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FEDERAL COMMUNICATIONS COMMISSION
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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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

To: The Commission

REPLY COMMENTS OF COX COMMUNICATIONS, INC.

Cox Communications, Inc., by its attorneys, hereby submits its reply comments in response to the *Recommended Decision* in the above-referenced proceeding.[1/] Cox continues to support the basic principles outlined in its initial comments. These reply comments, however, are filed to emphasize the importance of policies that encourage schools and libraries to obtain sufficient telecommunications capacities to meet the expanding demands for high quality, high bandwidth services. As described below, the Commission can achieve that goal by adopting "bandwidth incentives" that provide targeted funding for high speed and high bandwidth services used by schools and libraries.

I. Introduction

In its initial comments, Cox demonstrated that, with several specific exceptions, the Commission should adopt the basic principles outlined in the *Recommended Decision*. These principles include making subsidies explicit; minimizing the size of the universal service fund

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1/ Federal-State Joint Board on Universal Service, *Recommended Decision,* CC Docket No. 96-45, rel. Nov. 8, 1996 (the *"Recommended Decision"*). The Commission requested comment on the *Recommended Decision* in a public notice released November 18. *See Public Notice*, "Common Carrier Bureau Seeks Comment on Universal Service Recommended Decision," DA 96-1891 (rel. Nov. 18, 1996).

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by developing facilities-based competition; assuring broad carrier eligibility for universal service funding; and making subsidies portable, so that consumers are not tied to a single carrier. Cox suggested certain specific steps to bring these principles into practice, including making second telephone lines ineligible for subsidies; periodically reviewing the size of the universal service fund; modifying the designated service areas of some rural LECs; and permitting carriers to work cooperatively to meet minimum service area requirements. Cox's comments also demonstrated that the Commission should adopt policies that maximize eligibility for subsidies that support advanced services for schools and libraries. For the reasons described in Cox's comments, and the comments of many other parties, all of these policies should be adopted.[2/]

While each of the proposals described in Cox's comments is important to the advancement of Congressional universal service goals, these reply comments focus on the availability of high speed, high bandwidth facilities to schools and libraries. As shown below, these institutions must have access to such services if they are to bring the benefits of the information age to the people they serve, particularly children who do not have access to such facilities at home. Thus, it is critical that the Commission adopt rules that create specific incentives for schools and libraries to purchase high speed, high bandwidth services and the infrastructure necessary to use those services.

2/ *See, e.g.*, Comments of National Cable Television Association at 5-15; Comments of Personal Communications Industry Association at 6-8, 12-13, 23-26; Comments of Winstar Communications at 9-10; Comments of MFS Communications Company at 18; Comments of Cellular Telecommunications Industry Association at 3-6, 11-13.

II. Additional Support for High Bandwidth Services Is Necessary to Accommodate the Needs of Schools and Libraries.

Cox's comments demonstrated the importance of ensuring that schools and libraries have access to high speed and high bandwidth facilities for advanced services.[3/] Without such services, it is likely that many eligible institutions will find the "information superhighway" to be more like a dirt path, providing access to the Internet that is more theoretical than real. Nevertheless, budgetary constraints may make it difficult for eligible institutions to obtain the high bandwidth services they need. The best solution to this dilemma is for the Commission to adopt specific monetary incentives that will encourage eligible institutions to use high speed and high bandwidth services.

The need for such services is evident. Today, even basic Internet services are much more accessible and useful when high bandwidth connections are employed.[4/] As Apple Computer, by far the leading provider of computers to the educational market, explained, the Internet today is "a 'multimedia' mixture that includes sizable text files, pictures, music, graphics, scientific and medical data, nearly real-time voice and video communications and interactive personal communications."[5/] A traditional modem connected to a regular telephone line simply cannot carry data fast enough to permit effective use of graphics, sound or video.[6/] Equally important, the Internet and other computer applications are becoming

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3/ *See* Comments of Cox at 13-15.

4/ *Id.* at 14 (cable modem may permit downloading a web page in five seconds, while the same page may take five minutes to download at 28.8 kbps).

5/ Comments of Apple Computer, Inc. ("Apple") at 3.

6/ For instance, even a short video clip may have a file size that exceeds one megabyte, which may take a considerable time to download over a traditional modem on a

more dependent on high quality graphics, sound and video, which require even more bandwidth. Every indication is that the bandwidth demands of the Internet and other computer applications will continue to grow rapidly. For this reason, Apple concludes that eligible institutions will require facilities at least equivalent to a dedicated T-1 line.[7/] Based on the evolution of the Internet over the past few years, it is likely this is a conservative prediction. In addition, bandwidth is not the only consideration in determining whether a service is adequate to meet the growing demands of data transmission. Mechanisms that reduce response time are important to ensuring that users can obtain quick, easy access to large amounts of data.[8/]

Consequently, it is critical that eligible institutions obtain fast, high bandwidth services and facilities. Unfortunately, nothing in the *Recommended Decision* creates incentives for eligible institutions to obtain these facilities. Indeed, a school district that decides to purchase 100 conventional telephone lines for Internet access will get the same percentage discount as one that purchases access for 100 classrooms via cable modems or T-1 service, even though the conventional lines will provide only a fraction of the functionality of high bandwidth facilities. In fact, because a conventional modem is likely to

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regular telephone line. The same clip could take only a few seconds to download via a cable modem. *See also* Comments of Apple at 3 ("idea that a 28.8 kbps modem connected to a single dial-up telephone line" is adequate "is not consistent with today's realities").

7/ *Id.* at 4.

8/ For instance, one important characteristic of @Home, the cable-based Internet service, is that it will cache sites that are visited regularly. This will greatly increase the speed of access to those sites for @Home users and greatly reduce the likelihood that a site will be too busy to respond when access is attempted.

be cheaper than the routers or other equipment needed for high bandwidth service, there are significant incentives for eligible institutions to obtain the cheaper service even if it is inadequate. Moreover, because installation of new infrastructure for access to advanced services is relatively expensive, it may be years or even a decade or more before a school or library has the funds necessary to upgrade to the high bandwidth services it really needs.

The Commission can forestall such short-sighted decisions by adopting specific "bandwidth incentives" in its support program for school and libraries. As described in Cox's comments, the incentives should be in the form of special discounts on high speed and high bandwidth services, that is, discounts in addition to those proposed in the *Recommended Decision*. Applying additional discounts to high speed and high bandwidth services (and the infrastructure needed to support them) will create new, positive incentives for schools and libraries to purchase advanced services. While these incentives will not eliminate budgetary constraints, they will make it easier for eligible institutions to obtain services and infrastructure that will enable them to provide their constituencies with true access to the benefits of the information economy.

As with the other discounts proposed in the *Recommended Decision*, the Commission should make "bandwidth" discounts available on a sliding scale, with greater discounts for services that provide higher bandwidth or greater speed of access.[9/] Again, this approach creates positive incentives for eligible institutions to obtain services and infrastructure that will be adequate today and in the future. In the long run, this will serve the public interest

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9/ *See* Comments of Cox at 15 n.22.

by ensuring access to advanced services and could save money by increasing the useful life of the infrastructure used by eligible institutions.

III. Conclusion

For all these reasons, Cox Communications, Inc. urges the Commission to adopt rules in accordance with the proposals contained herein.

Respectfully submitted,

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January 10, 1997

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