

KILLING WITH KINDNESS:
FATAL FLAWS IN THE \$6.5 BILLION UNIVERSAL SERVICE
FUNDING MISSION AND WHAT SHOULD BE DONE TO
NARROW THE DIGITAL DIVIDE

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The Federal Communications Commission (“FCC”) requires telecommunications carriers and their consumers to pay over \$6.5 billion annually¹ to subsidize service by local exchange carriers operating in high cost areas, and the rates paid by residents in rural areas and Indian reservations, the poor, schools, libraries, rural hospitals, and clinics primarily for basic “lifeline” telephone service.² Despite this significant sum, the universal service mission remains unsolved even though new technologies and strategies

¹ Federal-State Joint Board on Universal Service; IP-Enabled Service, 71 Fed. Reg. 38781, 38782 (July 10, 2006) [hereinafter USF Expansion Order] (“There is widespread agreement that the Fund is currently under significant strain. The size of the Fund has grown significantly, with disbursements rising from approximately \$4.4 billion in 2000 to approximately \$6.5 billion in 2005, and is projected to grow even further in the coming years.”).

“Outlays from the U[niversal] S[ervice] F[und] grew from \$3.3 billion in fiscal year 1999 to \$5.7 billion in fiscal year 2004.” CONGRESSIONAL BUDGET OFFICE, FINANCING UNIVERSAL TELEPHONE SERVICE viii (2005), *available at* <http://www.cbo.gov/ftpdocs/61xx/doc6191/03-28-Telephone.pdf> [hereinafter CBO PAPER]. The Universal Service Administrative Company, which disburses universal service funds, estimates that it will pay out \$7.3 billion in 2006. Universal Service Fund Facts, <http://www.usac.org/about/universal-service/fund-facts/fund-facts.aspx> (last visited Aug. 28, 2006).

² Universal service funding targeted to expand telephone subscription offers financial subsidies to qualifying individuals that defray the non-recurring cost to initiate service and the recurring costs for dial-up telephone service. The services that are supported by the federal universal service support mechanisms are: (1) voice grade access to the public switched network; (2) local usage; (3) Dual Tone Multifrequency (DTMF) signaling or its functional equivalent for “touch tone” dialing; (4) single-party service or its functional equivalent; (5) access to emergency services, including 911 and enhanced 911; (6) access to operator services; (7) access to interexchange services; (8) access to directory assistance; and (9) toll limitation for qualifying low-income customers. USA Broadcasting, Inc., 19 F.C.C.R. 4257, 4264 (Mar. 3, 2004) (memorandum opinion and order). The FCC has declined to increase the scope of services qualifying for USF subsidies. *See* Salazar, 17 F.C.C.R. 14,090, 14,095 (July 15, 2002) (notice of apparent liability for forfeiture). However, the Commission does not limit subsidies to only one telephone line per household, despite the recommendation by a Federal State Joint Board that it do so:

[W]e do not adopt the recommendation of the Joint Board to limit high-cost support to a single connection that provides access to the public telephone network. Section 634 of the 2005 Consolidated Appropriations Act prohibits the Commission from utilizing appropriated funds to modify, amend, or change” its rules or regulations to implement this recommendation.

Federal-State Joint Board On Universal Service, 20 F.C.C.R. 6371 (Mar. 17, 2005) (report and order) (citing Consolidated Appropriations Act of 2005, Pub. L. No. 108-447, § 634, 118 Stat. 2809 (2005)).

could make parts of the task achievable.³ On the other hand, the scope of the universal service mission has become more extensive and costly as a result of the Telecommunications Act of 1996 (“’96 Act”),⁴ in which Congress established specific goals for universal service including advanced telecommunications access for some beneficiaries, e.g., transmission of ex-rays from a rural clinic to experts located in major urban hospitals and Internet access from schools and libraries. Additionally, the stakes have risen as a Digital Divide⁵ separates those people with cheap and plentiful broadband access from those without such access.

The FCC and its state public utility commission counterparts must balance the wants, needs, and desires of numerous stakeholders, including those constituencies with significant political clout.⁶ Historically, the universal service mission has

³ Many new technologies that provide voice and data services have significant one-time start up costs, but comparatively low recurring costs as compared to existing services. For example, a wireless network will require a significant initial investment like copper wire networks. However, unlike terrestrial networks, wireless networks have little if any recurring costs and lower operational and maintenance expenses:

Depending on a school's location and the distance the line has to cover, telephone companies will charge anywhere from a couple of hundred dollars to more than a thousand dollars per month for a T1 line. That fee pays just for the conduit, not for the Internet service, and in some rural areas, T1 lines can be hard to come by. In contrast, a point-to-point wireless link can provide bandwidth surpassing T1 for just the up-front cost of the radios and their installation—typically ranging from \$5,000 to \$10,000—with no recurring charges after that.

Lars Kongslem, *Colorado's "Cursor Cowboy" Helps Schools Go Wireless and Save Money*, ELECTRONIC SCHOOL, 1997, <http://www.electronic-school.com/0197f1.html>.

⁴ Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (codified in scattered sections of 47 U.S.C.) [hereinafter '96 Act]. Section 254 of the '96 Act requires the Federal Communications Commission, in consultation with a Federal-State Joint Board, comprised of FCC and State Public Utility Commissioners, to establish a comprehensive universal service financial support system based on explicit subsidies.

As codified in that law, the overriding goal of universal service is to ensure that the largest number of U.S. residents possible have access to high-quality telephone service regardless of their household income or geographic location. The '96 Act further authorized the Federal Communications Commission (FCC)—the administering agency—to provide funds to make advanced telecommunications service available to qualifying schools, libraries and rural non-profit health care providers at subsidized rates.

CBO PAPER, *supra* note 1.

⁵ The Digital Divide separates “those [people] with access to new technologies and those without.” NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, FALLING THROUGH THE NET: DEFINING THE DIGITAL DIVIDE xii (1999), *available at* <http://www.ntia.doc.gov/ntiahome/ftn99/ftn.pdf>; *see also* Digital Divide Network, <http://www.digitaldivide.net> (last visited Aug. 28, 2006); Jaime Klima, *The E-Government Act: Promoting E-Quality or Exaggerating the Digital Divide*, 2003 DUKE L. & TECH. REV. 9 (Apr. 15, 2003); James E. Priege, *The Supply Side of the Digital Divide: Is There Equal Availability in the Broadband Internet Access Market?*, 41 ECON. INQUIRY 346 (2003); Peter K. Yu, *Bridging the Digital Divide: Equality in the Information Age*, 20 CARDOZO ARTS & ENT. L.J. 1 (2002); ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, UNDERSTANDING THE DIGITAL DIVIDE (2001), *available at* <http://www.oecd.org/dataoecd/38/57/1888451.pdf>.

⁶ “The concept of universal service stands high on the political agenda about telecommunications.” Pascal Verhoest, *The Myth of Universal Service: Hermeneutic Considerations and Political Recommendations*, 22 MEDIA, CULTURE & SOC. 595 (2000).

served a number of ulterior motives that reduced the efficiency and effectiveness of the program. For most of the twentieth century, AT&T supported its national domination of local and long distance telephone service markets by erecting a private universal service subsidy in ways that financially benefited both the company and unaffiliated local telephone carriers whose political support AT&T needed.⁷ AT&T intentionally overpriced long distance telephone service and transferred a portion of the supracompetitive profits to rural local telephone companies' carriers. The FCC endorsed this subsidy from long distance callers to local service subscribers, despite the lack of calibration. Excessive long distance rates stifled demand and burdened some consumers even as many local service subscribers got bargain rates for a service they could afford to pay at a fully compensatory rate. State and federal telecommunications regulators also benefited by showcasing extraordinarily cheap local calling rates.⁸

Now that small and large volume consumers alike have

Although a 10% surcharge on a \$25 monthly long distance bill is not shocking, it does represent a significant cost. Any person using long distance services, a cell phone, or a pager is contributing to the Commission's universal service fund. From a separation of powers perspective, the question that begs to be asked and answered is: How can Congress escape responsibility for either raising the revenue used to provide universal service subsidies or determining the specific uses to which those funds may be put?

Ronald J. Krotoszynski, Jr., *Reconsidering The Nondelegation Doctrine: Universal Service, The Power to Tax, and the Ratification Doctrine*, 80 IND. L.J. 239, 245 (2005).

⁷ "Universal service was seen by [AT&T President Theodore] Vail as the delivery of all telephone through one 'system' guided by one 'policy.' Obviously he saw universal service as requiring a nationally integrated single system, managed by AT&T." ROBERT W. CRANDALL & LEONARD WAVERMAN, WHO PAYS FOR UNIVERSAL SERVICE?: WHEN TELEPHONE SUBSIDIES BECOME TRANSPARENT 6 (2000). "[T]o Vail, universal service was not merely a social goal but instead a sound corporate strategy for eliminating competition and establishing ubiquitous interconnection for the Bell System." Patricia M. Worthy, *Racial Minorities and the Quest to Narrow the Digital Divide: Redefining the Concept of Universal Service*, 26 HASTINGS COMM. & ENT. L.J. 1, 7-8 (2003); see also MILTON L. MUELLER, JR., UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM (1997).

⁸ William R. Drexel, *Telecom Public Policy Schizophrenia: Schumpeterian Destruction Versus Managed Competition*, 9 VA. J.L. & TECH. 5, 16 (2004).

First, the jurisdictional separations process – by which the total costs of the telephone enterprise were split between the state and federal jurisdiction – for years allocated a higher portion of costs to interstate long distance services than could be supported under pure cost-causation principles. Originally, a subscriber plant factor ("SPF") was designed to allocate more of the costs of the common outside telephone plant (the wires from the central switching offices to customer locations) to the interstate jurisdiction than could be justified by a strictly usage-based cost allocation. The arbitrary SPF factor was later changed to a lower, yet still somewhat arbitrary, gross allocator of 25%. Similarly, with respect to switching costs, the strictly usage-based dial equipment minutes ("DEM") factor was weighted to send more costs to the interstate jurisdiction. The net result of these and other cost separation factors was to shift costs to the interstate jurisdiction, and hence long distance services, thereby reducing the cost and the corresponding revenue requirement that had to be covered by intrastate services in general and local services in particular.

Id.

readily accessible ways to evade or reduce universal service funding burdens, the FCC and state regulators cannot ignore the inefficiencies and inequities in the system. Technological innovations such as Voice over the Internet Protocol (“VoIP”)⁹ and marketing strategies that attempt to make calling card long distance¹⁰ an enhanced, information service,¹¹ demonstrate that carriers and consumers alike have resorted to self help.¹² Because universal service funding (“USF”) largely relies on interstate and international long distance telephone service revenues,¹³ carriers and consumers have devised ways to exempt such traffic, thereby increasing the burden on others.¹⁴ USF avoidance, coupled with

⁹ For technical background on VoIP, see Intel White Papers, IP Telephony Basics (1999), http://www.intel.com/network/csp/resources/white_papers/4070web.htm; Susan Spradley & Alan Stoddard, *Tutorial on Technical Challenges Associated with the Evolution to VoIP, Power Point Presentation* (Sept. 22, 2003), http://www.fcc.gov/oet/tutorial/9-22-03_voip-final_slides_only.ppt.

¹⁰ See, e.g., AT&T Corp. Petition For Declaratory Ruling Regarding Enhanced Prepaid Calling Card Services, 20 F.C.C.R. 4826 (Feb. 23, 2005) (order and notice of proposed rulemaking) (finding AT&T responsible for USF contributions from revenues derived from calling cards containing prerecorded information).

¹¹ The '96 Act, *supra* note 4, 47 U.S.C. § 153(20) (2006), describes information services as the “offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications.” Federal-State Joint Board on Universal Service, 13 F.C.C.R. 11501, 11516 (Apr. 10, 1998) (report to Congress) (“[The] 1996 Act’s definitions of telecommunications service and information service essentially correspond to the [FCC’s] pre-existing categories of basic and enhanced services.”). Prior to its use of the term information service, the FCC used the term “enhanced services” to refer to “services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber’s transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information.” 47 C.F.R. § 64.702(a) (2006).

¹² In a short span of time, VoIP has evolved from a low-quality hobby of computer enthusiasts, who used the Internet as a medium to provide voice communications between computers, to a near equivalent to conventional dial-up telephone service. VoIP provides consumers with access to lower-cost services due to technological efficiency in the use of the Internet’s packet switched architecture and reduced regulation-imposed costs. Some VoIP service providers can avoid paying access charges to local exchange carriers and making USF contributions. See Petition for Declaratory Ruling that Pulver.com’s Free World Dialup is Neither Telecommunications Nor a Telecommunications Service, 19 F.C.C.R. 3307 (Feb. 12, 2004) (memorandum opinion and order) [hereinafter Pulver.com Declaratory Ruling]. See also Stephen E. Blythe, *Regulation of Voice-Over-Internet-Protocol in the United States, the European Union, and the United Kingdom*, 5 J. HIGH TECH. L. 161 (2005).

¹³ “Telecommunications companies must pay a percentage of their interstate end-user revenues to the Universal Service Fund. This percentage is called the contribution factor. The contribution factor changes four times a year (quarterly) and is increased or decreased depending on the needs of the Universal Service programs.” FEDERAL COMMUNICATIONS COMMISSION, CONTRIBUTION FACTORS & QUARTERLY FILINGS (2006), http://www.fcc.gov/wcb/universal_service/quarter.html.

¹⁴ Frank G. Bowe, *Universal Service Fund and People With Disabilities, Funding Mechanisms*, http://people.hofstra.edu/faculty/frank_g_bowe/Funding_Mechanism.htm (last visited Aug. 28, 2006).

[M]any customers now make “calls” over the Internet. Governments at the federal and state levels have been reluctant to tax Internet-based transactions. As a result, a small but growing share of telecommunications is not subject to

an increasing financial burden, renders the existing regime unsustainable.

Additionally, the Supreme Court supported the FCC's rationale for exempting Internet access services from traditional telecommunications service regulation.¹⁵ Because the FCC exempts information service providers from making USF contributions,¹⁶ the Commission has created an increasingly desirable and achievable "safe harbor" exemption¹⁷ already granted to carriers providing the medium for the delivery of digital bitstreams, e.g., cable modem and Digital Subscriber Link ("DSL") service, and which is also available for some providers of software applications that get carried to and from users via telecommunications, e.g., noncommercial, computer-to-computer VoIP.¹⁸

The FCC has declared its inability to identify and decouple a telecommunications service¹⁹ component from the information services²⁰ available from carriers providing cable modem and DSL services. The Commission wishes to avoid having to make a similar determination for VoIP, because this would extend the USF exemption safe harbor to commercial VoIP service providers even as the Commission seeks to shore up USF funding by requiring such payments from commercial VoIP operators.²¹

universal-service fees. Most blatantly, Skype had 111,000,000 downloads of its free VoIP software as of May 2005. Skype customers completely bypass universal service, unless they need an ultimate connection to a number-based phone.

Id.

¹⁵ Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 125 S. Ct. 2688 (2005).

¹⁶ "All telephone companies that provide service between states and internationally, including wireless companies, must contribute a percentage of their revenues derived from these services to the USF. Some states impose similar requirements for revenues derived from intrastate services." FEDERAL COMMUNICATIONS COMMISSION, CONSUMER & GOVERNMENTAL AFFAIRS BUREAU, UNDERSTANDING YOUR TELEPHONE BILL (2006), <http://www.fcc.gov/cgb/consumerfacts/understanding.html>.

¹⁷ "[A]ccelerating development of new technologies like 'voice over Internet' increases the strain on regulatory distinctions such as interstate/intrastate and telecommunications/non-telecommunications, and may reduce the overall amount of assessable revenues reported under the current system." Federal-State Joint Board on Universal Service; 17 F.C.C.R. 3752, 3758 (Feb. 26, 2002) (further notice of proposed rulemaking and report).

¹⁸ Computer-to-computer VoIP that does not access the PSTN constitutes an information service because it merely facilitates software created, peer-to-peer communication. "[F]acilitat[ing] a direct disintermediated voice communication, among other types of communications, in a peer-to-peer exchange cannot and does not remove it from the statutory definition of information service and place it within, for example, the definition of telecommunications service." Pulver.com Declaratory Ruling, *supra* note 12, at 3315. *See also* 47 U.S.C. § 153(20) (2006).

¹⁹ *Id.* § 153(43).

²⁰ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, 17 F.C.C.R. 4798 (Mar. 15, 2002) (declaratory ruling and notice of proposed rulemaking), *aff'd in part, vacated in part, and remanded*, Brand X Internet Servs. v. FCC, 345 F.3d 1120 (9th Cir. 2003), *rev'd and remanded*, 125 S. Ct. 2688 (2005).

²¹ The FCC now requires VoIP service providers to contribute to USF even as it

Ironically, the FCC has identified a predominant information service characteristic for the two major providers of telecommunications bit transmission, but it cannot extend this classification to VoIP providers, the processors of digital bitstreams using telecommunications provided by cable modem and DSL carriers, without also extending the USF exemption safe harbor to ventures desperately needed to maintain the system. USF primarily accrues from a fee added to conventional wireline long distance service revenues. These revenues have declined as a result of consumer migration to wireless services, which contribute to USF at a lower rate, and to VoIP and other service, which heretofore have contributed nothing. Absent a decision to expand the class of services required to make a compulsory USF contribution, the program soon will lack sufficient funds.

This article examines the flaws, defects, and political accommodations that exist in the current universal service funding process, and proposes a new workable system that can support broadband infrastructure development and operate in a digital environment where few carriers may offer traditional telecommunications services on a stand-alone basis.²² The article proposes a system that spreads the financial burden among all operators that offer services originating and/or terminating over networks accessible to and from telephone handsets. This article identifies best practices in government strategies for stimulating innovation, infrastructure development, and increased penetration of both basic and advanced telecommunications services. This article also identifies the compromises and tradeoffs that the FCC, and possibly Congress, must impose upon incumbent universal service beneficiaries, such as local exchange carriers and users.

I. THE UNIVERSAL SERVICE MISSION IN THE UNITED STATES

Most nations consider ubiquitous and low-cost access to basic telecommunication services a worthy public policy objective in the same vein as access to other basic infrastructures such as electricity and water: “Telecommunications is not simply a connection

attempts to avoid having to make a determination that VoIP fits into the information service category. USF Expansion Order, *supra* note 1.

Section 254(d) of the '96 Act, *supra* note 4, which expressly limits universal service funding obligations to providers of interstate telecommunications services and “other provider[s] of interstate communications . . . [if] the preservation and advancement of universal service in the public interest so requires.”

²² Changed circumstances require a renewed examination of universal service funding, despite a long history of academic scrutiny. See Krishna P. Jayakar & Harmeet Sawhney, *Universal Service: Beyond Established Practice to Possibility Space*, 28 TELECOM. POL'Y 339-57 (2004).

between people, but a link in the chain of the development process itself.²³ A real, but not easily measured or quantified, correlation exists between economic development and access to telecommunications facilities and services.²⁴ Accordingly, efficient, effective, and widely available telecommunications services can stimulate social and economic development by providing the vehicle for greater commerce, political discourse, education, and delivery of government services such as job training.²⁵

A fundamental problem in achieving universal access to telecommunication services lies not in the goal itself, but rather in developing strategies for financing and achieving that goal. From the onset of universal service funding, lofty concepts of equity and equal opportunities have become intertwined with other objectives. For example, in the early 1900s, senior management of AT&T recognized that promoting universal service, using an internally generated financial subsidy methodology, achieved the twin goals of promoting aspects of universal service and accruing support for maintaining “benevolent” Bell System market domination from rural, unaffiliated telephone companies and politicians.²⁶ Both elected government representatives and unelected government regulators recognized the benefits of

²³ Heather E. Hudson, *Access to the Digital Economy: Issues in Rural and Developing Nations*, University of San Francisco Faculty Papers, available at http://www.usfca.edu/fac_staff/hudson/papers/Access%20to%20the%20Digital%20Economy.pdf (last visited Aug. 28, 2006).

²⁴ See, e.g., Ingo Vogelsang, *Micro-Economic Effects of Privatizing Telecommunications Enterprises*, 13 *BOS. U. INT'L L.J.* 313 (1995); ROBERT J. SAUNDERS ET AL., *TELECOMMUNICATIONS AND ECONOMIC DEVELOPMENT* 4 (2d ed. 1994); BEN A. PETRAZZINI, *THE POLITICAL ECONOMY OF TELECOMMUNICATIONS REFORM IN DEVELOPING COUNTRIES: PRIVATIZATION AND LIBERALIZATION IN COMPARATIVE PERSPECTIVE* 28 (1995); WALTER T. MOLANO, *THE LOGIC OF PRIVATIZATION: THE CASE OF TELECOMMUNICATIONS IN THE SOUTHERN CONE OF LATIN AMERICA* (1997); see also Christopher J. Sozzi, *Project Finance and Facilitating Telecommunications Infrastructure Development in Newly-Industrializing Countries*, 12 *SANTA CLARA COMPUTER & HIGH TECH L.J.* 435, 436-39 (1996); BELLA. MODY ET AL., *TELECOMMUNICATIONS POLITICS: OWNERSHIP AND CONTROL OF THE INFORMATION HIGHWAY IN DEVELOPING COUNTRIES* (1995).

²⁵ Robert W. Hahn, Scott Wallsten, Robert W. Crandall, & Robert E. Litan, *Bandwidth for the People*, AMERICAN ENTERPRISE INSTITUTE FOR PUBLIC POLICY RESEARCH (Oct. 2004), available at http://www.aei.org/publications/pubID.21593,filter.all/pub_detail.asp (citing ROBERT W. CRANDALL & CHARLES L. JACKSON, *THE \$500 BILLION OPPORTUNITY: THE POTENTIAL ECONOMIC BENEFIT OF WIDESPREAD DIFFUSION OF BROADBAND INTERNET ACCESS* (2001)).

Broadband Internet access could contribute substantially to economic growth. Consumers benefit from new ways to acquire information, enjoy audio and video entertainment, monitor remote locations, receive medical care, and buy items ranging from books to cars. A study in 2001 estimated that universal broadband adoption could yield annual consumer benefits of \$300 billion.

Id.

²⁶ When AT&T President Theodore Vail articulated universal service, he sought “the unification of telephone service under regulated local exchange monopolies.” MILTON L. MUELLER, JR., *UNIVERSAL SERVICE: COMPETITION, INTERCONNECTION, AND MONOPOLY IN THE MAKING OF THE AMERICAN TELEPHONE SYSTEM* 92 (1997).

offering below cost access to telecommunications services to citizens and other constituencies. This implicit subsidy mechanism became unsustainable when AT&T faced competition from long distance telephone service market entrants and after the 1982 divestiture of AT&T's local telephone companies. AT&T's competitors had no interest in charging higher rates to subsidize local service and neither did AT&T when the local Bell System companies became separate enterprises.²⁷

Until the passage of the '96 Act, telecommunications service consumers bore a universal service subsidy obligation without knowing the cost, because carriers could hide the expense primarily in higher per minute long distance telephone charges and average higher costs over a large volume of calls.²⁸ Use of an implicit subsidy mechanism obscured the cost of the universal service mission and made it difficult to discern whether subsidy burdens blunted demand and caused other market distortions. Consumers could not readily determine the scope of their subsidy

²⁷ Patricia M. Worthy, *Racial Minorities and the Quest to Narrow the Digital Divide: Redefining the Concept of "Universal Service,"* 26 HASTINGS COMM. & ENT. L.J. 1, 12 (2003).

Prior to divestiture, AT&T consisted of local telephone companies operating in state jurisdictions and Long Lines, which managed its long distance business. After divestiture, the Bell companies became independent entities. Moreover, with competition, AT&T became just another long distance provider, seeking to use Bell system and independent telephone company facilities to originate and terminate interstate toll calls. The former settlement process was no longer viable, and . . . no longer reflected the FCC's regulatory objectives. A new mechanism was necessary to allow local telephone companies to recover their costs of providing the local portion of interstate toll calls. The Commission also concluded that uniform services, cost recovery, and pricing for interstate access was in the public interest.

Id.

²⁸ Stuart Buck, *Telric vs. Universal Service: A Takings Violation?*, 56 FED. COMM. L.J. 1, 2 (2003).

By longstanding tradition, local phone companies are required to sell their services to customers at roughly comparable prices. This so-called "universal service" obligation is intended to ensure that people who live in rural and residential areas (which are expensive to serve) can buy phone service on terms similar to those offered to urban or business customers (which are cheaper to serve). Under universal service obligations, then, retail pricing is typically averaged across a variety of customers or geographic areas.

Id.

Implicit subsidies in telecommunications "result, in large part from rate averaging between rural and suburban/urban areas and the recovery of certain non-traffic sensitive costs through traffic sensitive per minute rates, which over-recovers costs from higher volume users, often business customers." Review of the Section 251 Unbundling Obligations, 18 F.C.C.R. 16,978, 17,079 (Aug. 21, 2003) (report and order); *see generally* Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long Distance Users, 15 F.C.C.R. 12,962, 12,971-72 (May 31, 2002) (report and order) (describing how high-volume users bear a greater share of the non-traffic sensitive costs than low-volume users), *aff'd in part, rev'd in part, and remanded in part sub nom.* Tex. Office of Pub. Util. Counsel v. Fed. Commc'n Comm'n, 265 F.3d 313 (5th Cir. 2001). *See also* Jonathan Weinberg, *The Internet and "Telecommunications Services," Universal Service Mechanisms, Access Charges, and Other Flotsam of the Regulatory System*, 16 YALE J. ON REG. 211 (1999).

contribution, because carriers did not subdivide their single per minute rates into separate elements, including a surcharge for universal service.²⁹

The '96 Act requires explicit subsidies,³⁰ codifies the universal service mission,³¹ and establishes specific requirements for the FCC to implement, including near parity of cost and access to service by rural consumers.³² Most carriers have responded to the explicit subsidy requirement by creating a separate billing line item to identify and pass through the specific cost of universal service support.³³ For the third quarter of 2006, the "contribution factor" surcharge that was passed directly to consumers amounted to 10.5% of a telecommunications carrier's interstate and international end-user service revenues,³⁴ a rate that added several

²⁹ Prior to enactment of the '96 Act telephone companies did not impose a billing line item that identified the amount due from consumers to support USF.

³⁰ "There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service." '96 Act, *supra* note 4, 47 U.S.C. § 254(b)(5) (2006).

³¹ *Id.* § 254(b)(1)-(4).

The Joint Board and the Commission shall base policies for the preservation and advancement of universal service on the following principles: (1) Quality and rates: Quality services should be available at just, reasonable, and affordable rates. (2) Access to advanced services: Access to advanced telecommunications and information services should be provided in all regions of the Nation. (3) Access in rural and high cost areas: Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas. (4) Equitable and nondiscriminatory contributions: All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.

Id.

³² Multi-Association Group Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers, 16 F.C.C.R. 19,613, 19689-19690 (Nov. 8, 2001) (second report and order).

In section 254(g) of the Act, Congress codified the Commission's pre-existing geographic rate averaging and rate integration policies. The Commission implemented section 254(g) by adopting two requirements. First, providers of interexchange telecommunications services are required to charge rates in rural and high-cost areas that are no higher than the rates they charge in urban areas. This is known as the geographic rate averaging rule. Second, providers of interexchange telecommunications services are required to charge rates in each state that are no higher than in any other state. This is known as the rate integration rule.

Id.

³³ "Some consumers may notice a 'Universal Service' line item on their telephone bills. This line item appears when a company chooses to recover its contributions directly from its customers by billing them this charge. The FCC does not require companies to pass on these costs to their customers." FCC Consumer Facts, Universal Service Support Mechanisms, <http://www.fcc.gov/cgb/consumerfacts/universalservice.html> (last visited Aug. 28, 2006).

³⁴ See FEDERAL COMMUNICATIONS COMMISSION, CONTRIBUTION FACTORS & QUARTERLY FILINGS (2006), available at http://www.fcc.gov/wcb/universal_service/quarter.html

dollars per month to the average consumer's bill.

A. *Four Types of Universal Service Promotions*

The universal service mission in the United States traditionally has meant that carriers have a duty to ensure that the largest possible number of residents have access to basic telephone service, including the poor and residents in remote locations.³⁵ Initially a single private company AT&T, devised and managed the process as well as collected and internally assigned where the subsidies went. This carrier-managed process put carriers in the position of charging rates which built in universal service subsidies with the surcharges largely retained by the carriers, in exchange for charging lower rates to preferred constituencies and transferring part of the surcharge to carriers operating in high cost, largely rural areas.

The '96 Act reaffirmed and clarified federal universal service policies to include parity among rural and urban consumers regarding access to telecommunications technologies and services.³⁶ It expanded the universal service mission to include discounted rates for basic and advanced telecommunications services used by schools and libraries, commonly known as the e-rate program, and subsidies for discounted access to services used by rural nonprofit health care providers.³⁷ After the enactment of

[hereinafter CONTRIBUTION FACTORS].

³⁵ Patricia M. Worthy, *Racial Minorities and the Quest to Narrow the Digital Divide: Redefining the Concept of "Universal Service"*, 26 HASTINGS COMM. & ENT. L.J. 1, 4 (2003).

The notion that everyone should be provided the opportunity to receive basic telephone service at an affordable rate, regardless of geographic location or economic status, has been widely adopted as national policy. The goal of quality, widely available and reasonably priced telephone service has been achieved through a myriad of regulatory policies such as rate averaging, cost support funds and loan programs.

Id.

³⁶ The Telecommunications Act of 1996 specifies that:

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

'96 Act, *supra* note 4, 47 U.S.C. § 254(b)(3).

³⁷ "Access to advanced telecommunications services for schools, health care, and libraries: Elementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications services as described in subsection (h)." *Id.* § 254(b)(6).

A telecommunications carrier shall, upon receiving a bona fide request, provide telecommunications services which are necessary for the provision of healthcare services in a State, including instruction relating to such services, to any public or nonprofit health care provider that serves persons who reside in rural areas in that State at rates that are reasonably comparable to rates charged for similar services in urban areas in that State.

the '96 Act, the FCC delegated authority for collecting and distributing universal service funding to a nonprofit corporation known as the Universal Service Administrative Company ("USAC").³⁸

Universal service funding supports four programs: the low income program, the high-cost program, the schools and libraries "e-rate" program, and the rural health care program.³⁹

1. The Low Income Program

There are two distinct programs that reimburse local wireline and some wireless telephone companies by providing service discounts to qualifying low-income consumers.⁴⁰ The LinkUp America program offsets one-half of the initial hook-up fee, up to \$30.00. The program also encourages carriers to offer a deferred payment schedule for the initial installation fee. The Lifeline Assistance Program provides a discount of up to \$10.00 per month for basic telephone service. Residents of American Indian and Alaska Native tribal communities may qualify for up to an additional \$25.00 in support beyond current Lifeline support levels and expanded LinkUp support of up to \$70.00 in additional support beyond current levels. In 2005, this program provided \$806 million in support.⁴¹

Id. § 254(h)(1)(A).

All telecommunications carriers serving a geographic area shall, upon a bona fide request for any of its services that are within the definition of universal service under subsection (c)(3), provide such services to elementary schools, secondary schools, and libraries for educational purposes at rates less than the amounts charged for similar services to other parties. The discount shall be an amount that the Commission, with respect to interstate services, and the States, with respect to intrastate services, determine is appropriate and necessary to ensure affordable access to and use of such services by such entities.

Id. § 254(h)(1)(B).

³⁸ USAC is a subsidiary of the National Exchange Carrier Association ("NECA") and operates as a private, not-for-profit corporation. *See* Changes to the Board of Directors of the National Exchange Carrier Ass'n, Inc., 13 F.C.C.R. 25058, 25063-66 (Nov. 20, 1998) (third report and order). *See also* USAC, <http://www.universalservice.org/default.asp> (last visited Aug. 28, 2006).

³⁹ '96 Act, *supra* note 4, 47 U.S.C. § 254.

⁴⁰ FCC Consumer Facts, Lifeline and Link-Up, *available at* <http://www.fcc.gov/cgb/consumerfacts/lllu.html> (last visited Aug. 28, 2006).

For states that rely solely on the federal Lifeline and Link-Up program eligibility criteria, subscribers must either have an income that is at or below 135% of the federal Poverty Guidelines, or participate in one of the following assistance programs: Medicaid, Food Stamps, Supplemental Security Income (SSI), Federal Public Housing Assistance (Section 8), Low-Income Home Energy Assistance Program (LIHEAP), Temporary Assistance to Needy Families, or The National School Lunch Program's Free Lunch Program.

Id.

⁴¹ USAC 2005 Annual Report 42, *available at* http://www.universalservice.org/_res/documents/about/pdf/annual-report-2005.pdf.

2. The High-Cost Program

The High-Cost Program provides financial support to local wireline and some wireless telephone companies that offer telecommunications services in areas where the cost of providing service exceeds a national or state average by at least 115 to 135% depending on the type of cost elements supported. Carriers operating in high cost areas are divided into rural and non-rural locales and have several different cost components assessed for purposes of determining whether subsidization should occur. The FCC primarily examines the costs local exchange carriers incur in providing subscribers with access to telecommunications services via a “local loop” connection. This first mile connection for originating calls and the last mile link for receiving calls, requires substantial sunk investment and also reflects economies of scale. Subsidies typically flow to telephone companies serving fewer than 50,000 telephone lines. Small carriers usually have higher per subscriber costs that cannot be recouped fully from the access charge fees imposed on long distance carriers for originating and terminating long distance traffic and from telephone subscribers who now pay a monthly \$6.50 subscriber line charge. In 2005, this program provided \$3.824 billion in support.⁴²

3. The Schools and Libraries “e-rate” Program⁴³

Depending on the household income level of families in the community and whether the school or library is located in an urban or rural area, the “e-rate” program provides discounts of twenty to ninety percent. The discounts offset the cost of voice, data, video and wireless services, Internet access, and the cost of installing and maintaining internal connections including switches, hubs, routers, and wiring. A maximum of \$2.25 billion is

⁴² *Id.* at 41.

⁴³ Schools and Libraries Universal Service Support Mechanism, 19 F.C.C.R. 15,808 (Aug. 13, 2005) (fifth report and order).

Under the Commission’s rules, eligible schools and libraries may receive discounts ranging from 20 percent to 90 percent of the pre-discount price of eligible services, based on indicators of need. Schools and libraries in areas with higher percentages of students eligible for free or reduced-price lunch through the National School Lunch Program (or a federally approved alternative mechanism) qualify for higher discounts for eligible services than applicants with low levels of eligibility for such programs. Schools and libraries located in rural areas also generally receive greater discounts. The Commission’s priority rules provide that requests for telecommunications services, voice mail and Internet access for all discount categories shall receive first priority for the available funding (Priority One services). The remaining funds are allocated to requests for support for internal connections (Priority Two services), beginning with the most economically disadvantaged schools and libraries, as determined by the schools and libraries discount matrix.

Id. at 15810 (footnotes omitted).

available annually and \$1.862 billion was awarded in 2005.⁴⁴

4. The Rural Health Care Program

The Rural Health Care Program ensures that health care providers located in rural areas pay no more than their urban counterparts for telecommunications services including those “telemedicine” services needed to access advanced diagnostic and other medical services available at urban medical centers. In 2005, this program awarded \$39.7 million.⁴⁵

B. *Macro-Level Problems with the Current System*

The USF regime in the United States suffers from systemic design problems that have a significant adverse impact on consumers and the carriers providing service.

1. Marketplace Distortion

At the macro-level, the current USF system distorts the local and long-distance telephone service marketplace by creating artificial pricing signals.⁴⁶ But now that the law requires the FCC to establish a transparent subsidy process, experts and even ordinary consumers have a better sense of how much the USF regime costs. A line item on telecommunications service bills now amounts to 10.5% of long distance service revenues⁴⁷ and many consumers resent what they perceive as a tax, despite FCC mandated language in bills disputing this perception.⁴⁸ The fact that just about every carrier passes on the USF burden as a separate billing line item makes this charge appear no differently than another line item that does pass through an actual tax.

Now that telephone companies render bills that rival the number of additional taxes, fees, and surcharges imposed by car rental companies and airlines, some ventures have recognized that they can accrue a substantial cost of business discount by configuring telephone services that avoid triggering USF and

⁴⁴ USAC 2005 Annual Report, *supra* note 41, at 44.

⁴⁵ *Id.* at 46.

⁴⁶ “Because fees or taxes imposed on the consumption of a service alter prices that consumers face, they distort consumers’ choices: consumers will allocate their spending differently than they would have in the absence of a tax.” CBO PAPER, *supra* note 1, at 19.

⁴⁷ CONTRIBUTION FACTORS, *supra* note 34.

⁴⁸ The FCC’s Truth in Billing policies state, *inter alia*, “that it is misleading to represent discretionary line item charges in any manner that suggests such line items are taxes or charges required by the government.” Truth-In-Billing and Billing Format, 20 F.C.C.R. 6448, 6449 (Mar. 18, 2005). Additionally, “the amount of a carrier’s federal universal service line item will not exceed the relevant interstate telecommunications portion of the bill times the relevant contribution factor.” Federal-State Joint Board on Universal Service, 17 F.C.C.R. 24,952, 24,978 (Dec. 13, 2002) (report and order).

other regulatory burdens.⁴⁹ Savvy consumers also have adopted similar self-help strategies. Carrier and consumer tactics used to save money by avoiding USF burdens primarily rely on inconsistent and asymmetrical regulatory treatment of functionally equivalent services. For example, the FCC exempts information services from USF contribution requirements even though some of these services, such as DSL and cable modem service, provide the broadband, bit transmission service needed to access VoIP services that directly compete with telecommunications services providers who must contribute.⁵⁰ The FCC intends on requiring VoIP service providers to contribute to USF, but while this inclusion will help shore up funding, it expands the distortion to the long distance telephone service marketplace by raising the cost of service to more consumers.

2. Poor Calibration of Benefits and Burdens

The current regime offers a poorly calibrated mechanism to implement the principal goal of USF, which is to improve telephone subscriptions and line penetration, commonly referred to as teledensity. USF provides financial benefits to some consumers who are entirely capable of paying the full cost of the telecommunication services they use⁵¹ through subsidies for which the consumers' carrier qualifies. In this scenario, wealthy landowners in exclusive rural enclaves pay a fraction of what they could afford to pay, and what they would have paid had the USF system not rewarded them for residing in a high cost telephone service area. Other beneficiaries have an opportunity to acquire basic telephone services for a price well below what they might willingly pay. Additionally, the USF system does not exclude from

⁴⁹ VoIP service providers, such as Vonage, have offered a flat rate unmetered service, in part due to the USF exemption and other cost savings not readily available to conventional long distance telephone service providers. Even though Vonage and other VoIP providers will have to make USF contributions in the future, using the Internet for transport will continue to provide cost savings.

⁵⁰ See Allen S. Hammond, IV, *Universal Service: Problems, Solutions, and Responsive Policies*, 57 FED. COMM. L.J. 187 (2005); David B. Bender, *Everything That Rises Must Converge: The Case For IP Telephony Regulation After Vonage v. Minnesota Public Utilities Commission*, 36 RUTGERS L.J. 607 (2005); Sunny Lu, *Cellco P'ship v. FCC & Vonage Holdings Corp. v. Minnesota Pub. Utils. Comm'n: VoIP's Shifting Legal and Political Landscape*, 20 BERKELEY TECH. L.J. 859 (2005); Joseph Gratz, *Voice Over Internet Protocol*, 6 MINN. J.L. SCI. & TECH. 443 (2004); J. Scott Marcus, *Evolving Core Capabilities of the Internet*, 3 J. TELECOMM. & HIGH TECH. L. 121 (2004); Chérie R. Kiser & Angela F. Collins, *Regulation on the Horizon: Are Regulators Poised to Address the Status of IP Telephony?*, 11 COMM. LAW CONSPICUOUS 19 (2003); Robert M. Frieden, *Dialing for Dollars: Should the FCC Regulate Internet Telephony?*, 23 RUTGERS COMPUTER & TECH. L.J. 47 (1997).

⁵¹ Because the subsidy for operating in a high cost area flows to the carrier providing service, all subscribers regardless of income, located in the high cost area accrue a financial benefit through lower rates. Wealthy owners of vacation homes in rural locales likely can afford to pay the full cost of their telephone service.

subsidization costs incurred by a carrier, located in a high cost area, in providing multiple lines to a single residence. Furthermore, nothing prevents even a low-income subscriber to subsidized wireline service from also paying full retail rates for an additional wireless subscription.

On the other hand, the USF regime imposes contribution obligations on consumers, including the working poor and others not well equipped to absorb an increasing financial burden. The current 10.5% surcharge paid by all dial-up long distance telephone users⁵² places a comparatively higher burden on heavy users, which might include individuals with incomes just above the subsidy qualifying level. For some telephone subscribers in remote areas, a disproportionate number of calls triggers a toll charge and a USF contribution.⁵³ Ironically, a cellular radiotelephone might offer cheaper service for these subscribers, with VoIP offering an even greater discount.

3. Inflexibility

Additionally, relatively generous basic service subsidies do not make funds available for targeting non-subscribers who would qualify for subsidized service, but who have not subscribed. There has been little empirical research examining why people do not subscribe to basic telephone services and what strategies might create incentives for people to subscribe. Perhaps qualifying, but non-participating individuals, might prefer a telecommunications option other than basic dial-up voice service. With greater flexibility, a USF system might offer these non-users the option of applying the amount of the wireline voice service discount to a wireless, or high-speed data connection.

4. Explicitness in the Burden Triggers Avoidance Strategies

Striking evidence of the amount of USF support paid monthly has created a type of “compassion fatigue” with a growing incentive, especially for heavy interstate long distance telephone callers, to pursue self-help options that reduce or eliminate their contributions. Through clever, but not always legal strategies, carriers can eliminate their USF support burdens by devising services that offer long distance calling capability, but which qualify for regulatory classification other than telecommunications service. AT&T has offered attractive rates for pre-paid calling

⁵² See CONTRIBUTION FACTORS, *supra* note 47.

⁵³ Telephone subscribers in remote areas may have the opportunity to make some toll free, local calls to other subscribers in the immediate area. However, calls outside this immediate vicinity would trigger a toll charge.

cards by assuming that inserting recorded information during the call setup process converts the call into an information service. The FCC has rejected this interpretation,⁵⁴ but refrained from declaring all calling card operators subject to USF liability. Instead, the Commission initiated a Rulemaking and concluded that calling card long distance service providers offer telecommunications service and accordingly must contribute to universal service funding.⁵⁵

Ironically, the price of dial-up basic telephone service in the United States has retarded the rollout and subscription to advanced services. With rates typically not exceeding \$37 a month for unlimited local calling,⁵⁶ consumers may balk at adding broadband services that can cost double that amount. Consumers may stick with dial-up access to the Internet using modems attached to their telephone lines, because they incur no additional charge for expanding usage of the local loop paid for on a flat monthly “all you can eat” rate. Users in other nations have more readily switched to broadband service, because many can reduce their out of pocket Internet access costs by doing so. For nations where carriers meter and charge for local calling on a per pulse or per minute basis, consumers can reduce their Internet access costs by acquiring unmetered, usage insensitive DSL or cable modem access.⁵⁷

5. USF Primarily Supports Narrowband, Dial-Up Service

The emphasis on promoting basic service line penetration has a negative effect on broadband market penetration. Except for schools, libraries, and rural medical facilities, current USF funding does not support access to advanced services. The combination of low dial-up telephone rates, comparatively high

⁵⁴ See AT&T Corp. Petition For Declaratory Ruling Regarding Enhanced Prepaid Calling Card Services, 20 F.C.C.R. 4826 (Feb. 23, 2005) (order and notice of proposed rulemaking) (finding AT&T responsible for USF contributions from revenues derived from calling cards containing prerecorded information).

⁵⁵ Regulation of Prepaid Calling Card Services, 71 Fed. Reg. 43667 (June 30, 2006) (declaratory ruling and report and order).

⁵⁶ See Press Release, FCC, Fed. Commcn's Comm'n Releases Study on Telephone Trends tbl. 3.2 (June 21, 2005), available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCCState_Link/IAD/trend605.pdf.

⁵⁷ “In the other European countries . . . cable modem and DSL services are more cost effective than dial-up for consumers with high usage.” United Kingdom, Office of Communications, *International Benchmarking Study of Internet Access*, at S8 (June 4, 2003), available at http://www.ofcom.org.uk/static/archive/oftel/publications/research/2003/benchint_1_0603.htm#s. See also Organization for Economic Co-Operation and Development, *Benchmarking Broadband Prices in the OECD* (June 18, 2004), available at <http://www.oecd.org/dataoecd/58/17/32143101.pdf#search=%22OECD%20broadband%20prices%22>.

broadband rates, and no USF program outside of three select constituencies, largely explains why the United States currently ranks between twelfth and sixteenth in broadband penetration.⁵⁸ Despite progress in broadband market penetration, not all United States carriers offer inexpensive Internet access when compared globally, or against the best practices of carriers operating in robustly competitive markets.⁵⁹ Growing competition, particularly in urban areas, may trigger significant downward pressure on broadband rates. However, concerns about an urban/rural Digital Divide remain credible where inter-modal competition does not exist. For example, most DSL services cannot extend beyond 15,000 feet from a telephone company switching facility,⁶⁰ thereby limiting the DSL option in many suburban, exurban and rural locales.

C. *Micro-Level Problems with the Current System*

In addition to macro-level design problems with USF in the United States, a number of specific, micro-level issues exacerbate the situation.

1. The Status Quo Serves the Interests of Several Powerful Constituencies

At the micro-level, the current USF system creates several constituencies keen on maintaining the status quo regardless of its efficacy and efficiency. Elected officials, particularly ones representing remote and rural states, perceive a benefit in helping to maintain below-cost telephone service for some constituents.⁶¹

⁵⁸ The International Telecommunication Union reported that as of January 1, 2005, the United States ranked sixteenth in broadband penetration measured in terms of number of subscribers per 100 inhabitants. See ITU Strategy and Policy Unit Newsblog (Apr. 13, 2005), available at <http://www.itu.int/osg/spu/newslog/ITU+New+Broadband+Statistics+For+1+January+2005.aspx>.

The Organization for Economic Co-Operation and Development estimates that the United States ranks twelfth as of December 1, 2005. OECD Broadband Statistics (Dec. 2005), available at http://www.oecd.org/document/39/0,2340,en_2825_495656_36459431_1_1_1_1,00.html

⁵⁹ See Benchmarking Broadband Prices in the OECD (June 18, 2004), available at <http://www.oecd.org/dataoecd/58/17/32143101.pdf>.

⁶⁰ See Curt Franklin, *How DSL Works*, HOW STUFF WORKS, <http://computer.howstuffworks.com/dsl.htm> (last visited Aug. 28, 2006).

⁶¹ *The Universal Service Issue: Recent Stories*, NATIONAL JOURNAL'S INSIDER UPDATE, available at <http://www.njtelecomupdate.com/tb-IVYH1134157615028.html> (last visited Aug. 26, 2006).

While the universal service issue has yet to achieve as high a profile as other aspects of the debate on overhauling the nation's telecommunications laws, it is nonetheless a major driver of that debate.

The reason: [t]wo major Senate players, Commerce Chairman Ted Stevens, R-Alaska, and Commerce ranking member Daniel Inouye, D-Hawaii, represent largely rural states heavily dependent on the universal service fund.

The Universal Service Administrative Company⁶² has every incentive to make itself indispensable even though its primary duty lies in the seemingly straightforward task of collecting and dispensing USF funds.⁶³ A cottage industry of USF consultants has developed to help school districts and libraries maneuver the USAC labyrinth of technology plans, forms, and reports for securing e-rate funding.⁶⁴ Perhaps all too predictably, criminals have devised ways to defraud USAC,⁶⁵ causing the FCC belatedly to increase audits⁶⁶ and to consider additional types of scrutiny.⁶⁷

Individually and collectively, a large constituency has developed for maintaining the status quo. Because the current USF regime involves discounted recurring services and subsidies based on carrier calculated costs, achieving the universal service

Id.

⁶² USAC administers the schools and libraries universal service support program under Commission oversight. Under this program, eligible schools, libraries, and consortia that include eligible schools and libraries, may receive discounts for eligible telecommunications services, voice mail, Internet access, and internal connections. Prior to applying for discounted services, an applicant must conduct a technology assessment and develop a technology plan to ensure that any services it purchases will be used effectively. The applicant then must submit to the Administrator a completed FCC Form 470, in which the applicant sets forth, among other things, the services for which it seeks discounts. Once the school or library has complied with the Commission's competitive bidding requirements and entered into agreements for eligible services, it must file an FCC Form 471 application to notify the Administrator of the services that have been ordered, the service providers with whom the applicant has entered into an agreement, and an estimate of funds needed to cover the discounts to be given for eligible services. Schools and Libraries Universal Service Support Mechanism, 19 F.C.C.R. 15,808, 15,809 (Aug. 13, 2004) (fifth report and order).

⁶³ For insight on the procedural complexity of the USAC e-rate funding process, see John Noram, *E-rate for Beginners, Power Point Presentation* (Sept. 27, 2004), available at <http://www.sl.universalservice.org/data/ppt/2004/01%20Erate%20for%20Beginners.ppt> See also Michigan Department of Education, *E-Rate Application Flow Chart*, http://www.michigan.gov/documents/flowchart_61108_7.doc (last visited Aug. 28, 2006).

⁶⁴ See, e.g., About eRate Solutions, LLC, <http://www.eratesolutions.com/about.shtml> (last visited Aug. 28, 2006).

⁶⁵ Office of Inspector General, *Semiannual Report on the FCC* (Oct. 31, 2002), available at <http://www.fcc.gov/oig/sar902.pdf> (last visited Aug. 28, 2006); see also Bob Williams, *Phone Fund for Schools, Libraries Riddled with Fraud*, THE CENTER FOR PUBLIC INTEGRITY (Jan. 9, 2003), available at <http://www.public-integrity.org/telecom/report.aspx?aid=99&sid=200>.

⁶⁶ OIG Universal Service Fund (2006), <http://www.fcc.gov/oig/oigaudpm-usf.html>.

Oversight of the Schools and Libraries Program has increased because of complaints the OIG has received alleging improprieties within the program. The alleged improprieties include the submission of false claims, failure to comply with appropriate procurement regulations and laws, conflict of interest, forgery and securities related offenses. In order to maintain program integrity, the OIG is working with local and federal law enforcement entities to investigate the complaints and follow-up with prosecution where appropriate. Furthermore, the OIG has developed the USF Strategic Audit Plan to provide overall goals and implementation strategies for oversight of this program.

Id.

⁶⁷ Comprehensive Review of Universal Service Fund Management, Administration, and Oversight, 20 F.C.C.R. 11,308 (June 14, 2005) (notice of proposed rulemaking) [hereinafter USF Management Assessment].

mission cannot occur. The USF process does not have a targeted end point at which the FCC can declare partial victory and establish a glide path for reducing subsidies. Apparently, the USF mechanism will operate in perpetuity, using monthly contributions from telecommunications subscribers primarily to wireline local exchange carriers who in turn discount their retail rates for select groups.⁶⁸ Similarly, the system compensates carriers year in and year out based on the assumption that once a carrier operates in a high cost area it probably always will, despite the fact that demographic changes might render a portion of an otherwise high cost area, more densely populated, or occupied primarily by wealthy individuals.

2. Accepts Costs with Few Auditing Safeguards

The USF system largely accepts as a given whatever costs carriers report regardless of whether carriers could operate more efficiently and whether new technologies might offer lower costs, possibly without significant recurring operational costs. This means that neither the USAC nor the FCC does much by way of examining whether a carrier might more cheaply serve USF beneficiaries and, more broadly, whether USF has achieved progress in reaching goals.⁶⁹ Even though new technological options, such as fixed and mobile wireless services, might offer a better value proposition, the USF regime does not require competitive bidding among prospective service providers for the opportunity to receive subsidies to serve a high cost area.⁷⁰ The FCC now allows for multiple “eligible telecommunications carriers”⁷¹ to serve the same rural and high cost region, but these

⁶⁸ According to the FCC, USF should not favor a specific technology or service provider: “Pursuant to section 254(b)(7) [of the Communications Act, as amended, 47 U.S.C. § 254(b)(7)] and consistent with the Joint Board’s recommendation, we establish ‘competitive neutrality’ as an additional principle upon which we base policies for the preservation and advancement of universal service.” Federal-State Joint Board on Universal Service, 12 F.C.C.R. 8776, 8801 (May 8, 1997) (report and order). “In this context, competitive neutrality means that universal service support mechanisms and rules neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another.” *Id.*

⁶⁹ Despite eight years of operation, neither the FCC nor the USAC has established clearly articulated goals and a process for compiling reliable performance data. “The Commission is in the process of compiling USF performance measures, particularly for the Schools and Libraries program and the High Cost program, in order to comply with the Office of Management and Budget (‘OMB’) Program Assessment Rating Tool (‘PART’) requirements.” *Id.* ¶ 24. The FCC only recently solicited “comment on suitable outcome, output, and efficiency measures for the E-rate program.” *Id.* ¶ 25.

⁷⁰ Section 214 of the Communications Act of 1934, as amended, authorizes state utility commissions to use a public interest test for determining which carriers shall qualify to receive USF funding. 27 U.S.C. § 214(e) (2006). State commission can authorize more than one Eligible Telecommunications Carrier to serve the same locality. *See infra* note 132.

⁷¹ Federal-State Joint Board on Universal Service, 19 F.C.C.R. 4257 (Mar. 3, 2004)

carriers do not compete for the privilege. Instead, one ETC can tap into the USF funds otherwise allocated to another ETC, because universal service funding is “portable”⁷² and can be reassigned on a per line basis to another ETC without a net increase in teledensity.⁷³

3. System Prone to Abuse

The current USF regime creates opportunities for fraud⁷⁴ and provides incentives for carriers and e-rate beneficiaries to ignore technological innovations that would reduce their dependency, or

(recommended revisions to ETC designation process). The Commission recently tightened the requirements existing and prospective ETCs must satisfy. Applicants and incumbents must: 1) provide a five-year plan demonstrating how high-cost universal service support will be used to improve its coverage, service quality, or capacity in every geographical area served by a switching facility known as a wire center; 2) demonstrate its ability to remain functional in emergency situations; 3) demonstrate that it will satisfy consumer protection and service quality standards; 4) offer local usage plans comparable to those offered by the incumbent local exchange carrier in the areas for which a prospective ETC seeks designation; and 5) acknowledge that it may be required to provide equal access if all other ETCs in the designated service area relinquish their designations. Federal-State Joint Board on Universal Service, 20 F.C.C.R. 6371 (Mar. 17, 2005) (report and order).

⁷² Once certified, an Eligible Telecommunications Carrier receives the same financial support on a line-by-line basis as received by the incumbent carrier, even though it might not serve the entire geographical area as served by the incumbent.

The potential for creamskimming, however, arises when an ETC seeks designation in a disproportionate share of the higher-density wire centers in an incumbent LEC's service area. By serving a disproportionate share of the high-density portion of a service area, an ETC may receive more support than is reflective of the rural incumbent LEC's costs of serving that wire center because support for each line is based on the rural telephone company's average costs for serving the entire service area unless the incumbent LEC has disaggregated its support. Because line density is a significant cost driver, it is reasonable to assume that the highest-density wire centers are the least costly to serve, on a per-subscriber basis. The effects of creamskimming also would unfairly affect the incumbent LEC's ability to provide service throughout the area since it would be obligated to serve the remaining high-cost wire centers in the rural service area while ETCs could target the rural incumbent LEC's customers in the lowest cost areas and also receive support for serving the customers in these areas.

Federal-State Joint Board on Universal Service, 20 F.C.C.R. 6371, ¶ 49 (Mar. 17, 2005) (report and order).

⁷³ Under the Commission's portability rules, a competitive ETC receives the same support for each line served that the incumbent carrier would receive, based on the incumbent carrier's costs. *See* 47 C.F.R. § 54.307 (2006). “Similar to other types of universal service support, interstate access support is portable to competitive ETCs. Consequently, because interstate access support is targeted to \$650 million, when a competitive ETC receives interstate access support, there is a corresponding reduction in support available to incumbent carriers.” Federal-State Joint Board on Universal Service, Sprint Corporation Application, 19 F.C.C.R. 22,663, 22,671 (Nov. 18, 2004) (order).

⁷⁴ *See, e.g.*, Press Release, FCC, FCC Proposes Over \$2 Million in Forfeitures for Universal Service Fund and Other Regulatory Program Violations (July 25, 2005), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260156A1.doc; Carrera Comm'n's, LP, FCC 05-147 (July 25, 2005) (notice of apparent liability for forfeiture and order), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-147A1.doc.

qualifications for subsidies.⁷⁵ Arguably, a rural, high cost telephone company could replace its expensive, high maintenance copper wire network with a cheaper and more accessible wireless or VoIP alternative. Despite high initial sunk costs for such a network, much lower annual recurring costs might provide a cheaper way to provide service in the long run. However, carriers would accrue no financial reward for taking the risk and making the investment in new technologies. The USF status quo assures a regular and predictable revenue flow with no risk and ample reward. In addition, the current USF system expects carriers to have stable or increasing recurring costs, even though new technologies offer the prospect of lower recurring costs.

The USF also creates disincentives for beneficiaries to consider innovative alternatives to paying incumbent carriers for existing services. For example, in specifying the types of services that qualify for subsidies, the USF regime emphasizes voice services to the detriment of data and Internet services and ensures that most money stays or flows exclusively into the coffers of incumbent carriers.⁷⁶ Even the e-rate system, which permits Internet access subsidies, precludes schools and libraries from erecting wireless networks that extend into a community, to aggregate requirements to qualify for higher capacity services from carriers at lower per unit costs, or to create alternative Internet networks such as those being developed by a consortium of universities.⁷⁷

⁷⁵ See Ramsey L. Woodworth & Jared B. Weaver, *Camp Runamuck: The FCC's Troubled E-Rate Program*, 14 COMMLAW CONSPPECTUS 335 (2006); Jonathan Meer, *Highway Robbery Online: Is E-Rate Worth The Fraud?*, 2006 B.Y.U. EDUC. & L.J. 323 (2006).

⁷⁶ The FCC authorizes funding for access to a telephone network with the ability to place and receive calls, access to touch tone capability, single-party service, access to emergency systems including, where available, 911 and Enhanced 911, access to operator services, access to interexchange services, access to directory assistance, and limited long distance calling (for those low-income users who qualify). See National Telecommunications and Information Administration ("NTIA"), *The New Universal Service: A User's Guide*, available at <http://www.ntia.doc.gov/opadhome/uniserve/univweb.htm> (last visited Aug. 28, 2006).

⁷⁷ Andy Oram, *Getting Universal Service to Work*, ONLAMP.COM (July 21, 2004), <http://www.oreillynet.com/pub/wlg/5217>.

The FCC built assumptions based on existing, widespread models into its regulations, and thus required that new installations be 'more of the same'; this benefited incumbent companies. In particular, regulations prevented the use of funds for the purchase of external lines or wireless equipment, which would have been a low-cost, long-term solution for many schools and libraries. Schools and libraries were not given practical goals, but simply instructed to spend as much of other people's money as they could. In other words, their goal was to spend the available money on easily obtainable equipment, not necessarily to make the best possible use of the money. They had no encouragement to be creative. The law provided only telecom equipment and networking services. It did not consider other useful things one could ask for to achieve Internet access. Such as computers, for instance. Or trained teachers and staff.

Id.

4. Emphasis on Service Subscriptions

Instead of promoting pure and applied research and development aimed at solving access problems, USF flows primarily to a small set of stakeholders who provide basic services and to constituencies receiving “tied aid” (i.e., funds tied to purchasing a narrow set of existing commercial services primarily from incumbents).⁷⁸ Rather than promote a fair and transparent business environment, the USF rewards administrative skills, such as mastering the e-rate system filing process, and emphasizes reliance on an incumbent carrier’s voice network. With all the rhetoric about contestable, if not competitive markets in telecommunications, the USF system appears somewhat anachronistic in supporting the perception that only “one carrier of last resort” can operate with limited technological options in rural and high cost areas.

By emphasizing incumbent carriers’ existing, basic services, the USF does nothing to stimulate efforts to achieve digital literacy (i.e., understanding how best to use telecommunications technologies as tools for enhancing learning, medical care and quality of life). It becomes all too easy for a school district or library to follow a tried and true strategy designed to extract the most funding available from the e-rate rather than to think strategically about how best to achieve goals for which technology constitutes one part of the solution. In light of the growing complexity in telecommunications and information processing technologies, USF beneficiaries might find it advantageous to develop at least some in-house expertise on how to use these technologies. Interestingly, the USF does not readily support training in the design, and management of networks, or in the effective use of the Internet.⁷⁹ Without such expertise, USF beneficiaries have every incentive to outsource projects and to take generic services with little if any customization that might better satisfy special requirements.⁸⁰

⁷⁸ Beginning in 2004, the FCC compiles an annual list of eligible services available for discounting under the e-rate program. “To be eligible for support, Telecommunications Services must be provided by an eligible telecommunications provider, that is, one who provides Telecommunications on a common carriage basis.” Release of Funding Year 2005 Eligible Services List For Schools and Libraries Universal Service Mechanism, 19 F.C.C.R 20,221, 20,222 (Oct. 14, 2004) (public notice).

⁷⁹ The FCC expressly deems ineligible for e-rate funding “training in the use of the Internet,” “costs for training provided via the Internet,” and “services that go beyond basic conduit access to the Internet.” Public Notice, FCC, Pleading Cycle Established for Eligible Services List for Universal Service Mechanism for Schools and Libraries, CC Docket No. 02-06, at 12 (July 21, 2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-109A1.pdf.

⁸⁰ See Heather E. Hudson, *Universal Access: What Have We Learned from the E-Rate?*, 28 TELECOM. POL’Y. 309 (2004) (noting the prohibition on schools and libraries from

5. Potential for Substantial Future Deficits in USF Funding

Collectively, technological innovations, conflicting FCC regulatory objectives, and a recent Supreme Court case jeopardize the financial viability of the current USF regime. The migration from analog to digital networks makes it possible for voice services to become a possibly free software application that rides on the link provided by Internet access services such as DSL and cable modems.⁸¹ Currently, VoIP and other services provide a relatively small volume of voice telephony traffic as compared to traditional, dial-up, circuit-switched telephone services offered by telecommunications service providers.⁸² However, the very real potential exists for packet switched, Internet Protocol networking to become the primary medium for most voice and data services. Should this occur, it follows that information services will constitute the primary retail, end user service provided by such networks.

Despite the fact that carriers providing information services do not trigger a USF contribution requirement, the FCC has several countervailing motivations to apply this classification to as many services as possible. The Commission has wisely decided that it should refrain from automatically applying legacy regulations for services that might operate in a competitive marketplace and which might incubate and develop more robustly without substantial government intrusion. However, instincts and incentives for deregulation or limited regulation may embolden the Commission to extend the information service classification down a slippery slope that includes some telecommunications services, including services the Commission previously declined to classify as information services.

providing Internet access externally and reporting on a highly conditioned FCC waiver granted for Alaska, but not yet applied).

⁸¹ See Rob Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 FED. COMM. L.J. 207-50 (2003); Richard S. Whitt, *A Horizontal Leap Forward: Formulating A New Communications Public Policy Framework Based on the Network Layers Model*, 56 FED. COMM. L.J. 587 (2004); Yochai Benkler, *From Consumers to Users: Shifting the Deeper Structures of Regulation Toward Sustainable Commons and User Access*, 52 FED. COMM. L.J. 561 (2000); Scott Marcus, *The Potential Relevance to the United States of the European Union's Newly Adopted Regulatory Framework for Telecommunications* (FCC, Office of Strategic Planning and Policy Analysis, Working Paper Series No. 36, 2002), available at <http://www.fcc.gov/osp/workingp.html>; Douglas Sicker & Joshua L. Mindel, *Refinements of a Layered Model for Telecommunications Policy*, 1 J. ON TELECOM. & HIGH TECH. L. 69 (2002); Kevin Werbach, *A Layers Model for Internet Policy*, 1 J. ON TELECOM. & HIGH TECH. L. 37 (2002); John T. Nakahata, *Regulating Information Platforms: The Challenge of Rewriting Regulation From the Bottom Up*, 1 J. ON TELECOM. & HIGH TECH. L. 95 (2002); Phillip J. Weiser, *Law and Information Platforms*, 1 J. ON TELECOMM. & HIGH TECH. L. 1 (2002); Craig McTaggart, *A Layered Approach to Internet Legal Analysis*, 48 MCGILL L.J. 571 (2003).

⁸² See Cybertelecom, VoIP Statistics (2006), <http://www.cybertelecom.org/data/voip.htm>.

II. DSL RECLASSIFIED AS AN INFORMATION SERVICE

Soon after the Supreme Court affirmed the FCC's decision to deem cable modem Internet access an information service,⁸³ the Commission reclassified DSL Internet access from a telecommunications service⁸⁴ to an information service.⁸⁵ By ignoring or subordinating the telecommunications component in DSL, the Commission assumes that it can legally reclassify DSL as an information service such as cable modem service, with necessary telecommunications bit transport considered an integrated and subordinate component:

We conclude, consistent with Brand X, that such a transmission component [in a DSL service] is mere "telecommunications" and not a "telecommunications service". . . . Thus, the transmission capability is part and parcel of, and integral to, the Internet access service capabilities. Accordingly, we conclude that wireline broadband Internet access service does not include the provision of a telecommunications service to the end user irrespective of how the service provider may decide to offer the transmission component to other service providers.⁸⁶

Despite having previously identified a discrete and stand-alone telecommunications service component in DSL service, the FCC's desire for deregulatory parity triggered a new view about the severability of the telecommunications component.

The FCC now deems DSL an information service and, in turn, the Commission eliminated common carrier facilities sharing requirements and the additional obligations imposed by the *Third Computer Inquiry*.⁸⁷ The FCC characterized this change as

⁸³ Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 125 S. Ct. 2688 (2005).

⁸⁴ See GTE Telephone Operating Cos., 13 F.C.C.R. 22,466 (Oct. 30, 1998) (memorandum opinion and order), *on recon.* 17 F.C.C.R. 27409 (Feb. 26, 1999) (memorandum order and opinion) (providing Internet Service Providers and their end user customers with high-speed access to the Internet deemed an interstate service that is properly tariffed at the federal level).

⁸⁵ *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 F.C.C.R. 14,853 (Aug. 5, 2005) (report and order and notice of proposed rulemaking) [hereinafter cited as DSL Reclassification Order].

⁸⁶ *Id.* at 14,910.

⁸⁷ *Id.* at 14,869.

Years after the conclusion of the Computer II proceeding, the Commission determined that the cost of decreased efficiency and innovation imposed by the structural safeguards of Computer II outweighed their benefits. The Commission therefore replaced structural separation with a regime of nonstructural safeguards in its Computer III decisions. This framework maintained the existing basic and enhanced service categories and adopted comparably efficient interconnection (CEI) and ONA [Open Network Architecture] requirements as a replacement for the Computer II structural separation requirements for AT&T and the BOCs.

Id.

ONA plans apply to enhanced services generally and impose more specific and comprehensive unbundling requirements on the BOCs, not unlike section 251's

enabling wireline broadband Internet access providers to respond quickly to consumer demand with efficient and innovative services and to spur more vigorous head-to-head competition with broadband services provided over other platforms.⁸⁸ However, the Commission's reclassification will likely result in the elimination of DSL resale competition after a Commission-imposed one-year transition period. After the brief transition period, DSL interstate service will no longer contribute to universal service funding.⁸⁹

The Commission rationalized its reclassification on marketplace and technological changes that have generated multiple competing platforms for Internet access from cable, wireless, satellite, and power line networks. Consistent with this generous assessment of the current state of facilities-based broadband competition in the U.S., the FCC deems its elimination of most DSL and cable modem to be regulation that has helped foster market-based investment, as opposed to regulation-driven investment and deployment decisions.

The FCC finessed its reclassification of DSL service by determining that what the FCC had once classified as stand-alone telecommunications service should now be considered "functionally integrated" with a predominant information service component. The Commission previously had required facilities-based providers to offer the wireline broadband transmission component separately from their Internet service as a stand-alone

unbundling obligations. Through ONA, BOCs must separate key components of their basic services into "basic service elements," and make those components, or building blocks, available to unaffiliated enhanced service providers to build new services regardless of whether the BOC's affiliated enhanced services operations use these unbundled components.

Id. at 14,870.

⁸⁸ *Id.* at 14,855.

This framework establishes a minimal regulatory environment for wireline broadband Internet access services to benefit American consumers and promote innovative and efficient communications. First, this Order encourages the ubiquitous availability of broadband to all Americans by, among other things, removing outdated regulations. Those regulations were created over the past three decades under technological and market conditions that differed greatly from those of today. Second, the framework we adopt in this Order furthers the goal of developing a consistent regulatory framework across platforms by regulating like services in a similar functional manner, after a transitional period. Finally, the actions we take in this Order allow facilities-based wireline broadband Internet access service providers to respond to changing marketplace demands effectively and efficiently, spurring them to invest in and deploy innovative broadband capabilities that can benefit all Americans, consistent with the Communications Act of 1934, as amended

Id.

⁸⁹ The FCC's DSL Reclassification Order required facilities-based DSL providers to contribute to existing universal service mechanisms based on their current levels of reported revenues for interstate transmission for a 270 day period after the effective date of the Order, or until the Commission adopts new contribution rules, whichever occurs earlier. *Id.* at 14864-65.

service on a common-carrier basis, and thus classified that component as a telecommunications service.⁹⁰ Going forward, the Commission will eliminate this transmission component sharing requirement, on the ground that the requirement caused facilities-based vendors to delay development and deployment of innovations to consumers.

To ensure a smooth transition, the Order required facilities-based wireline broadband Internet access service providers to continue providing existing wireline broadband Internet access transmission offerings, on a grandfathered basis, to unaffiliated ISPs for one year.⁹¹ The Order also required facilities-based providers to contribute to existing universal service mechanisms based on their current levels of reported revenues for the DSL transmission for a 270-day period after the effective date of the Order, or until the Commission adopts new contribution rules, whichever occurs first.⁹²

⁹⁰ *Id.* at 14,868.

Pursuant to its ancillary jurisdiction, the Commission required facilities-based common carriers to provide the basic transmission services underlying their enhanced services on a nondiscriminatory basis pursuant to tariffs governed by Title II of the Act. [FN63] These carriers thus offered the underlying basic service at the same prices, terms, and conditions, to all enhanced service providers, including their own enhanced services operations.

Id.

We decline to continue to impose any Computer Inquiry requirements on facilities-based carriers in their provision of wireline broadband Internet access service. Consequently, BOCs are immediately relieved of the separate subsidiary, CEI, and ONA obligations with respect to wireline broadband Internet access services. In addition, subject to a one-year transition period for existing wireline broadband transmission services, all wireline broadband Internet access service providers are no longer subject to the Computer II requirement to separate out the underlying transmission from wireline broadband Internet access service and offer it on a common carrier basis.

Id. at 14,876.

⁹¹ *Id.* at 14,906-07.

Although we determine above that immediate relief for wireline broadband Internet access transmission providers is warranted, we are nonetheless sensitive to the fact that the Commission's previous regulatory regime for these services has created reasonable reliance and expectation by unaffiliated ISPs on the availability of currently tariffed, broadband Internet access transmission offerings. In addition, we are concerned that a flash-cut transition may unnecessarily disrupt customers' service due to a provider's inability to adapt its business practices so quickly. We therefore adopt a one-year transition period, which begins on the effective date of this Order, in order to give both ISPs and facilities-based wireline broadband Internet access transmission providers sufficient time to adjust to our new framework. During the transition, facilities-based wireline broadband Internet access transmission providers must continue to honor existing transmission arrangements with their current ISP or other customers, but they are not required to offer such arrangements to new customers or to existing customers at new locations.

Id.

⁹² *Id.* at 14,915-16.

[W]e conclude that facilities-based providers of wireline broadband Internet access services must continue to contribute to existing universal service support mechanisms based on the current level of reported revenue for the transmission

To achieve deregulatory parity between cable modem and DSL service, the FCC has reclassified DSL as an information service so that carriers providing this service qualify for limited regulation already applied to cable modem service.⁹³ Applying the information service classification to all Internet access services levels the competitive playing field by eliminating regulatory asymmetry (i.e., inconsistent regulatory treatment of functionally equivalent services), which can provide a competitive advantage to the less regulated service.⁹⁴ It also responds to suggestions from incumbent, facilities-based carriers, such as Verizon and AT&T, to remove disincentives for these companies to invest in broadband infrastructure. The FCC has accommodated these demands by exempting broadband plant from compulsory unbundling and leasing on below market terms.⁹⁵ True to their word, incumbent carriers have accelerated investment in fiber optic and other advanced broadband plant.

Once carriers complete an unregulated broadband network, it follows that they will not only load that network with both pure information services (e.g., Internet access), but also use software applications and other innovations to encompass other retail services, including those services that previously constituted a telecommunications service. The latter category includes voice

component of their wireline broadband Internet access services for a 270-day period after the effective date of this Order or until we adopt new contribution rules in the Universal Service Contribution Methodology proceeding.

Id.

At the conclusion of the 270 day period Verizon, BellSouth, and AT&T initially created a new billing line item identical in the amount of the reduced regulatory cost. *See, e.g.,* Siobhan Hughes, *Verizon Imposes New Service Surcharge*, BOSTON GLOBE, Aug. 21, 2006. The apparent lack of competitive necessity to pass through a cost savings calls into question the conclusion made by the FCC and others as to the robustly competitive nature of broadband access in the United States.

⁹³ "In this Order we reach a classification determination that is consistent with our decision in the Cable Modem proceeding, as affirmed by the Supreme Court." DSL Reclassification Order, *supra* note 85, at 14,856.

⁹⁴ For an analysis of regulatory arbitrage in telecommunications, see Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECH. L.J. 1275-1314 (2004); Rob Frieden, *Regulatory Arbitrage Strategies and Tactics in Telecommunications*, 5 N.C. J.L. & TECH. 227-75 (2004).

⁹⁵ Review of the Section 251 Unbundling Obligations, 18 F.C.C.R. 16,978, 17,079 (Aug. 21, 2003) (report and order); 18 F.C.C.R. 19020 (Sept. 17, 2003) (errata), *partially vacated and sub nom.*, United States Telecom Ass'n v. FCC, 359 F.3d 554 (D.C. Cir. 2004) (*USTA II*), *on recon.* 19 F.C.C.R. 15,856 (Aug. 9, 2004), *also on recon.* 19 F.C.C.R. 20,293 (Oct. 18, 2004).

In response to the D.C. Circuit's vacatur of certain Triennial Review Order unbundling rules, the FCC issued an Interim Order and Notice of Proposed Rulemaking, setting forth a six-month interim unbundling framework with respect to those network elements, and seeking comment on permanent unbundling rules that would respond to the *USTA II* decision. Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, 19 F.C.C.R. 16,783 (Aug. 20, 2004) (order and notice of proposed rulemaking); Unbundled Access to Network Elements, 20 F.C.C.R. 2533 (Feb. 4, 2005) (order on remand).

telephony, which traditionally has been regulated as a telecommunications service and is the primary source of USF subsidy funds. Having installed an infrastructure exempt from legacy common carrier, telecommunications service regulation, incumbent facilities-based carriers have every incentive to migrate regulated voice traffic onto unregulated information service networks. Such traffic migration would achieve operational efficiencies while possibly qualifying voice telephony traffic for the information service deregulatory “safe harbor” that forecloses application of the telecommunications service classification and in turn USF funding burdens. These carriers can support their information service classification claim for voice telephony by referring to the Commission’s classification of some types of VoIP telephony as an information service and its reclassification of DSL into the same category.

The carriers can also substantiate their argument by noting the precedent established in *National Cable & Telecommunications Ass’n v. Brand X Internet Services*,⁹⁶ where a majority of the Supreme Court endorsed the FCC’s information service classification for cable modem service. A majority of the Court endorsed use of the *Chevron* standard,⁹⁷ which supports deferral to administrative agency decision-making that reasonably interprets and implements statutory language.⁹⁸ The Court agreed that the FCC could reasonably have concluded that cable modems solely provide an information service, despite the use of telecommunications to link subscribers with content. Accordingly, the Court reversed the Ninth Circuit Court of Appeal’s prior determination that a separate and identifiable telecommunications service element existed on grounds that the FCC’s statutory construction deserved judicial deference:

A court’s prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference only if the prior court decision holds that its construction follows from unambiguous terms of the statute and thus leaves no room for agency discretion.⁹⁹

The Court concluded that the Communications Act, as amended by the Telecommunications Act of 1996, contained ambiguities

⁹⁶ 125 S. Ct. 2688 (2005).

⁹⁷ *Chevron U.S.A. v. Nat’l Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

⁹⁸ “If a statute is ambiguous, and if the implementing agency’s construction is reasonable, *Chevron* requires a federal court to accept the agency’s construction of the statute, even if the agency’s reading differs from what the court believes is the best statutory interpretation.” *Brand X*, 125 S. Ct. at 2699 (citing *Chevron*, 467 U.S. at 843-44 n.11).

⁹⁹ *Id.* at 2700.

regarding whether cable companies offered telecommunications in conjunction with their cable modem service.

The majority opinion used several analogies to support the view that the FCC could legally ignore or subordinate the telecommunications function.¹⁰⁰ The majority's analogies provided examples in which a venture offers a number of services, some of which combine into a consolidated offering, and others which are made available separately. In the former analogies, the majority noted that car dealers sell cars and not a collection of integrated components, such as steel frames and carpeting.¹⁰¹ In the latter analogies, the majority noted that a pet store might offer dog leashes in addition to puppies.¹⁰² Because ambiguity exists regarding the functional integration or separateness of telecommunications, the majority deferred to the FCC. The nature and scope of integration between telecommunications and information processing:

[T]urns not on the language of the [Communications] Act, but on the factual particulars of how Internet technology works and how it is provided, questions *Chevron* leaves to the Commission to resolve in the first instance.¹⁰³

While engaging in the use of "warring analogies,"¹⁰⁴ the majority would prefer that the FCC use its technical expertise to discern Congressional intent.

¹⁰⁰ *Id.* at 2705.

The entire question is whether the products here are functionally integrated (like the components of a car) or functionally separate (like pets and leashes). That question turns not on the language of the Act, but on the factual particulars of how Internet technology works and how it is provided, questions *Chevron* leaves to the Commission to resolve in the first instance.

Id.

¹⁰¹ *Id.* at 2704.

One might well say that a car dealership "offers" cars, but does not "offer" the integrated major inputs that make purchasing the car valuable, such as the engine or the chassis. It would, in fact, be odd to describe a car dealership as "offering" consumers the car's components in addition to the car itself. Even if it is linguistically permissible to say that the car dealership "offers" engines when it offers cars, that shows, at most, that the term "offer," when applied to a commercial transaction, is ambiguous about whether it describes only the offered finished product, or the product's discrete components as well. It does not show that no other usage is permitted.

Id.

¹⁰² *Id.* at 2705-06.

For example, unlike the transmission component of Internet service, delivery service and dog leashes are not integral components of the finished products (pizzas and pet dogs). One can pick up a pizza rather than having it delivered, and one can own a dog without buying a leash. By contrast, the Commission reasonably concluded, a consumer cannot purchase Internet service without also purchasing a connection to the Internet and the transmission always occurs in connection with information processing.

Id.

¹⁰³ *Id.* at 2705.

¹⁰⁴ *Id.*

In a dissenting opinion, Justice Scalia did not agree that the FCC could lawfully and practically treat the telecommunications link as inseparable from the predominate information processing services provided.¹⁰⁵ Justice Scalia disputed the FCC's view that cable television companies do not provide a telecommunications service when linking subscribers physically apart from the content they access.¹⁰⁶ Justice Scalia used pizzerias and pizza delivery for his primary analogy and asserted that one could not ignore the fact that pizza baking and pizza delivery constitute two separate elements of the pizza business:

It is therefore inevitable that customers will regard the competing cable-modem service as giving them *both* computing functionality *and* the physical pipe by which that functionality comes to their computer—both the pizza and the delivery service¹⁰⁷

The Supreme Court's use of simplistic, yet competing analogies demonstrates the extent to which legal experts struggle to conceptualize converging telecommunications and information processing technologies. The Court majority acknowledged that its decision will provide the legal foundation for the FCC to reclassify DSL service as an information service,¹⁰⁸ despite having previously identified a discrete and stand-alone telecommunications service component. Apparently, the desire to achieve deregulatory parity trumps the need for consistency in interpretation of terms created by the '96 Act.¹⁰⁹ Justice Scalia

¹⁰⁵ *Id.* at 2714 (Scalia, J., dissenting).

The relevant question is whether the individual components in a package being offered still possess sufficient identity to be described as separate objects of the offer, or whether they have been so changed by their combination with the other components that it is no longer reasonable to describe them in that way.

Id.

Despite the Court's mighty labors to prove otherwise, *ante*, at 2704-2710, the telecommunications component of cable-modem service retains such ample independent identity that it must be regarded as being on offer—especially when seen from the perspective of the consumer or the end user, which the Court purports to find determinative, *ante*, at 2704, 2706, 2708, 2709. The Commission's ruling began by noting that cable-modem service provides *both* "high-speed access to the Internet" *and* other "applications and functions," *Declaratory Ruling* 4799, ¶ 1, because that is exactly how any reasonable consumer would perceive it: as consisting of two separate things.

Id.

¹⁰⁶ "The important fact, however, is that the Commission has chosen to achieve this [result] through an implausible reading of the statute, and thus exceeded the authority given it by Congress." *Id.*

¹⁰⁷ *Id.* at 2705.

¹⁰⁸ "The Commission's decision appears to be a first step in an effort to reshape the way the Commission regulates information-service providers; that may be why it has tentatively concluded that DSL service provided by facilities-based telephone companies should also be classified solely as an information service." *Id.* at 2711.

¹⁰⁹ See Rob Frieden, *The FCC's Name Game: How Shifting Regulatory Classifications Affect Competition*, 19 BERKELEY TECH L.J. 1275-1314 (2004).

chides the majority for its undiscerning acceptance of an FCC bureaucratic sleight of hand that changes the facts to achieve an outcome not contemplated by the law.

Expanding the information service classification to include DSL, even while still linked to existing copper wire networks, exempts DSL traffic from the USF burden even before facilities-based carriers complete their next generation, fiber optic networks. Upon completion of these networks, carriers will seamlessly combine voice, data, video, and other services. Having declared that DSL service lacks a discrete telecommunications service element, the FCC may have little choice but to apply the information services classification to all convergent services, thereby eliminating all USF burdens for services migrated from copper to fiber optic cables and other information service networks. Contrary to the example of voice mail, which the *Brand X* majority used as evidence that the FCC could retain telecommunications services regulation on basic services,¹¹⁰ it appears unlikely that the FCC can successfully disaggregate converging technologies and services to keep voice telephony in the regulated telecommunications service category. If the FCC claims an inability to decouple a stand-alone telecommunications service link from information services provided via cable modems and DSL, then it follows that the Commission will have similar inability to decouple any telecommunications services from the variety of voice, data, and video services integrated and carried via an advanced network.

III. VOIP SERVICE PROVIDERS ORDERED TO CONTRIBUTE TO UNIVERSAL SERVICE FUNDING

To remove a potentially large USF loophole, the FCC has determined that most VoIP service providers must contribute to the fund regardless of whether these companies provide telecommunications services.¹¹¹ The FCC expanded the group of companies and consumers obligated to subsidize USF to help stabilize the sources of funding.¹¹² In light of declining

¹¹⁰ A local telephone company could not escape Title II common carrier regulation of its voice telephone service simply by coupling it with a voice mail information service, because the carrier “offers a transparent transmission path—telephone service—that transmits information independent of the information-storage capabilities provided by voice mail.” *Brand X*, 126 S. Ct. at 2709.

¹¹¹ USF Expansion Order, *supra* note 1.

¹¹² Section 254(d) of the '96 Act, *supra* note 4, requires “[e]very telecommunications carrier that provides interstate telecommunications services . . . [to] contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service.” Since 1997, the FCC has required carriers providing interstate, interexchange

contributions from traditional dial-up wireline long distance telephone service,¹¹³ the FCC increased the contribution burden from wireless carriers¹¹⁴ and expanded the group of compulsory contributors¹¹⁵ to include providers of interconnected VoIP services:

We therefore find that extending USF contribution obligations to providers of interconnected VoIP services is necessary at this time in order to respond to these growing pressures on the stability and sustainability of the Fund.¹¹⁶

Having acted on the need to expand the set of compulsory underwriters of USF, the FCC has triggered more attention and opposition to the means by which the Commission pursues its universal service mission. Additionally, the need to capture more long distance telephone service minutes of use has caused the FCC to impose regulatory requirements on some Internet-based ventures, an outcome the Commission had previously sought to avoid.¹¹⁷

The Commission lightly regulates cable modem¹¹⁸ and DSL¹¹⁹ providers and exempts them from USF contributions. But now VoIP service providers will incur a regulatory payment obligation

telecommunications services to contribute to universal service funding on the basis of end user revenue. USF Expansion Order, *supra* note 1, at 4-5, ¶ 6 (citing Federal-State Joint Board on Universal Service, 12 F.C.C.R. 8776, 8801-03 (May 8, 1997) (report and order)).

¹¹³ “[C]hanging market conditions, including the decline in long distance revenue and the growth of wireless and interconnected VoIP services, are eroding the assumptions that form the basis for the current revenue-based system.” USF Expansion Order, *supra* note 1, at 10, ¶ 17. “[T]he number of VoIP subscribers in the United States has grown significantly in recent years, and we expect that trend to continue. At the same time, the USF contribution base has been shrinking, and the contribution factor has risen considerably as a result.” *Id.* at 19, ¶ 34.

¹¹⁴ The FCC increased the existing wireless “safe harbor” percentage used to estimate interstate revenue, subject to the USF subsidy requirement, from 28.5% to 37.1% of total end-user telecommunications revenue. *Id.* at 15, ¶ 25.

¹¹⁵ See CONTRIBUTION FACTORS, *supra* note 34. Carriers have responded to the explicit subsidy requirement by creating a separate billing line item to identify and pass through the specific cost of universal service support. *Id.* For the first quarter of 2006, the “contribution factor” surcharge passed directly through to consumers amounted to 10.7% of a telecommunications carrier’s interstate and international end-user service revenues, a rate that adds several dollars per month to the average consumer’s bill. *See id.*

¹¹⁶ USF Expansion Order, *supra* note 1, at 19, ¶ 34.

¹¹⁷ *See, e.g.,* Pulver.com Declaratory Ruling, *supra* note 12, at 3312 (deeming noncommercial, computer-to-computer VoIP an information service).

¹¹⁸ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, 17 F.C.C.R. 4798 (Mar. 15, 2002) (declaratory ruling and notice of proposed rulemaking), *aff’d in part, vacated in part, and remanded*, Brand X Internet Servs. v. FCC, 345 F.3d 1120 (9th Cir. 2003), *rev’d and remanded*, 125 S. Ct. 2688 (2005).

¹¹⁹ “[W]e conclude that wireline broadband Internet access service provided over a provider’s own facilities is appropriately classified as an information service because its providers offer a single, integrated service (i.e., Internet access) to end users.” Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, 20 F.C.C.R. 14,853, 14,863 (Sept. 23, 2005) (report and order and notice of proposed rulemaking).

not borne by the cable modem or DSL services used by VoIP subscribers to access software-derived voice communication services.

By including VoIP providers as compulsory USF underwriters, the FCC had to ignore the fact that VoIP services are provided using software that rides on top of telecommunications bit transmissions. When cable television and even telephone companies provide the telecommunications bit transport service, the FCC classifies these ventures as information service providers,¹²⁰ which rightly exempts these ventures and the Internet from significant government regulation. However, the ventures using the software applications to configure voice communication services do not qualify for the information service provider regulatory exemption at least insofar as to whether they must contribute to USF.¹²¹

IV. BEST PRACTICES IN PROMOTING ACCESS TO BASIC AND ADVANCED SERVICES

Nations other than the United States consistently have proven that more progress in promoting information and communications technology (“ICT”) literacy, teledensity, and innovative uses can occur with less money, a smaller bureaucracy, and reduced marketplace distortion. The best practices share the following characteristics:

- True technology neutrality coupled with a willingness to fund well-articulated and community-supported projects rather than limit support to a fixed list of existing carrier services;
- Capping government project funding to a percentage of total cost, thereby requiring project advocates to seek financial support from other grantors, or from bank loans;
- Creating incentives for demand aggregation among government and private users, particularly for broadband and data services;
- Emphasizing one-time project funding rather than recurring discounts;

¹²⁰ *Brand X Internet Servs. v. FCC*, 345 F.3d 1120 (9th Cir. 2003), *rev'd and remanded*, 125 S. Ct. 2688 (2005); DSL Reclassification Order, *supra* note 85.

¹²¹ For a more comprehensive examination of the FCC's inconsistent treatment of VoIP and information services, see Rob Frieden, *What Do Pizza Delivery and Information Services Have in Common? Lessons From Recent Judicial And Regulatory Struggles With Convergence*, 24 RUTGERS COMP. & TECH. L.J. (forthcoming 2006).

- Promoting innovation and creativity in projects, including technologies that provider greater efficiency and lower recurring costs;
- Encouraging competition among universal service providers by auctioning off subsidy access; and
- Blending government stewardship and vision with incentives for private stakeholders to pursue infrastructure investments.

Successful universal service programming requires governments to do more than throw money at the problem. If governments have no effective role in promoting universal service then it might make sense to simply create a phone stamps program whereby qualified beneficiaries would receive direct subsidies that they could treat as cash when paying for telephone and Internet access services. If governments have no function other than to order redistribution of telecommunication revenues, then they should limit their roles as loan guarantors, as is the case in a parallel USF program administered by the Department of Agriculture.¹²²

Governments can provide constructive and desirable services such as technology incubator, steward, partial underwriter, and anchor tenant without operating as central manager of the information economy. Some governments have successfully promoted universal service and infrastructure development by developing a vision for what primarily market forces can achieve as augmented by limited and targeted governmental support.¹²³ Best practices in the broader goal of ICT development evidence a promotional role for government through partial funding of specific projects, while primarily emphasizing private enterprise and facilities-based competition.

A. *A Limited and Strategic Role for Government*

Unlike the United States USF support structure, governments in other nations, such as Canada, Korea and Japan consider the need to blend efforts to develop skills in using ICT technology with financial support for procurement of ICT equipment and services. Rather than limit USF and ICT development funding to a closed and specific group of constituencies, these nations offer

¹²² See United States Department of Agriculture, Rural Telecommunications Program, <http://www.usda.gov/rus/telecom/index.htm> (last visited Aug. 28, 2006). This program offers a straightforward means for reducing the cost of borrowed capital used for telecommunications development in rural areas.

¹²³ See, e.g., Rob Frieden, *Lessons from Broadband Development in Canada, Japan, Korea and the United States*, 29 TELECOM POL'Y. 595-613 (2005).

several types of financial support (e.g., loan guarantees, grants and tax credits) to any applicant that proposes effective, efficient, and innovative ways to stimulate ICT literacy and the provision of desirable services. Successful grant seekers know that they cannot simply tap into a gravy train to buy equipment and lease services without much thought as to which equipment and services will satisfy specific community requirements such as healthcare, education, access to information, and licensing.

Governments play a key role in developing safeguards to promote trust, security, privacy, and consumer protection in the access and use of ICT services—particularly e-commerce. These roles require government stewardship, not heavy handed, command and control, centralized management. Achieving improvements in these areas requires articulation of a cohesive “top-down” vision, as well as “bottom-up” projects proposed by community users who can aggregate the supply of services and the demand for ICT equipment and services. Best practices in ICT development do not rely exclusively or primarily on incumbent carriers to come up with innovative ways to serve a specific community’s needs. Rather than rely on a one size fits all inventory of qualifying USF services, best practices typically come from innovative uses of technology proposed by and for users.

Best practices do not occur when incumbents have few incentives to innovate or to deviate from the status quo, nor do they occur when incumbents leverage future investment in ICT infrastructure with a deregulatory or political agenda having little, if anything, to do with achieving the universal service mission. Governments can coordinate many possible funding strategies including direct underwriting, loans, favorable tax treatment, and financial support for research, development, and technology demonstration projects. Best practices also provide opportunities for residents to become suppliers and consumers of ICT-mediated services.

B. *Reshaping the Mission*

In view of changing technologies and consumer expectations, the concepts of universal access and universal service remain in flux. The FCC should reexamine the concept of universal access, including how the Commission achieves the universal service mission articulated by the ‘96 Act. Moreover, the FCC must propose an alternative to the current funding mechanism for universal service, because the status quo cannot work in an Internet-centric operating environment where carriers offer subscription-based, unlimited interstate voice traffic that may

avoid any USF burden.

As a threshold matter, the FCC should consider its universal service mandate in terms of four inter-related components:

1. **Infrastructure** - the scope and nature of networks that provide users with access to basic and advanced telecommunications and information services;
2. **Services** - a revised determination of what constitutes basic “life-line” services and which other services, including broadband, the FCC should include in an expanded universal service goal;
3. **Cost** - who should support universal service objectives and who could qualify for universal service subsidization of basic and advanced services; and
4. **Maintenance and Upgrades** - which incentives regulators must create to ensure that universal service providers maintain and upgrade their networks, but do not object to innovations, including user-operated telecommunications networks, that achieve scale, efficiency, and cost savings.

With these four components in mind, Congress, the FCC, USAC, subsidy contributors, and subsidy recipients must confront an acute, short term problem: the potential for Internet-mediate telephone services and the expanding wingspan of the USF exempt information service classification to trigger a severe decline in telecommunications service revenues subject to the USF burden. As an increasing amount of long distance traffic migrates to a USF exempt safe harbor, consumers of conventional services will incur an increasing USF burden, most notably the USF contribution factor that carriers pass onto their customers as a billing line item.¹²⁴ Consumers of conventional long distance telephone service will quickly reach compassion fatigue when they realize that their USF contribution grows while other consumers of some VoIP services pay nothing. USF contribution avoidance strategies have become a regulatory arbitrage opportunity, despite the competitive harm and marketplace distortion that such arbitrage triggers.

In the near term, the FCC will have to confront the likelihood that a minutes of use USF contribution scheme will become unsustainable. In reforming the policies and rules applicable to access charges paid by one carrier for interconnection with another carrier, the Commission readily acknowledged the inequity and poor calibration with actual cost recovery resulting

¹²⁴ See *supra* Part B.1.

from use of a time-based charging mechanism.¹²⁵ The FCC has launched a multi-year campaign to replace metered carrier access charges, particularly for recovering plant investment whose cost does not vary with usage.¹²⁶ The Commission acknowledged the economic inefficiency in using a metered cost recovery mechanism for non traffic sensitive plant investment that constitutes a large portion of a telephone company's sunk costs.¹²⁷ In other words, much of a carrier's investment does not vary with how much traffic traverses the network. For example, the cost of installing the first and last few feet of copper wire that link a residence with the local loop has a significant cost, but not one that varies as a function of how many calls originate and terminate on that wire.

Similarly, much of the cost incurred by carriers to achieve improved broadband subscribership also does not vary with usage as compared to variables such as the number and density of subscribers and the average distance of the local loop linking a subscriber with carrier facilities.¹²⁸ Accordingly, a minutes of use recovery system will overburden heavy users of interstate telecommunications services while recovering an insufficient contribution from light users whose local loop and network access still trigger the same carrier costs regardless of usage.¹²⁹

¹²⁵ See Access Charge Reform, 15 F.C.C.R. 12,962 (May 31, 2000) (sixth report and order), *aff'd in part, rev'd in part, and remanded in part*, Texas Office of Public Util. Counsel v. FCC, 265 F.3d 313 (5th Cir. 2001); Access Charge Reform, 18 F.C.C.R. 14,976 (July 10, 2003) (order on remand); see also Cost Review Proceeding for Residential and Single-Line Business Subscriber Line Charge (SLC) Caps, 17 F.C.C.R. 10,868 (June 5, 2002) (order), *aff'd*, Nat'l Ass'n of State Util. Consumer Advocates v. FCC, 372 F.3d 454 (D.C. Cir. 2004).

¹²⁶ See Developing a Unified Intercarrier Compensation Regime, 20 F.C.C.R. 4685 (March 3, 2005) (further notice of proposed rulemaking).

¹²⁷ "Recovery of non-traffic sensitive costs through per-minute rates creates an implicit support flow from high- to low-volume users of interstate long distance service and is incompatible with a competitive market for local exchange and exchange access services." Section 257 Triennial Report to Congress, Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses, 19 F.C.C.R. 3034, 3104 (Feb. 12, 2004) (report).

¹²⁸ Access Charge Reform, 18 F.C.C.R. 14,976, 14,977 (July 10, 2003) (order on remand).

The Commission has long recognized that, to the extent possible, interstate access costs should be recovered in the manner in which they are incurred. In particular, non-traffic-sensitive costs—costs that do not vary with the amount of traffic carried over the facilities—should be recovered through flat-rate charges, and traffic-sensitive costs should be recovered through per-minute charges.

Id.

¹²⁹ Developing a Unified Intercarrier Compensation Regime, 20 F.C.C.R. 4685, 4785-86 (Mar. 3, 2005) (further notice of proposed rulemaking).

[I]t does not appear that minutes-of-use are a significant determinant of costs given developments in telecommunications technologies. The Commission long ago recognized this with respect to loop costs, which are a function of subscriber density and choice of technology. For similar reasons, it appears that switching costs are primarily a function of the number of subscribers, rather than the number of calls or MOU, because a

The FCC should replace the current minutes of use USF contribution regime and replace it with either general taxpayer underwriting, or a connection based system that applies to the physical links used to provide telephony and not the software applications that make voice telephony possible. A connection-based system uses a simple count of how many voice grade telephone service lines a service provider offers its customers regardless of medium and technology. It eliminates the potential for unfairness in a metered minutes of use calculation by determining a total USF subsidy burden and dividing that number by the total number of voice grade lines provided by wireline and wireless carriers, including ventures that access the conventional public switched telephone network, but also use the Internet for transmitting data packets. VoIP service providers would incur a USF subsidy obligation if, and only if, VoIP customers can reach the telephone numbers assigned to wireline and wireless subscribers through the networks of telecommunications service providers. If a VoIP service provider can offer telephone service solely through broadband connections, without accessing conventional wireline and wireless networks, then no USF contribution should be required. This split of USF responsibility respects the telecommunications/information service dichotomy by imposing financial subsidy obligations only on VoIP services that constitute a functional equivalent to telecommunications services, because they originate or terminate on telecommunications service networks.

Assuming the political unpopularity in adding over \$6.5 billion annually to the national budget, a reformed user-financed USF system appears more feasible. A connection based regime determines the number of lines that a retail customer can use to receive or deliver a voice -based telephone call and divides the cost of USF pro rata.¹³⁰ Any subscriber of a service that can originate or terminate a call from or to a telephone handset should contribute to USF funding. This burden should extend to ventures that require only call terminations such as wireless to wireline network calls and vice versa. Additionally, USF burdens should apply to

reduction in call minutes per subscriber would not substantially reduce the investment and operating cost of the switch serving those customers, at least in the case of wireline networks.

Id.

¹³⁰ This type of proposal appears to have gained traction as FCC Chairman Martin recently endorsed it as lawful Section 251 of the '96 Act, *supra* note 4, easy to administer, technologically neutral, accessible to consumers, supportive of numbering resource conservation, and achievable without requiring new legislation. See Kevin J. Martin, Chairman, FCC, Remarks to the NARUC Summer Meeting (July 26, 2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260312A1.pdf.

any VoIP service that may originate via a DSL or cable modem and may transit the Internet, but which eventually routes through the conventional public switched telephone network to reach a conventional telephone handset.

This proposal may come across as controversial and as one that unlawfully extends the telecommunications service's regulatory burdens to information services. However, under Title I of the Communications Act, the FCC retains jurisdiction to subject information service providers to limited regulatory responsibilities that serve the public interest.¹³¹ Arguably, shoring up the USF regime is a reasonable objective that serves the public interest.

Another short-term strategy to achieve greater efficiency and cost saving in USF involves auctioning universal service subsidy access.¹³² Rather than accept as a given the costs of an incumbent carrier operating in a high cost area, the FCC could auction access to USF to the carrier willing to provide service to a specific location with the least amount of subsidization. Currently, a telecommunications carrier can become eligible to receive USF regardless of whether this carrier can operate more efficiently through, for example, the use of a cheaper and more efficient wireless network instead of a conventional copper wireline network.¹³³ The FCC,¹³⁴ along with many economists,¹³⁵ tout the

¹³¹ 47 U.S.C. § 151 (2006).

¹³² See ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, LEVERAGING TELECOMMUNICATIONS POLICIES FOR PRO-GROWTH UNIVERSAL ACCESS FUNDS WITH MINIMUM-SUBSIDY AUCTIONS (Oct. 22, 2004), available at <http://www.oecd.org/dataoecd/57/56/33920168.pdf>.

¹³³ Section 214(e)(2) of the Communications Act of 1934, as amended, 47 U.S.C. § 214(e)(2) authorizes a state public utility commission:

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

Federal-State Joint Board on Universal Service, 19 F.C.C.R. 10,800 (June 8, 2004) (notice of proposed rulemaking)).

¹³⁴ See, e.g., Implementation of Section 309(j) of the Communications Act, 9 F.C.C.R. 2348 (Apr. 20, 1994) (second report and order); Implementation of Section 309(j) of the Communications Act, 9 F.C.C.R. 7245 (Aug. 15, 1994) (second memorandum opinion and order); Implementation of Section 309(j) of the Communications Act 9 F.C.C.R. 2941 (May 10, 1994) (third report and order); Implementation of Section 309(j) of the Communications Act, 9 F.C.C.R. 2330 (May 10, 1994) (fourth report); Implementation of Section 309(j) of the Communications Act, 9 F.C.C.R. 5532 (July 15, 1994) (fifth report and order); Implementation of Section 309(j) of the Communications Act, 10 F.C.C.R. 175 (Aug. 17, 1994) (third memorandum opinion and order and further notice of

benefits of auctions for radio spectrum licenses and even satellite orbital slots.¹³⁶ The privilege of tapping into USF constitutes a franchise of sorts that multiple ventures might have an interest in securing, especially for exurban areas that may eventually become more densely populated and profitably served.

C. *Longer Term Challenges and Remedies*

At some point not too far into the future, information, communications, and entertainment (“ICE”) technologies and markets will converge with the Internet, serving as a central medium for access and delivery. In such an Internet-centric environment, most voice services will become available with the launch of software. The concept of dedicated, identifiable voice network links will become an artifact of the past as efficient bit transport handles a variety of voice, audio, data, and video. An Internet-centric, ICE environment will make it impossible to fund

proposed rule making); Revision of Rules and Policies for the Direct Broadcast Satellite Service, 11 F.C.C.R. 9712 (Dec. 15, 1995) (report and order); Amendment of Parts 2 and 90 of the Commission’s Rules to provide for the Use of 200 Channels Outside the Designated Filing Area, 11 F.C.C.R. 2639 (Sept. 14, 1995) (second order on reconsideration and seventh report and order); Rule Making to Amend Parts 1, 2, 21, and 25 of the Commission’s Rules to Redesignate the 27.5-29.5 GHz Frequency Band, 12 F.C.C.R. 12545 (Mar. 13, 1997) (second report and order); Amendment of Part 90 of the Commission’s Rules to Facilitate Future Development of SMR Systems, 11 F.C.C.R. 1463 (Dec. 15, 1995) (first report and order); Implementation of Section 309(j) of the Communications Act, 11 F.C.C.R. 14769 (Nov. 7, 1996) (ninth report and order); Establishment of Rules and Policies for the Digital Audio Radio Satellite Service, 12 F.C.C.R. 5754 (Mar. 3, 1997) (report and order); Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service, 12 F.C.C.R. 10785 (Feb. 19, 1997) (report and order); Amendment of Part 90 of the Commission’s Rules To Provide for the Use of the 220-222 MHz Band, 12 F.C.C.R. 10943 (Mar. 12, 1997) (third report and order); Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, 18 F.C.C.R. 20,604 (Oct. 6, 2003) (report and order); Dale N. Hatfield, *The Current Status of Spectrum Management*, in BALANCING POLICY OPTIONS IN A TURBULENT TELECOMMUNICATIONS MARKET: A REPORT OF THE SEVENTEENTH ANNUAL ASPEN INSTITUTE CONFERENCE ON TELECOMMUNICATIONS POLICY 29 (2003), available at <http://www.aspeninstitute.org/atf/cf/%7BDEB6F227-659B-4EC8-8F84-8DF23CA704F5%7D/BALANCETURBTELECOM.PDF>, at *35; see also Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 312 (1993) (codified at 47 U.S.C. § 309 (2000)); see generally Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, 107 Stat. 312 (1993) (codified at 47 U.S.C. § 309). This Act explicitly gives the FCC the authority to grant licenses “through a system of competitive bidding.” 47 U.S.C. § 309(j)(1).

¹³⁵ See, e.g., Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 FED. COMM. L.J. 87, 99-100 (1997); Thomas W. Hazlett, *The Law and Economics of Property Rights to Radio Spectrum*, 41 J.L. & ECON. 521 (1998); Peter Cramton, *The Efficiency of the FCC Spectrum Auctions*, 41 J.L. & ECON. 727, 727-36 (1998); Pablo T. Spiller & Carlo Cardilli, *Towards a Property Rights Approach to Communications Spectrum*, 16 YALE J. ON REG. 53, 82 (1999); D. Daniel Sokol, *The European Mobile 3g Umts Process: Lessons From the Spectrum Auctions And Beauty Contests*, 6 VA. J.L. & TECH. 17 (2001); Thomas W. Hazlett, *The Wireless Craze, The Unlimited Bandwidth Myth, The Spectrum Auction Faux Pas, and The Punchline To Ronald Coase’s “Big Joke”: An Essay on Airwave Allocation Policy*, 14 HARV. J.L. & TECH. 335, 405 (2001).

¹³⁶ See Rob Frieden, *Balancing Equity and Efficiency Issues in the Management of Shared Global Radiocommunication Resources*, 24 U. PA. J. INT’L ECON. L. 289-327 (2003).

universal service programs based on interstate telecommunications minutes of use.

The FCC's conceptualization of telephone service and voice telephony also will have to change. People will continue to make telephone calls, but such calls will constitute but one feature of a rich and diverse array of services available via broadband networks. Accordingly, the FCC will need to devise a new and viable USF regime, despite the likelihood that carriers may not have the technical capability of metering their customers' long distance telephone minutes of use. Similarly, because broadband networks will have become the predominant medium for access and delivery of all ICE services, the FCC must consider universal service to include broadband packet delivery and not just voice services for residences.

The expansion of the USF mission to include broadband will present even greater financial challenges, but it also will force decision makers to create a more effective and versatile USF mechanism. To facilitate this broader and more diversified sense of the universal service mission, the FCC should afford constituencies the opportunity to apply for and receive financial grants to pursue stand-alone telecommunications and information processing projects in addition to or in lieu of discounted carrier services. A grant-seeking process, such as the one administered in Canada, to stimulate rural access to telecommunications and information processing services,¹³⁷ allows constituencies to aggregate demand, link geographically separate users, and provide services otherwise unavailable from commercial ventures. Canada and other nations have offered grants to community-based groups that deliver a variety of telecommunications and information processing services to many different users, making it possible for "smart communities" in remote areas to have access to advanced services one would expect to be available exclusively in cities. The Canadian government favors a bottom-up "community aggregator model" where government funding of programs and the delivery of electronic government services help stimulate the generation of sufficient demand to use existing network capacity and stimulate the construction of new facilities.

Incumbent carriers, as historically guaranteed beneficiaries of USF, would likely oppose any expanded opportunities for

¹³⁷ For background on Canada's broadband initiatives see Broadband—Media Room, <http://www.broadband.gc.ca/pub/media/index.html> (last visited Aug. 28, 2006); INTERNATIONAL TELECOMMUNICATION UNION, WORKSHOP ON PROMOTING BROADBAND (Apr. 2003), *available at* <http://www.itu.int/osg/spu/ni/promotebroadband/casestudies/canada.pdf>.

universal service end user beneficiaries to secure funding for network construction and possible self-provisioning of some telecommunications services. In several states and municipalities, carriers have objected to community-based efforts to install and operate wireless data networks.¹³⁸ Some state governments have enacted laws that prohibit such community initiatives, or at least offer carriers the right of first refusal before allowing taxpayer financing.¹³⁹

One can appreciate carriers' opposition to taxpayer underwriting of telecommunications and information processing network as foreclosing private enterprise and risking substantial funds on a venture that may prove unsustainable and an undertaking for which community groups and governments might lack expertise in managing. However, USF operates in an environment where marketplace forces will not achieve the kind of service availability, subscribership, and prices elected government officials believe would be optimal. If a community government or coalition of users seek to operate a telecommunications or information processing network, it is possible that no incumbent carrier could or would provide what the community appears to want.¹⁴⁰ The universal service objectives contemplated by Congress are served when a coalition of schools, libraries, government agencies and rural clinics propose to aggregate demand for facilities and services, and to achieve operational efficiencies by accessing their own quasi-public network rather than individually leasing lower capacity lines at a higher cost per unit.

¹³⁸ Michael Rubinkam, *Philadelphia to be Blanketed by Wi-Fi Hotspots by 2006*, U.S.A. TODAY, Jan. 19, 2005; James Dao, *Philadelphia Hopes for a Wireless Lead*, N.Y. TIMES, Feb. 17, 2005, at A18; Lawrence Lessig, *Why Your Broadband Sucks*, 13 WIRED 3 (Mar. 2005), available at <http://www.wired.com/wired/archive/13.03/view.html?pg=5>.

¹³⁹ See, e.g., General Assemb. of Pa., House Bill No. 30, An Act Further Providing for Residential Telephone Service Rates Based on Duration or Distance of Call and for Local Exchange Service Increases and Limitations. H.B. 30, 2003 Leg. (Pa. 2003). The bill was signed in the House and in the Senate on November 19, 2004 and approved by the Governor on November, 30, 2004. See House Bill 30 History, available at <http://www.legis.state.pa.us/WU01/LI/BI/BH/2003/0/HB0030.HTM> (last visited Sept. 15, 2006).

¹⁴⁰ Harold Feld, Gregory Rose, Mark Cooper, & Ben Scott, *Connecting the Public: The Truth About Municipal Broadband* (Apr. 2005), available at http://www.mediaaccess.org/MunicipalBroadband_WhitePaper.pdf; Public Knowledge, *Principles for an Open Broadband Future* (July 6, 2005), available at <http://www.publicknowledge.org/content/papers/open-broadband-future>. See also Adam Thierer, *Risky Business: Philadelphia's Plan for Providing Wi-Fi Service* (Apr. 2005), available at <http://www.pff.org/issues-pubs/pops/pop12.4thiererwifi.pdf>; Thomas M. Lenard, *Wireless Philadelphia: A Leap into the Unknown*, THE PROGRESS & FREEDOM FOUNDATION (Apr. 2005), <http://www.pff.org/issues-pubs/pops/pop12.3lenardwifi.pdf>; New Millennium Research Council, *'Not in the Public Interest—The Myth of Municipal Wi-Fi Networks'* (Feb. 2005), <http://newmillenniumresearch.org/archive/wifireport2305.pdf>.

V. CONCLUSION

Technological innovations, declining USF revenue sources, telephone consumer compassion fatigue, and changes in what a universal mission should support, combine to make the current regime unsustainable. Internet mediation of telephone calls threatens the status quo by eliminating the distinction between local and long distance telephony and between voice and data services. Declining conventional dial-up long distance telephone service revenues reduce the primary USF subsidy source thereby requiring an ever increasing contribution factor. An increasing number of consumers have become irritated by the USF contribution line item on their bills.¹⁴¹ VoIP provides consumers the opportunity to reduce or avoid USF contributions and to lower their long distance telephone calling costs.

The universal service funding mechanism must change and in doing so, the FCC has an opportunity to ensure its financial viability, achieve operational efficiencies and recalibrate the subsidy process while also expanding the universal service mission to include promoting broadband access in rural and high cost areas. Technological innovations increase the scope and diversity of what the telecommunications infrastructure can provide, thereby raising the financial and social stakes when not everyone has the same access opportunities.

This article has recommended that the USF avoid making massive transfers of money between user groups by emphasizing ad hoc, project-specific funding designed to serve community-based telecommunications and information processing requirements. The article has also recommended a connection-based funding mechanism that spreads the financial burden over all carriers and consumers who benefit from access to networks that support voice services to telephones. Further, the article has suggested that carriers should compete for the privilege of tapping into USF subsidies in lieu of nearly automatic eligibility.

If Congress and the FCC act on these recommendations, the universal service mission can achieve greater success with less money and without harming carriers. Fundamentally USF should flow directly to users and proponents of cost effective projects, rather than annually pay carriers on a recurring basis. Having paid nearly \$50 billion dollars in USF support just in the years from 1998 to 2005,¹⁴² telecommunications consumers deserve more for such a sizeable investment.

¹⁴¹ See *supra* Part II.B.4.

¹⁴² Universal Service Fund Facts, <http://www.usac.org/about/universal-service/fund-facts/fund-facts.aspx> (last visited Aug. 28, 2006).