Is It Time to Recreate the E-rate Program?

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I. INTRODUCTION

The Schools and Libraries Program, commonly known as the "E-rate" program, was created by the FCC in 1997,[1] as authorized by the federal Telecommunications Act of 1996 ("1996 Act").[2] The 1996 Act specified for the first time that schools and libraries are eligible to receive universal service support to enable use of "advanced telecommunications services" in support of their education missions.[3] The Universal Service Fund ("USF") is the repository for revenue generated from mandatory charges levied by the FCC on most telecommunications companies that provide interstate telecommunication services.[4] A carrier's contribution is based on its end-user telecommunication revenue and the FCC's calculation of the USF's revenue needs.[5] Each carrier's assessment may be collected from customers.[6]

In its initial order implementing the universal service mandate of the 1996 Act, the FCC authorized financial support for schools' and libraries' telecommunications services in general, as well as Internet access, internal network connections, and maintenance of those connections aimed at meeting the "advanced telecommunications and information services" provisions of the 1996 Act.[7] The FCC designated telecommunications services and Internet access as priority one services, eligible for funding

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1. *See* Fed.-State Joint Bd. on Universal Serv., *Report & Order*, 12 F.C.C.R. 8776 (1997) [hereinafter *1997 Universal Service Report and Order*].

2. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (universal service support for eligible schools and libraries was codified generally at 47 U.S.C. § 254 (1996)).

3. *See* 47 U.S.C. § 254(b)(6), (h)(1)(B). Congress required that telecommunication providers serve elementary schools, secondary schools, and libraries, and also required that those institutions receive discounted services for educational purposes resulting in rates that are lower than those charged to other customers for similar services. *Id.* § 254(h)(1)(B); *see also 1997 Universal Service Report and Order*, *supra* note 1, at para. 424.

4. 47 U.S.C. § 254(d) ("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. The Commission may exempt a carrier or class of carriers from this requirement 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. Any other provider of interstate telecommunications may be required to contribute to the preservation and advancement of universal service if the public interest so requires.").

5. 47 C.F.R. § 54.709 (2010).

6. 47 C.F.R. § 54.712 (2010).

7. 47 U.S.C. § 254(h)(2)(A); *accord 1997 Universal Service Report and Order*, *supra* note 1, at para. 426; *see also id.* at paras. 429–63 (detailing eligible services).

before allocation of support to projects for internal network connections and maintenance of those connections (priority two services).[8]

The E-rate program provides eligible schools and libraries with discounts of 20–90 percent from the rates charged by providers for the covered services.[9] The total outlay for those discounts is controlled by an annual cap imposed by the FCC in the 1997 Universal Service Report and Order,[10] which was subjected to indexing for inflation beginning in funding year 2010.[11] That first year indexing resulted in an increase to $2.27 billion for the program from the prior capped amount of $2.25 billion.[12] In 2010, disbursements for the program represented nearly 29 percent of total USF disbursements.[13]

Since authorization of the E-rate program in 1996 and its implementation pursuant to the *1997 Universal Service Report and Order*, much has changed in both the access to and use of Internet-based services in this nation's public schools and libraries. Connectivity no longer is available almost exclusively from wireline telecommunications carriers as it was in 1997. Technological changes have made wireless connectivity widely available. Broadband is also deployed by satellite providers, cable companies, and dark fiber providers. Telecommunications services have been increasingly deregulated at both the state and federal levels.[14]

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8. FCC Universal Service, 47 C.F.R. § 54.507(g)(1) (2011). In its rules, the FCC established priorities pursuant to 47 C.F.R. § 54.507(g)(1) (specifically, all eligible services under priority one must receive funding on a discounted basis before those in priority two, also on a discounted basis, pursuant to 47 C.F.R. § 54.507(g)(1)(i)–(ii)).

9. *1997 Universal Service Report and Order*, *supra* note 1, at para. 425. *See generally* discussion *infra* Part IV (discussing the E-rate program and supported services).

10. *1997 Universal Service Report and Order*, *supra* note 1, at para. 425.

11. Funding years for the E-rate program run from July 1 to the following June 30 and are named for the calendar year in which the funding year begins. For example, funding year 2010 ran from July 1, 2010, to June 30, 2011. 47 C.F.R. § 54.507(b). *See also* UNIVERSAL SERV. ADMIN. CO., 2010 ANNUAL REPORT 47 (2010) [2010 ANNUAL REPORT], *available at* http://www.usac.org/about/governance/annual-reports/2010.html.

12. Sch. and Libraries Universal Serv. Support Mechanism, *Sixth Report and Order*, 25 F.C.C.R. 18762, para. 36 (2010) [hereinafter *E-rate Sixth Report and Order*].

13. 2010 ANNUAL REPORT, *supra* note 11, at 47. Calculations in the report were based on unaudited figures for the year ending December 31, 2010. Approximately 71 percent of total USF disbursements were allocated to three programs: the High Cost program for companies providing telephone service in areas that are costly to serve, the Low Income Program providing low-income households with discounted basic phone service, and the Rural Health Care program providing rural health care providers with discounted monthly phone service and Internet service charges. *See id.*

14. *See, e.g.*, 2011 Fla. Laws Ch. 2011-36. With the passage of House Bill 1231, now Chapter 2011-36, Florida Laws, Florida joined approximately twenty states that have deregulated landline telecommunications services. *See Many New Laws Reflect GOP Philosophy*, THE ST. AUGUSTINE RECORD (June 27, 2011, 5:14 AM), http://staugustine.com/news/local-news/2011-06-27/many-new-laws-reflect-gop-philosophy#.TrdWX_Qg_2c. Congress developed the framework for

Residential access to broadband services has expanded, as explained in greater detail below. Greater residential access has changed the relationship between schools and libraries, both to their onsite and offsite patrons. Homework assignments and other elements of the curriculum increasingly require access to broadband services, as do a growing number of government transactions and the retrieval of online information available at libraries. These and other changes raise the question of whether the E-rate program, its priorities, and the form in which subsidies have been historically provided might need to be revisited.

The FCC's National Broadband Plan, released in May 2010, appears to reflect the need for some type of reform to the E-rate program that recognizes the changes in the nature of broadband service delivery since the program began and that also focuses on new content and learning systems enabled by expanded broadband access.[15] Among the goals articulated in the National Broadband Plan is improvement of "the connectivity to schools and libraries by upgrading the FCC's E-[r]ate program to increase flexibility, improve program efficiency and foster innovation by promoting the most promising solutions."[16] Of particular interest is the articulation of goals aimed at creating "digital content and learning systems, removing regulatory barriers and promoting digital literacy."[17] Specifically, the FCC seeks (through the National Broadband Plan) to ensure that anchor institutions, such as schools and libraries in communities across the nation, have access to very high-speed broadband service.[18]

Due to the magnitude of change in the educational and technological landscape since 1997, it is time for Congress and the FCC to reconsider the E-rate funding priorities for schools and libraries and the way the support is provided. This Article is organized into seven sections. Part II presents the case for change in the scope and type of support provided for schools and libraries. The near ubiquitous availability of telecommunication and Internet services makes this an opportune time to consider a more targeted approach to supporting these institutions. Part III describes what a

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deregulating the rates of the Bell companies in the 1996 Act. *See* CHARLES B. GOLDFARB, CONGRESSIONAL RESEARCH SERVICE, CRS REPORT FOR CONGRESS, TELECOMMUNICATIONS ACT: COMPETITION, INNOVATION, AND REFORM (2006) (discussing background of the 1996 Act).

15. *See* FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN chs. 8, 11 (2010), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf [hereinafter NATIONAL BROADBAND PLAN].

16. *Id.* at xiv.

17. *Id.*

18. *See id.* ("Goal No. 4: Every American community should have affordable access to at least 1 gigabit per second broadband service to anchor institutions such as schools, hospitals and government buildings.").

reconfigured E-rate program would encompass in terms of services and institutions served. Part IV describes the current E-rate funding mechanism. Part V describes the current state of residential Internet access and relates changes in the availability of those services to the need for a revamped E-rate program. Part VI presents the case for continued support of Internet access through educational institutions. Part VII describes the ongoing debate about the effectiveness of the E-rate program. Part VIII concludes the discussion with recommendations for refocusing the use of the current allocation of USF support for schools and libraries to more effectively meet the needs of people who cannot afford residential access to Internet services.

II. ARGUMENTS FOR CHANGE

Internet access at schools and libraries has expanded significantly since the inception of the E-rate program, both in terms of population served and bandwidth deployed.[19] Virtually all schools and libraries have both telephone service and Internet connectivity, which are the priority one services supported by the E-rate program.[20] As reported in the National Broadband Plan, 97 percent of schools are connected to the Internet, many by virtue of E-rate support.[21] A 2006 study published by the National Center for Educational Statistics found that by 2005, 94 percent of instructional rooms in public schools had Internet access and that 97 percent of public schools with Internet access used broadband services to

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19. "High-speed" Internet connectivity around the time the 1996 Act took effect was largely through T-1 lines. T-1 and DS1 speeds are still the prevalent speeds for connecting schools to districts. Fiber connectivity was a future development in 1996. Prior to passage of the 1996 Act, only 35 percent of schools had access to the Internet, and only 3 percent of classrooms did. *See* NORTH CENTRAL REGIONAL EDUCATIONAL LABORATORY, CRITICAL ISSUE: USING TECHNOLOGY TO IMPROVE STUDENT ACHIEVEMENT (2005), http://www.ncrel. org/sdrs/areas/issues/methods/technlgy/te800.htm (According to the *Secretary's Fourth Annual Report on Teacher Quality*, virtually every school with access to computers has Internet access (99 percent), compared to only 35 percent of schools in 1994, according to the National Center for Education Statistics (NCES) (Parsad & Jones, 2005). Public schools have also made consistent progress in expanding Internet access in instructional rooms, according to NCES. In 1994, 3 percent of public school instructional rooms had Internet access, compared with 93 percent in 2003.). When the National Broadband Plan was submitted to Congress in 2010, almost all schools and libraries were connected to the Internet. *See* NATIONAL BROADBAND PLAN, *supra* note 15, at 236 ("Internet access is nearly universal in the nation's schools and libraries. Today, about 97% of public schools have access to the Internet.").

20. *E-rate Sixth Report and Order*, *supra* note 12, at para. 2 ("Since the inception of the E-rate program 13 years ago, the [E-rate] program has helped ensure that almost every school and library across America has Internet access.").

21. NATIONAL BROADBAND PLAN, *supra* note 15, at 20.

achieve Internet connectivity, up from eighty percent in 2000.[22] Results of a 2010 survey commissioned by the FCC show that all E-rate recipients who responded (schools and libraries) have Internet connections.[23] Most (95 percent of survey respondents) reported terrestrial broadband connections to at least one facility; the remainder used dial-up (3 percent) or satellite services (2 percent).[24] Based on these findings, one could argue that the goal of universal access to the Internet for schools and libraries was achieved a number of years ago. This high level of connectivity suggests that stimulating demand for telecommunication service access by schools and libraries may be a less pressing need now than it was a decade ago. Thus, the FCC's priority two—internal connections and their maintenance—should be combined with access to truly high-speed service as a new top priority for the E-rate program. Recommendation 11.6 in the National Broadband Plan specifically states that "the FCC should develop ways that [priority two] funding can be made available to more E-rate applicants."[25] Consistent with that recommendation, the FCC recently ordered the funding administrator to make funding year 2010 E-rate support available for priority two services at all discount bands.[26]

Popular support for the "access" focus of Internet and broadband support programs appears to be waning. The Pew Research Center *Home Broadband 2010* report found that support for government efforts to expand broadband access is low overall: "[w]hen asked whether expanding high speed access to everyone in the country should be a priority of the federal government, one in ten Americans (11 percent) say that it should be

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22. JOHN WELLS & LAURIE LEWIS, U.S. DEP'T OF EDUC., INTERNET ACCESS IN U.S. PUBLIC SCHOOLS AND CLASSROOMS: 1994–2005, at 5 (2006), http://nces.ed.gov/pubs2007/2007020.pdf. *See also* FUNDS FOR LEARNING, E-RATE REVIEW: 10 YEARS AND COUNTING (2007), http://newsletters.fundsforlearning.com/FFL%20White%20Paper%20-%20E-rate%20Review%20-%2010%20Years%20and%20Counting.pdf; EDUCATION AND LIBRARIES NETWORKS COALITION, E-RATE: 10 YEARS OF CONNECTING KIDS AND COMMUNITY (2008), http://www.edlinc.org/pdf/NCTETReport_212.pdf.

23. WIRELINE COMPETITION BUREAU, FCC, 2010 E-RATE PROGRAM AND BROADBAND USAGE SURVEY: REPORT (2010), http://transition.fcc.gov/010511_Eratereport.pdf. The study upon which the report is based was conducted by Harris Interactive, Inc. and commissioned by the FCC. *Id.* at 2. The survey was conducted between February and April 2010. *Id.* Of the 22,819 E-rate recipients in funding year 2008, a sample of 5,000 recipients was selected to participate in the survey. *Id.* at 19. Completed responses were received from 1,060 members of the sample group. *Id.* at 4.

24. *Id.* at 2.

25. NATIONAL BROADBAND PLAN, *supra* note 15, at 237.

26. Sch. & Libraries Universal Serv. Support Mechanism, Funds for Learning, LLC Petition to Reject the Adm'r's Discount Threshold Recommendation for Funding Year 2010, *Order*, 26 F.C.C.R. 111145, paras. 1, 9, 12 (2011), http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0822/DA-11-1354A1.pdf. *See* discussion of discount bands *infra* Part IV.

a 'top priority' while three in ten (30 percent) feel that it is 'important, but a lower priority.'"[27] Over half (53 percent) of respondents to the Pew Research Center survey said that "expanding affordable high-speed internet [sic] access to everyone in the country" is "[n]ot too important" or "[s]hould not be done."[28] Interestingly, survey respondents without Internet access were less supportive of government efforts to encourage high-speed access than those with access.[29] Arguably, if government support of broad-based access to broadband and the Internet is not acceptable to the public, a narrower focus on access via community facilities such as schools and libraries may be more palatable, although the Pew Research Center survey did not ask a question about the acceptability of support for community facility access.

III. WHAT MIGHT A NEW E-RATE PROGRAM LOOK LIKE?

At least two high-level options exist for altering the E-rate program to recognize the changes that have occurred since 1997. The first option would be based on the finding that the demand-side universal service goal for schools and libraries has been achieved. It would declare that the mission was accomplished, end the E-rate subsidy, and reduce the USF by the amount allocated to the E-rate program (approximately $2.25 billion annually). If the current level of technological services provided by schools and libraries is deemed to be desirable, such a move would, among other things, assume that schools and libraries would be willing and able to continue purchasing current levels of telecommunication and Internet services absent the E-rate discounted prices.

It is impossible to predict the consequences for schools and libraries of completely ending the E-rate subsidy. Certainly, testimony and comments provided to the FCC during its consideration of E-rate program modifications in 2010 lead one to the conclusion that the current discounts are key to maintaining modern communication capabilities in many schools and libraries.[30] The FCC's *Sixth Report and Order* (2010) did not eliminate

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27. AARON SMITH, PEW INTERNET & AMERICAN LIFE PROJECT, HOME BROADBAND 2010 17 (2010), http://pewinternet.org/~/media//Files/Reports/2010/Home%20broadband%20 2010.pdf.

28. *See id.* at 5, 17.

29. *Id.* at 18–19 (reporting that 45 percent of non-Internet users, compared with 21 percent of Internet users, say that the federal government should not adopt policies to expand broadband access).

30. *See, e.g.*, *E-rate Sixth Report and Order*, *supra* note 12; Comments of the Hempfield Area Sch., Greensburg, Pa., FCC CC Docket No. 02-6 (rel. July 7, 2010); Comments of the City of Hartford, Conn., E-Rate Broadband Notice of Proposed Rulemaking, Eligible Servs. List Further Notice of Proposed Rulemaking, E-Rate Draft Eligible Servs. List for Funding Year 2011, FCC CC Docket No. 02-6 (rel. July 29, 2010);

the discounts, despite an acknowledgment that most schools and libraries now have Internet access.[31]

The second option recognizes that while the initial goal of access and connectivity has been met to a significant degree, it will never be fully realized, and that community support is the key to access for residents who do not have Internet service at home. In this option, the funding mechanism would remain in place but would support a program designed to address the current and future needs of schools and libraries as set out in the recommendations of the National Broadband Plan.[32] The revamped E-rate program would also target needs of schools and libraries as documented in the data gathering efforts of the State Broadband Data and Development Program.[33] One such approach would phase out the existing program that provides minimal support for basic services to nearly all schools and libraries, and replace it with a program targeting support to schools and libraries with the greatest financial needs and for specific advanced services.

New E-rate program goals could be crafted under the second option to meet another objective of the National Broadband Plan—that of creating

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Comments of the San Diego Cnty. Office of Educ., FCC CC Docket No. 02-6 (rel. July 9, 2010); Comments of St. John's Catholic Sch., Beloit, Kan., Comments on FCC Public Notice DA10-1045, FCC CC Docket No. 02-6 (rel. July 8, 2010); Comments of the Chester Cnty. Intermediate Unit, Pa. at 2, Sch. and Libraries Universal Serv. Support Mechanism, A Nat'l Broadband Plan for Our Future, FCC CC Docket No. 02-6 (rel. July 8, 2010); Comments of the Educ. & Libraries Networks Coal. at 1–9, Sch. and Libraries Universal Serv. Mechanism, A Nat'l Broadband Plan for Our Future, FCC CC Docket No. 02-6 (rel. July 9, 2010); Comments of the Council of the Great City Sch. at 2, Sch. and Libraries Universal Serv. Support Mechanism, A Nat'l Broadband Plan for Our Future, FCC CC Docket No. 02-6 (rel. July 9, 2010); Comments of the Cal. Pub. Utils. Comm'n and the People of the State of Cal. at 7–10, Sch. and Libraries Universal Serv. Support Mechanism, A Nat'l Broadband Plan for Our Future, FCC CC Docket No. 02-6 (rel. July 9, 2010); Comments of the N.Y. State Educ. Dep't. at 1–3, 10, Sch. and Libraries Universal Serv. Support Mechanism, A Nat'l Broadband Plan for Our Future, FCC CC Docket No. 02-6 (rel. July 9, 2010). All comments above are available via the FCC Electronic Comment Filing System search page at http://fjallfoss.fcc.gov/ecfs/comment_search/input by inputting in the appropriate fields on that page the FCC CC Docket No. 02-6, the name of the filer, and the release date indicated above.

    31. *E-rate Sixth Report and Order*, *supra* note 12.
    32. NATIONAL BROADBAND PLAN, *supra* note 15, at ch. 11.
    33. The State Broadband Data and Development Program was authorized pursuant to the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009), and the Broadband Data Improvement Act, tit.I, Pub. L. No. 110-385, 122 Stat. 4096 (2008). The National Telecommunications and Information Administration, United States Department of Commerce, is required to administer the program and collect broadband connectivity data, including data related to community anchor institutions, such as schools and libraries. Guidelines for the program were set out in the Notice of Funds Availability. 74 Fed. Reg. 32, 545–64 (July 8, 2009).

digital content and learning systems.[34] Under a redesigned program, E-rate support could be applied, to a far greater extent than is currently the case, to content for interactive video for distance education, for example, where necessary to enable schools to offer the following: a complete curriculum despite low enrollment; sophisticated, networked education assessments; computer skills development; and online research skills development. Under the second option to revamp E-rate, the goals of the Schools and Libraries Program could expand beyond stimulating demand for Internet and broadband access.[35] The E-rate program could also equip those institutions to employ connectivity for an expanded array of broadband services and a broader base of applications and users. In fact, such a focus would be consistent with goals articulated by other federal agencies. For example, the U.S. Department of Education's *National Education Technology Plan 2010* identified two goals specifically related to Internet and broadband use:

> **4.1** Ensure students and educators have broadband access to the Internet and adequate wireless connectivity both in and out of school.
>
> Students and educators need adequate broadband bandwidth for accessing the Internet and technology-based learning resources. Adequate should be defined as the ability to use the Internet in school, in the surrounding campus, throughout the community, and at home. It should also include simultaneous use of high-bandwidth resources, such as multimedia, communication and collaboration environments, and communities. Crucial to providing such access are the broadband initiatives being individually and jointly managed by various federal agencies.
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> **4.2** Ensure that every student and educator has at least one Internet access device and appropriate software and resources for research, communication, multimedia content creation, and collaboration for use in and out of school.
>
> Only with 24/7 access to the Internet via devices and technology-based software and resources can we achieve the kind of engagement, student-centered learning, and assessments that can improve learning in the ways this plan proposes. The form of these devices, software, and resources may or may not be standardized and will evolve over

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34. *See* NATIONAL BROADBAND PLAN, *supra* note 15, at 247–50 (expanding both digital educational content and associated recommendations, and online learning systems).

35. The FCC's current focus on demand-side stimulus for community broadband appears to be at least implicitly continued in the National Broadband Plan. *See* NATIONAL BROADBAND PLAN, *supra* note 15, at 10 ("What's more, unleashing the power of new broadband applications to solve previously intractable problems will drive new connectivity demands. The plan makes numerous recommendations, including reforming incentive structures, licensing and data interoperability, to ensure public priorities take advantage of the benefits broadband networks, applications and devices offer. *If they are implemented, demand for connectivity in hospitals, schools, libraries and government buildings will soar.*" (emphasis added)).

time. In addition, these devices may be owned by the student or family, owned by the school, or some combination of the two. The use of devices owned by students will require advances in network filtering and improved support systems.[36]

Among the resources needed to reach goals articulated by the *National Education Technology Plan 2010* are "people, processes, learning resources, [and] policies . . . in addition to broadband connectivity, servers, software, management systems, and administration tools."[37] None of those necessary resources are supported by the current E-rate program, which focuses on connectivity. However, the FCC has taken a step toward the U.S. Department of Education's Goal 4.1, above, in its *E-rate Sixth Report and Order*, establishing, on a trial basis, E-rate supported off-campus access.[38] In September 2010, the FCC announced a pilot program, EDU2011, to examine the feasibility of using E-rate support for wireless off-premises connectivity for mobile devices.[39] In March 2011, the FCC selected twenty projects to participate in the program.[40] Funding for the selected project sites was set at approximately $9 million for the funding year beginning July 1, 2011 and ending June 30, 2012.[41] Reports necessary for the FCC to determine the impact of the projects and identifying lessons learned during the pilot period must be filed with the FCC by participants in February and October 2012.[42]

Also recognizing the importance of libraries as centers for community connectivity, a recent FCC staff working group report, *The Information Needs of Communities*, recommended that, "at a minimum, as government plans broadband deployment and adoption strategies, it should consider the central role of public libraries. Whether helping them to become Wi-Fi hotspots or providing more desktop terminals, a first order of business is to ensure that those who want Internet access should get it."[43] The

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36. OFFICE OF EDUC. TECH., U.S. DEP'T OF EDUC., TRANSFORMING AMERICAN EDUCATION: LEARNING POWERED BY TECHNOLOGY, NATIONAL EDUCATION TECHNOLOGY PLAN 2010, at 61 (2010), http://www.ed.gov/sites/default/files/netp2010.pdf.

37. *Id.* at xiii.

38. *E-rate Sixth Report and Order*, *supra* note 12, at paras. 41–50. *See also* Wireline Competition Bureau Announces Selected Applications for the E-rate Deployed Ubiquitously (EDU) 2011 Wireless Pilot Program, *Public Notice*, 26 F.C.C.R. 3469 (2011) [hereinafter *EDU 2011 Announcement PN*]; E-rate Deployed Ubiquitously 2011 Pilot Program*, Order*, 26 F.C.C.R. 9526 (2011).

39. *E-rate Sixth Report and Order, supra* note 12, at paras. 41–50.

40. *EDU 2011 Announcement PN*, *supra* note 38, at 3469.

41. *Id.*

42. *EDU 2011 Announcement PN*, *supra* note 38, at para. 13.

43. STEVEN WALDMAN, FCC WORKING GROUP ON INFORMATION NEEDS OF COMMUNITIES, THE INFORMATION NEEDS OF COMMUNITIES: THE CHANGING MEDIA LANDSCAPE IN A BROADBAND AGE 358 (2011), http://transition.fcc.gov/osp/inc-

recommendation implies that libraries may need more flexibility in the use of subsidies in order to provide services to those who do not have residential Internet access.

At a conceptual level, movement toward supporting services beyond basic connectivity is not a new idea. In fact, a vigorous debate has been underway since the early days of the E-rate program regarding the most effective means of financing and realizing the benefits of connectivity for education and related purposes.[44] However, the level of connectivity that has already been achieved makes a new round of discussion appropriate. Both the education community and the broader community served by schools and libraries have needs that extend beyond Internet connections. This fact seems to have been anticipated by Congress in the 1996 Act, when it authorized the FCC to designate services other than basic connectivity as eligible for federal support.[45] The FCC began to exercise that authority at the inception of the E-rate program when it authorized use of E-rate funds to support internal wiring and other services necessary to effective utilization of basic connectivity. However, by designating those services "priority two," the FCC gave those services a backseat to telecommunication and Internet access, which were classified as "priority one."[46] In 1996, subsidizing telecommunications costs and Internet access prior to internal connections might have made sense as a first priority

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report/The_Information_Needs_of_Communities.pdf.

44. *See, e.g., The Schools and Libraries Internet Access Act: Hearing on H.R. 1746 Before the Subcomm. on Telecomms., Trade, and Consumer Prot. of the Comm. on Commerce,* 106th Cong. 1–17 (1999); *Technology and Education: A Review of Federal, State, and Private Sector Programs: Hearing Before the Subcomm. on Telecomms. & the Internet of the Comm. on Energy & Commerce,* 107th Cong. 1–16 (2001); *Problems with the E-Rate Program: Waste, Fraud, and Abuse Concerns in the Wiring of Our Nation's Schools to the Internet Part 1: Hearing Before the Subcomm. on Oversight & Investigations of the Comm. on Energy & Commerce,* 108th Cong. (2004); *Problems with the E-Rate Program: Waste, Fraud, and Abuse Concerns in the Wiring of Our Nation's Schools to the Internet Part 2: Hearing Before the Subcomm. on Oversight & Investigations of the Comm. on Energy & Commerce,* 108th Cong. (2004); *Problems with the E-Rate Program: Waste, Fraud, and Abuse Concerns in the Wiring of Our Nation's Schools to the Internet Part 3: Hearing Before the Subcomm. on Oversight & Investigations of the Comm. on Energy & Commerce,* 108th Cong. (2004); Krishna Jayakar, *Reforming the E-rate,* 6 INFO: J. POL'Y, REG. & STRATEGY FOR TELECOMMS., INFO. & MEDIA 37, 37 (2004).

45. 47 U.S.C. § 254(c)(1), (3) ("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 . . . . (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) of this section.").

46. FCC Universal Service, 47 C.F.R. § 54.507(g)(1) (2011).

because, as noted above, so few schools and libraries had Internet connectivity.

The need for general demand-side stimulus that characterizes the current E-rate program has arguably passed, and it may be time to shift the focus to targeted support of schools and libraries that lack the ability to provide online services in the absence of a subsidy. The desired outcome of such a shift of focus is two-fold: (1) ensuring availability of Internet services to the fraction of the population that does not and will likely never have Internet access at home by making community connectivity available at the National Broadband Plan target speed of at least one gigabit per second;[47] and (2) ensuring that E-rate support is used to create a robust portfolio of technology and spur development of associated content for schools and libraries that, absent the subsidy, would be left on the wrong side of the digital divide.[48] Some communities in the latter category may need long-term, ongoing subsidies. In addition, achieving the second outcome may require interventions of shorter durations in communities that have experienced major natural disasters or economic dislocations which have resulted in the loss of a significant portion of property tax revenue that has traditionally supported public schools and libraries.

The need for E-rate subsidies to bolster the first outcome—making high-speed broadband available in community facilities—was recognized by the FCC in its *Sixth Report and Order* in September 2010: "[s]chools and libraries can serve as anchor institutions for their communities, and certain areas may depend on these anchor institutions to achieve the [National Broadband Plan's] goal of affordable access to broadband of at least 1 gigabit per second in every community in the country."[49] In addition, according to the American Library Association, libraries frequently are one of the few sources of free Internet access and job counseling in communities, a situation that is more common in rural communities than urban communities.[50]

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47. NATIONAL BROADBAND PLAN, *supra* note 15, at xiv (Goal 4).

48. *See*, *e.g.*, *id.* at 236 (Recommendation 11.15 recommending prioritization of funding to reach FCC-established broadband connectivity levels for schools and libraries); *Id.* at 237 (Recommendations 11.16 and 11.17 recommending funding to more schools and libraries for internal connections and providing flexibility so schools and libraries are able to acquire lowest priced broadband services); *Id.* at 239 (Recommendation 11.24 recommending that E-rate funds be used for a competitive program that would support incorporation of broadband into the "educational experience").

49. *E-rate Sixth Report and Order*, *supra* note 12, at para. 1.

50. American Library Association, *Public Library Funding & Technology Access Study 2010-2011*, AM. LIBR. DIGITAL SUPPLEMENT, Summer 2011, at 6, 9, *available at* http://viewer.zmags.com/publication/857ea9fd ("A large majority provide access to job databases and other online job resources (90.9 percent, up from 88.2 percent in last year).

The second outcome—to provide needed technology and spur development of associated educational content—would likely reduce concerns about the ongoing ability of particularly small, rural, and poor schools and communities to provide educational services such as interactive video distance education. These interactive courses enable schools to provide services at both ends of the academic curve (advanced placement courses and remedial courses), where there may be great need but little demand in terms of the number of students. Both advanced placement and remedial courses are generally too costly for small, low-enrollment schools and rural communities if provided locally.

In order to mitigate the disruption that might be caused by an abrupt termination of the broad-based subsidy currently provided via the E-rate program, the changes suggested above (a move toward community-based broadband access and a shift toward providing support for advanced services that should spur content development) might be phased in via the creation of a program of transition grants. Those grants would last for no longer than five years but could be extended under special circumstances through criteria established by the FCC.

IV. BACKGROUND OF THE SCHOOLS AND LIBRARIES (E-RATE) FUNDING MECHANISM

Funding of the E-rate program has evolved very little over the years. As noted above, the E-rate program provides eligible schools and libraries with discounts of 20-90 percent from the rates charged by providers for the covered services. The total outlay for those discounts was capped annually at $2.25 billion in the FCC's 1997 *Universal Service Report and Order* when the program was created in 1997 and was increased for the first time in funding year 2010, when the cap was indexed to inflation.[51] The

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Over three-quarters (77 percent) provide access to civil service exam materials, a figure that increases to 90.1 percent in urban libraries. Over 74 percent of libraries offer software and other resources to help patrons create resumes and employment materials. In this category, suburban libraries reported an increase of almost 10 percent over last year (78.4 and 68.7, respectively)."). *See also* PERCEPTIONS OF LIBRARIES, 2010: CONTEXT AND COMMUNITY, A REPORT TO THE OCLC MEMBERSHIP 19 (Brad Gauder ed., 2011), http://www.oclc.org/reports/2010perceptions/2010perceptions_all.pdf ("Public libraries provide critical assistance to job-seekers and small business owners and to those needing technology. OCLC's research reported in *How Libraries Stack Up, 2010* indicated that 300,000 Americans receive job-seeking help at public libraries every day—and 2.8 million times each month public libraries are used to support small businesses."); Karrey Britt, *Lawrence Community Devastated, Shocked by Closing of Its SRS Office*, LJWORLD.COM (July 1, 2011, 5:35 PM), http://www2.ljworld.com/news/2011/jul/01/kansas-srs-closing-lawrence-service-center ("All communities in which [state social service agency] offices will be closed have public libraries that provide Internet access to the public.").

51. *E-rate Sixth Report and Order*, *supra* note 12, at para. 36.

indexing was projected to result in more than \$20 million in additional program support in funding year 2010.[52] Since the start of the program, the FCC has delegated administration of the program to an outside entity.[53] Currently, the Universal Service Administrative Company ("USAC"), a nonprofit corporation, administers the USF and the programs supported by the USF, including the E-rate program.[54]

The amount of discount applied to the cost of service for a particular school or library is based upon the percent of the school's or the school district's population eligible for the National School Lunch Program (a program that provides free or reduced price lunches to income-eligible students).[55] Libraries use the school lunch program data for the school district in which they are located.[56] Applicants with higher percentages of students eligible for the federal lunch program are eligible for higher E-rate discounts.[57] Each eligible applicant is assigned to one of six "discount levels" that comprise the discount matrix.[58] Within each level, there are both urban and rural discount percentages.[59] Rural schools and libraries at the lower discount levels receive a greater discount than urban entities with the same range of lunch-program-eligible students.[60] Discounts are greater for rural schools and libraries up to the 80 percent discount level.[61] As a result, both urban and rural schools and libraries serving student populations of which over 50 percent qualify for the National School Lunch Program receive the same discounts.[62] This general structure of the

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52. *Id.*; *see also* Wireline Competition Bureau Announces E-Rate Inflation-Based Cap for Funding Year 2011, at 11097, *Public Notice*, 26 F.C.C.R. 11097 (2011) (reporting that the Wireline Competition Bureau announced for funding year 2011 a 0.9% inflation-adjusted increase over the funding year 2010 E-rate cap of \$2.27 billion; and that the funding year 2011 funding cap totals \$2.29 billion).

53. Jonathan S. Marashlian, Jacqueline R. Hankins & Linda McReynolds, *The Mis-Administration and Misadventures of the Universal Service Fund: A Study in the Importance of the Administrative Procedure Act to Government Agency Rulemaking*, 19 COMMLAW CONSPECTUS 343, 351–52 ("Congress did not expressly direct the FCC to hand off the day-to-day ministerial functions associated with managing universal service to a separate entity."). For a brief synopsis of the background of USAC, see *id.* at 352 n.39.

54. 47 C.F.R. §§ 54.701–.705 (2011).

55. *1997 Universal Service Report and Order*, *supra* note 1, at para. 520. *See also* 47 C.F.R. § 54.505(c).

56. § 54.505(b)(2).

57. § 54.505(c).

58. *Id. See* the matrix *infra* note 62.

59. § 54.505(c).

60. *Id.*

61. *Id.*

62. See *1997 Universal Service Report and Order*, *supra* note 1, at para. 520 (replicating the discount matrix). *See also* § 54.505(c). Each of the six levels of the matrix represents a range of the portion of students eligible for the National School Lunch

E-rate program has not changed since the program's inception. The priorities for E-rate support have likewise remained the same: discounts for telecommunications services and Internet access remain the first priority, and projects involving internal network connections and maintenance of those connections remain the second priority.

The application process for securing E-rate support is complex[63] and is detailed in FCC rules and regulations.[64] Applicants must submit an annual request for services to the USAC unless services are provided under a multiyear contract. Eligible schools and libraries must develop a technology plan for priority two services.[65] The plan may cover a maximum of three years and "must be approved by a USAC-certified technology plan approver" prior to the initiation of discounted services.[66] Filing a request initiates the FCC-required competitive bidding process that must be followed in addition to any applicable state or local bidding procedure.[67] Applicants are required to choose the service provider using price as the primary factor.[68] After selecting a vendor and contracting for

Program.

Schools and Libraries discount matrix	Discount Level	
How disadvantaged?	Urban discount	Rural discount
% of students eligible for national school lunch program		
<1	20	25
1-19	40	50
20-34	50	60
35-49	60	70
50-74	80	80
75-100	90	90

63. NATIONAL BROADBAND PLAN, *supra* note 15, at 238 ("The FCC has reduced administrative burdens on applicants over the past several years. However, procedural complexities still exist, sometimes resulting in applicant mistakes and the imposition of unnecessary administrative costs. These complexities also may deter eligible entities from even applying for funds in the first place.").

64. §§ 54.500–.503; *see also Overview of the Process*, USAC, http://www.usac.org/sl/about/overview-process.aspx (last visited Feb. 19, 2012).

65. Prior to funding year 2011, a technology plan was required for all E-rate recipients for all services. This requirement was terminated for priority one services pursuant to the *E-rate Sixth Report and Order*, *supra* note 12, at para. 58.

66. *Step 2: Develop a Technology Plan*, USAC, http://www.usac.org/sl/applicants/step02 (last visited Feb. 19, 2012).

67. *Step 3: Open a Competitive Bidding Process (Form 470)*, USAC, http://www.usac.org/sl/applicants/step03/ (last visited Feb. 19, 2012).

68. *Step 4: Select the Most Cost-Effective Service Provider*, USAC, http://www.usac.org/sl/applicants/step04/ (last visited Feb. 19, 2012).

services, the applicant must prepare and submit an application to USAC to request discounts for eligible service costs.[69] USAC reviews the application and, if the application is approved, issues a funding commitment letter indicating the discount level that the applicant may receive.[70] Applicants who are denied by USAC may appeal directly to the FCC or the USAC. An appeal rejected by the USAC may be appealed to the FCC.[71]

The USAC pays universal service support to service providers rather than directly to applicants.[72] In some instances, the school or library pays the prediscounted amount for the eligible service to the service provider and applies for reimbursement from USAC for the amount of the discount. In those cases, the USAC pays the service provider who reimburses the school or library.[73] In other cases, the school or library pays the nondiscounted portion of the service cost to the service provider, who obtains reimbursement from USAC for the discounted amount.[74]

In most years, the amount of funding requested by all E-rate applicants exceeds the annual funding cap.[75] When the application filing period for a given funding year closes, USAC calculates the total amount requested.[76] If requests exceed the total support available in that funding year, USAC makes commitments for requests for telecommunications services and Internet access (priority one services) for all discount levels.[77] Any remaining funds are allocated to requests for support for internal connections and basic maintenance of internal connections (priority two services), beginning with schools and libraries eligible for a 90 percent

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69. *Step 7: Submit Application for Support (Form 471)*, USAC, http://www.usac.org/sl/applicants/step07/ (last visited Feb. 19, 2012).

70. *Step 8: Undergo Application Review*, USAC, http://www.usac.org/sl/applicants/step08/ (last visited Feb. 19, 2012).

71. *Appeals Procedure*, USAC, http://www.usac.org/sl/about/appeals/default.aspx (last visited Feb. 19, 2012).

72. *Step 11: Invoice USAC*, USAC, http://www.usac.org/sl/applicants/step11/ (last visited Feb. 19, 2012).

73. *Id.*

74. *Id.*

75. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-253, TELECOMMUNICATIONS: LONG-TERM STRATEGIC VISION WOULD HELP ENSURE TARGETING OF E-RATE FUNDS TO HIGHEST-PRIORITY USES 13–14 (2009), http://www.gao.gov/assets/290/287867.pdf [hereinafter LONG-TERM STRATEGIC VISION REPORT] ("From 1998 through 2007, applicants requested a total of about $41 billion in E-rate funding—174 percent of the $23.4 billion in program funding available during that time."). *See also E-Rate Applications Surge in 2011*, THE JOURNAL, June-July 2011, at 6 (reporting that $4.31 billion of E-rate support was requested for funding year 2011, up nearly 10 percent over the amount requested for funding year 2010; and that $2.1 billion was requested for priority one services during funding year 2011).

76. 47 C.F.R. 54-507(g) (2011).

77. *Id.*

discount.[78] If funds are available after the 90 percent discount level, applicants receive funding for priority two services and funds are allocated to applicants for priority two services in lower discount levels in descending discount order.[79] As a result, priority two services are generally funded for only the highest discount levels.

Overall, most of the E-rate disbursements from the initial year, 1998, through funding year 2009 (activity through June 30, 2010) were for services to schools and school districts, just over 83 percent of the total.[80] Libraries and "other consortia" received nearly 17 percent of the total.[81] Libraries alone received almost 3 percent of E-rate funds during the first twelve years of the program.[82]

When the E-rate program was initiated, some observers were concerned that schools and libraries would not utilize the program to acquire advanced services.[83] In its *1997 Universal Service Report and*

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78. *Id.*

79. *Id.* Demand for E-rate funds has exceeded the amount available every year except one since the program's inception in 1997. As a result, priority two service support requests are frequently denied. Applicants in discount levels below 80 percent generally have not received priority two support in every funding year since 2004. *See E-Rate Sixth Report and Order*, *supra* note 12, at para. 34 n.108.

80. FED.-STATE JOINT BD. ON UNIVERSAL SERV., UNIVERSAL SERVICE MONITORING REPORT: CC DOCKET NO. 98-202 (2010), at 4–5 tbl.4.1, http://transition.fcc.gov/ Daily_Releases/Daily_Business/2011/db0425/DOC-303886A1.pdf. These calculations are based on figures reported in the "Funding Disbursements" table, which includes data received through October 2010.

81. *Id. See also* 47 C.F.R. § 54.500(e) (2004) (defining "library consortium" as "any local, statewide, regional, or interstate cooperative association of libraries that provides for the systematic and effective coordination of the resources of schools, public, academic, and special libraries and information centers, for improving services to the clientele of such libraries.").

82. UNIVERSAL SERVICE MONITORING REPORT, *supra* note 80, at 4–5 tbl.4.1.

83. *1997 Universal Service Report and Order*, *supra* note 1, at para. 600. ("New York DOE asserts that the Joint Board's recommendation provides no assurances that schools will take advantage of the discounts available under section 254(h)(2) to purchase advanced services rather than simply seeking discounts on the telecommunications services that they currently order."). Congress never defined "advanced services," but delegated authority to the FCC to determine the criteria for Internet connectivity. *See* 47 U.S.C. 254(h)(2) (delegating authority to the FCC to "establish competitively neutral rules-- (A) 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; and (B) to define the circumstances under which a telecommunications carrier may be required to connect its network to such public institutional telecommunications users."). The term "advanced services" is currently construed by the FCC to refer to broadband as reflected in, for example, Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, *Seventh Broadband Deployment Notice*

Order, the FCC pointed to demand for advanced services that existed at the time as evidence that schools and libraries would utilize the program to support those services.[84] During the first six funding years, 1998 through 2003, approximately 59 percent of total E-rate disbursements were for internal connections—one category of priority two services.[85]

Since 2003, disbursements for priority two services have declined markedly as a percent of total disbursements. In 2005, the FCC implemented program changes that resulted in reduced support for internal connections. One of those changes, the "two in five year rule," essentially prohibits applicants from receiving support for internal connections more than twice in a five-year period.[86] The impact of the change is evident in E-rate disbursements. For funding years 2005 through 2009, the proportion of total E-rate support allocated to the two priority categories was nearly reversed, with telecommunications services (a component of priority one services) representing 53 percent of total disbursements, with internal connections second at approximately 32 percent.[87] The Government Accountability Office ("GAO") identified another factor that may have contributed to the decline in both the number of requests and the amount requested for priority two services: lack of funding for priority two services for schools and libraries eligible for discounts below the 80 percent discount level after the 1999 funding year. That lack of funding may have discouraged applicants from seeking priority two support in subsequent years.[88]

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of Inquiry, 25 F.C.C.R. 11355, para.1 n.2 (2010) [hereinafter *Seventh Broadband Deployment Notice of Inquiry*] ("In this *Inquiry*, we use the term 'broadband' synonymously with 'advanced telecommunications capability' and also seek comment on whether we should continue to do so in the next broadband deployment report.").

84. *1997 Universal Service Report and Order*, *supra* note 1, at para. 600 ("We find that the many requests from commenters that we include access to services using high capacity, including T-1 and T-3 lines, or functionalities such as video conferencing for distance learning, confirm that demand for these services actually exists.").

85. *See* UNIVERSAL SERVICE MONITORING REPORT, *supra* note 80, at 4–5 tbl.4.1. The table shows three categories of supported services: internal connections, Internet access, and telecommunications. Based on the authors' calculations from the table, from 1998 through 2003, approximately nearly 9 percent of E-rate disbursements were applied to Internet access and approximately 33 percent of disbursements to telecommunications services, with the remaining almost 59 percent applied to internal connections (percentages are rounded).

86. 47 C.F.R. § 54.506(c) (2004); *see also* Internal Connections, 69 Fed. Reg. 6181, 6191 (Feb. 10, 2004) (originally codified at 47 C.F.R. § 54.506). The section of the C.F.R. was removed and the section number was reserved by the *E-rate Sixth Report and Order*, *supra* note 12, at 63; *see also* 75 Fed. Reg. 75393, 75414 (Dec. 3, 2010).

87. *See* UNIVERSAL SERVICE MONITORING REPORT, *supra* note 80, at 4–5 tbl.4.1. The authors' calculations from the table show that from 2005 and 2009, approximately 15 percent of E-rate disbursements were applied to Internet access (a priority one service).

88. LONG-TERM STRATEGIC VISION REPORT, *supra* note 75, at 16–17 ("According to

The GAO observed that the goals of E-rate support recipients will likely result in a continuation of the emphasis on priority one services. Results of a 2009 survey of 697 E-rate recipients showed that program "participants are somewhat more focused on goals related to maintaining existing information technology services than on those related to adding new capabilities. For instance, we estimate that providing telephone services is a goal for 96 percent of participants . . . ."[89] The degree to which E-rate recipients see the program funding as an operational or administrative support mechanism as well as a means of providing Internet service for community users is revealed in the finding that "providing Internet access for student or library patron use is a goal for 91 percent of beneficiaries and providing it for administrative or operational use is a goal for 94 percent of beneficiaries."[90] Installing or upgrading internal wiring and components is a goal for between 73–74 percent of participants surveyed by GAO.[91] Survey participants were asked to identify their information technology goals with the highest priority. Among the expenses supported by E-rate, telephone service, additional bandwidth for locations that have Internet access, and Internet access for students and patrons were cited most frequently.[92]

V. ON THE RESIDENTIAL FRONT

As discussed in Part IV, the National Broadband Plan and the *E-rate Sixth Report and Order* call for expanded use of E-rate services for the community-based applications. As noted in this Part, the E-rate funding support mechanism continues to place greater priority on discounted telecommunications services than on discounted internal connection and maintenance of those connections. As such, the priorities may not synchronize with the expanded mission contemplated by the FCC.

Over fifteen years have elapsed since the 1996 Act took effect. Therefore, it is fair to ask if Internet connectivity is still a rare presence in U.S. households. The Internet usage profile of adult household members is

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[the] FCC, entities with low discount levels stopped applying for Priority 2 funding because they knew that their requests would not receive funding.").

    89. *Id.* at 3, 17.

    90. *Id.* at 17 n.34.

    91. *Id.* at 17 & n.35.

    92. *Id.* at 17–18 ("[W]hen we asked what participants' highest-priority information technology goals were, the E-rate-eligible expenses cited most often were providing (1) telephone services, (2) additional bandwidth to locations already equipped with Internet access, and (3) Internet access for student or library patron use. According to our analysis of survey responses, the highest-priority goal of participants is increasing the number of or replacing existing computers for student or library patron use but the E-rate program does not cover either.").

of interest because they are likely to use discounted Internet services after school hours for community-based functions. If residential Internet connectivity is indeed ubiquitous, the primary role of community institutions as agents of demand stimulus for Internet services may have come to an end. In fact, in its *Sixth Broadband Deployment Report*, the FCC concluded that deficiencies in broadband deployment remain: "broadband deployment to *all* Americans is not reasonable and timely."[93] That conclusion was based in part on the finding that "roughly 80 million American adults do not subscribe to broadband at home, and approximately 14 to 24 million Americans remain without broadband access capable of meeting the requirements set forth in section 706 [of the 1996 Act]."[94] So, the role of community institutions may become more important as providers of Internet access to that fraction of the population that does not have access at home.

The ability of residents to access and effectively use the Internet at home in most areas of the country has changed dramatically since the creation of the E-rate program, which has enabled schools and libraries to provide Internet-related service to those who do not have service at their homes for whatever reason. As discussed below, there will most likely always be a portion of the population that does not have residential Internet access. Community resources will continue to be necessary, at least in the foreseeable future, because ubiquitous connectivity is not likely to be an attainable goal. In fact, the point regarding the elusive nature of ubiquity of access to technology is made by the FCC's 2011 publication of historical telephone subscribership in the United States. That report showed that nearly five million households (approximately 4 percent of total U.S. households) had no telephone service as of July 2010.[95] The 2010 level of household telephone subscribership, at approximately 96 percent, is up from a first quarter 2005 low of slightly over 92 percent.[96] Despite the variety of support mechanisms for universal telephone service, progress toward the 100 percent goal has been slow during the last quarter century. The 2011 FCC report shows that in November 1983, approximately 91

93. Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, *Sixth Broadband Deployment Report*, 25 F.C.C.R. 9556, para. 2 (2010) [hereinafter *Sixth Broadband Deployment Report*]; *see also Seventh Broadband Deployment Notice of Inquiry*, *supra* note 83.

94. *Sixth Broadband Deployment Report*, *supra* note 93, at para. 1.

95. INDUS. ANALYSIS & TECH. DIV., WIRELINE COMPETITION BUREAU, FCC, TELEPHONE SUBSCRIBERSHIP IN THE UNITED STATES (DATA THROUGH JULY 2010) 6 tbl.1 (2011), http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0519/DOC-306752A1.pdf.

96. *Id.*

percent of households in the country had telephones.[97] For a variety of reasons, including cost and complexity, it is difficult to imagine that absent major changes in the industry, residential connections to Internet services will exceed the level of telephone subscribership.

With passage of the 1996 Act, schools and libraries were entitled for the first time to universal service support. Congress linked "modern telecommunications and information services" with broad-based educational opportunity to be provided by schools and libraries.[98] Clearly, very few people at the time would have been able to access educational content in their homes. In 1995, according to a survey conducted by Odyssey, a marketing research firm in San Francisco, only about 9 percent of U.S. households were online.[99] In 1997, the National Telecommunications and Information Administration of the U.S. Department of Commerce ("NTIA") reported that slightly less than 19 percent of households had Internet access.[100] At that time, Internet connections were slow and commercial Internet services were still in their initial stages. Moreover, in 2000, broadband access to the Internet was utilized by only approximately 4 percent of households.[101] When the 1996 Act was passed, few students and teachers would have had broadband connectivity at home for educational purposes and few library patrons would have been able to access library resources online.

The Pew Research Center's Internet & American Life Project began collecting data about home Internet use and connectivity in 2000.[102] Much has changed since that time. In 2010, approximately 66 percent of all adults surveyed by Pew had broadband connectivity, and dial-up dipped to approximately 5 percent.[103] However, the growth of broadband adoption as measured by the Pew survey began to plateau at approximately 66 percent

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97. *Id.*

98. *1997 Universal Service Report and Order*, *supra* note 1, at para. 424 ("The legislative history [of the 1996 Act] indicated that Congress intended to ensure that eligible schools and libraries have affordable access to modern telecommunications and information services that will enable them to provide educational services to all parts of the nation.").

99. Steve Lohr, *Consumers Are Critical of Online Services, Survey Finds*, N.Y. TIMES, Sept. 8, 1997, http://www.nytimes.com/library/cyber/techcol/090897techcol.html.

100. NAT'L TELECOMMS. & INFO. ADMIN., U.S. DEP'T OF COMMERCE, DIGITAL NATION: EXPANDING INTERNET USAGE 7 fig.1 (2011), http://www.ntia.doc.gov/files/ntia/publications/ntia_internet_use_report_february_2011.pdf [hereinafter 2011 DIGITAL NATION].

101. *Id.* (based on U.S. Census Bureau-gathered data, reporting approximately 4 percent of households had broadband access in 2000). *See also* SMITH, *supra* note 27, at 6 (reporting that 34 percent of adults surveyed in June 2000 had dial-up connectivity at home, compared to only 3 percent who had broadband service).

102. *See* SMITH, *supra* note 27, at 6.

103. *Id.*

in May 2010, up from approximately 63 percent in April 2009; the 3 percent difference in overall broadband adoption from 2009 to 2010 was the lowest year-to-year change experienced recently.[104]

As reported by NTIA, similar results regarding Internet access, regardless of technology, were obtained in interviews conducted by the U.S. Census Bureau's Current Population Survey ("CPS"): the CPS found that, nationwide, the portion of households with access to the Internet increased only from approximately 69 percent to 71 percent between October 2009 and October 2010.[105] In comparison to the Pew survey, the CPS found that broadband adoption had slowed somewhat less, rising from approximately 64 percent of all households in 2009 to approximately 68 percent in 2010.[106]

Lack of access to the Internet at home does not, however, preclude access altogether. In 2010, the CPS found that approximately 72 percent of the population age three and older used the Internet at some location, with the most popular locations outside the home being, in descending order, the workplace and school, public libraries, and another's home.[107] The frequency with which the Internet is accessed outside the home poses two interesting questions: (1) to what extent does Internet use at home complement Internet use at other venues, such as schools and libraries; and (2) to what extent does availability of Internet access at other venues substitute for a lack of Internet access at home?

Since the Pew Research Center first posed questions regarding familiarity with Internet service to nonusers of the Internet in 2003, roughly one in five adults who do not use the Internet reported having some exposure to Internet services.[108] Even if governments place more emphasis on demand-oriented initiatives to expand broadband adoption, one might expect a certain percentage of the population to remain nonusers. A variety of barriers to Internet access were identified in the Pew Research Center's survey which found that over one-fifth of adults surveyed (approximately 21 percent of all adults surveyed in 2010) were not Internet users.[109] The major reason for nonadoption is the perception that the Internet is not relevant to the user; approximately 48 percent of nonusers cited issues that could be categorized as a lack of relevance.[110] The U.S. Census Bureau's

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104. *Id.*
105. 2011 DIGITAL NATION, *supra* note 100, at 7 fig.1.
106. *Id.*
107. *Id.* at 5, 18, 28.
108. SMITH, *supra* note 27, at 10.
109. *Id.* at 3, 10, 11.
110. *Id.* at 10.

CPS also lends some insight into the main reasons provided by households for not using the Internet. In analyzing Internet and broadband trends in the CPS data, NTIA found that in October 2010, approximately 29 percent of households did not use the Internet at home, and nearly 32 percent did not use broadband at home.[111] Of broadband nonadopter households in 2010, approximately 46 percent said they did not need it or were not interested.[112] This response made no distinction between the access speeds or technology of those services. Affordability was identified as a barrier to high speed access by only one-fourth of nonusers.[113]

International assessments of Internet and broadband usage also suggest that ubiquity is an elusive goal. A source of statistics for international comparisons of broadband adoption is the Organisation for Economic Co-operation and Development ("OECD"). The OECD methodology of gauging usage is different from Pew's, in that the latter surveys adoption by people, whereas OECD ranks countries by the percentage of households with broadband service. OECD data have been criticized over the years,[114] but at a general level, they illustrate that no country reported broadband service at every household: the Netherlands has the highest wired broadband subscription rate among OECD countries at approximately 38 percent; the United States ranks fifteenth at nearly 28 percent.[115] However, a much larger population has access to broadband than subscribes to it: OECD data from 2009 reflects access on a household basis (wired and wireless).[116] With the exception of Korea and Iceland, no

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111. 2011 DIGITAL NATION, *supra* note 100, at 5, 28.

112. *Id.* at 20.

113. *Id.*

114. *See, e.g.*, George S. Ford & Lawrence J. Spiwak, *Evaluating Broadband Stimulus and the National Broadband Plan: Establishing Expectations for Broadband Rankings*, PHOENIX CENTER POL'Y BULL. NO. 24 (Phoenix Center for Advanced Legal & Econ. Pub. Policy Studies, D.C.), Mar. 2010, at 3 & n.5, http://www.phoenix-center.org/PolicyBulletin/PCPB24Final.pdf. *See also* Stanford L. Levin, *Universal Service and Targeted Support in a Competitive Telecommunications Environment*, 34 TELECOMM. POL'Y 92, 96 (2010) (citing findings by researchers such as Scott Wallsten and others related to deficiencies in OECD data, including under-reporting of U.S. connections, particularly by businesses, not controlling for household size, problems with accuracy and consistency in reported data, and use of advertised as opposed to actual broadband speeds).

115. Press Release, Organisation for Economic Co-operation and Development (OECD), OECD Broadband Statistics (June 2011) (Dec. 2011), *available at* http://www.oecd.org/document/54/0,3455, en_2649_34225_38690102_1_1_1_1,00.html.

116. In its list of definitions for the broadband tables, the OECD defines "fixed" as "wired." *See OECD Broadband Subscriber Criteria (2010)*, OECD, http://www.oecd.org/document/46/0,3746,en_2649_34225_39575598_1_1_1_1,00.html (last visited Feb. 19, 2012).

other OECD country reported household access exceeding 80 percent in 2009; the United States only had 64 percent in that year.[117]

PART VI. WHY IS COMMUNITY INTERNET ACCESS IMPORTANT?

Even though OECD data and Pew Center surveys indicate that ubiquitous access remains an elusive goal, expanding access to advanced telecommunications and information services (broadband)[118] was an overarching intent of the 1996 Act and has remained the major objective of ensuing FCC orders and the National Broadband Plan. The Plan recommended greater flexibility in the use of E-rate funding for schools for community-based applications,[119] and the FCC's *E-rate Sixth Report and Order* subsequently recommended greater flexibility for such applications.[120]

The goal of expanded access needs to take into account the urban/rural digital divide, which was at heart of the E-rate discount matrix described in Part IV. To understand better the implications of expanded access, one might examine the way adults use broadband services because they will presumably be a target audience for community-based E-rate-funded services. As previously discussed, the urban/rural digital divide is specifically addressed in the different discount amounts authorized for urban and rural schools and libraries eligible to receive E-rate support,[121] with rural institutions eligible for a greater discount in some instances if they have the same portion of students eligible for the school lunch program.[122] Therefore, those schools and libraries receiving larger E-rate discounts likely serve a relatively high proportion of poor adults—a segment of the population that is very likely to lack Internet access at home. Adult Internet users often access the Internet at schools and libraries in addition to their residences.[123] However, it is not possible now to assess

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117. *Households with Broadband Access: 2000-2010*, OECD tbl.2a (2011), http://www.oecd.org/dataoecd/20/59/39574039.xls. In 2009, Sweden came closest to the 80 percent access threshold with 79.5%. *Id.*

118. *See supra* text accompanying note 83 for explanation of "advanced services."

119. NATIONAL BROADBAND PLAN, *supra* note 15, at 236 (providing in Recommendation 11.14 that the FCC adopt its, at the time, pending, Notice of Proposed Rulemaking to eliminate obstacles to using E-rate support for community-based Internet connectivity at schools during off-hours).

120. *See E-rate Sixth Report and Order*, *supra* note 12, at paras. 20–27.

121. *See supra* note 62 for the discount matrix.

122. National School Lunch Program criteria are used to determine the level of discounts for public schools and libraries. *1997 Universal Report and Order*, *supra* note 1, at para. 520.

123. When asked where else they accessed the Internet other than the home, users responded that after the workplace (approximately 40 percent), they most frequently

the degree to which current E-rate support to schools is directly helpful to that population. Because E-rate support has only recently been authorized for community-based applications in schools, information about adults' profiles and the types and scope of services supported by E-rate for community use at schools is not yet available. The U.S. Census Bureau's CPS includes demographic data on adults' Internet access at schools, but it contains no data on how the Internet is being used and does not distinguish between access via E-rate supported facilities and others. Even if data are lacking about how adults use Internet access at schools, we can make several observations.

People in households with broadband Internet access benefit from school and library resources, because residents can make use of databases and expertise provided by teachers and librarians remotely. The universe of resources and interactions is potentially much richer if the home has high-speed access to those venues that are likewise equipped for robust Internet interaction. Indeed, household access may even become a necessity as looming state and local fiscal constraints shift educational activity, once considered the primary domain of schools, to residences. For example, legislation enacted in Florida requires high school graduates to complete at least one online course as a precondition for graduation.[124] Such an application makes a case for Internet access at home and in school.

More detailed information is available about Internet users at U.S. public libraries than at schools. Libraries are frequently visited community centers in many cities and towns. According to the federal Institute of Museum and Library Services' ("IMLS") *Public Libraries Survey Fiscal Year 2008*, there were 9,221 public libraries in the United States with over 16,600 outlets; 1.5 billion total visits to public libraries; and the average person in a library service area went to the library approximately five times during the year.[125] Both the total number of visits and the number of visits per person increased in fiscal year 2008 over the prior year, and library visitation per capita as reported by the IMLS has increased steadily since

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accessed the Internet at public and private schools (approximately 27 percent) and public libraries (approximately 28 percent). *See Current Population Survey, Locations Outside the Home Where the Internet Is Accessed, by Selected Characteristics: Total, Urban, Rural, Principal City, 2010*, NTIA tbl.8 (Jan. 28, 2011, 3:47 PM), http://www.ntia.doc.gov/files/ntia/data/CPS2010Tables/t11_8.txt [hereinafter *Survey of Locations Outside the Home*].

124. 2011 Fla. Laws 19–20 ("Beginning with students entering grade 9 in the 2011-2012 school year, at least one course within the 24 credits required in this subsection must be completed through online learning.").

125. EVERETT HENDERSON ET AL., INST. OF MUSEUM & LIBRARY SERVS., PUBLIC LIBRARIES SURVEY: FISCAL YEAR 2008 4–5 (2010), http://harvester.census.gov/imls/pubs/Publications/pls2008.pdf.

fiscal year 1999.[126] In the report *Opportunity for All*, a 2009 study of uses and users of Internet services at public libraries, in which 401 public libraries were surveyed, showed who relied on those community resources.[127] The survey did not distinguish between E-rate subsidized libraries and those that were not supported by E-rate. *Opportunity for All* found that 44 percent of people from the poorest households (below the poverty line) used public libraries for Internet access.[128] People in households earning between 100 percent and 200 percent of the poverty level, or approximately $22,000 to $44,000 for a family of four, had between two and three times the likelihood of using library computers or wireless connections as those in households earning in excess of 300 percent of the poverty level.[129]

Opportunity for All described seven general categories of Internet applications: (1) education, (2) employment and entrepreneurship, (3) health and wellness, (4) government and legal services, (5) community engagement, (6) managing finances, and (7) social connections.[130] In all cases, people with lower incomes tended to use the Internet in libraries for those purposes. For example, people with household incomes below the poverty level were more than twice as likely as people from more affluent households to use the Internet for employment purposes.[131] The survey also found that library patrons use public access computers most commonly to get information about education (42 percent), employment (40 percent), and health (37 percent).[132] To varying degrees, depending on the specific activity, people from lower income households accessed the Internet at public libraries more than individuals from other income groups.[133] This

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126. *Id.* at 5.

127. SAMANTHA BECKER ET AL., OPPORTUNITY FOR ALL: HOW THE AMERICAN PUBLIC BENEFITS FROM INTERNET ACCESS AT U.S. LIBRARIES 18 fig.2 (2010), http://www.gates foundation.org/learning/Documents/OpportunityForAll.pdf. The findings of this study were based on a national telephone survey of over 3,000 people and on almost 45,000 web survey responses in addition to over 300 interviews with users, nonusers, staff, administrators, funding agencies, and other community agencies in four case study sites around the country (Baltimore, Maryland; Fayetteville, Arkansas; Marshalltown, Iowa; and Oakland, California). The survey was conducted between April and August 2009. For further details on research methods, see *id.* at app. 2, http://impact.ischool.washington.edu/documents /OPP4ALL_Appendix2.pdf.

128. BECKER, *supra* note 127, at 2.

129. *Id.* at 33.

130. *Id.* at 54.

131. *Id.* at 74.

132. *Id.* at 5.

133. *See generally id.* Characteristics other than household income were used in the survey to gauge Internet access, use, and the degree of the "digital divide." These characteristics include age, race, gender, education, and English proficiency. The

finding suggests that libraries are often settings where lower income people transact important Internet-based business.

The potential for libraries as a source of spurring connectivity to nonusers may not have been fully exploited. Based on research into the impact of federal funding programs on broadband adoption, LaRose et al. identified "outreach to the unconnected [as] another role for the public sector to play. . . . [T]he mission of programs such as e-Rate [sic] might be expanded to encompass public education efforts."[134] Libraries would appear to be particularly well-suited to conduct such outreach efforts that would support both public and private sector efforts to expand broadband adoption. However, as LaRose, et al. observe, additional research and different types of analyses are necessary to determine the effectiveness of various broadband stimulus activities.[135]

The 2010 U.S. Census Bureau's CPS provides a picture of where people access the Internet outside the home and as complements to access in the home. Internet access in rural areas at schools and libraries lagged behind such access in urban areas by approximately 1 percent and 3 percent, respectively.[136] Access in rural areas from locations other than home (workplace, community center, Internet café, someone else's home, and other places) also lagged behind.[137] The urban/rural differences in these data are consistent with less development in rural areas.

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characteristics were applied to activities subsumed under each of the seven categories (education, employment and entrepreneurship, health and wellness, government and legal services, community engagement, managing finances, and social connections), thus providing a detailed profile of Internet users at U.S. public libraries.

134. Robert LaRose et al., *The Impact of Rural Broadband Development: Lessons from a Natural Field Experiment*, 28 GOV'T INFO. Q. 91, 99 (2011).

135. *Id.* at 98. In a similar vein, the FCC also envisioned using savings from the Lifeline program for training to help the low income population acquire digital literacy skills. *See also* Lifeline and Link Up Reform and Modernization, *Report and Order and Notice of Proposed Rulemaking*, WC Docket No. 11-42, FCC 12-11, paras. 324, 351, 416–47 (rel. Feb. 6, 2012) ("propos[ing] to provide support for digital literacy training and seek[ing] comment on dedicating a certain amount of annual funding for training at libraries and schools that do not currently offer this service in order to help these institutions develop ways to reduce the digital literacy skills gap and to assist Americans who have not yet adopted broadband technology gain the necessary digital skills.").

136. *See Survey of Locations Outside the Home, supra* note 123 (showing, based on the authors' calculations from data in the table, that nearly 28 percent of urban Internet users accessed the Internet at schools and slightly over 26 percent of the rural population accessed the Internet at schools; and that nearly 12 percent of urban Internet users accessed the Internet at public libraries while slightly over 9 percent of rural Internet users gained access at public libraries).

137. *Id.* (showing, based on the authors' calculations from data in the table, that nearly 63 percent of urban residents accessed the Internet from workplaces, community centers, Internet cafés, someone else's home, and other places, while nearly 55 percent of rural residents accessed the Internet from those same facilities).

Moreover, almost 14 percent of U.S. households that did not use the Internet from a home connection cited availability of the Internet elsewhere as their main reason for not having Internet at home, and the percentages varied both by urban and rural regions and also by state.[138] Not surprisingly, access elsewhere was a reason for not having access at home for 14 percent of the nation's urban population, but only 11 percent of the rural population.[139] At one end of the spectrum, slightly less than 4 percent of West Virginia households compared to, for example, almost 28 percent of Massachusetts households at the other end of the spectrum cited access to Internet outside the home as the reason for not having home service.[140] CPS data are also collected for intrastate comparisons of U.S. households' access of Internet services elsewhere to help explain why they lack access at home.[141] For example, availability elsewhere was cited by approximately 13 percent of such households in urban Illinois and slightly over 10 percent in rural Illinois.[142] Arkansas ranks last among the fifty states in regard to the percentage of the population with Internet access at any location.[143]

Availability elsewhere was the major factor for non-use at home in approximately 18 percent of households in urban areas and almost 7 percent of households in rural areas.[144] Responses from households regarding non-use due to availability in other locations may be understated because the question to householders was framed in terms of their *main* reason for nonadoption. So, a secondary reason for non-use at home could also be availability elsewhere, which would not be captured in those responses.

In fact, less than 2 percent of all households surveyed in 2010 indicated that availability of Internet service, in and of itself, was the main reason not to have Internet service at home.[145] However, availability is

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138. *Current Population Survey, Households with No Connection to the Internet from Home, by Selected Characteristics: Total, Urban, Rural, Principal City, 2010*, NTIA tbl.7b (2011), http://www.ntia.doc.gov/files/ntia/data/CPS2010Tables/t11_7b.txt [hereinafter *Survey of Households with No Connection to the Internet*] (based on the authors' calculations from data in the table).

139. *Id.*

140. *Id.*

141. *Id.*

142. *Id.*

143. *Current Population Survey, Persons Using the Internet in and Outside the Home, by Selected Characteristics: Total, Urban, Rural, Principal City, 2010*, NTIA tbl.1 (2011), http://www.ntia.doc.gov/files/ntia/data/CPS2010Tables/t11_1.txt [hereinafter *Survey of Persons Using the Internet In and Outside the Home*].

144. *Survey of Households with No Connection to the Internet*, *supra* note 138.

145. *Id.* The total non-user population (82,683) was reported in *Survey of Persons Using the Internet In and Outside the Home*, *supra* note 143. The percentage was derived from individuals with no connection at home in who cited as their main reason for nonconnection

more of an issue for rural than urban populations. Approximately 0.5 percent of urban non-users cited availability as the most important factor compared to almost 6 percent of rural non-users.[146]

A national picture of Internet use may obscure unique local situations regarding Internet access from schools and libraries. CPS aggregates data on Internet usage rates by state.[147] For example, New Hampshire and Washington were two states with the highest Internet use rates in the nation in 2010: in both states, approximately 80 percent of the population accessed the Internet from some location.[148] New Hampshire's access percentages were fairly similar in urban and rural areas for both schools and libraries, but Washington's were not: the portion of the population accessing the Internet from a school was 10 percent greater (almost 37 percent compared to almost 27 percent) in rural than urban locations in Washington.[149] The reverse was true for access from public libraries: nearly twice the portion of Washington's urban population obtained Internet access at a library as compared to the rural population (nearly 14 percent versus almost 7 percent, respectively).[150] The relative disparities in Internet access between urban and rural schools and libraries in Washington were not, however, reflected in home-based Internet use statistics: the percentage of people that used the Internet at home was approximately 72 percent in both the urban and rural regions of the state.[151] And approximately 20 percent of the population in urban areas, and the same percentage in rural areas of the state, did not use Internet.[152] This observation about Washington suggests that a more granular analysis of the digital divide in each state should be conducted in order to better target E-rate support for schools and libraries. In order to accurately and appropriately conduct such analysis, data must be gathered on a state-by-state basis. Reliance on the CPS survey results, for example, likely would not be appropriate because the sample size for a given state is small.

Federal initiatives to bridge the digital divide in urban and rural areas of the nation have not been solely the domains of the E-rate program and

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that they could access the Internet elsewhere. *Id.*

146. *Id.*

147. *Current Population Survey, Percent of People Who Use the Internet at Any Location, Ranked by State: 2010*, NTIA tbl.3 (2011), http://www.ntia.doc.gov/files/ntia/data/ CPS2010Tables/Table_3.xlsx [hereinafter *Percent of People Who Use the Internet at Any Location*].

148. *Id.*

149. *Survey of Locations Outside the Home*, supra note 123.

150. *Id.*

151. *Survey of Persons Using the Internet In and Outside the Home*, supra note 143.

152. *Id.*

the FCC. For example, Congress authorized use of federal stimulus money through the American Recovery and Reinvestment Act of 2009 ("ARRA")[153] for infrastructure projects which are expected to reduce Internet access costs for anchor institutions, including rural schools and libraries.[154] Approximately $7 billion of ARRA funding was appropriated for broadband-related projects.[155] NTIA received $4.4 billion to administer the *Broadband Technology Opportunities Program* ("BTOP"), and the U.S. Department of Agriculture's Rural Utilities Service ("RUS") received $2.5 billion to administer the *Broadband Initiatives Program* ("BIP").[156] As of September 30, 2011, the BTOP had provided funding to 229 projects.[157] In addition to infrastructure projects, BTOP and BIP funds were to be used "to provide broadband education, awareness, training, *access*, equipment or support, particularly among vulnerable population groups where broadband technology has traditionally been underutilizied."[158] Over half of BTOP-funded projects are for infrastructure projects, sixty-six are for public computer centers, and forty-four are for sustainable broadband adoption.[159] According to NTIA's report on BTOP grant awards, middle mile connectivity infrastructure projects propose to connect or increase speeds for 24,000 anchor institutions, including 8,000 schools and libraries, community colleges, and universities, and to directly connect approximately 2,000 libraries.[160] While the infrastructure projects funded through BTOP present a relatively traditional supply-side stimulus, thus seeking to improve Internet access from a different angle than does E-rate,

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153. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

154. NAT'L TELECOMMS. & INFO. ADMIN., U.S. DEP'T OF COMMERCE, THE BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM: EXPANDING BROADBAND ACCESS AND ADOPTION IN COMMUNITIES ACROSS AMERICA, OVERVIEW OF GRANT AWARDS 3 (2010), *available at* http://www.ntia.   doc.gov/report/2010/expanding-broadband-access-and-adoption-communities-across-america-overview-grant-awards [hereinafter BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM].

155. *Id.* at 2.

156. BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM, *supra* note 154, at 3. Originally, NTIA received $4.7 billion but $302 million was subsequently rescinded. Senate Amendment to H.R. 1586,, Pub. L. No. 111-226, 124 Stat. 2389 (2010).

157. NAT'L TELECOMM. & INFO. ADMIN., U.S. DEPT. OF COMMERCE, BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM (BTOP) QUARTERLY PROGRAM STATUS REPORT, DEC. 2011, at 1 n. 2, http://www.ntia.doc.gov/files/ntia/publications/btop-quarterly-congressional-report-dec-2011.pdf.

158. Press Release, U.S. Dep't of Agric., Commerce and Agriculture Announce Strong Demand for First Round of Funding to Bring Broadband, Jobs to More Americans (August 27, 2009), *available at* http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=2009/08/0409.xml (last visited Feb. 19, 2012) (emphasis added).

159. BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM, *supra* note 154, at 3.

160. *Id.* at 6, 10, 15.

BTOP appears to recognize the importance of non-network elements of training and local program support that are not directly supported by E-rate funding.[161]

Finally, stimulus funding and the E-rate program may not totally eradicate all the disparities for Internet access. Although Internet access may not be as critical of a concern in 2011 as it was in 1996, certain regions of the country still have challenges in that regard. The nonuniform level of access raises questions about the need for a more nuanced approach to E-rate subsidies. Moreover, in contrast to the E-rate program, the ARRA-funded programs were designed to be short-lived.[162] The only other broadband infrastructure programs of longer duration are the Rural Broadband Access Loan and Loan Guarantee Program and the Community Connect Broadband Grants, administered by the Rural Utilities Service of the U.S. Department of Agriculture.[163] Therefore, any future federal interventions to mitigate challenges in Internet access will likely engage the ongoing E-rate and U.S. Department of Agriculture programs.

VII. CRITICISM OF THE E-RATE PROGRAM

If the E-rate program is to be expanded to accommodate community-based applications and greater use by adult populations, it may be useful to examine its reported shortcomings. Since its inception, the E-rate program has been the target of intense criticism and scrutiny by Congress. The essence of the criticism centers on the FCC's apparently ineffective management of a program that attempts to provide funding to the vast majority of schools and libraries in the country to stimulate demand for services in the absence of clear, outcome-centered goals.[164] That situation

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161. *See id.* at 2. The third goal for BTOP includes training and support to community anchor institutions.

162. *See* LENNARD G. KRUGER & ANGELE A. GILROY, CONG. RESEARCH SERV., RL 30719, BROADBAND INTERNET ACCESS AND THE DIGITAL DIVIDE: FEDERAL ASSISTANCE PROGRAMS 2 (2011) ("With the conclusion of the grant and loan awards announced by broadband programs *temporarily* established by the American Recovery and Reinvestment Act of 2009 (P.L. 111-5), the Rural Broadband Access Loan and Loan Guarantee Program and the Community Connect Broadband Grants, both at the Rural Utilities Service of the U.S. Department of Agriculture, are currently the only ongoing federal funding programs exclusively dedicated to deploying broadband infrastructure.") (emphasis added). *See also* Memorandum from Jacob J. Lew, Director, Office of Management and Budget for Heads of Executive Departments and Agencies (September 15, 2011) (encouraging agencies to accelerate spending of remaining ARRA funds in order to complete projects by September 30, 2013, and to reclaim amounts that have not been expended by that date).

163. KRUGER & GILROY, *supra* note 162, at 11.

164. *See, e.g.*, U.S. GOV'T ACCOUNTABILITY OFFICE, GAO 05-151, TELECOMMUNICATIONS: GREATER INVOLVEMENT NEEDED BY FCC IN THE MANAGEMENT AND OVERSIGHT OF THE E-RATE PROGRAM (2005), http://www.gao.gov/new.items/d05151.pdf

is complicated by the fact that, as noted above, the flow of funding to recipients is complex;[165] the application process is detailed in regulations[166] but may arguably not provide sufficient information for oversight; and the program's administrative entity, USAC, is not part of the FCC. Moreover, given reports of fraud and lack of accountability, one might perhaps conclude that the FCC's Office of Inspector General ("OIG") lacks sufficient resources to adequately oversee the Universal Service programs.[167]

The 1996 Act stated its explicit objective as expanding *access* to telecommunication services and the Internet ("advanced services") in eligible schools and libraries.[168] Yet, reviews of the E-rate program have raised questions about the effectiveness of the support, which totaled over $29 billion from 1998 to 2010.[169] Some attempts to evaluate the program have included measures of the impact of E-rate support on student achievement without recognizing the absence of an educational achievement goal in the program's authorizing law.[170] These research

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("[The] FCC's oversight mechanisms contain weaknesses that limit FCC's management of the program and its ability to understand the scope of any waste, fraud, and abuse within the program.").

165. *See supra* note 63.

166. 47 C.F.R. §§ 54.500–.523 (2011).

167. *See generally* discussion *infra* Part VII. *See also* FCC OFFICE OF INSPECTOR GEN., SEMIANNUAL REPORT TO CONGRESS: OCTOBER 1, 2010 THROUGH MARCH 31, 2011 3–5 (2011), http://transition.fcc.gov/oig/FCC_OIG_SAR_March_2011_Final.pdf.

168. 47 U.S.C. § 254 (1996).

169. *Automated Search of Commitments, Quick Facts by Year, Funding Years 1998-2010*, USAC, http://www.usac.org/sl/tools/commitments-search/Default.aspx (data as of Aug. 14, 2011).

170. *See* Jacob L. Vigdor & Helen F. Ladd, *Scaling the Digital Divide: Home Computer Technology and Student Achievement* (Nat'l Bureau of Econ. Research, Working Paper No. 16078, 2010), http://www.nber.org/papers/w16078.pdf. Vigdor and Ladd's paper analyzes the achievement of North Carolina public school students in fifth through eighth grade between 2000 and 2005. The authors determined that the students' high-speed Internet access at home had statistically significant negative effect on students' math and reading test scores. An earlier and often cited study presumes that educational achievement is a desired outcome of the 1996 Act. *See* Austan Goolsbee & Jonathan Guryan, *The Impact of Internet Subsidies in Public Schools*, 88 REV. ECON. & STAT. 336 (2006). That study found that the E-rate program succeeded in connecting classrooms to the Internet, but E-rate investments showed no significant impact on student test scores. *Id.* at 346. The data used for this study spanned the years 1996–1997 through 2000–2001, when the Internet content for curricula and teacher proficiency in using that content would have been in their initial stages. *Id.* at 5–6. It is not clear if the same results would have occurred with a longer time horizon. For a perhaps more nuanced approach to assessing the impact of E-rate investments, see GREGORY M. LEE & MARY L. LIND, STUDENT ACHIEVEMENT IN FOUR URBAN SCHOOL DISTRICTS: IMPACT OF INFORMATION TECHNOLOGY, INFORMATION SYSTEMS EDUCATION CONFERENCE (2010), http://proc.isecon.org/2010/pdf/1307.pdf. Lee's study examined school districts in four states: California, Texas, Illinois, and Pennsylvania. The study classifies school districts

efforts notwithstanding, it may be impossible to draw definitive conclusions about the contribution of E-rate investments to student achievement in part because the 1996 Act does not provide any indication that student achievement, however defined, was a goal. In recent years, federal and state education reform initiatives have increasingly focused on improving achievement and assisting failing schools, which are often also poorer schools. Teasing out these factors to explain any improvement in test scores solely due to E-rate support would be daunting.

Four GAO reports have recommended that the FCC establish a long-term strategic vision and performance outcomes and measures for the E-rate program. The issue of performance goals for the E-rate program was addressed by the GAO early in the life of the Schools and Libraries Program, initially in 1998.[171] Concerns have persisted, as explained in the most recent GAO report issued in 2009.[172] According to the GAO, program outcomes could be used to inform the allocation of funds and adoption of new approaches to the program.[173] Program benefits are often measured with outcome metrics that are tied to specific goals. At the time of the GAO's 2009 review, the GAO noted that while the FCC had established goals and measures for previous years of the program, goals for the current period were not in place.[174] The absence of performance goals and measures of program outcome also makes it difficult to justify a growing emphasis on priority one services (Internet access and telecommunications).[175] The GAO recommended in 2009 that the FCC report to Congress on the FCC's strategic vision and long-term goals for the program and its performance plan for undisbursed funds for which funding commitments have expired.[176]

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as urban impoverished, affluent, impoverished, and districts that are not impoverished, and uses data spanning 1997–2008. The study shows a narrowing of the achievement gap by approximately 3.5 percent between urban impoverished and affluent schools between 1997 and 2008. In terms of narrowing the achievement gap, the study surmises that the diffusion of IT, spurred by E-rate-supported investments, contributed to the reduction. *Id.* at 9.

171. THE LONG-TERM STRATEGIC VISION REPORT, *supra* note 75, at 2 ("In 1998, GAO first recommended that FCC develop specific performance goals and measures for the E-rate program in accordance with the Government Performance and Results Act of 1993.").

172. *Id.* at 47–48. The other two GAO reports and recommendations for improving performance goals were issued in 1998 and 1999. *See id.* at 44 tbl.2.

173. *Id.* at 48 ("Measures should provide useful information for decision making," and finding that "the application-processing data are output, not outcome, oriented, and the intended uses of the data do not include such program-management activities as allocating resources or adopting new program approaches if needed.").

174. *Id.* at 18.

175. *Id.*

176. *Id.* at 50.

If the only goal of the E-rate program is universal access to telecommunications and advanced services, the measurements might be relatively simple. However, the GAO noted the following in 2005:

> The goals established for fiscal years 2000 through 2002 focused on the percentage of public schools connected to the Internet, but the data used to measure performance did not isolate the impact of E-rate funding from other sources of funding, such as state and local government. A key unanswered question, therefore, is the extent to which increases in connectivity can be attributed to E-rate. For fiscal years 2000 through 2002, FCC's goals focused on achieving certain percentage levels of Internet access for schools, public school instructional classrooms, and libraries. However, the data that FCC used to report on its progress was limited to public schools (rather than including private schools and libraries) and did not isolate the impact of E-rate funding from other sources of funding, such as state and local government. This is a significant measurement problem because, over the years, the demand for internal connections funding by applicants has exceeded the E-rate funds available for this purpose by billions of dollars. Unsuccessful applicants had to rely on other sources of support to meet their internal connection needs. Consequently, a fundamental performance question that remains unanswered is how much of the increase in public schools' access to the Internet can be attributed to the E-rate program.[177]

Another evaluation of the allocation of E-rate funds conducted during 2005 used statistical methods to determine whether the E-rate program had enhanced the provision of services in disadvantaged communities.[178] The dependent variable used in the study was the aggregate amount of money allocated to each state in 2002.[179] The results of the study showed that only the population of a state served as a predictor of the amount of E-rate support received; other factors—the level of education, affluence, the rural nature of the population, and the computer penetration of the state's population—are not predictive of funding levels.[180] While looking for indicators of effectiveness at the state level (rather than the school district

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177. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-05-151, TELECOMMUNICATIONS: GREATER INVOLVEMENT NEEDED BY FCC IN THE MANAGEMENT AND OVERSIGHT OF THE E-RATE PROGRAM 5 (2005), http://www.gao.gov/new.items/d05151.pdf.

178. Costas Panagopoulos, *Follow the Money: Assessing the Allocation of E-Rate Funds*, 23 SOC. SCI. COMPUTER REV. 502 (2005). The methodology used is Ordinary Least Squares (OLS) regression analysis. For an explanation of the results, see *id.* at 505–06.

179. *Id.* at 505.

180. *Id.* ("The findings reveal that only the size of a state (population) is a reliable predictor of the amount of E-Rate funding a state is likely to receive. More populous states do receive more E-Rate funding. In fact, for each 1,000-person increase in the size of the population, a state can expect to receive an additional $10,000 in E-Rate funding. None of the other predictors appear to be related to the level of E-Rate funding, however." (footnote omitted)).

or library service area levels) may have skewed the study's results, evaluation of the effectiveness of the program at reaching the designated target populations may be worth replicating at the appropriate level of granularity.

Identifying unintended consequences of the E-rate program is particularly difficult in the absence of specific goals. Some of those consequences might take the form of perverse investments which are also hard to quantify. For example, in the early days of the E-rate program, there were incentives for schools to invest in wiring for their classrooms. Goolsbee and Guryan observed that, "[h]ad the subsidy not accelerated investments, many schools could have avoided the costs of physical infrastructure by using the now common (and inexpensive) wireless networks."[181]

Management and oversight of the program also has been criticized in various studies. The FCC's OIG has routinely included in its semiannual reports to Congress a discussion of the E-rate program.[182] In 2006, the OIG observed that, "[d]ue to its materiality and an initial assessment of its potential for waste, fraud and abuse, this office had previously focused much of its effort on the . . . 'E-rate' program."[183] Descriptions of investigations of E-rate related fraud cases[184] in this report suggest that the Achilles' heel of the OIG's oversight effort may be underfunding.[185]

Fraudulent practices may be able to persist in part from the E-rate program's complex structure combined with its scale and the FCC's arm's-length administration via a nongovernmental entity. The program administrator, USAC, disburses funding from several fiscal years simultaneously on an ongoing basis for recurring expenses, rather than for specific projects, to thousands of schools and libraries and their multiple vendors across the nation. In 2006 and 2007, the OIG supervised USAC audits of over 450 USF beneficiaries and contributors. The OIG's conclusion based on that series of audits was that, generally, participants were in compliance with FCC rules but erroneous payment rates were over

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181. Goolsbee & Guryan, *supra* note 170, at 346.

182. For a list of reports, see FCC Office of Inspector Gen., *Semi-Annual Reports Issued by the Office of Inspector General* (last visited Feb. 19, 2012), http://oig.hhs.gov/reports-and-publications/semiannual/index.asp.

183. FCC OFFICE OF INSPECTOR GEN., SEMIANNUAL REPORT TO CONGRESS: APRIL 1, 2006 – SEPTEMBER 30, 2006 8 (2006), http://www.sec-oig.gov/Reports/Semiannual/2006/semioct 06.pdf.

184. *See, e.g.*, *id.* at 15–17. For recent examples of investigations of E-rate related fraud, see also SEMIANNUAL REPORT TO CONGRESS: OCTOBER 1, 2010 THROUGH MARCH 31, 2011, *supra* note 167, at 25–27.

185. *Id.* at 18.

9 percent in most USF programs.[186] In the E-rate program, the erroneous payment rate was reported to be almost 13 percent (statistically estimated to be approximately $210 million).[187] That level of erroneous payments placed the E-rate program in the "at risk" category under the federal Improper Payments Information Act. (A program is designated "at risk" if the erroneous payment rate is both greater than 2.5 percent of annual payments and ten million dollars.) A second round of audits, including 260 schools and libraries, was initiated in 2008. The E-rate program was found again to be "at risk" by a greater margin (almost 14 percent) under the Improper Payments Information Act.[188] While any direct or indirect subsidy can be the target of bad actors, the resources necessary to effectively monitor the myriad details of the program appear to be beyond the FCC or the program administrator, namely USAC.

The Congressional Research Service ("CRS") has published a number of issue briefs and reports to Congress regarding the E-rate program.[189] Those reports, together with transcripts of Congressional hearings, provide a history of ongoing congressional concerns about the program.[190]

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186. FCC OFFICE OF INSPECTOR GEN., SEMIANNUAL REPORT TO CONGRESS: APRIL 1, 2007 – SEPTEMBER 30, 2007 17 (2007), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-278589A1.pdf.

187. *Id.* The definition of erroneous payment used in the audits was created by the: Office of Management and Budget under the Improper Payments Information Act to be "any payment that should not have been made or that was made in an incorrect amount under statutory, contractual, administrative, or other legally applicable requirements. Incorrect amounts are overpayments and underpayments (including inappropriate denial of payment or service). . . . In addition, when an agency's review is unable to discern whether a payment was proper as a result of insufficient or lack of documentation, this payment must also be considered an error."

Id.

188. FCC OFFICE OF INSPECTOR GEN., SEMIANNUAL REPORT TO CONGRESS: OCTOBER 1, 2008 – MARCH 31, 2009 19 (2009), http://transition.fcc.gov/oig/OIG_SAR_033109.pdf.

189. *See* ANGELE A. GILROY, CONG. RESEARCH SERV., RL 33979, UNIVERSAL SERVICE FUND: BACKGROUND AND OPTIONS FOR REFORM (2011), http://assets.opencrs.com /rpts/RL33979_20110411.pdf [hereinafter 2011 BACKGROUND AND OPTIONS FOR REFORM]. This is the fifth, and at the time of writing, most recent version of this report. For an earlier issue brief on the controversies related to E-rate, see ANGELE A. GILROY, CONG. RESEARCH SERV., IB 98040, TELECOMMUNICATIONS DISCOUNTS FOR SCHOOLS AND LIBRARIES: THE "E-RATE" PROGRAM AND CONTROVERSIES (2005), http://assets.opencrs.com/rpts/IB98040_ 20050506.pdf [hereinafter 2005 "E-RATE" PROGRAM AND CONTROVERSIES].

190. *See* ANGELE A. GILROY, CONG. RESEARCH SERV., IB 98040, TELECOMMUNICATION DISCOUNTS FOR SCHOOLS AND LIBRARIES: THE "E-RATE" PROGRAM AND CONTROVERSIES 11–15 (2001); ANGELE A. GILROY, CONG. RESEARCH SERV., IB 98040, TELECOMMUNICATION DISCOUNTS FOR SCHOOLS AND LIBRARIES: THE "E-RATE" PROGRAM AND CONTROVERSIES 11–14 (2003); ANGELE A. GILROY, CONG. RESEARCH SERV.,, IB 98040, TELECOMMUNICATION DISCOUNTS FOR SCHOOLS AND LIBRARIES: THE "E-RATE" PROGRAM AND CONTROVERSIES 12–13 (2003); ANGELE A. GILROY, CONG. RESEARCH SERV., IB 98040, TELECOMMUNICATION

Congressional interest in, and concern about, universal service programs in general, and the E-rate program in particular, spans the programs' existences, as reflected in an observation by CRS:

> As was the case in the 110th and 111th Congresses, the 112th Congress is expected to continue its review of the USF, and all four of the programs will be subject to oversight to prevent any fraud, waste, or abuse. . . . Concerns about fraud and abuse are shared by both critics and supporters of the program. For example, critics of the E-rate program have used examples of fraud, waste, and abuse to call for a halt to the program or at a minimum, its suspension until additional safeguards are in place. Supporters also want to ensure the integrity of all four programs since the misuse of funds or unreasonable administrative costs not only leave the program vulnerable to critics, but would only decrease available funding to meet the program's goals.[191]

Some of those concerns have been translated into congressional measures intended to scrap or change the E-rate program. A recent example, though not enacted, includes the "E-Rate 2.0 Act of 2010," introduced by Representative Markey of Massachusetts and cosponsored by Representatives Capps, Eshoo, and Matsui from California and Representative Doyle of Pennsylvania.[192] In his statement announcing the introduction of the bill, Representative Markey pointed to the fact that the portion of K–12 classrooms with Internet access has increased from 14 percent to 95 percent since enactment of the 1996 Act as evidence that the original mission of the E-rate program has been nearly fulfilled.[193] The bill would initiate three pilot programs: one to provide vouchers to low-income students to enable them to purchase residential broadband service; one to provide grant funding to needy community colleges and Head Start centers for broadband equipment and services; and one to enable E-rate applicants to obtain discounted e-book technology and services for particularly low-income students.[194] An example of the sentiment of those who oppose continuation of the USF in its current form is a resolution introduced, but

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DISCOUNTS FOR SCHOOLS AND LIBRARIES: THE "E-RATE" PROGRAM AND CONTROVERSIES 13–16 (2005); ANGELE A. GILROY, CONG. RESEARCH SERV., RL 33979, UNIVERSAL SERVICE FUND: BACKGROUND AND OPTIONS FOR REFORM 20–21 (2010) [hereinafter 2010 BACKGROUND AND OPTIONS FOR REFORM]; 2005 "E-RATE" PROGRAM AND CONTROVERSIES, s*upra* note 189, at 24–26; KRUGER & GILROY, *supra* note 162, at 16–21.

191. 2010 BACKGROUND AND OPTIONS FOR REFORM, *supra* note 190, at 16–17. The four programs supported by the USF are the High Cost Program, Low Income Program, Schools and Libraries Program, and Rural Health Care Program. *See supra* text accompanying note 10.

192. H.R. 4619, 111th Cong. (2010).

193. 156 CONG. REC. 20, E173 (daily ed. Feb. 9, 2010) (statement of Rep. Edward Markey).

194. *Id.*

not adopted, in 2011 by Representative Latta of Ohio.[195] The preamble of Latta's resolution points to public/private partnerships as the preferred means of solving the "mismanagement, a bloated budget, and out-of-date initiatives" of the USF.[196]

VII. CONCLUSION

Below are five specific suggestions for structural improvements to the E-rate program. These suggestions are based on the analysis provided above, and the assumption that the amount of USF funding available for technology in schools and libraries will remain stable at the current level of approximately $2.3 billion per year and will continue to be indexed to inflation. These suggestions are centered on the assumption that general structural change will enable more effective targeting of resources to communities of greatest need.

A.   New Priorities

The FCC should shift the focus of E-rate support from basic telecommunication and Internet access (current priority one services) to advanced services, internal connections and their maintenance (elements of current priority two services). This shift of program priorities essentially acknowledges that the basic telecommunications and Internet access goals of schools and libraries have been generally met and that more funding needs to be directed at this juncture to advanced services, now partially subsumed under priority two. This recommendation would appear to require no change to the 1996 Act because the program priorities are set by the FCC. We note that this proposed shift in funding is in the spirit of the recommendations in the National Broadband Plan, some of which were recently adopted by the FCC in its *E-rate Sixth Report and Order* and the Funding Year 2010 Threshold Recommendation requiring support of priority two services for all discount levels.

In addition, as described in Part III above, E-rate support with new priorities could extend to accomplishment of National Broadband Plan goals by providing financial incentives for the development of content for distance education and other education-related applications. Specifically, targeted E-rate grants could also support the efforts of other education technology programs at the federal and state levels and provide for skill development among school and library personnel who serve as the front line "help desk" in community computing centers. Other human

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195. H.R. Res. 175, 112th Cong. (2011).
196. *Id.*

infrastructure could also be supported by targeted grants based on demonstrated need. These final examples of more extensive changes in program focus likely would require amendment of the 1996 Act.

B.   *Sustainability Transition*

The FCC should utilize most of the E-rate funding for sustainability transition grants that cannot exceed five years. As noted in Part III above, an abrupt termination of E-rate support may have unforeseen consequences. Thus, a transformation of the E-rate program should provide for a period of time during which those institutions with sufficient means can make other plans than to rely on E-rate discounts for telecommunication expenses, in particular. The underlying idea is that money is fungible, and the governing authorities of schools and libraries are responsible for setting priorities for how money is spent. If those governing bodies know they would receive E-rate discounts for no more than five years, they could plan accordingly. During the five-year period they could negotiate sustainable rates with their service providers or identify additional resources to pay telephone and Internet access bills.

As telecommunications services become increasingly deregulated, technology options for access expand, and competition among service providers grows, it is timely to reconsider the provisions of the 1996 Act and the manner by which funding is disbursed. The mandatory use of discounts for services provided to schools and libraries has arguably prevented the program from being offered in ways that may have saved schools and libraries money. Because service providers determine the basis for the discount, there is an information asymmetry. Providers will always know more about the actual cost of service delivery than USAC administrators or the FCC. There is no way to ensure that schools and libraries are actually paying less for E-rate services than they might have otherwise paid through aggressive negotiations. Thus, there is no realistic way of knowing whether the one clearly articulated goal of the 1996 Act, provision of services to schools and libraries at a discount, has been achieved efficiently.

Grant programs, as proposed here, also have the advantage of being targeted to specific projects, and they are transparent. The money would go to the school or library for specific network needs that would be described in a grant application. Schools and libraries would be allowed to configure their networks as they see fit and would not be subjected to rules such as the single demarcation requirement that may result in less efficient use of money. Grant funds appear in budgets in a way that provides for better accountability at the state and local level than is currently the case with the discount and provider reimbursement process. Grants could be easier to

administer at the federal level and could be designed without the complexity inherent in the current program with its multiyear fiscal commitments and disbursements to a wide array of service providers. Finally, grants can be terminated once programmatic goals have been realized. The present configuration of the E-rate program, and lack of programmatic goals, makes it very difficult for policy makers to eliminate subsidies.

The current structure of the E-rate program encourages schools and libraries to seek and receive support for telecommunications services on an ongoing basis without a specific program goal or desired outcome. In this context, the program goal or desired outcome would be obtaining the best possible prices through negotiations with telecommunications service providers. A time-limited program would likely require a change to the 1996 Act, because a discount of rates for telecommunications services would be replaced with a requirement that schools and libraries negotiate the best possible service price.[197] The restructured subsidy would take the form of direct, annual grants provided to schools and libraries during the transition period. The amount of the grant to a specific recipient could be based on the historical dollar value of the discount received by the school or library for priority one services. During the transition period, schools and libraries with a demonstrated need for priority two project support could apply separately for a grant to finance those services. Accountability could be provided in the form of audits of the use of the funds and progress toward negotiated service rates and sustainable funding.

As a precondition for funding of a transition grant, individual schools and libraries would have to commit to maintaining, i.e., sustaining, their services and networks after the grant period ends. "Claw-back" provisions could be implemented to encourage compliance with the sustainability requirement.[198]

C. *High Need and Emergency Support*

The FCC should reserve a portion of the E-rate funding for ongoing support or emergency support for special cases. Almost all schools and libraries have Internet access, so the mission of ensuring ubiquitous access

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197. *See* 47 U.S.C. §§ 254(b)(6), (h)(1)(B). *See also supra* text accompanying note 3 (explaining that the 1996 Act requires telecommunication providers to serve elementary schools, secondary schools and libraries, and provide them with discounted rates that are lower than those rates charged to other customers for similar services).

198. "Claw-back" provisions would require schools and libraries that fail to comply with maintenance requirements over a specified time period to return all or a portion of the moneys received.

has been largely accomplished (that is more frequently the case for schools than for libraries, as discussed above in Part II). However, there will always be exceptions. So, a portion of total annual E-rate funds should be reserved for focused capacity building for those schools and libraries that have yet to access broadband service at the National Broadband Plan goal of one gigabit per second, that have to rebuild networks and reestablish services due to natural disasters, or that have lost large employers or suffered other economic reversals resulting in a loss of a significant portion of their general funding base. Criteria for such emergency support would need to be defined, but there should be a certain amount of flexibility to meet unexpected needs. Like the funding for transitional support, this funding should take the form of grants that are project-specific and time-limited. However, the program should include provision for sustained support of advanced services in those schools and libraries that have a demonstrated inability to finance the services themselves and that serve as centers for community access where significant portions of community residents do not have affordable Internet access elsewhere. Key to successful administration of the ongoing high-need support and emergency support grants will be the capacity to coordinate closely with state and local officials, education administration agencies, and local library governance entities. A grant application and accountability process that requires broad community input will enable the federal administrative agency to identify communities of highest need and to define appropriate goals for those communities.

D.   *New Administrative Mechanism*

Congress may consider designating NTIA to administer the E-rate grants instead of charging the FCC with that responsibility. The E-rate program in its current configuration is not a grant program, the FCC has little experience administering grant programs, and, as discussed above, the FCC has experienced some difficulty with administration of the currently configured program. NTIA, by contrast, has demonstrated experience working with states and their particular broadband needs, most recently in its capacity of administering grants under the BTOP. The ARRA defines the purpose of BTOP as providing broadband service to consumers residing in unserved and underserved areas of the United States. The terms "unserved area" and "underserved area," however, are not defined in the law. As the BTOP grant administrator, NTIA has coordinated with the FCC on such matters as interpreting those terms. Building on that effort would enable NTIA to properly define projects under the "emergency" and "high need" rubrics referenced in Suggestion No. 3 above. NTIA's coordination with the FCC and states, as well as its familiarity with states' broadband

needs and its experience with grant administration, would make it a possible option for the administrator of the proposed grant program. Placing NTIA at the center of a grant-making effort that will require frequent assessment of the availability of advanced services to key community institutions will also require the ongoing maintenance of the National Broadband Map. NTIA has demonstrated its ability to implement a national data gathering and analysis effort in its role creating and maintaining the map.[199] Once the transition from ongoing discounts to targeted, goal-oriented support is accomplished, NTIA would be in a better position than the FCC to work with federal, state, and local educational entities to design technology programs that are tailored to the needs of individual communities via schools and libraries.

E.   Program Outcomes

Both policymakers and researchers should recognize that the mission of the E-rate program is not to improve education performance or achievement, unless the 1996 Act is amended to explicitly address those goals. As noted above, research studies have attempted to link educational performance with E-rate discounts.[200] Aside from the difficulty of attributing the E-rate program among numerous variables and evolving education reform policy to student achievement, improvement of educational performance was never a stated objective of the 1996 Act, which required the FCC to 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 . . . ."[201] The 1996 Act was intended to improve access to advanced telecommunications services by those institutions, and the subsidized services were intended "for educational purposes."[202] Desirable outcomes, however, have now been identified in the National Broadband Plan so that grants and program efforts can be appropriately designed and

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199. NAT'L TELECOMMS. & INFO. ADMIN., U.S. DEP'T OF COMMERCE, NATIONAL BROADBAND MAP, *available at* http://broadbandmap.gov/technology ("The National Broadband Map is a tool to search, analyze and map broadband availability across the United States. Created and maintained by the NITA, in collaboration with the FCC, and in partnership with 50 states, five territories and the District of Columbia.").

200. *See* Goolsbee & Guryan, *supra* note 170; LEE, *supra* note 170.

201. *See* 47 U.S.C. § 254(h)(2)(A). *See also Seventh Broadband Deployment Notice of Inquiry*, *supra* note 83 (reflecting the FCC's interpretation that "advanced telecommunications capability" is synonymous with broadband).

202. *See* 47 U.S.C. § 254(h)(1)(B).

implemented and so that program administrators and grantees know how they will be held accountable for uses of funds.

To conclude, a reconfigured E-rate program of the kind proposed above would appear to comport better to the existing and emerging needs of this nation's schools and libraries, and it would be more transparent for the telecommunications service customers who are required to support it and the policymakers who are charged with overseeing the outcomes.