries were previously able to secure. RUS adds that the goal should be to encourage service providers to offer services to schools and libraries, and service providers already offering special rates to schools and libraries should not be placed at a competitive disadvantage.¹⁷⁸⁹

534. Interstate and Intrastate Discount Harmonization. A few commenters address interstate and intrastate harmonization of discount mechanisms.¹⁷⁹⁰ Netscape, for example, maintains that "the Commission should declare in this proceeding that all Internet communications and Internet access services are jurisdictionally interstate, and preempt state public service commission regulation of the Internet."¹⁷⁹¹ Netscape bases this argument on its interpretation that, under the jurisdictional classification rule for mixed-use local exchange carrier special access services, Internet access services are interstate, "even though the user's `link' to the network is physically intrastate."¹⁷⁹² BellSouth suggests that "the public interest would best be served if the federal universal service support mechanisms [were] also [] sufficient to cover state-designated discounts for intrastate services where the state has not adopted `additional definitions and standards' within the meaning of [s]ection 254(f) or appropriate funding mechanisms."¹⁷⁹³ Some commenters assert that states should be able to further discount any federally discounted

¹⁷⁸⁶ Florida PSC further comments at 13.

¹⁷⁸⁷ CFA further comments at 9-10.

¹⁷⁸⁸ AirTouch further comments at 18; ITC further comments at 8.

¹⁷⁸⁹ See, e.g., Information Renaissance further comments at 9; NCTA further comments at 5-6; New York DOE further comments at 9; TCI further comments at 18; Union City Board of Education further comments at 4, 13.

¹⁷⁹⁰ See, e.g., Apple comments at 6; Florida PSC comments at 2-3, 4-5, 8; Netscape comments at 21; .

¹⁷⁹¹ Netscape comments at 21.

¹⁷⁹² Netscape comments at 21 (citing 47 C.F.R. § 36.154(a) and *MTS and WATS Market Structure*, 4 FCC Rcd. 5660 (1989) for the premise that "a facility with at least ten percent interstate usage is classified as interstate for separations, regulation and tariffing purposes").

¹⁷⁹³ BellSouth comments at 22.

services.¹⁷⁹⁴ New York DPS, on the other hand, asserts that state and federal discount methodologies need not be harmonized because the majority of services will likely be intrastate in nature and recovery of revenues will fall primarily to the states.¹⁷⁹⁵ In addition, New York DPS maintains that the 1996 Act does not require that state and federal discount methodologies be harmonized.¹⁷⁹⁶

3. Discussion

a. Pre-discount Price

535. As a preliminary matter, we note that the pre-discount price is significant for two reasons. First, it is the total price that carriers would receive for the services they sell to schools and libraries. While schools and libraries would only pay the carrier a discounted rate, the carrier would receive the amount of the discount from universal service support mechanisms. Therefore, the pre-discount price is the price of most significance to providers of services to schools and libraries. The pre-discount price is also highly significant to schools and libraries because they must pay the undiscounted portion of the price. This gives schools and libraries a strong incentive to secure the lowest pre-discount price, while service providers desire the highest possible pre-discount price.

536. Competitive Environment. We expect that, in a competitive marketplace, schools and libraries would have both the opportunity and the incentive to secure the lowest price charged to similarly situated non-residential customers for similar services. In a competitive marketplace, we also expect that carriers would face competitive pressures to provide such a price to schools and libraries. Thus we note that, while some carriers support use of the tariffed rate as the pre-discount baseline,¹⁷⁹⁷ we see no reason to deny schools and libraries the benefits of competitive pressures that might lead carriers to cut their prices. In fact, Congress sought to create an environment that stimulated competition to enable all customers to benefit from the lower costs and lower prices produced by the competitive pressures of the marketplace. Additionally, we would not want to deprive schools and libraries of access to contracts negotiated by state governments for all state institutions, nor would we want to deny schools access to rates under the federal FTS 2000 contract, if those rates were to become available to them. In addition, carriers that do not file tariffs do not have tariffed rates.

¹⁷⁹⁴ See, e.g., Florida PSC reply comments at 2-3, 4-5, 8; West Virginia Consumer Advocate reply comments at 5-7.

¹⁷⁹⁵ New York DPS comments at 8.

¹⁷⁹⁶ New York DPS comments at 8.

¹⁷⁹⁷ BellSouth comments at 19-20.

537. We conclude that it would be beneficial to encourage schools and libraries to aggregate their demand with others to create a consortium with sufficient demand to attract a competitor into the market which could influence the existing carrier to cut its prices. We also recognize the benefits that aggregation into consortia can create in terms of promoting more efficient shared use of facilities to which each school or library might need access, but which none alone would need for full capacity. We recognize that permitting schools and libraries to aggregate with other local customers, such as health care providers, community colleges, or commercial banks may raise administrative difficulties of enforcing the eligibility¹⁷⁹⁸ and resale limitations¹⁷⁹⁹ that Congress imposed. Nevertheless, we conclude that the benefits from such aggregation outweigh the administrative difficulties. We discuss the latter in greater detail in the context of eligibility and resale, below.

538. Ideally, schools and libraries would be able to take full advantage of the competitive marketplace and aggregation with others to secure cost-based pre-discount prices for the services they desire. We are hopeful that competition to serve schools and libraries will arise in a large fraction of the market. As NTIA states in one of its six principles, "the most efficient use of the universal service fund support system should be promoted through the use of market-based techniques wherever possible."¹⁸⁰⁰ We are aware, however, that schools and libraries may not yet be aware of the impact of the 1996 Act on opening markets to competition. For example, many schools and libraries may not yet be aware of the McKinsey Report estimates stating that wireless service providers would offer the best prices to 27 percent of all schools.¹⁸⁰¹ Schools and libraries may also not yet be aware that cable television wires currently pass more than 90 percent of homes nationwide.¹⁸⁰²

539. Therefore, we find that fiscal responsibility compels us to recommend that schools and libraries be required to seek competitive bids for all services eligible for section 254(h) discounts. We recommend that schools and libraries be required to submit their requests for services to the fund administrator, who would then post a description of the services sought on a website for all providers of services to see and respond to as if they were requests for proposals (RFPs). Posting on the website would satisfy the competitive bid requirement. We reject ACE's argument that competitive bidding would represent an impermissible unfunded mandate.¹⁸⁰³

¹⁷⁹⁸ 47 U.S.C. § 254(h)(4).

¹⁷⁹⁹ 47 U.S.C. § 254(h)(3).

¹⁸⁰⁰ NTIA submission at 7.

¹⁸⁰¹ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 58 (1995).

¹⁸⁰² Paul Kagan Associates, *Kagan Media Index* (1995).

¹⁸⁰³ ACE reply comments at 6.

Clearly, Congress sought to stimulate competition with the 1996 Act, and we find that it would be inappropriate to treat the costs of such competition as an impermissible unfunded mandate.

540. Lowest Price Charged to Similarly Situated Non-Residential Customers for Similar Services. Some commenters assert that the Commission should require carriers to provide service to a school or library at its "lowest commercial rate."¹⁸⁰⁴ We recommend modifying that concept to encompass the lowest price charged to similarly situated non-residential customers for similar services (hereinafter "lowest corresponding price"). We recommend that the lowest corresponding price apply in two contexts. In the context of competitive bidding, the lowest corresponding price would act as the ceiling on the pre-discount price offered to schools and libraries. Service providers would be required to self-certify to the administrator that the price offered to schools and libraries is no more than the lowest corresponding price, and no provider could seek to charge schools and libraries a price above that price. We would hope that providers would charge schools and libraries less than the lowest corresponding price, ideally the lowest price charged to any of their non-residential customers.

541. We recommend that the lowest corresponding price also apply in areas in which competition does not exist. In such areas, the lowest corresponding price would constitute the pre-discount price carriers are required to offer to schools and libraries. As stated above, we recommend that carriers be required to self-certify that the price offered to schools and libraries is actually the lowest corresponding price. We further recommend that schools, libraries, and carriers be permitted to seek recourse from the Commission, regarding interstate rates, and to state commissions, regarding intrastate rates, if they believe that the lowest corresponding price is unfairly high or low. Schools and libraries may request lower rates if they believe the rate offered by the carrier does not represent the lowest corresponding price. Carriers may request higher rates if they believe that the lowest corresponding price is non-compensatory.

542. To help ensure that schools and libraries are able to secure the lowest rates available in the market, Congress permitted them to receive discounts for services provided by any telecommunications carrier serving a geographic area.¹⁸⁰⁵ While Alaska Library urges that we interpret "geographic area" to mean the entire state,¹⁸⁰⁶ this would require any firm providing telecommunications services to any school in a state to serve any other school in the state. This interpretation might discourage new firms from entering a state for fear that they could be forced to serve any area within that state. For example, electric utilities might be discouraged from offering telecommunications services to schools if there was a requirement that once they had negotiated an attractive rate for serving one school or library system in a state where they

¹⁸⁰⁴ See Union City reply comments at 12; EDLINC further comments at 27.

¹⁸⁰⁵ See 47 U.S.C. § 254(h)(1)(B).

¹⁸⁰⁶ Alaska Library comments at 6.

operated, any other school or library in the state could also demand telecommunications services at rates comparable to those the utility offered to its initial "test" community.

543. We are also concerned that using an expansive definition of geographic area might be unfair to a small telephone company serving a single community, including its schools, for such a definition would permit it to be compelled to serve other schools and libraries outside its market. While the proposal that we use LATA boundaries instead of state boundaries alleviates this problem to some degree, we still believe that even this interpretation would be harmful to the public interest for the reasons just discussed. For example, a cable company that offered special rates to a school in a community in which the company's costs were particularly low might be reluctant to compete to serve a nearby LATA if the company knew that it could be forced to provide service to a school or library in that LATA at the prices it charged in the first community. We recommend that the Commission interpret geographic area to mean the area in which the service provider is seeking to serve customers, e.g., the telephone or cable company's franchise areas and a wireless company's serving area.

544. Using this definition of geographic areas, we recommend that the obligation to serve at lowest corresponding prices apply to all telecommunications carriers in that geographic area, including, for example, competitive LECs, private network operators, or cable companies, to the extent that they offer telecommunications for a fee to the public.¹⁸⁰⁷ Similarly, we agree with CCV that there is no reason to exclude carriers who do not provide core services, if they can offer eligible services to a school or library at the lowest rate. We believe that Congress desired that schools and libraries receive the services they need from the most efficient provider of those services.

545. TSLRIC. We find that TSLRIC should not be used to set the pre-discount price for services sought by schools and libraries. Our primary concern is based on the practicality of expecting schools and libraries to evaluate TSLRIC rates proposed by carriers. In the *Local Competition Order*, the Commission recognized that even sophisticated equally resourceful carriers may not be able to agree on the appropriate Total Element Long-Run Incremental Cost (TELRIC) price for network elements without arbitration.¹⁸⁰⁸ While such rates may eventually be established in many markets, these rates are different from TSLRIC rates, and in many markets, carriers may not negotiate TELRIC rates for many years, if ever. We doubt that schools and libraries would find it worthwhile to devote the resources necessary to secure the benefits of TSLRIC prices over the other prices offered by carriers in the same market. We also expect that calculating TSLRIC prices would be too time consuming for all parties involved. In the *Local Competition Order*, the Commission provided proxies for TELRIC rates of network elements

¹⁸⁰⁷ 47 U.S.C. § 153(46).

¹⁸⁰⁸ *Local Competition Order* at section VII.B.

specifically because it anticipated that state commissions would be unable to develop such models or evaluate those submitted by incumbent local exchange carriers as quickly as customers would demand.¹⁸⁰⁹ We find that it is very important that schools and libraries have immediate access to the services available under section 254(h). We conclude that the use of TSLRIC should not be mandated for determining the pre-discount price for services sought by schools and libraries.

546. In summary, we recommend that schools and libraries be required to seek competitive bids for all services eligible for section 254(h) discounts. We recommend that schools and libraries be required to submit their requests for services to the fund administrator, who would post the descriptions of services sought on a web site for potential providers to see. The posting of a school or library's description of services would satisfy the competitive bid requirement. We recommend that the lowest corresponding price, defined as the lowest price charged to similarly situated non-residential customers for similar services, constitute the ceiling for the competitively bid pre-discount price. In areas in which there is no competition, we recommend that the lowest corresponding price constitute the pre-discount price. In both cases, the carrier would be required to self-certify that the price offered to schools and libraries is equal to or lower than the lowest corresponding price. We further recommend that schools, libraries, and carriers be permitted to appeal to the Commission, regarding interstate rates, and to state commissions, regarding intrastate rates, if they believe that the lowest corresponding price is unfairly high or low.

b. Discounts

547. In General. The Act requires the Commission, with respect to interstate services and the states with respect to intrastate services, to establish a discount on designated services provided to schools and libraries. Pursuant to section 254(h)(1)(B), the discount must be an amount that is appropriate and necessary to ensure affordable access to and use of the services pursuant to section 254(c)(3).¹⁸¹⁰ The discount must take into account the principle set forth in section 254(b)(5) that the federal universal service support mechanisms must be specific, sufficient, and predictable.¹⁸¹¹ We recommend that the Commission adopt a percentage discount mechanism, adjusted for schools and libraries that are defined as economically disadvantaged and those schools and libraries located in high cost areas. In particular, we recommend that the

¹⁸⁰⁹ *Local Competition Order* at section VII.C. On September 27, 1996, the 8th Circuit granted a temporary stay of the *Local Competition Order*, pending oral argument. On October 15, 1996, the court "decided to stay the operation and effect of only the pricing provisions and the 'pick and choose' rule contained in the FCC's First Report and Order pending . . . [its] final determination of the issues raised by the pending petitions for review." *Order Granting Stay Pending Judicial Review*, 1996 WL 589204 (8th Cir.), ___ F.3d ___.

¹⁸¹⁰ 47 U.S.C. § 254(h)(1)(B).

¹⁸¹¹ 47 U.S.C. § 254(b)(5).

Commission adopt a matrix that provides discounts from 20 percent to 90 percent, to apply to all telecommunications services, Internet access, and internal connections, with the range of discounts correlated to the indicators of economic disadvantage and high cost for schools and libraries.

548. Discount Structure. Some commenters suggest that no discount is necessary for schools and libraries that are not identified as economically disadvantaged or located in high cost areas, if we recommend the adoption of a pre-discount price based on TSLRIC. Since, however, we decline to make such a recommendation, we find that this proposal is moot. We also do not endorse the disbursement of discounts in the form of block grants to states. As noted by the Senate Working Group:

Such grants would be incompatible with the statute's architecture of discounts based on affordability on flexible bona fide requests submitted by schools and libraries. Block grants are not based on individual needs and priorities of schools and libraries for education technology. Affordability cannot be determined under a block grant approach.¹⁸¹²

549. We recommend that the Commission adopt a rule which provides support to schools and libraries through a percentage discount mechanism¹⁸¹³ because we find that such a mechanism would establish incentives for efficiency and accountability. First, requiring schools and libraries to pay a share of the cost should lead them to avoid unnecessary and wasteful expenditures because they would be unlikely to devote their pre-existing budgeted funds to purchases that they could not use effectively. Second, a percentage discount encourages schools and libraries to seek the best pre-discount price and to make informed knowledgeable choices among their options, thereby building in effective fiscal constraints on the discount fund. In fact, we understand that state or school or library boards generally require schools and libraries to seek competitive bids for all procurements above a specified minimum level, and we would expect a percentage discount mechanism to initiate the competitive bid process.

550. While NSBA I's proposal to discount services to a "95 percent affordability price point"¹⁸¹⁴ appears sound, we conclude after careful analysis that it does not prove to be workable

¹⁸¹² Senate Working Group further comments at 2.

¹⁸¹³ Some commenters support discounts and oppose "billing credits" as contrary to a discount mechanism. *See, e.g.*, ALA further comments at 12; Colorado State Library further comments at 9; EDLINC further comments at 22-23; Great City Schools further comments at 3-4. Actually, we would expect to implement a discount mechanism through billing credits and we assume that these commenters simply misunderstood this.

¹⁸¹⁴ NSBA I reply comments at 21-22.

for two reasons. First, the price of higher bandwidth services, e.g., T-3 (44 Mbps) or OC-1 (52 Mbps), could be driven down to extremely low levels if they had to be priced to be affordable to 95 percent of schools and libraries, most of whom would have no use for the additional bandwidth such service would provide. Second, and of most concern, is that by definition five percent of the schools and libraries would not be able to afford basic services. Similarly, we find that the Pennsylvania Library Association's proposal for a discount set at the wholesale price of a service¹⁸¹⁵ is not germane in a market where the initial supplier of transport generally sells directly to customers at retail rates. We view this proposal as analogous to the proposal to set the pre-discount price based on TSLRIC, and we decline to endorse it for reasons similar to why we did not recommend adoption of a TSLRIC pre-discount standard.

551. 100 Percent Discounts. While we have noted the advantages of the percentage discount mechanism, it also may have the drawback of failing to enable the participation of those schools and libraries that cannot allocate any of their own funds toward the purchase of eligible discounted services. This creates the potential that the universal service support program for schools and libraries could increase the resource disparity that exists among schools. The most impoverished schools need to have access to the services that are included within the discount mechanism, despite their lack of financial resources. To address this concern, we have recommended substantially deeper discounts for the schools and libraries that are most economically disadvantaged, as discussed below. We decline, however, to recommend a 100 percent discount for any category of schools or libraries. We believe that it is essential that the discount program be structured in a way that maximizes the opportunity for its cost-effective operation. We believe that a minimal co-payment by the most economically disadvantaged schools and libraries will assure realization of that goal.

552. Discount Level and Cap. The Snowe-Rockefeller-Exon-Kerrey provision for providing support to schools and libraries is a new provision. Unlike high cost assistance, long-term support, and DEM weighting, there is no historical record of how much it will likely cost to provide the support Congress directed us to afford to schools and libraries. The McKinsey Report,¹⁸¹⁶ the KickStart Initiative,¹⁸¹⁷ and the other data sources we have reviewed¹⁸¹⁸ provide some guidance, but they attempt to estimate costs in an area where technologies are developing rapidly and demand is inherently difficult to predict. Therefore, to fulfill our statutory obligation

¹⁸¹⁵ Pennsylvania Library Ass'n reply comments at 6.

¹⁸¹⁶ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* (1995).

¹⁸¹⁷ *KickStart Initiative: Connecting America's Communities to the Information Superhighway* (1996).

¹⁸¹⁸ See, e.g., Russell Rothstein, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits* (1996) (unpublished masters thesis, Massachusetts Institute of Technology); NCLIS, *Internet Cost and Cost Models for Public Libraries, Final Report* (June 1995).

to create a specific, predictable, and sufficient universal service support mechanism, we recommend that the Commission establish an annual cap on the amount of funds available to schools and libraries.

553. The McKinsey Report provides the most comprehensive estimate, on the record, of the cost of deploying and supporting the ongoing costs of a communications network for public school on a nationwide basis.¹⁸¹⁹ In the Public Notice, parties were asked to comment on the accuracy of the funding estimate contained in the McKinsey Report.¹⁸²⁰ Most commenting parties agree that the McKinsey Report at least constitutes an adequate starting point for estimating the costs associated with deploying and sustaining a pervasive communications network for public schools.¹⁸²¹

554. Extrapolating from the data provided by McKinsey,¹⁸²² Rothstein,¹⁸²³ and NCLIS,¹⁸²⁴ we estimate that the total cost of the communications services eligible for discounts, as discussed above, would be approximately \$3.1 to 3.4 billion annually during an initial four year deployment period, and approximately \$2.4 to 2.7 billion annually during subsequent years. We reach these estimates based on the following assumptions and adjustments. First, we adjust the McKinsey base cost estimates for the full classroom model to account for discounts that McKinsey estimates: 10 percent to 30 percent volume discounts and a 10 percent discount from using volunteers to pull cable.¹⁸²⁵ We also adjust McKinsey figures downward to reflect the increased percentage of schools that have already installed internal connections since the McKinsey Report was prepared.¹⁸²⁶ We adjust our figures up to reflect the coverage of

¹⁸¹⁹ See generally McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* (1996).

¹⁸²⁰ Public Notice at question 23.

¹⁸²¹ See, e.g., Bell Atlantic further comments at 7; New York DOE further comments at 10; U S West further comments at 12. See also MCI further comments at 10 (stating that the McKinsey Report appears to reflect tariffed rates accurately).

¹⁸²² McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* (1995).

¹⁸²³ Russell Rothstein, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits* (1996) (unpublished masters thesis, Massachusetts Institute of Technology).

¹⁸²⁴ NCLIS, *Internet Cost and Cost Models for Public Libraries, Final Report* (June 1995).

¹⁸²⁵ McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 35 (1995). McKinsey estimated that volume discounts would range from 10 percent to 60 percent. *Id.* at 59.

¹⁸²⁶ McKinsey assumed 7 percent of schools had internal connections. McKinsey and Company, *Connecting K-12 Schools to the Information Superhighway* at 59 (1995). We estimate that 20 percent is a more accurate figure

approximately 113,000 public and non-public schools, while McKinsey's estimates were only based on 84,500 public schools.¹⁸²⁷ We also add in the cost of Internet access, assuming that 75% of schools and libraries will take advantage of at least basic access in the first year of this program, and that all schools and libraries will use at least basic access in subsequent years.¹⁸²⁸ Furthermore, our estimates are based on deployment of one-quarter of all eligible schools and libraries in each of the initial four years. Finally, we estimate the telecommunications-related costs of schools that have not yet fully deployed internal connections or more advanced access based on an estimate that basic usage by schools is approximately \$485 million annually today.¹⁸²⁹

555. We recommend that the following matrix of percentage discounts be applied in the schools and libraries programs. The matrix represents an example of an appropriate distribution of schools across the six discount levels, according to the specified metric for determining the wealth of a school. If a different metric for determining the wealth of a school is ultimately chosen for the purposes of this program, we would expect that a similar distribution of schools across the discount range would be reflected. The principles in determining the final matrix should ensure that the greatest discounts go to the most disadvantaged schools and libraries, while an equitable progression of discounts should be applied to the other categories, keeping within the parameters of 20 percent to 90 percent discounts.

today.

¹⁸²⁷ Our estimate of total K-12 schools comes from the United States Department of Education. *See* Letter from Emilio Gonzalez, United States Department of Education, to Mark Nadel, Federal Communications Commission (Nov. 4, 1996).

¹⁸²⁸ We estimate the cost of basic access to the Internet based on Rothstein's \$150 million annual figure and assume that by full deployment higher speed access will cost schools approximately \$630 million annually before any discounts. *See* Russell Rothstein, *Networking K-12 Schools: Architecture Models and Evaluation of Costs and Benefits* 50 (1996) (unpublished masters thesis, Massachusetts Institute of Technology).

¹⁸²⁹ Ameritech estimated that an average school in Ameritech territory spends approximately \$4,773 annually for basic telecommunications services. *See* Letter from Celia Nogales, Ameritech to Mark Nadel, Federal Communications Commission (Nov. 4, 1996).

DISCOUNT MATRIX	COST OF SERVICE (estimated percent in category)			
		low cost (67%)	mid-cost (26%)	highest cost (7%)
HOW DISADVANTAGED? based on percent of students in the national school lunch program (estimated percent in category)	< 1 (3%)	20	20	25
	1-19 (30.7%)	40	45	50
	20-34 (19%)	50	55	60
	35-49 (15%)	60	65	70
	50-74 (16%)	80	80	80
	75-100 (16.3%)	90	90	90

556. In addition, we recommend that the Commission set an annual cap on spending of \$2.25 billion per year. In addition, any funds that are not disbursed in a given year may be carried forward and may be disbursed in subsequent years without regard to the cap. We further recommend that the Commission establish a trigger mechanism, so that if expenditures in any year reach \$2 billion, rules of priority would come into effect. Under the rules of priority, only those schools and libraries that are most economically disadvantaged and had not yet received discounts from the universal service mechanism in the previous year would be granted guaranteed funds, until the cap was reached. Other economically disadvantaged schools and libraries would have second priority for support if additional funds were available at the end of the year. Finally, all other eligible schools and libraries would be granted funding contingent on availability after economically disadvantaged schools and libraries had requested funding. We also recommend that the Joint Board, as part of its review in the year 2001, revisit the effectiveness of the schools and libraries program.

c. Schools Located in High Cost Areas

557. Some parties argue that the Commission should not provide any additional support to schools and libraries in high cost areas because generic high cost support will be sufficient to address this problem.¹⁸³⁰ We reject this argument because high cost assistance does not include services to multi-connection businesses. Thus, alternative mechanisms are necessary to ensure that schools and libraries in high cost areas have affordable access to and use of covered services.

¹⁸³⁰ See Time Warner further comments at 24-25.

558. While Ameritech contends that the 1996 Act does not provide for additional levels of support for high cost areas,¹⁸³¹ members of the Senate Working Group urge the Commission to consider the statutory requirement that access be affordable.¹⁸³² As the Senate Working Group notes, affordability is clearly affected by the price of services, and which, in turn, is based primarily on the cost of service in the area.¹⁸³³ In fact, 26 Senators state that "[d]iscounts must also consider if the school or library is in a high cost area and ensure affordable access for all eligible schools and libraries."¹⁸³⁴ ALA notes that higher costs force libraries in high cost areas to devote a larger percent of their budgets to telecommunications services.¹⁸³⁵

559. While AT&T opposes additional discounts for schools and libraries in high cost areas, it proposes a mechanism for providing such support. AT&T offers a model similar to the one mandated for health care providers, whereby eligible purchasers in rural, high cost areas would be permitted to purchase service at urban rates.¹⁸³⁶ While AT&T does not acknowledge the need to fund the difference between the urban and rural rates, that difference could represent a substantial discount. EDLINC proposes that the Commission provide additional support for schools and libraries in high cost areas based on a measure of population density. Furthermore, EDLINC proposes that state commissions be given authority to authorize additional discounts for "outliers" who demonstrate that their telecommunications expenditures exceed one percent of their budget and yet they are still unable to afford an adequate level of service. Two-thirds of that support would come from the federal universal service support fund while the state would contribute the remaining third.¹⁸³⁷

560. We find the argument of the Senate Working Group to be compelling. We recommend that the statutory definition of "affordable" must take into account the cost of service in an area. Thus, we recommend that the Commission take into account the cost of providing services when setting discounts for schools and libraries. To achieve this, we recommend that the Commission consider a "step" approach that would calibrate the cost of service in some reasonable, practical, and minimally burdensome manner. For example, it may be appropriate for the Commission to define high cost areas by considering the unseparated loop costs of the

¹⁸³¹ Ameritech further comments at 21.

¹⁸³² Senate Working Group further comments at 2-3.

¹⁸³³ Senate Working Group further comments at 2-3.

¹⁸³⁴ Letter from 26 Senators to Members of the Joint Board (Sept. 26, 1996).

¹⁸³⁵ ALA comments at ii.

¹⁸³⁶ AT&T further comments at 16.

¹⁸³⁷ EDLINC further comments at 38-39.

incumbent LEC. If unseparated loop costs exceed a nationwide threshold, then the area may be considered "high cost," and schools and libraries located in that area would be given a greater discount.¹⁸³⁸ Other methods for determining high cost may also be appropriate, and we encourage the Commission to seek additional information and parties' comments on this issue prior to adopting rules.

d. Economically Disadvantaged Schools

561. Both the statutory language and the legislative history of the 1996 Act lead us to recommend that the Commission promulgate a rule that provides a greater discount to economically disadvantaged schools and libraries for services within the definition of universal service. While section 254(h)(1)(B) does not explicitly mandate a greater discount for economically disadvantaged schools, it grants the Commission the discretion to determine whether such a discount is necessary to make access to and use of such services affordable for disadvantaged schools and libraries. We conclude that the numerous references to affordability in the legislative history also support our recommendation.¹⁸³⁹ Moreover, as discussed above in the section on schools and libraries located in high cost areas, the Senate Working Group also emphasizes that such discounted rates must take into consideration the "different needs and different resources" of schools and libraries that qualify for universal service support.¹⁸⁴⁰ A group of 26 Senators similarly emphasizes that discounts must be "real, significant and meaningful," and that discounted rates must consider the school's or library's ability to pay.¹⁸⁴¹

562. In addition, we agree with commenters who assert that access to telecommunications and other covered services should not increase existing disparities between economically disadvantaged students and their more affluent peers.¹⁸⁴² NTIA notes, for example, that 62 percent of schools serving affluent children currently have access to the Internet, compared with 31 percent of schools serving economically disadvantaged students.¹⁸⁴³ Public

¹⁸³⁸ See 47 C.F.R. § 36.601 *et seq.*

¹⁸³⁹ See, e.g., Joint Explanatory Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 132 (1996); 141 Cong. Rec. S7984 (June 8, 1995).

¹⁸⁴⁰ Senate Working Group further comments at 2-3.

¹⁸⁴¹ Letter from 26 Senators to Members of the Joint Board (Sept. 26, 1996).

¹⁸⁴² Public Advocates comments at 18-19; AFT further comments at 3-4; National Coalition for the Homeless further comments at 8.

¹⁸⁴³ NTIA submission at 4 (*citing* U.S. Department of Education survey, entitled *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools, 1995*). See also National Coalition for the Homeless further comments at 8 (*citing* AAP *Speaker Says Content Will Remain King for Publishers*, Educational Marketer (Apr.

Advocates states that California's NetDay `96 failed to reach economically disadvantaged schools, providing access to the Internet disproportionately to more affluent schools.¹⁸⁴⁴ In addition, at a recent Federal-State Joint Board meeting, United States Representative Major Owens highlighted the need to give greater discounts to economically disadvantaged schools.¹⁸⁴⁵ To give full effect to the directive that the discounts "ensure affordable access to and use of [telecommunications] services,"¹⁸⁴⁶ we recommend that economically disadvantaged schools and libraries be eligible for a greater discount.

563. We could recommend that the Commission grant a discount to all schools and libraries that would be large enough to make telecommunications and other covered services affordable to economically disadvantaged schools and libraries. We conclude, however, that such an approach would not be in the public interest because it would substantially increase the size of universal service support mechanisms beyond what is necessary to ensure affordable access to disadvantaged schools and libraries. We agree with commenters who assert that affordable access requires granting greater discounts for all covered services to schools and libraries serving large populations of economically disadvantaged students.¹⁸⁴⁷

564. To minimize any additional recordkeeping or data gathering obligations, we seek the least burdensome manner to determine the degree to which a school or library is economically disadvantaged. The Public Notice asked whether the Commission should use an existing program for that purpose,¹⁸⁴⁸ and commenters suggest using Title I,¹⁸⁴⁹ poverty data provided by the Department of Education,¹⁸⁵⁰ Census Bureau data,¹⁸⁵¹ or the national school lunch program.¹⁸⁵² The national school lunch program, for example, is a program that determines students' eligibility

15, 1996)).

¹⁸⁴⁴ Public Advocates comments at 18-19 and Exhibit 5.

¹⁸⁴⁵ Testimony of United States Representative Major Owens before the Federal-State Joint Board on Universal Service (Oct. 17, 1996).

¹⁸⁴⁶ 47 U.S.C. § 254(h)(1)(B).

¹⁸⁴⁷ *See, e.g.*, AFT comments at 3; New Jersey Advocate comments at 22.

¹⁸⁴⁸ Public Notice at question 20.

¹⁸⁴⁹ AFT further comments at 4.

¹⁸⁵⁰ PacTel further comments at 26.

¹⁸⁵¹ NSBA I further comments at 23.

¹⁸⁵² *See, e.g.*, MCI further comments at 10; New York DOE further comments at 10.

for free lunches or lunches at reduced prices based on family income levels.¹⁸⁵³ It is a single program with a well-defined set of eligibility criteria, is in place nationwide, and has data gathering requirements that are familiar to most schools. Title I also relies on family income levels and permits use of three different measures of economic disadvantage, one of which is participation in the national school lunch program.¹⁸⁵⁴ We recognize that poverty data is also an accurate gauge of economic disadvantage, and that EDLINC's proposal for calculating the level of discount for schools and libraries takes affordability into consideration.¹⁸⁵⁵ We conclude that using a single measure of economic disadvantage and a model already familiar to most schools and libraries would likely be the least administratively burdensome approach. We recognize that the national school lunch program fulfills both of these criteria, but we remain open to other approaches that may also prove to be both minimally burdensome for schools and libraries and accurate measures of economic disadvantage. We also recognize that non-public schools may not participate in the national school lunch program and, therefore, the data regarding student eligibility for the program may not be readily available to such schools. We recommend that the Commission seek additional information and parties' comments on what measures of economic disadvantage may be readily available for identification of economically disadvantaged non-public schools or, if not readily available, what information could be required that would be minimally burdensome.

565. The national school lunch program reflects the level of economic disadvantage for children enrolled in school. While using a model that measures the wealth of an entire school district may better reflect per-pupil expenditures in that district, we conclude that a model measuring the wealth of students enrolled in school will more accurately reflect the level of economic disadvantage in all of the schools and libraries eligible for universal service support under section 254, including both public and non-public schools. For example, a non-public school located in an economically disadvantaged school district that does not draw its students primarily from that district, may receive an unneeded windfall if it were to be given an additional discount based upon a model that reflects district-wide wealth. We find, therefore, that using the national school lunch program to determine eligibility for a greater discount appears to fulfill more accurately the statutory requirement to ensure affordable access to and use of telecommunications and other covered services for schools and libraries.

566. If it decides to use the national school lunch program as the model for determining eligibility for a greater discount, we recommend that the Commission require the entity

¹⁸⁵³ Children from families whose incomes are 130 percent or less of the poverty level qualify for a free lunch, while children from families whose incomes are between 130 percent and 185 percent of the poverty level qualify for a reduced price lunch. *See* 47 U.S.C. § 1758(b).

¹⁸⁵⁴ 20 U.S.C. § 6301.

¹⁸⁵⁵ *See* EDLINC further comments at 38.

responsible for ordering telecommunications services or other covered services for schools to certify to the administrator and to the service provider the percentage of its students eligible for the national school lunch program when ordering telecommunications and other covered services from its service providers. For schools ordering telecommunications and other covered services at the individual school level, which should include primarily non-public schools, the person ordering such services should certify to the administrator and to the service provider the percentage of students eligible in that school for the national school lunch program. Each school's level of discount will then be calculated by the administrator based on the percentage of students eligible for the national school lunch program.

567. For schools ordering telecommunications and other covered services at the school district level, we seek to target the level of discount based on each school's percentage of students eligible for the national school lunch program, if the national school lunch program is selected as the appropriate measure of economic disadvantage. At the same time, we seek to minimize the administrative burden on school districts. That is, we do not seek to impose unduly burdensome reporting and accounting requirements on school districts, but we also seek to ensure that the individual schools with the highest percentages of economically disadvantaged students may receive the steepest discounts. For example, if the level of discount were calculated for the entire school district, a school serving a large percentage of students eligible for the national school lunch program that was located in a school district comprised primarily of more affluent schools would not benefit from the level of discount to which it would be entitled if discounts were calculated on an individual school basis. Therefore, we recommend that the district office certify to the administrator and to the service provider the number of students in each of its schools who are eligible for the national school lunch program. We recommend that the district office may decide to compute the discounts on an individual school basis or it may decide to compute an average discount. We further recommend that the school district assure that each school receive the full benefit of the discount to which it is entitled.

568. We recommend that schools or districts do not have to participate in the national school lunch program in order to demonstrate their level of economic disadvantage. Schools or districts that do not participate in the national school lunch program need only certify the percentage of their students who would be eligible for the program, if the school or district did participate. Since libraries do not participate in the national school lunch program, we recommend that they be eligible for greater discounts based on their location in a school district serving economically disadvantaged students. That is, the administrator would average the percentage of students eligible for the national school lunch program in all eligible schools, both public and non-public, within the school district in which a library was located. The library would then receive the level of discount representing the average discount offered to the school district in which it was located. We find that this is a reasonable method of calculation because libraries are likely to draw patrons from an entire school district and this method does not impose an unnecessary administrative burden on libraries. We recommend that the Commission seek additional information and parties' comments on what measures of economic disadvantage may be

readily available for identification of economically disadvantaged libraries or, if not readily available, what information could be required that would be minimally burdensome.

569. We also recommend that the Commission adopt a step approach for calculating the level of greater discount available to economically disadvantaged schools and libraries. A step approach would provide multiple levels of discount based on the percentage of students eligible for the national school lunch program. We agree with PacTel, which asserts that a step approach is easier to apply and administer than a sliding-scale approach,¹⁸⁵⁶ which would require adjustment for every change in the percentage of children eligible for the national school lunch program.

570. The national school lunch program, for example, is a three-step program based on family income: students are either eligible for a free lunch, eligible for a reduced price lunch, or not eligible for participation.¹⁸⁵⁷ We conclude, however, that the number of steps for determining greater discounts on telecommunications and other covered services should be principally based on the existing Department of Education categorization of schools eligible for the national school lunch program. The Department of Education places schools in five categories, based on percentage of students eligible for free or reduced price lunches: 0-19 percent, 20-34 percent, 35-49 percent, 50-74 percent; and 75-100 percent.¹⁸⁵⁸ We also recommend that the Commission establish a separate category for the least economically disadvantaged schools, those with less than one percent of their students eligible for the national school lunch program. Those schools should have comparatively sufficient resources within their existing budgets so that they may secure affordable access to services at lower discounted rates. In our effort not to duplicate research already conducted and to tailor greater discounts based on level of economic disadvantage more accurately, we recommend using the Department of Education's five-step breakdown to calculate the greater discounts on telecommunications and other covered services for economically disadvantaged schools.

e. Existing Special Rates

571. State-Mandated Rates. We must also address the question we raised in the Public Notice concerning the relationship between any discount the Commission adopts and existing special rates that schools or libraries may already have negotiated with carriers or secured through

¹⁸⁵⁶ PacTel further comments at 26-27.

¹⁸⁵⁷ See 47 U.S.C. § 1758(b).

¹⁸⁵⁸ See National Data Research Center (1995), *Schools and Staffing Surveys, 1993-94* (unpublished tabulations commissioned by the U.S. Department of Education for the National Assessment of Title I).

state action.¹⁸⁵⁹ We turn first to special rates mandated by a state. To the extent that a state desires to supplement the discount financed through the federal universal service fund by permitting its schools and libraries to apply the discount to the special low rates, its actions would be consistent with sections 254(h) and 254(f). Furthermore, we believe that it would also be permissible for states to choose not to supplement the federal program and thus prohibit its schools and libraries from purchasing services at special state-supported rates if they intend to secure federal-supported discounts.

572. Private contract rates. Some commenters have also raised the matter of how discounts should apply to existing contracts between schools and libraries.¹⁸⁶⁰ If the Commission permits schools and libraries to use the best negotiated contract rate for which they can bargain in the market as the pre-discount price to which a discount would apply, it would seem reasonable that such discount would also apply to contracts negotiated prior to the adoption of rules under section 254(h). In both cases, schools and libraries with budgetary constraints have strong incentives to secure the lowest rates that they can as the pre-discount price, and the proposed discount methodology would apply a discount on that pre-discount rate. We recommend that the Commission not require any schools or libraries that had secured a low price on service to relinquish that rate simply to secure a slightly lower price produced by including a large amount of federal support. No discount would apply, however, to charges for any usage of telecommunications or information services prior to the effective date of rules promulgated pursuant to this proceeding.

f. Interstate and Intrastate Discounts

573. Section 254(h)(1)(B) permits the Commission, with respect to interstate services, and the states, with respect to intrastate services, to determine the level of discount available to schools and libraries.¹⁸⁶¹ We asked for comment, however, on how to harmonize that statement with the congressional intent to foster affordable access for schools and libraries nationwide.¹⁸⁶² We recommend that the Commission recognize that it can provide for federal universal service support to fund intrastate discounts. We also recommend that the Commission adopt rules that provide federal funding for discounts for schools and libraries on both interstate and intrastate services to the levels discussed above, and that establishment of intrastate discounts at least equal to the discounts on interstate services be a condition of federal universal service support for

¹⁸⁵⁹ Public Notice at question 17.

¹⁸⁶⁰ See, e.g., CFA further comments at 9-10; Florida PSC further comments at 13; GCI further comments at 7; NCTA further comments at 5-6; Oakland School District further comments at 17; TCI further comments at 18.

¹⁸⁶¹ 47 U.S.C. § 254(h)(1)(B).

¹⁸⁶² NPRM at para. 83.

schools and libraries in that state. If a state wishes to provide an intrastate discount less than the federal discount, then it may seek a waiver of this requirement.

E. Restrictions Imposed on Schools and Libraries

1. Background

574. Section 254 places four restrictions on schools and libraries receiving services funded under universal service support mechanisms. First, only certain entities are eligible for "preferential rates or treatment" under section 254(h).¹⁸⁶³ Schools must meet the statutory definitions of elementary and secondary schools found in the Elementary and Secondary Education Act of 1965,¹⁸⁶⁴ must not operate as a for-profit business, and must not have an endowment exceeding \$50 million.¹⁸⁶⁵ Libraries must be "eligible for participation in State-based plans for funds under title III of the Library Services and Construction Act,"¹⁸⁶⁶ and must not operate as a for-profit business.¹⁸⁶⁷ Second, telecommunications services and network capacity

¹⁸⁶³ 47 U.S.C. § 254(h)(4).

¹⁸⁶⁴ 47 U.S.C. § 254(h)(4) and (h)(5)(A). The Elementary and Secondary Education Act of 1965 defines "elementary school" as "a nonprofit institutional day or residential school that provides elementary education, as determined under State law." 20 U.S.C. § 8801(14). The Elementary and Secondary Education Act defines "secondary school" as "a nonprofit institutional day or residential school that provides secondary education, as determined under State law, except that such term does not include any education beyond grade 12." 20 U.S.C. § 8801(25).

¹⁸⁶⁵ 47 U.S.C. § 254(h)(4).

¹⁸⁶⁶ 47 U.S.C. § 254(h)(4). The Library Services and Construction Act defines libraries in the following manner:

<p>'Public library' means a library that serves free of charge all residents of a community, district, or region, and receives its financial support in whole or in part from public funds. Such term also includes a research library, which, for the purposes of this sentence, means a library which -</p> <p>(A) makes its services available to the public free of charge;</p> <p>(B) has extensive collections of books, manuscripts, and other materials suitable for scholarly research which are not available for the public through public libraries;</p> <p>(C) engages in the dissemination of humanistic knowledge through services to readers, fellowships, educational and cultural programs, publication of significant research, and other activities; and</p> <p>(D) is not an integral part of an institution of higher education.</p>	<p>of a library, which,</p> <p>(B) suitable public</p> <p>(C) engages in the to readers, fellowships, significant research, and</p> <p>(D) is not an integral part of an</p>
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20 U.S.C. § 351a(5).

¹⁸⁶⁷ 47 U.S.C. § 254(h)(4).

provided to schools and libraries under section 254(h) "may not be sold, resold, or otherwise transferred by such user in consideration for money or any other thing of value."¹⁸⁶⁸ Third, section 254(h)(1)(B) requires that schools and libraries make a "bona fide request" for services within the definition of universal service.¹⁸⁶⁹ Fourth, any such services requested by schools and libraries must be used for "educational purposes."¹⁸⁷⁰

575. The NPRM and the Public Notice sought comment on five restrictions imposed on schools and libraries: eligibility, resale, bona fide request, educational purposes, and annual carrier notification requirement. First, the NPRM sought comment on eligibility requirements. The NPRM stated that "[c]onsortia of educational institutions providing distance learning to elementary and secondary schools are considered as educational providers eligible for universal service support."¹⁸⁷¹ The NPRM proposed dictating that any certification requirement imposed by the Commission shall address the eligibility requirements enumerated in section 254(h).¹⁸⁷² Second, the NPRM addressed resale restrictions when it sought comment on whether the resale prohibition in section 254(h) will affect the ability of schools and libraries receiving universal service support to share a network with parties not eligible for such support.¹⁸⁷³ The NPRM also sought comment on what mechanisms could ensure that the resale prohibition does not discourage partnerships between schools and libraries and their communities.¹⁸⁷⁴ The Public Notice sought further comment on whether the resale prohibition should be construed to prohibit only the resale of services to the public for profit, or whether it should be construed to allow end-user cost-based fees for services and whether such an interpretation would facilitate community networks and/or the aggregation of purchasing power.¹⁸⁷⁵ If end-user cost-based fees for services are permitted, the Public Notice asked whether discounts should be "available only for the traffic or network

¹⁸⁶⁸ 47 U.S.C. § 254(h)(3). *See also* Joint Explanatory Statement at 133 (stating that "[n]ew subsection (h)(3) clarifies that telecommunications services and network capacity provided to . . . schools and libraries may not be resold or transferred for monetary gain").

¹⁸⁶⁹ 47 U.S.C. § 254(h)(1)(B).

¹⁸⁷⁰ 47 U.S.C. § 254(h)(1)(B).

¹⁸⁷¹ NPRM at para. 87 (*citing* Joint Explanatory Statement, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 134 (1996)).

¹⁸⁷² NPRM at para. 87.

¹⁸⁷³ NPRM at para. 86.

¹⁸⁷⁴ NPRM at para. 86.

¹⁸⁷⁵ Public Notice at question 10.

usage attributable to the educational entities that qualify for the section 254 discounts."¹⁸⁷⁶

576. Third, the NPRM addressed the bona fide purchase requirement when it proposed that any person authorized under state or local law to order telecommunications services for schools or libraries be deemed capable of making a "bona fide request" for service for purposes of section 254(h).¹⁸⁷⁷ The Commission also sought comment and Joint Board recommendation on how to determine most accurately whether any such request is "bona fide."¹⁸⁷⁸ The Public Notice sought further comment on the least administratively burdensome approach to fulfilling the bona fide purchase requirement.¹⁸⁷⁹ Fourth, the NPRM dealt with the "educational purposes" requirement when it sought comment on what steps should be taken to ensure that services eligible for a schools and libraries discount will be used for "educational purposes," including a proposal requiring schools and libraries to submit written certification that the requested services will be used for educational purposes and will not be resold.¹⁸⁸⁰ Finally, the NPRM addressed carrier notification when it sought comment on a proposal requiring "each carrier to inform annually each school and library within its geographic serving area of the available discounts."¹⁸⁸¹

2. Comments

577. Eligibility. Numerous commenters address what constitutes eligibility under the schools and libraries provisions of section 254.¹⁸⁸² Several commenters, for example, support allowing consortia of different types to qualify for universal support under section 254. The U.S. Distance Learning Ass'n explains that, "to meet certain educational goals, schools enter into resource sharing arrangements with other schools and with outside entities, including community colleges, which may, on their face, be considered ineligible for universal service support under the [1996] Act."¹⁸⁸³ U.S. Distance Learning Ass'n asks that such consortia be specifically recognized as eligible for universal service support, to the extent that they further educational objectives for

¹⁸⁷⁶ Public Notice at question 11.

¹⁸⁷⁷ NPRM at para. 85.

¹⁸⁷⁸ NPRM at para. 85.

¹⁸⁷⁹ Public Notice at question 15.

¹⁸⁸⁰ NPRM at para. 84.

¹⁸⁸¹ NPRM at para. 84.

¹⁸⁸² See, e.g., Cheyenne River Sioux Tel. comments at 4; Missouri PSC comments at 15; U.S. Distance Learning Ass'n comments at 18; ALA reply comments at 17.

¹⁸⁸³ U.S. Distance Learning Ass'n comments at 18-19.

students who attend eligible schools.¹⁸⁸⁴

578. Libraries also participate in non-profit consortia that share resources such as common databases, computer link-ups to databases, electronic access to periodical databases, and access to the Internet.¹⁸⁸⁵ Numerous libraries and organizations representing libraries contend that such consortia should be eligible for universal service support.¹⁸⁸⁶ ALA maintains that "eligible institutions participating in consortia with non-eligible parties should qualify for appropriate discounts to the extent that they follow accounting procedures that clearly separate telecommunications costs among the participants."¹⁸⁸⁷ Washington Library asserts that the eligible party's portion of telecommunications costs can easily be separated from the costs of other members of the consortia, and suggests that the Commission may want to require separate, auditable records of the school's or library's portion of usage.¹⁸⁸⁸

579. Some commenters support classifying several miscellaneous entities as parties eligible for universal service support under section 254(h). Missouri PSC and NSBA I, for example, support including community information networks within the definition of library for purposes of universal service support eligibility.¹⁸⁸⁹ National Public Telecomputing Network asserts that community networks, such as "Free-Nets," should be eligible for universal service support under section 254(h) in exchange for providing free or low cost access for schools, libraries, and health care providers in a particular geographic area.¹⁸⁹⁰ APTS contends that consortia of educational television stations that provide services to elementary and secondary schools should be eligible for support. It argues that affording wider access to educational

¹⁸⁸⁴ U.S. Distance Learning Ass'n comments at 19.

¹⁸⁸⁵ North of Boston Library Exchange comments at 1-2.

¹⁸⁸⁶ *See, e.g.*, North of Boston Library Exchange comments at 1-2; Washington Library comments at 17; ALA reply comments at 14-16.

¹⁸⁸⁷ ALA reply comments at 17.

¹⁸⁸⁸ Washington Library comments at 15.

¹⁸⁸⁹ Missouri PSC comments at 15; NSBA I reply comments at 16. Missouri PSC defines community information networks as non-profit public benefit corporations established by governments and other public entities that develop and maintain computing services for the general public and serve many of the functions of a library. *See* Missouri PSC comments at 15.

¹⁸⁹⁰ Nat'l Public Telecomputing Network reply comments at 10. "Free-Nets" are defined as "multi-user, public access computer networks with much of the power and sophistication of commercial online services and Internet service providers. Yet each system is locally owned and operated by a nonprofit, community-based organization whose governing body is made up of people active in local community affairs." *Id.* at 3-4.

programming is consistent with the 1996 Act.¹⁸⁹¹ U.S. Distance Learning Ass'n contends that vocational and technical training at the secondary school level that is conducted in conjunction with community colleges should be considered as an extension of an eligible public school for purposes of universal service eligibility.¹⁸⁹² Early Childhood states that if preschools affiliated with elementary schools are eligible for universal service support, "stand-alone" preschool and early childhood programs should be similarly eligible.¹⁸⁹³ Cheyenne River Sioux Telephone Company notes that schools and libraries established under tribal authority may not be eligible for support because only state elementary and secondary schools and libraries eligible for participation in state-based plans are eligible institutions under section 254.¹⁸⁹⁴ Cheyenne River Sioux Telephone Company maintains that "[t]he Commission should begin . . . a separate proceeding to address tribal universal service issues and general federal Indian law issues as they relate to telecommunications regulation on tribal lands."¹⁸⁹⁵

580. Resale. Numerous commenters support a strict interpretation of the resale provision set forth in section 254 and state that resale of any kind should be prohibited.¹⁸⁹⁶ Puerto Rico Tel. Ass'n maintains that the statutory language is clear and that community networks and other aggregations of users are not among the entities deemed eligible for discounted services under section 254.¹⁸⁹⁷ Great City Schools asserts that permitting additional parties to benefit from the discounts intended for schools and libraries "would divert essential resources away from the deepest possible discounts for the narrow set of expressly targeted entities in the legislation."¹⁸⁹⁸ Ameritech states that end-user cost-based fees would constitute the transfer of service and would,

¹⁸⁹¹ APTS comments at 11.

¹⁸⁹² U.S. Distance Learning Ass'n comments at 18. *See also* Community Colleges comments at 4 (maintaining that "comparable institutions," such as community colleges, should be eligible for universal service support).

¹⁸⁹³ Early Childhood comments at 2.

¹⁸⁹⁴ Cheyenne River Sioux Tel. comments at 4 n.7.

¹⁸⁹⁵ Cheyenne River Sioux Tel. comments at 4.

¹⁸⁹⁶ *See, e.g.,* Ameritech further comments at 16; BellSouth further comments at 20-21; Great City Schools further comments at 3; MCI further comments at 7; NCLIS further comments at 4; NECA further comments at 8; New York DOE further comments at 7; Puerto Rico Tel. Co. further comments at 6; SWBT further comments at 12; USTA further comments at 11.

¹⁸⁹⁷ Puerto Rico Tel. Co. further comments at 6. *See also* Great City Schools further comments at 3 (asserting that "[i]f Congress had wanted to include other entities, it would have done so directly").

¹⁸⁹⁸ Great City Schools further comments at 3.

therefore, be in direct violation of section 254(h)(3),¹⁸⁹⁹ while USTA contends that permitting schools to resell discounted services would result in ineligible parties benefiting from the universal service discount.¹⁹⁰⁰ In addition, USTA asserts that, if resale is permitted, "[i]t is not technically feasible to accurately attribute network usage to multiple institutions using shared networks."¹⁹⁰¹ BellSouth maintains that a school or library wishing to resell telecommunications services "should be required to do so as a reseller without the benefit of any universal service discounts."¹⁹⁰² NECA states that the Commission should promulgate rules that limit section 254 discounts to the entities expressly named in the 1996 Act because, in light of previous Commission decisions, a prohibition against resale may not be adequate to prevent abuse of services discounted under section 254.¹⁹⁰³

581. Other commenters interpret section 254(h)(3) to prohibit only resale for profit and to allow the recovery of end-user cost-based fees for services.¹⁹⁰⁴ Bell Atlantic, for example, contends that schools and libraries should be permitted to recover administrative costs by charging a reasonable fee to the public for use of telecommunications services.¹⁹⁰⁵ Bell Atlantic also maintains that, while schools should not be allowed to charge students for use of telecommunications services, they should be permitted to charge a fee to the public for use of the services outside of normal school hours.¹⁹⁰⁶ Information Renaissance believes that permitting user fees for such services as dial-up access to a community network based at a school, library, or

¹⁸⁹⁹ Ameritech further comments at 16. *See also* MCI further comments at 7; NCLIS further comments at 4.

¹⁹⁰⁰ USTA further comments at 11. *See also* BellSouth further comments at 21.

¹⁹⁰¹ USTA further comments at 11. *See also* BellSouth further comments at 21 (stating that "it would appear to be an insurmountable task to distinguish between eligible and non-eligible uses of the same telecommunications service by multiple entities").

¹⁹⁰² BellSouth further comments at 21.

¹⁹⁰³ NECA further comments at 8 (*citing Resale and Shared Use of Common Carrier Services*, 60 FCC 2d 261, *recon.*, 62 FCC 2d 588 (1977), *aff'd sub nom. American Tel. & Tel. Co. v. FCC*, 572 F.2d 17 (2d Cir. 1978) for the premise that "the term 'resale' does not encompass the non-profit sharing of facilities and services among unaffiliated users").

¹⁹⁰⁴ *See, e.g.*, ALA further comments at 8-10; AT&T further comments at 13; Bell Atlantic further comments at 4; Benton further comments at 4-5; California Library Ass'n further comments at 2; Century further comments at 12; EDLINC further comments at 17-18; ITC further comments at 5-6; Information Renaissance further comments at 7; NCTA further comments at 4; National Public Telecomputing Network further comments at 9; Oakland School District further comments at 6-7; PacTel further comments at 19; Senate Working Group further comments at 2; U S West further comments at 8; Washington UTC further comments at 10-11.

¹⁹⁰⁵ Bell Atlantic further comments at 4.

¹⁹⁰⁶ Bell Atlantic further comments at 4.

community center should be permitted under section 254.¹⁹⁰⁷ Colorado State Library maintains that the prohibition on resale should not preclude such items as computer lab fees for students.¹⁹⁰⁸ AT&T argues that the statutory language "should be strictly construed to carry out Congress's intent and, most fundamentally, to limit the demand on and to keep the NUSF within reasonable limits, so that public support remains strong to ensure its survival,"¹⁹⁰⁹ and supports permitting end-user cost recovery for schools and libraries.¹⁹¹⁰

582. Several commenters contend that not allowing the recovery of end-user cost-based fees by schools and libraries for use of their telecommunications services will invalidate or impede efforts to aggregate demand for telecommunications services.¹⁹¹¹ Senate Working Group asserts that, while the 1996 Act clearly prohibits the resale of telecommunications services for monetary gain, "this prohibition should not hinder or preclude the creative development of consortia among education institutions to provide distance learning and fairly share the actual costs."¹⁹¹² U S West maintains that aggregation of traffic "for the exclusive use of schools and libraries eligible for universal service funding, would not circumvent the provisions of the 1996 Act and would provide increased purchasing power to those entities."¹⁹¹³ U S West asserts, therefore, that the discount mechanisms developed under section 254 should provide enough flexibility to allow schools and libraries to purchase aggregated telecommunications services from educational consortia.¹⁹¹⁴ In addition, Maryland DOE argues that the rules should also allow eligible libraries to delegate communications management and procurement responsibilities to a central administrative agent, such as Sailor.¹⁹¹⁵

583. Several commenters support drawing a distinction between telecommunications mechanisms, on the one hand, and the telecommunications service itself, in applying the

¹⁹⁰⁷ Information Renaissance further comments at 7.

¹⁹⁰⁸ Colorado State Library reply comments at 3. *See also* NSBA I comments at 24 (asserting that "schools and libraries should not be prohibited from charging lab fees or user fees to defray expenses related to the use of a network").

¹⁹⁰⁹ AT&T further comments at 13.

¹⁹¹⁰ AT&T further comments at 13.

¹⁹¹¹ *See, e.g.*, ALA further comments at 8-9; California Library Ass'n further comments at 2-3; Information Renaissance further comments at 7; Washington UTC further comments at 10-11.

¹⁹¹² Senate Working Group further comments at 2. *See also* U.S. Distance Learning Ass'n comments at 20.

¹⁹¹³ U S West further comments at 8.

¹⁹¹⁴ U S West further comments at 8.

¹⁹¹⁵ Maryland DOE further comments at 1.

prohibition on resale.¹⁹¹⁶ Washington Library suggests the following applications of such a distinction:

For instance, a library may not resell its discounted access to its city government, but it may levy a fee for Internet classes, or [for] setting up and maintaining an Internet account through the library, or for maintaining a web site for its unit of local government. Such an application would appear to satisfy the intent of the Telecommunications Act, but this distinction would be more easily known and understood by all concerned if the FCC clarifies it.¹⁹¹⁷

584. Several parties that support recovery of end-user cost-based fees for services address how the discount should be applied when eligible and ineligible parties aggregate and share a network.¹⁹¹⁸ Some commenters advocate providing the discount only to the traffic or network usage attributable to eligible entities under section 254.¹⁹¹⁹ California Library Ass'n states that such entities should be able to formulate recordkeeping and/or billing procedures to ensure that only eligible entities benefit from the discount,¹⁹²⁰ and Maryland DOE asserts that the Commission should promulgate accounting rules for the separation of eligible and ineligible network costs.¹⁹²¹ PacTel, on the other hand, contends that "there is no easy way to police such a limitation."¹⁹²² Other commenters maintain that the discount need not be applied only to the

¹⁹¹⁶ See, e.g., BellSouth further comments at 21; California Library Ass'n further comments at 2; EDLINC further comments at 18; Washington Library comments at 15.

¹⁹¹⁷ Washington Library comments at 15. See also BellSouth further comments at 21 (stating that "[f]or instance, if a school or library obtained telecommunications services from a telecommunications provider and used them to gain access to non-telecommunications services such as the Internet or other enhanced service offerings, then the public institutional telecommunications user would be free to charge the public a fee for utilization of the Internet or other enhanced services (although not for the telecommunications service itself)").

¹⁹¹⁸ See, e.g., California Library Ass'n further comments at 3; Maryland DOE further comments at 1-2; Oakland School District further comments at 7.

¹⁹¹⁹ See, e.g., California Library Ass'n further comments at 3; U S West further comments at 8; Washington UTC further comments at 11.

¹⁹²⁰ California Library Ass'n further comments at 3.

¹⁹²¹ Maryland DOE further comments at 1-2.

¹⁹²² PacTel further comments at 20.

eligible parties' portion of a shared network.¹⁹²³ Oakland School District points to the difficulty of separating costs and the negative effect that would have on the incentive to aggregate.¹⁹²⁴

585. Bona Fide Request for Educational Purposes. Numerous commenters support requiring schools and libraries to certify that services eligible for a discount are to be used for "educational purposes."¹⁹²⁵ Apple, for example, contends that the Commission should adopt a simple self-certification procedure, such as requiring a letter from an authorized school official.¹⁹²⁶ Ameritech supports an abbreviated bona fide request process in which schools and libraries submit their requests for telecommunications services in writing to all telecommunications carriers certified by the state public utility commission and certify that all services would be used for educational purposes.¹⁹²⁷ CEDR suggests that a voluntary electronic data bank be established for schools to file requests for proposals.¹⁹²⁸ New Jersey Advocate, on the other hand, favors requiring a formal declaration from schools and libraries that includes assurances that discounted services will not be used for other than educational purposes.¹⁹²⁹ New Jersey Advocate suggests that "[s]chools and libraries could be required to implement certain security measures, such as passwords, codes, or limited access to the facilities, to ensure that the services are used properly."¹⁹³⁰ In terms of defining "educational purposes," Oakland School District supports the principle of "total school service," in which all activities undertaken by school administrators, directors, managers, and all school and school district personnel would be considered as

¹⁹²³ See, e.g., National Public Telecomputing Network further comments at 9-10; Oakland School District further comments at 7.

¹⁹²⁴ Oakland School District further comments at 7.

¹⁹²⁵ See, e.g., ALA comments at 20-21; NCTA comments at 18-19; Washington Library comments at 13-14.

¹⁹²⁶ Apple comments at 6. See also BellSouth comments at 18-19; NCTA comments at 18-19; GCI further comments at 6; UC further comments at 4.

¹⁹²⁷ Ameritech comments at 16. See also BellSouth comments at 21 (asserting that the Commission should establish guidelines for state-administered certification program); Michigan Library Ass'n comments at 13 (maintaining that a bona fide request must be signed by parties and verified by local, state, or federal government agency).

¹⁹²⁸ CEDR further comments (Oct. 17, 1996).

¹⁹²⁹ New Jersey Advocate comments at 23.

¹⁹³⁰ New Jersey Advocate comments at 23.

"educational" in nature.¹⁹³¹ Sailor maintains that "every library activity is educational."¹⁹³²

586. In addition to requiring certification that services will be used for "educational purposes," numerous commenters support requiring schools and libraries to fulfill additional certification requirements in order to comply with the bona fide request requirement found in section 254(h)(1)(B).¹⁹³³ AT&T, for example, notes that requiring a more detailed certification process will hold schools and libraries accountable by ensuring that discounted services are both "necessary and used for their intended purposes."¹⁹³⁴ AT&T supports requiring each school and library, as well as the appropriate state-level governing authority, to certify the following: (1) the entity requesting discounted services is eligible under section 254(h); (2) the requested services are necessary and will be used for their intended purposes; and (3) the necessary support mechanisms, including such items as hardware, software, wiring, and teacher training, will be deployed at the same time as the discounted services.¹⁹³⁵ New York Regents recommends that the Joint Board establish a committee of educators and librarians that currently use technology to review requests for telecommunications services from schools and libraries. This committee would assess all such requests "with respect to their purpose and value for supporting learning and information access."¹⁹³⁶

587. Information Renaissance proposes developing an on-line resource to provide current information on the technology of school and community networking, as well as current examples of best practices in the application of the technology. Information Renaissance suggests that "[o]n-line resources of this type could provide a self-certification mechanism by which users would consult relevant sections of the on-line resource, verify their understanding of this material through a simple interactive form and then submit their telecommunications requests to vendors in

¹⁹³¹ Oakland School District comments at 16 (stating that activities include Internet access, access to student records, access for food service personnel to determine eligibility for the national school lunch program, and telephone access to communicate with parents and to arrange for field trips).

¹⁹³² Sailor comments at 12.

¹⁹³³ *See, e.g.*, AT&T further comments at 14-15; GTE further comments at 21-22; MCI further comments at 8.

¹⁹³⁴ AT&T further comments at 14.

¹⁹³⁵ AT&T further comments at 14-15. *See also* USTA comments at 8 (asserting that a bona fide request must include a plan to recover ongoing costs, as well as the cost of such items as hardware, software, and training); MCI further comments at 8 (stating that the Joint Board and the Commission should consider whether schools and libraries should be required to submit technology plans to a state agency prior to receiving a discount); NYNEX further comments at 13-14 (advocating submission of technology plans to a state or local organization for annual certification).

¹⁹³⁶ New York Regents comments at 10.

their region."¹⁹³⁷ Georgia Tech Research Institute and Morris Brown Research Institute propose providing consulting services to schools and libraries to assist them in complying with the bona fide request requirement. Information Renaissance,¹⁹³⁸ Georgia Tech Research Institute, and Morris Brown Research Institute¹⁹³⁹ assert that they should be eligible for universal service support in exchange for providing such consulting services because they would yield more in savings to schools and universal service support mechanisms than they would cost.

588. Some commenters, however, oppose a certification requirement.¹⁹⁴⁰ Idaho PUC, for example, warns against second-guessing schools and libraries regarding their requests for services and contends that imposing a certification requirement would impose an unnecessary and burdensome paperwork requirement that would accomplish nothing.¹⁹⁴¹ Union City Board of Education asserts that the layer of review sought to be imposed by parties supporting detailed certification procedures "serve no useful purpose and would only create a significant delay in deployment of advanced telecommunications capabilities to America's classrooms."¹⁹⁴² Union City Board of Education maintains that the level of accountability inherent in such detailed certification procedures already exists at the state and local government levels, and "school and library administrators responsible for making such decisions are already held accountable for the cost and effectiveness of their decisions by state and local elected officials and local taxpayers."¹⁹⁴³

589. Numerous commenters address who should be responsible for making a bona fide request.¹⁹⁴⁴ ACE maintains that the individual generally responsible for ordering

¹⁹³⁷ Information Renaissance supplemental further comments at 3 (Oct. 17, 1996).

¹⁹³⁸ Information Renaissance further comments at 3.

¹⁹³⁹ *Ex parte* presentation by Jeffrey Evans, Georgia Tech Research Institute, Roosevelt Thomas, Jr., Morris Brown Research Institute, and Christopher Evans, OutSource Integration, Inc., to Mark Nadel, Federal Communications Commission (Sept. 6, 1996). *See also* Letter from Timothy F. Coen, King and Spalding, to Georgia Tech Research Institute, Morris Brown Research Institute, and Christopher Evans (Sept. 17, 1996).

¹⁹⁴⁰ *See, e.g.*, Idaho PUC comments at 12; NSBA I comments at 5; Union City Board of Education reply comments at 16-17.

¹⁹⁴¹ Idaho PUC comments at 12. *See also* NSBA I comments at 5 (cautioning that the bona fide request requirement may impose substantial paperwork burdens on small government agencies).

¹⁹⁴² Union City Board of Education reply comments at 16-17.

¹⁹⁴³ Union City Board of Education reply comments at 17.

¹⁹⁴⁴ *See, e.g.*, ACE comments at 17; Alaska Library comments at 7; Mendocino School District comments at 6; Oakland School District comments at 16; U.S. Distance Learning Ass'n comments at 19; Washington Library comments at 14.

telecommunications services should be permitted to make a bona fide request,¹⁹⁴⁵ while Oakland School District contends that schools and libraries should be permitted to designate which specific individuals are legally authorized to make such requests.¹⁹⁴⁶ Washington Library maintains that, for a state library, either the state librarian or another state government official should make the bona fide request, while the official who is empowered under state law to request Title III funds should make the request for a local library.¹⁹⁴⁷

590. Several commenters suggest auditing the use of discounted services by schools and libraries to ensure accountability with regards to the bona fide purchase requirement.¹⁹⁴⁸ Washington Library, for example, states that if the Commission is concerned about the unauthorized resale of telecommunications services in a consortium arrangement, it may require libraries to keep separate, auditable records of their portion of the network arrangement.¹⁹⁴⁹ Ameritech recommends that the Commission require all telecommunications providers to keep accounting entries to quantify and track funding for advanced services for schools and libraries.¹⁹⁵⁰ Michigan Library Ass'n asserts that "monitoring reports of overall cost, services and availability should be published."¹⁹⁵¹ CFA contends that schools and libraries should be required to comply with standard procurement procedures when ordering discounted services, and should be subject to random audits by the universal service fund administrator.¹⁹⁵²

591. Several commenters recommend that some of the complex issues dealing with support for schools and libraries be referred to an education advisory committee.¹⁹⁵³ NYNEX, for example, recommends formation of an Education Telecommunications Council that would include representatives from a variety of interested parties, including public and private schools, the telecommunications industry, and state and federal government agencies involved in education

¹⁹⁴⁵ ACE comments at 17.

¹⁹⁴⁶ Oakland School District comments at 16.

¹⁹⁴⁷ Washington Library comments at 14.

¹⁹⁴⁸ *See, e.g.*, Ameritech comments at 14; Michigan Library Ass'n comments at 13; CFA further comments at 8.

¹⁹⁴⁹ Washington Library comments at 15.

¹⁹⁵⁰ Ameritech comments at 14.

¹⁹⁵¹ Michigan Library Ass'n comments at 13.

¹⁹⁵² CFA further comments at 8.

¹⁹⁵³ Florida Cable comments at 13-18; NYNEX comments at 21; PacTel comments at 12; Teleport comments at 18-19; Time Warner comments at 16-17; NCTA reply comments at 21-24.

issues.¹⁹⁵⁴

592. Annual Carrier Notification Requirement. Several parties comment on the Commission's proposal to require telecommunications carriers to notify schools and libraries within their geographic area of available discounts on an annual basis. Libraries for the Future, for example, states that such notification is necessary because "universal service is not exactly a household term, so few librarians or administrators realize they will be entitled to discounts."¹⁹⁵⁵ Since the telecommunications carriers will be providing the service, Libraries for the Future maintains that they are the appropriate entities to notify schools and libraries of the applicable discounts.¹⁹⁵⁶ Washington Library states that any such information conveyed from carriers to schools and libraries must be "readily digestible."¹⁹⁵⁷ AT&T, however, maintains that telecommunications carriers should not bear the responsibility of notifying schools and libraries of applicable discounts, but supports leaving that responsibility to educational and library associations.¹⁹⁵⁸

3. Discussion

593. Eligibility. Some parties assert policy grounds for including community networks, educational television stations, community colleges, and pre-schools in the class of entities eligible for support.¹⁹⁵⁹ Section 254(h), however, explicitly defines the class of entities eligible for support. As we observed above, schools must meet the statutory definitions of elementary and secondary schools found in the Elementary and Secondary Education Act of 1965,¹⁹⁶⁰ must not operate as a for-profit business, and must not have an endowment exceeding 50 million dollars.¹⁹⁶¹ Libraries must be "eligible for participation in State-based plans for funds under title III of the

¹⁹⁵⁴ Testimony of Frank J. Gumper, NYNEX, before the Federal-State Joint Board on Universal Service (Apr. 12, 1996).

¹⁹⁵⁵ Libraries for the Future comments at 4.

¹⁹⁵⁶ Libraries for the Future comments at 4.

¹⁹⁵⁷ Washington Library comments at 14.

¹⁹⁵⁸ AT&T comments at 20.

¹⁹⁵⁹ See, e.g., APTS comments at 11; Community Colleges comments at 4; Early Childhood comments at 2; Missouri PSC comments at 15; NSBA I reply comments at 16; National Public Telecomputing Network reply comments at 10.

¹⁹⁶⁰ 47 U.S.C. § 254(h)(4) and (h)(5)(A). See *supra* section X.E. for the definitions of elementary and secondary school.

¹⁹⁶¹ 47 U.S.C. § 254(h)(4).

Library Services and Construction Act,"¹⁹⁶² and must not operate as for-profit businesses.¹⁹⁶³ Furthermore, we conclude that those not directly eligible for support should not be permitted to gain eligibility by participating in consortia with those who are eligible, even if the former seek to further educational objectives for students who attend eligible schools.

594. This creates some tension over whether purchasing consortia of eligible and ineligible institutions should be permitted, even assuming that discounts were only applied to services purchased by eligible institutions. On the one hand, as we explained above, we want to encourage eligible institutions to aggregate their demands with others to enable them to enjoy efficiencies and negotiate better deals from service providers. As the Senate Working Group states, the 1996 Act "should not hinder or preclude the creative development of consortia among education[al] institutions."¹⁹⁶⁴ Limiting such a consortium to include only other K-12 schools and libraries could severely constrain their ability to achieve sufficient demand to attract potential competitors and thereby to negotiate lower rates or at least secure efficiencies, particularly in lower density regions. Permitting schools and libraries to aggregate with other educational institutions, including colleges, universities, educational broadcasters, community free nets, and municipalities, could enable the eligible entities to secure lower pre-discount rates, thereby diminishing both their costs and the amount of support required to support a given percentage discount. On the other hand, we are somewhat concerned that permitting eligible and ineligible buyers to commingle their purchases would permit eligible schools and libraries to transfer the use of their discount to non-eligible carriers in violation of the prohibition on resale. The difficulty, then, is how to allow eligible institutions to aggregate their demand with ineligible entities without permitting the former to extend their discount privileges illegally.

595. ALA suggests that this difficulty could be addressed if members of "mixed" consortia followed accounting procedures that clearly separated telecommunications costs among participants.¹⁹⁶⁵ Washington Library suggests that the Commission might want to require auditable records.¹⁹⁶⁶ In response, however, Oakland School District describes the administrative difficulty of separating costs and its supposed negative effect on aggregation.¹⁹⁶⁷ In addition, if

¹⁹⁶² 47 U.S.C. § 254(h)(4). *See supra* section X.E. for the definition of library.

¹⁹⁶³ 47 U.S.C. § 254(h)(4).

¹⁹⁶⁴ Senate Working Group further comments at 2. *See also* U.S. Distance Learning Ass'n comments at 20.

¹⁹⁶⁵ ALA reply comments at 17.

¹⁹⁶⁶ Washington Library comments at 15. If multiple parties have 56 kbps links to a single server that is connected to the Internet via a T-1 connection, it is hard to dispute commenters who assert that accurate allocation of network usage -- of the T-1 here -- is not technically feasible to ascertain.

¹⁹⁶⁷ Oakland School District further comments at 7.

multiple parties share a connection between a server and an ISP, it is difficult to disagree with commenters that assert that precise allocation of network usage of the shared line is not technically feasible.¹⁹⁶⁸

596. On careful review, we conclude that, despite the difficulties of allocating costs and preventing abuses, the benefits from permitting schools and libraries to join in consortia with other customers in their community, as discussed above, outweigh the danger that such aggregations will lead to significant abuse of the prohibition against resale. We reach this conclusion based on three findings. First, we find that the only way to avoid any possible misallocations by eligible schools and libraries would be to severely limit all consortia, even among eligible schools and libraries, because it is possible that consortia including schools eligible for greater discounts could allocate more of the costs to those entities. We conclude that severely limiting consortia would not be in the public interest because it would serve to impede schools and libraries from becoming attractive customers or from benefiting from efficiencies. Second, illegal resale through misallocation abuse can be substantially prevented if the Commission requires providers to keep and retain careful records of how they have allocated the costs of shared facilities in order to charge eligible schools and libraries the appropriate amounts. These records should be maintained on some reasonable basis, either established by the Commission or set by the parties themselves, and should be available for public inspection. While we understand that technical precision may be impossible, we conclude that reasonable approximations of cost allocations should be sufficient to deter significant abuse. Finally, we would expect that the growing bandwidth requirements of schools and libraries would make it difficult for other consortia members to rely on using more than their paid share of the use of a facility without some technical constraint on the school or library's connection. This aspect would make fraud more detectable and likely would greatly deter fraud, given the small amounts of funds likely to be involved. Therefore, we recommend that state commissions undertake measures to enable consortia of eligible and ineligible entities to aggregate their purchases of telecommunications services and other services being supported through the discount mechanism, in accordance with the requirements set forth in section 254(h).

597. Resale. Section 254(h)(3) bars entities that obtain discounts from reselling the discounted services. It states that:

Telecommunications services and network capacity provided
[to schools or libraries at a discount] may not be sold, resold,
or otherwise transferred by such user in consideration for money
or any other thing of value.¹⁹⁶⁹

¹⁹⁶⁸ BellSouth further comments at 21; USTA further comments at 11.

¹⁹⁶⁹ 47 U.S.C. § 254(h)(3).

Some parties propose that the Commission interpret this prohibition to apply only to resale for profit.¹⁹⁷⁰ We recommend, however, that the Commission not interpret the section 254(h)(3) bar to apply only to resale for profit. To adopt this narrow interpretation of resale would enable the discounted services to be available -- via resale at discounted prices -- to entities not eligible for them. Therefore, we recommend that the Commission interpret section 254(h)(3) to restrict any resale whatsoever of services purchased pursuant to a section 254 discount.

598. Section 254(c)(3) prohibition on resale, however, would not prohibit either computer lab fees for students or fees for Internet classes. As commenters recognize, because these are not services that schools or libraries purchased at a discount under the 1996 Act, they are not subject to the resale ban. Schools and libraries would not, however, be permitted to charge for the use of services they purchased at a discount pursuant to section 254.

599. Bona Fide Request for Educational Purposes. Section 254(h)(1)(B) limits discounts to services provided in response to bona fide requests made for services to be used for educational purposes.¹⁹⁷¹ While school groups strongly urge that any request for covered services made by an appropriate school or library official be presumed to be a bona fide request for educational purposes,¹⁹⁷² we find that Congress intended to require greater accountability. We recommend that the Commission refer the task of evaluating in the first instance whether a request is a bona fide request for educational purposes to an entity with expertise in this area. Those in the educational community are best able to prevent fraud and abuse by evaluating whether requests are bona fide and whether those requests are for educational purposes. Therefore, we recommend that schools and libraries be expected to comply with three bona fide request requirements.

600. First, AT&T asks that those requesting support for services certify that they will be able to deploy any necessary hardware, software, and wiring, and to undertake the necessary teacher training required to use the services effectively.¹⁹⁷³ We find that this requirement would help schools avoid the waste that might arise from requests for services that the schools were unable to use for the educational purposes intended. We find that any bona fide request for educational services must be based on some internal school assessment that the institution can provide the necessary supporting technologies to permit the telecommunications and other covered services ordered to be used effectively. We appreciate that, in most instances, as long as

¹⁹⁷⁰ See, e.g., ALA further comments at 8-10; AT&T further comments at 13; EDLINC further comments at 17-18; PacTel further comments at 19; Washington UTC further comments at 10-11.

¹⁹⁷¹ 47 U.S.C. § 254(h)(1)(B).

¹⁹⁷² NSBA I comments at 5.

¹⁹⁷³ AT&T further comments at 14-15.

schools and libraries are required to contribute some portion of the total cost of access (including non-covered expenses), their existing procurement process provides a check on wasteful purchases.

601. While requiring some contribution might be enough, we find that it would not be unduly burdensome to expect schools and libraries to certify that they have "done their homework" in terms of adopting a plan for securing access to all of the necessary supporting technologies needed to use the services purchased under section 254(h) effectively. We find that the burden would be particularly light given the likely development of clearinghouses of information for schools and libraries, such as the one proposed by Information Renaissance.¹⁹⁷⁴ Furthermore, we find that requiring such schools and libraries to have a plan for ensuring that they have the necessary hardware, software, wiring, and teacher training prior to ordering services eligible for a discount under section 254 would prevent waste and, therefore, would be in the public interest. We further note that nothing prevents the fund administrator from employing staff to check certifications and, where necessary, underlying plans, whether in an audit or otherwise.

602. Second, we also find merit in Ameritech's proposal that schools and libraries submit their requests for services in writing to all service providers certificated by the state public utilities commission to serve the area in which the school or library is located,¹⁹⁷⁵ particularly in combination with the voluntary electronic data bank proposal of the Council for Educational Development and Research.¹⁹⁷⁶ We conclude that Congress desired that schools and libraries take advantage of the potential for competitive bids, and that the proposals of Ameritech and the Council for Educational Development and Research seek to maximize the number of potential competitors aware of each institution's desire to purchase services. We recommend that schools and libraries be required to send a description of the services they desire to the fund administrator or other entity designated by the Commission. They can use the same description they use to meet the requirement that most generally face to solicit competitive bids for all major purchases above some dollar amount. The fund administrator or this other entity could then post a description of the services sought on a web site for all potential competing service providers to see and respond to as if they were requests for proposals (RFPs). This requirement is consistent with NTIA's principle of stimulating competitive bidding.¹⁹⁷⁷

¹⁹⁷⁴ Information Renaissance supplemental further comments at 3. We also note that the Department of Education is participating in such an on-line site at "www.familyeducation.com". See also Amy Garmer and Charles Firestone, *Creating a Learning Society: Initiatives for Education and Technology* 38 (1996) (addressing the clearinghouse web sites discussed by the Forum on Communications and Society).

¹⁹⁷⁵ Ameritech comments at 16.

¹⁹⁷⁶ CEDR further comments at 2.

¹⁹⁷⁷ NTIA submission at 7, 12-13, 14.

603. Third, we recommend that, to ensure compliance with section 254, every school or library that requests services eligible for universal service support be required to submit to the service provider a written request for services. We recommend that the request should be signed by the person authorized to order telecommunications and other covered services for the school or library, certifying the following under oath: (1) the school or library is an eligible entity under section 254(h)(4); (2) the services requested will be used solely for educational purposes; (3) the services will not be sold, resold, or transferred in consideration for money or any other thing of value; and (4) if the services are being purchased as part of an aggregated purchase with other entities, the identities of all co-purchasers and the portion of the services being purchased by the school or library.

604. We also recommend that the Commission instruct the fund administrator to permit schools and libraries to self-certify that they have met the three requirements discussed above. Under this approach, no school or library would be forced to wait for approval from a designated entity before arranging deployment, once it had filed its self-certifications with the entity or the universal service administrator.

605. Auditing. As commenters suggest, we recommend that schools and libraries, as well as carriers, be required to maintain for their purchases of telecommunications and other covered services at discounted rates the kinds of procurement records that they already keep for other purchases.¹⁹⁷⁸ We expect schools and libraries to be able to produce such records at the request of any auditor appointed by a state education department, the fund administrator, or any other state or federal agency with jurisdiction that might, for example, suspect fraud or other illegal conduct. We recommend that schools and libraries also be subject to random compliance audits to evaluate what services they are purchasing and how such services are being used. Such information would permit the Commission to determine whether universal service support policies require adjustment. The fund administrator should also develop appropriate reporting information for the schools and libraries to advise on their progress in obtaining access to telecommunications and other information services.

606. Annual Carrier Notification Requirement. We also address here what obligation carriers should have with respect to notifying schools and libraries about the availability of discounted services. While two library commenters ask us to require carriers to inform libraries of this new offering,¹⁹⁷⁹ we are hesitant to recommend any regulatory requirements that appear unnecessary. We note that many national representatives of school and library groups are participating in this proceeding and we believe that no trade association or library or school trade

¹⁹⁷⁸ See, e.g., Ameritech comments at 14; Michigan Library Ass'n comments at 13; Washington Library comments at 15; CFA further comments at 8.

¹⁹⁷⁹ See Libraries for the Future comments at 4; Washington Library comments at 14.

publication will fail to inform its members or readers, respectively, of the opportunity to secure discounted telecommunications and other covered services under this program. Furthermore, assuming that we have set a reasonable pre-discount price for carriers to receive, we would expect carriers to seek out schools and libraries as attractive customers, for that is how they earn profits. While we do not recommend that the Commission require notification, we do encourage service providers to notify annually each school and library association and state department of education in the states they serve of the availability of discounted services.

F. Funding Mechanisms for Schools and Libraries

1. Background

607. Section 254(d) provides that "[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service."¹⁹⁸⁰ Section 254(h)(1)(B) states that a telecommunications carrier providing services to schools and libraries shall:

- (i) have an amount equal to the amount of the discount treated as an offset to its obligation to contribute to the mechanisms to preserve and advance universal service, or
- (ii) . . . receive reimbursement utilizing the support mechanisms to preserve and advance universal service.¹⁹⁸¹

The Public Notice sought comment on whether separate funding mechanisms should be established for schools and libraries and for rural health care providers.¹⁹⁸²

2. Comments

608. Separate Funding Mechanisms. Commenters approach the issue of separate funding mechanisms for schools, libraries, and health care providers in several ways. First, some commenters address whether schools, libraries, and rural health care providers should be included in a common funding mechanism with all other entities eligible for federal universal service support, or whether there should be separate funding mechanisms for each entity. Several commenters advocate separate funding mechanisms for each of the entities eligible for universal service support, including schools, libraries, health care providers, low-income subscribers, and

¹⁹⁸⁰ 47 U.S.C. § 254(d).

¹⁹⁸¹ 47 U.S.C. § 254(h)(1)(B).

¹⁹⁸² Public Notice at question 22.

rural, insular, and high cost areas.¹⁹⁸³ USTA, for example, maintains that separate funding should be adopted because the statutory requirements for the eligible entities are different. USTA notes, however, that "it is possible for funding support for each to be administered as part of the same fund so long as separate accounting practices are maintained by the fund administrator."¹⁹⁸⁴ SWBT contends that separate funding mechanisms "will ensure proper accountability and a targeted focus."¹⁹⁸⁵ SWBT further recommends that the multiple funding mechanisms be combined to calculate a single customer surcharge.¹⁹⁸⁶ NECA supports multiple "specifically-targeted funds," but also recommends a "common fund collection mechanism for its universal service programs."¹⁹⁸⁷ NCLIS maintains that schools and libraries should even have separate funding mechanisms.¹⁹⁸⁸ Other commenters, however, support a single funding mechanism for all entities eligible for federal universal service support.¹⁹⁸⁹ EDLINC, for example, maintains that section 254 does not contemplate separate funds.¹⁹⁹⁰ Bell Atlantic advocates a common funding mechanism, with separate sizing and distribution.¹⁹⁹¹

609. Alternatively, some commenters focus solely on whether schools and libraries should have one funding mechanism, and health care providers should have another funding mechanism.¹⁹⁹² MCI, for example, asserts that "if the Commission adopts an interstate-only universal service fund, then there must be separate funding mechanisms for schools and libraries

¹⁹⁸³ See, e.g., Century further comments at 15; NYNEX further comments at 16; RTC further comments at 16; USTA further comments at 17; Vitelco further comments at 6.

¹⁹⁸⁴ USTA further comments at 17 (supporting separate funding mechanisms for schools and libraries, rural health care providers, and for "the provision of core universal services").

¹⁹⁸⁵ SWBT further comments at 18 (supporting multiple funds).

¹⁹⁸⁶ SWBT further comments at 18. See also NYNEX further comments at 16.

¹⁹⁸⁷ NECA further comments at 13-14.

¹⁹⁸⁸ NCLIS further comments at 7.

¹⁹⁸⁹ See, e.g., Apple further comments at 4; Bell Atlantic further comments at 7; EDLINC further comments at 40-41.

¹⁹⁹⁰ EDLINC further comments at 40-41.

¹⁹⁹¹ Bell Atlantic further comments at 7 (asserting that, "[s]ince all telecommunications providers must pay into the universal service fund, there can be a single collection mechanism for both the high cost fund and the education/library/health care fund. Each fund, however, would be sized and distributed individually").

¹⁹⁹² See, e.g., ALA further comments at 18; BellSouth further comments at 30; Information Renaissance further comments at 10; MCI further comments at 10; NCTA further comments at 6; Western Alliance further comments at 4.

and rural health care providers because all telecommunications service providers must contribute to the latter and only interstate carriers would contribute to the former."¹⁹⁹³ BellSouth maintains that separate funding mechanisms are appropriate because of the different statutory criteria and methods for providing support to schools and libraries, on the one hand, and rural health care providers on the other.¹⁹⁹⁴ Oakland School District states that the differing needs of schools and libraries versus rural health care providers justify separate funding mechanisms.¹⁹⁹⁵ Other commenters assert that schools, libraries, and rural health care providers should be combined in a single funding mechanism.¹⁹⁹⁶ U S West, for example, supports a combined funding mechanism with separate allocation and administration of funds for schools and libraries, and rural health care providers.¹⁹⁹⁷ Ameritech states that "[i]t is not clear why it would be necessary or desirable to establish separate funding mechanisms, but it would be helpful to maintain separate accounting for these programs in order to give the Commission the opportunity to phase-out one or the other should that be reasonable to do in the future."¹⁹⁹⁸

610. Offset versus Reimbursement. Several commenters address carriers' options of applying the amount of the discount provided to schools and libraries as an offset to universal service contribution requirement or receiving direct reimbursement from universal service support mechanisms. NECA, for example, contends that "[f]rom an administrative standpoint . . . it would be preferable to provide direct reimbursements to all qualified carriers rather than permit offsets in any case."¹⁹⁹⁹ NECA argues, however, that if offsets are permitted, carriers should be required to report total revenue amounts, "with offsets stated as explicit amounts to be credited against contribution requirements,"²⁰⁰⁰ and should keep adequate records that would be subject to

¹⁹⁹³ MCI further comments at 10.

¹⁹⁹⁴ BellSouth further comments at 30. *See also* ALA further comments at 18 (stating that "ALA simply notes that the language in Section 254(h)(1)(A) for rural health care providers differs somewhat from that in paragraph (B) for schools and libraries").

¹⁹⁹⁵ Oakland School District further comments at 9-10. *See also* Information Renaissance further comments at 10 (asserting that "[t]he needs of schools and libraries and those of rural health care providers are sufficiently different that it is desirable to use one funding mechanism for schools and libraries and a separate funding mechanism for rural health care providers").

¹⁹⁹⁶ *See, e.g.,* Ameritech further comments at 22; U S West further comments at 12.

¹⁹⁹⁷ U S West further comments at 12.

¹⁹⁹⁸ Ameritech further comments at 22.

¹⁹⁹⁹ NECA comments at 16 n.34.

²⁰⁰⁰ NECA comments at 16 n.34.

audits by the Commission or the administrator.²⁰⁰¹ NECA asserts that such an approach would serve the dual purposes of ensuring the accuracy of carrier revenue data and diminishing verification problems.²⁰⁰² Idaho PUC states that telecommunications carriers should only be able to seek offset or reimbursement "for actual costs incurred but not recovered," but not for "estimated revenue loss."²⁰⁰³

3. Discussion

611. Separate Funding Mechanisms. We recommend that the universal service administrator distribute support for schools and libraries from the same source of revenue used to support other universal service purposes under section 254. While we appreciate commenters' concerns that we ensure proper accountability for and targeting of the funds for schools and libraries,²⁰⁰⁴ we agree with those commenters who observe that this is achievable if the fund administrator maintains separate accounting categories.²⁰⁰⁵ Other commenters propose the use of separate funds because Congress established different rules for distributing funds,²⁰⁰⁶ but we see no reason why different distribution mechanisms should dissuade the Commission from collecting funds for different programs in the same most efficient manner.

612. Other commenters urge us to recommend separate funds to enable the Commission to collect funds for schools and libraries on a different basis from other universal service programs. These commenters suggest that the Commission might target different categories of contributors, e.g., all interstate carriers versus all telecommunications service providers, for different programs.²⁰⁰⁷ As we explain below, however, we recommend that funds be collected from all telecommunications carriers that provide interstate telecommunications services, and we find no advantage to collecting funds from a smaller subgroup for a different purpose. Thus, we conclude that the establishment of separate funds would yield *de minimis*, if any, marginal improvement in accountability, while imposing unnecessary administrative costs.

613. Offset versus Reimbursement. Section 254(h)(1)(B) requires that

²⁰⁰¹ NECA reply comments at 16-17.

²⁰⁰² NECA comments at 16 n.34.

²⁰⁰³ Idaho PUC comments at 13.

²⁰⁰⁴ See SWBT further comments at 18.

²⁰⁰⁵ See USTA further comments at 17.

²⁰⁰⁶ See ALA further comments at 18; BellSouth further comments at 30.

²⁰⁰⁷ See MCI further comments at 10.

telecommunications carriers providing services to schools and libraries shall either apply the amount of the discount afforded to schools and libraries as an offset to its universal service contribution obligations or shall be reimbursed for that amount from universal service support mechanisms.²⁰⁰⁸ While we acknowledge NECA's argument that providing only direct reimbursements may be administratively less complicated,²⁰⁰⁹ we conclude that section 254(h)(1)(B) requires that telecommunications carriers be permitted to choose either reimbursement or offset. Because non-telecommunications carriers are not obligated to contribute to universal service support mechanisms, they would not be entitled to an offset. Non-telecommunications carriers providing eligible services to schools and libraries, therefore, would be entitled only to reimbursement from universal service support mechanisms.

G. Sections 706 and 708

1. Background

614. Section 706 of the 1996 Act directs the Commission and the states to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms)."²⁰¹⁰ Section 706 also states that the Commission and the states may use "price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulatory methods that remove barriers to infrastructure investment" to encourage the deployment of advanced telecommunications services.²⁰¹¹ Section 706 directs the Commission to initiate a Notice of Inquiry within 30 months after enactment of the 1996 Act, and to complete the inquiry within 180 days of its initiation.²⁰¹²

615. Section 708 recognizes the National Education Technology Funding Corporation "as a nonprofit corporation operating under the laws of the District of Columbia, and . . . provide[s] authority for Federal departments and agencies to provide assistance to the Corporation."²⁰¹³ The functions of the National Education Technology Funding Corporation include leveraging resources and stimulating investment in educational technology, designating state educational agencies to receive loans or grants from the Corporation, providing loans and

²⁰⁰⁸ 47 U.S.C. § 254(h)(1)(B).

²⁰⁰⁹ NECA comments at 16 n.34.

²⁰¹⁰ 1996 Act, § 706(a).

²⁰¹¹ 1996 Act, § 706(a).

²⁰¹² 1996 Act, § 706(b).

²⁰¹³ 1996 Act, § 708(a)(2).

grants to state education technology agencies, and encouraging public-private ventures to promote the development of advanced telecommunications services.²⁰¹⁴ Section 708 also states that "the [National Education Technology Funding] Corporation shall be eligible to receive discretionary grants, contracts, gifts, contributions, or technical assistance from any Federal department or agency, to the extent otherwise permitted by law."²⁰¹⁵ The Public Notice sought comment on whether the provisions of sections 706 and 708 should be considered by the Joint Board and relied upon to provide advanced services to schools and libraries.²⁰¹⁶

2. Comments

616. Some commenters maintain that the Joint Board should consider section 706 and 708 at this time.²⁰¹⁷ Numerous commenters assert that, while sections 706 and 708 should not be considered substitutes for the requirements of section 254, they may be considered as complements to section 254.²⁰¹⁸ AirTouch states that section 706 and 708 are within the scope of the Joint Board's mandate to evaluate, preserve, and enhance universal service support.²⁰¹⁹ NYNEX maintains that the Joint Board should pursue the goals of sections 706 and 708 by encouraging facilities-based competition and market-based pricing. NYNEX also states that section 708 recognizes the need for funding beyond universal service.²⁰²⁰ U S West maintains that "[s]ections 706 and 708 should be solely relied upon to ensure that advanced services are provided to schools, [and] libraries."²⁰²¹ U S West further contends that the monitoring of the marketplace required by section 706 is all that is necessary for now. The Commission should wait until after there has been an opportunity to see how the market reacts to the competitive framework embodied in the 1996 Act to determine whether additional regulatory steps will be

²⁰¹⁴ 1996 Act, § 708(a)(1)(C).

²⁰¹⁵ 1996 Act, § 708(c)(2).

²⁰¹⁶ Public Notice at question 8.

²⁰¹⁷ *See, e.g.*, NCTA comments at 23; Netscape comments at 23-24; USTA comments at 12; ALA further comments at 4-5; BellSouth further comments at 16-17; California Library Ass'n further comments at 2; NYNEX further comments at 7-8; Union City Board of Education further comments at 2, 7.

²⁰¹⁸ *See, e.g.*, ACE reply comments at 7; ALA further comments at 4-5; BellSouth further comments at 16-17; California Library Ass'n further comments at 2; MAP further comments at 5-6; RTC further comments at 11, 12.

²⁰¹⁹ AirTouch further comments at 12-14.

²⁰²⁰ NYNEX further comments at 7-8.

²⁰²¹ U S West further comments at 7.

necessary to encourage the provision of advanced services.²⁰²²

617. Other parties contend that the Joint Board should not consider sections 706 and 708 in the context of this universal service rulemaking proceeding.²⁰²³ Senators Carol Moseley Braun and Conrad Burns, the principal co-sponsors of sections 706 and 708, explained in a letter to Chairman Hundt that those sections were intended "to supplement, not replace or supplant, Section 254, with respect to [the use of] advanced services" by schools and libraries.²⁰²⁴ Ameritech asserts that only section 254(h)(2) addresses advanced services for schools and libraries. Ameritech also contends that section 706 concerns only the encouragement of deploying advanced services and the capability of advanced services, while section 708 concerns only the leveraging of resources and the stimulation of private investment in infrastructure.²⁰²⁵ CFA maintains that there is no need for the Joint Board to consider sections 706 and 708 until the new universal service policies are in place and permitted to operate.²⁰²⁶ ITC states that the Joint Board has neither the resources nor the jurisdiction over collection and disbursement to support considering sections 706 and 708.²⁰²⁷ U.S. Distance Learning Ass'n contends that sections 706 and 708 should be viewed as broader mandates to reexamine the effectiveness of section 254 after implementation.²⁰²⁸

3. Discussion

618. Recognizing the growing importance of technological fluency for successful participation in society, section 254 expands the concept of universal service to include assistance for schools and libraries in making technology available to students and the general public. As discussed above, section 254 will provide the support needed as a catalyst for the deployment of

²⁰²² U S West further comments at 7.

²⁰²³ *See, e.g.*, Letter from Senator Carol Moseley-Braun and Senator Conrad Burns to Reed Hundt, Chairman, Federal Communications Commission (Aug. 2, 1996); Ameritech further comments at 14, 15; Oakland School District further comments at 3-4; U.S. Distance Learning Ass'n further comments at 4-5.

²⁰²⁴ *See* Letter from Senator Carol Moseley-Braun and Senator Conrad Burns to Reed Hundt, Chairman, Federal Communications Commission (Aug. 2, 1996).

²⁰²⁵ Ameritech further comments at 14, 15. *See also* Oakland School District further comments at 3-4 (asserting that sections 706 and 708 have nothing to do with the provision of advanced services to schools and libraries).

²⁰²⁶ CFA further comments at 6-7.

²⁰²⁷ ITC further comments at 5.

²⁰²⁸ U.S. Distance Learning Ass'n further comments at 4-5 (noting also that the deadlines in sections 706 and 708 are longer term than the statutory deadlines for section 254).

technology to every school and library across the nation. While not replacements for the programs under section 254, we recognize that sections 706 and 708 include requirements that would complement the goal of widespread availability of advanced telecommunications services. We conclude, however, that Congress contemplated that section 706 would be subject to a separate rulemaking proceeding. In section 706, Congress directed the Commission to initiate a notice of inquiry within 30 months after the enactment of the 1996 Act, and it further directed the Commission to complete that rulemaking proceeding within 180 days after its initiation.²⁰²⁹ These statutory deadlines differ from the deadlines imposed on the section 254 rulemaking proceeding. We decline, therefore, to consider section 706 in the context of this proceeding.

619. Although we will not be making a recommendation regarding section 706, we note that section 706 reinforces the goals of section 254 by requiring the Commission and the states to encourage carriers to deploy “advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms)” through the utilization of “price cap regulation, regulatory forbearance, measures that promote competition in local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”²⁰³⁰ The definition of “advanced telecommunications capability” under section 706 is consistent with the scope of services contemplated under section 254(h)(2) in its acknowledgment that the evolution of technology has expanded the media by which advanced services are delivered.²⁰³¹ Whereas section 254 prescribes financial assistance for schools and libraries through the establishment of discounts on services, section 706 identifies mechanisms by which the power of competitive markets can be used to further the goal. The requirement under section 706 for periodic reports on the extent to which the goal of pervasive deployment of advanced telecommunications capabilities has been achieved further builds on the evaluation guidelines that we recommend. While we strongly support the goals of section 706, which include the Commission and the states creating incentives for the dissemination of technology to schools and libraries through appropriate streamlining of regulations, facilitation of competitive entry, and removal of barriers to infrastructure investment, we will not consider section 706 in the context of the section 254 rulemaking proceeding.

620. We also note that the National Education Technology Funding Corporation, which is recognized under section 708, provides additional opportunities for schools and libraries to increase the deployment of technology within their institutions.²⁰³² While we strongly support the mission of the Corporation, which includes the development of public-private ventures to

²⁰²⁹ 1996 Act, § 706(b).

²⁰³⁰ 1996 Act, § 706(a).

²⁰³¹ 1996 Act, § 706(c)(1).

²⁰³² 1996 Act, § 708(a)(1)(C).

accelerate the dissemination of technology, we do not rely upon section 708 to provide advanced services to schools and libraries within the context of the section 254 rulemaking proceeding. We agree with commenters who assert that section 708 should be considered further after implementation of section 254.²⁰³³

H. Access to Advanced Telecommunications and Information Services

1. Background

621. Section 254(h)(2)(A) directs the Commission to establish "competitively neutral rules" designed to enhance access to advanced telecommunications and information services to elementary and secondary school classrooms and libraries, "to the extent technically feasible and economically reasonable."²⁰³⁴ Congress also directs the Commission to establish "competitively neutral rules" defining the circumstances under which a carrier may be required to connect its network to public institutional telecommunications users, such as elementary and secondary schools and libraries.²⁰³⁵ Access to advanced telecommunications services is also included within the seven universal service principles outlined in section 254(b). Principle six, entitled, "Access to Advanced Telecommunications Services for Schools, Health Care, and Libraries," states that "[e]lementary and secondary schools and classrooms, . . . and libraries should have access to advanced telecommunications services as described in subsection [254] (h)."²⁰³⁶

622. In the NPRM, the Commission asked commenters to identify which services would qualify as "advanced telecommunications and information services" pursuant to section 254(h)(2), as well as the features and functionalities necessary to give classrooms and libraries access to those services.²⁰³⁷ The NPRM sought comment on "any additional measures, other than discounts or financial support, that would promote deployment of advanced services to school classrooms, [and] libraries."²⁰³⁸ For each such measure, the NPRM sought comment on whether it would be competitively neutral and whether it would comply with the resale prohibition contained in section 254(h)(3).²⁰³⁹ The Commission also asked commenters to estimate the potential costs associated

²⁰³³ See CFA further comments at 6-7; U.S. Distance Learning Ass'n further comments at 4-5.

²⁰³⁴ 47 U.S.C. § 254(h)(2)(A).

²⁰³⁵ 47 U.S.C. § 254(h)(2)(B).

²⁰³⁶ 47 U.S.C. § 254(b)(6).

²⁰³⁷ NPRM at para. 109.

²⁰³⁸ NPRM at para. 109.

²⁰³⁹ NPRM at para. 110.

with such measures.²⁰⁴⁰

623. In addition, the NPRM also asked how the Commission should assess whether specific services providing access to advanced telecommunications and information services are "technically feasible and economically reasonable."²⁰⁴¹ Moreover, the NPRM sought comment on how to define the circumstances under which a telecommunications carrier may be required to connect its network to public institutional telecommunications users.²⁰⁴²

2. Comments

624. Promoting Deployment. Several commenters discuss ways to promote deployment of advanced services.²⁰⁴³ NSBA I and ALA, for example, state that the Commission should encourage appropriate pricing policies, such as flat rate pricing, that would accommodate the need of schools and libraries for predictable pricing.²⁰⁴⁴ NCLIS anticipates "discounted rates" and "affordable access" to advanced telecommunications and information services.²⁰⁴⁵ New York Regents maintains that market aggregation and a consistent funding mechanism will promote deployment of advanced services.²⁰⁴⁶ Syracuse University asserts that direct subsidies should be provided to establish rate comparability among rural, high cost, and urban areas for T-1 data transmission lines.²⁰⁴⁷ Some parties maintain that the fostering of competition will promote such deployment,²⁰⁴⁸ while Rural Iowa Indep. Tel. Ass'n notes that the combination of competition, the establishment of universal service support mechanisms, and continuing technological advances

²⁰⁴⁰ NPRM at para. 110.

²⁰⁴¹ NPRM at para. 110.

²⁰⁴² NPRM at para. 110.

²⁰⁴³ *See, e.g.*, ALA comments at 22-23; MFS comments at 21; Metricom comments at 8; NCTA comments at 23; NSBA I comments at 25; Syracuse University comments at 10-11.

²⁰⁴⁴ ALA comments at 22-24; NSBA I comments at 24-25. *See also* CWA comments at 13 (asserting that reduced connection and user rates should be offered).

²⁰⁴⁵ NCLIS reply comments at 4, 24. *See also* Libraries for the Future reply comments at 1-3 (stating that libraries require discounted access to advanced services).

²⁰⁴⁶ New York Regents comments at 11.

²⁰⁴⁷ Syracuse University comments at 10-11.

²⁰⁴⁸ *See, e.g.*, MFS comments at 21; NCTA comments at 22-23.

will foster deployment of advanced services.²⁰⁴⁹

625. Other commenters take different approaches to the deployment of advanced services. CCV, for example, believes that "there are substantial incentives in place today that are driving companies such as Continental to accelerate the pace of providing access to a range of new, advanced services."²⁰⁵⁰ CCV cites a series of government-business partnerships into which it has entered and its construction of institutional networks that will promote deployment of advanced services to schools and libraries.²⁰⁵¹ USTA notes that "[w]hile § 254(h)(2) requires that advanced services be provided in a manner that is technically and economically reasonable, it does not require that advanced services that do not qualify as special services be discounted."²⁰⁵² NCTA maintains that section 254(h)(2) does not envision support for advanced services, but only contemplates enhancing access to such services.²⁰⁵³

626. Ensuring Competitive Neutrality. Several commenters address ways in which the Commission can ensure that it promulgates competitively neutral rules regarding advanced services.²⁰⁵⁴ Sailor, for example, asserts that rules for advanced services should allow schools and libraries to choose from among a variety of technologies and a variety of service providers.²⁰⁵⁵ Time Warner contends that ensuring competitive neutrality requires the Commission to "carefully examine the current market" to determine what services are already being provided to schools and libraries.²⁰⁵⁶ PacTel states that "all telecommunications and information service providers must bear responsibility for providing and funding these services."²⁰⁵⁷ New York Regents asserts that all companies providing core services to schools and libraries should be required to provide

²⁰⁴⁹ See Rural Iowa Independent Telephone Ass'n comments at 6.

²⁰⁵⁰ CCV comments at 6.

²⁰⁵¹ CCV comments at 6-10.

²⁰⁵² USTA comments at 12.

²⁰⁵³ NCTA comments at 17.

²⁰⁵⁴ See, e.g., Metricom comments at 7; New York Regents comments at 10-11; PacTel comments at 11; Sailor comments at 15; Time Warner comments at 18.

²⁰⁵⁵ Sailor comments at 15. See also HITN comments at 8 (encouraging the Commission to include Instructional Fixed Service licensees as telecommunications providers eligible for universal service support).

²⁰⁵⁶ Time Warner comments at 17-18.

²⁰⁵⁷ PacTel comments at 11.

interconnection to advanced services.²⁰⁵⁸

627. Technically Feasible and Economically Reasonable Requirement. Several commenters address the concept of technical feasibility and economic reasonableness. Ameritech, for example, notes that these two requirements are important limitations on the Commission's obligation to enhance access to advanced telecommunications and information services under section 254(h)(2), when it states that "[a]ccess to these advanced services may require more than the transmission capabilities provided by a telecommunications carrier."²⁰⁵⁹ Ameritech also recommends that the Commission not adopt detailed rules regarding section 254(h)(2) at this time, but rather should adopt a rule that imposes the requirements of (h)(2) and provides for an informal dispute resolution process to handle any disputes which may arise in the future.²⁰⁶⁰ PacTel maintains that any access mandated for an advanced service can only be considered technically feasible and economically reasonable "after the recipient has made a showing that it possesses and has the training to use related hardware and software."²⁰⁶¹ PacTel also supports ongoing review of access to advanced services and the development of working groups comprised of telecommunications providers and industry members to examine related issues.²⁰⁶² USTA asserts that the technically feasible and economically reasonable requirement "does not require that advanced services which do not qualify as special services be discounted."²⁰⁶³ USTA also contends that rules to be promulgated under section 254(h)(2) should be considered in the context of the Commission's section 706 proceeding.²⁰⁶⁴

628. Requiring Carriers to Connect to Schools and Libraries. Only one party addresses the circumstances under which a carrier may be required to connect its network to schools or libraries. Metricom suggests that the Commission refer to section 214(e), which provides "a mechanism by which subscribers in all areas of the country are assured of interconnection with at least one carrier which must offer all of the services that the Commission finds are necessary for schools, [and] libraries."²⁰⁶⁵ Metricom concludes, therefore, that there is no need for the

²⁰⁵⁸ New York Regents comments at 11.

²⁰⁵⁹ Ameritech comments at 20.

²⁰⁶⁰ Ameritech comments at 20-21.

²⁰⁶¹ PacTel comments at 11.

²⁰⁶² PacTel comments at 11-12.

²⁰⁶³ USTA comments at 12.

²⁰⁶⁴ USTA comments at 12. *See supra* section X.G. for a further discussion of section 706.

²⁰⁶⁵ Metricom comments at 8.

Commission to require carriers other than those deemed eligible carriers under section 214(e) to provide interconnection to schools and libraries.²⁰⁶⁶ In its reply comments, Metricom acknowledges that no other party directly addressed this issue, but states that "the record contains ample support for the proposition that carriers should not be forced to offer advanced telecommunications or information services to educational . . . institutions."²⁰⁶⁷

3. Discussion

629. As discussed above, we recommend that the Commission use section 254(h) to provide universal service support to schools and libraries for telecommunications services, Internet access, and internal connections. We conclude that our recommendations for providing universal service support under section 254(h) will significantly increase the availability and deployment of telecommunications services for school classrooms and libraries, and we find that additional steps are not needed to meet Congress's goal of enhancing access to advanced telecommunications and information services.

I. Implementation

630. We recommend that the Commission adopt rules that will permit schools and libraries to begin using discounted services ordered pursuant to section 254(h) at the start of the 1997 - 1998 school year. We anticipate that they may begin complying with the self-certification requirements as soon as the Commission's rules become effective. As explained in our discussion of the bona fide request requirement above, we recommend that all schools and libraries be required to comply with three self-certification requirements: (1) certify to the administrator that they have adopted a plan for securing access to all of the necessary supporting technologies needed to use the services purchased under section 254(h) effectively; (2) send a description of the services they desire to the fund administrator, so that the description of services can be posted for all potential competing service providers; and (3) submit written requests to their chosen service providers for services eligible for section 254(h) discounts, including certification of their eligibility for support and agreement to abide by Commission rules.

XI. HEALTH CARE PROVIDERS

A. Overview

631. Under section 254, public and non-profit health care providers that serve persons

²⁰⁶⁶ Metricom comments at 8.

²⁰⁶⁷ Metricom reply comments at 4 (*citing* New York DOE comments, TCI comments, and USTA comments).

residing in rural areas within a state may receive telecommunications services necessary for the provision of health care services at rates that are reasonably comparable to urban rates for similar services.²⁰⁶⁸ They may also receive universal service support for additional telecommunications services not included in the list of "core" services.²⁰⁶⁹ In addition, carriers that provide telecommunications services to rural health care providers at reduced rates may treat the amount of the reduction as part of their universal service obligation.²⁰⁷⁰ Further, the Commission is required to establish competitively neutral rules to enhance, to the extent technically feasible and economically reasonable, the access of public and non-profit health care providers to advanced telecommunications and information services²⁰⁷¹ and to define the circumstances when a carrier may be required to connect its network to health care providers.²⁰⁷²

632. In this section, we recommend that the Commission seek additional information on the telecommunications needs of rural health care providers, and on the costs of these services, prior to the Commission adopting final rules. The record submitted to date does not give us the confidence to make a recommendation at this time regarding the exact scope of services to be supported. We also recommend that the Commission seek additional information on the costs that would be involved in reducing or eliminating distance-based charges to rural health care providers in excess of those paid by urban customers, recognizing that removing disparities between rural and urban telecommunications rates is a central purpose of section 254. Further, we recommend that the Commission seek additional information on the costs to support toll-free Internet access and necessary upgrades to the public switched network.

633. With respect to establishing reasonably comparable rates for those services ultimately designated, we recommend that the Commission require carriers to provide each service offered in a rural area at a rate no higher than the highest commercial tariffed or publicly available rate in the state's closest urban area. We also recommend compensating the providing carrier by allowing an offset to that carrier's universal service obligation. The offset should be the difference between the rate charged to the health care provider and the average of that carrier's rates in the rural county in which the health care provider is located. If the carrier is not providing the service to other customers in that area, we recommend that the offset be calculated from the average of other carriers' rates in the same area, or from a cost-based rate approved by the state or the Commission. We also describe the certifications we recommend be included in each bona

²⁰⁶⁸ 47 U.S.C. § 254(h)(1)(A).

²⁰⁶⁹ 47 U.S.C. § 254(c)(3).

²⁰⁷⁰ 47 U.S.C. § 254(h)(1)(A).

²⁰⁷¹ 47 U.S.C. § 254(h)(2)(A).

²⁰⁷² 47 U.S.C. § 254(h)(2)(B).

vide request for services, and explain our recommendation that aggregated purchase arrangements with non-eligible entities should be allowed.

B. Services Eligible for Support

1. Background

634. As discussed in section IV.A. above, section 254(c)(1) of the 1996 Act gives the Commission and Joint Board responsibility for defining a group of core services eligible for federal universal service support. In addition to these core telecommunications services, section 254(c)(3) provides the Commission with the authority to designate "special" or "additional" services as eligible for support for public and non-profit health care providers for the purposes of subsection 254(h).²⁰⁷³ Subsection (h)(1)(A) provides a specific mechanism for supporting services to eligible health care providers serving persons who reside in rural areas at rates reasonably comparable to rates in urban areas in that state.²⁰⁷⁴

635. In the Joint Explanatory Statement accompanying the 1996 Act, Congress explained that subsection (h) of section 254 is intended "to ensure that health care providers for rural areas have affordable access to modern telecommunications services that will enable them to provide medical . . . services to all parts of the Nation."²⁰⁷⁵ In addition, the Joint Explanatory Statement noted that the definition of services to be supported by universal service support mechanisms is an evolving one, and, "[t]he Commission is given specific authority to alter the definition from time to time, and to provide a different definition for . . . health care facilities."²⁰⁷⁶ Further, in its consideration of section 254(c)(3) "additional" services, Congress authorized the Commission to specify a separate definition of universal service that would apply only to public institutional telecommunications users.²⁰⁷⁷ In formulating such a definition, Congress stated that "the conferees expect the Commission and the Joint Board to take into account the particular needs of hospitals, K-12 schools and libraries."²⁰⁷⁸

²⁰⁷³ 47 U.S.C. § 254(c)(3).

²⁰⁷⁴ 47 U.S.C. § 254(h)(1)(A).

²⁰⁷⁵ Jt. Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2nd Sess. 132 (1996).

²⁰⁷⁶ Joint Explanatory Statement at 131.

²⁰⁷⁷ Joint Explanatory Statement at 133. The term "institutional telecommunications user" is defined as including "an elementary and secondary school [or] a library . . . as those terms are defined in this paragraph." 47 U.S.C. § 254(h)(5)(c).

²⁰⁷⁸ *Id.*

636. In addition to core services,²⁰⁷⁹ the NPRM proposed to "designate additional services" for support to "rural health service providers" to the extent "necessary for the provision of [rural] health care services" pursuant to sections 254(c)(3) and 254(h)(1)(A).²⁰⁸⁰ The NPRM sought comment on what telecommunications services were "necessary for the provision of [rural] health care services,"²⁰⁸¹ and whether incoming services should be eligible for support as well as outgoing services.²⁰⁸² The Commission also sought comment on the nature of the "instruction relating to such [health care] services telecom carriers provide their subscribers."²⁰⁸³

2. Comments

637. Limit Services Eligible for Support. Some commenters, including NCTA, TCI, and Florida Cable, suggest limiting universal service support for health care providers to "core" services proposed under section 254(c)(1).²⁰⁸⁴ Florida Cable argues that no services beyond core services should be supported before a "needs assessment" is accomplished.²⁰⁸⁵ These commenters argue that this option is most easily administered and would be the least expensive to support. TCI argues that the term "necessary" services should be defined narrowly "so that carriers are obligated to provide the least number of services" in order that these requirements do not "result in the creation of entry barriers."²⁰⁸⁶ Frontier maintains that more advanced services like ATM and ISDN could be added when a compelling need is demonstrated.²⁰⁸⁷

638. Similarly, Ameritech argues that, under section 254(h)(1)(A), the services and functionalities eligible for support do not include all available services, but only those

²⁰⁷⁹ The NPRM sought comment on a list of potential "core" telecommunications services that might be supported under the provisions of section 254(c)(1), including: (1) voice grade access to the public switched network, with the ability to place and receive calls; (2) touch-tone; (3) single-party service; (4) access to emergency services (911); and (5) access to operator services; NPRM at para. 16. For a full discussion of section 254(c)(1) and core services, see section IV.B., *supra*.

²⁰⁸⁰ NPRM at para. 90.

²⁰⁸¹ NPRM at para. 90.

²⁰⁸² NPRM at para. 94.

²⁰⁸³ NPRM at para. 93.

²⁰⁸⁴ *See, e.g.*, Florida Cable comments at 16; NCTA comments at 20; TCI comments at 24.

²⁰⁸⁵ Florida Cable comments at 16.

²⁰⁸⁶ TCI comments at 24.

²⁰⁸⁷ Frontier comments at 5.

telecommunications services that are "necessary for the provision of health care services in a state, including instruction relating to such services."²⁰⁸⁸ Several commenters assert that only certain limited services for health care providers should be supported under the provisions of section 254.²⁰⁸⁹

639. Expand Coverage to Additional Services. Several other commenters are of the view that, in addition to core services, "special" or "additional" services should be provided to rural health care providers at rates comparable to urban rates. MCI, for example, notes that adequate telecommunications services for these institutional users are likely to require greater bandwidth than that required by residential users.²⁰⁹⁰ Some commenters asserting similar views state their preferences in terms of modes of transmission such as ATM,²⁰⁹¹ or basic rate or primary rate ISDN.²⁰⁹² Some use descriptions of digital transmission speed (e.g., up to and including 64 kbps,²⁰⁹³ 112 kbps,²⁰⁹⁴ 384 kbps²⁰⁹⁵ or 1.544 Mbps²⁰⁹⁶). Still others use practical terminology to describe the services they wish to have supported (e.g., "[s]end and receive diagnostic quality radiologic images").²⁰⁹⁷ The Advisory Committee on Telecommunications and Health Care (Advisory Committee)²⁰⁹⁸ argues that services necessary to support rural telemedicine efforts

²⁰⁸⁸ Ameritech further comments at 12.

²⁰⁸⁹ See, e.g., Alaska Tel. further comments at 6 ("discounts should only apply to regulated services and functionalities"); NCTA further comments at 3; Nat'l Ass'n of Mfrs further comments at 1-2 (keep universal service supported services "as basic as possible"); Teleport further comments at 4-5.

²⁰⁹⁰ MCI comments at 20.

²⁰⁹¹ See, e.g., Frontier comments at 5; Mountaineer Doctor TV comments at 2; North Dakota PSC comments at 1.

²⁰⁹² Merit comments at 2; Mountaineer Doctor TV comments at 2; North Dakota PSC comments at 1; Nurse Practitioners comments at 3; PacTel comments at 9.

²⁰⁹³ Alaska Health comments at 3.

²⁰⁹⁴ American Telemedicine comments at 5.

²⁰⁹⁵ Nebraska Hospitals comments at 1 ("At a very minimum, telemedicine requires 384 Kbps.").

²⁰⁹⁶ Mountaineer Doctor TV comments at 2; Advisory Committee Report (*see infra*) at 4.

²⁰⁹⁷ Nurse Practitioners comments at 2.

²⁰⁹⁸ The Advisory Committee on Telecommunications and Health Care was established on June 12, 1996 by the Federal Communications Commission to provide advice to the Commission and the Joint Board on telemedicine, particularly the rural telemedicine provisions of the Telecommunications Act of 1996. The Advisory Committee, which was made up of thirty eight individuals with expertise and experience in the fields of health

should include health care provider consultation, health care provider to patient consultation, continuing medical education programs for rural physicians and other health care providers, access to the most current medical information through the Internet for rural health care providers, round-the-clock support from physicians and specialists at urban centers, and specialty services such as radiology, dermatology, selected cardiology, pathology, obstetrics (fetal monitoring), pediatric, and psychiatric services.²⁰⁹⁹ The Advisory Committee contends that these services should be supported by the capacity to transmit high speed data and high quality images to urban medical centers.²¹⁰⁰

640. U S West and Alaska Health state that transmission speeds for telecommunications access lines qualifying as "additional services" that are "necessary for the provision of health care" could be limited to 64 kbps.²¹⁰¹ Some commenters maintain that ISDN is the minimum service required to address current needs of rural health care.²¹⁰² Others argue that transmission speeds up to and including 1.544 Mbps capacity or those supported by a T-1 line, are the minimum needed to support the telemedicine needs of rural health care providers adequately today.²¹⁰³

641. Four commenters suggest extending universal service support for health care providers to cover services or facilities supporting higher transmission capacities than 1.544 Mbps. Harris suggests that DS-3 service (up to 44.7 Mbps, the equivalent of a T-3 line) be provided to rural areas from nearby cities or towns to serve health care providers, schools and libraries in a state telecommunications network.²¹⁰⁴ Arizona Health suggests T-3 connections

care, telecommunications and telemedicine, issued its report (Advisory Committee Report) on October 15, 1996.

²⁰⁹⁹ Advisory Committee Report at 6-7.

²¹⁰⁰ Id.

²¹⁰¹ Alaska Health comments at 3; U S West comments at 22.

²¹⁰² Maryland Nurses comments at 2; North Dakota Health comments at 1; PacTel comments at 9 ("ISDN can support voice, video and data applications necessary in the health care field").

²¹⁰³ See, e.g., BellSouth comments at 23; Maryland Nurses comments at 2; Merit comments at 3-5 (urging the Joint Board and the Commission to include the widest possible range of services in the additional services to be made available to health care providers including dedicated T-1 access for 1.544 Mbps service, ISDN primary rate service and LAN access); Mountaineer Doctor TV comments at 2; Navajo Nation comments at 3; New Jersey Advocate comments at 21; RUS comments at 12-13 (noting that a "substantial majority" of applicants to their Telemedicine Grant Program request "Real-time full motion video access to multiple major urban medical centers"); BellSouth further comments at 10 ("services and functionalities which must be made available to rural health care providers at rates reasonably comparable to urban rates should be data, video and imaging at speeds of up to 1.544 Mbps for telemedicine purposes.").

²¹⁰⁴ Harris comments at 16.

between universities and remote areas to "actualize" distance medical teaching and learning opportunities.²¹⁰⁵ AHA urges the Commission to view the needs of rural health care to encompass "the entire spectrum of modes of telecommunications."²¹⁰⁶ Western Alliance would limit support to only "the more expensive services -- full motion video, data switching (frame relay or ATM) and higher bandwidth lease lines such as DS-3."²¹⁰⁷

642. Additional Services at Different Levels of Support. ORHP/HHS, seeking to balance "the need to develop an advanced telecommunications infrastructure with the need to avoid placing an undue financial burden on the universal service fund"²¹⁰⁸ suggests a two-tiered system of support. Under this system, rural hospitals would receive support for T-1 service providing transmission speeds up to and including 1.544 Mbps. Primary care providers, such as community and migrant health centers or rural health clinics, would be limited to support for basic rate ISDN or similar technology with transmission capacity of up to 64 to 128 kbps "with the ability to increase capacity to 384 kbps on an emergency basis."²¹⁰⁹ ORHP/HHS also maintains that in its experience, public switched networks "currently do not support T-1 bandwidth," and for that reason, rural health care providers that desire telecommunications services using this capacity will typically require dedicated T-1 lines connecting their facility to other rural and urban health care facilities.²¹¹⁰

643. Other commenters want no additional services designated at this time. Citizens Utilities, for example, suggests that it is unwise to identify any specific additional services other than "core" services for universal service support.²¹¹¹ Citizens Utilities notes that the language in section 254(c)(3) giving the Commission authority to designate additional services for universal service support for health care providers is permissive ("may designate"), not mandatory.²¹¹² Citizens Utilities would discourage attempts to "anticipate every type of service that every qualifying rural health care provider might conceivably require," because the list will invariably miss some needed services or "fail to anticipate services that are not yet deployed." Citizens

²¹⁰⁵ Arizona Health comments at 2.

²¹⁰⁶ AHA comments at 6.

²¹⁰⁷ Western Alliance further comments at 2-3.

²¹⁰⁸ ORHP/HHS comments at 8.

²¹⁰⁹ ORHP/HHS comments at 8-9.

²¹¹⁰ ORHP/HHS comments at 10.

²¹¹¹ See Citizens Utilities comments at 18.

²¹¹² Citizens Utilities comments at 18.

Utilities suggests, instead, that parties be allowed to "negotiate technical arrangements."²¹¹³ Likewise, Teleport argues that the Commission should postpone designating any additional services for support to a future "Phase II" proceeding that would allow the states first to develop specific proposals.²¹¹⁴ Sprint suggests that until the market determines, through subscribership, what services are desirable and necessary, regulators should identify no specific services as requiring support.²¹¹⁵

644. Support Services that are Technology Neutral. Another group of commenters approves of setting levels of support based on baseline parameters like bandwidth or transmission rate, but urge the Commission to avoid mandating particular services or modes of service delivery in ways that would limit customer choice, risk "locking in" obsolete technologies, or hamper the most efficient results by unwisely favoring some technologies over others.²¹¹⁶ For example, NCTA argues that "if and when additional services are designated for support, any proposed services should be competitively and technologically neutral . . . and potentially obsolete technologies such as ISDN should not be mandated."²¹¹⁷

645. Other commenters urge the Commission not to specify particular services in a way that might limit health care providers' technology choices now or in the future.²¹¹⁸ For example, AT&T argues that "the discount for qualified . . . health care providers should apply to telecommunications services of the qualified institution's choice."²¹¹⁹ AT&T maintains that, because marketplace forces rather than the Commission should determine the evolution of telecommunications services, non-profit health care providers should be able to select the services that meet their needs.²¹²⁰

²¹¹³ Citizens Utilities comments at 18 ("Limiting discounts to a specific technology and or bandwidth may limit choices on types of services available"). *See also* Mountaineer Doctor TV comments at 2.

²¹¹⁴ Teleport comments at 19.

²¹¹⁵ Sprint comments at 23.

²¹¹⁶ *See, e.g.*, American Telemedicine comments at 3; Council on Competitiveness comments at 4; Idaho PUC comments at 10; NCTA comments at 17; U S West comments at 22.

²¹¹⁷ NCTA comments at 20 (i.e., if broadband services with a certain bandwidth are required, providers should have the option to provide the service through various architectures. . .").

²¹¹⁸ *See, e.g.*, American Telemedicine comments at 3; North Dakota PSC comments at 1.

²¹¹⁹ AT&T further comments at 9.

²¹²⁰ AT&T further comments at 9. *See also* Benton further comments at 3 ("allow the greatest range of choice to the public institution."); ITC further comments at 4; MAP further comments at 3 ("apply to all commercially available services."); Maine PUC further comments at 6 ("apply to all available services.").

646. Support Originating and Terminating Services. American Telemedicine asserts that because a telemedicine communication link may originate from either end of the transmission, both originating and terminating calls must be eligible for support.²¹²¹ On the other hand, Ameritech argues that only originating services should be eligible for universal service support because of the extreme difficulty in determining the urban/rural price differential with respect to terminating services and also the difficulty of policing the use of terminating services.²¹²² AHA maintains that because cellular services may charge for both incoming and outgoing calls, support should be provided for cellular services in both incoming and outgoing modes.²¹²³

647. Support Telecommunications Services Only. Frontier asserts that the use of the term "telecommunications services" in sections 254(c)(1) and (h)(1)(A) makes it clear that in the case of health care providers, "access to the Nation's telecommunications infrastructure" is eligible for universal service support, while "the *means* to take advantage of that access (e.g., computers)" is not.²¹²⁴ BellSouth also argues that non-telecommunications services are excluded. It urges the Commission to clarify that non-"telecommunications services" are not eligible for universal service support mechanisms.²¹²⁵

648. "Instruction Relating to Such Services." Few commenters respond to the Commission's request for comment on the nature of the "instruction relating to such [health care] services"²¹²⁶ in section 254(h)(1)(A). Arizona Health comments that telemedicine (supported by T-3 cable to remote areas) would allow medical, pharmacy and nursing students to avoid much travel to meet both rural clinic assignments and class requirements, which would enable more students to rotate to rural assignments and allow teachers to better supervise the students while on their assignments.²¹²⁷

649. Periodic Review. Numerous commenters strongly suggest that, since the

²¹²¹ American Telemedicine comments at 5. *See also* Mountaineer Doctor TV comments at 3; Nebraska Hospitals comments at 2; North Dakota Health comments at 2.

²¹²² Ameritech comments at 18-19.

²¹²³ AHA comments at 6.

²¹²⁴ Frontier comments at 4-5.

²¹²⁵ BellSouth further comments at 10. *See also* Taconic Tel. Corp. reply comments at 6; Citizens Utilities further comments at 6 (1996 Act does not include customer premises equipment, inside wire or other internal connections.); PacTel further comments at 14-15.

²¹²⁶ NPRM at para. 93.

²¹²⁷ U of A, Health Sciences Center comments at 2.

technologies and the patterns and penetration of their usage are changing so rapidly, the definition of services or functionalities eligible for universal service support should be subject to ongoing or periodic Commission review.²¹²⁸ ORHP/HHS suggests revisiting the universal service definition on a periodic basis such as every three to five years.²¹²⁹ American Telemedicine maintains that rapid changes in telemedicine suggest the wisdom of both periodic review and redirection of established policy.²¹³⁰ Missouri PSC comments that "[t]he FCC should periodically re-evaluate this list [of services] to determine whether some other services have become more valuable, or whether some subsidized services have become obsolete."²¹³¹ The Advisory Committee argues that the "market basket," a representative package of telemedicine services developed and suggested by the Advisory Committee, should be reviewed and updated at least every two years. It also recommends a survey of well-served areas to gather the information needed to revise accurately the "market basket."²¹³²

3. Discussion

650. In attempting to determine what services should be designated as "necessary for the provision of health care services" and thus eligible for universal service support, we have carefully reviewed the record, considering the particular needs of hospitals and other health care providers that serve rural areas.²¹³³ We have been mindful of Congress's intent that universal service support mechanisms be used to ensure that residents of rural America are not denied, because of the unavailability or higher cost of telecommunications services, access to health care services that are more readily available to their fellow citizens residing in urban areas.²¹³⁴

651. In this regard, we have found the Advisory Committee Report particularly helpful. The Advisory Committee developed what it calls a "market basket" of telemedicine services

²¹²⁸ See, e.g., Council on Competitiveness comments at 4; (stating that "[p]olicymakers should periodically review and reconsider which additional service should be designated for universal service support for rural health care providers.").

²¹²⁹ ORHP/HHS comments at 11.

²¹³⁰ American Telemedicine comments at 4.

²¹³¹ Missouri PSC comments at 14.

²¹³² Advisory Committee Report at 6 (noting that the Advisory Committee developed a "market basket" of telemedicine services as a guide to estimate what level of telecommunications services would be necessary to support rural telemedicine efforts).

²¹³³ See Joint Explanatory Statement at 132.

²¹³⁴ See *id.*

available in urban areas to serve as a guide to what level of such services would be necessary to support rural telemedicine.²¹³⁵ The Advisory Committee's market basket of needed services included the capacity to support provider-to-provider and provider-to-patient consultations, employing either voice or video transmission, between rural offices and urban centers. It included the capability to transmit data and medical images at speeds high enough to make transmission time reasonable and at transmission capacities broad enough to transmit accurately high-resolution radiological images and make use of examination devices such as electronic stethoscopes.²¹³⁶ Transmission of a single study of chest x-rays containing four film images would take 3.5 hours to transmit over a 28.8 Kbps modem, 40 minutes over an ISDN line and only 4 minutes over a T-1 line at 1.544 Mbps.²¹³⁷ Although the use of constantly improving compression technology would reduce these transmission times to some degree, we note that data compression of medical and radiological images under current technology results in some loss of image resolution and, as a result, some standard-setting bodies have refused to approve the use of compression technology in teleradiology.²¹³⁸

652. The Advisory Committee, and the majority of commenters who recommended a specific level of telecommunications bandwidth capacity to support rural health care providers, concluded that, to ensure access to the appropriate level of these services, health care professionals should be able to choose among any telecommunications services supporting a capacity of up to and including 1.544 Mbps or its equivalent.²¹³⁹ The Advisory Committee recognized that the need for various applications would differ among eligible health care providers. They also noted that, because rural health care providers would be required to commit substantial resources to the acquisition and maintenance of these services, health care providers would have a powerful incentive to choose the most cost-effective telecommunications services that would meet their telemedicine needs.

²¹³⁵ Advisory Committee Report at 6-7.

²¹³⁶ *Id.* See also American Telemedicine comments at 6-7.

²¹³⁷ ORHP/HHS comments at 9.

²¹³⁸ ORHP/HHS comments at 9-10.

²¹³⁹ Advisory Committee Report at 4. See also BellSouth comments at 23; Maryland Nurses comments at 2; Merit comments at 3-5 (urging the Joint Board and the Commission to include the widest possible range of services in the additional services to be made available to health care providers including dedicated T-1 access for 1.544 Mbps service, ISDN primary rate service and LAN access); Mountaineer Doctor TV comments at 2; Navajo Nation comments at 3; New Jersey Advocate comments at 21; RUS comments at 12-13 (noting that a "substantial majority" of applicants to their Telemedicine Grant Program request "Real-time full motion video access to multiple major urban medical centers"); BellSouth further comments at 10 ("services and functionalities which must be made available to rural health care providers at rates reasonably comparable to urban rates should be data, video and imaging at speeds of up to 1.544 Mbps for telemedicine purposes.").

653. We note that, although one commenter asserts that lower bandwidth services such as ISDN might be a less expensive alternative sufficient for telemedicine needs,²¹⁴⁰ most other commenters suggesting ISDN couch their recommendation in terms of "at least"²¹⁴¹ or "at a minimum"²¹⁴² thus indicating that higher bandwidth would be desirable. We would, however, be hesitant to limit universal service support to a specific technology that may fall behind other emerging technologies or may not be the best telecommunications choice for certain health care providers.²¹⁴³ In addition, further detailed information about the relative costs of supporting higher bandwidth technologies and services would be helpful in making a recommendation that is both sufficient for the needs of health care providers and minimally burdensome on customers and carriers.

654. Overall, we find the conclusions of the expert Advisory Committee and the other commenters persuasive in these matters and we believe that health care providers should be able to choose the telecommunications services they require. To the extent that these health care providers will be receiving federal universal service support, we also believe, consistent with the statute, that the support should be tied to those services "necessary for the provision of health care in a state."²¹⁴⁴ We note that few commenters addressed this important issue and the record contains no real examination of the impact on rural health care of limiting support to a specific level of transmission capacity. In addition, it is clear that both the technology in this area and its deployment in the marketplace is developing and progressing at a rapid pace. We find that additional information is needed to assist the Commission in formulating a standard that would be both cost-efficient and sufficient to meet the needs of rural health care providers. For these reasons, we recommend that the Commission solicit information and expert assessments of the exact scope of services that should be included in the list of those additional services "necessary for the provision of health care in a state."²¹⁴⁵ We recommend that the Commission seek information on the telecommunications needs of rural health care providers and on the most cost effective ways to provide these services to rural America. Finally, we recommend that the Commission take this information and these assessments into account in deciding what services to include as services eligible for universal service support.

655. As several commenters noted, a question is presented whether support should be

²¹⁴⁰ PacTel comments at 9.

²¹⁴¹ American Telemedicine comments at 7.

²¹⁴² PacTel comments at 9.

²¹⁴³ See NCTA comments at 20.

²¹⁴⁴ See 47 U.S.C. § 254(h)(1)(A).

²¹⁴⁵ 47 U.S.C. 254(h)(1)(A).

offered to terminating services as well as originating services.²¹⁴⁶ We recommend that the Commission include terminating as well as originating services for universal service support in cases where the eligible health care provider would pay for terminating as well as originating services, such as in the case of cellular air time charges.²¹⁴⁷ We agree with those parties who assert that terminating services that are not billed to the rural health care provider would be too difficult to monitor and should not be supported.²¹⁴⁸

656. Further, we recommend that the Commission initially designate only telecommunications services as eligible for support as expressly provided under the terms of sections 254(c)(1) and 254(h)(1)(A). We do not, at this time, recommend that the Commission find that customer premises equipment would be eligible for support.²¹⁴⁹

657. After the Commission designates those services eligible for support for rural health care providers, we recommend that the Commission's list of supported telecommunications services be revisited in 2001, when the Commission is scheduled to reconvene a Joint Board on universal service. We agree with those commenters that argue that the rapid pace and vast scope of change in telecommunications technologies, infrastructures and businesses suggest the wisdom of periodically reviewing the list and definition of services designated for support in order to make needed modifications in the policy.²¹⁵⁰

C. Implementing Support Mechanisms for Comparable Rates.

1. Determining the urban rate.

a. Background

658. The rate to be charged for telecommunications services to eligible health care providers who serve rural areas is described in section 254(h)(1)(A) as follows:

(A) HEALTH CARE PROVIDERS FOR RURAL AREAS. - A

²¹⁴⁶ See *supra* section XI.B.2 (discussing comments of American Telemedicine, Ameritech and AHA).

²¹⁴⁷ See, AHA comments at 6.

²¹⁴⁸ See, Ameritech comments at 18-19.

²¹⁴⁹ See, e.g., BellSouth further comments at 10; Citizens Utilities further comments at 6.

²¹⁵⁰ American Telemedicine comments at 4; Council on Competitiveness comments at 4-5; Missouri PSC comments at 14; ORHP comments at 11.

telecommunications carrier shall . . . provide telecommunications services . . . to any public or non-profit health care provider . . . at rates that are reasonably comparable to rates charged for similar services in urban areas in that state.²¹⁵¹

659. In the Joint Explanatory Statement, Congress stated that subsection 254(h) was "intended to insure that health care providers for rural areas . . . have affordable access to modern telecommunications services that will enable them to provide medical and educational services to all parts of the nation."²¹⁵² Congress emphasized affordability of telemedicine as a goal of this subsection, stating: "[i]t is intended that the rural health care provider receive an affordable rate for the services necessary for the purposes of telemedicine and instruction relating to such services."²¹⁵³

660. In the NPRM, the Commission stated that "in establishing an appropriate methodology for ensuring 'reasonably comparable' rates, we wish to minimize, to the extent consistent with section 254, the administrative burden on regulators and carriers."²¹⁵⁴ The Commission stated that it sought a methodology for establishing "reasonably comparable" rates that was based on publicly available data, neither under-inclusive nor over-inclusive, and easily administered.²¹⁵⁵ It asked commenters to discuss any proposed methodologies in these terms.²¹⁵⁶ The Commission also stated that it interpreted the term "reasonably comparable" to require less than absolute precision in determining the appropriate rates for rural health care providers.²¹⁵⁷ It asked for comments on how carriers should derive the rates applicable to rural health care providers to ensure the services to which they subscribed would be priced at reasonably comparable rates. In addition, the Commission asked whether average rates should be computed or whether some other method would be more appropriate.²¹⁵⁸

b. Comments

²¹⁵¹ 47 U.S.C. § 254(h)(1)(A).

²¹⁵² Jt. Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 132 (1996).

²¹⁵³ Joint Explanatory Statement at 131 (1996).

²¹⁵⁴ NPRM at para. 100.

²¹⁵⁵ NPRM at para. 95.

²¹⁵⁶ NPRM at para. 98.

²¹⁵⁷ NPRM at para. 100.

²¹⁵⁸ NPRM at para. 101.

661. Average Rate. Several commenters advocate using an average rate for telecommunications services to meet the statutory definition for a rate "reasonably comparable" to rates charged for similar services in urban areas in that state.²¹⁵⁹ USTA proposes using the statewide average rate for the particular service requested.²¹⁶⁰ USTA argues that setting the rate at the statewide average would meet the requirement to offer rates that are reasonably comparable because it would be based upon the statewide average in both rural and urban areas.²¹⁶¹ Bell Atlantic asserts that the rate charged urban health care providers should not exceed a statewide average rate for telecommunications services used in the provision of health care service.²¹⁶² North Dakota Health recommends the use of a mean state urban rate plus or minus 10 percent as a reasonably comparable rate for this purpose.²¹⁶³ Sprint argues that the rate should be determined by taking averages of tariffed services on a nationwide basis.²¹⁶⁴

662. Eliminate Distance-Based Charges. Several commenters argue that limiting or eliminating distance-based charges and charges based on transmission across LATA boundaries, which are often attached to telecommunications rates in rural areas, would help make a rural rate "reasonably comparable" to an urban rate.²¹⁶⁵ Mountaineer Doctor TV suggests eliminating LATA boundaries for health care and educational usage because this will allow one carrier to serve the circuit from end to end.²¹⁶⁶ Mountaineer Doctor TV also recommends the use of a recurring flat fee for both ends of the circuit, and a discounted-mileage charge for health care and educational usage.²¹⁶⁷ Mountaineer Doctor TV asserts that eliminating LATA boundaries would result in an immediate cost savings while improving access and distribution of health care related

²¹⁵⁹ See, e.g., Sprint comments at 23; USTA comments at 11; Bell Atlantic further comments at 3.

²¹⁶⁰ USTA comments at 11.

²¹⁶¹ USTA comments at 11; USTA reply comments at 7.

²¹⁶² Bell Atlantic further comments at 3.

²¹⁶³ North Dakota Health comments at 2.

²¹⁶⁴ Sprint comments at 23 ("The discount should be the difference between the nationwide average tariffed rate for services provided in urban markets and the nationwide average tariffed rate for similar services provided in rural markets.").

²¹⁶⁵ See, e.g., American Telemedicine comments at 9; Mountaineer Doctor TV comments at 3; Advisory Committee Report at 11.

²¹⁶⁶ See, e.g., Mountaineer Doctor TV comments at 3.

²¹⁶⁷ Mountaineer Doctor TV comments at 3.

services in rural areas.²¹⁶⁸ Likewise, Montana Tel. Ass'n. argues that mileage charges for high-speed data or broadband services should be prohibited.²¹⁶⁹

663. Toll-Free Internet Access. Several commenters argue that toll-free dial-up Internet access should be supported for rural health care providers.²¹⁷⁰ ORHP/HHS describes toll-free dial-up Internet access as "an essential prerequisite to providing advanced telecommunications services to health care providers" that should be made available to all rural customers.²¹⁷¹ U S West supports inclusion of toll-free Internet access for universal service support and suggests that carriers should be able to choose among a variety of means to carry Internet toll traffic, including, for example, an 800 or FX service.²¹⁷² The Governor of Guam states that core services for telemedicine should include high-speed digital and Internet access.²¹⁷³ RUS maintains that "rural use of Internet and other information services may never approach urban and suburban levels of use until availability of access on a non-toll basis is provided."²¹⁷⁴

664. Relate Comparability to the Closest Urban Area. Ameritech argues that the rate for a rural health care provider should be based on the rate charged for a comparable service in the closest urban area.²¹⁷⁵ NCTA also asserts that the methodology for determining reasonably comparable urban rates should not be based on any kind of average of urban rates, but rather on a comparison of rates in the nearest urban area, or perhaps two urban areas.²¹⁷⁶

665. Competitive Bidding. Florida Cable asserts that a competitive bid process could achieve rates for rural health care providers that are reasonably comparable to rates charged by the same or other carriers serving health care providers in the nearby rural area(s).²¹⁷⁷ Florida

²¹⁶⁸ Mountaineer Doctor TV comments at 3.

²¹⁶⁹ Montana Tel. Ass'n comments at 7.

²¹⁷⁰ *See, e.g.*, Idaho PUC comments at 11; Maryland Nurses comments at 2; RUS comments at 13; Advisory Committee at 4.

²¹⁷¹ ORHP/HHS comments at 7.

²¹⁷² U S West comments at 23.

²¹⁷³ Governor of Guam reply comments at 3.

²¹⁷⁴ RUS comments at 11.

²¹⁷⁵ Ameritech comments at 19.

²¹⁷⁶ NCTA comments at 21.

²¹⁷⁷ Florida Cable comments at 17.

Cable outlines a bidding process under which comparability to the urban rate would be one bid specification and every bid would be compared to publicly available tariff information about urban rates. The lowest bid, no higher than 10 percent over urban rates, would receive the contract.²¹⁷⁸ Florida Cable proposes that, in the absence of a bidder, the states would most likely be best able to determine at what level services should be discounted and what eligible universal service provider(s) in a geographic area would meet an eligible facility's needs.²¹⁷⁹

666. Other Suggestions. Alliance for Distance Education asserts that the rate for health care providers should equal the lower of the lowest Lifeline customer's rate or the lowest contract rate paid by corporations or institutions in the state for the telecommunications service the health care provider requests.²¹⁸⁰ NECA also argues that an approach similar to the rules governing the calculation of Lifeline assistance revenue could be followed with respect to health care providers.²¹⁸¹ Wyoming PSC asserts that in defining reasonably comparable rates, the state public service commissions should be consulted.²¹⁸² Mountaineer Doctor TV questions the basic structure of the statute and its ability to address this problem. Noting that many of the rural areas' connectivity stems from urban centers, it asks whether urban pricing structures really differ that dramatically from such structures for their rural counterparts, or whether the price difference reflects shorter mileage charges and lack of crossed LATA boundaries.²¹⁸³

c. Discussion

667. We recommend that, for each telecommunications service delivered to a qualified health care provider as provided in section 254(h)(1)(A), the Commission should designate as the rate "reasonably comparable to rates charged for similar services in urban areas in that state" (the "urban rate"), the highest tariffed or publicly available rate actually being charged to commercial customers within the jurisdictional boundary of the nearest large city in the state (measured by airline miles from the health care provider's location to the closest city boundary point).²¹⁸⁴

²¹⁷⁸ Florida Cable comments at 17, 18.

²¹⁷⁹ Florida Cable comments at 18.

²¹⁸⁰ Alliance for Distance Education comments at 1.

²¹⁸¹ NECA comments at 15.

²¹⁸² Wyoming PSC comments at 12.

²¹⁸³ Mountaineer Doctor TV comments at 4.

²¹⁸⁴ We do not recommend an exact definition of the size of population a city must have to qualify as "large" for purposes of calculating the urban rate. We leave that determination to the Commission. *See infra* section XI.D.1.c. for a discussion on defining urban areas.

668. We agree with the parties who suggest that the urban/rural rate differential should be based on the rates charged for similar services in the urban area closest to the health care provider's location.²¹⁸⁵ We believe that relating the provider's rate to a specific, publicly available rate actually being charged within the political boundary of a city has many advantages over other plans proposed. This method is easy to understand and use²¹⁸⁶ and thus complies with the Commission's guideline that implementation of universal service support mechanisms should be fashioned to minimize administrative burdens on regulators and carriers.²¹⁸⁷ For example, because it involves a one-step process, this method would be less administratively burdensome than a competitive bidding system²¹⁸⁸ or a process based on the current Lifeline assistance program.²¹⁸⁹ We also believe it preferable to plans that would require obtaining information about private contract rates, which are proprietary and not obtainable without elaborate confidentiality safeguards.²¹⁹⁰

669. Several commenting parties and the Advisory Committee request that access to an (ISP) be made available to rural health care providers toll-free or at toll rates comparable to what most urban telecommunications customers are paying.²¹⁹¹ We note that the Internet can supply access to many important sources of information for rural health care providers and might also be a more flexible and cost effective alternative to dedicated circuits as a conferencing tool. We also note, however, that the record is completely lacking of information on the extent and pace of development of Internet Service Provider coverage in rural areas in the country, and somewhat lacking in information on the cost of supporting the toll portion of Internet access for rural health care providers. Given the information currently on the record in this proceeding, we are not prepared to recommend supporting this service at this time. We do recommend, however, that the Commission seek information on the rate of expansion of local access coverage of ISPs in rural areas of the country and the costs likely to be incurred in providing toll-free access to ISPs for health care providers in rural areas. We also recommend that the Commission take this information and these assessments into account in deciding what services to include as services

²¹⁸⁵ Ameritech comments at 19; NCTA comments at 21.

²¹⁸⁶ It should be relatively easy to compare a city's political boundaries with a carrier's rate maps and thus ascertain precisely the applicable rate.

²¹⁸⁷ NPRM at para. 100.

²¹⁸⁸ See Florida Cable comments at 17-18.

²¹⁸⁹ See NECA comments at 15.

²¹⁹⁰ See Alliance for Distance Education comments at 15.

²¹⁹¹ See Idaho PUC comments at 11; Maryland Nurses comments at 2; ORHP/HHS comments at 7; RUS comments at 13.

eligible for universal service support.

670. Although none of the commenting parties provides detailed suggestions regarding how best to define the applicable urban area, we believe there are good reasons that support the definition we recommend. Using the political boundaries of cities makes this plan specific and predictable.²¹⁹² Using the nearest large city to the health care provider as a reference point for urban rates is logical and efficient because that is the location from which telecommunications services to a given rural area are most likely to originate and be maintained, thus providing more accurate and more realistic comparable rates for specific services than using rates, or average rates, from more distant urban areas.²¹⁹³

671. While acknowledging that other definitions are possible, we conclude that "comparable" in this context is most reasonably defined to mean "no higher than the highest" rate charged in the nearest city (excluding distance-based charges). We reject commenters' suggestions of using average rates, because an average rate, even if drawn from the city nearest to the health care provider, would entitle some rural customers to rates below those paid by some urban customers, creating fairness problems for those urban customers and arguably going farther with this mechanism than Congress intended. Using an average of statewide urban rates,²¹⁹⁴ an average statewide rate,²¹⁹⁵ or an average nationwide rate²¹⁹⁶ would force the choice of a rate even farther removed from the nearest urban area from which service is likely to originate, and therefore potentially much higher or much lower than rates in nearby urban areas. Rates of these potentially varying magnitudes risk even greater fairness problems. Further, the use of an average nationwide rate would thwart the purpose of section 254(h)(1)(A) by requiring rates in some states that are not reasonably comparable to any rates in the urban areas of that state.

672. Several commenters and the Advisory Committee request that we address the issue of distance-based charges and charges for crossing LATA boundaries.²¹⁹⁷ We conclude that where such charges are in excess of those charges incurred by commercial customers in the nearest urban area, the statute suggests strongly that such charges should be made comparable. Indeed, it seems that the whole thrust of section 254(h)(1)(A) is that such disparities in

²¹⁹² See 47 U.S.C. § 254(b)(5).

²¹⁹³ See *infra* section XI.C.2. concerning the calculation of the offset or reimbursement due to the carrier.

²¹⁹⁴ North Dakota Health comments at 2.

²¹⁹⁵ Bell Atlantic further comments at 3.

²¹⁹⁶ Sprint comments at 23.

²¹⁹⁷ See, e.g., American Telemedicine comments at 9; Mountaineer Doctor TV comments at 3; Advisory Committee Report at 11.

telecommunications rates based on distance should be reduced or eliminated by universal service support. We decline, however, to recommend that the Commission eliminate or reduce such charges at this time because we find that the record lacks sufficient evidence about the costs of excluding distance-based charges in establishing the comparable rate. Instead, we encourage the Commission to solicit additional information on the probable costs that would be incurred in supporting distance-based and LATA crossing charges for rural health care providers where such charges are in excess of those paid by customers in the nearest urban areas of the state. We further recommend that the Commission take this information and these assessments into account in deciding whether to include these charges in the list of charges eligible for universal service support.

673. No commenting parties addressed the issue of whether insular areas experience a disparity in telecommunications rates between health care providers in urbanized and non-urbanized areas in their territories. We also lack sufficient information about the size of cities and other demographic information pertaining to insular areas that might be used to establish the urban rate or rural rates in each of those areas. We recommend that the Commission solicit further information on these topics and make appropriate provision in the final Order for equalizing any disparities between urban and rural telecommunications rates to health care providers in insular areas.

2. Calculating the rural rate.

a. Background

674. The method of determining the amount that a telecommunications carrier that has provided services to an eligible health care provider is entitled to treat as its universal service obligation is described in section 254(h)(1)(A) as follows:

(A) HEALTH CARE PROVIDERS FOR RURAL AREAS. . . A telecommunications carrier providing service under this paragraph shall be entitled to have an amount equal to the difference, if any, between the rates for services provided to health care providers for rural areas in a State and the rates for *similar services provided to other customers in comparable rural areas in that State* treated as a service obligation as a part of its obligation to participate in the mechanisms to preserve and advance universal service.²¹⁹⁸

675. The Commission stated in the NPRM that the amount of credit or reimbursement to carriers from health care support mechanisms should be based on the difference between the

²¹⁹⁸ 47 U.S.C. § 254(h)(1)(A) (emphasis added).

price actually charged to eligible health care providers and the rates for similar, if not identical, services provided to "other customers" in the rural areas of that state.²¹⁹⁹ The Commission requested comments on how to determine the rate for rural non-health care providers and the rate for urban health care providers necessary to calculate the amount of credit.²²⁰⁰ The NPRM asked whether average rates should be computed or whether some other method might be more appropriate.²²⁰¹ The Commission also stated that it may be difficult for a carrier to establish rates for similar services if identical services are not provided in the state. It stated, however, that similar services will likely be generally available.²²⁰² The Commission sought comment on whether there is a need to define when services are comparable and, if so, how this might be done.²²⁰³

b. Comments

676. Few commenters address the issue of how to determine the rates needed to calculate the credit.²²⁰⁴ Pacific Telecom asserts that the amount of the differential that qualifies for support treatment can readily be identified by comparing the rate at which the service is provided either with rates publicly filed or with rates that can be acquired by Commission order.²²⁰⁵ Pacific Telecom further states that "[i]n either case, a specific support amount can be established and added to the USF pool requirement for recovery."²²⁰⁶ Pacific Telecom also argues that the Commission could rely on the existing USF pooling mechanism immediately to begin support for rural educational and health care providers.²²⁰⁷ The Advisory Committee contends that the Commission should arrange for studies to be periodically conducted to compare urban rates versus rural costs-plus-profit for those services in the minimum package (core services). It argues that these results should be used as the basis for reimbursing the designated providers in

²¹⁹⁹ NPRM at para. 101.

²²⁰⁰ NPRM at para. 101.

²²⁰¹ NPRM at para. 101.

²²⁰² NPRM at para. 102.

²²⁰³ NPRM at para. 102.

²²⁰⁴ NPRM at para. 101.

²²⁰⁵ Pacific Telecom comments at 6 ("e.g., via TSLRIC study submitted by a competitive LEC").

²²⁰⁶ Pacific Telecom comments at 6.

²²⁰⁷ Pacific Telecom comments at 7.

rural areas for reduced prices for core services.²²⁰⁸

677. GCI asserts that the Commission should require carriers to file information with the Commission that sets out both services and rates charged to calculate the difference, if any, between the urban rate at which the service is provided and rates for similar services provided to customers in comparable rural areas in that state.²²⁰⁹

678. Comparable Services. Ameritech argues that there is no need for the Commission to prescribe guidelines for what constitutes "comparable" services between urban and rural areas. Instead the Commission should simply require the availability of comparable services at the rate charged in the urban area and resolve disputes informally if and when any arise.²²¹⁰

c. Discussion

679. Although a few commenting parties responded to the request in the NPRM seeking comment on how to determine the "rate for non-health-care providers . . . necessary to calculate the amount of credit"²²¹¹ (the "rural rate"), no commenter directly addressed the mechanics of how to calculate the credit. Therefore, we must fashion our own recommendation to the Commission for the design of this important piece of the support mechanism for health care providers for rural areas.

680. Mindful of the Commission's obligation to craft a mechanism that is "specific, predictable and sufficient,"²²¹² we recommend that the rural rate be determined to be the average of the rates actually being charged to customers, other than health care providers, for identical or technically similar services provided by the carrier providing the service, to commercial customers in the rural county in which the health care provider is located. For all purposes associated with determining the rural rate, we recommend that the term "rural county" be defined as any "non-metro" county as defined by the OMB MSA list, along with the non-urban areas of those metro counties identified in the Goldsmith Modification used by the ORHP/HHS.²²¹³ We also recommend that the rates averaged to calculate the rural rate not include any rates reduced by

²²⁰⁸ Advisory Committee Report at 13.

²²⁰⁹ GCI reply comments at 15

²²¹⁰ Ameritech comments at 19.

²²¹¹ NPRM at para. 101.

²²¹² 47 U.S.C. § 254(b)(5).

²²¹³ For a discussion of OMB metro and non-metro areas, MSAs and the Goldsmith Modification, see ORHP/HHS comments at 5 and section XI.D.1.b., *infra*.

universal service programs and paid by schools, libraries or rural health care providers.

681. We further recommend that, where the carrier is providing no identical or technically similar services in that rural county, the rural rate should be determined by taking the average of the tariffed and other publicly-available rates charged for the same or similar services in that rural county by other carriers. If no such services have been charged or are publicly available, or if the carrier deems the method described here, as it would be applied to the carrier, to be unfair for any reason, the carrier should be allowed, in the first instance, to submit for the state commission's approval, a cost-based rate for the provision of the service in the most economically efficient, reasonably available manner. Where state commission review is not available, the carrier should be allowed to submit the proposed rate to the Commission for its approval. The proposed rate should be supported, justified, reviewed and approved, in the initial submission and periodically thereafter, according to procedures and requirements similar to those used for establishing tariffed rates for telecommunications services in that state.

682. We conclude that, by defining "comparable rural areas" as the rural county in which the health care provider is located, the rates charged to non-health care customers in that area are likely to be a reasonable measure of "the rates charged for similar services provided to other customers in comparable rural areas in the state." In cases where there are no similar services being provided, either by the carrier or by others, and thus no comparable rates to average, or where the carrier concludes that rates derived from this formula are unfair, we find the availability of a cost-based rate application procedure becomes an important backstop. We intend that this procedure will ensure greater fairness to the carrier and further ensure that the support mechanism is more likely to be "sufficient" as required by section 254.²²¹⁴ We note, however, that the record is inadequate on this issue and, accordingly, we recommend that the Commission request additional information prior to adopting final rules, on the costs that would be incurred in supporting necessary upgrades to the public switched network. We also recommend that the Commission seek additional information as to what extent ongoing network modernization, as is currently going forward under private initiatives or according to state-sponsored modernization plans, might make universal service support of this element unnecessary. We further recommend that the Commission take this information into account in deciding whether to include network upgrades in the list of services eligible for universal service support.

683. We acknowledge a related issue that arises when the public switched network serving a rural health care provider is not sufficiently technologically advanced to support the services needed by that provider. The 1996 Act appears to intend that the service be delivered to the health care provider without regard to any inability on the part of the local network to handle the service. In that regard, the Advisory Committee notes the deficiencies in many parts of rural America of the telecommunications "backbone infrastructure" and recommends that the

²²¹⁴ See 47 U.S.C. § 254(b)(5).

Commission authorize the use of universal service funds to upgrade this part of the network.²²¹⁵ We are reluctant to recommend such a course, however, without better information than is provided in the current record about the absolute and relative costs of providing such support. We have considered, for example, recommending that the carrier be permitted to include in its proposed rate the cost of upgrades to the public switched telephone network, amortized over the reasonable life of the upgraded facilities, where such upgrades could be shown to be necessary to deliver the service to the health care provider in the most cost-effective manner. We have further considered recommending that the reviewing authority require the carrier, in setting the rate, to take into account the actual and reasonably anticipated usage of the upgraded facilities by other customers. Such an option might actually offer the potential of reducing the cost to the universal service fund of providing services to the health care provider. We are, however, without sufficient information in the record to reach this conclusion with confidence. Accordingly, we recommend that the Commission seek additional information on the probable costs and on the advantages and disadvantages of supporting upgrades to the public switched or backbone networks where such upgrades can be shown to be necessary to deliver services to eligible rural health care providers.

684. We believe that the above-described methods for calculating the rural rate compare favorably with the methods suggested by the sole party supplying comments on this question. Pacific Telecom suggests comparing the rate at which the service is provided with "rates publicly filed" or with rates obtained "by Commission order."²²¹⁶ We approve of using rates publicly filed or obtained in the ordinary course of Commission proceedings to determine the rural as well as the urban rate. We reject, however, any suggestion that rates not publicly available should be required to be disclosed simply in order to implement a universal service mechanism because we find this method to be excessively burdensome to carriers and regulators.

3. Selecting between combined or separate support mechanisms for health care providers and for schools and libraries.

a. Background

685. In the Public Notice, the Common Carrier Bureau asked whether separate funding mechanisms should be established for schools and libraries and for rural health care providers.²²¹⁷

b. Comments

²²¹⁵ Advisory Committee Report at 8.

²²¹⁶ Pacific Telecom comments at 6.

²²¹⁷ Public Notice at question 22.

686. Separate Funding Mechanisms. Several commenters maintained that the funding mechanism for support to rural health care providers should be separate from the mechanism provided for schools and libraries²²¹⁸ Others argued that separate funding mechanisms are not necessary.²²¹⁹ Some commenters argued for a common funding mechanism but specified the addition of some form of separate accounting or distribution mechanism.²²²⁰

c. Discussion

687. We recommend that there be no separate funding mechanism for eligible health care providers and schools and libraries. We further recommend that separate accounting and allocation systems be maintained for the funds collected for the two groups. We agree with the parties arguing that separate funding mechanisms would be expensive and unnecessary but that separate accounting and allocation systems would be more efficient because the two groups have different requirements under the 1996 Act for calculating disbursements from the fund and the two systems could then more easily be monitored or amended on an individual basis.²²²¹

²²¹⁸ RTC comments at 18-19 (a "separate or segregated fund" should be established for schools, libraries and health care providers so that "the very difficult job of determining proper funding levels can be established."). *See also* ALA further comments at 18; Alaska Tel. further comments at 7; ITC further comments at 10; Information Renaissance further comments at 10; Maryland DOE further comments at 4 (if block grants are used); NCTA further comments at 6; NECA further comments at 13-14 (stating that the "[c]ommon fund collection mechanism should be used."); RTC further comments at 16; SWBT further comments at 18 (favoring separate mechanism, but stating that "costs should be reflected as a single surcharge on the customer bill."); U.S. Libraries further comments at 7; Vitelco further comments at 6; Western Alliance further comments at 4 (stating that "because schools and libraries are generally governmental entities, but rural health care is generally private sector.").

²²¹⁹ AT&T further comments at 17; Apple further comments at 4 (stating that mechanisms might "detract from the ability of these entities to share facilities or cooperate in network design and operation. . ."); California Library further comments at 5; EDLINC further comments at 40-41; GTE further comments at 25; MCI further comments at 10 (stating that "[i]f the FCC adopts an interstate-only USF, there must be separate funding mechanisms for schools and libraries and for rural health care providers because all telecom carriers must contribute to the latter and only interstate carriers would contribute to the former."); New York DOE further comments at 10; U.S. Distance Learning Ass'n further comments at 8.

²²²⁰ AirTouch further comments at 19 ("would be helpful to maintain separate accounting for these programs should they need to be phased out on an individual basis."); BellSouth further comments at 30; Bell Atlantic further comments at 7; PacTel further comments at 27 (stating that it is "[i]ndifferent to whether education fund is funded separately, but collected funds should be divided into discreet buckets to facilitate separate allocation, tracking and accounting."); USTA further comments at 17; U S West further comments at 12 (stating that there should be "separate allocation and administration functions for health care providers, since they have separate requirements under the 1996 Act.").

²²²¹ *See, e.g.*, AirTouch further comments at 19; BellSouth further comments at 30; Bell Atlantic further comments at 7; PacTel further comments at 27; USTA further comments at 17; U S West further comments at 12.

D. Eligibility

1. Defining rural and urban areas.

a. Background

688. Section 254(h)(1)(A) provides that a telecommunications carrier shall provide services to any health care provider "that serves persons who reside in *rural areas* in that State."²²²² The section further provides that the rates charged for the services provided must be "reasonably comparable to rates charged in *urban areas* in that State."²²²³ In addition, the section provides that the carrier providing the service is entitled to a credit in an amount equal to the difference between the rate charged and the rate in "comparable *rural areas* in that State."²²²⁴

689. In the NPRM, the Commission recognized that in order to implement section 254(h)(1)(A), it would be necessary to designate areas as either urban or rural in order to be able to determine the residency of health care patients served by providers and to establish reasonably comparable rates for telecommunications services that are necessary for the provision of health care services in a state.²²²⁵ The Commission stated that it sought a methodology to accomplish this task that would be based on publicly available data, neither under-inclusive nor over-inclusive, and easily administered,²²²⁶ and it asked commenters to discuss any proposed methodologies in these terms.²²²⁷ The NPRM specifically described alternative methodologies developed by the ORHP/HHS and by the United States Department of Agriculture's Economic Research Service and asked for comment on these methods for defining rural areas in a state.²²²⁸ The NPRM also asked commenters to address the costs and application of these proposals in regard to the requirements of the 1996 Act that universal service support mechanisms be "specific, predictable and sufficient."²²²⁹

²²²² 47 U.S.C. § 254(h)(1)(A) (emphasis added).

²²²³ 47 U.S.C. § 254(h)(1)(A) (emphasis added).

²²²⁴ 47 U.S.C. § 254(h)(1)(A) (emphasis added).

²²²⁵ NPRM at para. 95.

²²²⁶ NPRM at para. 95.

²²²⁷ NPRM at para. 98.

²²²⁸ NPRM at paras. 96-98.

²²²⁹ NPRM at para. 98 (citing 47 U.S.C. § 254(b)(5)).

b. Comments

690. ORHP/HHS Method and the Goldsmith Modification. The most comprehensive and detailed comments on methods for determining the boundaries of rural areas are provided by ORHP/HHS. It asserts that no method for defining "rural" is perfect; each method has deficiencies or problems.²²³⁰ For ease of administration, ORHP/HHS suggests using counties as the unit of analysis and specifically the Office of Management and Budget's (OMB) Metropolitan Statistical Area (MSA) metropolitan (metro) and non-metropolitan (non-metro) counties.²²³¹ Because of the methods that OMB uses to designate counties as metro, ORHP/HHS asserts that large, nominally metro counties, particularly in western states, can have huge rural areas, as for example when population is consolidated into one corner of the county. For that reason, ORHP/HHS suggests using the "Goldsmith Modification" of the OMB method.²²³² The Goldsmith Modification identifies densely-populated census tracts or blocks within large metro counties (covering at least 1250 square miles) thus allowing easy separation of these tracts and blocks from the rural tracts in the county.²²³³ ORHP/HHS also suggests giving special consideration to "frontier" areas with extremely low density within rural areas.²²³⁴

691. Several commenters specifically approve of using the ORHP/HHS methodology for defining rural areas.²²³⁵ North Dakota Health suggests using a method that does not rely on county boundaries alone for large counties with large disparities of density.²²³⁶ Florida Cable states that the ORHP/HHS method "may be appropriate."²²³⁷ American Telemedicine endorses

²²³⁰ ORHP/HHS comments at 5.

²²³¹ OMB defines Metropolitan Statistical Areas for use in federal statistical activities pursuant to 44 U.S.C. § 3504(d)(3) and 31 U.S.C. § 1104(d) and E.O. No. 10253 (June 11, 1951). Copies of the definitions used and the list of Metropolitan Areas is available to the public from the National Technical Information Service (NTIS) through the mail or over the Internet.

²²³² The Goldsmith Modification was developed by Harold F. Goldsmith, Ph.D., for the ORHP/HHS. The strategy for identifying the rural areas of large metropolitan counties is described in Goldsmith, H.F., Puskin, D.S. and Stiles, K.J., *Improving the Operational Definition of "Rural Areas" for Federal Programs*, Office of Rural Health Policy, 1993.

²²³³ ORHP/HHS comments at 5-6.

²²³⁴ ORHP/HHS comments at 5-6.

²²³⁵ MCI comments at 21; NCTA comments at 20; RUS comments at 13.

²²³⁶ North Dakota Health comments at 2 ("Caution against using county populations as a sole determinant as counties can vary significantly in size. . .").

²²³⁷ Florida Cable comments at 14; MCI comments at 21; RUS comments at 13.

the OMB county classification system without reference to the "Goldsmith Modification" recommended by ORHP/HHS.²²³⁸

692. Other Methods. AHA²²³⁹ and High Plains Rural Health Network²²⁴⁰ assert that "frontier" areas with particularly low population density need special consideration. One commenter, Missouri PSC, expresses the fear that the ORHP/HHS and USDA methods might be too restrictive.²²⁴¹ Missouri PSC asserts that other factors such as the driving distance from a hospital or medical center or number of doctors in the community should be considered when establishing a definition of rural.²²⁴² Nebraska Hospitals suggests that all hospitals in densely-populated counties of Lancaster and Douglas should be considered urban, and the rest of the counties in Nebraska as rural.²²⁴³ USTA favors the Census Bureau's definition of "urban" if it were modified to exclude less densely-populated areas.²²⁴⁴

c. Discussion

693. In order to implement section 254(h)(1)(A), we conclude that the Commission must define the boundary between urban and rural areas within each state. We find that it is necessary to designate rural areas in order to determine whether a health care provider is located in rural areas of a state. We also conclude that it is necessary to designate rural areas in order to determine "comparable rural areas" needed for calculating the credit or reimbursement to a carrier who provides services at reduced rates. For both of these purposes, we recommend the Commission use non-metro counties (or county equivalents), as identified by the OMB MSA list of metro and non-metro counties, together with non-metro counties identified in the most currently available "Goldsmith Modification" of the MSA list used by the ORHP/HHS.²²⁴⁵ To the extent that the Commission can improve upon these definitions prior to its statutory deadline, by

²²³⁸ American Telemedicine comments at 9.

²²³⁹ AHA comments at 5.

²²⁴⁰ High Plains Rural Health Network comments at 2.

²²⁴¹ Missouri PSC comments at 18-19.

²²⁴² Missouri PSC comments at 18.

²²⁴³ Nebraska Hospitals comments at 2.

²²⁴⁴ USTA comments at 10-11. USTA is also concerned that expanding the definition beyond this would "increase the difficulties in sizing the fund." USTA reply comments at 7.

²²⁴⁵ For a discussion of OMB metro and non-metro areas, MSAs and the Goldsmith Modification, *see* ORHP/HHS comments at 5 and section XI.D.1.b., *supra*.

identifying other rural areas in metro counties not identified in the current version of the Goldsmith Modification, we encourage the Commission to do so.

694. For the task of determining the size and boundaries of the rural areas in a state, we believe it is appropriate to use a method that seeks to include as many of the truly rural areas as possible. We agree with ORHP/HHS that no currently-used method of designating rural areas is perfect.²²⁴⁶ We conclude, however, that the OMB MSA method is, by itself, under-inclusive of many rural areas and therefore does not meet the standards set by the Commission in the NPRM.²²⁴⁷ The Goldsmith Modification, by identifying by census tract or block more densely-populated areas in large, otherwise rural counties somewhat ameliorates this problem.²²⁴⁸ This method meets the "ease of administration" criterion as well. Lists of MSA counties and Goldsmith-identified census blocks and tracts already exist, updated to 1995. Through the use of these lists, any health care provider can easily determine if it is located in a rural area and therefore whether it meets that test of eligibility for support.

695. The implementation of section 254(h)(1)(A) also requires a designation of urban area boundaries in order to determine the exact area within which an "urban rate" for a telecommunications service is charged. For some purposes, defining the boundaries of the rural areas in a state, as we have recommended here, would also suffice for determining the corresponding urban areas. In this case, however, we believe that, to define the relevant urban area, it may be necessary to designate a different, somewhat more refined boundary than the county-based boundary described in the preceding paragraph. Because we are recommending that the highest tariffed or publicly available urban rate be used to set the urban rate charged to the health care provider,²²⁴⁹ we think it is important to use for this purpose an urban boundary smaller than a county boundary so as to minimize the possibility of inadvertently including distance-based or lower-density-based surcharges within the comparable urban rate. We also believe that using larger cities for this purpose will increase the likelihood that the rates in those cities will reflect to the greatest extent possible, reductions in rates based on large-volume, high-density factors that affect telecommunications rates. Because we see nothing in the 1996 Act or its legislative history that would prohibit using different definitions of urban for different purposes in section 254, we recommend using, for purposes of determining the "urban rate in the closest urban area," the jurisdictional boundaries of larger cities. We further recommend that the Commission designate by regulation the exact city population size to define the term "large city," that it finds will best

²²⁴⁶ ORHP/HHS comments at 5.

²²⁴⁷ NPRM at para. 95.

²²⁴⁸ ORHP/HHS comments at 5-6.

²²⁴⁹ See discussion of determining the urban rate at section XI.C.1.c., *supra*.

balance the factors described in this paragraph.²²⁵⁰

696. We conclude that where all rural areas are entitled to a rate no higher than the highest rate in the closest city, there is no need to make additional provisions for frontier areas, or areas with extra-low population density, as some parties suggest.²²⁵¹ Likewise, employing the methods recommended here for determining rural areas, we see no need to consider other factors such as number of doctors in the community or driving distance from the hospital in formulating a definition of rural areas.²²⁵² We find that the Census Bureau's definition of "urban," which one commenting party suggests using,²²⁵³ would be less easily administered than the one suggested here because it is not based on political boundaries. Finally, we reject the suggestion that we use a definition consistent with the definition of "rural telephone company" in the Act because that definition does not provide a geographic boundary, it is meant to distinguish telecommunications companies from one another, not service and rate areas for rural health care providers and it is determined by the number of access lines and other factors that are not relevant to the issues of rural boundaries necessary for implementing support mechanisms for health care providers.

2. Defining eligibility for health care providers

a. Background

697. Section 254(h)(1)(A) grants the right to receive federal universal service support to "any public or non-profit health care provider that serves persons who reside in rural areas of that state. . . ."²²⁵⁴ No provision in the section expressly limits or defines where a health care provider must be physically located in order to be eligible for universal service support under this section. The section further provides that the calculation of the amount of credit due to the carrier for providing services to the health care provider is to be based on rates in "comparable rural areas."²²⁵⁵

698. In the Joint Explanatory Statement, Congress referred to "health care providers for rural areas" in explaining that institutional users were intended to "have affordable access to modern telecommunications services that will enable them to provide medical and educational

²²⁵⁰ See discussion of determining the urban rate at section XI.C.1.c., *supra*.

²²⁵¹ See AHA comments at 5; High Plains Rural Health Network comments at 2.

²²⁵² Missouri PSC comments at 18-19.

²²⁵³ USTA comments at 10-11.

²²⁵⁴ 47 U.S.C. § 254(h)(1)(A).

²²⁵⁵ 47 U.S.C. § 254(h)(1)(A).

services to all parts of the nation."²²⁵⁶ In another paragraph, the Joint Explanatory Statement referred to "the rural health care provider" in the course of explaining its intent that the rural health care provider receive an affordable rate for the services necessary for the purposes of telemedicine and instruction relating to such services.²²⁵⁷

699. In the NPRM, the Commission noted that the statute gives eligibility to receive support under the universal service support mechanism to health care providers who serve persons who reside in rural areas.²²⁵⁸

b. Comments

700. Ameritech and MCI assert that only health care providers located in rural areas should be eligible to receive the reasonably comparable urban rates provided in section 254(h)(1)(A).²²⁵⁹ Ameritech's position seems to be based on ease of administration.²²⁶⁰ The reasoning behind MCI's position is not stated in MCI's comments.²²⁶¹ On the other hand, AHA suggests that health care providers located in urban areas should also be eligible for support.²²⁶²

701. American Telemedicine, concerned about allocating limited resources, proposes that discounted telecommunications services be made available to both primary health care providers located in rural areas as defined in the OMB classification and secondary and tertiary care facilities located in other parts of the state that have telecommunications links for the provision of health care with rural health care institutions.²²⁶³

c. Discussion

²²⁵⁶ Jt. Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2nd Sess. 132 (1996).

²²⁵⁷ Jt. Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2nd Sess. 133 (1996).

²²⁵⁸ NPRM at para. 104.

²²⁵⁹ Ameritech comments at 19 n.30; MCI comments at 21.

²²⁶⁰ Ameritech comments at 19 n.30.

²²⁶¹ MCI comments at 21 n.16.

²²⁶² AHA comments at 5 ("Beyond the definition of rural, the FCC should also consider that an advantage afforded by health care telecommunications networks is the dynamic and open collegial exchange of information between practitioners in and among rural settings, and between rural areas and their urban counterparts . . . The FCC should study and consider rates in non-rural areas as well.").

²²⁶³ American Telemedicine comments at 10.

702. Section 254(h)(1)(A) defines eligibility for support to include any health care provider that "serves persons who reside in rural areas in that state."²²⁶⁴ Because virtually all health care providers serve some rural residents, this definition could be read so expansively that it would theoretically offer support to nearly every health care provider in the country. An eligibility definition that includes providers located in urban areas, however, appears unworkable because implementation of the support mechanism is designed to reduce rural rates to a comparable level with urban rates.

703. We recommend creating a mechanism that includes the largest reasonably practicable number of health care providers that primarily serve rural residents and that, due to their location, are prevented from obtaining telecommunications services at rates available to urban customers. We agree, therefore, with the commenters that urge that eligibility to obtain telecommunications services at rates reasonably comparable to rates in the state's urban areas be limited to providers located in rural areas.²²⁶⁵ For purposes of defining a health care provider's eligibility for support under section 254(h)(1)(A), we define the term "rural counties" to mean any "non-metro" county as defined by the OMB MSA list, along with the non-urban areas of those metro counties identified in the Goldsmith Modification used by the ORHP/HHS.²²⁶⁶

704. We have recommended a definition of "rural areas" that is as expansive as reasonably possible in order to include the maximum number of separately identifiable rural areas in which rates may be higher than for customers in nearby cities.²²⁶⁷ We also find that to the extent that this recommended mechanism excludes health care providers that are located in urban areas and otherwise technically eligible, those providers already have access to telecommunications services at urban rates and the statute contemplates no additional universal service support.

3. Definition of health care provider.

a. Background

705. Section 254(h)(1)(A) states, in relevant part, that "[a] telecommunications carrier shall, upon receiving a bona fide request, provide telecommunications services which are

²²⁶⁴ 47 U.S.C. § 254(h)(1)(A).

²²⁶⁵ See Ameritech comments at 19 n.30; MCI comments at 21 n.16. American Telemedicine would limit support for primary care providers to those located in rural areas. American Telemedicine comments at 10.

²²⁶⁶ For a discussion of OMB metro and non-metro areas, MSAs and the Goldsmith Modification, see ORHP/HHS comments at 5 and section XI.D.1.c., *supra*.

²²⁶⁷ See section XI.C.1., *supra*.

necessary for the provision of health care services in a State . . . , to *any public or nonprofit health care provider* that serves persons who reside in rural areas in that State. . .".²²⁶⁸

706. Section 254(h)(4), entitled "Eligibility of Users," provides that "[n]o entity listed in this subsection shall be entitled to preferential rates or treatment as required by this subsection, if such entity operates as a for-profit business. . ." ²²⁶⁹

707. Section 254(h)(5), entitled "Definitions," states:

For purposes of this subsection: . . . [t]he term 'health care provider' means-

- (i) post-secondary educational institutions offering health care instruction, teaching hospitals, and medical schools;
- (ii) community health centers or health centers providing health care to migrants;
- (iii) local health departments or agencies;
- (iv) community mental health centers;
- (v) not-for-profit hospitals;
- (vi) rural health clinics; and
- (vii) consortia of health care providers consisting of one or more entities described in clause (i) through (vi).²²⁷⁰

b. Comments

708. General Comments. Although the NPRM did not specifically seek comment on the definition of the term "health care provider," some commenters claim that further clarification of the definition in section 254(h)(5)(B) is needed. For example, ORHP/HHS asks whether Congress intended these terms to have specific meanings under other federal laws such as the Public Health Service Act or whether Congress intended the Commission to give the term broader definition. ORHP/HHS also urges the Commission to seek further clarification from Congress on what its intentions were concerning the seven categories of public or non-profit health care providers to which the 1996 Act refers. ORHP/HHS asserts that if the categories had been capitalized in the legislation or were to be in the regulations, they would refer to a specific set of providers that are designed to receive special consideration or funding under federal programs. ORHP/HHS argues that since these terms were not capitalized, the 1996 Act appears to imply a

²²⁶⁸ 47 U.S.C. § 254(h)(1)(A) (emphasis added).

²²⁶⁹ 47 U.S.C. § 254(h)(4).

²²⁷⁰ 47 U.S.C. § 254(h)(5)(B).

more generic, broader definition of these providers.²²⁷¹

709. Additions to Statutory Definition. Some commenters suggest additions to the definition of health care providers in the 1996 Act. American Telemedicine argues that the final FCC order implementing section 254 should allow individual health care practitioners serving rural residents through private practice to participate in the benefits offered under this program.²²⁷² Community Colleges argues that the Commission should confirm that community colleges are eligible for universal service support as post-secondary educational institutions offering health care instruction, including emergency medical technician training.²²⁷³ Arizona Health recommends that state offices of rural health be added to the list of rural health providers.²²⁷⁴ Mountaineer Doctor TV asserts that the following organizations should be included in the not-for-profit category: universities, not-for-profit hospitals, state not-for-profit prisons, and county not-for-profit prison systems.²²⁷⁵ The Advisory Committee suggests amending section 254(h)(5)(B) to include non-profit nursing homes and other long-term care facilities.²²⁷⁶ It urges the inclusion of non-profit home health care providers in rural areas, which it maintains is a rapidly growing segment of the health care industry, on the list of eligible health care providers. The Advisory Committee maintains that this group of health care providers can use telecommunications services for making electronic housecalls to the elderly, chronically ill, and homebound mentally ill.²²⁷⁷

710. Eligibility Requirements. Other commenters emphasize eligibility requirements. Telec Consulting suggests that no universal service support should be given to health care providers that operate on a for-profit basis.²²⁷⁸ The Advisory Committee argues that the distinction between non-profit and for-profit should not determine who should be eligible for services at reduced rates in rural areas because of the advent of increasingly complex relationships

²²⁷¹ ORHP/HHS comments at 6-7.

²²⁷² American Telemedicine comments at 10.

²²⁷³ Community Colleges comments at 10.

²²⁷⁴ Arizona Health comments at 2.

²²⁷⁵ Mountaineer Doctor TV comments at 2.

²²⁷⁶ Advisory Committee Report at 15.

²²⁷⁷ Advisory Committee Report at 15.

²²⁷⁸ Telec Consulting comments at 16.

between profit and non-profit health care providers.²²⁷⁹ For example, many non-profit hospitals are acquiring for-profit health care ventures and institutions to remain competitive.²²⁸⁰ The Advisory Committee argues that the focus should be on the improved delivery of health care to rural residents. It maintains that reduced-rate telemedicine services that allow a for-profit health care professional to consult with a specialist at an academic health center should be viewed as a health care benefit to the patient, not an unfair subsidy to the for-profit health care professional.²²⁸¹ Therefore, the Advisory Committee argues, the Commission and Congress should consider the complex and competitive arrangements in the current health care delivery system when determining who is eligible to receive reduced-rate services.²²⁸² Furthermore, the Advisory Committee argues that since most health care in rural areas is provided by for-profit professionals operating in a single office in remote areas with small profit margins, the Commission or Congress should consider extending the eligibility criteria to cover such individuals who can show that they cannot afford any but reduced-rate services.²²⁸³ The Advisory Committee recognizes, however, that extending the eligibility criteria may require an increase in the amount of universal service support.²²⁸⁴

c. Discussion

711. We recommend that the Commission attempt no further clarification of the definition of the term "health care provider." We find that section 254(h)(5)(B) adequately describes those entities intended by Congress to be eligible for universal service support. Therefore, we decline to recommend expanding or broadening those categories.

712. We do not agree with ORHP/HHS's argument that since the categories listed were not capitalized, the scope of the definitional categories in section 254(h)(5)(B) cannot reasonably be defined for purposes of efficiently administering this program of universal service support.²²⁸⁵ We acknowledge Community Colleges' concern that community colleges be considered eligible for universal service support and we conclude that many such institutions may well fit in the

²²⁷⁹ Advisory Committee Report at 14.

²²⁸⁰ Advisory Committee Report at 14.

²²⁸¹ Advisory Committee Report at 14.

²²⁸² Advisory Committee Report at 14.

²²⁸³ Advisory Committee Report at 14.

²²⁸⁴ Advisory Committee Report at 14.

²²⁸⁵ ORHP/HHS comments at 6, 7.

definition of "post-secondary educational institutions offering health care instruction."²²⁸⁶ It would thus appear that an otherwise eligible subdivision of such an institution would be able to obtain supported services where 1) the entity offers health care instruction, 2) its officers can certify that the telecommunications services would be used exclusively for purposes reasonably related to the provision of such instruction, and 3) the health care provider is legally authorized to provide such instruction in that state.²²⁸⁷ We also note Arizona Health's request to add state offices of rural health²²⁸⁸ and Mountaineer Doctor TV's request to add state and county not-for-profit prisons to the list.²²⁸⁹ We conclude, however, that such additions cannot be included within the plain meaning of the language of the 1996 Act. Although we are bound by the language of the statute, we note that the commenters and the Advisory Committee have argued that the line drawn in the statute between eligible and non-eligible providers may not reflect either changing economic relationships in rural areas or changing patterns of health care provision.²²⁹⁰

4. Selecting between offset or reimbursement for telecommunications carriers.

a. Background

713. Section 254(h)(1)(A) states that a telecommunications carrier that provides designated services to rural health care providers shall be entitled to have an amount equal to the difference, if any, between the rates for services provided to health care providers for rural areas in a state and the rates for similar services provided to other customers in comparable rural areas in that state treated as a service obligation as a part of its obligation to participate in the mechanisms to preserve and advance universal service.²²⁹¹ This language differs from that of section 254(h)(1)(B), pertaining to schools and libraries, which explicitly permits telecommunications carriers providing designated services to schools and libraries to be reimbursed for services, either through an offset to their obligation to contribute to universal service support, or through reimbursement drawn from support funds.²²⁹²

²²⁸⁶ See 47 U.S.C. § 254(h)(5)(B)(i).

²²⁸⁷ See the certification required in a bona fide request as set forth in section XI.E.1.c., *infra*.

²²⁸⁸ Arizona Health comments at 2.

²²⁸⁹ Mountaineer Doctor TV comments at 2.

²²⁹⁰ See Advisory Committee Report at 13-15.

²²⁹¹ 47 U.S.C. § 254(h)(1)(A).

²²⁹² 47 U.S.C. § 254(h)(1)(B).

714. In the NPRM, the Commission noted the different mechanisms of carrier support and sought comment on whether any statutory or policy rationale requires reimbursing carriers differently under subsection (h)(1)(A) than under subsection (h)(1)(B). The Commission asked whether subsection (h)(1)(A) permits reimbursement only through an offset to contributions, prohibiting direct compensation payments. The Commission also sought comment on the advantages of using the offset or reimbursement alternatives set forth in subsection (h)(1)(B) for compensating carriers serving health care providers as well as for carriers serving schools and libraries.²²⁹³

b. Comments

715. Several commenters find no reason to treat telecommunications carriers serving health care providers any differently from those serving schools and libraries for reimbursement purposes.²²⁹⁴ NCTA asserts that direct reimbursement is prohibited under section 254(h)(1)(A).²²⁹⁵ While NECA and American Telemedicine maintain that direct reimbursement is allowed under section 254(h)(1)(A),²²⁹⁶ Idaho PUC argues that direct reimbursement should not be allowed so as to reduce the incentive for fraud or "gaming the system."²²⁹⁷ Citizens Utilities asserts that if the carrier that provides the telecommunications service to a rural health care provider under section 254(h)(1)(A) is eligible pursuant to section 214(e), that carrier is entitled to claim reimbursement from the support fund, but if the carrier is not qualified under section 214(e), it is entitled only to take an offset against its universal service contribution.²²⁹⁸ Metricom argues a position similar to Citizens Utilities' position and asserts that, although the provisions regarding health care providers in section 254(h)(1)(A) do not explicitly override section 214(e), it believes such an override is implied because public institutional users are treated equally everywhere else in the 1996 Act.²²⁹⁹ Nebraska Hospitals argues that compliance with rate guidelines should be a condition of eligibility for interstate support pursuant to section 254(h).²³⁰⁰

²²⁹³ NPRM at para. 106.

²²⁹⁴ American Telemedicine comments at 11; NCTA comments at 22; NECA comments at 16 n.34.

²²⁹⁵ NCTA comments at 22.

²²⁹⁶ American Telemedicine comments at 11; NECA comments at 16.

²²⁹⁷ Idaho PUC comments at 15.

²²⁹⁸ Citizens Utilities comments at 19.

²²⁹⁹ Metricom comments at 6 n.14.

²³⁰⁰ Nebraska Hospitals comments at 2.

c. Discussion

716. We recommend that the Commission allow telecommunications carriers providing services to health care providers at reasonably comparable rates under the provisions of section 254(h)(1)(A), to treat the amount eligible for support, calculated as recommended herein, as an offset toward the carrier's universal service support obligation. We recommend that the Commission disallow the option of direct reimbursement although we recognize that this alternative is within the Commission's authority. Because we agree with the commenters that assert that an offset mechanism is both less vulnerable to manipulation and more easily administered and monitored,²³⁰¹ we recommend using an offset rather than a reimbursement mechanism. Consequently, we do not comment on Citizens Utilities' argument that carriers deemed eligible under section 214(e) should receive reimbursement but carriers not eligible under section 214(e) should be entitled to an offset.²³⁰² We recognize a potential problem in the case where the total of a carrier's rate reductions exceed its universal service obligation in any one year. Accordingly, we recommend that carriers be allowed to carry offset balances forward to future years so that the full amounts eligible to be treated as a credit may be applied to reduce their universal service obligation.

E. Restrictions on Telecommunications Services Provided to Rural Health Care Providers

1. Bona Fide Requests

a. Background

717. Section 254(h)(1)(A) states, in relevant part, that "[a] telecommunications carrier shall, upon receiving a *bona fide request*, provide telecommunications services which are necessary for the provision of health care services in a State. . ." (emphasis added).²³⁰³

718. The NPRM asked that interested parties identify and discuss the safeguards needed to ensure that telecommunications carriers providing service pursuant to section 254(h)(1)(A) are, in fact, responding to the receipt of a "bona fide request" for "telecommunications services which are necessary for the provision of [rural] health care services in a State."²³⁰⁴ The Commission also sought comment on whether it might require certification from rural health care providers

²³⁰¹ See Idaho PUC comments at 15.

²³⁰² Citizens Utilities comments at 19.

²³⁰³ 47 U.S.C. § 254(h)(1)(A).

²³⁰⁴ NPRM at para. 103 (citing 47 U.S.C. § 254(h)(1)(A)).

requesting telecommunications services under section 254(h)(1)(A). Furthermore, in its Public Notice, the Common Carrier Bureau asked commenters to identify the least administratively burdensome requirement that could be used to ensure that requests for supported telecommunications services are bona fide requests within the intent of section 254(h).²³⁰⁵

719. The Commission suggested that one possible approach would be to require each telecommunications carrier providing telecommunications services to rural health care providers under this provision to obtain written certification from the health care provider that these services are necessary for the provision of health care services.²³⁰⁶ The Commission also sought comment on alternative or additional measures to ensure that universal service support provided to telecommunications carriers under section 254(h)(1)(A) is used for its intended purpose.²³⁰⁷

b. Comments

720. No Safeguards Necessary. Idaho PUC argues that the bona fide request requirement seems unnecessary because providers are unlikely to provide unnecessary services to rural areas without large subsidies. Idaho PUC argues that competitive markets will force the carrier to sell its services, because the carrier will be unable to subsidize these services with revenues from other sources. For that reason, Idaho PUC concludes that ensuring bona fide requests is not likely to be a major problem.²³⁰⁸ Apple argues that, since some of the public institutional users receiving telecommunications services pursuant to section 254(h) do not have the resources to analyze a complex set of rules governing their rights to obtain telecommunication services on a discounted basis, there should be a strong presumption that schools, libraries and health care providers will act responsibly. Apple contends that any request made by an authorized official of the entity seeking service should be deemed bona fide.²³⁰⁹ The Advisory Committee argues that prices of services, even at reduced rates, will serve to self-monitor use of reduced-rate services. For example, a two doctor rural clinic will likely not be able to afford excess telecommunications capacity even at reduced rates.²³¹⁰

721. Certification Requirements. Many commenters assert that there should be some type of certification from the health care provider or the carrier that reduced-rate

²³⁰⁵ Public Notice, question No. 15.

²³⁰⁶ NPRM at para. 103.

²³⁰⁷ NPRM at para. 103.

²³⁰⁸ Idaho PUC comments at 14.

²³⁰⁹ Apple further comments at 4.

²³¹⁰ Advisory Committee Report at 7.

telecommunications services are necessary for the provision of health care services.²³¹¹ Some commenters suggest specific methods of self-certification. Alliance for Distance Education asserts, for example, that a health care provider should be able to self-certify that it is providing rural health care and instruction by listing the rural areas it serves in its application to a telecommunications service provider for health care rates.²³¹² PacTel contends that entities redeeming credits should submit a sworn statement attesting that they are making a bona fide request.²³¹³ Florida Cable comments that the goal of ensuring that carriers are responding to bona fide requests for services can be achieved through a plan containing the following components: 1) a determination of eligible facilities; 2) a needs assessment for the eligible facilities; 3) a technology-neutral applications plan; 4) a competitive bid process for needed services and applications; and 5) a safety net provision if no competitive bids are received for an eligible facility.²³¹⁴ NCTA comments that self-certification by rural health care providers would be the least burdensome approach and is unlikely to generate abuse of the system. NCTA states that the Commission should make some allowance for different needs across states and initially rely on a complaint system rather than impose burdensome certification requirements before it is clear they are needed.²³¹⁵ Some commenters argue that certification requirements should be imposed to ensure the intended use of rate reductions disbursed as block grants or direct billing credits. Ameritech asserts that it would not be unreasonable to require the health care provider's financial officer to sign a personal, sworn attestation that the funds have been used as intended by the 1996 Act.²³¹⁶ AT&T suggests that the health care provider certify that the applicant is eligible for reduced-rate service; that the service is necessary to support the application planned; and the associated hardware, wiring, on-site networking and training are to be deployed simultaneously with the discounted service.²³¹⁷ ITC suggests a certification statement from the institution, and random tests or audits by the universal service administrator.²³¹⁸ NYNEX suggests annual certification consisting of verification of the existence of a technology plan and a checklist of

²³¹¹ See, e.g., North Dakota Health comments at 2-3; North Dakota PSC comments at 4; AT&T further comments at 15; GCI further comments at 6; NCTA further comments at 5.

²³¹² Alliance for Distance Education comments at 1.

²³¹³ PacTel further comments at 21.

²³¹⁴ Florida Cable comments at 14.

²³¹⁵ NCTA comments at 22.

²³¹⁶ Ameritech further comments at 18.

²³¹⁷ AT&T further comments at 15. See also GTE further comments at 21; NCTA further comments at 5; Netscape further comments at 14; U.S. Distance Learning Ass'n further comments at 7.

²³¹⁸ ITC further comments at 7.

"other information helpful in tracking universal service progress."²³¹⁹

722. Federally Imposed Safeguards. Several commenters assert that the Commission should impose mechanisms to ensure that telecommunications users are making bona fide requests. Century asserts that the Commission should define "bona fide requests" for section 254(h) purposes and should investigate specific complaint filings.²³²⁰ CFA maintains that requiring public institutional users receiving telecommunications services under section 254(h) to comply with standard procurement procedures combined with random audits by the universal service administrator would strike a reasonable balance.²³²¹ North Dakota Health maintains that an ongoing log of the uses of the services should be maintained, and should be open to a reviewing agency on a periodic basis so that appropriate use of the services can be ensured.²³²² On the other hand, BellSouth states that any requirements used to ensure bona fide requests for supported telecommunications services should be imposed at the district or state level.²³²³

723. Audit Program. Some commenters suggest that the mechanism of universal service support for health care providers include a suitable program of random tests and site audits as an enforcement scheme.²³²⁴ Some commenters assert that the need for an audit program could be avoided if block grants are not used. ALA states that the apparent need for an audit program is the reason why it opposes block grants or any such top-down distribution. ALA maintains that suitable accountability would exist in a reduced-rate program without the need for centralized oversight.²³²⁵ Similarly, New York DOE states that an audit program would not be necessary if discounts are returned directly to the institution. New York DOE further claims that eligible institutions should be able to use savings from discounts at their discretion.²³²⁶ Bell Atlantic asserts that billing credit vouchers, which would ultimately be submitted by carriers for reimbursement, would ensure proper usage of funds and thus presumably reduce or eliminate the

²³¹⁹ NYNEX further comments at 11-12.

²³²⁰ Century further comments at 13.

²³²¹ CFA further comments at 8.

²³²² North Dakota Health comments at 2-3.

²³²³ BellSouth further comments at 25.

²³²⁴ ITC further comments at 7.

²³²⁵ ALA further comments at 12-13. *See also* Union City Board of Education further comments at 3, 12.

²³²⁶ New York DOE further comments at 8.

need for an audit program.²³²⁷ NCTA also encourages the use of billing credits to ensure the proper use of funds.²³²⁸

724. Other Suggestions. Ameritech asserts that the best way to ensure that a request for supported service is bona fide is to have the requester put some of its own money at risk. USTA emphasizes that the chosen method of ensuring proper usage of funds should not be burdensome. For example, an electronic account system that restricted fund reimbursement to the offering of telecommunications services could alleviate many of the accountability concerns.²³²⁹

c. Discussion

725. We recommend that every health care provider that makes a request for universal service support for telecommunications services be required to submit to the carrier a written request, signed by an authorized officer of the health care provider, certifying under oath the following information:

- 1) which definition of health care provider in section 254(h)(5)(B) under which the requester falls;
- 2) that the requester is physically located in a rural area (OMB defined non-metro county or Goldsmith-defined rural section of an OMB metro county),²³³⁰
- 3) that the services requested will be used solely for purposes reasonably related to the provision of health care services or instruction that the health care provider is legally authorized to provide under the law of the state in which they are provided;
- 4) that the services will not be sold, resold or transferred in consideration of money or any other thing of value;²³³¹
- 5) if the services are being purchased as part of an aggregated purchase with other entities or individuals, the full details of any such arrangement, including the identities of all co-purchasers and the portion of the services being purchased

²³²⁷ Bell Atlantic further comments at 5.

²³²⁸ NCTA at 5.

²³²⁹ USTA further comments at 12.

²³³⁰ For a discussion of OMB metro and non-metro areas, Metropolitan Statistical Areas and the Goldsmith Modification, see ORHP/HHS comments at 5 and section XI.C.1.b., *supra*.

²³³¹ 47 U.S.C. § 254(h)(3).

by the health care provider.

726. We conclude that the above certification covers the key portions of section 254(h) governing eligibility for and limitation of use of supported services for health care providers and is the minimum certification necessary for adequate monitoring of compliance with section 254(h)(1)(A). We agree with NYNEX's suggestion that the certification should be renewed annually.²³³²

727. In addition, we recommend that the Commission require the universal service fund administrator to establish and administer a monitoring and evaluation program to oversee the use of universal service supported services by health care providers, and the pricing of those services by carriers.²³³³ We conclude that a compliance program is necessary to ensure that services are being used for the provision of lawful health care, that requesters are complying with certification requirements, that requesters are otherwise eligible to receive universal service support, that rates charged comply with the statute and regulations and that the prohibitions against resale or transfer for profit are strictly enforced. We disagree with ALA and New York DOE that suitable accountability would automatically exist in a reduced-rate program, where customers are investing a substantial amount of their own resources, without the need for any oversight.²³³⁴

728. We agree, however, with Apple's argument that, considering the limited resources many public and non-profit health care providers have to comply with complex regulations, there should be a strong presumption that health care providers will act responsibly.²³³⁵ Also, in formulating our recommendation as to the method of ensuring that requests are bona fide, we are mindful of the importance of choosing a method that minimizes, to the extent consistent with section 254, the administrative burden on regulators and carriers.²³³⁶ For these reasons, we have sought to recommend the least burdensome certification plan that will provide safeguards that are adequate to ensure that the supported services will be used lawfully and for their intended purposes.²³³⁷

729. For example, we do not recommend Florida Cable's five-component certification

²³³² NYNEX further comments at 11-12.

²³³³ Complaints against any common carrier subject to the 1996 Act may be filed with the Commission. *See* 47 U.S.C. § 208.

²³³⁴ *See* ALA further comments at 12-13; New York DOE further comments at 8.

²³³⁵ *See* Apple further comments at 4.

²³³⁶ *Cf.*, NPRM at para 100.

²³³⁷ *See* NPRM at para. 103.

plan because we find it too expansive, expensive, and burdensome.²³³⁸ We also reject NYNEX's suggestion that certification should include verification of the existence of a technology plan and a checklist of other information helpful in tracking universal service.²³³⁹ Although such a plan might be useful in a discount plan where disincentives to over-purchasing are needed, we find such a requirement unnecessarily burdensome where health care providers will be required to invest substantial resources in order to pay urban rates for these services. Likewise, we do not see the need to require health care providers to certify that hardware, wiring, on-site networking and training are to be deployed simultaneously with the service, as suggested by AT&T.²³⁴⁰ Finally, we do not accept Ameritech's suggestion that the financial officers of health care provider organizations be required to attest under oath that funds have been used as intended by the 1996 Act,²³⁴¹ because we believe that the pre-expenditure affidavit described above, which is to be submitted to the carrier along with the request for services, is sufficient under these circumstances.

730. We also recommend that the Commission encourage carriers across the country to notify eligible health care providers in their service areas of the availability of lower rates resulting from universal service support so that the goals of universal service to rural health care providers will be more rapidly fulfilled.

2. Restrictions on resale and aggregated purchases

a. Background

731. Section 254(h)(3) provides that "[t]elecommunications services and network capacity provided to a public institutional telecommunications user under this subsection may not be sold, resold, or otherwise transferred by such user in consideration for money or any other thing of value."²³⁴² The Joint Explanatory Statement explained that this section "clarifies that telecommunications services and network capacity provided to health care providers . . . may not be resold or transferred for monetary gain."²³⁴³

²³³⁸ See Florida Cable comments at 14.

²³³⁹ NYNEX further comments at 11-12.

²³⁴⁰ AT&T further comments at 15.

²³⁴¹ Ameritech further comments at 18.

²³⁴² 47 U.S.C. § 254(h)(3). See also the definition of health care provider including "consortia of health care providers" discussed in section XI.D.3., *supra*.

²³⁴³ Jt. Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2nd Sess. 133 (1996).

732. In the NPRM, the Commission asked commenters to suggest additional measures, other than discounts and financial support that would promote deployment of advanced services to health care providers.²³⁴⁴ The NPRM further asked commenters to address whether measures proposed would comply with the requirements of section 254(h)(3).²³⁴⁵

b. Comments

733. North Dakota Health argues that section 254(h)(3) threatens the ability of rural health care providers to make efficient use of their networks. It asserts that if private sector use of these facilities can improve efficiency and make them more cost-effective, this should be allowed.²³⁴⁶ USTA on the other hand, favoring strict enforcement of section 254(h)(3) argues that if restrictions are not enforced, telecommunications providers offering supported services will be, in effect, subsidizing non-eligible users.²³⁴⁷ A similar position is advanced by the Rural Iowa Indep. Tel. Ass'n although it maintains that the restriction on resale will not discourage the development of "networking partnerships" between health care providers, schools, libraries and other entities.²³⁴⁸

734. The Advisory Committee argues that an eligible health care provider may charge the patient or insurance company for the cost of the telecommunications service, but that charge should not be considered a resale under section 254(h)(3).²³⁴⁹ The Report also encourages the use of non-profit consortia to provide telemedicine services to eligible providers, through cooperative or other joint venture businesses. The Advisory Committee argues that users could purchase high capacity telecommunications services, which are often less expensive than multiple lower capacity services, by combining demand. Furthermore, the Report argues that advantage to rural areas would be even greater if consortia could include schools and libraries receiving benefits under the 1996 Act.²³⁵⁰ The Advisory Committee recommends that the Commission establish competitively neutral rules which ensure that federal, state, or local government-owned or subsidized communications networks do not unfairly compete by selling network services or excess capacity

²³⁴⁴ NPRM at para. 109.

²³⁴⁵ NPRM at para. 110.

²³⁴⁶ North Dakota Health comments at 3.

²³⁴⁷ USTA comments at 12; Advisory Committee Report at 12.

²³⁴⁸ Rural Iowa Indep. Tel. Ass'n comments at 6.

²³⁴⁹ Advisory Committee Report at 13.

²³⁵⁰ Advisory Committee Report at 12-13.

as commercial services in unfair competition with the private sector.²³⁵¹ The Report also suggests that the infrastructure required for rural telemedicine be shared among schools, libraries and health care providers.²³⁵²

c. Discussion

735. We advocate the strict enforcement of the prohibition in section 254(h)(3) against the resale of supported services, and we have urged that a sufficient audit program be established to monitor and evaluate the use of supported services in aggregated purchase arrangements.²³⁵³ We agree, however, with those commenters that maintain that this prohibition should not restrict or inhibit joint purchasing and network-sharing arrangements with both public and private entities and individuals.²³⁵⁴ Several commenters observe that these arrangements can be used to substantially reduce costs and in some cases, their availability might make the difference between success and failure of a rural telecommunications network.²³⁵⁵

736. Accordingly, we recommend that health care providers be encouraged to enter into aggregate purchasing and maintenance agreements for telecommunications services with other public and private entities and individuals, provided however, that the entities and individuals not eligible for universal service support pay full rates for their portion of the services. In addition, in these arrangements, we recommend that the Commission's order make clear that the qualified health care provider can be eligible for reduced rates, and the telecommunications carrier can be eligible for support, only on that portion of the services purchased and used by the health care provider.²³⁵⁶ We believe that these arrangements should be subject to full disclosure and close scrutiny under the audit program we recommend in section XI.E.1.c. above.

F. Advanced Telecommunications and Information Services

1. Background

737. Section 254(h)(2) directs the Commission to establish "competitively neutral rules.

²³⁵¹ Advisory Committee Report at 9.

²³⁵² Advisory Committee Report at 8.

²³⁵³ See section XI.E.1.c., *supra*.

²³⁵⁴ Rural Iowa Indep. Tel. Ass'n comments at 6.

²³⁵⁵ See, ORHP/HHS comments at 10-11. See also American Telemedicine comments at 3; Nebraska Hospitals comments at 2; Taconic Tel. Corp. reply comments at 5.

²³⁵⁶ See Merit comments at 4-5.

. . . to enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services for all public and nonprofit elementary and secondary school classrooms, health care providers, and libraries."²³⁵⁷ Section 254(h)(2) also directs the Commission to "define the circumstances under which a telecommunications carrier may be required to connect its network to such public institutional telecommunications users."²³⁵⁸ The statute does not define "advanced telecommunications services." "Information services" is defined, however, as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications."²³⁵⁹

738. The Joint Explanatory Statement provides the following explanation with respect to advanced telecommunications services:

New subsection (h)(2) requires the Commission to establish rules to enhance the availability of advanced telecommunications and information services to public institutional telecommunications users. For example, the Commission could determine that telecommunications and information services that constitute universal service for classrooms and libraries shall include dedicated data links and the ability to obtain access to educational materials, research information, statistics, information on Government services, reports developed by Federal, State, and local governments, and information services which can be carried over the Internet.²³⁶⁰

739. In the NPRM, the Commission acknowledged that section 254(h)(2), in contrast to section 254(h)(1)(A), requires identification of those advanced telecommunications services that carriers should make available to all health care providers to the extent technically feasible and economically reasonable.²³⁶¹ The Commission asked commenters to identify advanced telecommunications and information services and further identify the features and functionalities required to give health care providers access to those services. The Commission also asked commenters to suggest competitively neutral rules that would enhance that access.²³⁶² The

²³⁵⁷ 47 U.S.C. § 254(h)(2)(A).

²³⁵⁸ 47 U.S.C. § 254(h)(2)(B).

²³⁵⁹ 47 U.S.C. § 153(20).

²³⁶⁰ Joint Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2nd Sess. 133 (1996).

²³⁶¹ NPRM at para. 109 (*citing* 47 U.S.C. § 254(h)(2)(A)).

²³⁶² NPRM at para. 109.

Commission specifically asked whether advanced telecommunications and information services should be broader, narrower or identical to the services supported in section 254(h)(1)(A). In addition, the Commission requested suggestions as to additional measures, other than discounts and financial support, that would promote the deployment of advanced services to health care providers.²³⁶³

740. The Commission further asked commenters to address, for each measure proposed, whether it would be competitively neutral for carriers, telecommunications providers, and any other affected entities. The Commission sought comment on whether the proposed measure would comply with the 1996 Act's requirements that telecommunications services and network capacity not be re-sold for value.²³⁶⁴ The Commission also asked how it should assess whether services proposed are technically feasible and economically reasonable.²³⁶⁵ In addition, the Commission asked for estimates of potential costs for each measure pursuant to the principle that support mechanisms be specific, predictable and sufficient.²³⁶⁶ Finally, the Commission requested proposals to define the circumstances under which a telecommunications carrier may be required to connect its network to such public institutional telecommunications users.²³⁶⁷

741. In connection with the question of what entity is eligible for support, the Commission noted that Congress intended to benefit "all. . . health care providers," as defined in section 254(h)(5)(B), not just health care providers serving persons who live in rural areas.²³⁶⁸ The Commission invited interested parties to comment and asked for the Joint Board's recommendation regarding this interpretation.²³⁶⁹

2. Comments

742. General Comments. Rural Iowa Indep. Tel. Ass'n is optimistic that the application of the mechanisms of support and encouragement of competition through the implementation of

²³⁶³ NPRM at para. 109.

²³⁶⁴ NPRM at para. 110 (*citing* 47 U.S.C. § 254(h)(3)).

²³⁶⁵ NPRM at para. 110.

²³⁶⁶ NPRM at para. 110 (*citing* 47 U.S.C. § 254(B)(5)).

²³⁶⁷ NPRM at para. 110 (*citing* 47 U.S.C. § 254(h)(2)(B)).

²³⁶⁸ NPRM at para. 111.

²³⁶⁹ NPRM at para. 111.

the 1996 Act will in itself help in enhancing access to advanced services.²³⁷⁰ Taconic Tel. Corp. argues that the goal of advanced services to schools, libraries and health care providers can only be achieved through collaborative partnerships with schools, the local community, coordinators, and state and federal legislators.²³⁷¹ Other commenters also propose allowing health care providers to join with government, school, community or even business users to form a network, share the cost and increase the usage of advanced telecommunications access lines.²³⁷² ORHP/HHS notes that without sharing of infrastructure by educational, medical, business and other community resources, "development of advanced rural applications is more likely to fail."²³⁷³ Merit recommends allowing the sharing of transmission facilities with ineligible schools, libraries and health care providers who would pay full non-discounted rates.²³⁷⁴

743. Advanced Services. Several commenters express skepticism regarding the idea of defining or supporting advanced telecommunications and information services for health care providers and many assert that no attempt should be made to identify advanced services at this time.²³⁷⁵ NCTA argues, for example, that there is no need to require universal service support for advanced telecommunications services for health care providers and other public institutional users since cable operators can, and already are delivering such services.²³⁷⁶ Similarly, CCV asserts that there are numerous incentives in place assuring a rapid deployment of advanced services to health care providers. CCV notes, in support of this argument, that it has already entered into a series of "government/business partnerships" in its areas of service which will facilitate a rapid deployment of these services to health care providers. Therefore, it argues, universal service support should not be required for these advanced services.²³⁷⁷ Frontier adds that additional services, such as Asynchronous Transfer Mode (ATM) and ISDN technology should not qualify for support, absent a compelling demonstration of need, because the Commission's baseline set of services satisfies health care providers' need for access to advanced

²³⁷⁰ Rural Iowa Indep. Tel. Ass'n comments at 6.

²³⁷¹ Taconic Tel. Corp. reply comments at 6.

²³⁷² *See, e.g.*, American Telemedicine comments at 3; Nebraska Hospitals comments at 2; Taconic Tel. Corp. reply comments at 5.

²³⁷³ ORHP/HHS comments at 10-11.

²³⁷⁴ Merit comments at 4-5.

²³⁷⁵ *See, e.g.*, NCTA comments at 23.

²³⁷⁶ NCTA comments at 23.

²³⁷⁷ CCV comments at 5.

services.²³⁷⁸ Sprint argues that additional and advanced telecommunications services requiring support should not be defined until subscribership indicates which services are desirable and necessary, and the rural health care marketplace has been assessed. Furthermore, Sprint argues that many of the advanced services mentioned by the Commission are in their infancy and are still evolving.²³⁷⁹

744. Some commenters take the view that advanced services, though not identifiable now, will become known in the future and should be studied and reviewed in an ongoing proceeding.²³⁸⁰ USTA states that such periodic review should be undertaken in conjunction with the proceeding[s] required in section 706²³⁸¹ of the 1996 Act as well as with the periodic review of the universal service definitions.²³⁸² Wisconsin PSC states that it may be best for the Commission to provide broad guidelines to identify the advanced service capabilities needed. Wisconsin PSC suggests further that the Commission provide matching funds or direct grants for states to administer, as is now done in the Lifeline and Link-Up programs.²³⁸³

745. Information Services. Netscape argues that since "the 1996 Act does not repeal, and in fact codifies the Commission's longstanding *Computer II* distinction between basic telecommunications and `enhanced' information services, . . . Internet access is assuredly an `information' service, not a `telecommunications' service."²³⁸⁴ As such, Netscape contends, Internet access may be encouraged through the rules adopted pursuant to section 254(h)(2) but not supported under section 254(h)(1).²³⁸⁵ PacTel subscribes to a similar interpretation.²³⁸⁶

746. Technically Feasible and Economically Reasonable. Ameritech expresses doubts that access to advanced services would be technically feasible since access will require substantial equipment and inside wiring in addition to transmission capacity. It further doubts that access to

²³⁷⁸ Frontier comments at 5.

²³⁷⁹ Sprint comments at 23.

²³⁸⁰ See, e.g., USTA comments at 12.

²³⁸¹ 1996 Act, § 706.

²³⁸² USTA comments at 12.

²³⁸³ Wisconsin PSC comments at 17-18.

²³⁸⁴ Netscape further comments at 3 (*citing* Netscape comments at 14-17).

²³⁸⁵ Netscape further comments at 3.

²³⁸⁶ PacTel further comments at 14-15.

advanced services would be economically reasonable since the market price of the equipment and the transmission capacity would be considerable.²³⁸⁷ BellSouth also opposes deployment of additional advanced services. BellSouth argues that deployment of additional advanced services should not be mandated because it would involve substantial new investments that may not be sound. BellSouth recommends, however, that transmission capabilities of 1.544 Mbps be provided to all rural health care providers as part of the universal service support for services "necessary for the provision of health care" under section 254(h)(1)(A). BellSouth argues further that basic connectivity can be provided through other services deemed eligible for universal service support pursuant to section 254(h)(1)(A).²³⁸⁸ PacTel states that since mandated access to advanced services must be technically feasible and economically reasonable; such services should only be supported after the recipient has made a showing that it possesses and has the training to use related hardware and software.²³⁸⁹ USTA asserts that, while section 254(h)(2) requires that advanced services be provided in a manner which is technically and economically reasonable, it does not require that advanced services that do not qualify as special services be discounted or that the rates for advanced services provided to rural health care providers be reasonably comparable.²³⁹⁰ With regard to provisions of section 254(h)(2)(B) that require the establishment of rules defining the circumstances under which a telecommunications carrier may be required to connect its network to such public institutional telecommunications users, Metricom asserts that if a carrier is not eligible under section 214(e), that carrier should not be forced to connect its network to public institutional users.²³⁹¹

747. Encourage Deployment. The Advisory Committee recommends that universal service funds be used to help telecommunications carriers build or upgrade the public switched network or "backbone infrastructure" required for rural telemedicine.²³⁹² That Report recommends that such a backbone infrastructure, upgraded with universal service funds, be shared by schools and libraries and private entities, with private entities being required to repay the fund from profits generated from such services.²³⁹³ The Advisory Committee further recommends that the Commission establish policies that encourage interconnection standards and interoperability among networks with heterogeneous technologies. The Report suggests, as an example, that the

²³⁸⁷ Ameritech comments at 20.

²³⁸⁸ BellSouth comments at 23.

²³⁸⁹ PacTel comments at 11.

²³⁹⁰ USTA comments at 12.

²³⁹¹ Metricom comments at 8.

²³⁹² Advisory Committee Report at 8.

²³⁹³ Advisory Committee Report at 8.

Commission should establish rules that encourage the adoption of Internet Protocol (IP) over ATM as a superior interoperability standard.²³⁹⁴ The Report also notes that some states are using ATM to provide digital connectivity and argues that competitively neutral rules should encourage private sector involvement and competition among private sector firms.²³⁹⁵

748. Both USTA and NCTA argue that the Commission should employ the incentives mentioned in section 706 of the 1996 Act²³⁹⁶ to encourage deployment of advanced telecommunications capability to health care providers.²³⁹⁷ Alliance for Public Technology argues that the fundamental challenge in extending universal service is to include market-compatible ways of overcoming the implicit "social engineering" of the marketplace in developing new technologies.²³⁹⁸ Alliance for Public Technology asserts that the best way to meet this challenge is to provide financial incentives to the states to get them to open proceedings which would develop "strategies and market-oriented options." This would, in turn, encourage deployment of those advanced telecommunications services which, they argue, would meet the full spectrum of individual and community-based needs.²³⁹⁹

749. Competitive Neutrality. Several commenters respond to the requirement that the rules established must be competitively neutral.²⁴⁰⁰ Council on Competitiveness states that it is important that the universal service program remain provider neutral and technology neutral.²⁴⁰¹ PacTel asserts that ensuring competitive neutrality means that all telecommunications and information service providers must bear responsibility for providing and funding these services.²⁴⁰² Metricom argues that the support program should unfairly favor neither competitors nor technologies because "wireless, unlicensed and other alternatives to traditional landline service may prove to be the best choice for these public institutional

²³⁹⁴ Advisory Committee Report at 9-10.

²³⁹⁵ Advisory Committee Report at 9.

²³⁹⁶ 1996 Act, § 706.

²³⁹⁷ NCTA comments at 23; USTA comments at 12.

²³⁹⁸ Alliance for Public Technology comments at 19.

²³⁹⁹ Alliance for Public Technology comments at 19.

²⁴⁰⁰ *See, e.g.*, Metricom comments at 7.

²⁴⁰¹ Council on Competitiveness comments at 4.

²⁴⁰² PacTel comments at 11.

users. . .²⁴⁰³

3. Discussion

750. The Commission's adoption of rules providing universal service support under section 254(h)(1) will significantly increase the availability and deployment of telecommunications services for rural health care providers. Furthermore, we conclude that the additional action the Commission will undertake, as discussed above, will be sufficient to ensure the enhancement of access to advanced telecommunications and information services for these and other health care providers. In this regard, we note that the class of users who may benefit from the implementation of section 254(h)(2)(A) includes all public and non-profit health care providers, not solely rural health care providers or those who serve persons residing in rural areas.²⁴⁰⁴

G. Implementation

751. We propose that the Commission establish rules governing the implementation of the support mechanisms recommended above. We anticipate that the fund administrator will begin receiving and processing telecommunications service requests on or about June 1, 1997. Therefore, we recommend that the Commission advise eligible health care providers that they may begin submitting requests to carriers for supported services as soon as practicable after the Commission adopts final rules.

752. The rules should provide that the telecommunications carrier may begin to deploy the requested service as soon as practicable after it has received 1) a written request for an eligible telecommunications service, 2) a properly completed signed and sworn certification as provided in paragraph 92 of this section, 3) approval, if necessary, from the appropriate agency of the rate to be charged for the requested service, and 4) satisfactory payment or payment arrangements for the portion of the rate charged that is the responsibility of the health care provider.

XII. INTERSTATE SUBSCRIBER LINE CHARGES AND CARRIER COMMON LINE CHARGES

A. Overview

753. In this section, the Joint Board considers the existing mechanisms for the recovery

²⁴⁰³ Metricom comments at 7-8.

²⁴⁰⁴ See 47 U.S.C. § 254(h)(2)(A).

of subscriber loop costs²⁴⁰⁵ -- the SLC and the residual CCL charges, which include LTS payments -- to determine whether they contain support mechanisms that are inconsistent with the directives in the 1996 Act. The Joint Board concludes that the existing LTS payment structure is inconsistent with the 1996 Act, because contributions to universal service should be "equitable and nondiscriminatory."²⁴⁰⁶ We recommend that LTS be removed from the access charge regime and instead recovered from the new federal universal service support mechanism.

754. We recommend that there be no increase in the current \$3.50 SLC cap for primary residential and single-line business lines. If the Commission utilizes both inter- and intrastate revenues as the revenue base for assessing interstate telecommunications carriers' contributions to the new national universal service support mechanism, we recommend that there be a downward adjustment in the SLC cap for those lines, as well as CCL charges, to reflect the recovery of LTS and pay telephone costs from other sources. Further, we conclude that the current usage-sensitive CCL charge structure is economically inefficient and urge the Commission to change the current CCL rate structure so that LECs are no longer required to recover the NTS cost of the loop from IXCs on a traffic-sensitive basis.

B. Background

755. Section 254(b)(4) establishes the universal service principle that "[a]ll providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service." Section 254(d) requires that "[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service." Section 254(e) further requires that any universal service support "should be explicit," and the Joint Explanatory Statement indicates that the requirement that support be explicit serves the "conferees' intent that all universal service support should be clearly identified."²⁴⁰⁷ Section 254(b)(1) also establishes the principle that universal service should be available at affordable rates, and section 254(i) directs the Commission and the states to ensure that universal service is available at affordable rates.

²⁴⁰⁵ "Subscriber loops" or "loops" are the connection between the telephone company's central office and the customer's premises. In the *Local Competition Order*, the Commission defined the loop, for unbundling purposes, as "a transmission facility between a distribution frame, or its equivalent, in an ILEC central office, and the network interface device at the customer premises." *Local Competition Order* at para. 380. Currently, 25 percent of the total cost of the loop is allocated to the interstate jurisdiction, 47 C.F.R. § 36.154(c), though interstate traffic actually represents only about 15 percent of loop usage. See *FCC Monitoring Report*, CC Docket No. 80-286, Table 4.7 (rel. May 1996).

²⁴⁰⁶ 47 U.S.C. § 254 (b) (4).

²⁴⁰⁷ Joint Explanatory Statement at 131.

756. Currently, LECs recover the portion of subscriber loop costs assigned to the interstate jurisdiction through a combination of the SLC and CCL charges. The SLC is capped at \$3.50 per month for residential and single-line business customers and \$6.00 per month for multi-line business customers.²⁴⁰⁸ In the NPRM, the Commission noted that the imposition of usage-sensitive CCL charges on one class of carriers (IXCs) to reduce flat rates for end users, with the goal of increasing subscribership, "appears to constitute a universal service support flow."²⁴⁰⁹ The NPRM noted that this apparent support flow appears inconsistent with the 1996 Act's directives that support be "explicit" and that it be collected on an equitable and nondiscriminatory basis from all carriers providing interstate telecommunications services.²⁴¹⁰ The Commission observed that some parties have suggested in the past that loop costs be recovered solely from end users through an increase in the SLC, and requested comment on this issue.²⁴¹¹ The Commission also requested comment on the potential effect on subscribership of increasing the SLC.²⁴¹²

757. The NPRM further observed that the CCL charges of ILECs not participating in the NECA pool recover LECs' LTS obligations.²⁴¹³ As noted in the NPRM, LTS payments serve to equalize access charges among LECs by requiring larger LECs that no longer participate in the NECA access charge pool to contribute funds sufficient to reduce pooling companies' access charges to the national average.²⁴¹⁴ The NPRM tentatively concluded that "LTS payments, which directly increase interstate access charges assessed by some LECs so as to reduce charges assessed by other LECs, are an identifiable support flow in the existing interstate access charge system" and "propose[d] to eliminate the recovery of LTS revenues through ILECs' interstate CCL charges."²⁴¹⁵ The NPRM requested public comment on these issues, and referred to the Joint Board the question of how interstate-allocated subscriber loop costs should be recovered.²⁴¹⁶

²⁴⁰⁸ 47 C.F.R. §§ 69.104, 69.203.

²⁴⁰⁹ NPRM at para. 113.

²⁴¹⁰ 47 U.S.C. § 254(d) - (e).

²⁴¹¹ NPRM at paras. 113-14.

²⁴¹² NPRM at para. 114.

²⁴¹³ NPRM at para. 115.

²⁴¹⁴ NPRM at para. 115.

²⁴¹⁵ NPRM at para. 115.

²⁴¹⁶ NPRM paras. 114-115. Formerly, CCL charges also recovered ILEC pay telephone costs. The Commission, in its recent pay telephone compensation decision, directed ILECs to remove this element of CCL charges by April 15, 1997. *See Implementation of the Pay Telephone Reclassification Provisions of the Telecommunications Act of 1996*, Report and Order, CC Docket No. 96-128, FCC 96-388 (rel. Sept. 20, 1996)

758. On July 3, 1996, the Commission's Common Carrier Bureau released a Public Notice soliciting further comment on 72 specific questions.²⁴¹⁷ Two of those questions pertained to loop cost recovery. One asked, "If a portion of the CCL charge represents a subsidy to support universal service, what is the total amount of the subsidy?" It also requested supporting evidence to substantiate estimates of the amount of support, including information on the cost methodology used to estimate the magnitude of the support amount. The other question asked, "If a portion of the CCL charge represents contribution to the recovery of loop costs, please identify and discuss alternatives to the CCL charge for recovery of those costs from all interstate telecommunications service providers (e.g., bulk billing, flat rate/per-line charge)."

759. In its August decision implementing section 251 and related provisions of the 1996 Act,²⁴¹⁸ the Commission concluded that purchasers of unbundled network elements should not be required to pay access charges, including CCL charges.²⁴¹⁹ The Commission determined that the "payment of rates based on TELRIC plus a reasonable allocation of common costs, pursuant to section 251(d)(1), represents full compensation to the ILEC for use of the network elements that telecommunications carriers purchase."²⁴²⁰ Nevertheless, the Commission recognized that some portion of the CCL charge represents universal service support that should not be terminated before the Commission has begun to implement new support mechanisms.²⁴²¹ To preserve existing support flows until the completion of the universal service and access charge reform proceedings, the Commission adopted an interim mechanism that requires purchasers of the unbundled local switching element to continue to pay CCL charges (plus a charge equal to 75 percent of the TIC) for all interstate minutes traversing the ILEC's local switches.²⁴²² The Commission applied the transitional mechanism to "the unbundled local switching element, rather than to any other network elements, because such an approach is most closely analogous to the manner in which the [CCL charge] and TIC are recovered in the interstate access regime."²⁴²³ This transitional mechanism will expire upon completion of the universal service and access

(*recon. pending*) (*Pay Telephone Order*).

²⁴¹⁷ See Public Notice.

²⁴¹⁸ See *Local Competition Order*.

²⁴¹⁹ *Local Competition Order* at para. 721.

²⁴²⁰ *Local Competition Order* at para. 721. "TELRIC" is an acronym for "total element long run incremental cost." See *id.* at para. 674.

²⁴²¹ *Local Competition Order* at para. 719.

²⁴²² *Local Competition Order* at para. 720.

²⁴²³ *Local Competition Order* at para. 721.

charge proceedings, but no later than June 30, 1997.²⁴²⁴

C. Comments

760. CCL Charges Are Not a Support Mechanism. Many commenters, including most states and state consumer advocates as well as some small LECs, Teleport, and NECA, argue that the CCL charge does not represent a support flow because it is a mechanism for LECs to recover IXCs' share of the joint and common loop costs.²⁴²⁵ These commenters contend that IXCs should bear some or all of the burden for interstate loop costs because IXCs would otherwise have use of the loop, an input to their service, at no charge. Several commenters contend that, because the loop is a joint and common cost, section 254(k) requires that IXCs bear a reasonable share of loop costs.²⁴²⁶ Other commenters, while still arguing that CCL charges are not a support mechanism, suggest that LECs may be over-recovering loop costs because CCL charges are computed based on embedded costs.²⁴²⁷ These commenters believe that re-computation of loop costs based on forward-looking cost principles justifies lowering at least the SLC, and perhaps CCL charges as well. Other commenters suggest that the current \$3.50 residential SLC cap should be lowered to reflect declines in the real cost of providing loops.²⁴²⁸ Some commenters note the use of digital loop carrier technology in the feeder portion of the loop and suggest that has resulted in less of the loop being a non-traffic-sensitive, dedicated facility.²⁴²⁹

761. Most states take the position that CCL charges do not constitute a support flow

²⁴²⁴ For BOCs, the transitional mechanism will also expire on the date the BOC is authorized to provide in-region inter-LATA services if this occurs before completion of the two proceedings or June 30, 1997. *Local Competition Order* at para. 720.

²⁴²⁵ See, e.g., AARP comments at 14-15; Bell Atlantic comments at 10-11; OPC-DC comments at 17; Florida PSC comments at 21-23; Harris comments at 13; Maine PUC comments at 17; NASUCA comments at 4-6; RTC comments at 17-18; Rural Iowa Indep. Tel. Ass'n comments at 6; Teleport comments at 10-11; Texas OPUC comments at 6-7; Washington UTC comments at 18-19; DC PSC reply comments at 9-10; United Utilities reply comments at 3-4; NECA further comments at 37.

²⁴²⁶ See, e.g., Indiana PUC comments at 9; NARUC comments at 16; Texas OPC comments at 3-4; AARP reply comments at 16; NASUCA reply comments at 13-14; Oklahoma CC reply comments at 21.

²⁴²⁷ See, e.g., Maine PUC comments at 21-22; New York DPS comments at 4; Washington UTC comments at 18-19.

²⁴²⁸ According to AARP, loop costs have decreased by 7 percent per year for the past decade. AARP comments at 17. See also Maine PUC comments at 21-22; Texas OPUC comments at 13-14.

²⁴²⁹ See, e.g., Testimony of Mark Cooper, Director of Research, CFA, Federal State Joint Board Meeting, Sept. 13, 1996.

and favor elimination of the SLC and recovery of interstate loop costs entirely from IXCs.²⁴³⁰ Many of these commenters argue that this change will allow the marketplace to determine how such costs will be recovered from end users.²⁴³¹ Many of these parties also favor converting the CCL charge to a flat-rate, per-line, revenue-based, or other type of charge to IXCs,²⁴³² agreeing that "it is not economically efficient to recover non-traffic sensitive costs on a traffic sensitive basis"²⁴³³ (as CCL charges are currently recovered). NYNEX argues that "loop costs represent approximately 80 percent of total [incremental] universal service costs," and observes that "the current end user charge cap of \$3.50 was initially felt to represent 50 percent of average interstate assigned loop costs."²⁴³⁴ NYNEX therefore proposes that 40 percent (i.e., 80 percent of 50 percent) of interstate-allocated loop costs be recovered from end users, with the remaining 60 percent to be recovered from IXCs on the basis of presubscribed lines.²⁴³⁵ NARUC and some states suggest that loop costs for customers who refuse to select a PIC should be allocated among the IXCs that those specific customers actually use.²⁴³⁶ Other commenters favor flat-rate charges to all carriers using the loop.²⁴³⁷ The Texas OPUC suggests that, as local markets become more competitive, "the Commission will have to abandon subscriber line charges altogether and allow costs for the provision of the loop to be recovered by service providers in the rates they charge each other and their customers."²⁴³⁸

762. Support Flows Not Covered by the Act. At least one commenter argues that, although CCL charges and LTS payments may constitute support flows, they are not support

²⁴³⁰ See, e.g., Idaho PSC comments at 16-17; Maine PUC comments at 17; NARUC comments at 17.

²⁴³¹ See, e.g., Idaho PSC comments at 17; Maine PUC comments at 18; Pennsylvania PUC reply comments at 21.

²⁴³² See, e.g., Maine PUC comments at 16-17 (advocating a flat charge to PIC with proportional division of charges for customers who make casual use of non-PIC carriers); NARUC comments at 17 (same); DC PSC reply comments at 8-9 (flat charge divided proportionally among carrier on basis of relative use). See also Ohio Consumers' Council comments at 20; Ameritech further comments at 46; Century and TDS further comments at 33; NYNEX further comments at 47-48 (arguing that a per-line charge might encourage customers to un-presubscribe and use dial-around codes for long distance calls, and advocating a revenue-based charge).

²⁴³³ Maine PUC comments at 16-17. See also NARUC comments at 17; Alabama PUC reply comments at 13; DC PSC reply comments at 8-9.

²⁴³⁴ See *ex parte* letter from Frank J. Gumper, NYNEX, to William F. Caton, Secretary (Oct. 21, 1996) at 2.

²⁴³⁵ *Id.*

²⁴³⁶ See, e.g., Idaho PUC comments at 17; Maine PUC comments at 17; NARUC comments at 17.

²⁴³⁷ Pennsylvania PUC comments at 24; CFA further comments at 27.

²⁴³⁸ Texas OPUC comments at 10.

flows intended to serve the universal service goals of the 1996 Act and therefore do not need to be made explicit to comply with the 1996 Act.²⁴³⁹ Some small LECs and a few states disagree with the elimination of the LTS component of CCL charges.²⁴⁴⁰ No party appears, however, to have attempted to refute the NPRM's tentative conclusion that LTS represents an impermissible implicit support mechanism.²⁴⁴¹

763. CCL Charges as Impermissible Support Mechanisms. On the other hand, a substantial number of commenters argue that CCL charges contain support flows inconsistent with the 1996 Act.²⁴⁴² Many advocate eliminating CCL charges altogether and recovering interstate loop costs entirely through the SLC.²⁴⁴³ Others advocate increasing the SLC by some fixed amount, such as the amount necessary to compensate for inflation since the SLC cap was imposed.²⁴⁴⁴ Some contend that economic theory supports the recovery of non-traffic sensitive facility costs, like loop costs, from the cost causer -- which they contend is the end user.²⁴⁴⁵ Sprint argues that, since the loop must be unbundled pursuant to section 251, it is no longer a shared facility; therefore, IXCs should no longer share in the recovery of its cost.²⁴⁴⁶

764. Many of these commenters argue that shifting loop costs previously recovered through CCL charges to end users through the SLC will not have an adverse impact on universal service.²⁴⁴⁷ These commenters cite statistics showing that telephone penetration rates have

²⁴³⁹ See NYNEX comments at 3-8. NYNEX nevertheless argues that the current access charge regime, developed in a monopoly environment, will be unsustainable in a competitive marketplace. *Id.*

²⁴⁴⁰ See, e.g., Harris comments at 18-19; Missouri PSC comments at 20-21; Pennsylvania PUC comments at 24; Rock Port Tel. Co. comments at 2; Western Alliance comments at 8; Fred Williamson comments at 17-18.

²⁴⁴¹ See NPRM at para. 115.

²⁴⁴² See, e.g., AT&T comments at 3-4, 16; Ad Hoc Telecom. Users comments at 22; BellSouth comments at 8; California PUC comments at 20; GSA comments at 4; SNET comments at 6; Time Warner comments at 19-20; NTIA reply comments at 21 n.54.

²⁴⁴³ See, e.g., AT&T comments at 16; Ad Hoc Telecom. Users comments at 22; BellSouth comments at 4; CPT comments at 1-2; GTE comments at 15; NTIA comments 21 n.54; Time Warner comments at 20; USTA comments at 18.

²⁴⁴⁴ See, e.g., Ad Hoc Telecom. Users comments at 22-24; Churchill County comments at 4.

²⁴⁴⁵ Ad Hoc Telecom. Users comments at 22; BellSouth comments at 8.

²⁴⁴⁶ Sprint reply comments at 20.

²⁴⁴⁷ See, e.g., BellSouth comments at 17-18; Time Warner comments at 20. AirTouch argues that shifting loop cost recovery to end users will increase demand for telecommunications services by lowering toll rates. AirTouch further comments at 28-29.

increased since the introduction of the SLC in 1985 as evidence that there has not been an adverse effect on universal service.²⁴⁴⁸ This view contrasts with other commenters who assert that increasing the SLC could have a negative impact on subscribership in contravention of the 1996 Act's universal service goals.²⁴⁴⁹ Some of these commenters also argue that end-user loop cost recovery would violate section 254(k), which requires that services included in the definition of universal service bear no more than their fair share of joint and common costs.²⁴⁵⁰ AARP contends that allowing IXCs to pay nothing for the use of the loop would violate the prohibition in section 254(k) against non-competitive services subsidizing competitive services.²⁴⁵¹

765. Some commenters argue that IXCs should be required to pass on savings associated with any CCL charge reductions to their subscribers on a dollar-for-dollar basis.²⁴⁵² At the same time, some commenters observe that the computation of loop costs that LECs should be allowed to recover should be based on forward-looking, not embedded, costs.²⁴⁵³ They assert that recalculating loop cost recovery based on a forward-looking methodology may allow full recovery of such costs from end users with little or no increase in current SLC levels. USTA notes that, on a wire center basis, 48 percent of access lines would pay a SLC equal to or less than the current \$3.50 residential cap.²⁴⁵⁴ GSA recommends recovering loop costs through SLCs rather than CCL charges, but would set the SLC at *urban* loop cost levels, and recover the difference in non-urban areas from a new universal service fund to which all interstate telecommunications carriers would contribute on a non-discriminatory basis.²⁴⁵⁵ GTE, in contrast, would eliminate CCL charges and

²⁴⁴⁸ See, e.g., AT&T comments at 16-17 n.21; BellSouth comments at 17-18; Time Warner comments at 20; USA reply comments at 12.

²⁴⁴⁹ See, e.g., Maine comments at 20-21; NARUC comments at 16; New York DPS comments at 4; AARP reply comments at 14-15.

²⁴⁵⁰ These commenters argue that basic telephone service will include the services defined as universal service. At the same time, they argue that loop costs are joint and common costs shared between local service and competitive services such as interexchange service. They therefore contend that end-user recovery of loop costs would force recovery of those costs through rates for basic service, and thus force services included in the definition of universal service to bear the entire burden of a joint and common cost shared with competitive services, in violation of section 254(k). See, e.g., AARP comments at 15-16; DC OPC reply comments at 2.

²⁴⁵¹ AARP comments at 16.

²⁴⁵² See, e.g., Bell Atlantic comments at 11-13; Citizens Utilities comments at 9; NARUC comments at 15; Siskiyou reply comments at 2.

²⁴⁵³ See, e.g., MCI comments at 14; AT&T further comments at 45-46.

²⁴⁵⁴ USTA *ex parte* letter dated August 1, 1996, from Porter E. Childers to William F. Caton.

²⁴⁵⁵ GSA comments at 5-6.

de-average the amount of the SLC on a geographic basis.²⁴⁵⁶ A few commenters would recover all interstate loop costs not recovered from SLC revenues through a new universal service fund.²⁴⁵⁷

766. **Other Comments.** A few commenters assert that the collection of LTS could be restructured to be consistent with the 1996 Act's non-discrimination requirements.²⁴⁵⁸ Missouri PSC argues that retaining the LTS mechanism in some form will increase interexchange competition in rural and high cost areas.²⁴⁵⁹ Several argue that any elimination of LTS should occur over time or through some other type of transition mechanism.²⁴⁶⁰ A small number of commenters claim that too great a proportion of subscriber loop costs are allocated to the interstate jurisdiction, and advocate reform of the separations mechanism.²⁴⁶¹ At least one commenter would delay any consideration of revisions to the SLC and CCL charge until more information is submitted to the record.²⁴⁶² Finally, a few commenters contend that proposals to change CCL charges and LTS payments are outside the scope of the universal service proceeding.²⁴⁶³

D. Discussion

1. LTS Payments

²⁴⁵⁶ GTE comments at 14-15. USTA would modify the existing SLC caps based on a local affordability benchmark. USTA comments at 15. *See also* SWBT comments at 4-6.

²⁴⁵⁷ *See, e.g.*, Ohio PUC comments at 17-18; PacTel comments at 13.

²⁴⁵⁸ Missouri PSC comments at 21; Pennsylvania PUC comments at 24; Winnebago Tel. comments at 1.

²⁴⁵⁹ *See* Missouri PSC comments at 20-21. Missouri PSC observes that the LTS system has historically served to reduce pressure on IXCs to de-average rates. *Id.* The 1996 Act requires IXCs to charge geographically averaged rates, however, and the Commission recently adopted rules implementing this provision. 47 U.S.C. § 254(g); *See also Policy and Rules Concerning the Interstate, Interexchange Marketplace*, Report and Order, CC Docket No. 96-61, FCC 96-331 (rel. August 7, 1996). Missouri PSC argues that, under a mandate to deaverage rates and absent access charges equalized by LTS, IXCs might choose not to serve high cost areas. Missouri PSC comments at 21.

²⁴⁶⁰ Citizens comments at 7-9; Florida PSC comments at 22; Montana Indep. Telecom. comments at 7; West Virginia Consumer Advocate comments at 12-13.

²⁴⁶¹ *See, e.g.*, ALTS comments at 7-8; Frontier comments at 10.

²⁴⁶² Indiana URC reply comments at 25.

²⁴⁶³ Rural Iowa Indep. Tel. Ass'n comments at 6; Fred Williamson comments at 17-18.

767. We recommend that the Commission adopt the tentative conclusion reached in the NPRM that LTS payments constitute a universal service support mechanism. As the Commission noted in the NPRM, LTS payments serve to equalize LECs' access charges by raising some carriers' charges and lowering others. While some commenters have noted the beneficial purposes currently served by LTS, no commenter argued that LTS was not a support flow. We conclude that this support mechanism is inconsistent with the 1996 Act's requirement that support be collected from all providers of interstate telecommunications services on a non-discriminatory basis.²⁴⁶⁴ Currently, only LECs that do not participate in the NECA pool make LTS payments, which they in turn recover from their IXC customers through CCL charges, and only LECs participating in the NECA pool receive LTS support.²⁴⁶⁵ We reject some commenters' argument that the 1996 Act only requires *new* universal service support mechanisms to comply with section 254, and does not require the reformation of existing support mechanisms, such as LTS, that were not originally adopted in furtherance of section 254.²⁴⁶⁶ We believe Congress intended not only that any new universal service support mechanisms recommended in this proceeding comply with section 254, but also that we should recommend reform of existing support mechanisms, if necessary. We are required to "recommend changes to any of [the Commission's] regulations in order to implement sections 214(e) and this section [254]."²⁴⁶⁷ Section 254(d) specifically states that universal service support mechanisms should be supported by contributions by all providers of interstate telecommunications services. The Conference Report provides further support, stating that "[t]he conferees intend that, in making its recommendation, the Joint Board will thoroughly review the existing system of Federal universal service support."²⁴⁶⁸

768. We therefore recommend that the LTS system no longer be supported via the access charge regime. As described more fully in section VII, *supra*, we recommend that rural LECs continue to receive payments comparable to LTS²⁴⁶⁹ from the new universal service support mechanism. To this extent, we recommend that the Commission adopt the position of those commenters favoring the reformation of the LTS mechanism to make it consistent with the 1996

²⁴⁶⁴ 47 U.S.C. § 254(d).

²⁴⁶⁵ See 47 C.F.R. § 69.105(b)(3) - (4).

²⁴⁶⁶ See *supra* section XII.C.

²⁴⁶⁷ 47 U.S.C. § 254(a)(1).

²⁴⁶⁸ Joint Explanatory Statement at 131.

²⁴⁶⁹ As discussed *supra* in section VII, such payments would be computed on a per-line basis for each ILEC currently receiving LTS, based on the LTS payments that carrier has received over a historical period prior to the release of this Recommended Decision. In the interest of competitive neutrality, such payments would also be portable, on a per-line basis, to competitors that win the ILEC's subscribers.

Act.²⁴⁷⁰ We make this recommendation because we find that LTS payments currently serve the important public interest function of reducing the amount of loop cost that high cost LECs must seek to recover from IXCs through interstate access charges, and thereby facilitating interexchange service in high cost areas.

2. Other Modifications to Interstate Loop Cost Recovery Mechanisms

a. SLC Caps

769. In this Recommended Decision, we have stated our view that current rates are generally affordable,²⁴⁷¹ and that primary residential and single-line business lines are central to the provision of universal service.²⁴⁷² We further observe that the SLC, as a charge assessed directly on local telephone subscribers, has an impact on universal service concerns such as affordability. Consistent with these premises, the Joint Board concludes that the current \$3.50 SLC cap for primary residential and single-line business lines should not be increased.

770. At the same time, the Joint Board recognizes that the SLC represents a critical element of a complex, interdependent mechanism for the recovery of loop costs allocated to the interstate jurisdiction. The Commission has the responsibility for maintaining the economic sustainability of interstate cost-recovery mechanisms. That mechanism necessarily depends upon a number of issues not presented to this Joint Board. One important factor is the permissible level of total common line recovery, which is not a part of this proceeding. For example, it is not yet clear the extent to which unbundled loops may provide a market-based pricing discipline on common line charges. The prices for these loops are currently being determined through negotiations among carriers and in arbitrations before state commissions. While the Commission adopted standards to govern pricing of those unbundled loops in the *Local Competition Order*, those pricing rules are currently stayed pending appeal.²⁴⁷³ We also note that the rules adopted in the *Local Competition Order* required deaveraging of unbundled loop prices into at least three zones, which could also have some impact on common line recovery methods. To the extent that local exchange competition develops, whether using unbundled loops or a competitive carrier's own loop facilities, mandatory common line rate structures for ILECs may become unnecessary. In this regard, we note that competitive carriers do not have mandatory common line rate structures.

²⁴⁷⁰ See, e.g., Missouri PSC comments at 20-21; Pennsylvania PUC comments at 24; Winnebago Tel. comments at 1.

²⁴⁷¹ See *supra* section V.

²⁴⁷² See *supra* section IV.

²⁴⁷³ See *Iowa Utilities Board v. FCC*, 1996 WL 557116 (8th Cir., rel. Oct. 15, 1996).

771. Any consideration of common line recovery must also take account of the impact of high cost support, and of the magnitude of such support on the recovery of total loop costs in high cost areas. There is also the question of how the revenue derived from such support is treated in the separations process. The Commission must also address the extent to which embedded loop costs should be recovered in its upcoming access charge reform proceeding. Ultimately, the establishment of the SLC cap depends upon the Commission's resolution of each of these issues.

772. In this Recommended Decision, we have reached no conclusion with respect to the proper revenue base for determining contributions by providers of interstate telecommunications services to the new national high cost and low-income universal service support mechanism. We observe that if the Commission ultimately establishes a rule assessing carriers' contributions based upon both inter- and intrastate revenues, we recommend that the Commission, as part of the transition to the new universal service contribution methodology, implement a downward adjustment in the SLC cap in order to help mitigate any potential effects on end-user charges related to local service.

773. We note that the Commission could implement such a transition without increasing aggregate revenues currently collected through CCL charges. We observe that the provisions of the 1996 Act will likely result in a reduction in the total costs that ILECs will recover through common line recovery methods -- currently, the SLC and CCL charges. In implementing the Act, the Commission recently directed ILECs to eliminate from their CCL charges an amount equal to the interstate allocation of pay telephone costs currently recovered through those charges,²⁴⁷⁴ and we here are recommending that the Commission provide LTS-surrogate payments out of a new universal service support mechanism.²⁴⁷⁵ In the event that the Commission implements a rule assessing carriers' universal service contributions based on all telecommunications revenues regardless of jurisdictional classification, we recommend that the benefits from these CCL reductions be apportioned equally between primary residential and single-line-business subscribers to local exchange service, on the one hand, through a reduction in the SLC cap for those lines, and interstate toll users, on the other hand, through lower CCL charges.

b. Recovery of Residual Interstate Loop Costs

774. Currently, ILECs are required to recover through traffic-sensitive CCL charges those interstate-allocated NTS loop costs not recovered through SLCs and LTS payments.²⁴⁷⁶ In the NPRM, the Commission referred to the Joint Board questions related to the recovery of these

²⁴⁷⁴ See *Pay Telephone Order* at para. 181.

²⁴⁷⁵ See *supra* section XII.D.1.

²⁴⁷⁶ See 47 C.F.R. § 69.105.

loop costs, and suggested that the current mechanism may constitute a universal service support flow.²⁴⁷⁷ Commenters disagree on whether the current, usage-sensitive CCL charge represents a true universal service support flow.²⁴⁷⁸ The Joint Board reaches no conclusion on this question.

775. Like many commenters,²⁴⁷⁹ however, the Joint Board recognizes that the usage-sensitive CCL charge constitutes an inefficient mechanism for recovering NTS loop costs. The cost of the loop is largely a fixed cost, i.e., it does not vary with usage.²⁴⁸⁰ To provide proper economic signals, it would be preferable for prices related to the loop, such as the CCL charge, to be set in a manner that is consistent with the manner in which the loop's cost is incurred. Because the cost of a loop generally does not vary with the minutes of use transmitted over the loop, the current CCL charge that mandates recovery of loop costs through per-minute-of-use charges represents an inefficient cost-recovery mechanism.

776. Accordingly, we believe it would be desirable for the Commission in the very near future to consider revising the current CCL charge structure so that LECs are no longer required to recover the NTS cost of the loop from IXCs on a traffic-sensitive basis. One promising alternative that would send the proper market signals to potential users and carriers would involve permitting ILECs to recover CCL costs from IXCs through a flat, per-line charge. It appears that the most administratively simple mechanism to recover such a flat-rate CCL charge would be to assess it against each customer's PIC. This approach could promote efficiency if IXCs, in turn, can recover this charge as they see fit, including passing the flat charge directly to the end user (whether or not the end user generates any usage-based charges).²⁴⁸¹ We recognize, however, that imposing such a charge only on the PIC may simply encourage end users not to select a PIC. To resolve this problem, if the Commission allows carriers to assess a flat-rate CCL charge on customers' PICs, the Joint Board suggests that the Commission allow ILECs to collect the flat-rate charge that would otherwise be assessed against the PIC from any customer who elects not to choose a PIC.

²⁴⁷⁷ NPRM at para. 113.

²⁴⁷⁸ Compare, e.g., Bell Atlantic comments at 11-13 with, e.g., MCI comments at 6.

²⁴⁷⁹ See, e.g., TCI further comments at 35-36.

²⁴⁸⁰ We acknowledge, as some commenters have noted, that, as new loop technologies such as digital loop carrier and hybrid fiber-coaxial cable loops supplant traditional twisted-copper loops, it may become less accurate to characterize the loop as a dedicated, NTS facility. We find that the best manner in which to deal with this changing technology is, as we recommend today, to give carriers the flexibility to recover these costs in a manner that is consistent with the way they are incurred.

²⁴⁸¹ We acknowledge that the 1996 Act's IXC rate averaging requirement may affect IXCs' ability to pass flat charges to their subscribers. See 47 U.S.C. § 254(g).

XIII. ADMINISTRATION OF SUPPORT MECHANISMS

A. Overview

777. Section 254(d) instructs the Commission to require "every telecommunications carrier that provides interstate telecommunications services" to contribute, on an equitable and nondiscriminatory basis, to the preservation and advancement of universal service. The 1996 Act permits the Commission to require other providers of interstate telecommunications to contribute to support mechanisms, if the Commission finds that it would serve the public interest. The 1996 Act also permits the Commission to exempt carriers from contribution if their contribution to universal service would be *de minimis*. To satisfy these statutory requirements, the Commission must determine which carriers shall contribute to support mechanisms, which carriers should be exempt from contribution, the basis for assessing contributions, and whom should administer the new support mechanism.

778. The Joint Board recommends that all carriers that provide interstate telecommunications services make contributions to the support mechanism based on their gross interstate and intrastate telecommunications revenues net payments to other telecommunications carriers. We recommend exempting from contribution those carriers for which the cost of collection exceeds the amount of the contribution. We also recommend that the Commission appoint a universal service advisory board to appoint, through competitive bidding, and oversee a neutral, third-party administrator of the support mechanism.

B. Mandatory Contributors to Support Mechanisms

1. Background

779. Section 254(b) provides that "[a]ll providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service"²⁴⁸² through "specific, predictable and sufficient Federal and State mechanisms."²⁴⁸³ To accomplish these goals, the 1996 Act mandates that "[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service."²⁴⁸⁴ The statute defines the term "telecommunications carrier" as "any provider of telecommunications

²⁴⁸² 47 U.S.C. § 254(b)(4).

²⁴⁸³ 47 U.S.C. § 254(b)(5).

²⁴⁸⁴ 47 U.S.C. § 254(d).

services,²⁴⁸⁵ and the term "telecommunications service" as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used."²⁴⁸⁶ In addition, the 1996 Act defines "telecommunications" as "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 and received."²⁴⁸⁷ Congress added that "the term 'telecommunications service' is defined as those services and facilities offered on a 'common carrier' basis, recognizing the distinction between common carrier offerings that are provided to the public . . . , and private services."²⁴⁸⁸ In the NPRM, the Commission sought comments as to which service providers would fall within the scope of the term "telecommunications carrier" and would be required to contribute to federal support mechanisms.²⁴⁸⁹

2. Comments

780. Mandatory Contributors. All commenters agree that "all providers of interstate telecommunications services" should be required to contribute to universal service support mechanisms,²⁴⁹⁰ and while some state that the definition should be construed broadly,²⁴⁹¹ most do not specifically describe which types of entities should be included within that definition. Several commenters, however, attempt in varying degrees to provide some suggestions or guidance on how to identify all contributors. Some commenters suggest that the group of contributors to the

²⁴⁸⁵ The 1996 Act specifically exempts aggregators of telecommunications services (as defined in section 226) from the definition of "telecommunications carrier." 47 U.S.C. § 153(44).

²⁴⁸⁶ 47 U.S.C. § 153(46).

²⁴⁸⁷ 47 U.S.C. § 153(43).

²⁴⁸⁸ Jt. Statement of Managers, S. Conf. Rept. No. 104-230, 104th Cong., 2nd Sess. 115 (1996).

²⁴⁸⁹ NPRM at para. 119.

²⁴⁹⁰ See, e.g., Alliance for Public Technology comments at 13; Ardmore Tel. comments at 5; Associated Communications comments at 4; Colorado PUC comments at 6; Frontier comments at 10; Louisiana PSC comments at 6-7; MCI comments at 15-16; New York CPB comments at 10; New York DPS comments at 10; Oklahoma CC comments at 6-7; Oregon PUC comments at 7-8; PacTel comments at 20-21; Pacific Telecom comments at 3; Pennsylvania RDC comments at 4-5; Teleport comments at 12; Telec Consulting comments at 17; Ameritech reply comments at 9; California PUC reply comments at 7; Dell Tel. reply comments at 7; WinStar reply comments at 6.

²⁴⁹¹ See, e.g., Alabama-Mississippi Tel. Ass'n. comments at 5-6; Alliance for Distance Education comments at 2; Keystone comments at 4; LDDS comments at 14. See also CSE Foundation comments at 16-17 (if carrier ultimately allows subscribers to access switched local exchange networks across the states); West Virginia Consumer Advocates comments at 13 (all providers of switched services); Fred Williamson comments at 8 (all who use and benefit from the public switched telephone network).

universal service fund should mirror the group that contributes to the TRS fund.²⁴⁹² Every carrier providing interstate telecommunications services must contribute to the TRS fund,²⁴⁹³ and, for TRS purposes, the Commission has stated that interstate telecommunications services include, but are not limited to, "cellular telephone and paging, mobile radio, operator services, PCS, access (including subscriber line charges), alternative access and special access, packet switched, WATS, 800, 900, MTS, private line, telex, telegraph, video, satellite, international, intraLATA, and resale services."²⁴⁹⁴ Reed, Smith argues that the TRS fund is not the proper model for defining contributors to support mechanisms, because the funding mechanism for the TRS fund is based on the Americans with Disabilities Act, not the 1996 Act.²⁴⁹⁵ Several other commenters provide illustrative lists of the types of carriers that should be required to contribute to universal service. Those lists include one or more of the following: ILECs; CLECs; IXC; competitive access providers (CAPs); resellers; CMRS providers - including cellular, PCS, paging, SMR and BETRS; satellite providers; payphone service providers; enhanced service providers (ESPs); voice over the internet (VON) providers; operator service providers; cable television companies; providers of inside wiring; providers of customer premise equipment; utility companies and other providers of telecommunications services.²⁴⁹⁶

781. Exempted Carriers. Several commenters proffer arguments that specific types of carriers should not be required to contribute to support mechanisms.²⁴⁹⁷ Some commenters assert that contributions should only be required from facilities-based providers, because resellers of

²⁴⁹² See Keystone comments at 4; Illinois CC comments at 9; USTA comments at 24.

²⁴⁹³ See 47 C.F.R. § 64.604(c)(iii)(A).

²⁴⁹⁴ See 47 C.F.R. § 64.604(c)(iii)(A).

²⁴⁹⁵ Reed, Smith reply comments at 4.

²⁴⁹⁶ See, e.g., ALTS comments at 17 (ILECs, CLECs, IXCs, cellular, PCS, payphone service providers); Ameritech comments at 23 (all wireline service providers; LECs, IXCs, CAPs, cable companies to the extent they provide telecommunications services, resellers, wireless providers, cellular, PCS, satellite, BETRS, SMRs, paging, ESPs if they are found to provide telecommunications services); CSE Foundation comments at 16-17 (LECs, IXCs, Resellers, CAPs, cellular, PCS, cable television providers); Cincinnati Bell comments at 14 (LECs, new local service providers, IXCs, CAPs, cellular, PCS, resellers and other future providers); CompTel comments at 15 (LECs, IXCs, CAPs, CMRS, cellular, paging and PCS); Harris comments at 3-4 (LECs, IXCs, wireless, cable television companies, public payphone service providers, providers of inside wiring, providers of customer premise equipment and operator service providers); Keystone comments at 4 (LECs, IXCs, RHCs; electric or gas; cellular, paging, PCS, resellers, 900 services, satellite and video companies); SWBT comments at 20 (ILECs, other LECs, resellers, wireless carriers, IXCs, CAPs, alternate operator service providers); GCI reply comments at 16 (LECs, CAPs, cellular, payphone service providers, ESPs); LDDS reply comments at 13-14 (LECs, IXCs, CAPs, CMRS; including paging; some ESPs, such as entities that provide VON services).

²⁴⁹⁷ See, e.g., PCIA comments at 7; Rural Electric Coop. comments at 2; TRA comments at 6-8; UTC comments at 4-5; Vanguard comments at 4-5; Ad Hoc Telecom. Users reply comments at 6.

such services already make contributions to universal service through their payments to facilities-based carriers.²⁴⁹⁸ Rural Electric Coop. states that companies that lease excess capacity to other telecommunications carriers should not be required to contribute to support mechanisms, because they do not provide telecommunications services "directly" to the public for a fee.²⁴⁹⁹ These parties argue that, as "wholesalers," such entities do not provide services directly to the public, which they interpret as meaning to subscribers/end users. Rural Electric Coop. adds that, since rural electric cooperatives providing telecommunications services to rural and high cost areas further universal service goals, they should not be required to contribute.²⁵⁰⁰ UTC states that entities that do not offer services on a for-profit commercial basis, such as utility and pipeline companies, do not offer services "for a fee" and thus do not offer "telecommunications services."²⁵⁰¹ A few commenters argue that CMRS providers should not contribute to support mechanisms, because they already contribute to universal service through interconnection payments to LECs and, due to the limited nature of their service, may be ineligible to receive universal service support.²⁵⁰² Additionally, PCIA states that the paging industry should be exempt as a result of its very low profit margins.²⁵⁰³ Comsat, a satellite telecommunications company, argues that it should not be required to contribute, because the terms of its license bar it from offering interstate service.²⁵⁰⁴ The Governor of Guam clarifies that Comsat provides limited service between Guam, other Pacific insular areas, Hawaii and the U.S. mainland through Intelsat facilities.²⁵⁰⁵

782. Enhanced Service Providers. Many ESPs argue that they are not providers of interstate telecommunications services and therefore should not be required to contribute to

²⁴⁹⁸ See TRA comments at 6-8; Ad Hoc Telecom. Users reply comments at 6. See also Merit comments at 5 (arguing that carriers that build value-added networks using leased facilities already contribute through their payments to facilities-based carriers).

²⁴⁹⁹ Rural Electric Coop. comments at 2. See also Motorola reply comments at 5-6. See also UTC comments at 5-8.

²⁵⁰⁰ Rural Electric Coop. comments at 2.

²⁵⁰¹ UTC comments at 4-5.

²⁵⁰² See PCIA comments at 7; Vanguard comments at 4-5; Reed, Smith reply comments at 1-3.

²⁵⁰³ PCIA comments at 7. See also MobileMedia comments at 9-11; Commnet Cellular reply comments at 4-5.

²⁵⁰⁴ Comsat comments at 11.

²⁵⁰⁵ Governor of Guam reply comments at 6. See also Guam Tel. Authority reply comments at 3.

support mechanisms.²⁵⁰⁶ They assert that on-line informational and Internet services do not meet the definition of "telecommunications," because: users do not choose the destination of the information or the travel path when information is dynamically routed through the Internet; users do not choose the content of the information that is sent when they engage in functions such as browsing a Web page; and ESPs change the content and form of the information through the use of protocols, headers or similar aspects of the subscriber's transmitted information.²⁵⁰⁷ ESPs also argue that the 1996 Act, by distinguishing information services from telecommunications services in section 254(h)(2), confirms their assertion that ESPs do not provide "telecommunications services."²⁵⁰⁸ They state that this distinction is based on the Commission's basic and enhanced service classifications. ESPs note that the Commission has traditionally defined on-line and Internet services as enhanced services and has not regulated ESPs as common carriers, thus ESPs should not be included as telecommunications carriers for contribution purposes.²⁵⁰⁹ They conclude by stating that, even if the Commission finds that ESPs provide "telecommunications services" for universal service support mechanisms, public policy would dictate against ESPs contributing, because ESPs already contribute to support mechanisms through their payments to other carriers, contributions would hinder the growth of on-line and Internet services and would raise the price of such services, identifying, tracking and monitoring ESPs would be administratively difficult, and such action would encourage other states or countries to regulate ESPs.²⁵¹⁰ CompuServe also states that the Commission must distinguish between ESPs and VON software companies.²⁵¹¹ It states that many companies, unrelated to ESPs, produce software that enable users to transmit voice over the Internet. In addition, CompuServe contends that ESPs make the same content and protocol changes to VON traffic as they make to E-mail, thus rendering VON calls as something other than "telecommunications."²⁵¹²

783. CMRS. Several CMRS commenters argue that they should be exempt from state

²⁵⁰⁶ See CompuServe comments at 7-11; Florida PSC comments at 24; Interactive Service Ass'n comments at 6-9; Texas PUC comments at 19-20; NAB reply comments at 1-2.

²⁵⁰⁷ *Id.*

²⁵⁰⁸ See CompuServe comments at 12-16; ITA/EMA comments at 5-10; Interactive Service Ass'n comments at 10-11. Section 254(h)(2)(a) states that the Commission shall establish rules "to enhance ... access to advanced telecommunications and information services for all public and non-profit elementary and secondary school classrooms, health care providers, and libraries." 47 U.S.C. § 254(h)(2)(a).

²⁵⁰⁹ See CompuServe comments at 12-16; ITA/EMA comments at 5-10.

²⁵¹⁰ See CompuServe comments at 16-20; Information Industry Ass'n comments at 6; Interactive Service Ass'n comments at 11-13.

²⁵¹¹ CompuServe reply comments at 8.

²⁵¹² CompuServe reply comments at 8-10. See also ITA/EMA reply comments at 16.

support programs, pursuant to section 332(c)(3).²⁵¹³ That provision preempts state and local governments from regulating rates and entry for CMRS, yet allows states to regulate other terms and conditions.²⁵¹⁴ Some commenters interpret this provision as prohibiting states from requiring state support contributions from CMRS providers unless their services are a substitute for land-line service. They note that no state government has demonstrated that any commercial mobile radio service is a substitute for land-line service in a substantial portion of a state.²⁵¹⁵ Reed, Smith also mentions that section 253(e), which governs the removal of barriers to entry, provides that nothing in section 253(e) shall affect the application of section 332(c)(3).²⁵¹⁶ Reed, Smith argues that this provision indicates that Congress did not intend section 254(f) to affect section 332(c)(3).²⁵¹⁷ Several other CMRS providers also argue that CMRS providers do not provide intrastate telecommunications services, because wireless services are inherently interstate services.²⁵¹⁸ Several state PUCs urge the Commission not to disrupt state universal service programs by exempting CMRS carriers from contributing to state universal service programs.²⁵¹⁹ Pennsylvania PUC contends that such an exemption conflicts with both the Omnibus Budget Reconciliation Act of 1993 and the 1996 Act.²⁵²⁰ California PUC notes that CMRS providers currently contribute to California's existing universal service programs.²⁵²¹

3. Discussion

784. We recommend to the Commission that the statutory requirement that "all carriers that provide interstate telecommunications services"²⁵²² must contribute to support mechanisms be construed broadly. A broad base of funding will ensure that competing firms make "equitable and nondiscriminatory contributions" and will reduce the burden on any particular class of carrier. In

²⁵¹³ 47 U.S.C. § 332(c)(3).

²⁵¹⁴ 47 U.S.C. § 332(c)(3).

²⁵¹⁵ See AirTouch comments at 3-4; CTIA comments at 5-8; MobileMedia comments at 3-12; Reed, Smith comments at 3-7; PCIA reply comments at 7-9.

²⁵¹⁶ Reed, Smith comments at 7.

²⁵¹⁷ *Id.*

²⁵¹⁸ See MobileMedia comments at 8; PCIA comments at 10-12; Reed, Smith comments at 7.

²⁵¹⁹ See, e.g., California PUC reply comments at 7-8; Pennsylvania PUC reply comments at 7-10.

²⁵²⁰ Pennsylvania PUC reply comments at 7-8.

²⁵²¹ California PUC reply comments at 7-8.

²⁵²² 47 U.S.C. § 254(d).

order to interpret the term "telecommunications carrier" as broadly as possible, we recommend providing a non-exclusive, illustrative list of "interstate telecommunications" (discussed below). We recommend requiring any entity that provides any interstate telecommunications for a fee to the public, or to such classes of eligible users as to be effectively available to a substantial portion of the public, to contribute to the fund.

785. Thus, for the purposes of identifying which entities must contribute to universal service support mechanisms, the Joint Board recommends that the Commission adopt a definition of "interstate telecommunications" that is similar to the one used for determining TRS support. We recommend that "interstate telecommunications" include, but are not limited to, the interstate portion of the following:

cellular telephone and paging, mobile radio, operator services, PCS, access (including SLCs), alternative access and special access, packet switched, WATS, toll-free, 900, MTS, private line, telex, telegraph, video, satellite, international/foreign, intraLATA, and resale services

Generally, telecommunications are "interstate" when the communication or transmission originates in one state, territory, possession or the District of Columbia and terminates in another state, territory, possession or the District of Columbia.²⁵²³ In addition, under the Commission's rules, if over ten percent of the traffic over a private or WATS line is interstate, then the revenues and costs generated by the entire line are allocated to the interstate jurisdiction.²⁵²⁴ We agree with CNMI that interstate telecommunications services include telecommunications services between territories and possessions, and if Comsat provides telecommunications services between the Northern Mariana Islands and any state, territory or possession, Comsat does provide interstate telecommunications services.²⁵²⁵

786. We recommend adoption of the TRS approach,²⁵²⁶ because carriers and the Commission are already familiar with this approach. In addition, the TRS approach is administratively easier than adopting a list of specific types of carriers that must contribute to

²⁵²³ 47 U.S.C. § 153(22).

²⁵²⁴ See 47 C.F.R. § 36.154(a).

²⁵²⁵ We note that Comsat filed with the Commission an *Application for Review, or in the Alternative, a Waiver, Telecommunications Relay Services (TRS) and the Americans with Disabilities Act of 1990*, CC Docket No. 90-571, on March 17, 1995, regarding the Commission's contribution requirements for the interstate TRS Fund. Comsat's Application for Review is still pending.

²⁵²⁶ Contributions to the TRS fund are based on gross interstate telecommunications revenues. See 47 C.F.R. § 64.604(c)(4)(iii)(A). As discussed *infra*, we do not recommend that the Commission base contributions to the support mechanism in this manner.

support mechanisms. The TRS approach will automatically require entities that provide telecommunications services through new media to contribute to support mechanisms. By contrast, listing specific types of carriers requires the Commission continually to amend its list to take into account technological changes. We find unpersuasive Reed, Smith's argument that, because it was designed in response to the Americans with Disabilities Act, TRS is an inappropriate model to identify those entities that must contribute to universal service support mechanisms. Whatever its genesis, the TRS funding mechanism, like the universal service support mechanism, requires that those entities that are interstate telecommunications service providers be identified. The Commission has developed a method of defining entities that are interstate telecommunications service providers for TRS that appears to be easy to explain and easy to apply.

787. We find no reason to exempt from contribution CMRS, satellite operators, resellers, paging companies, utility companies or carriers that serve rural or high cost areas that provide interstate telecommunications services, because the 1996 Act requires "every telecommunications carrier that provides interstate telecommunications services" to contribute to support mechanisms.²⁵²⁷ Thus, to the extent that these entities are considered "telecommunications carriers" providing "interstate telecommunications services," they must contribute to universal service support mechanisms.

788. The Joint Board agrees with Rural Electric Coop.'s comments that services offered "directly to the public" means services offered to the public or to end users. This decision is consistent with prior Commission interpretation of the phrase.²⁵²⁸ We recommend that "wholesale" carriers, carriers that provide services to other carriers, should be required to contribute, because such carriers' activities are included in the phrase "to such classes of eligible users as to be effectively available to a substantial portion of the public."²⁵²⁹ The Commission has interpreted this phrase to mean "systems not dedicated exclusively to internal use," or systems that provide service to users other than significantly restricted classes.²⁵³⁰ We recommend adopting the same definition for universal service purposes. Thus, for example, to the extent PMRS MSS providers lease capacity to other carriers, they would be considered carriers that provide interstate telecommunications services.

²⁵²⁷ 47 U.S.C. § 254(d).

²⁵²⁸ See *Implementation of Sections 3(n) and 332 of the Communications Act*, Second Report and Order, FCC 94-31, 9 FCC Rcd 1411 (1994) at 1439, para. 65 (defining to the public as offered to the public without restriction on who may receive it) (*CMRS 2nd R&O*).

²⁵²⁹ See 47 U.S.C. § 153(46).

²⁵³⁰ See *CMRS 2nd R&O* at 1441, para. 68.

789. Furthermore, we disagree with UTC's position that the phrase "for a fee" means for profit. We do not find any reason to define "for a fee" as "for profit" and recommend that the Commission interpret the phrase "for a fee" as meaning services rendered in exchange for something of value or a monetary payment. The Joint Board concludes that the requirement that "every telecommunications carrier" contribute towards the support of universal service, requires all interstate telecommunications carriers, including wholesalers and non-profit organizations, to contribute to support mechanisms.²⁵³¹ Thus, we recommend that the Commission require any entity that provides any of the listed interstate telecommunications services on a wholesale, resale or retail basis to contribute to support mechanisms to the extent that it provides interstate telecommunications services.

790. The 1996 Act defines an "information service" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications . . . but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service."²⁵³² The Commission's rules define "enhanced services" as "services offered over common carrier transmission facilities used in interstate communications which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information."²⁵³³ The definition of enhanced services is substantially similar to the definition of information services,²⁵³⁴ and information services are not "telecommunications services."²⁵³⁵ Thus we recommend that information service providers and enhanced service providers not be required to contribute to support mechanisms. We note, however, that if information or enhanced service providers provide any of the listed interstate telecommunications to the public for a fee, they would be required to contribute to support mechanisms based on the revenues derived from telecommunications services. We also recommend that the Commission re-evaluate which

²⁵³¹ See 47 U.S.C. §§ 254(b)(4), 254(d).

²⁵³² 47 U.S.C. § 153(20).

²⁵³³ 47 C.F.R. § 64.702. See also *North American Telecommunications Association, Petition for Declaratory Ruling under Section 64.702 of the Commission's Rules Regarding the Integration of Centrex, Enhanced Services and Customer Premises Equipment*, Report and Order, 101 FCC 2d 349 (1985), recon. 3 FCC Rcd 4385 (1988).

²⁵³⁴ The Non-Accounting Safeguards NPRM sought comment on the relationship between enhanced services and information services. See *Implementation of the Non-Accounting Safeguards of sections 271 and 272 of the Communications Act of 1934*, NPRM, FCC 96-308, at para. 42 (rel. July 18, 1996).

²⁵³⁵ In the *Local Competition Order*, the Commission stated that information service providers are not telecommunications carriers. *Local Competition Order* at para. 995. Thus, information services, by definition, are different than telecommunications services. See 47 U.S.C. §§ 153(20), 153(43).

services qualify as information services in the near future to take into account changes in technology and the regulatory environment.

791. With respect to the issue of whether CMRS providers should contribute to state universal service support mechanisms, we find that section 332(c)(3)²⁵³⁶ does not preclude states from requiring CMRS providers to contribute to state support mechanisms. In addition, section 254(f) requires that all contributions to state support mechanisms be equitable and nondiscriminatory.

C. Other Providers of Interstate Telecommunications

1. Background

792. The Commission may require "[a]ny other provider of interstate telecommunications" to contribute to universal service, "if the public interest so requires."²⁵³⁷ A provider of interstate telecommunications would provide "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 and received."²⁵³⁸ Unlike providers of interstate telecommunications services, however, providers of interstate telecommunications would not offer telecommunications "for a fee directly to the public."²⁵³⁹ Congress noted this distinction when it stated that an entity can offer telecommunications on a private-service basis without incurring obligations as a common carrier.²⁵⁴⁰ In the NPRM, the Commission asked if the public interest requires us to extend support obligations to "[a]ny other provider[s] of interstate telecommunications," and, if so, which categories of providers, other than telecommunications carriers, should be so obligated.²⁵⁴¹

2. Comments

²⁵³⁶ Section 332(c)(3) states that "[n]othing in this subparagraph shall exempt providers of commercial mobile services (where such services are a substitute for land line telephone exchange service for a substantial portion of the communications within such State) from requirements imposed by a State commission on all providers of telecommunications services necessary to ensure the universal availability of telecommunications service at affordable rates." 47 U.S.C. § 332(c)(3).

²⁵³⁷ 47 U.S.C. § 254(d).

²⁵³⁸ 47 U.S.C. § 153(43).

²⁵³⁹ 47 U.S.C. § 153(46).

²⁵⁴⁰ Jt. Statement of Managers, S. Conf. Rept. No. 104-230, 104th Cong., 2nd Sess. 115 (1996).

²⁵⁴¹ NPRM at para. 119.

793. A few commenters, including small incumbent LECs, state that the phrase "any other provider of interstate telecommunications" refers to private network operators and that the Commission should exercise its discretion to require these entities to contribute to support mechanisms.²⁵⁴² ACTA adds that private network operators should contribute if they access the public switched network.²⁵⁴³ ITA/EMA argues that private network operators should not be required to contribute because they derive little or no direct benefit from universal service and generally serve only the internal needs of the operator.²⁵⁴⁴ ITA/EMA also states that even if a private network operator leased some of its network to another entity, it should not be required to contribute, because the generated revenues would be minimal.²⁵⁴⁵ If private network operators are required to contribute, ITA/EMA argues that the requirement should be limited to "other providers" who own their own transmission facilities. UTC argues even if private network operators are required to contribute, private network operators who provide essential public services should be exempted from contribution.²⁵⁴⁶

3. Discussion

794. We recommend that the Commission not require "other providers of telecommunications" to contribute to support mechanisms at this time. We agree with commenters that the phrase "other providers" refers to entities that provide telecommunications that meet the entity's internal needs or that are provided free-of-charge. We believe that such providers should not be required to contribute to support mechanisms, because such providers do not substantially benefit from the PSTN. Obviously, to the extent "other providers," such as private network operators, offer interstate telecommunications services, they will be required to contribute to support mechanisms, as discussed above.

D. The *De Minimis* Exemption

1. Background

795. The Commission may exempt a carrier or class of carriers from contributing to

²⁵⁴² See, e.g., Ardmore Tel. at 5; Bledsoe Tel. comments at 5; Blountsville Tel. comments at 5; Harris comments at 8; Ragland Tel. Co. comments at 5.

²⁵⁴³ ACTA comments at 12-13.

²⁵⁴⁴ ITA/EMA comments at 18-19.

²⁵⁴⁵ ITA/EMA comments at 18-19. See also UTC comments at 4-5 (charging fees on a not-for-profit basis does not equal "to the public for a fee").

²⁵⁴⁶ UTC comments at 9.

universal service mechanisms "if the carrier's telecommunications activities are limited to such an extent that the level of such carrier's contribution to the preservation and advancement of universal service would be *de minimis*."²⁵⁴⁷ Congress explained that "this authority would only be used in cases where the administrative cost of collecting contributions from a carrier or carriers would exceed the contribution that carrier would otherwise have to make under the formula for contributions selected by the Commission."²⁵⁴⁸ In the NPRM, the Commission sought comment on whether we should establish rules of general applicability for exempting very small telecommunications providers, and if so, what the basis should be for determining that the administrative cost of collecting support would exceed a carrier's potential contribution.²⁵⁴⁹ Within those parameters, the Commission also specifically sought comment on measures to avoid significant economic harm to small business entities, as defined by section 601(3) of the Regulatory Flexibility Act.²⁵⁵⁰ In the Public Notice, the Commission asked what levels of administrative costs should be expected per carrier under the various methods that have been proposed for funding (e.g., gross revenues, revenues net of payments to other carriers, retail revenues, etc.).²⁵⁵¹

2. Comments

796. *De Minimis - Cost of Collection.* Several commenters discuss the meaning and application of the *de minimis* language in section 254(d).²⁵⁵² Some state that only carriers for which the administrative cost of collecting the contribution is more than the amount of the contribution itself should be eligible for the *de minimis* exemption.²⁵⁵³ Teleport asserts that administrative costs should include both the administrator's and the contributing carriers' compliance costs.²⁵⁵⁴ Although no commenter submitted estimates for administrator and contributor costs, NECA estimates that the administrative cost of billing and collecting contributions, excluding costs incurred by the contributor and any verification costs, would be

²⁵⁴⁷ 47 U.S.C. § 254(d).

²⁵⁴⁸ Jt. Statement of Managers, S. Conf. Rept. No. 104-230, 104th Cong., 2nd Sess. 131 (1996).

²⁵⁴⁹ NPRM at para. 120.

²⁵⁵⁰ 5 U.S.C. § 601(3).

²⁵⁵¹ Public Notice at 9.

²⁵⁵² See, e.g., ALTS comments at 17-18; Ameritech comments at 23; Illinois CC comments at 10; Teleport further comments at 11.

²⁵⁵³ See ALTS comments at 17-18; Ameritech comments at 23; Illinois CC comments at 10.

²⁵⁵⁴ Teleport further comments at 11.

approximately \$20.00 per carrier per year.²⁵⁵⁵ In addition, several commenters state that no carrier should be exempt, because contributor and administrator costs should be minimal if contributions are based on revenues.²⁵⁵⁶ These commenters claim that revenue information should be easy to compile because most companies already produce similar revenues figures for tax purposes.²⁵⁵⁷ A few commenters suggest that administrative costs cannot be determined until after an administrator is chosen or begins to administer the support mechanism.²⁵⁵⁸

797. De Minimis - Based on Carrier Revenues. A few commenters suggest that the *de minimis* exemption should be based on an industry's contribution to total telecommunications revenues. For example, Metricom asserts that since unlicensed Part 15 wireless providers account for less than one half of one percent of total telecommunications industry revenues, their contributions would be *de minimis* compared to the fund as a whole.²⁵⁵⁹ Thus, they state unlicensed Part 15 providers should be exempt from contribution. Similarly, MobileMedia argues that paging companies should be exempt because their contribution to the TRS fund in 1994 was less than 0.6 percent of the total fund.²⁵⁶⁰ UTC suggests that *de minimis* should be defined in terms of the size of the service offering rather than the size of the provider, i.e., exempting companies for which telecommunications services make up only a small percentage of their total business.²⁵⁶¹ Ameritech adds that exempted carriers should be ineligible to receive support funds.²⁵⁶² Other commenters, however, argue that an exemption for *de minimis* carriers would create a negative incentive to underestimate a carrier's size, which could lead to abuse and further burden paying carriers.²⁵⁶³

798. Different Treatment for Small Carriers. Other commenters suggest that "small"

²⁵⁵⁵ NECA further comments at 43.

²⁵⁵⁶ See MCI further comments at 33; NCTA further comments at 26; NYNEX further comments at 48-49; PacTel further comments at 60-61; Sprint further comments at 20; U S West further comments at 31-32.

²⁵⁵⁷ See NCTA further comments at 26; PacTel further comments at 60-61; U S West further comments at 31-32.

²⁵⁵⁸ See Ameritech further comments at 48; GTE further comments at 61-62; Time Warner further comments at 57-58.

²⁵⁵⁹ Metricom comments at 1-6.

²⁵⁶⁰ MobileMedia comments at 10-11.

²⁵⁶¹ UTC comments at 10-11. See also Rural Electric Coop. comments at 2.

²⁵⁶² Ameritech comments at 23. See also Western Alliance further comments at 17.

²⁵⁶³ See Cincinnati Bell comments at 14; Fred Williamson comments at 19-20; AT&T further comments at 49.

carriers should either be exempt from contribution²⁵⁶⁴ or should be allowed to make discounted contributions.²⁵⁶⁵ A few commenters state that "small" carriers should be allowed to make small flat minimal payments in lieu of their regular contributions.²⁵⁶⁶ PCIA suggests a graduated contribution scheme in which small carriers would contribute a smaller percentage of their revenues than large carriers.²⁵⁶⁷ PCIA argues that this revenue-sensitive contribution system would be less discriminatory to small carriers for whom support contributions are more disruptive.²⁵⁶⁸ Commenters suggested a variety of bases for exempting or discounting the contributions of small carriers, including the following: interstate net transmission revenues less than one percent of total interstate net transmission revenues;²⁵⁶⁹ interstate telecommunications revenues of less than or equal to \$10 million;²⁵⁷⁰ less than one percent of market share, with market share being determined by revenues net payments to other carriers;²⁵⁷¹ and less than .05 percent of presubscribed lines nationwide.²⁵⁷²

3. Discussion

799. Although section 254(d) gives the Commission the authority to exempt from contribution carriers whose contributions would be *de minimis*, it does not provide specific guidance on what would constitute a *de minimis* contribution. To this end, we find the Joint Explanatory Statement instructive. The Joint Explanatory Statement states that the *de minimis* exemption applies only to those carriers for which the cost of collection exceeds the amount of contribution.²⁵⁷³ Thus, we recommend that the Commission interpret the *de minimis* exemption in this manner. We find that the legislative history of section 254(d) indicates Congress's intent that

²⁵⁶⁴ See Florida PSC comments at 24; Teleport comments at 12-14.

²⁵⁶⁵ See, e.g., NECA comments at 18; PCIA comments at 8; Vitelco further comments at 16.

²⁵⁶⁶ See Idaho PUC comments at 17; NECA comments at 18; NCTA further comments at 26; PacTel further comments at 60; RTC further comments at 35; Vitelco further comments at 16; .

²⁵⁶⁷ PCIA comments at 8.

²⁵⁶⁸ PCIA comments at 8.

²⁵⁶⁹ See Teleport comments at 12-14. *But see* NYNEX reply comments at 14 (arguing that this would unfairly exempt competitive LECs from contribution).

²⁵⁷⁰ See United Utilities comments at 5.

²⁵⁷¹ See MFS comments at 23.

²⁵⁷² See Bell Atlantic comments at 14; US-SBA comments at 10-11.

²⁵⁷³ See Jt. Statement of Managers, S. Conf. Rept. No. 104-230, 104th Cong., 2nd Sess. 131 (1996).

this exemption be narrowly construed. We thus disagree with Teleport, which advocates basing the exemption on administrator and contributor costs, and recommend that the cost of collection encompass only the administrator's costs to bill and collect individual carrier contributions. We also reject suggestions that the *de minimis* exemption be based on factors other than the cost of collection. We find that Metricom, MobileMedia and UTC's suggestions are not as consistent with congressional intent as our recommendation, as evidenced by the Joint Explanatory Statement.

800. Although we agree that a *de minimis* exemption, as defined above, is appropriate, commenters did not submit enough data regarding the cost of collection for us to recommend a specific threshold amount. NECA, based on its experience with the TRS system, estimates that, if contributions are based on revenues, the cost to bill and collect individual carriers will be approximately \$20.00 per carrier per year.²⁵⁷⁴ This figure, however, may not be an accurate estimate of the cost of collection for universal service support mechanisms for two reasons. First, the TRS system bases contributions on gross interstate telecommunications revenues and, as discussed below, we recommend that support mechanism contributions be based on gross interstate and intrastate telecommunications revenues net payments to other carriers. Second, NECA's figure does not include administrator start-up costs. Thus, we recommend that, once it determines the administrator's cost of collection, the Commission exempt carriers for which the contribution would be less than the cost of collection. We suggest that such carriers be exempt from contribution and reporting requirements. We also recommend that the Commission re-evaluate administrative costs periodically once the contribution mechanisms are implemented. We reject requiring flat minimum payments for carriers qualifying for the *de minimis* exemption, because it would be impractical to require a payment that would result in a net loss to the support mechanism.

801. We also disagree with commenters who suggest that "small" carriers should be treated differently from "large" carriers. Congress expressed its intent to limit the *de minimis* exemption as discussed above, and there is no statutory requirement that the Commission must establish preferential programs for small carriers. Although we note that several commenters feel a graduated contribution system would be more equitable to "small" carriers, we find that a uniform contribution percentage, subject to the *de minimis* exemption, is fair and equitable to all carriers, because all carriers will be subject to the same requirements. Graduated contribution schemes would require the Commission to devise rigid small carrier definitions and would unnecessarily complicate the contribution system. In addition, small carrier preferences might encourage all carriers to underestimate their size in order to qualify for contribution discounts.

E. Basis for Assessing Contributions

²⁵⁷⁴ NECA further comments at 43.

1. Background

802. "Every telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service."²⁵⁷⁵ In the NPRM, the Commission suggested three different methods by which to assess contributions: basing contributions on gross revenues; basing contributions on gross revenues net payments to other carriers; and basing contributions on per-line or per-minute charges. The Commission invited comment on the relative merits of these methods and the extent to which they do or do not satisfy the requirements of the 1996 Act. The Commission also sought comment on any other alternative methodologies for calculating a carrier's or service provider's contribution to universal service support. The Commission instructed commenters to address which method would be the most easily administered and competitively neutral in its effect upon contributing carriers and service providers. In addition, the Commission sought comment on how these methods could be adapted if the Commission were to require non-carrier providers of telecommunications services to make contributions to universal service support mechanisms.²⁵⁷⁶

2. Comments

803. Gross Net Payments to Other Carriers. Commenters advocate a variety of contribution methodologies, and the majority recommend some kind of revenues-based mechanism.²⁵⁷⁷ PCIA warns that assessing a contribution equal to a fixed percentage of revenues may cause a greater disruption to the business plans of small, low profit margin carriers than to large carriers.²⁵⁷⁸ Several commenters argue that contributions should be based on gross telecommunications revenues net payments to other carriers, because such a methodology avoids assessing two contributions on the same service, the so-called "double payment" problem, and would be easy to administer.²⁵⁷⁹ Time Warner adds that the net revenues model would base

²⁵⁷⁵ 47 U.S.C. § 254(d). *See also* 47 U.S.C. § 254(b)(4).

²⁵⁷⁶ NPRM at paras. 122-126.

²⁵⁷⁷ *See, e.g.*, Florida PSC comments at 25; MCI comments at 15-16; NECA comments at 17-18; New Jersey Advocate comments at 24; SWBT comments at 18-20; USTA comments at 24-25; West Virginia Consumer Advocate comments at 14; Wisconsin PSC comments at 19; LDDS reply comments at 12; Puerto Rico Tel. Co. reply comments at 7-9.

²⁵⁷⁸ *See* PCIA comments at 8-9.

²⁵⁷⁹ *See, e.g.*, ALTS comments at 18; Ameritech comments at 23-24; CWA comments at 11; GCI comments at 15; Illinois CC comments at 9; MCI comments at 15-16; Maine PUC comments at 20; NCTA comments at 24; New York CPB comments at 10; New York DPS comments at 10; Oregon PUC comments at 8; Time Warner comments at 22-23; CPI reply comments at 12-13; Puerto Rico Tel. Co. reply comments at 7-9.

contributions only on value-added services, i.e., new services that the contributing carrier itself provided or added to telecommunications systems.²⁵⁸⁰ Other commenters also state that the net revenues model is competitively neutral in that it does not advantage vertically integrated companies relative to specialized companies or those that purchase wholesale services.²⁵⁸¹ Illinois CC also notes that the use of interstate revenues net of payments to other carriers would be consistent with the Commission's mechanism for collecting regulatory fees.²⁵⁸² U S West counters that, although the net revenues model eliminates the double payment problem, it is not competitively neutral, because it allows most carriers to make contributions based only on retail revenues, while LECs would base contributions on their total revenues.²⁵⁸³ It argues that the net revenues model would not be easy to administer, because LECs should be allowed to subtract imputed access charges, a figure difficult to calculate.²⁵⁸⁴ CPI replies that carriers should not deduct the value of imputed access charges, unless they add the value of imputed access to wholesale revenues, because they cannot deduct a cost that never existed.²⁵⁸⁵ GTE states that the net revenues model is not competitively neutral, because some carriers, including incumbent LECs, are not free to adjust their rates in the same way as their competitors.²⁵⁸⁶ New Jersey Advocate states that contributions should be based on the value of services, as measured by price and demand, not net prices.²⁵⁸⁷

804. Gross Revenues. A few commenters suggest that basing contributions on gross telecommunications revenues would be the most equitable and easily administered mechanism because the industry is already familiar with the TRS fund which is based on interstate gross revenues.²⁵⁸⁸ GVNW argues that gross revenues would be an inappropriate model, because current jurisdictional separations and access charge rules would assign a significant portion of the universal service support contributions to the interstate billing and collection category, a category

²⁵⁸⁰ Time Warner comments at 22-23. *See also* Ad Hoc Telecom. Users comments at 21.

²⁵⁸¹ *See* Maine PUC comments at 22; Sprint comments at 17.

²⁵⁸² Illinois CC comments at 9.

²⁵⁸³ U S West comments at 18-19.

²⁵⁸⁴ U S West comments at 18-19.

²⁵⁸⁵ CPI reply comments at 13-14.

²⁵⁸⁶ GTE reply comments at 12.

²⁵⁸⁷ New Jersey Advocate comments at 25.

²⁵⁸⁸ *See, e.g.,* Alabama-Mississippi Tel. Ass'n comments at 6; Staurulakis comments at 17; TCA comments at 7; West Virginia Consumer Advocate comments at 14; Wisconsin PSC comments at 19.

for which there would be no additional recovery.²⁵⁸⁹ NCTA adds that gross revenues would disadvantage companies with substantially different net and gross revenues.²⁵⁹⁰ NCTA claims that it would particularly disadvantage new LECs that would initially pay large fees to other telecommunications carriers. LDDS opposes gross revenues on the grounds that such an approach would double count certain revenues.²⁵⁹¹ For example, a reseller and a facilities-based provider offering services to the reseller would both contribute based on the same underlying service. SWBT argues that both gross and net revenues are inferior contribution methodologies that, because they base contributions on wholesale access, will result in higher access charges and will encourage carriers to avoid access.²⁵⁹²

805. Retail Revenues. Several carriers advocate assessing contributions based on retail telecommunications revenues.²⁵⁹³ They define retail revenues as those revenues derived from the sale of final products or services to end-user consumers.²⁵⁹⁴ Retail revenues would exclude transactions involving services or sales provided as inputs for the provision of other telecommunications services.²⁵⁹⁵ Such inputs would include access services sold to other carriers for the provision of toll services, services provided to other carriers for the provision of resale and equipment sales to other telecommunications service providers.²⁵⁹⁶ Thus, an IXC would exclude any access charges paid to a LEC. LECs would include, for example, interstate toll revenues, revenues associated with special access provided directly to end users, Feature Group A services²⁵⁹⁷ provided directly to end users and subscriber line charges assessed on non-universal

²⁵⁸⁹ GVNW comments at 15.

²⁵⁹⁰ NCTA comments at 24.

²⁵⁹¹ LDDS reply comments at 17. *See also* ALTS comments at 18; Ameritech comments at 24.

²⁵⁹² SWBT comments at 19.

²⁵⁹³ *See, e.g.*, BellSouth comments at 15-16; Harris comments at 8; SWBT comments at 18-20; USTA comments at 24-25; U S West comments at 16-20; GTE reply comments at 11; LDDS reply comments at 16-18; Taconic Tel. reply comments at 6.

²⁵⁹⁴ *See* SWBT comments at 18; USTA comments at 24.

²⁵⁹⁵ *See* SWBT comments at 18.

²⁵⁹⁶ *See* USTA comments at 24-25.

²⁵⁹⁷ Feature Group A is similar to a local exchange service, but is used for interstate access. In such circumstances, the end user dials a seven-digit number to reach the LEC's "dial tone office" serving an IXC, where the LEC switches the call to the IXC's POP via a dedicated line-side connection. Feature Group A represents approximately one percent of incumbent LEC transport revenues.

service lines.²⁵⁹⁸ Proponents of the retail revenues model claim that using retail revenues would avoid assessing double contributions on the revenues derived from the same services and would not encourage carriers to avoid wholesale services.²⁵⁹⁹ They also state that contributions based on retail revenues would be explicit and easy to administer if such contributions appeared as a surcharge on end-user's bills.²⁶⁰⁰ Harris notes that if private carriers are required to contribute to support mechanisms, their contributions would have to be assessed in some other manner.²⁶⁰¹ Illinois CC opposes basing contributions on retail revenues because this approach would relieve wholesalers from contributing to support mechanisms, which Illinois CC claims violates the 1996 Act's directive that all carriers must contribute.²⁶⁰² Similarly, Texas OPUC opposes funding support mechanisms through a customer surcharge because it would violate the 1996 Act's directive that telecommunications carriers, not consumers, must contribute to the fund.²⁶⁰³ Finally, NCTA states that retail revenues would unfairly relieve incumbent LECs from contributing because most of their interstate revenues are derived from access charges.²⁶⁰⁴

806. Per-Line or Per-Minute. Frontier suggests basing contributions on net interstate minutes of use.²⁶⁰⁵ Several commenters oppose contributions based on per-minute or per-line charges, because they would require equivalency ratios for those carriers not using per-line or per-minute billing methods.²⁶⁰⁶ They state that such methodologies could favor certain types of providers over others and could distort carrier incentives. New Jersey BPU states that per-line or per-minute charges would penalize high-volume, low-price providers, and instead favors a hybrid

²⁵⁹⁸ See BellSouth comments at 15-16.

²⁵⁹⁹ See, e.g., SWBT comments at 18; USTA comments at 24-25; BellSouth reply comments at 13-14; GTE reply comments at 11-12; LDDS reply comments at 17-18; U S WEST reply comments at 21-22.

²⁶⁰⁰ See, e.g., AT&T comments at 8-9; SWBT comments at 19-20; U S West comments at 16-20; GTE reply comments at 11; LDDS reply comments at 18; Lincoln reply comments at 7; NYNEX reply comments at 11-19; Siskiyou reply comments at 2-3; Sprint reply comments at 3-6.

²⁶⁰¹ Harris comments at 8.

²⁶⁰² Illinois CC comments at 10. See also TLD reply comments at 10-11.

²⁶⁰³ Texas OPUC reply comments at 11. See also CPI reply comments at 14-15; GSA reply comments at 12; TLD reply comments at 10-11.

²⁶⁰⁴ NCTA reply comments at 25.

²⁶⁰⁵ Frontier comments at 10.

²⁶⁰⁶ See ALTS comments at 18; NCTA comments at 24; PCIA comments at 8-9; SWBT comments at 19; U S West comments at 19; GTE reply comments at 13.

approach using both revenues and the number of customers/lines served.²⁶⁰⁷ A few commenters suggest that contributions be assessed through an increase in the SLC or other flat non-traffic sensitive charges on end users.²⁶⁰⁸ They argue that this approach would be explicit and easy to administer. Pennsylvania PUC counters that raising the SLC, like an end-user surcharge, would violate the 1996 Act's mandate that carriers must support universal service.²⁶⁰⁹ CWA suggests that carriers should receive credits towards their universal service contributions for any services that they provide to high cost areas, schools or libraries at reduced rates.²⁶¹⁰ Montana Indep. Telecom. states that the Commission should consider whether a carrier is a carrier of last resort when calculating contributions.²⁶¹¹

3. Discussion

807. We agree with Time Warner and recommend that contributions be based on a carrier's gross telecommunications revenues net of payments to other carriers. We favor this methodology for several reasons. First, basing contributions on gross revenues net of payments to other carriers eliminates the "double payment" problem discussed by commenters. Second, as Time Warner notes, basing contributions on gross revenues net of payments to other carriers more closely approximates a value-added contribution, because it bases contributions only on services that the carrier adds to the PSTN. Third, this approach would be administratively easy to implement, because, as the Illinois CC notes, the Commission already collects common carrier regulatory fees on this basis. Most common carriers are familiar with the regulatory fees process and have accounting systems already in place to calculate gross revenues and payments to other carriers. Industry and Commission familiarity with calculating contributions using this approach will make collecting contributions easier and will likely reduce the time necessary to implement the new support mechanisms. U S West argues that this methodology would be difficult to administer because LECs should be allowed to subtract imputed access charges. CPI argues that LECs should not be permitted to subtract imputed access from gross revenues because they do not add the value of imputed access to their gross telecommunications revenues. We agree with CPI that basing contributions on gross telecommunications revenues net of payments to other carriers is relatively easy to administer.

²⁶⁰⁷ New Jersey BPU comments at 5. *See also* TLD reply comments at 3-5.

²⁶⁰⁸ *See, e.g.*, LCI comments at 4-5; LDDS comments at 18; PCIA comments at 13; Reed, Smith comments at 9-10; AirTouch reply comments at 17.

²⁶⁰⁹ Pennsylvania PUC reply comments at 21.

²⁶¹⁰ CWA comments at 11. *See also* Public Advocates reply comments at 11 (suggesting that carriers partially contribute through in-kind donation of technical assistance).

²⁶¹¹ Montana Indep. Telecom. comments at 3.

808. The Joint Board, acknowledging GTE's comments that some ILECs may not be free to adjust rates to account for the amount of their contributions to universal service support, recommends clarifying that, under the Commission's section 251 rules, ILECs are prohibited from incorporating universal service support into rates for unbundled network elements. We note, however, that carriers are permitted under section 254 to pass through to users of unbundled elements an equitable and nondiscriminatory portion of their universal service obligation.

809. Additionally, we find that basing contributions on gross revenues net of payments to other carriers is competitively neutral. U S West claims that basing contributions on gross revenues net of payments to other carriers disadvantages ILECs, because they generally make no payments to other carriers. Therefore, ILECs will base their contributions on gross telecommunications revenues, while other carriers will base contributions on gross revenues net of payments to other carriers. For non-ILEC carriers that subtract payments to other carriers, U S West claims that the netted figure equals revenues derived from non-carrier end users or retail revenues. U S West argues that, in order to be competitively neutral, ILECs should also be allowed to make contributions based on their retail revenues. We disagree with U S West. Non-LEC carriers will not make contributions based on their retail revenues. Non-LEC carriers will make contributions based on the value of the services that they add to the PSTN, measured in terms of gross telecommunications revenues net of payments to other carriers. ILECs will also make contributions based on the value of the services that they add to the PSTN. If the value of ILEC-added services generally equates to their gross revenues, this is not inequitable or discriminatory, because all contributing carriers will base their contributions in the same manner. ILECs should not be afforded special or different treatment when calculating their contributions. Thus, we find that basing contributions on gross revenues net of payments to other carriers is competitively neutral and easy to administer.

810. We disagree with commenters, such as Wisconsin PSC and TCA, that state that basing contributions on gross telecommunications revenues is the most equitable contribution mechanism. While this method of collecting contributions may be easy to administer because carriers already base TRS contributions on gross telecommunications revenues, we agree with LDDS²⁶¹² that basing contributions on gross revenues may create a "double payment" problem, in that certain services may be counted twice for contribution purposes.²⁶¹³

811. We also disagree with commenters that support basing contributions on retail

²⁶¹² LDDS reply comments at 17.

²⁶¹³ For example, under the gross revenues model, a reseller would include revenues derived from the provision of services to customer A. The facilities-based carrier that sells transmission capacity to the reseller would also include the revenues derived from reseller for the reseller's purchase of transmission capacity to serve customer A. Thus, the revenues derived from customer A's call would be counted twice, once against the reseller and once against the facilities-based carrier.

revenues. Although basing contributions on retail revenues eliminates the "double payment" problem, we agree with the Illinois CC that it would relieve wholesale carriers from directly contributing to support mechanisms. At the same time, the Commission would have difficulty tracking and verifying carrier retail revenues because it has not previously compiled data on that basis.

812. We disagree with commenters that advocate collecting contributions on non-revenues based measures, such as on a per-minute or per-line basis. We reaffirm the Commission's statement in the NPRM that such mechanisms would require the Commission to adopt and administer difficult "equivalency ratios" for calculating the contributions of carriers that do not offer services on a per-line or per-minute basis. In addition, these approaches may favor certain services or providers over others. Furthermore, we reject commenters' suggestions that support mechanisms be funded through the SLC or a retail end-user surcharge. We find that these mechanisms would violate the statutory requirement that carriers, not consumers, finance support mechanisms. We also find that the New Jersey Advocate's suggestion that contributions be based on service prices and demand would be administratively difficult to implement.

813. Finally, we agree with commenters that suggest that carriers should receive credits against their contributions for services provided to rural, insular or high cost areas, schools and libraries or health care providers at below cost. We recommend that the Commission clarify that contributions to support mechanisms may be made in cash or through the provision of "in-kind" services at "comparable"²⁶¹⁴ or "discounted"²⁶¹⁵ rates.

F. Revenues Base for Assessing Contributions

1. Background

814. Every telecommunications carrier that provides interstate telecommunications services must make "equitable and non-discriminatory" contributions to universal service support mechanisms.²⁶¹⁶ In the NPRM, the Commission asked whether the Joint Board should recommend basing federal universal service contributions from interstate carriers (and, possibly, from other interstate service providers) on both their interstate and intrastate revenues or on their interstate revenues only. If commenters proposed that contributions should be based on interstate revenues only, the Commission asked for proposals on how to determine the interstate revenues for the many and varied telecommunications carriers and telecommunications service providers that are not subject to our jurisdictional separations rules and, in some cases, may not have a clear

²⁶¹⁴ See 47 U.S.C. § 254(h)(1)(A).

²⁶¹⁵ See 47 U.S.C. § 254(h)(1)(B).

²⁶¹⁶ 47 U.S.C. § 254(d).

basis for delineating interstate and intrastate services.²⁶¹⁷ In particular, the Commission asked for comment on the practicality of the approach used for the TRS fund.²⁶¹⁸

2. Comments

815. Interstate Only. Several commenters indicate that, assuming revenues-based contributions, only interstate telecommunications revenues should be included for assessment purposes.²⁶¹⁹ Some commenters state that section 254(d) contemplates contributions from only interstate telecommunications providers and that there is no indication that Congress intended to change the current jurisdictional responsibilities between federal and state governments over inter- and intrastate revenues.²⁶²⁰ Pennsylvania PUC and New York DPS argue that basing federal contributions on intrastate revenues would be unlawful, because they claim the 1996 Act does not give the Commission the authority to do so.²⁶²¹ New York DPS alleges that section 254(d), when read in conjunction with sections 2(b), 254(f) and 601(c), is limited to interstate revenues.²⁶²² Section 2(b) states that "... nothing in this Act shall be construed to apply or to give the Commission jurisdiction with respect to (1) charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication service." Section 601(c) states that the 1996 Act "shall not be construed to modify, impair, or supersede Federal, State or local law unless expressly so provided." NYNEX adds that including intrastate revenues in federal support programs would adversely affect state support programs by assessing contributions on intrastate revenues twice, once for federal support and once for state support.²⁶²³ NYNEX also

²⁶¹⁷ NPRM at paras. 125-126.

²⁶¹⁸ NPRM at para. 125. Each common carrier providing interstate telecommunications services must contribute to the TRS fund. 47 C.F.R. § 64.604(c)(iii)(A). The TRS worksheet instructs carriers to calculate, wherever possible, the percentage of total revenues that are interstate by using information from their books of accounts and other internal data reporting systems. Carriers that cannot calculate a percentage from their books or from internal data may elect to rely on special studies to determine interstate percentages.

²⁶¹⁹ See, e.g., 360 comments at 9; Associated Communications comments at 4-5; BellSouth comments at 15-16; California PUC comments at 21; Harris comments at 8; MCI comments at 15-16; New York CPB comments at 10; New York DPS comments at 10; SWBT comments at 19; TCA comments at 7; USTA comments at 24-25; Wisconsin PSC comments at 19; Taconic Tel. Corp. reply comments at 6.

²⁶²⁰ See California PUC comments at 21; NARUC comments at 18; New York DPS comments at 9; NYNEX reply comments at 12; Pennsylvania PUC reply comments at 22.

²⁶²¹ New York DPS reply comments at 2-3; Pennsylvania PUC reply comments at 22. See also California PUC comments at 21.

²⁶²² New York DPS reply comments at 2-3.

²⁶²³ NYNEX reply comments at 12-13.

mentions that including only interstate revenues for federal universal service purposes would not be burdensome, because all interstate carriers already separate their revenues for TRS purposes.²⁶²⁴

816. **Inter- and Intrastate.** Other commenters, however, state that contributions should be based on both inter- and intrastate telecommunications revenues. Proponents of including intrastate revenues claim that basing contributions on both revenue bases would eliminate the need for complex separations schemes that are not employed by some of the contributing carriers.²⁶²⁵ NCTA notes that companies not subject to the Commission's Part 36 separations rules might be able to manipulate results if intrastate revenues were excluded.²⁶²⁶ Sprint states that because intrastate services will be supported by universal service, intrastate funds should be included in the basis for calculating contributions.²⁶²⁷ Sprint argues that failure to do this would favor ILECs. CSE Foundation asserts that if contributions were based only on interstate revenues, the demand for interstate services would decrease, and carriers would not invest in interstate services or would try to avoid those services.²⁶²⁸ LDDS asserts that section 254(b)(4) grants the Commission broad powers to impose contributions on all providers of telecommunications services, not just interstate providers, so intrastate telecommunications revenues can be included for contribution assessment purposes.²⁶²⁹

3. Discussion

817. The Joint Board recommends that universal service support mechanisms for schools and libraries and rural health care providers be funded by assessing both the intrastate and interstate revenues of providers of interstate telecommunications services. The Joint Board makes no recommendation concerning the appropriate funding base for the modified high cost and low income assistance programs, but does request that the Commission seek additional information and parties' comment, particularly the states, regarding the assessment method for these programs. The recommendations on the universal service mechanism for high cost assistance are tentative at this time and will be supplemented with a report of the state Joint Board

²⁶²⁴ NYNEX reply comments at 13.

²⁶²⁵ See, e.g., AT&T comments at 8-9; NCTA comments at 24; New Jersey Advocate comments at 25; West Virginia Consumer Advocate comments at 14; GTE reply comments at 11; LDDS reply comments at 16-18.

²⁶²⁶ NCTA comments at 23-24. See also GTE reply comments at 11.

²⁶²⁷ Sprint comments at 16-17 and Sprint reply comments at 5-6.

²⁶²⁸ CSE Foundation comments at 17-18. See also AirTouch reply comments at 18; GTE reply comments at 11.

²⁶²⁹ LDDS reply comments at 18.

Members following combined federal/state staff workshops on the proxy models. The recommendations on the schools and libraries discount mechanism, in contrast, are more certain, especially with respect to the identification of costs. The existing high cost assistance program is currently funded from interstate revenues, and intrastate revenues support universal service both implicitly, through rate structure, and explicitly, through some states' universal service fund mechanisms. The Joint Board believes that the decision as to whether intrastate revenues should be used to support the high cost and low income assistance programs should be coordinated with the establishment of the scope and magnitude of the proxy-based fund, as well as with state universal service support mechanisms.

818. When the Commission established the existing high cost assistance fund in 1984, the Commission recognized that universal service was a mutual goal shared with the states. The federal program was constructed to build upon the programs already being undertaken by the states:

We also agree with the Joint Board's plan to direct assistance to high cost areas. This approach will promote universal service by enabling telephone companies and state regulators to establish local exchange service rates in high cost areas that do not greatly exceed nationwide average levels. The federal Universal Service Fund will ensure that telephone rates are within the means of the average subscriber in all areas of the country, thus providing a foundation on which the states can build to develop programs tailored to their individual needs.²⁶³⁰

819. The 1996 Act reflects the continued partnership among the states and the FCC in preserving and advancing universal service. Together, sections 254(d) and 254(f) contemplate continued complementary state and federal programs for advancing universal service. The Joint Board finds that state universal service programs should continue to play an important role in ensuring universal service to all consumers. Section 254(f) states that:

[a] State may adopt regulations not inconsistent with the Commission's rules to preserve and advance universal service. Every telecommunications carrier that provides intrastate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, in a manner determined by the State to the preservation and advancement of universal service in that State. A State may adopt regulations to provide for additional definitions and standards to preserve and advance universal service within that State only to the extent that such regulations adopt additional specific, predictable, and sufficient

²⁶³⁰ In the Matter of Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, CC Docket No. 80-286, Decision and Order, 96 F.C.C. 781, 795 (February 15, 1984).

mechanisms to support such definitions or standards that do not rely on or burden Federal universal service support mechanisms.²⁶³¹

Section 254(f) was intended to preserve state authority over universal service matters within certain parameters. Indeed, the Joint Explanatory Statement states that "[s]tate authority with respect to universal service is specifically preserved under new section 254(f)."²⁶³²

820. While section 254(d) prescribes that every telecommunications carrier that provides interstate communications services shall contribute to the Commission's universal service support mechanisms on an equitable and nondiscriminatory basis to the specific, predictable and sufficient mechanism established by the Commission, the statute does not expressly identify the assessment base for the calculation of the contribution. We recognize that the universal service mechanism established in this proceeding to address the needs of rural, insular and high cost areas will be combined with the existing high cost assistance, DEM weighting, Linkup, Lifeline and Long Term Support funding mechanisms.

821. The appropriate revenue base for collecting support for the high cost and low income programs must be considered in tandem with the distribution of these funds. The current federal high cost and low income programs are supplemented by existing state programs. As we have discussed *supra*, the development and composition of a universal service support mechanism based on a proxy model has been deferred for decision at this time, pending the convening of staff workshop sessions. We have also deferred decision on the appropriate revenue benchmark to compute the level of federal universal service support. Similarly, the modifications to the Lifeline program have been tentatively identified and set forth in this Recommended Decision for further comment. We find that it would be premature at this time to conclude how the high cost assistance fund and low income assistance programs should be funded, i.e., confined to interstate revenues or a combination of interstate and intrastate revenues.

822. The Joint Board recommends that the Commission seek further information and parties' comments on the issue of whether both intrastate and interstate revenues of carriers that provide interstate telecommunications should be assessed to fund the Commission's high cost and low income support mechanisms. The role of complementary state and federal universal service mechanisms requires further reflection. An additional consideration is whether the states have the ability to assess the interstate revenues of providers of intrastate telecommunications services to fund state universal service programs and whether that assessment capability would affect the funding base for federal universal service programs.²⁶³³ In addition, we recommend that the

²⁶³¹ 47 U.S.C. § 254(f).

²⁶³² Joint Explanatory Statement at 132.

²⁶³³ See, e.g., Vermont Stats., Title 30, Chapter 87, Section 7521(a); Goldberg v. Sweet, 109 S.Ct. 582 (1989).

Commission seek additional information and parties' comment on whether the intrastate nature of the services supported by the high cost and low income assistance programs should have a bearing on the revenue base for assessing funds. We also recommend that commenting parties address the ability to separately identify intrastate and interstate revenues in the evolving telecommunications market where services typically associated with particular jurisdictions are likely to be packaged together. Finally, we ask that parties comment on whether carriers will have an incentive to shift revenues between jurisdictions to avoid universal service contributions.

823. The state members of the Joint Board will include a discussion of the appropriate funding mechanism for the new high cost fund and low income programs as part of the report(s) on each of those programs discussed *supra*. These reports by the state members will be filed prior to the Commission's decision in this proceeding on the high cost and low income funds.

G. Administrator of Universal Support Mechanisms

1. Background

824. In the NPRM, the Commission sought comment on the best approach to administer universal service support mechanisms fairly, consistently, and efficiently. The Commission suggested that support mechanisms could be administered by a non-governmental entity and stated that any administrator would be required to operate in an efficient, fair and competitively-neutral manner. Furthermore, the Commission noted that the administrator would be required to process information and databases on a large scale, to calculate the proper amount of each carrier's contribution and to apply eligibility criteria consistently, in order to ensure that only carriers eligible for support are properly compensated by the support mechanisms. The Commission asked commenters to discuss these criteria and any others the Commission might use to assess qualifications of any candidates, how long an administrator should be appointed, and any other matters related to the selection and appointment of an administrator. The Commission also invited parties to suggest the most efficient and least costly methods to accomplish the administrative tasks associated with administration.²⁶³⁴

825. The Commission also sought comment on whether universal service support could be collected and distributed by state PUCs. Under this approach, individual state commissions or groups of state commissions would be responsible for administering the collection and distribution of funds, operating under plans approved by the Commission. The state PUCs might delegate the administration of funds to a governing board composed of representatives from the state commissions, the contributing carriers, and support recipients. This board could also function as a central clearinghouse to the extent collection and distribution issues extended beyond the boundaries of individual states. The Commission requested comment on this alternative approach

²⁶³⁴ NPRM at paras. 128-129.

and on what provisions should be incorporated in any plan that the Commission approves for administration under this option. The Commission also invited proposals for other means of administering support mechanisms.²⁶³⁵ Pursuant to the 1996 Act's principle that support for universal service should be "predictable,"²⁶³⁶ the Commission also sought comment estimating the cost of administration using either of the two approaches that we proposed. Commenters proposing an alternative method were asked to identify the costs of administration associated with their suggested method.²⁶³⁷

2. Comments

826. Third Party. A majority of commenters suggest that universal service support should be administered by a non-governmental, neutral third party.²⁶³⁸ Proponents state that a lack of affiliation with any telecommunications carriers and no direct interest in support mechanisms is essential for the administrator to function as a neutral arbitrator among all of the various service providers that must contribute to support mechanisms. Such an administrator must have large scale database capabilities and the ability to collect and distribute funds.²⁶³⁹ Several of these commenters state that the third party administrator should be selected through competitive bidding in order to lower the costs of administration.²⁶⁴⁰ Idaho PUC agrees that the administrator should be chosen through competitive bidding, but adds that NECA should be allowed to bid.²⁶⁴¹

827. NECA. Several LECs and a few others state that NECA should be appointed the

²⁶³⁵ NPRM at para. 130.

²⁶³⁶ 47 U.S.C. § 254(b)(5).

²⁶³⁷ NPRM at para. 131.

²⁶³⁸ See, e.g., ALTS comments at 19; AT&T comments at 22; AirTouch comments at 11; Ameritech comments at 24; Cincinnati Bell comments at 15; Frontier comments at 10; Illinois CC comments at 10-11; LDDS comments at 19-20; Maine PUC comments at 20-21; Missouri PSC comments at 21-22; NCTA comments at 25; Sprint comments at 23-24; CPI reply comments at 16; MFS reply comments at 9.

²⁶³⁹ See Illinois CC comments at 10-11; NCTA comments at 25.

²⁶⁴⁰ See, e.g., ACTA comments at 13; ALTS comments at 19; Ameritech comments at 24; Frontier comments at 10; Idaho PUC comments at 17-18; Maine PUC comments at 22-23; Teleport comments at 18; CPI reply comments at 16.

²⁶⁴¹ Idaho PUC comments at 17-18. See also Maine PUC comments at 21; California PUC reply comments at 9.

administrator of the universal service fund.²⁶⁴² These commenters support NECA as the fund administrator because of NECA's proven experience in administering the current high cost assistance mechanism and the TRS system and its familiarity with the telecommunications industry.²⁶⁴³ As an alternative to being appointed the permanent administrator, NECA suggests that it be appointed the interim administrator, because it would be able to implement the new support mechanisms quickly. NECA notes that it was appointed the two-year interim administrator of the TRS fund, before being reappointed for an additional four-year term.²⁶⁴⁴ Opponents of appointing NECA as administrator question whether an organization composed of small LECs can administer a program involving all telecommunications carriers in a neutral manner.²⁶⁴⁵ NECA notes that its Board of Directors does contain non-LEC representatives and that it administers the TRS fund to which all telecommunications carriers, not just LECs, contribute.²⁶⁴⁶ As administrator of the TRS fund, NECA receives guidance from an advisory committee drawn from the telecommunications industry, members of the hearing-impaired community and consumer advocates regarding the TRS fund, and NECA suggests that a similar committee could be created for the new universal service fund.²⁶⁴⁷ NECA adds that the Commission has the authority to modify its Part 69 rules governing NECA's governance if it believes changes are necessary.²⁶⁴⁸ Sprint states that if NECA is chosen as the fund's administrator, its Board of Directors must be broadened to include more non-LECs.²⁶⁴⁹ Idaho

²⁶⁴² See, e.g., Associated Communications comments at 5; Farmers Tel. comments at 5; Frederick & Warinner comments at 4; Mon-Cre comments at 5; NECA comments at 23; New Hope Tel. comments at 5; OTIA-WITA comments at 16; Rock Port Tel. comments at 1; SWBT comments at 20; TCA comments at 7; Cathey, Hutton reply comments at 8-9; Vitelco reply comments at 11-12.

²⁶⁴³ See, e.g., Associated Communications comments at 5; Farmers Tel. comments at 5; Frederick & Warinner comments at 4; Mon-Cre comments at 5; NECA comments at 23; New Hope Tel. comments at 5; OTIA-WITA comments at 16; Rock Port Tel. comments at 1; TCA comments at 7; Cathey, Hutton reply comments at 8-9; Vitelco reply comments at 11-12.

²⁶⁴⁴ Letter from Katherine Falk, NECA, to Diane Law, Attorney, FCC, September 25, 1996 (NECA September 25 *Ex Parte*).

²⁶⁴⁵ See LDDS reply comments at 19-20; MCI reply comments at 16-17; MFS reply comments at 8; WinStar reply comments at 6; Letter from Mary L. Brown, MCI, to Reed Hundt, Chairman, FCC, October 25, 1996.

²⁶⁴⁶ NECA comments at 23.

²⁶⁴⁷ NECA comments at 23.

²⁶⁴⁸ NECA September 25 *Ex Parte*. See also Letter from Bruce W. Baldwin, NECA to Reed Hundt, Chairman, FCC, October 18, 1996 (NECA October 18 *Ex Parte*) (suggesting that the Commission amend section 69.602 of the Commission's rules to add six more directors, representing non-LEC carriers, to NECA's board).

²⁶⁴⁹ Sprint comments at 23-24. See also Telec Consulting comments at 18-19 (arguing NECA should broaden its membership); TCA reply comments at 4.

PUC suggests that an advisory board be created to advise the administrator regardless of which entity is chosen.²⁶⁵⁰

828. State PUCs. A few commenters recommend that the fund should be administered by state commissions, because they are more familiar with local market conditions and industry.²⁶⁵¹ Others, however, question whether state commissions would have the resources to administer federal and state support programs and whether their administration would be uniform across states.²⁶⁵² Pennsylvania PUC suggests that states be given the choice of administering the program themselves or of appointing a third-party administrator, such as NECA.²⁶⁵³ Netscape suggests that the Commission should establish macro-level policies and allow industry forums to handle the detailed administration of those goals.²⁶⁵⁴

3. Discussion

829. Based on the record in this proceeding, we recommend that the Commission appoint a universal service advisory board to designate a neutral, third-party administrator. Administration by a central administrator, as opposed to individual state PUCs, would be more efficient and would ensure uniform decisions and rules.

830. Although we do not recommend direct administration by state PUCs, we recommend creating a universal service advisory board, pursuant to the Federal Advisory Committees Act,²⁶⁵⁵ including state and Commission representatives, to select, oversee, and provide guidance to the chosen administrator. To expedite the formation of the advisory board and its selection of a permanent administrator, we encourage the Commission to limit the number of advisory board members as much as possible. To ensure that administrative costs are kept to a minimum, we recommend that the universal service advisory board select an administrator through a competitive bidding process. The chosen administrator, including its Board of Directors, must: (1) be neutral and impartial; (2) not advocate specific positions to the Commission in non-administration-related proceedings; (3) not be aligned or associated with any

²⁶⁵⁰ Idaho PUC reply comments at 12.

²⁶⁵¹ *See, e.g.*, Colorado PUC comments at 7; Time Warner comments at 23-25; New York DPS reply comments at 3.

²⁶⁵² *See* ALTS comments at 19; Associated Communications comments at 5; Teleport comments at 17; MFS reply comments at 8-9.

²⁶⁵³ Pennsylvania PUC reply comments at 22-23. *See also* Oregon PUC comments at 8.

²⁶⁵⁴ Netscape comments at 12.

²⁶⁵⁵ 5 U.S.C., App. § 4(a) and 3(2)(C).

particular industry segment; and (3) not have a direct financial interest in the support mechanisms established by the Commission. As several commenters note, any candidate must also have the ability to process large amounts of data and to bill large numbers of carriers. We recommend that the advisory board fund the administrator's costs through the support mechanism.

831. The Joint Board strongly advises the Commission to create a universal service advisory board as quickly as possible because it will be responsible for selecting an administrator. The board, in turn, should quickly select an administrator because implementation of the new universal service support mechanisms is of utmost importance to the nation. The Joint Board recommends that the universal service advisory board appoint a neutral, third-party administrator through competitive bidding no later than six months after the board is created. We also recommend that the Commission and the advisory board require the administrator to implement the new support mechanisms no later than six months after its appointment.

832. NECA has successfully administered the existing high cost assistance fund and the TRS fund. We, however, disagree with those who propose that NECA automatically be appointed the permanent administrator. We conclude that many commenters question NECA's ability to appear as a neutral arbitrator among contributing carriers. We believe that NECA's current membership of incumbent local exchange carriers, its Board of Directors composed primarily of representatives of incumbent local exchange carriers, and its advocacy positions in several Commission proceedings may appear to non-LEC carriers as evidence of NECA's bias towards ILECs. Although we have no evidence of impropriety regarding NECA's management of the existing high cost assistance fund, the appearance of impartiality for the new administrator is essential, given the importance and magnitude of the universal service support programs that will ensure telecommunications access in all regions of the Nation. We, therefore, recommend against appointing NECA as the permanent administrator at this time. We recommend, however, that the Commission take such action as necessary that would allow NECA to render itself a neutral, third-party and would eliminate NECA's current appearance of bias toward incumbent LECs.²⁶⁵⁶ If changes to its membership and governance render NECA a neutral, third-party, NECA should be eligible to compete in the advisory board's selection process. In addition, we reject Netscape's suggestion that industry forums should develop and administer universal service support mechanisms. Although cooperation with industry is essential to the successful implementation of universal service goals, conflicts of interest may arise through industry self-regulation. Furthermore, it may be difficult for industry members to reach a consensus on controversial issues.

833. We note that a transition period for low income consumers and rural, insular and high cost areas is necessary because we are changing eligibility requirements and how support is calculated, consistent with sections 254(c)-(e). These issues, however, do not apply to schools,

²⁶⁵⁶ See NECA October 18 *Ex Parte*.

libraries and health care providers because they do not participate in pre-existing programs. Consequently, consistent with section 254, we believe that support for schools, libraries and health care providers can be deployed sooner than support programs for low income consumers and rural, insular and high cost areas, because these programs are not presently defined. Thus, in the interest of providing telecommunications services to schools, libraries and health care providers as quickly as possible, we recommend that NECA be appointed the temporary administrator of support mechanisms for schools, libraries and health care providers. Prior to appointment as the temporary administrator, we recommend, however, that the Commission permit NECA to add significant, meaningful representation for non-incumbent LEC carrier interests to the NECA Board of Directors. NECA could begin collecting carrier contributions and processing requests for services soon after adoption of the Commission's rules and would continue to do so until the permanent administrator is ready to begin operations. We recommend that, in addition to operating the new support mechanisms for schools, libraries and health care providers, NECA would continue to administer the existing high cost and low income support mechanisms until the permanent administrator is prepared to implement the new high cost and low income support mechanisms.

XIV. CONCLUSION

834. The 1996 Act instructs the Joint Board and the Commission to adopt a new set of universal service support mechanisms that are explicit and sufficient to preserve and advance universal service. We believe that the recommendations, discussed above, will achieve Congress's goals and will ensure quality telecommunications services at affordable rates to all consumers, in all regions of the Nation.

XV. RECOMMENDING CLAUSES

835. For the reasons discussed in this Recommended Decision, this Federal-State Joint Board, pursuant to section 254(a)(1) and section 410(c) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 254(a)(1), 410(c), recommends that the Federal Communications Commission adopt the proposals, as described above, implementing new section 254 of the Telecommunications Act of 1934, as amended, 47 U.S.C. § 254.

836. The Joint Board further recommends that parties submitting any comments or additional information in this docket be required to serve each member of the Federal-State Joint Board and the Joint Board staff.²⁶⁵⁷

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

²⁶⁵⁷ These submissions should be served in accordance with the service list attached as App. G.

**APPENDIX A
PARTIES FILING INITIAL COMMENTS**

<u>Commenter</u>	<u>Abbreviation</u>
360° Communications Co.	360
AARP, CFA, Consumer Union	AARP
Access to Communications for Education Coalition	ACE
Ad Hoc Telecommunications Users Committee	Ad Hoc
AMSC Subsidiary Corp.	AMSC
AT&T Corp.	AT&T
Airtouch Communications, Inc.	AirTouch
Alabama Public Service Commission	Alabama
Alabama-Mississippi Telephone Assoc.	Alabama-Mississippi Tel. Ass'n")
Alaska Area Native Health Services	Alaska Health
Alaska Library Association	Alaska Library
Alaska Public Utilities Commission	Alaska PUC
Alaska Telephone Association	Alaska Tel.
Alliance for Distance Education in California	Alliance for Distance Education
Alliance for Public Technology	Alliance for Public Technology
Allied Associated Partners, LP/GELD Information Systems	AAP/GELD
America's Carriers Telecommunications Association	ACTA
American Association of Community Colleges	Community Colleges
American College of Nurse Practitioners	Nurse Practitioners
American Federation of Teachers	AFT
American Foundation for the Blind	
American Hospital Association	AHA
American Library Association	ALA
American Telemedicine Association	American Telemedicine
Ameritech	
Apple Computer, Inc.	Apple
Arctic Slope Tele Association (VCR TAPE)	Arctic
Ardmore Telephone Company	Ardmore Tel.
Arizona Health Sciences Center	Arizona Health
Associated Communications & Research Services, Inc.	Associated Communications
Association for Local Telecommunications Services	ALTS
Association of America's Public Television Stations	APTS
Association of the Bar of the City of New York	Bar of New York
Bell Atlantic	
BellSouth/National Economic Research Associates	BellSouth
Benjamin N. Cardozo School of Law/Yeshiva University	Cardozo
Benton Foundation	Benton
Bledsoe Telephone Co.	Bledsoe Tel.

Blountsville Telephone Company	Blountsville Tel.
Bonnie Price	Price
Brite Voice Systems, Inc.	Brite
California Department of Consumer Affairs	
California State Library	California Library
Cellular Telecommunications Industry Association	CTIA
Center for Civil Networking Inc.	Center for Civil Networking
Century Telephone & TDS Telecommunications	Century
Cheyenne River Sioux Telephone Authority & Golden West	Cheyenne River Sioux Tel.
Chief Counsel for Advocacy of the US Small Business Administration	SBA
Churchill County Telephone and Telegraph	Churchill County
Cincinnati Bell Telephone Co.	Cincinnati Bell
Citizens Utilities Company	Citizens Utilities
Citizens for a Sound Economy Foundation	CSE Foundation
Colorado Independent Telephone Association, Inc.	Colorado Indep. Tel.
Colorada Public Utility Commission Staff	Colorado PUC
Commercial Internet Exchange Association	Commercial Internet Exchange
Commonwealth of the Northern Mariana Islands	CNMI
Commonwealth of Massachusetts Board of Library Commissioners	MassLibrary
Communications Workers of America	CWA
Competitive Telecommunications Association	CompTel
CompuServe Inc.	CompuServe
Comsat Corporation	Comsat
Consumer Project on Technology	CPT
Continental Cablevision, Inc.	CCV
Council On Competitiveness	
Council of the Great City Schools	Great City Schools
Distance Delivery Consortium	DDC
Early Childhood Development Center Legislative Coalition	Early Childhood
Edgemont Neighborhood Coalition	Edgemont")
Educom	
Evans Telephone Co., Humboldt Telephone Co., Kerman Telephone Co., Oregon-Idaho Utilities Inc. Pinnacles Telephone Co. The Ponderosa Telephone Co. The Siskiyou Telephone Co., The Volcano Telephone Co.	Evans Tel.
Farmers Telephone Cooperative	Farmers Tel.

Federation of American Research Networks	
Florida Cable Telecommunications Association	Florida Cable
Florida Public Service Commission	Florida PSC
Fort Mojave Telecommunications Inc.	Ft. Mojave Telecom.
Fred Williamson & Associates, Inc.	Fred Williamson
Frederick Warinner, LLC	Frederick & Warinner
Frontier Corp.	Frontier
Gary Tomlinson	Tomlinson
GTE	
GVNW, Inc./Management	GVNW
Georgia Public Service Commission	Georgia PSC
General Communications, Inc.	GCI
General Service Administration	GSA
Governor of Guam	
Guam Public Utility Commission	Guam PUC
Guam Telephone Authority	Guam Tel. Authority
Harris Shivan Association	Harris
High Plains Rural Health Network	
Hispanic Information & Telecommunications Network, Inc. HITN	
Hopper Telecommunications Company	Hopper
ICORE, Inc.	ICORE
Illinois State Board of Education,	Illinois Board of Education
Illinois State Library, Illinois Community	
College Board, Illinois Board of Higher Education	
ITCs, Inc.	ITC
Idaho Public Utilities Commission	Idaho PUC
Illinois Commerce Commission	Illinois CC
Independent Cable & Telecommunications Association	ICTA
Indiana Utility Regulatory Commission	Indiana URC
Information Industry Association	Information Industry Ass'n
Information Renaissance	Information Renaissance
Information Technology Association	ITAA
Information Technology Industry Council	
Instructional Telecommunications Council	
Interactive Service Association	Interactive Service Ass'n
International Communications Association	International Communications
Ass'n	
Iowa Communications Network	
Iowa Telephone Association	Iowa Tel. Ass'n
Iowa Utilities Board	Iowa Utilities Board
John Staurulakis, Inc.	John Staurulakis
Kentucky Public Service Commission	Kentucky PSC

Keystone-Arthur Telephone Co.	Keystone
Kinko's Inc.	Kinko's
LCI International Telecom Corp.	LCI
LDDS Worldcom	LDDS
Learning & Info Networks for Community Telecomputing Coalition	LINCT Coalition
Library of Michigan	
Lincoln Trail Libraries System	Lincoln Trail Libraries
Louisiana Public Service Commission	Louisiana PSC
Maine PUC,	Maine PUC
Montana Public Service Commission,	
Nebraska Public Service Commission,	
New Hampshire Public Utilities Commission,	
New Mexico State Corporation Commission,	
Utah Public Service Commission,	
Vermont Department of Public Service and Public Service Board,	
Public Service Commission of West Virginia	
MCI	
MFS Communications Company, Inc.	MFS
Matanuska Telephone Association	Matanuska Tel. Ass'n
Mendocino Unified School District	Mendocino School District
Merit Network	Merit
Metricom, Inc.	Metricom
Michigan Consumer Federation,	Michigan Consumer Federation
Oregon Citizens Utilities Board,	
Massachusetts Consumer Association,	
Chicago Media Watch,	
Environmental Media Association,	
Women's Institute for Freedom of the Press,	
Center for Media Literacy,	
Greater Washington Area Chapter of the Cultural Environment Movement,	
Columbus Center for Media Education	
Miles River Press	
Michigan Library Association	Michigan Library Ass'n
Michigan Public Service Commission	Michigan PSC
Minnesota Independent Coalition	Minnesota Indep Coalition
Minnesota Telephone Association	Minnesota Tel. Ass'n
Missouri Public Service Commission	Missouri PSC
Missouri State Library	Missouri Library
MobileMedia Communications, Inc.	MobileMedia

Mon-Cre Telephone Cooperative	Mon-Cre
Montana Independent Telecommunications Systems	Montana Indep. Telecom.
Montana Public Service Commission	Montana PSC
Montana Telephone Association	Montana Tel. Ass'n
Mountaineer Doctor TeleVision	Mountaineer Doctor TV
National Association of Development Organizations	
National Association of Regulatory Utility Commissioners	NARUC
National Association of State Utility Consumer Advocates	NASUCA
National Black Caucus of State Legislators	Nat'l Black Caucus
National Cable Television Association	NCTA
National Emergency Number Association	NENA
National Exchange Carrier Association	NECA
National Retail Federation	Nat'l Retail Fed.
National Rural Electric Cooperative Association	Rural Electric Coop.
National School Boards Association	
American Library Association	
(Comments)	NSBA I
(Flexibility Analysis)	NSBA II
National Urban League-Boston College	National Urban League-BC
Navajo Nation	Navajo Nation
Nebraska Association of Hospitals & Health Systems	Nebraska Hospitals
Nebraska Rural Development Commission	Nebraska RDC
Netscape Communications Corporation	Netscape
New Hope Telephone Cooperative	New Hope Tel.
New Jersey Board of Public Utilities	New Jersey BPU
New Jersey Division of Ratepayer Advocate	New Jersey Advocate
New Mexico Attorney General	New Mexico AG
New York Board of Regents	New York Regents
New York State Consumer Protection Board	New York CPB
New York State Department of Public Service	New York DPS
North Dakota Department of Health	
North Dakota Public Service Commission	North Dakota PSC
North Dakota State Health Officer	North Dakota Health
North of Boston Library Exchange, Inc.	
Nynex	NYNEX
OMB Watch	
Oakland Unified School District	Oakland School District
Office of Communication of the United Church of Christ	United Church of Christ
Office of Insular Affairs	OIA
Office of People's Counsel of the District of Columbia	OPC-DC
Office of Rural Health Policy of HRSA/HHS	ORHP/HHS
Office of the Ohio Consumers' Counsel	Ohio Consumers' Counsel
Oklahoma Corporation Commission	Oklahoma CC

Oklahoma Dept. of Libraries	Oklahoma Libraries
OpTel, Inc.	Optel
Oregon Independent Telephone Association & Washington Independent Telephone Association	OTIA-WITA
Oregon Public Utility Commission	Oregon PUC
Pacific Telecom, Inc.	
Pacific Telesis Group	PacTel
Park Region Mutual Telephone Co.	Park Region Tel.
Pennsylvania Public Utility Commission	Pennsylvania PUC
Pennsylvania Rural Development Council	Pennsylvania RDC
People For the American Way, Alliance for Community Media, Alliance for Communications Democracy, Benton Foundation, Center for Media Education, League of United Latin American Citizens, Minority Media and Telecommunications Council National Council of La Raza, National Rainbow Coalition	People For
People of the State of California, California PUC	California PUC
Personal Communications Industry Association	PCIA
Public Advocates Inc.	Public Advocates
Public Utility Commission of Texas	Texas PUC
Public Utility Law Project of New York, Inc.	PULP
Puerto Rico Telephone Company	Puerto Rico Tel. Co.
Ragland Telephone Company	Ragland Tel. Co.
Reed, Smith, Shaw & McClay	Reed Smith
Rhode Island Public Utilities Commission	Rhode Island PUC
Richard Riley, Secretary of Education	Secretary of Education
Robert A. Hart IV	Hart
Rock Port Telephone Co.	Rock Port Tel.
Rural Iowa Independent Telephone Association	
Rural Health Network	
Rural Telephone Coalition	RTC
Rural Telephone Finance Coop.	
Rural Utilities Serv.	RUS
STAR Program	STAR
Sailor (MD Library Proj.)	Sailor
South Carolina Public Service Commission	South Carolina PSC
South Dakota Public Utilities Commission	South Dakota PUC
South New England Telephone Co.	SNET
Southwest Montana Telepsychiatry Network	Montana Telepsychiatry
Southwestern Bell Telephone Company	SWBT
Sprint Corporation	Sprint

St. Alexius Medical Center	St. Alexius
Staff of Public Utilities Commission of Ohio	Ohio PUC
State of Alaska	Alaska
State of South Dakota	South Dakota
Syracuse University School of Informational Studies	Syracuse University
Taconic TCA, Inc.	Taconic Tel. Corp.)
Tele-Communications, Inc.	TCI
Telec Consulting Resources, Inc.	
Telecomm Access Association	Telecomm Access
Telecommunications Industry Association	TIA
Telecommunications Resellers Association	TRA
Telecommunications Subcommittee Commission on the Future of Southwest Virginia	Southwest Virginia Future
Telefonica Larga Distancia de Puerto Rico (TLD)	TLD
Teleport Communications Group, Inc.	Teleport
Texas Advisory Commission on State Emergency Communications	Texas Emergency
Texas Department of Information Resources	Texas DIR
Texas Office of Public Utility Counsel	Texas OPUC
Time Warner Communications Hlds, Inc.	Time Warner
United States Catholic Conference, National Coalition for the Homeless, Washington Legal Clinic for the Homeless, American Women's Roundtable, Community Technology Institute, Consumer Action, Farmworker Justice Fund, Fifth Street Connection, Heartland Alliance for Human Needs and Rights, Interstate Migrant Education Council, National Association of Migrant Educators, Marcia Zashin, Education Consultant to Cleveland Public Schools and Project Act, Migrant Legal Action Program, Vermont Migrant Education Program	Catholic Conference
US Distance Learning Association	
US National Commission on Libraries & Information Science	U.S. Libraries
U S West, Inc.	U S West
UTC, the Telecommunications Association	UTC
United States Telephone Association	USTA
United Utilities, Inc.	United Utilities
Vanguard Cellular Systems, Inc.	Vanguard

Virginia State Corporation Commission	Virginia CC
Virginia's Rural Telephone Co's	Virginia's Rural
Warren Library Association	Warren Library
Washington State Library	Washington Library
Washington State Superintendent of Public Instruction	Washington SPI
Washington Utilities and Transportation Commission	Washington UTC
WavePhore, Inc.	WavePhore
West Virginia Consumer Advocate	
Western Alliance	Western Alliance
Western Wireless Corporation	Western
WinStar Communications, Inc.	WinStar
Winnebago Cooperative Telephone Association	Winnebago Tel.
Wyoming Public Service Commission	Wyoming PSC

**APPENDIX B
PARTIES FILING REPLY COMMENTS**

<u>Commenter</u>	<u>Abbreviation</u>
360 Degree Communications Co.	360
AARP,	AARP
CFA,	
Consumer Union	
Access to Communication for Education Coalition	ACE
AD HOC Rural Consortium	ARC
AD HOC Telecommunications Users Committee	Ad Hoc Telecom. Users
Airtouch Communications, Inc.	Airtouch
Alaska Public Utilities Commission	Alaska PUC
Alaska Telephone Association	Alaska Tel.
Alliance for Community Media	
Alliance for Public Technology	Alliance for PublicTechnology
American Association of Community Colleges,	Community Colleges
Association of Community College Trustees	
American Library Association	ALA
American Public Power Association	APPA
Ameritech	
Association for Local Telecommunications Services	ALTS
AT&T Corp.	AT&T
Bell Atlantic	
BellSouth/National Economic Research Associates	BellSouth
Benton Foundation	Benton
Black Community Crusade for Children	
California Department of Education	CDE
Cathey, Hutton and Associates	Cathey, Hutton
Century Telephone & TDS Telecommunications	Century
Cincinnati Bell	Cincinnati Bell
Citizens for a Sound Economy Foundation	CSE Foundation
Colorado State Libraries	
Commnet Cellular, Inc.	Commnet Cellular
Commnet Cellular Inc. (Erratum)	
Communications Workers of America	CWA
Community Technology Centers' Network	
Competition Policy Institute	CPI
Competitive Telecommunications Association	CompTel
CompuServe Inc.	CompuServe
Council for Education Development and Research	CEDR

Council of Organizational Representatives	
Curtis Telephone	Curtis Tel.
Dell Telephone Cooperative	Dell Tel.
Edgemont Neighborhood Coalition	Edgemont
ETEX Telephone Cooperative	ETEX Tel. Coop.
Evans Telephone Co.	Evans Tel.
Humboldt Telephone Co.,	
Kerman Telephone Co.,	
Oregon-Idaho Utilities, Inc.,	
Pinnacles Telephone Co.,	
The Ponderosa Telephone Co.,	
Siskiyou Telephone Co.,	
The Volcano Telephone Co.	
Florida Public Service Commission	Florida PSC
General Communications, Inc.	GCI
General Service Administration	GSA
Governor of Guam	
GTE	
Guam Telephone Authority	Guam Tel. Authority
GVNW, Inc/Management	GVNW
Hauben, Ronda	
Idaho Public Utilities Commission (States' Joint Reply)	Idaho PUC
Indiana Utility Regulatory Commission	Indiana URC
Information Renaissance	Information Renaissance
Information Technology Association of America,	ITA/EMA
Electric Messaging Association,	
Information Technology Industry Council,	
Information Industry Association,	
National Retail Federation	
Iowa Telephone Association	Iowa Tel. Ass'n
ISTE	
LDDS Worldcom	LDDS
Libraries for the Future	
Lincoln Telephone and Telegraph	Lincoln
MCI	
Metricom, Inc.	Metricom
MFS Communications Company, Inc.	MFS
Milbury, Peter	
Minnesota Independent Coalition	Minn. Indep. Coalition
MobileMedia Communications, Inc.	MobileMedia
Motorola and Iridium North America	
National Association of Broadcasters	

National Association of the Deaf	NAD
National Association of Regulatory Utility Commissioners	NARUC
National Cable Television Association	NCTA
National Council of La Raza (aka Public Advocates, Inc.)	National Council of La Raza
National Emergency Number Association	NENA
National Exchange Carrier Association	NECA
National Public Telecomputing Network	
National School Boards Association	
American Library Association,	
American Library Association, including the American Association	
of School Librarians, A Division of ALA,	
National Education Association,	
Consortium for School Networking,	
Council of Chief State School Officers,	
Education Legislative Service, Inc.,	
National Association of Independent Schools,	
National Association of Secondary School Principals,	
American Federation of Teachers,	
AFL-CIO,	
Association for the Advancement of Computing in Education,	
National Association of Elementary School Principals,	
American Association of School Administrators,	
American Psychological Association,	
Association for Supervision and Curriculum Development,	
Council for American Private Education,	
Council for Educational Development and Research,	
Global Village Schools Institute,	
National Association of State Boards of Education,	
National Parents and Teachers Association,	
United States Distance Learning Association,	
Center for Media Education	
(Comments)	NSBA I
(Flexibility Analysis)	NSBA II
New York State Department of Public Service	New York DPS
Northern Telecommunications	NorTel
Nynex	NYNEX
Oakland Unified School District	Oakland School District
Office of the Ohio Consumers' Counsel	Ohio Consumers' Counsel
Office of People's Counsel of the District of Columbia	OPC-DC
Pacific Telesis Group	PacTel
Pennsylvania Library Association	Pennsylvania Library Ass'n
Pennsylvania Public Utility Commission	Pennsylvania PUC

People of the State of California, California PUC,	California PUC
The Public Utilities Commission of the State of California	
Personal Communications Industry Ass'n	PCIA
Plummer, Paul	
Public Broadcasting System	PBS
Public Service Commission of the District of Columbia	DC PSC
Puerto Rico Telephone Company	Puerto Rico Tel. Co.
Reed Smith Shaw & McClay	Reed, Smith
Rural Telephone Coalition	RTC
Rural Utilities Serv.	RUS
Siskiyou Telephone Company	Siskiyou
South Dakota Independent Telephone Coalition	SDITC
Southern New England Telephone Co.	SNET
Southwestern Bell Telephone Company	SWBT
Sprint Corporation	Sprint
Taconic Telephone Corporation	Taconic Tel. Corp.
TCA, Inc.	TCA
Teledesic	
Telefonica Larga Distancia de Puerto Rico	TLD
Telephone Association of Michigan	Tel. Assoc. of Michigan
Teleport Communications Group, Inc.	Teleport
Texas Advisory Comm'n on State Emergency Comm.	Texas Emergency
Texas Office of Public Utility Counsel	Texas OPUC
Union City Board of Education	
United Cerebral Palsy Associations	United Cerebral Palsy Ass'n
United States Telephone Association	USTA
United Utilities Inc.	United Utilities
US Catholic Conf.,	Catholic Conference
National Coalition for the Homeless,	
Washington Legal Clinic for the Homeless,	
American Women's Roundtable,	
Community Technology Institute,	
Consumer Action,	
Fifth Street Connection,	
Heartland Alliance for Human Needs and Rights,	
Interstate Migrant Education Council,	
National Association for Migrant Educators,	
Marcia Zashin, Education Consultant to Cleveland Public Schools and Project Act,	
Migrant Legal Action Program,	
Vermont Migrant Education Program	
US Distance Learning Association	
US National Comm'n on Libraries & Information Science	U.S. Libraries

U S West, Inc.	U S West
Vanguard Cellular Systems, Inc.	Vanguard
Virgin Island Telephone Co.	Vitelco
Virginia State Corporate Commission	Virginia CC
Washington Independent Telephone Association	WITA
Washington State Department of Information Services	Washington DIS
Washington Utilities and Transportation Commission	Washington UTC
West Virginia Consumer Advocate	
Western Alliance	Western Alliance
WinStar Communications, Inc.	Winstar
Wyoming Public Service Commission	Wyoming PSC

**APPENDIX C
PARTIES FILING FURTHER COMMENTS**

<u>Commenter</u>	<u>Abbreviation</u>
AirTouch Communications, Inc.	AirTouch
Alaska Telephone Association	Alaska Tel.
Alaska Public Utilities Commission	Alaska PUC
Alliance for Public Technology	Alliance for Public Technology
American Library Association	ALA
American Public Television Stations and Public Broadcasting Service Association	APTS/PBS
Ameritech	
Apple Computer, Inc.	Apple
Association for Local Telecommunications Services	ALTS
AT&T Corp.	AT&T
Bell Atlantic	
BellSouth/National Economic Research Associates	BellSouth
Benton Foundation	Benton
California Library Association	
Cathey, Hutton, & Assoc.	Cathey, Hutton
Century Telephone & TDS Telecommunications	Century
Citizens Utilities Companies	Citizens Utilities
Colorado State Library	
Commonwealth of the Northern Mariana Islands	CNMI
Competitive Telecommunications Association	CompTel
Consumer Federation of America	
Council of the Great City Schools	Great City Schools
Council of Pennsylvania Library Networks	
Education and Library Network Coalition	EDLINC
Florida Public Service Commission	Florida PSC
General Communications, Inc.	GCI
General Service Administration	GSA
GTE	
GVNW, Inc./Management	GVNW
Illinois State Library	
Information Renaissance	Information Renaissance
International Business Machines Corporation	IBM
ITCs, Inc.	ITC
Maine PUC,	Maine PUC
The State of Maine Public Utilities Commission,	

The State of Montana Public Service Commission, The State of Nebraska Public Service Commission, The State of New Hampshire Public Utilities Commission, The State of New Mexico State Corporation Commission, The State of Utah Public Service Commission, The State of Vermont Department of Public Service and Public Service Board, Public Service Commission of West Virginia	
Maryland State Department of Education	Maryland DOE
MCI	
Media Access Project and People for the American Way	MAP
Metricom, Inc.	Metricom
MFS Communications Company, Inc.	MFS
Minnesota Independent Coalition	Minnesota Indep. Coalition
National Association of Manufacturers	
National Association of Regulatory Utilities Commissioners NARUC	
National Cable Television Association	NCTA
National Coalition for the Homeless, American Women's Roundtable, Community Technology Institute, Consumer Action, Fifth Street Connection, Heartland Alliance for Human Rights and Needs, Interstate Migrant Education Council, Migrant Legal Action Program, National Association of Migrant Educators, United Church of Christ, Office of Communications, Marcia Zashin, Education Consultant to Cleveland Public Schools and Project Act, Washington Legal Clinic for the Homeless, Vermont Migrant Education Program	
National Emergency Number Association	NENA
National Exchange Carrier Association	NECA
National Public Telecomputing Network	
Netscape Communications Corporation	Netscape
New York State Department of Education	New York DOE
Nynex	NYNEX
Oakland Unified School District	Oakland School District
Pacific Telecom, Inc.	
Pacific Telesis Group	PacTel
Personal Communications Industry Association	PCIA
Puerto Rico Telephone Company	Puerto Rico Tel. Co.
Rural Telephone Coalition	RTC
Rural Utilities Serv.	RUS

Senate Education Technology Working Group	
Southern New England Telephone Company	SNET
Southwestern Bell Telephone Company	SWBT
Sprint Corporation	Sprint
Superintendent of Public Schools	
Tele-Communications, Inc.	TCI
Teleport Communications Group, Inc.	Teleport
Time Warner Communications Hlds, Inc.	Time Warner
Union City Board of Education	
United Utilities, Inc.	United Utilities
University of California	
US Distance Learning Association	
US National Commission on Libraries & Information Science	U.S. Libraries
US Telephone Association	USTA
US West, Inc.	U S West
Vanguard Cellular Systems, Inc.	Vanguard
Virgin Island Telephone Corp.	Vitelco
Washington Superintendent of Public Instruction	Washington SPI
Wireless Field Tests	
Worthy, Patricia M.	

**APPENDIX D
PARTIES FILING COMMENTS ON PROXY MODELS**

<u>Commenter</u>	<u>Abbreviation</u>
Alaska Public Utilities Commission	Alaska PUC
Ameritech	
AT&T Corp.	AT&T
BellSouth/National Economic Research Associates	BellSouth
California Public Utility Commission	California PUC
GTE	
Maine PUC	Maine PUC
MCI	
MFS Communications Company, Inc.	MFS
National Cable Television Association	NCTA
National Exchange Carrier Association	NECA
Nynex	NYNEX
Pacific Telesis Group	PacTel
Rural Telephone Coalition	RTC
Rural Utilities Serv.	RUS
Sprint Corporation	Sprint
Southwestern Bell Telephone Company	SWBT
United States Telephone Association	USTA
U S West, Inc.	U S West

APPENDIX E
PARTIES FILING INITIAL AND REPLY COMMENTS
CC DOCKET 80-286

<u>Commenter</u>	<u>Abbreviation</u>
Ad Hoc Telecommunications Users Committee	Ad Hoc Telecom. Users
Alabama Public Service Commission	Alabama PSC
Alaska Public Utilities Commission	Alaska PUC
Alaska Telephone Association	Alaska Tel.
Albion Telephone Company	Albion Tel.
Alenco Communications, Inc.	Alenco
Allnet Communications Services	Allnet
ALLTEL Telephone Services Corporation	ALLTEL
Alma Telephone Company	Alma
Ameritech	
AMSC Subsidiary Corporation	AMSC
Arctic Slope Telephone Association	Arctic
Arkansas Public Service Commission	APSC
Ascension Telephone Company	Ascension
Associated Communications & Research Services, Inc.	Associated Communications)
Association for Local Telecommunications Services	ALTS
AT&T Corporation	AT&T
Baltic Telecom Cooperative	Baltic
Bell Atlantic	Bell Atlantic
BellSouth Telecommunications, Inc.	BellSouth
Blanca Telephone Company	BTC
Buffalo Commons Group	BCG
California Telephone Association	CTA
Cambridge Telephone Co.	Cambridge
Canby Telephone Association	Canby
Cascade Utilities	Cascade
Cathey, Hutton and Assoc., Inc.	Cathey, Hutton
Central Utah Telephone, Inc.	CUT
Century Telephone Enterprises, Inc.	Century
Cheyenne River Sioux Tribe Telephone Authority	Cheyenne River Sioux Tel.
Chillicothe Telephone Company	Chillicothe
Churchill County Telephone and Telegraph System	Churchill County
Cincinnati Bell Telephone	Cincinnati Bell
Citizens Utilities Company	Citizens Utilities
City of Ketchikan, Alaska d/b/a Ketchikan Public Utilities	KPU
Coastal Utilities, Inc.	Coastal

Colorado Independent Telephone Association, Inc.	Colorado Indep. Tel.
Colton Telephone Company	Colton
Competition Telecommunications Association	CompTel
Consumers of Ohio, South Carolina and Florida	Consumers
Copper Valley Telephone Cooperative	Copper Valley
Cowiche Telephone	Cowiche
Crossville Communications	Crossville
Dell Telephone Cooperative	Dell Tel.
Deposit Telephone Company	Deposit
Ellensburg Telephone Company	Ellensburg
Emery Telephone	Emery
Farmers Telephone Company	Farmers
Florida Public Service Commission	Florida PSC
Fred Williamson and Associates	Fred Williamson')
General Communications, Inc.	GCI
Golden West Communications, Inc.,	Golden West
Great Plains Communications, Inc.	Great Plains
GTE	GTE
Gulf Telephone Company	Gulf
GVNW, Inc./Management	GVNW
Home Telephone Company	Home
ICORE, Inc.	ICORE
InterBel Telephone Cooperation	InterBel
International Communications Association Ass'n	International Communications
ITELCO	
John Staurulakis, Inc.	John Staurulakis
Kalona Cooperative Telephone Company	Kalona
Kerrville Telephone Company	Kerrville
Kingdom Telephone Company	Kingdom
La Jicarita Rural Telephone Cooperative	La Jicarita
LDDS Wolrdcom	LDDS
Leaco Rural Telephone Cooperative	Leaco
Lincoln County Telephone System, Inc.	Lincoln County
Mantanuska Telephone Assn., Inc.	Matanuska Tel. Ass'n
MCI Telecommunications Corporation	MCI
MFS Communications Company, Inc.	MFS
Mid-Rivers Telephone Cooperative, Inc.	MRTC
Minnesota Telephone Association	Minnesota Tel. Ass'n
Missouri Public Service Commission	Missouri PSC
Molalla Telephone Company	Molalla
Montana Telephone Assn.	

Montana Telephone Company	Montana Tel. Co.
Montrose Mutual Telephone Company	Montrose
National Exchange Carrier Association	NECA
National Rural Telecom Association	NRTA
National Telephone Cooperative Association	NCTA
Nehalem Telephone & Telegraph Company	
New York State Department of Public Service	New York DPS
North Carolina Utilities Commission	North Carolina UC
North Dakota Telephone Company	North Dakota Tel. Co.
North State Telephone Company	North State Tel.
Northeast Florida Telephone Company	Northeast Florida
Nynex	NYNEX
Oregon Telephone Cooperative	OTC
Oregon Utilities, Inc.	Oregon Utilities
Organization for the Protection and Advancement of Small Telephone Companies	OPASTCO
Otz Telephone Cooperative	Otz
Pacific Bell	
Pacific Telecom, Inc.	
Peetz Telephone Company	Peetz
Pennsylvania Public Utility Commission	Pennsylvania PUC
People of the State of California and the Public Utilities	California PUC
Pigeon Telephone Company	Pigeon
Pioneer Telephone	
Pioneer Telephone Company	Pioneer Tel.
Pond Branch Telephone Company	Pond Branch Tel.
Puerto Rico Telephone Company	Puerto Rico Tel. Co.
Range Telephone Cooperative	Range
Rio Virgin Telephone Company	Rio Virgin Tel.
Rochester Telephone Corporation	Rochester Tel.
Rock Hill Telephone Company	
Roggen Telephone Cooperative	Roggen
Roosevelt County Rural Telephone Coop.	Roosevelt Tel.
Roseville Telephone Company	Roseville Tel.
Rural Telephone Company - Idaho	RTC-I
Rural Telephone Company - Nevada	RTC-N
SBA	
Scott County Telephone Company	Scott County Tel.
Silver Star Telephone Company	Silver Star
Smithville Telephone Company	Smithville Tel.
South Central Utah Telephone Assn.	South Central Utah Tel.
Southern Montana Telephone Company	Southern Montana Tel.

Southwestern Bell Telephone Company	SWBT
Sprint Corporation	Sprint
Taconic Telephone Corp.	Taconic Tel. Corp.
Tallon, Cheeseman & Associates, Inc.	Tallon, Cheeseman
TDS Telecom	
Telec Consulting Resources, Inc.	
Telephone Electronics Corporation	TEC
Teleport Communications Group, Inc.	Teleport
Texas Public Utilities Commission	Texas PUC
Time Warner Telecommunications	Time Warner
Trans-Cascade Telephone Co.	Trans-Cascade
United States Telephone Association	USTA
United Telephone Mutual Aid Corporation	UTMAC
United Utilities, Inc.	United
U S WEST, Inc.	U S WestUTC
	UTC
Vermont Department of Public Service	Vermont DPS
Virgin Islands Public Service Commission	VIPSC
Virgin Islands Telephone Corporation	Vitelco
Washington Independent Telephone Assn. Small Company Committee	WIT
West River Telecommunications Cooperative	West River
Western Alliance	Western Alliance
Western Wahkiakum County Telephone Company	Western Wahkiakum Tel.
Wyoming Public Service Commission	Wyoming PSC
Yelm Telephone Company	Yelm Tel.

APPENDIX F -- ANALYSIS OF PROXY MODELS

1. In the text of the Recommended Decision, we briefly discussed the criteria that the Commission should consider in evaluating the reasonableness of using a proxy model to determine the level of universal service support a carrier should receive for a particular geographic area. In this Appendix, we highlight some of the issues raised by commenters, differences between the models, and the results each model produces. At the workshops that we have recommended that the Commission conduct, we expect that model proponents would be prepared to discuss the relative merits of each model, the criticisms raised by commenters, and the major causes of the substantial differences between the size of the high cost assistance support derived by the models.

2. As we discussed in the text of the Recommended Decision, the proxy model must rely on the forward-looking economic cost of developing and operating the network facility and functions used to provide services supported under Section 254(c)(1). Costs for providing universal service should be based on the most efficient technology that can be deployed using the incumbent local exchange carrier's (LEC) current wire-center locations. For the most part, we believe that the useful aspects of "forward-looking" approach are captured by the least cost concept. To the extent that reliable new technologies represent the least cost method for providing the supported services, they should be incorporated in the model. Firms in a competitive market may well choose to place facilities with the capability of providing a number of competitive services beyond the supported services. To the extent that this is true, the network we are modelling may depart from that which a firm may choose to install. However, to the extent that new technologies are necessary to provide a platform for a number of other competitive services, they should not be included in the model. The model should be sufficiently flexible to incorporate new technologies as the cost of these facilities falls such that they become the most efficient way to provide the supported services. In addition, the model must be sufficiently flexible to include the functionalities necessary to provide an evolving set of supported services.

3. Model Assumptions and Results - Demand. We agree that the models should reflect the impact on costs of the number and distribution of residential and business lines. The models start with an assignment of one residential line to each household in every census block group (CBG) reported in the 1990 Census. The Hatfield model uses recent Census estimates to update the 1990 Census values.¹ Because not all household have telephone service and some households have more than one line, the models are calibrated to match state and study area residential demand totals. Currently, the models use data on employees per CBG to assign the relative number of business lines per CBG. Because the ratio of business telephones to employees is not constant across all industries, a model used for calculating universal service support would need to include a better indicator of business lines per CBG. Numerous commenters have

¹ Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996).

reported unexplained variations between model line demand and expected line demand. The models should attempt to simulate the actual location of households and the placement of facilities to reach those households through a technically feasible route.

4. Loop Investments. Loop investments, i.e., outside plant, include the investments in cable and wire from an end user's home or business to the telephone company central office. They also include the investment in structures that support the cable and wire, such as poles and conduits, and the cost of placing the cable and wire. The models provide different estimates of loop investment because of different assumptions regarding fill factors, terrain impacts, structure sharing and the fiber/copper cross-over point. For the reasons set forth below, we believe that these inconsistencies must be resolved in order for the models to provide reasonable estimates of loop investments. Furthermore, the models should more accurately reflect the network topography necessary to serve an area. For example, many rural areas are extremely high cost regions which the models currently may not adequately represent. If the model does not accurately account for extreme geographic or climatic conditions, it may underestimate support necessary to serve these areas and may put continued service at risk.

5. A fill factor represents the percentage of the loop facility that is being used. Fill factors must be below 100 percent because it is necessary to have reserve capacity to replace damaged facilities and serve new demand. Because it is cheaper to build plant in discrete increments rather than adding one loop at a time, fill factors are generally lower if there is an anticipation of growth. In residential markets, telephone companies traditionally place additional or spare distribution plant so customers could purchase more than one line. In business markets, many telephone companies may increase loop investment as part of a strategy to provide Centrex service. These practices lower the fill factors. The original BCM uses fill factors lower than those in the Hatfield model.² BCM2, however, uses fill factors that are very similar to the Hatfield estimates.³ In response to the Common Carrier Bureau's information request, the models' proponents indicate that the fill factors that are calculated as ratio of demand divided by the number of loops constructed by the models are less than the input fill factors.⁴ This occurs because cable can be purchased only in increments, such as 100 pair cable, and therefore, will always exceed the required demand.

² MCI Communications, Inc, NYNEX Corporation, Sprint/United Management Co., and U S West, Inc, Benchmark Costing Model: A Joint Submission, Copyright 1995, CC Docket No. 80-826, filed December 1, 1995. Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Aug. 27, 1996).

³ Letter from Jay C. Keithley, Sprint, and Glenn Brown, US West, to William F. Caton, FCC, in regard to CC Docket No. 96-45 (dated July 3, 1996).

⁴ Letter from Mike Pelcovits, MCI and Joel Lubin, AT&T, to John Morabito, FCC (dated Aug. 19, 1996). Letter from Warren D. Hannah, Sprint and Glenn Brown, U S West, to William F. Caton, FCC (dated Aug. 22, 1996).

6. Terrain impacts refer to the effect of soil composition, the level of the water table and slope characteristics. BCM2 develops unique factors for 54 different combinations of terrain impacts.⁵ It appears that changes in terrain impacts are responsible, in part, for the increase in BCM2 investment relative to the BCM investment. The Hatfield model incorporates adverse terrain conditions by increasing the loop length by 20 percent rather than estimating the impacts of each terrain characteristic.⁶ Detailed documentation to support the terrain-impact-input analysis is essential to an evaluation of the reasonableness of these assumptions.

7. Structure sharing refers to the practice of sharing investments with other utilities in poles, trenches and conduits. The Hatfield model assumes that structures are shared equally by telephone, electric and cable companies; this assumption reduces the assumed investment in structures to one third of their estimated cost.⁷ In contrast, BCM2 assumes that the telephone company is responsible for 100 percent of the structure costs. The difference in the sharing assumption accounts for approximately 13 to 15 percent of the difference in the model's forward-looking cost estimate for high cost areas.⁸ We are unconvinced that sharing exists to the extent the Hatfield model presumes, but we do not conclude, as do the proponents of the BCM2, that the cost of structures is never shared among the utilities. The model proponents should be prepared to supplement their current filings with documentation that supports their position regarding this issue as well as the related issue of whether the percentage of sharing is a function of the type of structure, e.g., is there more sharing of poles than conduit?

8. The fiber-copper cross-over point refers to choice of using copper or fiber in the feeder plant. Each model specifies a default loop length. It then assumes that, if the loop is greater than the default length, the feeder plant will be fiber and if the loop is less than the default length, the feeder plant will be copper. The cross-over point should be based on engineering practice. Neither model proponent submits studies to support the engineering practice it assumed. Commenters show that assumptions about this practice can lead to different costs.⁹ We note that an examination of both model results shows that over 50 percent of the lines will be served by digital loop carrier connected to central offices by fiber, while currently less than five percent of

⁵ Letter from Glenn Brown, U S West, to William F. Caton, FCC (dated Sept. 4, 1996).

⁶ Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996).

⁷ Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996).

⁸ Letter from Brian W. Matterson, AT&T, to William F. Caton, FCC (dated Sept. 18, 1996).

⁹ NCTA cost model comments at 71-75, Attachment A ("Converging on a Cost Proxy Model for Primary Line Basic Residential Service: A Blueprint for Designing a Competitively Neutral Universal Service Fund," Susan M. Baldwin, Lee L Selwyn (Aug. 1996)).

lines use that type of facility.¹⁰ We believe that our forward looking cost principles would require a determination of whether either of the engineering practices posited in the models is the least-cost method of placing loop facilities.

9. **Switching Investment.** Switching investments include the cost of the switch, distribution frame, power expenses and the wire center building. The models use only digital switches. The BCM2 proponents allege that they have placed host, stand alone, and remote switches in wire centers according to the current placement of such switches.¹¹ The Hatfield model uses only host switches. Commenters claim that these assignments do not reflect the forward-looking cost of switching.¹² We share the commenters' concern regarding which type of switch, host, stand-alone or remote is assigned to each wire center and suggest that further work by interested parties would clarify this issue. We also have concerns regarding whether switches are included in the models that accurately reflect switching needs, particularly in sparsely populated areas. These concerns should be addressed.

10. Obtaining non-proprietary estimates of the cost of switches is difficult. The proponents of the Hatfield model and the BCM2 obtained switch cost estimates from several sources.¹³ The BCM2 switch input costs are lower than those in BCM and now approach the switch cost used by the Hatfield model.¹⁴ Moreover, the switching costs reported in the information requests for each of the three study areas, PacTel of California, GTE of Arkansas, and Southwestern Bell of Texas, are very similar.¹⁵

¹⁰ Letter from Mike Pelcovits, MCI, and Joel Lubin, AT&T, to John Morabito, FCC (dated August 19, 1996). Letter from Warren D. Hannah, Sprint, and Glenn Brown, U S West, to William F. Caton, FCC (dated August 22, 1996). See ARMIS Report 43-07, Table II - Transmission Facilities.

¹¹ Letter from Glenn Brown, U S West, to William F. Caton, FCC (dated Sept. 4, 1996).

¹² NCTA cost model comments at 41-54, Attachment A ("Converging on a Cost Proxy Model for Primary Line Basic Residential Service: A Blueprint for Designing a Competitively Neutral Universal Service Fund," Susan M. Baldwin, Lee L Selwyn (Aug. 1996))

¹³ Letter from Glenn Brown, U S West, to William F. Caton, FCC (dated Sept. 4, 1996). Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996).

¹⁴ NCTA cost model comments at 41-54, Attachment A ("Converging on a Cost Proxy Model for Primary Line Basic Residential Service: A Blueprint for Designing a Competitively Neutral Universal Service Fund," Susan M. Baldwin, Lee L Selwyn (Aug. 1996)).

¹⁵ Letter from Mike Pelcovits, MCI and Joel Lubin, AT&T, to John Morabito, FCC (dated Aug. 19, 1996). Letter from Warren D. Hannah, Sprint and Glenn Brown, U S West, to William F. Caton, FCC (dated Aug. 22, 1996).

11. The Hatfield model assigns over 80 percent of the switch cost to supported universal services and BCM2 assigns over 90 percent of the switch to services that are supported. These percentages are greater than the ratio of local usage to total usage. These assignments are higher than the usage ratio because certain switch components, such as the processor, are allocated solely to the provision of supported universal services.¹⁶ We suggest that assignment of switch costs be reviewed to determine whether a more accurate assessment of costs be allocated to universal support mechanisms.

12. Depreciation. Depreciation rates determine the level of expenses associated with the use of investments. Commenters disagree on whether depreciation rates used in the proxy models are too high or too low.¹⁷ Their positions reflect opinions regarding the impact of competition on depreciation rates and the extent to which the cost of supported services should be affected by competitive pressures. We believe that proxy models should use depreciation rates that reflect economic costs and should be flexible enough to permit depreciation rates set by regulators.

13. Annual Charge Factors. Annual charge factors or expense factors determine the level of expenses. In the BCM2 and Hatfield proxy models, plant-specific annual charge factors are determined as the ratio of ARMIS expenses to investment.¹⁸ Several commenters express concern that use of the ARMIS data conflicts with the desire to develop forward-looking costs because the ARMIS data are embedded cost statistics. The proxy models do not rely on the ARMIS expenses, but rather on the ratios of expenses to investment. The ARMIS expense to investment ratio is a ratio of current year expenses to investments purchased over many years. We recommend that the level of expenses be based on an analysis that calculates forward-looking expenses. If the Commission concludes that the ARMIS expense ratios are a reasonable starting position for determining forward-looking expenses, then we recommend that these ratios be modified to reflect changes in the expenses required to support and maintain forward-looking investments. For example, because the models only use digital switches, switch maintenance expenses should not include maintenance expenses associated with analog stored program or electromechanical switches. Expenses used in the models should be accurately reflected.

¹⁶ Letter from Jay C. Keithley, Sprint, and Glenn Brown, U S West, to William F. Caton, FCC, in regard to CC Docket 96-45 (dated July 3, 1996). Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996).

¹⁷ NYNEX cost model comments at 11; PacTel cost model comments at 11; SWBT cost model comments at 12; MCI cost model comments at 4.

¹⁸ Letter from Glenn Brown, U S West, to William F. Caton, FCC (dated Sept. 4, 1996). Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996)

14. Joint and Common Costs. In its *Local Competition Order*, the Commission defined common costs as "costs that are incurred in connection with the production of multiple products or services, and remain unchanged as the relative proportion of those products or services varies (e.g., the salaries of corporate managers)."¹⁹ With regard to the proxy models used for the purpose of establishing universal service support the Commission must determine how to allocate common costs among the services supported by the universal service mechanism and all other services.

15. The Hatfield model estimates the common cost of corporate operations by multiplying all other expenses by 10 percent. This procedure generates corporate operations expenses that are between 25 and 50 percent of the corporate operations expenses reported in ARMIS.²⁰ The BCM2 divides ARMIS total corporate operations expenses for all reporting companies by the total number of lines served by these companies. It assigns 75 percent of this per-line value to the cost of providing the supported services.²¹ These differences explain approximately 11 percent of the difference between the average monthly forward-looking costs estimated by the Hatfield and BCM2 models.²² Further investigation is required before it would be possible to conclude that either of the proposed approaches or some other approach to the estimation is a reasonable level of corporate operations expenses to be included in calculation of the cost of providing the supported services.

16. Retail Costs. Retail costs are the costs associated with billing and collection, product management, sales, and advertising and other customer service expenses. The Hatfield model excludes product management, sales, and advertising expenses. It includes billing and collection costs and other customer services expenses. Because of these assumptions, the Hatfield model includes only 21 to 25 percent of ARMIS customer operations expenses in its cost estimates.²³ The BCM2 model incorporates 75 percent of the ARMIS customer operations expenses in its cost estimates. The differences in the treatment of customer operations accounts

¹⁹ *Local Competition Order* at para. 676.

²⁰ Letter from Mike Pelcovits, MCI and Joel Lubin, AT&T, to John Morabito, FCC (dated Aug. 19, 1996).

²¹ Letter from Glenn Brown, U S West, to William F. Caton, FCC (dated Sept. 4, 1996).

²² Letter from Mike Pelcovits, MCI and Joel Lubin, AT&T, to John Morabito, FCC (dated Aug. 19, 1996). Letter from Warren D. Hannah, Sprint and Glenn Brown, U S West, to William F. Caton, FCC (dated Aug. 22, 1996).

²³ Letter from Mike Pelcovits, MCI and Joel Lubin, AT&T, to John Morabito, FCC (dated Aug. 19, 1996).

for 19 percent of the difference between the average monthly forward-looking costs estimated by the Hatfield and BCM2 models.²⁴

17. NCTA's ETI report asserts that regulators should rigorously evaluate the ARMIS data before accepting them as a basis for forward-looking costs. Its investigation of a Massachusetts cost study reveals that a significant proportion of product management expenses are related to market management and planning for business customers. NCTA argues that close examination of sales and advertising expenses reveals that these expenses are not related to the provision of basic residential service. It concludes that only four percent of marketing expenses should be assigned to the cost of providing the supported services.²⁵ We agree that rigorous evaluation of the ARMIS data, to the extent ARMIS data are used, is necessary. We are not willing, however, to conclude that ARMIS data are the only data that should be used to determine retail costs. Therefore, we are not prepared to recommend what would be the reasonable amount of retail costs.

18. Model results. The model results produce significantly different estimates of the nationwide total amount of support required to maintain the provision of the supported services in high costs areas. For example, at a \$20.00 benchmark, using the model's default settings, the Hatfield model indicates that the universal service support would be \$5.3 billion, which is the sum of \$3.4 billion for large LECs and \$1.9 billion for non-Tier1 LECs. The BCM2, at a \$20.00 benchmark, indicates that support would be \$14.6 billion.²⁶ The remaining difference, \$9.5 billion, is a function of the model input costs and engineering design principles.

19. Another means of evaluating the models is to compare their results to the results generated by embedded-cost studies. Because forward-looking and embedded costs rely on different input costs and technologies, the results from these studies are likely to differ. We are concerned, however, about large changes in the relative position of the states when comparing our embedded cost results to the results generated by the proxy models. The state characteristics, such as population density and terrain factors, that cause telephone companies in a state to exhibit high forward-looking costs in the models, do not cause those telephone companies to exhibit relatively high embedded costs. Alternatively, the change in position could be caused by specific

²⁴ Letter from Mike Pelcovits, MCI and Joel Lubin, AT&T, to John Morabito, FCC (dated Aug. 19, 1996). Letter from Warren D. Hannah, Sprint and Glenn Brown, U S West, to William F. Caton, FCC (dated Aug. 22, 1996).

²⁵ NCTA cost model comments at 29-34, Attachment A ("Converging on a Cost Proxy Model for Primary Line Basic Residential Service: A Blueprint for Designing a Competitively Neutral Universal Service Fund," Susan M. Baldwin, Lee L Selwyn (Aug. 1996)).

²⁶ Letter from Jay C. Keithley, Sprint, and Glenn Brown, U S West, to William F. Caton, FCC, in regard to CC Docket No. 96-45 (dated July 3, 1996). Letter from Chris Frentrup, MCI, and Bruce Cox, AT&T, to William F. Caton, FCC (dated Oct. 31, 1996).

management or accounting practices that affect embedded costs but that would not be reflected in forward-looking costs. A state's relative position can be measured by its rank, where the state with the lowest cost has a rank of one and the state with the highest cost would have a rank of 51. A change in the rank order is the difference between the rank order estimated by a model and the rank order according to the current high cost assistance mechanism, which ranks states by embedded loop costs. For example, the change in rank order for California is three because it is the third lowest cost state according to the BCM2 and it is the sixth lowest cost state according to the High Cost Fund.²⁷ There are fifteen states for which the change in rank order is greater than ten.²⁸ We believe it is necessary to determine why these large changes occur, and to ensure that the change in rank order does not threaten the provision of the supported services in these states.

20. Measure of support. The two models on the record calculate support required for the provision of the supported services as the product of the number of lines in a geographic area and the difference between a cost estimate and a uniform benchmark amount. BCM2 uses the CBG as the geographic area to measure the line count and cost estimate. BCM2 sums the support across all CBGs in a state to determine the state-wide support level. Calculation of support at either the wire center, study area, or density zone level is not a standard output of the model. Further manipulation of the BCM2 input sheets is required to obtain these results.²⁹ The Hatfield model estimates the cost per CBG. The model average CBG cost estimates across six density zones. It uses the difference between the density zone average and the benchmark to determine the per-line support per density zone. It multiplies the per-line support by the number of lines per density zone to estimate the density zone support and then sums across all density zones to determine the support for the study area. Calculation of support at either the CBG or wire center level is not a standard output of the model. Further manipulation of the Hatfield model input sheets is required to obtain these results.³⁰

29. Any proxy model used to calculate universal support levels should be able to provide estimates of support at various geographic levels with a state, such as on a study area, wire center, density zone, or CBG basis. These estimates would enable the Commission and state commissions to compare alternative decisions regarding support areas, and it is necessary so that

²⁷ Letter from Jay C. Keithley, Sprint, and Glenn Brown, U S West, to William F. Caton, FCC, in regard to CC Docket No. 96-45 (dated July 3, 1996). Monitoring Report, CC Docket No.87-339, Prepared by Federal and State Staff for the Federal-State Joint Board in CC Docket No. 80-286, May 1996, Table 3.3.

²⁸ For those fifteen states, the change in cost per line per month ranged from \$3.06 to \$24.41, with an average change of \$10.47.

²⁹ Letter from Jay C. Keithley, Sprint, and Glenn Brown, U S West, to William F. Caton, FCC, in regard to CC Docket No. 96-45 (dated July 3, 1996).

³⁰ Letter from Richard N. Clarke, AT&T, to William F. Caton, FCC (dated Sept. 10, 1996).

we will be able to establish a specific, predictable and sufficient mechanism to preserve and advance universal service.

**APPENDIX G
SERVICE LIST**

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Statement by
Federal Communications Commission
Chairman Reed Hundt
November 7, 1996

Today America takes a major step forward in our quest to bring the benefits of the Information Age to every person in the country.

Carrying out the mandate given to us by Congress in the Telecommunications Act of 1996, a joint board of federal and state commissioners today voted unanimously to urge the full FCC to adopt a rule that makes affordable, high-quality telecommunications services available to all children and teachers in every classroom and library.

The recommendation asks the FCC to create a federal-state, country-county, public-private partnership. Schools and libraries will pay something for communications technology, but the telecommunications companies will together meet them more than halfway in funding these partnerships.

By providing discounts on all telecommunications services, on internal wiring, as well as on Internet access, the bipartisan Joint Board on Universal Service has shown its dedication to ensuring schools get the full spectrum of tools they need.

Schools will be able to connect every single classroom to the Information Highway. The ramp will be a high-speed, high-bandwidth, cutting-edge connection. The discounts, tailored to each school's individual level of need, will make building and maintaining the ramp truly affordable for every school.

In the 21st Century, technology literacy will be a necessity, not a frill. To give every child in America a true opportunity at succeeding and fulfilling his or her potential, affordable access to information technology and communications services is the new ground zero. Today, we begin working to make that opportunity a reality so that the economic divide between rich and poor is not exacerbated by a digital divide between technology haves and have-nots.

Discounts will also be provided for the first time to rural health-care providers, so that they can use modern telecommunication services to provide their patients with better, faster, more efficient care. The new guidelines also reaffirm and strengthen the commitment to provide telecommunication services to low-income consumers and rural or hard-to-reach consumers. In designing the mechanisms to guarantee this service, we have maintained our firm commitment to designing policies that enhance competition.

My thanks and compliments go to the President and the Vice President for their leadership as well as to Senators Snowe, Rockefeller, Exon and Kerrey who were instrumental in making schools, libraries and rural health care providers a priority in our new telecommunications law. My thanks go to all the other bipartisan senators, congressmen and other leaders who supported this initiative.

We have a lot of work ahead of us as we finalize the guidelines in the next few months. But the support and dedication of the joint board members in reaching this unanimous decision today sets us on the path to have schools and libraries that are not only institutions of learning, but true beacons that will bring the promise and potential of the 21st Century to every man, woman and child in the country.

November 7, 1996

**SEPARATE STATEMENT
OF
COMMISSIONER SUSAN NESS**

Re: Federal-State Joint Board on Universal Service Recommended Decision (CC Docket No. 96-45)

Today's decision is another milestone in the implementation of the Telecommunications Act of 1996. The task at hand is as challenging as any that Congress assigned under this landmark legislation. Our job is to construct a new universal service regime that makes subsidies more explicit, more targeted, more efficient, and more compatible with competition, even as the vision of universal service is boldly extended.

The new legislation seeks to make quality services available at affordable rates to all Americans. Congress chose competition as the surest route to that end. Yet the law also mandates special measures to protect low-income consumers and those living in rural, insular, and high-cost areas. Congress also enlarged the universal service program to encompass schools, libraries, and rural health care providers.

Congress told us to "thoroughly review the existing system of Federal universal service support." We have done what Congress directed and determined that our current system of support for universal service is not sustainable. It relies on billions of dollars (no one can say how many) of implicit subsidies. Access charges, vertical services, and business lines, for example, are all priced well in excess of cost, and some of the excess helps to keep local phone rates low. Competitors, naturally, will target the high-margin services, and these sources of subsidies will inevitably diminish over time.

Our current system is not competitively neutral. The obligation to support universal service is not fairly distributed, and neither is the opportunity to receive universal service support. To effectuate the will of Congress, new mechanisms are necessary to expand the base of carriers who fund universal service and to expand eligibility to receive universal service support.

These challenges call for a comprehensive restructuring of universal service support mechanisms. Today's Recommended Decision is a promising start in that endeavor.

Principles

Throughout our deliberations, we have adhered to the principles Congress enumerated in the legislation. We have also taken the opportunity created by the law to add "competitive neutrality" as a guiding principle of universal service policymaking. This decision is consistent with the intentions underlying Section 254 and the legislation as a whole.

Definition of universal service

As we defined the services to be supported, we were mindful that the funds for universal service ultimately come from consumers; and so we have resisted entreaties for an expansive definition. The menu of services initially to be supported for high-cost areas and low-income consumers is limited to those services that most consumers already receive. We look to competitive supply and consumer demand to establish higher levels of service, which the Joint Board can take into account as it reviews the definition of supported services in future years.

Prudence also requires that (except as directed in the case of schools, libraries, and rural health care providers) we limit universal service support to single-line residences and single-line businesses. There is no reason why ratepayers as a whole should bear the burden of supporting multiple lines to a single residence, single lines to second homes, or multi-line businesses.

Low-income consumers

Charges for telephone service appear to be generally affordable throughout the nation. Subscribership is at 94 percent overall. The problem of access appears to be concentrated at the lower end of the income scale, and this necessitates certain focused changes in our low-income programs. Extending these programs to states that do not have them, encouraging the deployment of toll limitation services, and prohibiting disconnection for nonpayment of toll charges of Lifeline customers should, in the aggregate, promote the goal of increased telephone subscribership by low-income consumers.

High-cost support

We have made good progress in addressing the challenge of high-cost areas, but much remains to be done. We have achieved consensus on the important principle that support should be based on forward-looking economic costs. We have established principles and procedures for further development and evaluation of cost proxy models. We have agreed to bifurcate the treatment of rural and non-rural local exchange carriers, recognizing that rural carriers are more vulnerable to errors that may be caused by the proxy models and that Congress envisioned a slower transition to competition in rural areas.

Regrettably, the Joint Board has failed to address the question whether the funding for federal programs for high-cost support -- as well as low-income support -- will be based on both the *intrastate* and *interstate* revenues of carriers that provide interstate telecommunications services, or only on their *interstate* revenues. This necessarily

draws into question the ability of the federal fund to support the difference between cost (proxy or embedded) and a reasonable benchmark; an interstate-only approach inevitably leads to a much higher benchmark.

In my view, the federal program must be based on both intra- and interstate revenues and provide the full measure of support needed to meet the benchmark. The alternative is to risk that consumers, small businesses, and carriers in high-cost states will be left without the support Congress intended. This cannot be squared with Congress's decision to write a clear commitment of universal service into federal law.

In addition, I can see no reason why interstate revenues alone should be the source of all new explicit subsidies, given that a portion of today's implicit subsidies comes from local business service, vertical services, and intrastate access. And the principle of competitive neutrality should steer us away from an approach that would disproportionately burden any category of carrier (as, for example, would occur with wireless companies under an interstate-only approach).

Schools and libraries

The boldest, most visionary section of the legislation requires us to promote the connection of schools and libraries to the Information Superhighway. As Congress saw clearly, the Industrial Age is giving way to the Information Age. To prepare our nation for life in the 21st Century, communications and information tools must be readily available to all American students and communities.

There is a substantial danger that disparities in access to these tools will widen the economic and cultural divide between the rich and the poor. I am delighted that the Joint Board has recommended that we address this issue through aggressive discounts that enable poorer schools and those in rural areas to obtain the services they need.

Learning occurs in the classroom, not the principal's office. I share President Clinton's hope for a "day when computers are as much a part of the classroom as blackboards and we put the future at the fingertips of every American child."

So, too, does the Congress.

That's why the legislation explicitly promotes the connection not just of "schools," but of "classrooms." And we are on firm legal and policy ground in recommending universal service support for internal connections, whether or not they are "telecommunications services." A contrary construction, which would permit support of wireless connections but not wired ones, would be completely at odds with the principle of competitive neutrality. Technology choices should be made by schools and libraries, not by regulators.

Our proposal for schools and libraries reflects a careful compromise among all eight members of the Joint Board. All of us brought different perspectives to the discussion, but we ultimately forged consensus on the proposal we announce today.

The proposal is fair to all. It is simple to administer. It provides schools with flexibility to choose the services they need. It is competitively neutral. It is fiscally responsible and creates the right economic incentives to both encourage participation and discourage inefficient consumption.

I hope that schools and libraries seize this exciting opportunity. Over the next four years, if communities are willing and able to shoulder their share of the financial responsibility, all of the classrooms in the country can be connected, to each other and to the world beyond. A relatively small investment in connecting our schools and libraries to cyberspace will be repaid many times over in the 21st century.

November 7, 1996

Separate Statement of
FCC Commissioner Rachelle B. Chong
Concurring in Part, Dissenting in Part

Re: Federal-State Joint Board on Universal Service, CC Docket No. 96-45

A laudable section of the Telecommunications Act of 1996 (1996 Act) is the codification of the Commission's policy to promote universal telephone service for all Americans. Over the decades, the telephone industry and federal and state regulators have worked closely together to construct and maintain one of the premier telecommunications networks in the world. Our nation's telephone system delivers reliable, high quality telephone services at affordable rates to nearly all Americans. Our past system of universal service policies, however, relied on a patchwork quilt of implicit and explicit subsidies both at the federal and at the state levels that were the product of a monopoly environment. While the prior universal service system provided a high level of subscribership, it was achieved at the expense of these implicit and explicit subsidies that distorted the marketplace and sent incorrect economic signals.

As the telecommunications industry undergoes vast changes due to technology advances, convergence, and the rapid introduction of competition at every level of the marketplace, we face new challenges in ensuring that telephone service continues to reach as many Americans as possible. This Joint Board and the Commission have been charged with the important task of preserving and advancing universal service³¹ in the new pro-competitive de-regulatory telecommunications market mandated by the 1996 Act. One of the key tasks of this Joint Board is to identify all implicit universal service subsidies and to either remove them or make them explicit. We must also take steps to ensure competitive neutrality in our new universal service policies.

This Joint Board has a diverse membership. It is composed of federal and state regulators and a consumer advocate. Regulators all over the country are in the first

³¹ 47 U.S.C. § 254(b).

phase of implementing the many major structural changes in the market mandated by the 1996 Act. In these transitional times, it has been a formidable challenge to fashion a system of universal service support mechanisms that will achieve the principles Congress set forth for us.³²

Despite this challenge, we have managed to forge a consensus on nearly all of the issues. I congratulate all of my colleagues and the multitude of federal and state staffers who have worked on this significant achievement. I also thank the many interested parties, particularly the industries, the Administration, and especially the education and health care communities, who filed many helpful comments with us. I thank them for their efforts in thinking very creatively about universal service in a new competitive era.

I. Proxy Models for High Cost Support

I recognize that we have not been able to reach closure on a few issues, the most significant one being the proxy models for the high cost support program. On this issue, I agree with my colleagues that additional work needs to be done to improve the proxy models for non-rural carriers that are on the record. I note that the Commission must have a recommendation from the Joint Board on any remaining issues in a timely enough manner to meet our May 8, 1997 statutory deadline for implementation of our final universal service rules.

While a few proxy models show promise, none of them yet makes my heart sing. I am pleased that the federal and state members of the Joint Board have agreed to continue to work in a cooperative, consensus-oriented manner to achieve our common goal of a workable proxy model. I urge the industry to work closely with us in the coming months to help develop a properly-crafted proxy model that can be used to calculate the forward-looking economic costs for specific geographic areas, and be used as the cost input in determining the level of support a carrier may need to serve a high cost area.

³² Section 254(b) sets forth the principles that have guided me in my work: quality services at just, reasonable and affordable rates; access to advanced telecommunications and information services in all regions of the nation; access to telecommunications and information services in rural, insular, and high cost areas and for low income persons; equitable and nondiscriminatory contributions by telecommunications service providers; specific, predictable and sufficient support mechanisms to preserve and enhance universal service; and access to advanced telecommunications services for certain schools, health care providers and libraries.

In recognition of their special needs and in order to minimize any disruption or adverse impact of the change on rural carriers, I have agreed to a slower phase-in of proxy models for rural telephone companies. I join my colleagues in the belief that a proxy model indeed can be developed that is appropriate for all carriers, non-rural or rural. I recognize, however, that unusual circumstances can exist in some areas -- for example, insular areas or in rural Alaska -- and as a result, I remain flexible as to those carriers facing truly unique situations.

II. Support for Low Income Consumers

This Joint Board has recognized that lower levels of subscribership for low income customers exist and has taken steps to improve this situation. I believe that we have appropriately modified our existing Lifeline Assistance ("Lifeline") and Lifeline Connection Assistance ("Link Up") programs to make them consistent with the general principles contained in Section 254(b). I am pleased that the modified programs do provide low income universal service support "in all regions of the Nation" and through explicit, competitively-neutral support mechanisms.³³

We also have borne in mind Section 254(i)'s requirement that rates for universal service be "just, reasonable, and affordable." In evaluating our Lifeline and Link Up programs, we have been mindful to make only the changes necessary to make these successful programs competitively neutral and consistent with Congress' universal service principles. I am especially pleased that we will be extending these programs to every state and territory in the Nation, and believe that they will help link up some of the few remaining Americans who are not connected to the telecommunications network.

III. Insular Areas and Alaska

The 1996 Act directed us to ensure that consumers in insular areas and Alaska have access to telecommunications and information services, including interexchange services, and advanced telecommunications and information services that are reasonably comparable to those services provided in urban areas, and at reasonably comparable rates to urban areas. I did my homework on some of these issues on a site visit to Alaska, where I learned of the many challenges faced by providers in insular and

³³ 47 U.S.C. § 254(b)(2).

remote areas. Severe weather conditions (permafrost, hurricanes, and tropical storms), the high costs of shipping equipment, the shortened construction periods, as well as the high cost of some telecommunications services due to distance sensitive charges are just some of the many difficulties that these carriers face every day. Moreover, consumers who live in these areas also may not have available all telecommunications services available in the continental United States. Those who do have access to those services often pay significantly higher rates than those paid in urban areas for the same services. Finally, the sheer distance of insular areas to the closest urban area can pose serious problems for the health care providers. I learned that the availability of tele-medicine applications may be of huge benefit to such rural health care providers, and may well save lives.

In light of these challenges, I am pleased that we have made a variety of recommendations to promote a higher level of connection to the telecommunications network in these areas. For example, our new schools/libraries and health care programs will be of special benefit for those living in these areas as they take advantage of distance learning and tele-medicine applications. We ensure that Lifeline and Link Up programs will be extended to these areas if not already present. We have also recognized that affordable access may be an issue in insular areas and some parts of Alaska where costs are high and incomes are low. In determining "affordability," we have decided to not only look at subscribership levels, but to also consider income levels, population densities and the scope of the local calling area, all of which may impact affordability.

Finally, we recommend that rural carriers serving high cost insular areas, as well as rural carriers serving high cost areas in Alaska, shall continue to receive universal service support based on their embedded costs until we can develop a proxy model that best acknowledges their unique circumstances. In sum, I believe that these and other policies we adopt should greatly improve the quality and affordability of services available to consumers in these areas.

IV. Schools and Libraries

While I am supporting the schools and libraries portion of this recommendation, I write separately to express some reservations about the Joint Board's recommendation that the Commission support funding of intra-school and intra-library internal

connections (traditionally referred to as "inside wire" in the wireline telephone context). Funding intra-school and intra-library internal connections is a worthy goal, however, we must recognize that the price tag for this unmandated portion of the program is in the billions of dollars.³⁴ This will have impacts on all telecommunications users' bills.

I support significant discounts for eligible schools and libraries for telecommunications services and Internet access. Nonetheless, I am concerned about the inclusion of intra-school and intra-library internal connections. Including such costs may have unintended market consequences and may not be fiscally prudent given other universal service obligations that are mandated by the 1996 Act. Moreover, in my view the statute does not mandate funding for internal connections.

*A. The Application of Discounts to Internal Connections
May Have Unintended Market Consequences*

I am concerned that the inclusion of internal connections in the universal service funding mechanism may be unwise as a matter of public policy because it may have unintended market consequences. We have to recognize the historical regulatory differences between internal connections and services. Although most telecommunications services continue to be regulated at the state and local level, internal connections have been unregulated for a number of years and the market for such connections is highly competitive. The provision of deep discounts for these unregulated facilities may unintentionally skew the efficient working of the market by inducing a library or school to choose a less efficient internal connection alternative.

B. The Inclusion of Internal Connections Raises Fiscal Concerns

I am also concerned that inclusion of internal connections will cause the fund to balloon to a level much higher than may be fiscally prudent, at the expense of all consumers of telecommunications services. The cost of internal connections is quite significant. Citing estimates by McKinsey and Company, Nynex reports that the undiscounted cost of connecting schools will be \$5.025 billion dollars in initial costs and \$410 million per year for annual recurring costs, based on deployment of the partial

³⁴ See *infra*, page 5.

classroom model over five years. These figures do not include private schools.³⁵ EDLINC relies on the KickStart Initiative and cites initial undiscounted costs for schools of up to \$6.11 billion and undiscounted annual operation and maintenance costs of \$560 million, based on deployment of the McKinsey "full classroom" model over ten years.³⁶

This multi-billion dollar price tag will be paid by telecommunications carriers who will likely recoup this cost by raising their rates. I believe that we need to carefully consider the impact on all consumers before we expand the scope of the funding obligation. In fulfilling our universal service obligations, we must be mindful of our concurrent obligation to ensure that telecommunications services are "available at just, reasonable, and affordable rates."³⁷ For this reason, I have concerns about expanding the scope of our interpretation of universal service to include "extras" like internal connections for schools and libraries, until we are sure that we can fund the "bread and butter" telecommunications services that are mandated by the plain language of the statute. Following Congress' explicit direction, I believe that we need to make as our first priority the provision of support for those living in high cost, rural, and insular areas and for low income consumers.³⁸ Given this directive and the substantial fiscal commitment of the program we recommend today, I believe that fiscal prudence dictates that we proceed cautiously as to internal connections to ensure that our primary tasks are fulfilled.

C. *Section 254 Does Not Mandate that Discounts Be Provided for Internal Connections*

With this in mind, I point out that Section 254 does not *mandate* that discounts be provided for internal connections. In interpreting Section 254, one should note that there is a difference between (1) the telecommunications and information services

³⁵ NYNEX Further Comments at 7 (*citing* McKinsey, at 57). The McKinsey "partial classroom" model assumes one computer for every five students in half of the classroom and a T-1 connection. McKinsey, at 23.

³⁶ EDLINC Further Comments at 13. *See also* U.S. National Committee on Libraries and Information Services (USNCLIS) Further Comments at 3 (estimates of intra-library inside wire costs for 8,929 public libraries can be extrapolated from USNCLIS comments to be in the range of \$22.5 million to \$525.7 million).

³⁷ 47 U.S.C. § 254(b)(2)

³⁸ 47 U.S.C. § 254(b)(3).

repeatedly referenced in the statute, and (2) telecommunications facilities, such as intra-school internal connections ("inside wire")³⁹ and "customer premises equipment" (such as computer modems, computers, PBXs, or telephone sets). Inside wire, for example, is "the telephone wires within a customer's home or place of business that are on the customer's side of the point of intersection between the telephone company's communications facilities and the customer's facilities."⁴⁰ From this language, it is apparent that inside wire is not a "service" within the meaning of the 1996 Act, but, consistent with our prior decisions and policy, a facility.

It is clear that the portion of the statute which mandates discounts is limited to services. Section 254(h)(1)(B) -- which deals specifically with schools and libraries -- provides:

All telecommunications carriers serving a geographic area, shall, upon a bona fide request for any of its *services* that are within the definition of universal service under subsection (c)(3), provide such *services* to elementary schools, secondary schools, and libraries for educational purposes. . . . The discount shall be an amount that the Commission, with respect to interstate *services*, and the States, with respect to intrastate services, determine is appropriate and necessary to ensure affordable access to and use of such services by such entities.⁴¹

The statute refers repeatedly to services and fails to mention internal connections or inside wire. Congress' references to services continues throughout Section 254. Section 254(b)(6), for example, states: "Elementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications *services* as described in subsection (h)."⁴² Similarly, Section 254(b)(1) refers to "[q]uality *services*;" Sections 254(b)(2) and (b)(3) refer to access to

³⁹ Due to our efforts to be competitively and technologically neutral, we refer to inside wire as "internal connections" to recognize the many wireless providers who are entering the telephone market.

⁴⁰ See Nat'l Ass'n of Regulatory Util. Comm'rs v. F.C.C., 880 F.2d 422, 425 (D.C. Cir., 1989).

⁴¹ 47 U.S.C. § 254(h)(1)(B) (emphasis added).

⁴² 47 U.S.C. § 254(b)(6) (emphasis added).

"advanced telecommunications and information *services*;" and Section 254(b)(4) refers to "[a]ll providers of telecommunications *services*."

Section 254(c), entitled "[d]efinition," explicitly limits universal service support to telecommunications services. This subsection provides:

Universal service is an evolving level of telecommunications *services* that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and *services*. The Joint Board in recommending, and the Commission in establishing, the definition of the *services* that are supported by Federal universal service support mechanisms shall consider the extent to which such telecommunications *services* -- (A) are essential to education, public health or public safety . . . ⁴³

Notably, Congress mentioned neither internal connections nor customer premises equipment in this subsection.

In sum, due to the sheer weight of the number of references to only services in the statutory language, I do not agree with those who believe that internal connections must be included as "services" eligible for discounts pursuant to Section 254(h)(1)(B).

I acknowledge, however, that Section 254(h)(2)(A) can be read to provide the Commission with discretion to fund internal connections. One way for classrooms to have access to advanced telecommunications and information services is for computers in each classroom to be connected to a telecommunications network. However, defining Section 254(h)(2) in such a broad way may be a slippery slope. To truly have "access" to advanced telecommunications and information services in their classrooms, the students will need more than internal connections; they will also need computers, computer modems, software and telephones. Just because the hardware, software and telephone equipment are necessary for "access" to the classrooms of services, it does not mean that they are properly the subject of universal service funding.

⁴³ 47 U.S.C. § 254(c)(1)(A) (emphasis added). *See also* Section 254(c)(3) (granting the Commission the authority to designate additional telecommunications *services* for schools, libraries and health care providers); Section 254(c)(3) provides in relevant part: "(3) Special *services*.-- In addition to the *services* included in the definition of universal service under paragraph (1), the Commission may designate additional *services* for such support mechanisms for schools, libraries, and health care providers for the purposes of subsection (h)."

The recommendation we make today relies on this broad interpretation of Section 254(h)(2) to support a funding mechanism for internal connections. Unlike Section 254(h)(1)(B) which orders the Commission to provide discounts for telecommunications services, Section 254(h)(2) gives the Commission full discretion to decide whether to fund internal connections. The Joint Board in our recommended decision has decided to exercise this discretion to fund internal connections, and I have reluctantly gone along only because a firm cap has been placed on the fund expenditures. As noted above, I believe that we should be cautious about expanding the scope of the covered "services" until we are sure we have met our mandatory statutory obligations for all groups designated in the Act and have sufficient funds to do so.

V. Health Care

I also support the Joint Board's recommendation that the Commission seek additional information on the telecommunications needs of eligible rural health providers and on the costs of these services, prior to adopting final rules. While we received a very helpful report from the Advisory Committee on Telecommunications and Health Care, I remain concerned that our record on this important issue is sparse.

I am intrigued by the Advisory Committee's recommendation that we recommend a specific level of telecommunications bandwidth capacity to support eligible rural health care providers (allowing health care providers to choose among any telecommunications service supporting a capacity of up to and including 1.544 Mbps or its equivalent). I urge parties to provide the Commission with further comment on the Advisory Committee's recommendations. The Advisory Committee has told us that the clear benefit of such an approach would be that data and medical images could be transmitted at speeds high enough to make transmission time reasonable and at transmission capacities broad enough to transmit accurately high resolution radiological images and make use of examination devices such as electronic stethoscopes. If such a bandwidth capacity approach is adopted, what impacts might it have on rural carriers who may be forced to upgrade their networks in order to deliver that level of telecommunications bandwidth capacity to a single or a few health care providers?

I am pleased however that we are able to make a number of recommendations on other health care issues, including the rural/urban comparable rate issue, clarifying the offset, and the bona fide request process.

VI. Adjustment in the Subscriber Line Charge Cap

Although I support not increasing the existing cap on the subscriber line charge ("SLC"), I respectfully dissent from the Joint Board's recommendation today insofar as it recommends that the Commission should lower the SLC for primary residential and single-line business lines. I oppose this recommendation on both procedural and policy grounds.

It is my view that, as a procedural matter, the apportionment and/or adjustment of non-traffic sensitive interstate loop costs between the subscriber line charge ("SLC") and the carrier common line charge ("CCLC") should be addressed by the Commission in the context of a comprehensive review of our interstate access charge rules. The access charge proceeding is the proper forum to both analyze and recommend any modifications to the current recovery mechanisms for interstate loop costs. I fear that today's recommendation to lower the existing SLC cap may, in effect, send the wrong signal that we are prejudging this issue before commencing our access charge reform proceeding. I believe the Commission set forth the right signal in our recent Local Competition Order, when we expressly recognized the close interrelationship between access charge and universal service reform and espoused our commitment to "complete access reform before or concurrently with a final order on universal service."⁴⁴

In addition, I believe that the Joint Board's recommendation to reduce the SLC is bad economic policy that contradicts the Commission's long standing goal to promote economic efficiency and cost causation. The SLC is a non-traffic sensitive charge that recovers non-traffic sensitive costs in the most economically efficient manner from end users.⁴⁵ Any policy that, in essence, shifts or perpetuates the recovery of these costs from interstate providers can, at best, be described as an inefficient "shell game" on

⁴⁴ *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, First Report and Order, FCC 96-235, 61 FR 45476 (Aug. 29, 1996) at para. 8. (*Local Competition Order*).

⁴⁵ See generally Alfred E. Kahn & William B. Shew, Current Issues in Telecommunications Pricing: Pricing, Yale J. on Reg. 191 (1987); see also *Local Competition Order* at para. 744.

consumers. It is a shell game because in the competitive interstate telecommunications market, service providers will have to pass these costs along to consumers in the form of either flat rated charges or higher rates on long distance bills. Any potential savings that consumers would receive from a SLC reduction on their local phone bills may well be offset by an increase to their long distance bills. Accordingly, I respectfully dissent from this portion of the item.

VII. Administration Issues

I support the Joint Board's recommendation that we base contributions on both interstate and intrastate telecommunications revenue of carriers providing interstate services for the schools, libraries, and health care universal support program. In reading Section 254 in its entirety, Congress clearly intended that a national universal service system be set up by the Commission, after a recommendation by a Joint Board containing state and consumer representatives. Section 254(d) provides that "every telecommunications carrier that provides interstate telecommunications services" must contribute, but does not in any way limit the Commission from setting up a reasonable methodology to calculate an interstate carrier's contributions to the program. If Congress had intended that the system be funded entirely by contributions based solely on *interstate* revenue of interstate carriers, I believe that it would have been more specific.

My reading of Section 254(f) does not dissuade me from this conclusion. Section 254(f) makes it clear that a State is free to adopt its own universal service regulations so long as they are not inconsistent with the Commission's universal service rules. Congress provided that should such a state system be set up, every telecommunications carrier providing intrastate services shall contribute. Congress did not mandate that only intrastate revenues be used in a contribution methodology, but clearly gave the States the discretion to develop a methodology "in a manner determined by the State."⁴⁶

There is no question that due to the additional competition that will be injected in every telecommunications market as a result of the 1996 Act, there will be a blurring of lines between interstate and intrastate revenues. Local exchange carriers have

⁴⁶ 47 U.S.C. § 254(f).

announced plans to enter the long distance market; interexchange carriers and cable companies have announced plans to enter the local telephone market. I believe that it will become increasingly difficult to distinguish between interstate revenues and intrastate revenues in the future, because this distinction is a backwards looking one based on a monopoly era. Thus, for pragmatic reasons and for equity reasons, I believe our methodology on how to calculate contributions is reasonable and fair.

On another administration issue, I strongly endorse the Joint Board's recommendation that the Commission appoint a universal service advisory board to designate a neutral, third-party administrator. The Joint Board has set forth some explicit criteria as to the USF fund administrator that will be chosen by the advisory board.⁴⁷ I urge the advisory board to treat this criteria as mandatory. It is my view that a lack of affiliation with any particular set of telecommunications providers and no direct interest in support mechanisms is essential for the fund administrator to function as a neutral arbitrator among all of the various service providers that must contribute to support mechanisms. I believe even the appearance of bias by an administrator could undermine the integrity of the program.

VIII. Total Size of the Universal Service Fund

Finally, I strike a note of caution. I have serious concerns about the total size of the universal service program that the Commission will put in place next May. At this time, with both the high cost and health care portions of our universal scheme uncompleted, we are not able to get a handle on the total size of the universal service fund pursuant to the broad framework that we set up today. Preliminary data shows that this may result in a multi-billion dollar program, part of which replaces our more modest existing universal service system and part of which replaces the current implicit/explicit subsidy system of the past.

The final price tag for the federal universal service program could well be in the range of billions of dollars. Two competing interests must be balanced here: the advancement of universal service goals versus the impact that a huge fund may have

⁴⁷ Chosen administrator, including its Board of Directors, must be neutral and impartial, not advocate specific positions to the Commission in non-administration-related proceedings, not be aligned or associated with any particular industry segment, and not have a direct financial interest in the support mechanisms established by the Commission.

on the bills of telecommunications users, particularly low income individuals. *Let us make no mistake about who will foot the bill for this universal service program. It is not the telecommunications carriers, but the users of telecommunications services to whom these costs will be passed through in a competitive marketplace.* Thus, I reserve all judgment about whether the framework we have set forth today is a wise one, until I obtain and study final estimates of the total size of the fund. I remain cognizant that any program we put in place must contain "specific, predictable and sufficient" mechanisms.⁴⁸

⁴⁸ 47 U.S.C. § 254(d). Any eligible telecommunications carrier may provide universal services, and receive support from the new fund for such services. 47 U.S.C. § 214(e).

Separate Statement of Commissioner Julia Johnson and Chairman Sharon L. Nelson

on

Recommended Decision of the Federal-State Joint Board on Universal Service

*Re: Federal-State Joint Board on Universal Service, CC Docket No. 96-45**November 7, 1996*

While we fully support the Recommended Decision of the Federal-State Joint Board on universal service, the work of the Joint Board has just begun. The months between now and the date of the Federal Communications Commission's (FCC) adoption of rules constitute the next intensive phase, and the joint staffs as well as the Joint Board members will need to work together to ensure that the policies endorsed by the Recommended Decision will accomplish its stated goals. However, the subsequent adoption and implementation of the FCC's order will commence what will need to be an equally vigorous oversight of the universal service programs to ensure that goals of universal service and the removal of barriers to competitive entry are fulfilled.

The ongoing need for oversight highlights the need for flexibility and collaboration between the federal and state officials. The Telecommunications Act of 1996 (the Act) charged state and federal regulators with the responsibility to facilitate and oversee the development of competition in all communications markets as well as the preservation and advancement of universal service. Section 254 of the Act specifically addresses universal service and the need for the states and the FCC to work in concert to develop universal service policy recommendations on revisions to the high cost assistance program as well as the establishment of new mechanisms such as the discount program for K-12 schools and libraries. As implementation of these programs proceeds, we, both state and federal regulators, must be nimble and flexible to be able to make the changes to accommodate a rapidly changing marketplace and technological innovation.

As a new program, the mechanism to provide libraries and K-12 schools assistance with technology deployment through discounts on telecommunications purchases will certainly necessitate careful oversight and periodic adjustments. We believe that Congress and the Administration shared a vision that technology literacy will be critical for the emerging workforce and that steps need to be taken to avoid the

creation of a society of “information haves and have-nots.” Consistent with the requirements of Section 254(h), the Recommended Decision endorses a program to enable eligible schools and libraries receive discounts on purchases of telecommunications services and access to the Internet. To reach the twin goals of widespread technology deployment and closing the gap between information haves and have-nots, the discounts are scaled to account for both the relative wealth of an eligible entity as well as the objective cost of serving the area in which it is located.

The discounts available to the eligible schools and libraries range from 20%, for the top 3% of the schools according to a measure of wealth, to 90% for the 16% of schools which are the most economically disadvantaged. The Recommended Decision requests comments, particularly from the education community and state budget authorities, on how to best assess the relative wealth of a school. We strongly agree with the requirements that schools and libraries undertake a competitive bidding process to establish the pre-discount price of a service for two reasons. First, we want the emerging competitive markets to put downward pressure on the cost of the program. Secondly, the requirement to develop and disseminate a competitive bid

proposal will help to remind the carriers, both incumbents and new entrants, that the schools and libraries are valuable consumers.

A critical element to the success of the mechanism is the need for the schools and libraries to have maximum flexibility in tailoring technology deployment plans to the needs of their constituents. By allowing the discounts to be applied to all telecommunications services as well as Internet Access, we hope to allow schools to design the most appropriate system for their needs.

Recognizing that the discount program for schools and libraries constitutes a new element of universal service, we have recommended a fiscally prudent course of capping the initial expenditures on an aggregate basis and for a carryover of unspent allocations to the following year. Accounting for the variations in implementation schedules as well as the desire to promote the most efficient planning in technology deployment, we refrained from instituting a per entity allotment. However, a safety valve is recommended to ensure that if the expenditures within a year are exceeding expectations, priority is given to the most economically disadvantaged schools. We

recognize that the effectiveness of the program in targeting assistance will need to be closely monitored.

We concur with the Recommended Decision to fund the schools and library discount program through an assessment on interstate and intrastate revenues. The goal of this program is to explicitly fund the education of the next generation. We believe that Congress and the Administration agreed that this is a social policy that is in the interest of the Nation, both economically and socially. States have uniformly supported this broad social policy of providing access to technology for the benefit of residents and schoolchildren. For example, the Seattle Public Library has established a technology site at a satellite location in one of the most economically disadvantaged regions in the city. We have received reports that there are kids lining up to use the computers connected to the Internet on a daily basis, and kids have now taken on responsibilities to teach their counterparts through a Microsoft certification process. In another library, the benefits have actually extended beyond an increase in technology literacy. Waiting in line for access to the computers has pushed the kids to browse through the bookshelves, and the circulation among youngsters has increased noticeably. Similarly, the Florida legislature has made a commitment to education and

technology through a number of programs, including public school retrofit programs and the Florida Distance Learning Network. These programs, which include partnerships between Florida's education and business communities will complement the federal program and help bring technology to all our children and citizens.

While predicated on the current assistance program for high cost areas, the recommended high cost assistance mechanism constitutes a fundamental shift from the previous paradigm. The recommendation to adopt proxy models, pending sufficient improvement to address outstanding concerns about accuracy, is an endorsement of the need to identify the costs of providing service to certain regions based on the most efficient network construction on a disaggregated basis. This is necessary to ensure that competitors and incumbent carriers may compete on equal footing based on objective costs. Proxy models also comport with the Recommended Decision to include competitive neutrality as a principle in developing universal service policies.

The current cost estimates associated with implementing the proxy models range from \$5 billion to \$14 billion annually; and such figures represent a radical change from the current explicit high cost fund of approximately \$750 million. However, it should be

noted that the proxy model would ideally replace all current implicit and explicit subsidies. The actual size of the successor high cost assistance program will obviously depend on the underlying proxy model. Since the Joint Board has recommended that the joint staff continue to work collaboratively to refine the proxy models, it is impossible to assess the cost of the program at this time. We have deferred judgement on the revenue base to support the high cost assistance mechanism until the proxy model has been chosen a more reliable information on the size of the fund becomes available.

An additional question which must be addressed to fully answer the question of revenue base, is the extent to which the states and the FCC share the responsibility for ensuring the preservation and advancement of universal service. This determination will have a significant impact on the size of the federal fund, and therefore, on the need to assess interstate and intrastate revenues of providers of interstate telecommunications services. As the technology converges and carriers begin to enter each others' markets, it is unclear that the traditional distinctions between interstate and intrastate carriers will retain their current meaning. We strongly urge our colleagues throughout the states to participate in the workshops that will be held by the joint staffs to develop the appropriate proxy models. We also urge that you contact the members

of the Joint Board with your sentiments on this and other issues directly. The balance between federal and state responsibilities turns on what best accomplishes the overall goals of universal service - ensuring that all Americans have quality services at just, reasonable, and affordable rates. As we all know, ratepayers are the ultimate supporters of any program, thus their respective representatives must be integrally involved in determinations that will affect them.

While the Recommended Decision constitutes our best assessment of what universal service policies should be implemented, flexibility must remain a tenet of further considerations. In some areas, such as the selection of proxy models and the metric to determine the wealth of school or library, we have acknowledged that the data on these issues is lacking and therefore have requested further input or recommended additional proceedings to gather appropriate information. While we adhere the principles enunciated in the recommendation, those principles should be viewed as the side bars to allow for the appropriate modifications needed to achieve our shared policy goals.

In addition, we note that the FCC will soon embark on the third and fourth books of the “quartet” -- access charge reform and separations reform. Reforms flowing from those dockets will inevitably affect the size and scope of the universal service fund and must be addressed concurrently and coherently. We, as members of this board, look forward to working with our counterparts on the 80-286 joint board on separations reform and with our FCC colleagues on general access reform.

In closing, we would like to emphasize that the success of the collaborative efforts of state and federal officials on the important issue of universal service serves to reinforce the productive nature of this type of cooperation between the FCC and the states. As the FCC moves ahead to address the other issues associated with implementing the Act and fostering competition, it is imperative that the states and the FCC work in concert. Both our joint and separate decisions as policymakers will affect our common interest - American consumers.

**SEPARATE STATEMENT OF
COMMISSIONER KENNETH MCCLURE
CONCURRING IN PART AND DISSENTING IN PART**

I must respectfully dissent from the portion of the Joint Board recommendation relating to the assessment of revenues for the universal service support mechanism. Two approaches have been recommended by the Joint Board on the assessment of interstate and intrastate funding. For the schools, libraries and rural health care components of the fund, the Board has recommended that contributions be based on both the interstate and intrastate revenues of the interstate. However, for the purpose of funding the high cost and low income components of the fund, the Board has taken a more conservative approach and requested that comments be filed by interested parties on the appropriateness of this matter. I believe that the Act is clear that regardless of the funding purpose, interstate funds should be used for funding the federal universal service program. The necessity of these two separate recommendations is not justified.

Section 254(d) states that "every telecommunications carrier that provides interstate telecommunications services" must contribute to preserve and advance universal service.

Congress required that these contributions be made on an "equitable and nondiscriminatory basis" and mandated that contributions be provided by telecommunications carriers that provide interstate telecommunications services. When that requirement is read together with Section 254 (f), which contemplates state universal service programs, it is my opinion that Congress intended the specific reference to interstate carriers to mean that a distinction should be made for a separate federal support mechanism. Only interstate revenues should be utilized for funding the federal universal service program, allowing intrastate telecommunications revenues to be used for funding the complimentary state universal service programs.

In my opinion, Congress has made it clear that there is a distinction between the federal and state universal service programs and thus the same distinction should follow related to the contributions for those programs. Courts have required that regulatory agencies maintain jurisdictional distinctions when using carrier revenue to support the costs of a particular service. In *A T & T Communications of the Mountain States, Inc. v. Public Serv. Comm'n*, 625 F.Supp. 1204, (D. Wyo. 1985) the Wyoming PSC attempted to require A T & T to pay local exchange companies one percent of all of its billings, for both interstate and intrastate calls, to cover the costs of local disconnect service. The Court found that the PSC had exceeded its jurisdiction by including interstate calls in the base for calculating

contributions for the cost of local disconnect service. Clearly, the FCC has authority to base the support mechanism for a federal universal service program on interstate revenues. However, just as clearly, the authority to utilize intrastate telecommunications revenues as a base for contributions to state universal service programs lies solely with the individual state commissions.

Using both the interstate and intrastate revenues of carriers that provide interstate service creates an inequitable and discriminatory basis for the contribution. Telecommunications traffic carried by a carrier only authorized to provide intrastate telecommunications service will not be subject to contributions while similar traffic carried by an interstate telecommunications carrier will be subject to contributions for the federal universal service fund. The carriers will be providing exactly the same type of telecommunications service, with one subject to federal assessment while the other is not. This could even lead to an unfair competitive advantage. Arguably the end-user will be paying for these contributions through increased rates in order to make the telecommunications carrier whole. If only some of the carriers are forced to contribute, those who are not will have an unfair competitive advantage.

This advantage cannot be alleviated by requiring those carriers which only provide intrastate telecommunications services to contribute to the federal universal service fund

because clearly the statute does not permit that. Congress limited the authority of the Joint Board and the Commission to require contributions to federal universal service support mechanisms from those carriers which provide interstate telecommunications services. The only viable alternative that would allay this concern is to use only the interstate telecommunications revenues to fund the Commission's federal universal service programs.

I am further concerned that relying upon intrastate telecommunications revenues as a base for contributions to support federal universal service may adversely affect State programs and the low income, disabled and rural consumers that depend on them for access to the telecommunications network. Section 254 (f) anticipates state universal service programs which should compliment the federal program, not compete with it.

Further, Section 254 (f) provides that "Every telecommunications carrier that provides intrastate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, in a manner determined by the State to the preservation and advancement of universal service in that State." Thus, it is certain that many, if not all, states will be adopting additional regulations which provide for contributions from those carriers of intrastate telecommunications services. This will undoubtedly result in some intrastate telecommunications services being assessed for contributions to a federal

universal service fund while other intrastate telecommunications services are assessed for both federal and state universal service funds. This is clearly discriminatory on its face and should be avoided.

Respectfully submitted,

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Joint Board Member

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November 7, 1996

**SEPARATE STATEMENT OF
COMMISSIONER LASKA SCHOENFELDER
DISSENTING IN PART**

I respectfully dissent from the Joint Board's recommendation today regarding the assessment on carriers' total interstate and intrastate telecommunications revenues, the delay in implementing the high cost fund and the treatment of the Subscriber Line Charge. While I do not dissent, I have reservations regarding the support for these mechanisms not being explicit on customers' bills, supporting internal connections for schools and libraries and the overall size of the Universal Service Fund.

First, regarding the fund assessment, I do not believe the Commission has authority to base contributions on intrastate telecommunications revenues. The jurisdiction between the Commission and the states is distinct. The Commission possesses authority to assess interstate revenues, while the state commissions have authority to utilize intrastate revenues. To recommend that the Commission utilize intrastate telecommunications revenues is certainly beyond the scope of its jurisdiction.

Second, Congress clearly intended the Telecommunications Act of 1996 to preserve state authority over universal service matters within the state. I am greatly concerned that utilizing intrastate revenues will negatively impact such well intended state programs. State commissions should not be hindered by this decision to develop their own workable and viable state programs. Therefore, intrastate revenues should not be assessed, as such revenues are designed for complementary state universal service programs, not the federal fund.

Third, the Act states that contributions to the federal universal service fund are to be made from those carriers that provide interstate telecommunications services. To recover intrastate revenues from these carriers is an act I do not believe Congress intended.

Furthermore, such recovery is clearly discriminatory insofar as it assesses intrastate contributions only from those carriers that provide both interstate and intrastate services. Carriers providing intrastate services, but not interstate services, cannot be required to contribute under the Act, yet it is inconsistent and discriminatory to mandate the same revenues be recovered from carriers merely because they provide interstate services.

I must also dissent from the portion of the decision which recommends high cost funding be delayed until the size of such fund is determined. While I agree with the decision to further review the proxy methodology, I find little merit in forestalling the implementation of funding. The Act is clear in its mandate for interstate funding and I disagree that determining the size of the fund is necessary in order to begin this process.

The issue regarding the Subscriber Line Charge is also one in which I must disagree. I have serious concerns that we are not addressing this important issue today and I believe the decision to postpone action on this topic is unfounded. The record is complete and supports that a recommendation be made. Furthermore, in delaying addressing this issue, we are not requesting additional comments for the record. In the competitive environment which we are trying to achieve, the recovery of cost should be determined by the marketplace, not by regulatory mandates.

In closing, I would also like to express my reservations about not providing explicit notification on customers' bills about the charges assessed to fund these programs. Consumers are entitled to be made aware of the charges that they are paying to support the recommendations made herein. Also, while I do not dissent to providing interconnection for schools and libraries, I have concerns that such action may not be consistent with a strict reading of the Act under Section 254(h)(2). The Act calls for support to "services", not for the funding of plant and equipment. Lastly, I find the overall projected size of the fund necessary to assist schools and libraries (\$2.25 billion) may be excessive and harmful to end users. This amount, while certainly beneficial to schools and libraries, may adversely affect numerous customers, particularly those in low income categories. I believe that a federal universal service fund that taxes consumers billions of dollars a year is not only inconsistent with Congressional intent, but could be extremely harmful nationwide to consumers. By supporting services at this level, average rates for all

consumers may increase and it may harm competition which is the principal objective of the law.

November 7, 1996

SEPARATE STATEMENT
OF
MARTHA S. HOGERTY
PUBLIC COUNSEL FOR THE STATE OF MISSOURI

Re: Federal-State Joint Board on Universal Service Recommended Decision
CC Docket No. 96-45

By this Recommended Decision, the Joint Board has proposed a number of significant recommendations designed to promote universal service. These recommendations are intended to benefit consumers in all regions of the nation. The Joint Board was unwavering in its focus on developing equitable solutions to these difficult and complex issues.

Especially significant for consumers is the potential that the Subscriber Line Charge (SLC) paid by residential and small business customers will ultimately be reduced. A SLC reduction would allow these customers to share in the rate reductions which are produced by the Telecommunications Act of 1996. The magnitude of a SLC reduction could exceed \$200 million in the aggregate. In the short-term, consumers are clear winners if such a SLC reduction is implemented. As competition develops, the sustainability of any SLC becomes less likely.

Consumer advocates have worked for many years in order to ensure just, reasonable, and ultimately, affordable telecommunications rates for all consumers. Maintaining affordability has been one of my principal goals in this proceeding. I believe the framework for ensuring affordable rates, described in our Recommended Decision, appropriately places the primary role for this determination on the states. The Recommended Decision also outlines the various factors, including subscribership rate and size of calling area, that state commissions must consider when addressing this issue.

Consumers also directly benefit from our recommendation that the Lifeline assistance program be expanded to every state and territory; that the base federal Lifeline contribution

be increased from \$3.50 to \$5.25 per eligible customer; that carriers be prohibited from disconnecting local service of Lifeline eligible consumers for nonpayment of toll; that toll limitation services be available at no charge to low-income consumers; and that carriers be restricted from imposing service deposits on consumers electing toll blocking service. I believe that expanding the reach of the Lifeline assistance program is the right thing to do. The 1996 Act appropriately reaches out to all consumers -- including low income consumers -- when considering the scope of universal service. Lifeline assistance helps maintain telephone service for those customers least able to afford it.

We have all worked hard in order to construct an effective means of assuring access to telecommunications benefits for schools and libraries as Congress intended. I believe that we have achieved an appropriate range of benefits at a reasonable cost. We have also made an important determination to base a universal service program on forward looking costs rather than the costs of currently existing networks. Important work needs to be done to realize this goal in the months ahead.

I emphasize that the Recommended Decision is only a recommendation to the full Federal Communications Commission. The FCC will make the ultimate decision in this

proceeding by May 8, 1997. I strongly encourage consumers to actively participate in the FCC's public process to ensure that the pro-consumer recommendations are adopted.

In closing, this is the first time a consumer advocate has served a formal role in a federal-state Joint Board process. Participation here, however, is only the first step in what I hope will be a cooperative and continuing federal-state-consumer partnership. I welcome the opportunity to continue my work with the Joint Board on the unresolved universal service issues.