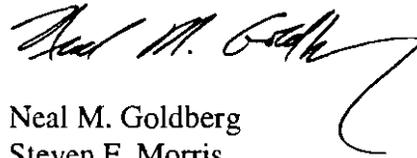


wireline competition in a study area, it would be irresponsible for the Commission not to scale back support to the minimum level necessary to ensure continued provision of service. Accordingly, the Commission should move expeditiously to adopt NCTA's proposals for reducing support to ILECs and CETCs in areas experiencing facilities-based wireline voice competition so that it can reduce the contribution factor and start considering whether, and how, to direct support to more carefully targeted programs that will accelerate the deployment and adoption of broadband.

Respectfully submitted,



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November 5, 2009

ATTACHMENT A – PROPOSED RULE

PROPOSED RULE

54.317 Petitions to reduce support in areas with extensive facilities-based competition

(a) Petitions to reduce support

(1) Any party may submit a petition requesting that the Commission reduce the amount of support that otherwise would be made available to an eligible telecommunications carrier in a particular study area pursuant to Subpart D (High-Cost Fund), Subpart J (IAS), or Subpart K (ICLS) of this chapter.

(2) Petitioner shall bear the burden of demonstrating that, in the study area covered by the petition, (A) there is extensive facilities-based competition from one or more competing wireline providers that do not receive such support, or (B) the state government has substantially deregulated the local exchange rates charged by the incumbent local exchange carrier in that study area.

(A) *Extensive facilities-based competition.* The petitioner shall demonstrate that at least 75 percent of the households in the study area have the ability to purchase voice services from a competitive facilities-based wireline provider or that at least 50 percent of households have such an option and that the cost characteristics (*e.g.*, population density) of the portion of the study area not served by such competitors are similar to those in the competitive portion of the study area.

(B) *Substantial state deregulation.* The petitioner shall demonstrate that the retail rates for local exchange service offered by the incumbent local exchange carrier in the relevant study area have been deregulated throughout the relevant area. For purposes of this test, rates will be considered deregulated if there is no regulation of the rate charged for local

exchange service offered on a stand-alone basis or if the carrier is authorized to provide local exchange service in a bundle of services for which the total rate of the bundle is not regulated.

(b) Review of support levels

(1) If the Commission finds that a petitioner satisfies one or both of the requirements in section (a)(2), the burden shall shift to recipients of support to demonstrate the level of support, if any, that is necessary to continue to provide universal service, as defined in 54.101, to consumers in the portions of the study area where service is not provided by any competing facilities-based wireline provider.

(2) In deciding the necessary level of support for a particular carrier in a particular study area, the Commission shall consider the ability of the carrier to recover network costs through the provision of both regulated and unregulated services provided over the carrier's network in the non-competitive portion of the study area. The Commission also shall consider whether a carrier incurs costs in the relevant area that would not be incurred but for existence of an obligation to operate as a provider of last resort in that area.

ATTACHMENT B – REPORT OF DR. JEFFREY A EISENACH

EMPIRIS LLC

**UNIVERSAL SERVICE SUBSIDIES TO AREAS
SERVED BY CABLE TELEPHONY**

JEFFREY A. EISENACH, PH.D.[†]

November 2009

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I. INTRODUCTION

In 2008, the Federal Universal Service Fund (USF) paid out more than \$4.4 billion to ensure the availability of “reasonably affordable” telephone service in “high cost” areas of rural America, the majority of which (\$2.4 billion) went to rural wireline telephone companies. When the high-cost USF program was created roughly a decade ago, these companies were the only facilities-based providers of wireline telephone service to much of rural America.

In recent years, however, cable television companies have begun offering voice service. Initially, cable voice service was offered mainly in urban areas, but by 2008 Kagan Research reported it was available to 84 percent of U.S. households. And, despite the fact that cable companies receive virtually no USF support,¹ cable telephone service is now available to millions of the same rural households for which rural phone companies receive subsidies. The existence of unsubsidized cable telephony in these areas is *prima facie* evidence that a significant portion of the subsidies paid to rural telephone companies are no longer necessary to meet the goal of reasonably affordable service.

This study analyzes the extent, and estimates the amount, of such excess subsidies, taking into account the fact that cable voice is often available to only a portion of a rural company’s service territory. The evidence presented below demonstrates that approximately \$1.6 billion was spent in 2008 to subsidize rural telephone companies in the hundreds of rural service territories where cable companies now offer voice service to at least some households. Rural telephone companies claim these subsidies are still needed, because cable companies and other

¹ A small number of cable operators in rural areas have been designated as Competitive Eligible Telecommunications Carriers (CETCs), and receive some USF support as a result of this designation. USF

competitors often serve only the most densely populated, and hence least expensive to serve, portions of their study areas. The analysis here, however, shows that this argument is often incorrect: Based on an analysis of population density and topography (the two factors that most heavily affect the costs of providing wireline telecommunications services), cable companies often serve portions of study areas which are no less costly, or even more costly, to serve than the overall study area. Indeed, depending upon which cost measure is used, rural companies are receiving between \$434 million and \$769 million annually for serving such study areas. Moreover, the USF pays additional funds to competitive carriers (CETCs) operating in these areas: When payments to CETCs are included, the potential savings to the USF from eliminating these unnecessary subsidies is between \$591 million and \$1 billion, or between 13 percent and 24 percent of the HCF's total 2008 outlay of \$4.4 billion.

The remainder of this paper is organized as follows. Section II briefly summarizes the USF program as it applies to local telephone companies, cable companies, and other telecommunications carriers, and summarizes recent debates about the need to control the size of the fund. Section III presents an analysis of the extent to which rural telephone companies are receiving funds for providing service in areas served by unsubsidized cable companies, and provides estimates of the amount of excess subsidies being paid. Section IV explains how excess USF subsidies distort the marketplace and waste taxpayer money. Section V presents some suggestions for USF reform. Section VI contains a summary and conclusions.

subsidy payments to these rural cable CETCs are trivial when compared with subsidies received by RLECs, and came to less than \$324,000 nationwide in 2008.

II. THE UNIVERSAL SERVICE FUND AND THE EMERGENCE OF COMPETITION

The concept of universal service can be traced back to the 1907 annual report of AT&T (the old “Ma Bell”), which introduced the idea of a single “universal” telephone system in order to justify its attempts to achieve a statutory monopoly.² Today, however, universal service is associated with the idea, embodied in the preamble to the Communications Act of 1934, that one goal of communications policy is to make telecommunications services available to “all the people of the United States” at “reasonable charges.”³ Under the AT&T monopoly, this meant setting rates so as to cross-subsidize some customers at the expense of others. The emergence of competition -- first for equipment and long-distance services and then, with passage of the Telecommunications Act of 1996, in local markets as well -- made implicit cross-subsidies unworkable. However, efforts to replace implicit cross subsidies with explicit ones have met with only partial success, especially with respect to rural carriers, which continue to receive subsidies based on anachronistic definitions and formulas. As a result, rural subsidies are higher than necessary, investment incentives are distorted, and consumers ultimately are not served by the most efficient technologies and carriers.

² For a brief history of universal service policies in the U.S., see Robert W. Crandall and Leonard Waverman, *Who Pays for Universal Service?* (Washington, DC: Brookings Institution, 2000) at 5-11.

³ See Communications Act of 1934, as amended, 47 U.S.C.A. § 151 (stating the law is enacted “for the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”) See also, 47 U.S.C. 254 (b) (enumerating statutory principles for universal service programs), and Federal Communications Commission, *Fourteenth Report and Order, Twenty-Second Order on Reconsideration, and Further Notice of Proposed Rulemaking in CC Docket No. 96-45, and Report and Order in CC Docket No. 00-256* (May 23, 2001) (hereafter *Rural Task Force Order*) at ¶13. (“The purpose of high-cost universal service support is to help provide access to telecommunications service in areas where the cost of such service otherwise might be prohibitively expensive.”)

A. Universal Service and the Telecom Act of 1996

For most of the 20th Century, universal service policy in practice consisted of implicit cross-subsidies imposed on monopoly telephone companies by the Federal Communications Commission (FCC or “Commission”) and state public utilities commissions, primarily through retail price controls (for example, setting urban and business rates above cost in order to support below-cost rural and residential rates) and long-distance access charges (i.e., setting the prices paid by long distance carriers to terminate traffic on local carriers’ networks above cost).

By introducing competition into local telephone markets, the 1996 Telecommunications Act (“the Act”) effectively made implicit cross-subsidies unsustainable. As the Federal Communications Commission (FCC) explained in its 1997 order adopting new universal service policies:

Implicit subsidies were sustainable in the monopoly environment because some consumers (such as urban business customers) could be charged rates for local exchange and exchange access service that significantly exceeded the cost of providing service, and the rates paid by those customers would implicitly subsidize service provided by the same carrier to others. By adoption of the 1996 Act, Congress has provided for the development of competition in all telephone markets. In a competitive market, a carrier that attempts to charge rates significantly above cost to a class of customers will lose many of those customers to a competitor.⁴

Accordingly, the Act called for a system of explicit subsidies, funded by assessments on long distance (i.e., interstate and international) telecommunications services.⁵ In addition, to

⁴ See Federal Communications Commission, *In the Matter of Federal-State Joint Board on Universal Service, Report and Order*, CC Docket No. 96-45 (May 8, 1997) at ¶17 (hereafter *First Report and Order*).

⁵ The Commission subsequently extended this requirement to VoIP services, including those provided by cable operators.

ensure that USF subsidies did not discriminate against new entrants, it made competitive carriers eligible for USF support.⁶

Implementing the Act's universal service provisions has proven to be a vexing challenge. The Commission's first USF proceeding, CC Docket No. 96-45, was opened in May 1996, and continues to this day. During its 13-year (and counting) lifespan, the docket has (according to the Commission's Electronic Comment Filing System) collected over 228,000 individual filings – many of them hundreds of pages in length. Yet, despite these efforts, the FCC itself admits that the USF program continues to be based on “outdated regulatory assumptions.”⁷ One of the consequences of the FCC's inability to come to grips with universal service is that, despite Congress' expectation that “competition and new technologies would reduce, not increase, the overall need for universal service support by lowering costs,”⁸ USF subsidies, and the “contributions” required to support them, have grown dramatically.

B. USF Subsidies to Rural Telephone Companies

Rural telephone companies (RLECs) are defined in the Telecommunications Act.⁹ While the law treats them differently in certain respects,¹⁰ with respect to universal service they are

⁶ See 47 U.S.C. 214 (e).

⁷ See Federal Communications Commission, *Order on Remand and Report and Order and Further Notice of Proposed Rulemaking*, CC Docket 96-45 (November 5, 2008) at ¶39 (hereafter *November 2008 NOI*).

⁸ See Federal-State Board on Universal Service, *In the Matter of Federal State Board on Universal Service*, CC Docket 96-45, *Recommended Decision* (February 27, 2004) at ¶65, n. 80 (citing S. Rep. No. 23, 104th Cong., 1st Sess. 26: “The Committee expects that competition and new technologies will greatly reduce the actual cost of providing universal service over time, thus reducing or eliminating the need for universal service support mechanisms as actual costs drop to a level that is at or below the affordable rate for such service in an area.”) (hereafter *Jt. Board 2004 Recommended Decision*).

⁹ As defined in the Telecommunications Act, “[t]he term ‘rural telephone company’ means a local exchange carrier operating entity to the extent that such entity -- (A) provides common carrier service to any local exchange carrier study area that does not include either -- (i) any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census; or (ii) any territory, incorporated or unincorporated, included in an urbanized area, as defined by the Bureau of

governed by the same basic statutory principles as non-rural carriers: The Act instructs the Commission to pursue policies designed to ensure that rural areas receive services that are “reasonably comparable” to those in urban areas and that are made available at “just, reasonable and affordable rates.”¹¹

The USF is comprised of four major funds, which in 2008 spent a total of \$7.6 billion. The largest of the four is the High Cost Fund (“HCF”), which is targeted at rural and other high cost areas.¹² In 2008, the HCF spent approximately \$4.4 billion, or 58 percent of total USF expenditures. The other USF programs provide subsidies for Low Income customers, Rural Health Care, and Schools and Libraries. Figure 1 shows the major components of USF spending from 2000 through 2008.

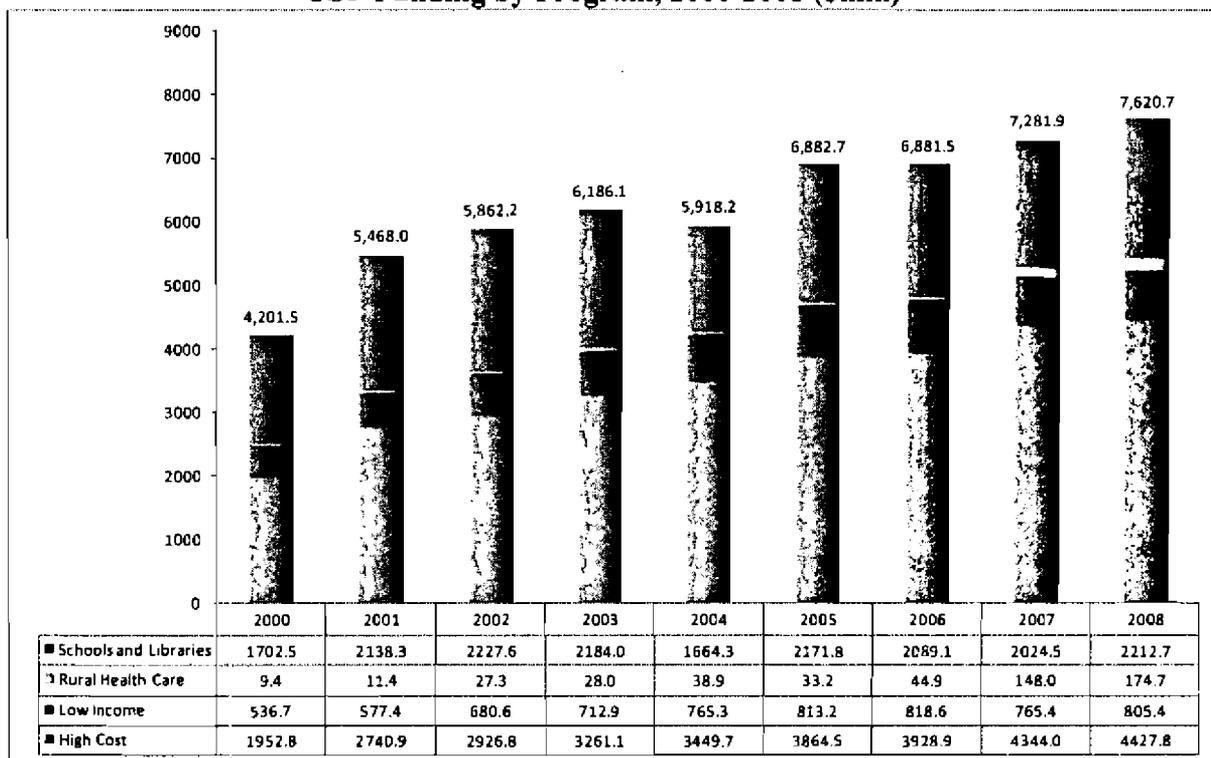
the Census as of August 10, 1993; (B) provides telephone exchange service, including exchange access, to fewer than 50,000 access lines; (C) provides telephone exchange service to any local exchange carrier study area with fewer than 100,000 access lines; or (D) has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996.” *See* 47 U.S.C. § 3(a).

¹⁰ Most notably: (1) Rural telephone companies are presumptively exempt from the Act’s aggressive resale and unbundling requirements [*See* 47 U.S.C. § 251(f)(1)]; and, (2) the process by which competitive carriers can become certified to receive USF subsidies in rural service territories requires an affirmative finding by the state PUC that the certification is in the public interest [*See* 47 U.S.C. 214(e)2].

¹¹ *See* 47 U.S.C. 254 (b) (enumerating statutory principles for universal service programs).

¹² *See* Federal-State Joint Board on Universal Service, *Universal Service Monitoring Report* (2008) (available at <http://www.fcc.gov/wcb/iatd/inonitor.html>), at 3-1 (hereafter *Monitoring Report*).

Figure 1:
USF Funding by Program, 2000-2008 (\$mil.)¹³



As shown in Table 1, the HCF is comprised of seven principal programs, five of which provide subsidies primarily to rural carriers: High Cost Loop Support (HCLS); Interstate Common Line Support (ICLS); Local Switching Support (LSS); Safety Net Additive Support (SNAS); and Safety Valve Support (SVS). In 2008, these five programs spent about \$3.4 billion, or, as noted above, about 77 percent of all HCF subsidies.¹⁴

¹³ Source: *Monitoring Report* (various years). Expenditures for 2008 are extrapolated based on the first three calendar quarters reported in Table 1.10 of the 2008 *Monitoring Report*, except for High Cost Fund expenditures, which are obtained from Table 3.30 of the 2008 *Monitoring Report*.

¹⁴ The remaining programs, Interstate Access Support (IAS) and High Cost Model (HCM) are available to larger phone companies, and account for approximately 23 percent of the total.

**Table 1:
Summary of High Cost Fund Components¹⁵**

Fund	2008 Subsidies	Share of 2008 High Cost Fund
High Cost Loop Support (HCLS)	\$1,401,874,452	31.66%
Interstate Common Line Support (ICLS)	\$1,532,859,504	34.62%
Interstate Access Support (IAS)	\$647,465,838	14.62%
Local Switching Support (LSS)	\$451,039,281	10.19%
High Cost Model Support (HCMS)	\$351,389,587	7.94%
Safety Net Additive Support (SNAS)	\$42,549,171	0.96%
Safety Valve Support (SVS)	\$580,932	0.01%

Each HCF program has its own complex eligibility criteria and formula for calculating support levels, as briefly described below.¹⁶

- **High-Cost Loop Support (HCLS):** HCLS provides subsidies for the local portion (arbitrarily set at 75 percent) of rural carriers' non-traffic sensitive ("NTS") costs (e.g., telephone wires, poles, and other facilities used to connect customer premises to the public switched telephone network). Carriers whose NTS costs exceed 115 percent of a national benchmark rate receive subsidies ranging from 10 percent to 75 percent of the excess; depending on their size (rural carriers with more than 200,000 lines receive a lower proportion than those with 200,000 loops or less). The national benchmark rate was set in 2001 at \$240 per loop per year, though it is recalibrated each year so that total HCLS spending does not exceed an FCC-imposed cap.¹⁷ The cap, in turn, varies with inflation and with the total number of loops served by rural carriers.
- **Interstate Common Line Support (ICLS):** ICLS is available only to rate-of-return (i.e., rural) carriers, and provides compensation for the reduction in interstate access charges imposed by

¹⁵ Source: 2008 *Monitoring Report*.

¹⁶ For a more complete description of each HCF program, see 2008 *Monitoring Report* at 3-1 – 3-13.

¹⁷ See *Rural Task Force Order* at ¶¶54-59.

the Commission in the 2001 *MAG Order*.¹⁸ ICLS is intended to allow a carrier to recover its common line revenue requirement (as established through the rate of return process) if revenues from the Subscriber Line Charge (SLC) (which is capped by the Commission) are insufficient to do so. ICLS payments are based on projected data submitted by incumbent carriers, and are subject to an annual true-up process (to the extent that projections differ from finalized figures). There is no cap on spending under ICLS.

- Local Switching Support (LSS): LSS is available to rural carriers with fewer than 50,000 lines, and is premised on the notion (no longer accurate) that there are significant economies of scale in switching (i.e., that the smallest efficient switch will serve 50,000 customers). Payments are determined by the “LSS factor,” which is multiplied by carrier’s annual un-separated local switching revenue requirement to arrive at total subsidy payments. The LSS factor, in turn, depends on two highly dated statistics known as dial equipment module (DEM) factors. The DEM factors are derived from the ratio of interstate minutes to total dial equipment minutes as of 1996. The LSS factor is the difference between (1) the 1996 weighted DEM factor; and (2) the 1996 unweighted DEM factor. The weighted DEM factor depends on the number of access lines, such that study areas with fewer lines qualify for higher subsidies.
- Safety Net Additive Support (SNAS) and Safety Valve Support (SVS): These two relatively small programs are also restricted to rural carriers, and account approximately \$43 million in USF subsidies in 2008 (or one percent of the HFC). Both are designed to reimburse carriers for making investments in rural telecommunications infrastructure in cases where subsidies would otherwise not be available due to the cap on high cost subsidies.¹⁹
- High Cost Model Support (HCM) and Interstate Access Support (IAS): HCM and IAS are the non-rural carrier analogs of the HCLS and ICLS, providing support for local costs in high cost areas and compensation for foregone interstate access revenues, respectively. However, unlike HCLS, HCM is calculated at a statewide level and is based on forward looking costs. Non-rural carriers are eligible for HCM only in states where forward looking costs are more than two standard deviations above the national average. IAS is similar to ICLS, except it is subject to a \$650 million annual cap. Together, HCM and IAS account for approximately 23 percent of the HFC.²⁰

¹⁸ See Federal Communications Commission, *Second Report and Order and Further Notice of Proposed Rulemaking in CC Docket No. 00-256, Fifteenth Report and Order in CC Docket No. 96-45, and Report and Order in CC Docket Nos. 98-77 and 98-166* (Released November 8, 2001).

¹⁹ See Universal Service Administrative Company website (available at: <http://www.universalservice.org>); and 2008 *Monitoring Report*.

²⁰ The courts have twice overturned the Commission’s regulations implementing the HCM program, most recently in 2005. In April 2009, the Commission issued a Notice of Inquiry seeking comments to “refresh the record” in the ongoing remand proceeding. See Federal Communications Commission, *In the Matter of High-Cost Universal Service Support, Notice of Inquiry* WC Docket Nos. 05-337 and 96-45 (April 8, 2009).

As the descriptions above suggest, the rules under which the HFC program operates are extraordinarily complex, a fact that has contributed to both administrative laxity and waste.²¹ From an economic perspective, there are at least four fundamental defects in the way subsidies for RLECs are determined.

First, the definition of “rural telephone company” is based, in part, on demographic information as of 1996 – more than 13 years ago. Specifically, one of the four criteria that define a rural telephone company is that the company had “less than 15 percent of its access lines in communities of more than 50,000 *on the date of enactment of the Telecommunications Act of 1996.*”²² Hence, carriers are considered “rural” even if their study areas have blossomed into ex-urban meccas complete with shopping malls and tightly-packed town homes.

Second, the metrics used to determine USF subsidies are antiquated and arbitrary. There is simply no reason, for example, to believe that the national average loop cost in rural areas is \$240 per year, that the HCLS allocation factor (which attributes 25 percent of costs to interstate services) accurately measures interstate versus intrastate costs,²³ that the minimum efficient scale

²¹ See, e.g., Congressional Budget Office, *Factors That May Increase Future Spending from the Universal Service Fund* (June 2006) at 27 (“In the past, the Universal Service Administrative Company and the FCC have been fairly liberal about approving investments that carriers claim will further the cause of universal service.”) (hereafter *CBO*); and Federal Communications Commission, Office of the Inspector General, *The High Cost Program: Initial Statistical Analysis of Data from the 2007/2008 Compliances Attestation Examinations* (November 26, 2008) (available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-286971A1.pdf) (finding an error rate of 23 percent in program disbursements and annual overpayments of \$970 million).

²² See 47 U.S.C. § 3(a) (emphasis added).

²³ More broadly, there is no basis for attributing all of the costs of network elements which are used to produce both supported services (i.e., voice telephony) and unsupported services (e.g., data and video services) to supported services. See, e.g., *First Report and Order* at ¶261 (“Revenues from services in addition to the supported services should, and do, contribute to the joint and common costs they share with the supported services. Moreover, the former services also use the same facilities as the supported services, and it is often impractical, if not impossible, to allocate the costs of facilities between the supported services and other services. For example, the same switch is used to provide both supported services and discretionary services. Consequently, in modeling the network, the BCPM and the Hatfield 3.1 models use digital switches capable of

for a switch is 50,000 customers, or that cost factors derived from dial equipment minute ratios as of the mid-1990s are accurate (or even meaningful) in 2009. In short, there is simply no basis for believing that subsidies paid to RLECs bear any relationship to the amount of assistance that is required to provide “reasonably comparable” services at “just, reasonable and affordable rates.”

Third, rural carriers receive subsidies based on embedded costs rather than forward-looking costs, producing excessive subsidies to RLECs and discouraging investment by competitors. Both the FCC and the Joint Board on Universal Service have recognized these problems since 1997, when the first USF Order was issued. As the Commission said then,

The use of embedded cost would discourage prudent investment planning because carriers could receive support for inefficient as well as efficient investments. The Joint Board explained that when “embedded costs are above forward-looking costs, support of embedded costs would direct carriers to make inefficient investments that may not be financially viable when there is competitive entry....” We also agree ... that *the use of embedded cost to calculate universal service support would lead to subsidization of inefficient carriers at the expense of efficient carriers and could create disincentives for carriers to operate efficiently.*²⁴

Based on this finding, USF subsidies for non-rural carriers have been based on forward-looking costs since the High Cost Model program was first established. For rural carriers, however, the FCC concluded that it did not have sufficient information to estimate forward looking costs, and so left the embedded cost methodology in place on a temporary basis, and committed to move RLECs to a forward-looking approach by 2001. When the time arrived to do so, however, the Commission again demurred, and RLECs continue to receive USF support based on embedded

providing both supported services and discretionary services. Therefore, it would be difficult for the models to extract the costs of the switch allocated to the provision of discretionary services.”)

²⁴ See *First Report and Order* at ¶228 (emphasis added).

costs.²⁵ One consequence of continued reliance on embedded costs – which are primarily “fixed” in nature – is that RLECs that lose lines to competitors experience little or no reduction in subsidies: Indeed, the subsidy per line actually increases.

Fourth, and relatedly, HCF rules have permitted rural carriers to use their generous HCF subsidies to upgrade their infrastructures to provide broadband and even video services. As the Congressional Budget office explained in a 2006 report, the HCF

...does not explicitly fund investment in broadband, but many of the investments that it does support allow carriers to deliver both conventional telephone and broadband service. Like carriers everywhere, rural companies are improving their older local loops and running more high-capacity and high-quality fiber-optic cable closer to their customers. Those upgrades are included in the historical costs that serve as the basis for high-cost loop support; thus, current policy implicitly provides funds for broadband in rural areas....²⁶

Thus, generous USF subsidies have been used by RLECs to aggressively deploy broadband and video services. The NECA, for example, reports that “Overall broadband availability to customers served by TS pool members [i.e., RLECs] reached 92 percent in 2008.”²⁷ Similarly, the National Telecommunications Cooperative Association, which consists primarily of carriers serving study areas of 1,000-5,000 lines, reports that 99 percent of members responding to a recent survey were offering DSL service, and 44 percent were offering fiber-to-

²⁵ See e.g., *Rural Task Force Order* at ¶3 (“As the Joint Board suggested, we intend to develop over the next few years a long-term universal service plan for rural carriers that is better coordinated with the non-rural mechanism. In particular, we intend to develop a long-term plan that better targets support to carriers serving high-cost areas, while at the same time recognizing the significant differences among rural carriers, and between rural and non-rural carriers.”)

²⁶ See *CBO* at 25 (emphasis added). See also *CBO* at 26 (“Recent surveys of investment patterns among rural carriers offer more-direct evidence of the dual purpose of such investments. In a survey of its rural members, the National Telecommunications Cooperative Association found that 81 percent of respondents were using their investment in fiber loop to extend the reach of DSL service. Furthermore, much of that investment was devoted to speeding up potential connections rather than simply establishing basic broadband connections.”)(references omitted).

the-home (FTTH) or fiber-to-the-curb (FTTC) service, as of mid-2008; and, that 71 percent of respondents expected to offer FTTH/FTTC services to more than three-quarters of their customers by year-end 2009.²⁸

While RLECs tout these figures as evidence of the effectiveness and continued need for USF subsidies, the evidence below demonstrates that the subsidies in many cases are being used to subsidize the rollout of data and video services in areas already served by unsubsidized private competitors – that is, to subsidize duplicative services. Moreover, the USF program – which calculates subsidies based solely on costs – lacks any mechanism for reducing subsidies to reflect the increased RLEC revenues generated by these services. Thus, the USF program has allowed RLECs to use government subsidies to finance the rollout and operation of new products, and services, while keeping 100 percent of the returns on those investments for their shareholders.²⁹

In summary, USF subsidies to RLECs are based on historical rules which bear little or no relationship to modern economic realities: While costs have declined, revenues have increased, and service territories have evolved and grown less “rural,” RLECs have largely been able to maintain a level of subsidies based on decades-old assumptions.

III. SUBSIDIES TO AREAS SERVED BY CABLE TELEPHONY

Cable companies have expanded cable telephony coverage into literally hundreds of RLEC service territories, where they are serving millions of customers. The very existence of unsubsidized cable telephony in these areas – offered at prices sufficiently low to win customers

²⁷ National Exchange Carrier Association, *Trends 2008: A Report on Rural Telecom Technology* (January 2009) at 3.

²⁸ National Telecommunications Cooperative Association, *2008 Broadband/Internet Availability Survey Report* (October 2008) at 7, 14.

away from the subsidized incumbents – is *prima facie* evidence that RLECs in these areas should no longer receive USF support. Yet, as the analysis in the first section below demonstrates, RLECs received approximately \$1.6 billion dollars in 2008 to serve customers in study areas where unsubsidized cable telephony is available.

Rural telephone companies acknowledge the growing presence of competition in their service territories, but argue that “competition is concentrated in the more densely populated portions of rural service areas.”³⁰ The data presented below directly contradicts this contention, showing that there are hundreds of study areas where the service territories of cable voice providers are comparable to those of their subsidized RLEC competitors.

A. There Is Extensive Cable Voice Coverage in RLEC Territories

Cox Communications deployed the first circuit-switched cable telephone system in 1997, in Orange County, California,³¹ but cable telephony did not really take off until the mid-2000s, when Voice Over Internet Protocol technology (VoIP) dramatically reduced the cost of deploying telephone service on digital cable infrastructures.³² According to SNL Kagan, as recently as 2004 VoIP telephony was available to only 21 percent of homes passed by cable systems, and more than 80 percent of the 3.6 million cable telephony subscribers were using

²⁹ As noted above, because of its reliance on embedded costs, the program does not even re-calculate allowable costs to reflect the fact that the underlying infrastructure is being used to provide multiple services.

³⁰ National Exchange Carrier Association, *Trends 2008: A Report on Rural Telecom Technology* (hereafter *Rural Trends*) at 4-5. (“For Traffic Sensitive pool members, competition contributed to a decline of 278,514 access lines, a 5 percent drop over last year. This downward trend is part of an industry-wide decline in access lines attributable to competition from cable operators offering Voice over Internet Protocol (VoIP) as well as customers replacing land lines with mobile service. More than three-fourths of TS pool members report some competition in their service area. This is up from two-thirds in 2007. Typically, this competition is concentrated in the more densely populated portions of rural service areas.”)

³¹ See, e.g., “Cox Cable Wants to Be Your Phone Company,” *Business Week* (May 24, 1999) (available at http://www.businessweek.com/1999/99_21/b3630136.htm).

circuit-switched technology.³³ Just four years later, Kagan reported that cable telephony was available to approximately 84 percent of U.S. cable-passed households; and analysts estimate that as of year-end 2008 there were more than 20 million cable telephony subscribers in the U.S.³⁴

The analysis of the spread of cable telephony in rural America discussed below is based on data from *Warren's Cable Factbook*, which provides detailed information for each cable system in the U.S., including (since 2005) the availability of cable telephony. The *Factbook* information is provided in a Geographic Information System (GIS) format, which allows cable system boundaries to be matched with the study area boundaries that define ILEC service territories, and also with a wide variety of demographic and geographic information. The analysis in this section is based on matching cable system service territories³⁵ with the 1,314 RLEC study area boundaries using GIS software.³⁶

³² See e.g., InStat, *The Worldwide Market for Cable Telephony Services* (April 2007) at 18-19.

³³ Kagan Research, *Cable Futurecast* (May 2006) at 8-9.

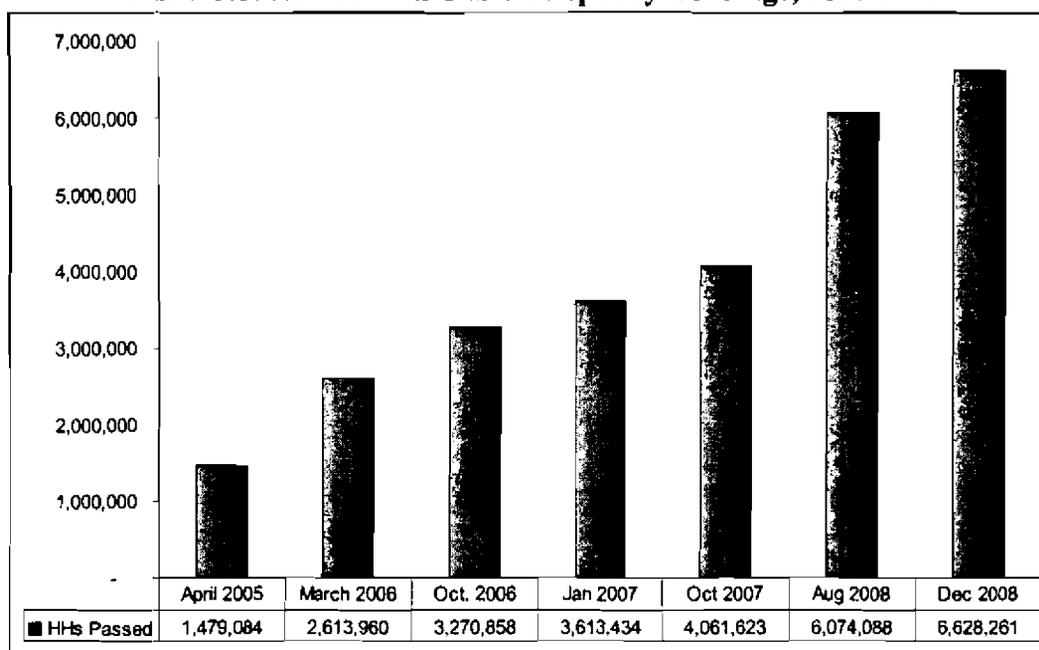
³⁴ SNL Kagan, *2008 Broadband Cable Financial Databook*; see also Jeff Wlodarczak, "Equity Research: U.S. Q1'08 Video/Data/Phone Trends," *Wachovia Capital Markets LLC* (May 15, 2008) (hereafter *Wachovia Research Report*) at 9.

³⁵ Warrens provides detailed information on the location (i.e., cities, towns, etc.) of each cable operator's service territory, but does not provide detailed, street-by-street maps of cable infrastructure, which in principle could result in either overstating or understating actual coverage. Mapping the 2008 Warrens boundaries onto census-block level data on household locations shows that 74 percent of U.S. households are passed by cable voice. This is 10 percentage points less than the SNL Kagan estimate of 84 percent, suggesting that the cable coverage estimates used here are conservative, i.e., that in total they understate rather than overstate actual cable coverage. The estimate for any particular study area may be understated or overstated.

³⁶ The *Monitoring Report* contains information for 2,006 study area codes, of which 1,438 are ILEC study areas and 568 are CETC study areas. (CETC study areas typically encompass all areas served by a CETC within each state, and frequently overlap multiple ILEC study areas. The FCC often creates a CETC study area code before subsidies are actually disbursed: Of the 568 CETC study area codes, only 339 received USF subsidies in 2008.) Of the 1,438 ILEC study areas, 1,404 are located in the lower 48 states, which are the focus of the analysis here. Of these 1,404, 10 study areas were excluded or combined with other study areas due to constraints on data availability and/or changes in study area definitions over time, bringing the total 1,394. Of these, 1,314 are rural study areas, and the remaining 80 are non-rural.

Figure 3 below shows the number of rural³⁷ households passed by cable telephony³⁸ based on this analysis. As the figure shows, the number of rural households with cable voice has more than quadrupled in less than four years, rising from 1.5 million in April 2005 to over 6.6 million in December 2008, or 43 percent of the households in RLEC study areas.

**Figure 3:
Rural Households with Cable Telephony Coverage, 2005-2008**



Source: *Warrens Cable Fact Book*; Empiris LLC

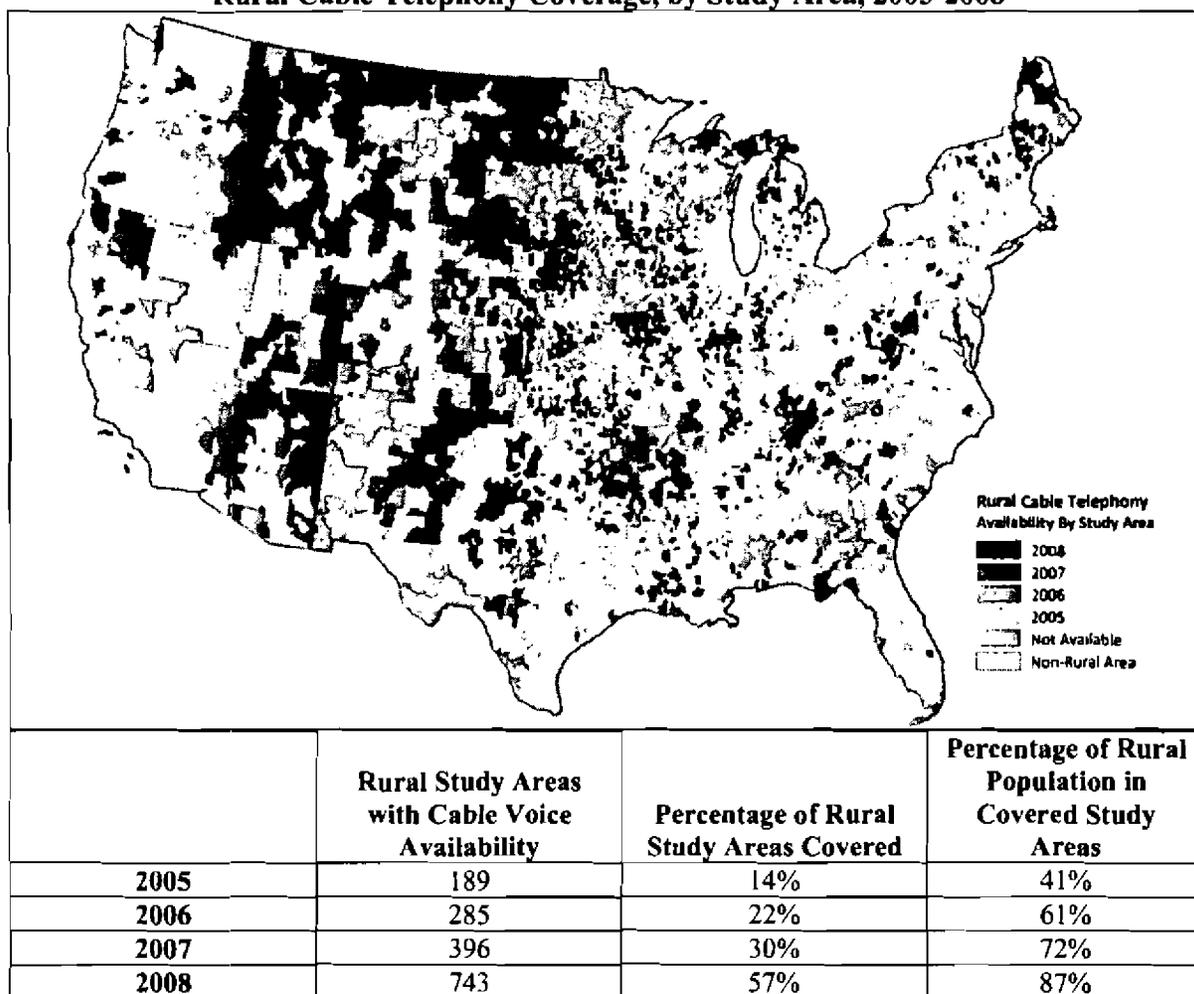
Figure 4 shows the geographic spread of cable telephony over the same period. The map shows rural study areas with at least some cable telephony availability in each period; the data table shows that, between 2005 and 2008, the proportion of rural study areas with cable

³⁷ For this purpose, a “rural” area as defined here is an area that lies within a census block inside an RLEC study area. The National Exchange Carrier Association classifies study areas as rural or non-rural in Appendix E of its 2008 USF Data Submission (available at <http://www.neca.org/>). As demonstrated below, “rural” study areas are often not rural as the term is generally understood.

³⁸ The Warrens data identifies 56 study areas where cable telephony is provided by the RLEC or by the RLEC’s holding company. Because this analysis is focused on competitive cable telephony offerings, it counts a

telephony increased from 14 percent to 57 percent, and that, by 2008, cable telephony was available in 743 of 1,314 rural study areas. Together, these study areas accounted for 87 percent of the rural population.

**Figure 4:
Rural Cable Telephony Coverage, by Study Area, 2005-2008**



As noted above, cable service territories and RLEC study areas do not overlap completely: Study areas are essentially legacy service territories of telephone companies dating

household as being passed by cable voice only if that service is offered by a carrier other than the local RLEC (or its holding company).

back to the early 20th Century when telephone networks were first constructed, while cable service territories generally mirror the local (i.e., county or city) government boundaries associated with cable franchises, which were typically awarded in the 1960s and 1970s. Thus, it is not uncommon for cable systems to cover multiple RLEC service territories and, conversely, for there to be multiple cable systems operating within a given RLEC boundary.

The data in Figure 5 take these partial overlaps into account by showing the extent of cable voice coverage in rural study areas, as measured by the proportion of households in each study area to which cable telephony is available. As the figure shows, cable telephony is available in 57 percent of all rural study areas, encompassing 87 percent of the rural population. Moreover, there are 277 study areas, encompassing 45 percent of the rural population, where cable telephony is available to more than 50 percent of households, and 83 study areas where coverage exceeds 95 percent. By themselves, of course, these data say nothing about whether the areas served by cable within each study area are relatively dense or rural, or relatively cheap or costly to serve. However, the analysis in Section III(B) below demonstrates that there are hundreds of study areas where the portions served by cable companies are *less* densely populated (and hence presumptively *more* expensive to serve) than the study area as a whole.