Universal Service

Rural Infrastructure at Risk

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Synopsis

Universal Service Benefits Rural Consumers

- Rural consumers obtain telecommunications services comparable to those available to urban consumers, at comparable prices.
- Rural consumers benefit from investment in infrastructure and networks in high-cost areas that provide access to basic and advanced telecommunications services – including VoIP.
- The program ensures the existence of at least one carrier capable of serving as a reliable Carrier of Last Resort (COLR).

The Universal Service System is Headed for a Crisis

- The fund has grown from $955 million in 1996 to over $7 billion in 2005.
- The USF assessment mechanism to fund the program has grown to 10.7%.
- A major cause of the current growth has been funds given to carriers that in many cases do not have service obligations, infrastructure commitments or oversight comparable to existing COLRs.
- Many high-cost rural areas cannot support one COLR, let alone multiple carriers.
- The process by which federal and state regulators award USF money has become badly flawed.
- The impending universal service crisis will harm rural consumers and deny them an infrastructure capable of providing access to broadband services.

Fundamental Reform is Necessary

- The USF collection mechanism must be reformed to remain sustainable.
- The goals of universal service funding must be clearly defined:
    - Build infrastructure to serve throughout high-cost rural service areas
    - Base funding amounts on each carrier's actual cost
    - Specify uniform criteria to identify rural areas that can support only one COLR.
- Mandatory minimum criteria for receipt of funds must be enforced:
    - Ability to provide uniform coverage throughout the service territory in a reasonable period of time
    - Ability to assume COLR responsibilities
    - Ability to meet appropriate service quality standards
    - Ability to remain functional in emergencies
    - Ability to provide adequate financial resources.

Universal Service – Rural Infrastructure at Risk

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Universal Service – Rural Infrastructure at Risk

Executive Summary

Universal service – the concept that all Americans, no matter where they live, should have access to high-quality telephone service at reasonable rates – has been a hallmark of federal telecommunications policy for over 70 years. The principle of universal service was initially codified in the Communications Act of 1934, and expanded upon in the Telecommunications Act of 1996 ("1996 Act"). As Congress considers changes to the 1996 Act in light of current technology and the evolving regulatory environment, the principle of universal service should remain a hallmark of our telecommunications policy. But to accomplish that goal, the current universal service program needs reform.

The 1996 Act adopted the twin goals of universal service and competition. Unfortunately, in implementing the universal service provisions of the Act, regulators at both the federal and state level have focused almost entirely on "creating competition" and have lost sight of the true purpose of universal service funding which is to ensure that Americans living outside of major population centers have access to comparable services at similar rates as those enjoyed by Americans living in metropolitan areas. The consequences of this misplaced priority are now taking a toll. Telephone consumers across the country, both urban and rural, are being called on to pay ever-growing fees to provide rapidly escalating amounts of support to new entrants, but these new entrants have no requirement to use these funds for expanding their infrastructure into unserved high-cost areas. The ones hurt by these policies are rural Americans who reside in some of the most remote, high-cost regions of the nation. Any backsliding from the goal of

universal service puts these Americans at risk in the information economy. The universal service fund has enabled them to have access to basic and advanced telecommunications made possible by networks built by rural telephone companies. The question for Congress now is: Will the networks that provide consumers with this access remain viable in the face of escalating demands on the fund?

The promotion of infrastructure development stands out as one of the foremost goals of the 1996 Act. The 1996 Act's Conference Report states the intent of Congress to establish a "national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunication and information technologies and services to all Americans."[1] For those areas that can readily sustain competition, Congress adopted policies in the 1996 Act that use the prod of competition to spur infrastructure development. But in those high-cost areas that need support, Congress took a different approach and adopted a universal service funding mechanism to ensure that rural Americans also would realize the benefits of advanced infrastructure deployment that is so critical to rural economic vitality and the quality of life in the 21st century. Rural telephone companies, which for decades have delivered on the goal of universal service by fulfilling their "Carrier of Last Resort" obligations, have been at the forefront of deploying advanced infrastructure to serve rural communities.

There has been much talk recently about new services, such as VoIP, that offer consumers a new way to communicate. Those services may well be exciting, but what is not as well understood is that the rural networks made possible by the universal service fund in the vast majority of cases carry VoIP services to rural consumers. Simply put,

[1] Conf. Rept. No. 104-104, Telecommunications Act of 1996, at 1.

VoIP requires a broadband connection to the Internet, and for many rural consumers that connection occurs over the local telephone network. This network allows many rural VoIP customers to connect to the Internet, and allows all VoIP users to reach rural businesses and residential subscribers that do not use this service. Without this infrastructure in place, the service offerings of VoIP providers would be dramatically limited. In many areas this network also serves as the backbone that ties together the towers utilized to provide wireless services.

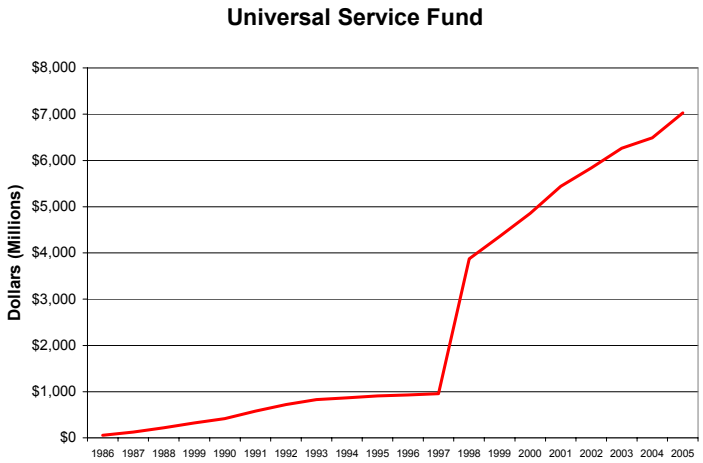
The long-term ability of rural America to continue to enjoy affordable access to basic and advanced telecommunications services is in doubt, because the universal service fund that supports the rural telecommunications infrastructure is headed towards crisis. The combination of a collection mechanism that is no longer sustainable, and growing demands on the fund's resources, threaten the sustainability of the USF. The system needs reform now to prevent irreparable harm to this vital national policy which has served our country so well. Here are the factors threatening the survival of universal service:

THE CURRENT USF CONTRIBUTION MECHANISM IS NOT SUSTAINABLE

- The USF Contribution Factor for the first quarter of 2005 is 10.7%.
- The current USF collection mechanism, based on interstate and international revenues, is unsustainable, as revenues from these services are declining.
- The mechanism is particularly unsustainable if IP-enabled services such as VoIP are not included in the funding base.
    - IP-enabled services are the next generation of telecommunications.
    - These services depend on ubiquitous and affordable network connections provided by rural telephone company networks.

RAPID GROWTH OF THE USF

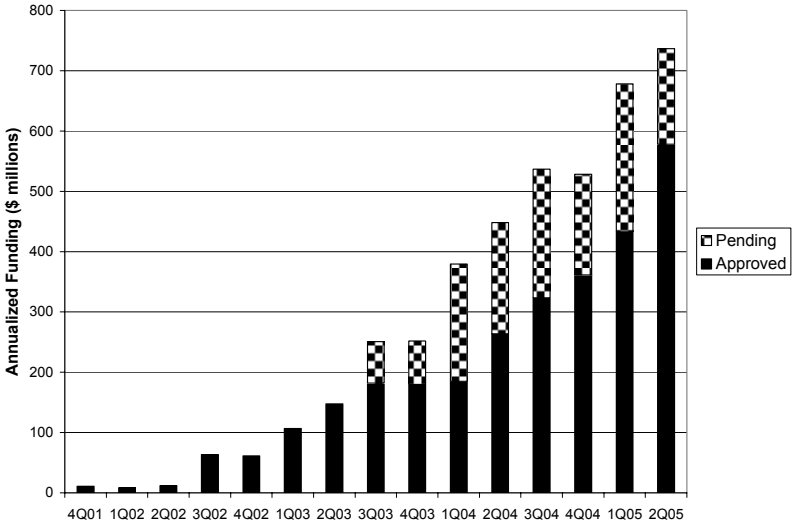
- The USF has grown from $955 million in 1996 to over $7 billion in 2005.
- This chart illustrates the dramatic growth in the fund since 1996.



- This rapid growth further adds to the unsustainability of the fund.

WIRELESS ETC DESIGNATIONS

- Competitive ETCs (CETCs) continue to be approved at a rapid pace, with no evidence that they advance the goal of universal service.
- At current growth rates wireless CETC support could ultimately top $2 billion annually, overwhelming current USF resources.



THE CURRENT ETC DESIGNATION PROCESS IS FATALLY FLAWED

- Wireless carriers receive tens of millions of dollars of "high-cost" support for their existing customer base, with no requirement that they expand their network infrastructure into currently unserved high-cost areas.

- Basing funding to CETCs on the per-line support provided to the wireline incumbent is not economically rational and invites abuse.
- There has been little serious consideration of the costs and benefits of CETC designation.

The following legislative and policy changes will ensure that universal service goals continue to be achieved.

√ Fix the USF collection mechanism:
  - ➢ A more sustainable collection vehicle must be developed.
  - ➢ The base of contributors must be broadened to include all communications service providers, including VoIP providers, which benefit from the availability of ubiquitous and affordable network connections.
  - ➢ The USF collection mechanism must be fundamentally reformed – perhaps through assessments on telephone numbers and high-speed connections.

√ Establish uniform criteria for identifying rural areas that can support just one Carrier of Last Resort:
  - ➢ The experience since the 1996 Act shows that not all areas can sustain multiple carriers without massively inefficient support.
  - ➢ Use a rebuttable presumption in high-cost rural areas that support should only be provided to one Carrier of Last Resort.

√ Clearly define the obligations of CETCs and the basis for support:
  - ➢ A CETC applicant must commit to build facilities to provide high quality service throughout the service area in a reasonable period of time.
  - ➢ Support should be based on the CETC's actual costs of achieving defined service levels.

√ Develop mandatory minimum CETC qualification criteria, including:
  - ➢ Coverage throughout the service territory within a reasonable period of time
  - ➢ Ability to assume Carrier of Last Resort responsibilities
  - ➢ Adequate financial resources
  - ➢ Ability to remain functional in emergencies
  - ➢ Ability to meet technology-specific service quality and consumer protection obligations similar to the incumbent.

√ Reform intercarrier compensation consistent with universal service goals:
  - ➢ Rural carriers have a right to fair compensation for use of their networks.
  - ➢ Mandatory "bill and keep" would harm rural consumers. It would add an additional $2 billion of demands on the USF and could result in higher local service rates in rural areas.

I. BACKGROUND AND INTRODUCTION

A. The Origins of Universal Service

Universal service – the concept that all Americans, no matter where they live, no matter how costly they may be to serve, should have access to comparable services to those available in urban areas, at comparable prices – has been a hallmark of federal telecommunications policy for over 70 years. The principle of universal service was initially codified in the Communications Act of 1934, which states in its preamble:

> …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 communications service with adequate facilities at reasonable charges….[2]

The concept of universal service stems from the telephone pioneers in the early part of the last century who reasoned that the telephone network became more valuable *to everyone* as each additional subscriber was connected to it. The strategy of these pioneers and policymakers was to make the telephone so convenient and so affordable that every working family could have a phone in their home. In order to make the price of basic residential service affordable to average Americans, the industry and its regulators developed a pricing strategy that overpriced long distance services and business services so that basic residential service would be affordable to all consumers.

One of the major challenges in achieving the goal of universal service was getting affordable telecommunications services to consumers in remote rural areas of the nation. The provision of telephone service in sparsely populated rural areas is very costly. Indeed, in the early days of telephony, the Bell System network was built in the cities and towns, but stopped when it could no longer be economically provisioned due to low

[2] Communications Act of 1934, § 1.

customer density, great distances between consumers, or the difficult nature of the terrain. In most cases where an area is served by an independent company today, it is because at some time in the past Bell chose not to serve it – precisely because it was too costly for them to serve. Thus, the thousand or more incumbent rural carriers in existence today reflect an era of self-help when rural communities saw the need to have the same communications links as their urban neighbors and started telephone companies to accomplish that. To enable these small rural carriers to continue to meet the needs of rural consumers, policymakers developed the universal service support system that we know today.

Until the break-up of AT&T in 1984, the high cost of supporting rural telephone networks was administered internally within the telephone industry. By mutual agreement, all telephone companies pooled their long distance revenues, and each company received recovery of its costs from this "Division of Revenue" process. The AT&T divestiture separated the local telephone operations from the long distance operations of the old Bell System, and replaced the Division of Revenue process with a system of "access charges." These access charges were billed by local telephone companies to long distance or "interexchange carriers" for providing the local connections necessary for originating and terminating long distance calls. One of the problems that this change created, however, was that the higher costs of serving rural areas that were previously hidden in the toll pooling process were now exposed in higher, cost-based access charges. If rural companies were to set their access prices based on the costs they had previously recovered through the Division of Revenue process, then long distance companies would have little incentive to serve high-cost rural areas. If these

costs were shifted to end-user subscribers, then rates would rise to unaffordable levels, violating one of the basic tenets of universal service.

To address these concerns, and to enable rural carriers to deploy infrastructure in high-cost areas to meet the needs of rural America, a system of explicit universal service support mechanisms was created in the 1980s. These mechanisms have enabled rural telephone companies to invest in infrastructure to deliver basic and advanced telecommunications services to even the most remote and high-cost areas of America. Without this support, such investment would be too risky and recovery too uncertain. These universal service mechanisms help to ensure that all Americans have at least one Carrier of Last Resort (COLR) capable of providing basic telephone service wherever they may live.[3]

In recent years universal service funds have aided in the development of a telecommunications infrastructure that provides growing numbers of rural consumers with access to broadband and other advanced services, comparable to those available in urban areas. This mission, not yet achieved, is critical because advanced telecommunications services are the economic life-blood of modern communities. Like the rivers and canals of the 18th century, the railroads of the 19th century, and the interstate highways of the 20th century, advanced telecommunications infrastructure gives people, communities and enterprises the tools needed for success in the 21st century. Rural economic development is critical for our country, and the wide deployment of infrastructure capable of delivering broadband services will be a key element of

[3] In addition to the support mechanism for high-cost areas, the early USF contained a Lifeline Assistance component to provide offsets to monthly Subscriber Line Charges for low-income individuals.

revitalizing rural economies. The continued viability of the universal service fund will be critical to enable investment in the telecommunications infrastructure that will help deliver broadband services throughout rural America.

B. The Purpose of Universal Service Support

The purpose of high-cost universal service funding is to encourage and support infrastructure investment in areas served by rural telephone companies that would not otherwise be able to support such investment. Two factors play a primary role in making telephone service more costly to provide in rural areas – distance and density. The farther a customer is from the central office, the higher the cost of reaching the customer. Also, the more sparsely populated the area, the higher the costs to connect individual customers to the network.

The extent to which rural telephone companies rely on high-cost funding to serve rural consumers can be clearly seen in the distribution of the current high-cost fund to incumbent carriers. The largest amount of support goes to a very small percentage of the lines and study areas served by carriers that operate in the most remote and sparsely populated parts of the nation. Chart 1 shows the distribution of high-cost funding to incumbent carriers (rural and non-rural) by decile groupings, ordered by the amount of support received per line.[4]

[4] Each decile represents a ten percent "slice" of the universal service funding going to wireline incumbent carriers. Support data and lines are taken from USAC HC01 and HC05 for 1Q05. Serving area is developed using study area boundaries from MapInfo Exchange Info Plus. Density is shown as lines per square mile. A full explanation of the factors that make serving rural areas more costly can be found in Appendix A.

ILEC Recipients of Universal Service Funding

Decile	Study Areas	Cumulative Percentage		Average Density	Average Monthly Support per Line
		HC Fund	Lines		
1st	113	10%	0.1%	0.6	$123.40
2nd	147	20%	0.4%	1.7	$57.22
3rd	158	30%	0.8%	2.2	$37.44
4th	181	40%	1.3%	3.4	$27.63
5th	209	50%	2.0%	7.4	$20.47
6th	208	60%	3.1%	9.4	$14.25
7th	175	70%	5.1%	18.7	$8.78
8th	76	80%	7.3%	32.4	$5.29
9th	76	90%	14.1%	40.3	$2.40
10th	95	100%	100.0%	114.5	$0.17

Chart 1

As shown on the first line of this Chart, ten percent of all high-cost support goes to just 0.1 percent of all lines nationwide (or about two hundred thousand households), and the 113 study areas in this first grouping receive an average of $123.40 per line per month in high cost support. Furthermore, the average density in these study areas is only 0.6 lines per square mile. Reading further down Chart 1, half of all high cost funding goes to support only 2 percent of all lines (about 3.5 million households), and 80% of funding supports just 7.3 percent of all lines nationwide (about 13 million households). In the final grouping, 86% of lines nationwide receive the last ten percent of funding, and the 95 study areas that serve these lines receive an average of only $0.17 per line per month of high-cost support.

Chart 1 helps to illustrate several things.

- Most support goes to a relatively small percentage of lines serving consumers in the most rural and sparsely populated regions of the nation.

- The cost of serving these customers at the extreme is very high, and carriers serving these areas require significant amounts of monthly support to be able to continue serving these customers at affordable rates.
- If it were not for this high-cost support, many of these customers would likely have no service at all, and if they did have service, it would likely be at rates that were not affordable except for the very rich.

C. The Implementation of the Telecommunications Act of 1996

The 1996 Act expanded universal service to include support for schools, libraries and rural health care facilities. In addition, it required that all support mechanisms previously embedded in access charges be removed and explicitly identified. The Act fundamentally changed the telecommunications landscape by adopting twin goals of competition and universal service while at the same time promoting advanced infrastructure deployment to benefit all Americans. While the Act adopted notable goals and embodied fundamental principles, the manner in which they have been implemented by the FCC and by state commissions threatens the universal service accomplishments of the past 70 years. In particular, the 1996 Act stated that high-cost universal service funding may be provided to competing carriers in rural areas only if this were found to be in the public interest. Unfortunately, in implementing these provisions, regulators focused almost entirely on "creating competition" as the only public interest goal, and they have lost sight of the true purpose of universal service funding which is to keep consumers in remote, high-cost areas connected to our society and economy by giving them access to advanced infrastructure.

As a result of this misguided focus, regulators have allowed wireless carriers to receive ever increasing amounts of "high-cost" funding without accepting an obligation to build infrastructure to serve high-cost areas. This activity hurts all telephone consumers since everyone has to pay a fee to support the USF. It most directly harms

rural consumers because it is causing unsustainable growth in the system on which they depend for access to affordable telecommunications services.

D. Wireless Networks in Rural Areas

Though wireless service uses a fundamentally different technology to connect to its end-users, the costs of serving remote and rural areas using wireless technology are driven by many of the same factors that influence the cost of wireline networks. One of the primary cost drivers in a wireless network is customer density. A wireless tower and its related radio gear costs hundreds of thousands of dollars to build, and each tower is capable of serving a specific geographic area.[5] Depending on the number of customers within that footprint, the cost per customer can either be very high or very low. In cities and towns and along major highways where the density of mobile customers is high, the per-customer cost is low. In very sparsely populated rural areas, however, the cost can be prohibitively high because the fixed cost of the tower and radio gear is spread over very few customers.

It is not surprising, then, that as wireless carriers built out their networks, they placed their towers in cities and towns and along major highways – areas where customer concentration was greatest, and costs were lowest. The areas where wireless service is generally poor or non-existent lie between the population centers and off the beaten track where customer density is low, and the cost of providing wireless service is high.

[5] The exact size of this footprint is driven by a number of factors such as terrain, the height of the tower and the power of the radio transmitter. It also is dependent on the type and power of the customer equipment. It is not uncommon for the area where high-quality wireless service can be obtained using a handheld phone to be a radius of 10 to 15 miles around a tower site, assuming relatively flat terrain.

One of the major problems that will be discussed later in this paper is that wireless carriers in large numbers are requesting, and in most cases receiving, high-cost support at the same levels as the wireline incumbent, without taking on equivalent obligations to provide service throughout the service territory and serving as a Carrier of Last Resort. The rapid growth in funding to such carriers is causing the fund to grow at a rate that threatens the sustainability of the entire universal service system, and yet the benefits to the goal of universal service are unclear.

This is not to suggest that funding for wireless carriers is never in the public interest. Many areas of the nation, including Indian territory, lack wireless coverage, and public money might effectively be used in these areas to provide better service. The problem is that universal service funds are being granted with no specific obligation to build-out networks to serve high-cost areas, and without meaningful oversight that the funds are being used for their intended purposes. This paper proposes reforms that will ensure wireless carriers taking universal service funds have enforceable build-out obligations and that such support is based on their actual cost for providing service.

II. THE TELECOMMUNICATIONS ACT OF 1996

A. Universal Service Provisions and Goals of the 1996 Act

One of the primary goals of the 1996 Act was to accelerate the deployment of advanced services through the introduction of competition into telecommunications markets in areas where competition made sense. The preamble of the Act states:

> To promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.[6]

Congress realized, however, that if telecommunications services were deregulated and subject only to the incentives of the competitive marketplace, then many high-cost regions of the nation would not be well-served. In the debate leading to the passage of the Act, many legislators drew analogies to the deregulation of the airline industry two decades earlier:

> Airline deregulation had at its roots the notion of let the marketplace decide who gets air service, at what price, and what convenience in this country. We know what has happened with airline deregulation.… If you live in rural America and you access airline service, you have less choice and higher prices. It is a plain fact.[7]

Today, flights into and out of rural areas are less frequent, cost more and service quality is poor, while urban areas are receiving expanded service, lower prices and more competition. The economics of the airline industry and telecommunications industry are similar and a similar fate would have happened to rural consumers if rural networks were not appropriately supported.

To address these concerns, the 1996 Act established special universal service provisions to assure that rural consumers received comparable services to those available

[6] Telecommunications Act of 1996, Pub. L. 104-104.

[7] 141 Congressional Record S7976 (June 8, 1995) (Remarks of Senator Byron Dorgan).

in urban areas, at comparable prices. In essence, the 1996 Act provides a framework where the competitive market will drive services as far as it is economically viable, and universal service will provide the incentive and resources to fill in the gaps and support the investment in telecommunications infrastructure that will deliver comparable services ubiquitously and at reasonable rates.

A number of provisions of the 1996 Act specifically address universal service issues. Section 254 of the Communications Act (as added by the 1996 Act) defines six fundamental principles of universal service:

1. Quality services should be available at just, reasonable and affordable rates.

2. Access to advanced telecommunications and information services should be provided in all regions of the nation.

3. Consumers in all regions of the Nation, including those in rural insular and high-cost areas, should have access to telecommunications and information services that are reasonably comparable to those in urban areas, at reasonably comparable rates.

4. All providers of telecommunications services should make equitable and non-discriminatory contributions to universal service.

5. There should be specific, predictable and sufficient Federal and state mechanisms to preserve and advance universal service.

6. Schools, health care providers and libraries should have access to advanced telecommunications services.[8]

Section 254 also charges the FCC to oversee the implementation of these universal service provisions and directs the appointment of a Federal-State Joint Board on Universal Service to recommend changes in the FCC's rules to accomplish these

[8] Communications Act of 1934, § 254(b)(1)-(6).

objectives. As part of its implementation process, the Joint Board recommended, and the FCC approved, another universal service principle: competitive neutrality.[9]

Section 214(e) sets out the procedures for designating carriers that will be eligible to receive federal high-cost support. Section 214(e)(1) provides that an Eligible Telecommunications Carrier (ETC) must do two things:

- Offer the services supported by the federal universal service support mechanisms *throughout the service area for which the designation is received*, and
- Advertise the availability of such services and the charges therefore using media of general distribution.[10]

Section 214(e)(2) assigns the primary responsibility for making ETC designations to the state commissions. In particular, it provides the following guidance regarding the designation of multiple ETCs in a given service area:

> 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 ETC. … Before designating an additional ETC for an area served by a rural telephone company, the state commission shall find that the designation is in the *public interest*.[11]

Thus, Congress specifically acknowledged that it would not necessarily be in the public interest to support multiple ETCs in all rural service areas.

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[9] *Federal-State Joint Board on Universal Service*, Report and Order, CC Docket 96-45, FCC 97-157 (May 8, 1997), ¶ 47. The Order states: "COMPETITIVE NEUTRALITY – Universal service support mechanisms and rules should be competitively neutral. 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."

[10] Communications Act of 1934, § 214(e)(1).

[11] Communications Act of 1934, § 214(e)(2) (emphasis added).

Finally, Section 254(e) defines how ETCs must use federal universal service support. It states: "A carrier that receives such support shall use that support only for the provision, maintenance and upgrading of facilities and services for which the support is intended." An important question, nevertheless, is what are those intended purposes. The answer comes from the purposes of the 1996 Act and 70 years of Federal policy: the intended purpose of universal service funding is to support infrastructure investment to assure that rural consumers have access to comparable services as in urban areas, at comparable prices.

B. Gaps in the 1996 Act

The universal service goals stated in Section 254(b) lay out a simple, straight-forward and profound vision for universal service. All Americans should participate in the telecommunications revolution. Because of inherent differences in the cost of providing telecommunications service, which is essential to civic and economic life, some Americans living in the most remote and highest-cost areas of the nation will need support to have access to comparable services, including broadband services, at comparable rates. The provision of these services should be supported by "specific, predictable and sufficient" mechanisms to preserve and advance universal service. Finally, all carriers will contribute financial support to the preservation of universal service. It would be difficult to craft a better overall mission statement for federal universal service initiatives and programs.

A decade of experience under the 1996 Act, however, shows that in some key areas this mission statement needs refinement and clarification. As Congress revisits its universal service directives, the following changes are needed:

1. **Better align responsibility for ETC designations with accountability for the expenditure of scarce public funds.**

   While the 1996 Act gave the states the job of awarding ETC status, and the federal universal service funds that go with it, the states bear none of the costs of supplying the necessary funds. Additional federal guidelines or oversight of state ETC designation may be appropriate to ensure that universal service funds pooled at the federal level are administered prudently.

2. **Define the specific terms and obligations that a carrier assumes when it requests ETC status and accepts public money for serving high cost areas.**

   The receipt of public funds should be accompanied by accountability for how those funds are spent and the services that they provide. Section 214(e)(1) states clearly that supported services are to be provided "throughout the service area." A condition for the receipt of high-cost support should be an enforceable commitment to invest to build out the carrier's network to deliver high-quality services throughout the service area within a reasonable period of time. Carriers that are unable or unwilling to make such a commitment should not be granted public money.

3. **Define factors for assessing whether the "public interest" is served by designating multiple ETCs in all rural service areas.**

   In many of the ETC proceedings conducted by the states and the FCC, the public interest has been assumed on the grounds that ETC designation promotes "competition." But the 1996 Act establishes the purpose of universal service is to provide comparable service to all Americans, particularly those in rural, insular and high-cost areas. It is time for Congress to ask the question: Is the public interest actually being served, from a cost/benefit perspective, in supporting multiple carriers in high-cost rural areas?

III. IMPLEMENTATION OF THE 1996 ACT – WHAT WENT WRONG

Many factors have contributed to the current situation where universal service funding commitments are growing at a rate that is quickly outstripping the available resources of the current fund mechanisms. Unless these problems are promptly addressed, the long term viability of universal service is at risk. The following factors threaten universal service:

- The growth in the fund's size, combined with major structural changes in the telecommunications industry, render the current interstate-only revenue-based USF collection mechanism unsustainable.[12]

- The USF contribution factor that appears on customer's bills is now above 10% of interstate end-user revenues and will likely continue to increase.

- A major factor in the recent USF growth is the designation of large numbers of wireless carriers as ETCs based upon a fundamentally unsound public interest review process.

- Wireless carriers receive tens of millions of high-cost dollars for serving their current customer base, with little expectation or requirement that they expand their networks into currently unserved high-cost rural areas.

- The current ETC designation process is fatally flawed:
  - There is no clear statement or understanding of the obligations of CETCs.
  - The provision of funding to CETCs based upon the per-line support amounts received by the wireline incumbent is not economically rational and invites abuse.
  - A lack of financial accountability makes no assurance that the public benefit from supporting multiple carriers exceeds the public costs of supporting multiple networks.

- While the FCC appeared to have made progress in defining a more rigorous and rational ETC review and designation process in the *Virginia Cellular* Order, recent FCC decisions naming wireless carriers as ETCs show that this is not the case.

[12] The current funding mechanism applies a Contribution Factor to interstate and international end-user revenues.

Policymakers need to think hard about how finite high-cost support funds can be best used to foster a telecommunications infrastructure capable of delivering broadband services to rural consumers.

A. Growth of the Universal Service Fund

The federal universal service fund has grown from approximately $955 million in 1996 to over $7 billion in 2005. The growth in the fund over time is shown on Chart 2. While some of the growth in the fund is the result of growth within the telephone industry in general, several key events and changes since the passage of the 1996 Act have added significantly to the size of the fund:

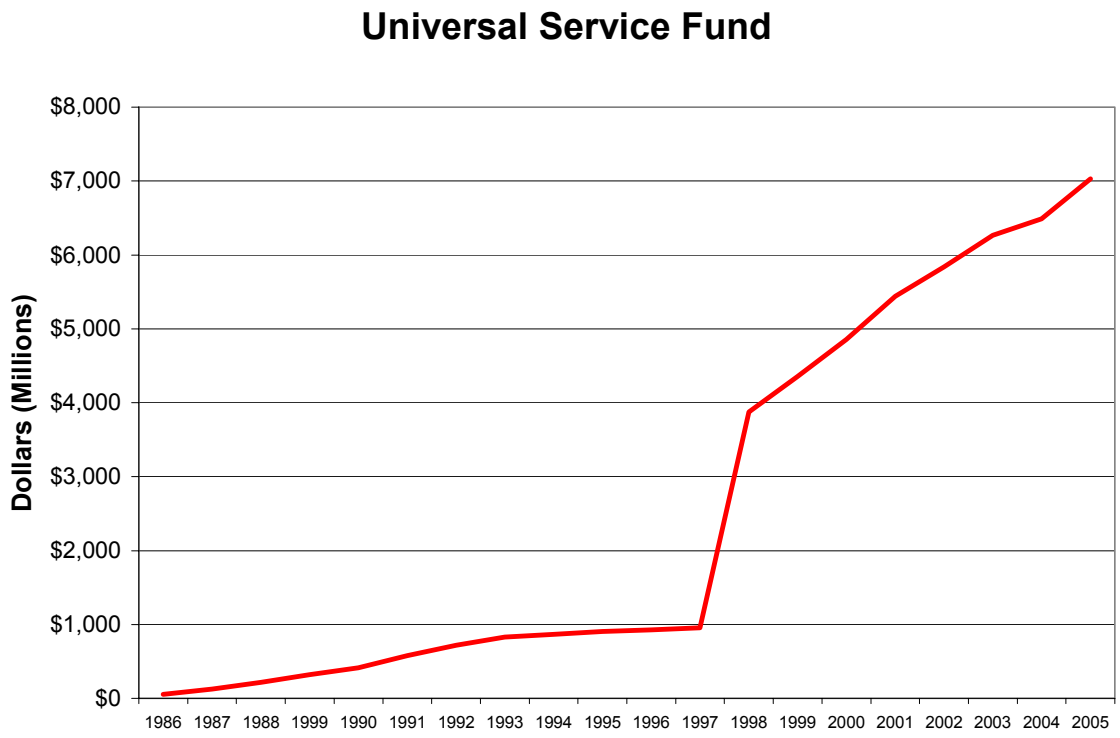

Chart 2

Access Charge Changes – Section 254(e) states that universal service support should be "explicit." The FCC created two new universal service mechanisms to recover a portion of loop costs that had previously been recovered through per-minute access charges to interexchange carriers. The Interstate Access Support (IAS) mechanism was created in 2001 for carriers operating under Price Cap

regulation.[13] The Interstate Common Line Support (ICLS) mechanism was created in 2002 for rate-of-return carriers.[14] In 2004, IAS and ICLS added $1.35 billion to the overall size of the fund. However, IAS and ICLS did not represent new money for incumbent carriers, since this new explicit funding was offset by reductions in interstate access charges. Also, under the "equal support" rule, wireless ETCs that never received access charges also receive IAS and ICLS. This increases growth in the fund as the number of wireless ETCs increases.

Portability of Support to Wireless ETCs – Beginning in the fourth quarter of 2001, competitive ETCs (primarily wireless carriers) began receiving universal service support. As more fully explained below, this funding has grown from an annualized level of $11 million in the fourth quarter of 2001 to $736 million in the first quarter of 2005. It has been estimated that if the current trend continues, that funding to wireless ETCs could exceed $2 billion annually.[15]

Re-Indexing of Caps from the High Cost Loop (HCL) Fund – Since 1993, the largest component of universal service support to rural carriers had been subject to an indexed cap on its overall size. Because the 1996 Act states that universal service support should be "sufficient" to preserve and advance universal service, the Rural Task Force concluded that this cap should be re-based to levels reflecting rural telephone companies actual costs for the year 2000. This modification added approximately $236 million to the fund.

Schools and Libraries Fund – One of the first actions taken by the FCC following the passage of the 1996 Act was to implement the Schools and Libraries Fund (sometimes referred to as the "E-Rate program"). Sections 254(b)(6) and 254(h) specifically directed the creation of a fund to help schools and libraries obtain "advanced telecommunications services. This program began operation in 1999. The FCC rules cap the Schools and Libraries fund at $2.25 billion per year.[16]

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[13] *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers, Sixth Report and Order,* CC Docket Nos. 96-262 and 94-1, *Report and Order,* CC Docket No. 99-249, *Eleventh Report and Order,* CC Docket No. 96-45, FCC 00-193 (May 31, 2000).

[14] *Multi-Association Group Plan for Regulation of Inter-State Services of Non-Price Corp Incumbent Local Exchange Carriers and Interexchange Carriers, Second Report and Order and Further Notice of Proposed Rulemaking,* CC Docket No. 00-256, *Fifteenth Report and Order,* CC Docket No. 96-45, and *Report and Order,* CC Docket Nos. 98-77 and 98-166, FCC 01-304 (November 8, 2001).

[15] *Universal Service in Rural America: A Congressional Mandate at Risk*, OPASTCO (January 2003), at 21.

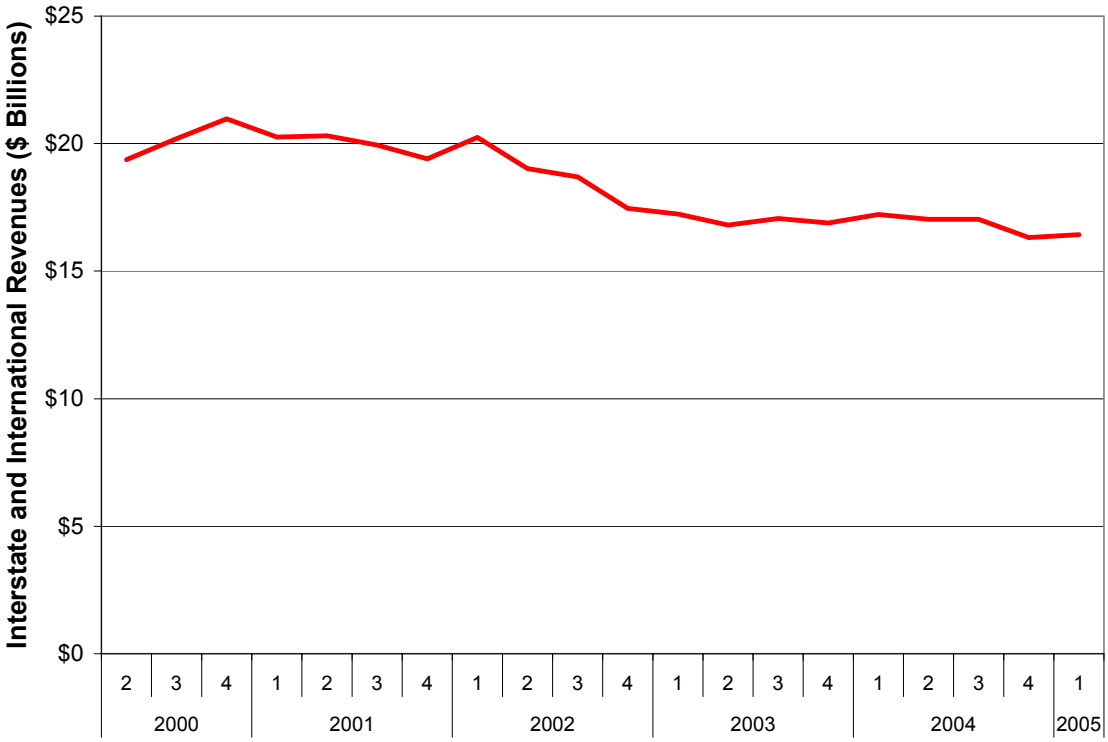
[16] The Act also established a Rural Health Care fund; however, funding requirements for this have been small. In 2004, the Rural Health Care fund was approximately $36 million.

B. The USF Collection Mechanism

Section 254(d) of the Communications Act states that "[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and non-discriminatory basis, to the specific, predictable, and sufficient mechanisms established by the Commission to preserve and advance universal service." Currently, the universal service fund is financed through an assessment on the interstate and international end-user revenues of all telecommunications service providers. Service providers are required to report their projected revenues to the Universal Service Administrative Company (USAC) quarterly. USAC then divides the projected funding needs for the coming quarter by the projected revenue base to determine the quarterly "Contribution Factor" that will be multiplied by each carrier's interstate end-user revenues to determine its contribution to the fund. This contribution factor has been growing recently and its long-term viability is in doubt. The math behind the problem is obvious:

- The demand for funds – the numerator – is growing, as outlined above;
- Interstate end-user revenues – the denominator – have been steadily declining, as shown on the following chart.

Fund Contribution Base
Chart 3



- In addition, the growing popularity of packaged service plans that offer bundles of local and long distance minutes, or unlimited calling, without regard to distance or jurisdiction, further reduces the revenue base.

These forces have worked together over the past several years to produce rapid growth in the Contribution Factor.

Quarterly USF Contribution Factor[17]

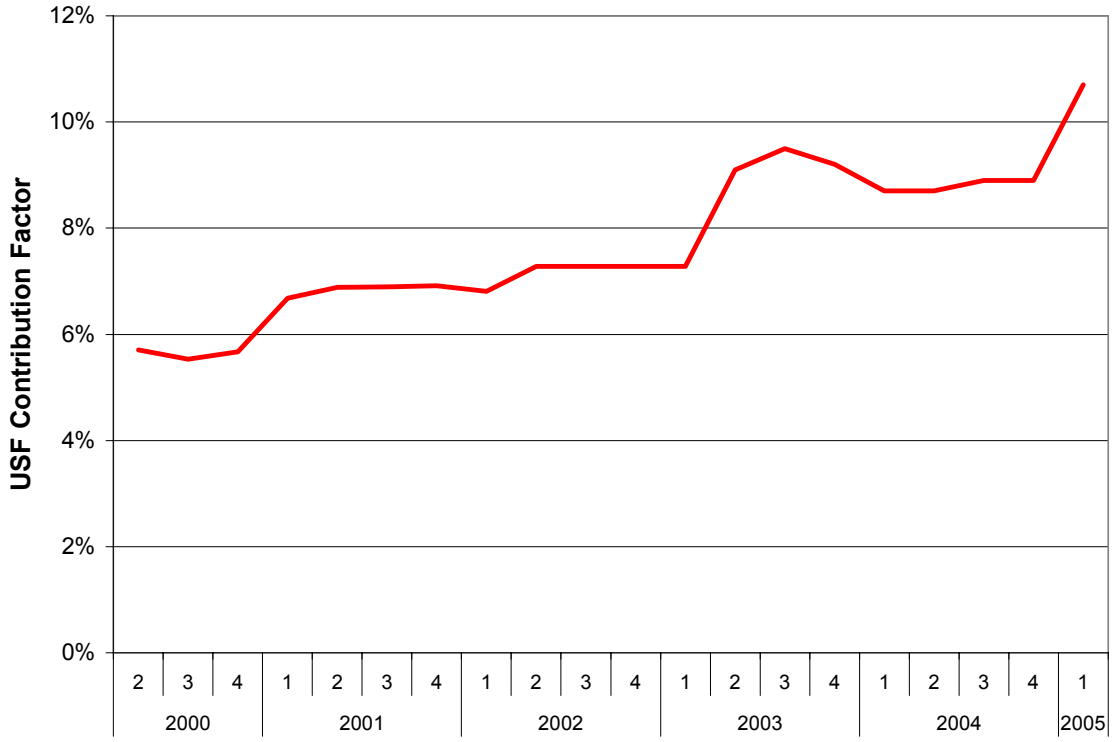


Chart 4

For the first quarter of 2005 the contribution factor will be 10.7%. The factor would have crossed the 10% threshold much earlier, perhaps as early as the fourth quarter of 2003; however, the FCC "borrowed" unused funds from the Schools and Libraries program to keep it below 10% throughout 2004. (Whether these borrowed funds will ever need to be repaid remains to be seen.) The requirements of the Anti-Deficiency Act may force further increases in the contribution factor.

In any event, without substantial policy changes, the existing pressures in the system will push the contribution factor higher, to politically and economically

[17] Data for this chart was taken from the quarterly Universal Service Contribution Factor Notices published by the FCC (http://www.fcc.gov/wcb/universal_service/quarter.html).

unsustainable levels. Consequently, some new funding mechanism is needed for universal service to remain available to rural consumers.

C. Growth in Funding for Wireless ETCs

Beginning in late 2001, and continuing today, the number of competitive ETCs (CETCs) has been growing dramatically. As the following charts show, the number of CETCs and the annualized high-cost funding projected by USAC to go to these CETCs is growing dramatically.

Number of CETCs[18]

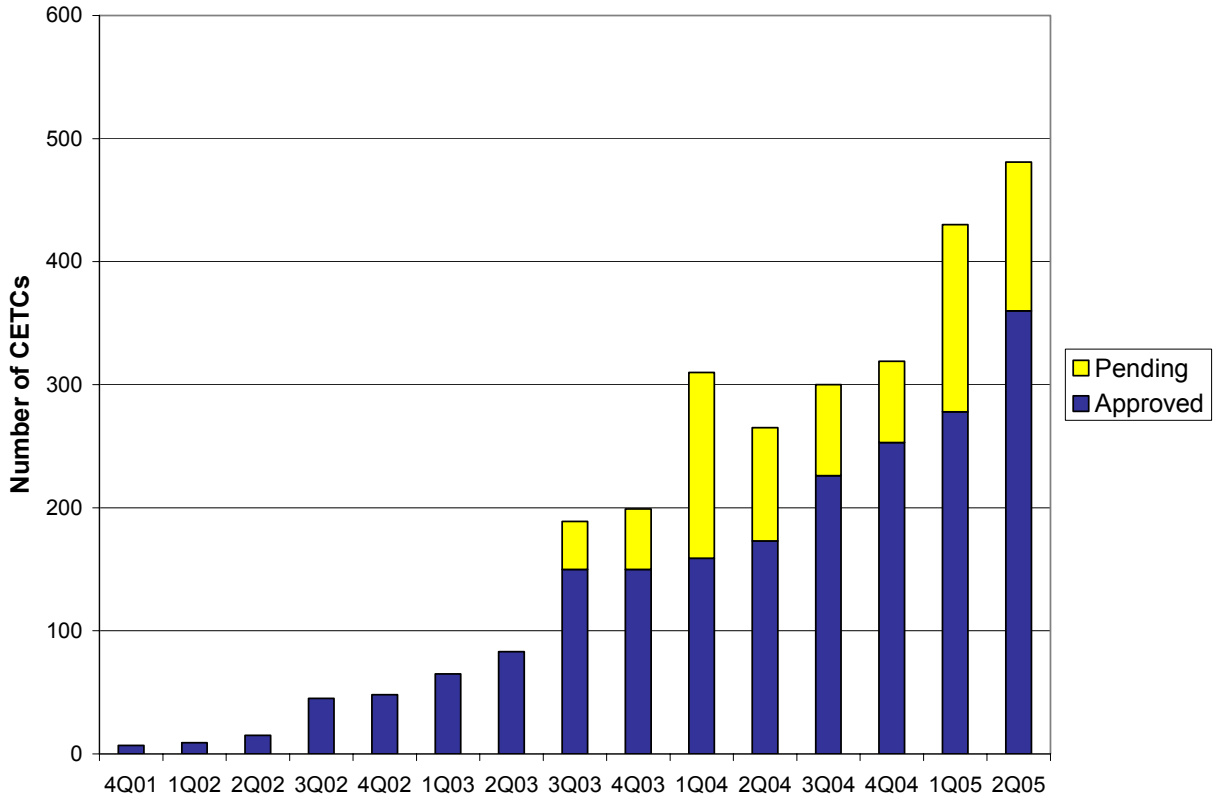


Chart 5

[18] The data shown on these charts has been developed from USAC Reports HC01 from 4Q01 through 2Q05. Beginning in 3Q03, USAC began showing both CETCs that had been approved, and pending applications for ETC status that had not completed the approval process.

Funding to CETCs

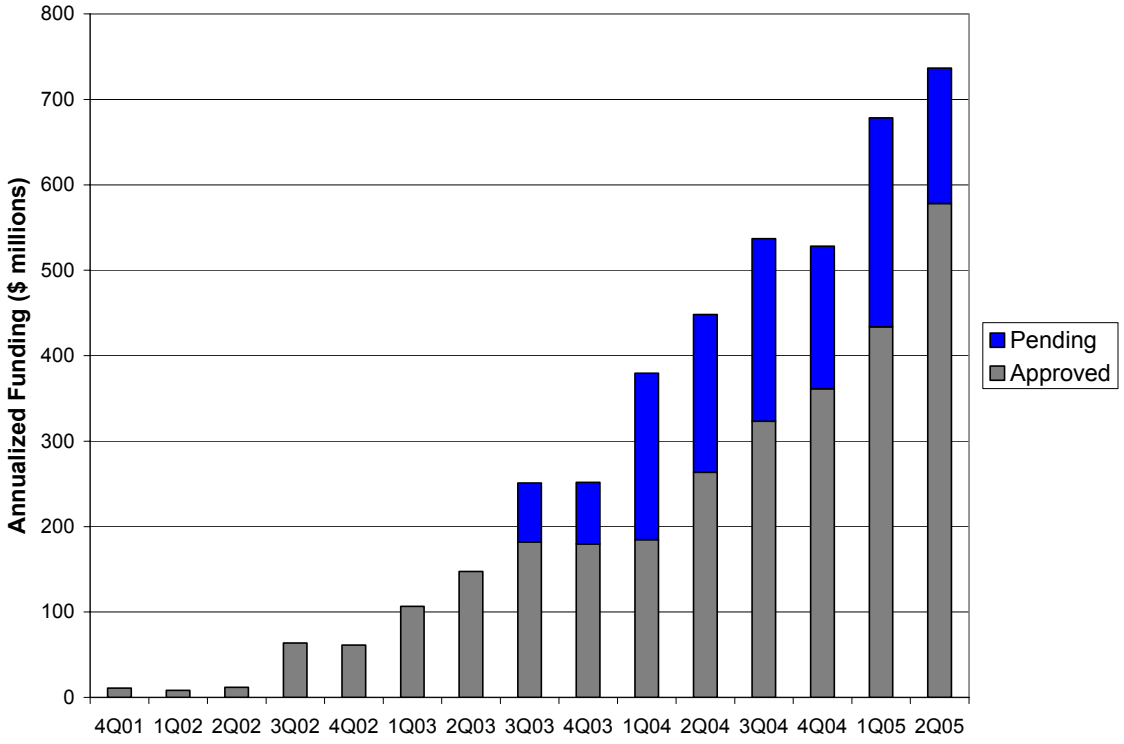


Chart 6

This upward trend in both the number of CETCs and the amount of funds flowing to CETCs has no apparent end in sight. Including both approved and pending CETC applications, annual high-cost finding dedicated to CETCs is now over $700 million per year. Wireless carriers make up the largest share of the CETC universe.

Here are the "Top 10" CETC recipients, all of which are wireless carriers. These 10 carriers collectively receive 75 percent of all CETC funding.

"Top 10" CETC Recipients

	Annual Funding ($Millions)		
Company (States)	**Approved**	**Pending**	**Total**
Alltel (12)	$127.6		$127.6
US Cellular (11)	$43.4	$19.0	$62.4
Western Wireless (17)	$58.1	$2.0	$60.1
Sprint (27)	$24.2	$31.3	$55.5
RCC (10)	$45.3	$1.4	$46.7
Dobson (7)	$10.1	$35.4	$45.5
Centennial (6)	$39.0	$1.8	$40.8
Cellular South (2)	$38.6		$38.6
AT&T Wireless (4)	$19.0	$14.5	$33.5
American (6)	$12.6	$15.2	$27.8

(Source: USAC Report HC01 2Q05)

Chart 7

OPASTCO estimates that if all wireless carriers nationwide were to receive ETC status (and under the current FCC regime there is no reason why that cannot happen), then the impact on the overall fund would be approximately $2 billion per year. The data presented here shows that the wireless industry is moving rapidly in that direction. The parenthetical numbers next to each carrier's name on Chart 7 indicate the number of states in which the carrier has received at least one CETC designation or has applied for CETC status. Many of the larger carriers such as Alltel and Sprint have applied primarily for designation in non-rural study areas and have yet to apply for CETC status in the rural study areas of these states.

The $2 billion wireless CETC funding estimate was based upon 2003 data. If current data were to be used, the revised estimate would be closer to $3 billion.[19] Current trends and policies for wireless ETC designation indicate that wireless carriers could easily pull $2 billion to $3 billion from the high-cost fund. As the above chart shows, wireless carriers have only applied for ETC status in a small fraction of their states and study areas, and two of the largest players (Verizon and Cingular) have yet to apply. If CETC money is indeed available with minimal or no oversight and obligations, then a carrier has no reason not to apply. Also, evidence suggests that if one carrier in a market receives ETC funding, other carriers in the market are likely to apply simply to remain competitive.[20]

Where is all this money going?

While it is easy to see the amount of high-cost support that is going to wireless ETCs, it is not so easy to see the public benefits of this massive infusion of public money. Under the FCC's current CETC rules, once a wireless carrier receives CETC designation, it begins receiving high-cost support for all of its existing customer base within the territory for which it was approved, at the same per-line amount as the wireline

[19] The $2 billion estimate was developed by multiplying the $3.2 billion of high cost funding that incumbent local exchange carriers (ILECs) received in 2003 by the then current 69% ratio of wireless to wireline lines. The most recent estimate of wireless lines is 173.6 million versus a total of 183.0 million wireline lines. This yields a wireless to wireline ratio of 95%. When this ratio is applied to the current ILEC high-cost funding of $3.2 billion, this yields the revised estimate of $3.0 billion. This exercise illustrates another important point – from 2003 to 2005 the amount of high-cost funding going to incumbent LECs has remained constant at $3.2 billion, while support going to wireless CETCs has been growing at a dramatic rate.

[20] The FCC's recently released *Ninth Report on CMRS Competition*, WT Docket No. 04-111, FCC 04-216 (September 28, 2004), states that 97 percent of the U.S. population lives in counties with three or more wireless carriers, and 76% of the population lives in counties with six or more wireless competitors.

incumbent. In essence, the wireless carrier gets "high-cost" support merely for continuing to serve its existing (and rational economic analysis tells us, low-cost) base of customers. This leads one to ask: If wireless CETCs can serve a customer today without USF support, why do they need support? The current system provides little incentive for wireless ETCs to use high-cost support to build-out their networks into higher-cost areas that it currently does not serve.

Where is the accountability for how this money is spent?

Wireless carriers have little or no regulatory oversight for how they spend the high-cost universal service funds they receive. In contrast, wireline telephone companies operate with extensive regulation. State commissions regularly monitor service quality and customer complaints of wireline incumbents. Incumbent carriers must provide service throughout their service territory, and they must comply with regulations regarding how well they respond to requests for new service. While states have the responsibility to certify annually ETC status, most states do not require wireless carriers to present data on the quality of the services that they provide, or on how the high-cost funds that they received have been used to expand their service coverage into previously unserved areas.

D. The Current CETC Designation and Funding Process Is Fatally Flawed

1. The primary purpose of universal service funding is to support investment in rural infrastructure, not subsidizing competition.

Section 254(b) of the Communications Act states clearly that the purpose of universal service funding is to assure that consumers in rural, insular and high-cost areas have access to basic and advanced services reasonably comparable to those available in

urban areas. Somehow, however, in the early decisions implementing the ETC designation process, the primary focus became the creation of "competition."

In an early FCC decision that became the template for many subsequent state ETC decisions, the Commission stated that the ETC application "serves the public interest by promoting competition and the provision of new technologies to consumers in high-cost and rural areas of Alabama."[21] The Commission, without analysis, dismissed concerns raised by parties about the impact of this ETC designation on the size of the USF and its impact on rural consumers: "We find that these concerns are beyond the scope of this Order, which considers whether to designate a particular carrier as an ETC."[22]

Not all of the FCC Commissioners share the view that the purpose of universal service funding is to promote competition. Commissioner Kevin Martin has stated:

> I also note that I have some concerns with the Commission's policy – adopted long before this Order – of using universal service support as a means of creating "competition" in high cost areas. I am hesitant to subsidize multiple competitors to serve areas in which costs are prohibitively expensive for even one carrier. This policy may make it difficult for any one carrier to achieve the economies of scale necessary to serve all of the customers in a rural area, leading to inefficient and/or stranded investment and a ballooning universal service fund.[23]

A good example of how the focus on "competition" has caused policymakers to take their eye off the ball of universal service can be found in the case of Western

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[21] *Federal-State Joint Board on Universal Service, RCC Holdings, Inc. Petition for Designation as an Eligible Telecommunications Carrier Throughout its Licensed Service Area in the State of Alabama, Memorandum, Opinion and Order*, DA 02-3181 (November 27, 2002), ¶ 11.

[22] *Id.* ¶ 32.

[23] *Multi-Association Group Plan for Regulation of Interstate Services of Non-Price Corp Incumbent Local Exchange Carriers and Interexchange Carriers, Second Report and Order,* CC Docket No. 00-256, *Fifteenth Report and Order,* CC Docket No. 96-45, and *Report and Order,* CC Docket Nos. 98-77 and 98-166 (November 8, 2001) (Separate Statement of Commissioner Kevin J. Martin).

Wireless in Wyoming. In the decision granting Western Wireless ETC status, the Commission concludes summarily, "Designation of competitive ETCs promotes competition and benefits consumers in rural and high-cost areas by increasing customer choice, innovative services, and new technologies."[24]

Taking a look back, how have Wyoming customers benefited from this universal service funding? USAC reports indicate that Western Wireless received $6.2 million of high-cost support in 2003, and $8.2 million in 2004.[25] While Western Wireless received over $14 million, it added *no new towers* to expand its service footprint into rural and high-cost areas of Wyoming.[26] Western Wireless continued to serve its customers from its pre-existing towers in the larger towns and along the major highways of Wyoming. What happened to $14.4 million in "high-cost" support that Western Wireless received? Where are the promised consumer benefits to the consumers in the rural and high-cost areas of Wyoming? Certainly, the benefits to the company are obvious. In early 2003 Western Wireless' CEO John Stanton had a meeting with the investment community, and one analyst wrote in response, "The USF subsidy represents an incremental revenue source, which we believe should improve our revenue and EBITDA estimates [for Western Wireless] by $6-8 million during the first quarter and $24-30 million during

[24] *Federal-State Joint Board on Universal Service, Western Wireless Corporation Petition for Designation as an Eligible Telecommunications Carrier in the State of Wyoming, Memorandum Opinion and Order*, DA 00-286 (December 26, 2000), ¶ 17.

[25] USAC reports HC01 for 1Q03 through 4Q04.

[26] This conclusion was reached after a thorough review of records in the FCC tower registration and antenna licensing data bases.

2003 as the incremental revenue is almost all margin."[27] But where is the public interest benefit?

If universal service is to survive, policymakers must clearly articulate the purpose for which the funding is provided, the obligations that carriers must accept as a condition of receiving this public money, and establish appropriate oversight to ensure that this money is well spent.

2. The obligations of CETCs are ill-defined.

In any other area of government, a private party that seeks tens or hundreds of millions of dollars of public funding, for whatever purpose, must establish a need for the funds, and then demonstrate that the money was well spent. Surprisingly, however, in many of the ETC decisions to date, at both the state and federal level, there has been little discussion of what the CETC should or must achieve with all of this universal service funding. The notion that this funding would somehow foster competition has seemed to be enough. But this is not the goal of the USF. Since the goal of universal service is to assure that *all* consumers have access to basic and advanced telecommunications services, grant of ETC status should trigger an obligation to build-out infrastructure to serve throughout the entire service area.

While there have been few decisions that have focused on the specific obligations of wireless CETCs, interestingly there have been decisions stating what CETCs do *not* have to do. In a ruling issued in 2000, the Commission stated: "We believe that interpreting section 214(e)(1) to require the provision of service throughout the service area prior to ETC designation prohibits or has the effect of prohibiting the ability of

[27] "Western Wireless (WWCA): USF Provides Upside To Our EBITDA Estimate," Salomon Smith Barney *Research Note* (January 9, 2003), at 2.

competitive carriers to provide telecommunications service, in violation of Section 253(a) of the Act."[28] Later in this decision the Commission stated that a prospective ETC applicant simply must "make a reasonable demonstration to the state commission of its capability and commitment to provide universal service without the actual provision of the proposed service."[29]

At its core, universal service is about delivering high-quality telecommunication services to all consumers throughout a carrier's service area and serving as a Carrier of Last Resort for all consumers. Unless carriers requesting ETC designation are willing to enter into an enforceable commitment to provide high-quality service throughout the service territory in some reasonable time frame, then the carrier is likely to simply take the money and run, as in the previously cited example. The economic rationale is impeccable. Most customers live in the more densely populated areas that the carrier already serves. Once the carrier has the "high-cost" funding in hand for these customers, it faces a very different set of business incentives regarding investments to expand its network into the more remote areas. Construction of these facilities will generate substantial cost, yet yield relatively little incremental revenue. Therefore, the carrier has little incentive to make investments that make no business sense.[30]

In order for the universal service system to be effective and sustainable, the ETC designation process must require the prospective applicant to serve throughout the area

[28] *Federal-State Joint Board on Universal Service, Western Wireless Corporation Petition for Preemption of an Order of the South Dakota Public Utilities Commission*, *Declaratory Ruling*, CC Docket No. 96-45, FCC 00-248 (August 10, 2000), ¶ 2.

[29] *Id*. ¶ 24.

[30] This would also hold true if high-cost funding were provided based upon a proxy model or some other funding vehicle that did not also include an expectation and enforceable requirement that the carrier actually provide service throughout the service area, including remote and high-cost areas.

prior to granting ETC status, or require specific build-out plans and enforceable commitments to do so.

3. The provision of funding to CETCs based upon the per-line support amounts received by the wireline incumbent is not economically rational and invites abuse.

The FCC also erred when it ruled, in the name of "competitive neutrality," that CETCs should be given the same per-line high-cost support as the wireline incumbent. This only makes sense only if the ETC applicant:

(i) serves the same geographic areas (including the remote high-cost regions);

(ii) provides the same quality of service (including access to broadband services, equal access to long distance carriers, access to emergency service, regulatory accountability, and in most areas, unlimited local usage); and

(iii) offers otherwise comparable services.

That is almost never the case. As described in the previous section, providing "high-cost" support to wireless carriers as though they were actually serving the high-cost areas has the unintended consequence of encouraging them to not invest to serve the most remote parts of the service area.

Incumbent wireline carriers receive high-cost support based on their actual costs of providing service, and based upon the investments they have made to serve rural high-cost areas. Importantly, incumbent carriers only receive high-cost support *after* they have made the high-cost investments. This provides the proper incentives to invest to serve high-cost customers. If wireless ETC applicants were to receive high-cost support based on their actual costs of serving the remote high-cost areas, and if this support were only provided after they had made such investments, then many of the current problems would

go away, and consumers would benefit through more efficient usage of high-cost funds and a wider availability of wireless calling services.

4. The lack of financial accountability results in a failure to assure that the public benefit from supporting multiple carriers exceeds the public costs.

The public interest is served when the benefits created by the expenditure of public money exceed the costs. The public interest is not well served when they do not. Section 214(e) requires that prior to designating multiple ETCs in the area served by a rural telephone company, the state or federal regulatory authority must determine that such designation is in the public interest. Clearly, a rational ETC designation process should be built around a sound cost/benefit analysis, but that is not the case today. Not only should such a test be part of the initial designation process, but the annual review process also should examine whether build-out commitments have actually been met, and whether consumers see the benefits they were promised.

E. The FCC Currently Lacks a Clear, Rigorous and Enforceable ETC Review and Designation Process

In its January 2004 decision in *Virginia Cellular*, the Commission attempted to define a "more stringent public interest analysis for ETC designations in rural telephone company service areas."[31] The Commission's prior public interest standard, as stated in the Alabama and Wyoming Orders, focused primarily on the role that designating additional ETCs would have on creating competition. The *Virginia Cellular* Order makes clear that "competition, by itself, is not sufficient to satisfy the public interest test in rural areas."[32] The Commission concluded that "the balancing of benefits and costs is

[31] *Federal-State Joint Board on Universal Service Virginia Cellular, LLC Petition for Designation as an Eligible Telecommunications Carriers in the Commonwealth of Virginia*, *Report and Order*, CC Docket 96-45, FCC 03-338 (January 22, 2004), ¶ 4.

[32] *Id.*

a fact-specific exercise,"[33] and that "the burden of proof [is] upon the ETC applicant."[34] The analysis must focus on "the benefits of increased competitive choice [and] the impact of multiple designations on the universal service fund."[35] Further, the ETC applicant has an "obligation to serve the designated service area within a reasonable time frame,"[36] and the CETC must "submit records and documentation on an annual basis detailing its progress towards meeting its build-out plans in the service areas it is designated as an ETC."[37]

While the *Virginia Cellular* Order appeared to present a more rational framework for the consideration of wireless ETC applications, its effect seems to have been short-lived. On August 25, 2004, the FCC released an Order granting Nextel Partners blanket ETC designation for all requested rural and non-rural study areas in the states of Alabama, Florida, Georgia, New York, Pennsylvania, Tennessee and Virginia.[38] While giving lip-service to the criteria contained in the *Virginia Cellular* Order, the *Nextel* Order fails to apply any of these criteria in a meaningful way:

- Nextel faces no requirement to serve "throughout" the requested service areas, and

[33] *Id*. ¶ 28.

[34] *Id*. ¶ 26.

[35] *Id.* ¶ 4.

[36] *Id*. ¶ 28.

[37] *Id*. ¶ 46.

[38] *Federal-State Joint Board on Universal Service Petition(s) for Designation as an Eligible Telecommunications Carrier in Alabama, Florida, Georgia, New York, Pennsylvania, Tennessee and Virginia*, *Order,* CC Docket 96-45, DA 04-2667 (August 25, 2004). While Section 214(e)(2) grants states authority to award ETC status, Section 214(e)(6) provides that the FCC may make this determination when a particular state commission lacks jurisdiction to do so (e.g., for wireless carriers or for Native American lands).

- Nextel has no requirement to establish a build-out plan for providing service throughout the service areas, or reporting on its progress. The Order simply cites Nextel's commitment to "improve its network and reach out to areas that it does not currently serve."[39]

In response to concerns that Nextel's designation will not increase competition, the Order states: "Although Nextel and other CMRS operators may already offer service in the subject markets, designating Nextel as an ETC will further the Commission's universal service goals by enabling Nextel to better expand and improve its network to serve a greater population and increase competitive choice for customers within the study areas of its ETC designation."[40] Responding to suggestions that the Nextel application be subjected to a cost/benefit analysis as part of the public interest examination, the FCC states: "We decline to delay ruling on pending ETC petitions and to impose additional requirements at this time."[41]

Is this what Congress had in mind? The purpose of the high-cost fund is to provide resources for carriers to make the infrastructure investments necessary so that all consumers living in rural high-cost areas can have affordable access to basic and advanced telecommunications service. It is not so that carriers operating in urban markets with multiple competitors can "expand and improve" their networks in the urban areas they already serve. The blanket designation of Nextel is even more surprising since Nextel's primary marketing focus is on serving business customers.[42] In rejecting an

[39] *Id*. ¶ 19.

[40] *Id*. ¶ 20.

[41] *Id*. ¶ 21.

[42] Nextel's web site states that "more than 90 percent of Nextel customers are business users." (http://www.nextel.com/about/corporateinfo/profile.shtml).

application for ETC designation from Nextel earlier this year, the Minnesota Public Service Commission concluded:

> The Company presented no plan for expanding its service capabilities and simply stated that receipt of the universal service funding would change (in unspecified ways) the economic model that might (no guarantee or analysis to show reasonable likelihood) make expansion (of unspecified extent) into some (unspecified) areas possible. The extent to which the economic model would change was not specified. No guarantee of expansion or analysis was provided to demonstrate the likelihood of expansion. No areas were identified for expansion. …In these circumstances and based on this record, therefore, the Commission finds that Nextel has failed to demonstrate that it is willing and able to serve "throughout the service area for which the designation is received …" as required of an ETC by 47 U.S.C. § 214(e)(1).[43]

The FCC simply failed to engage in this same kind of rigorous analysis.

[43] *NPCR, Inc. d/b/a Nextel Partners for Designation as an Eligible Telecommunications Carrier Under 47 U.S.C. § 214(e)(2)*, Docket No. PT-6200/M-03-647 (December 1, 2003).

IV. LEGISLATIVE AND POLICY CHANGES NECESSARY TO PRESERVE THE UNIVERSAL SERVICE FUND AND ENSURE THAT ALL AMERICANS STAY CONNECTED

In a speech last year regarding reform of the universal service system, FCC Commissioner Jonathan Adelstein posed the right policy question:

> [T]here is widespread agreement that we need to reform the ETC designation process. Reading the Act, it's clear Congress intended that multiple carriers would have access to universal service. Otherwise, it wouldn't have given us the authority to make additional carriers eligible. But it's not clear that Congress fully contemplated the impact of this growing competition on the ability of the universal service fund to keep up with demand, and eventually to support advanced services. The amount of funding new entrants receive is growing quickly. It may come down to a choice Congress never envisioned – between financing competition, or financing network development that will give people in Rural America access to advanced services like broadband.[44]

The universal service fund is headed toward a financial crisis in which the demand for funds outstrips the ability to pay. To avert this event, Congress should state clearly its goal for universal service, and provide guidance regarding the designation of multiple ETCs in high-cost rural areas. The following suggestions focus on how the current universal service rules and processes should be reformed to assure that universal service funding continues to be specific, sufficient and *sustainable*, and that affordable access to broadband service is provided to all Americans.

A. Fix the USF Collection Mechanism

For all of the reasons outlined above, the current USF collection mechanism, based on assessments only on interstate and international end-user revenues for telecommunications services, is not sustainable and must be quickly fixed. In its place,

[44] Remarks of Jonathan S. Adelstein before the NTCA Legislative and Policy Conference (March 22, 2004) (http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-245498A1.doc).

Congress should adopt the principle that any entity that uses the facilities of the telephone network should share in the funding of universal service.

Any workable mechanism must anticipate and accommodate changes in telecommunications technology. Some have questioned whether VoIP and other IP enabled services are telecommunications services or information services, and whether such services should contribute to the preservation and advancement of universal service.

Using the principles set forth above, VoIP and IP-enabled services benefit from the availability of ubiquitous and affordable network connections and therefore should help support network deployment, regardless of their ultimate regulatory classification. VoIP providers benefit in two ways. First, the network connections that universal service supports are the very same connections that consumers in many rural areas use to obtain their access to the Internet, and provide the ability to subscribe to VoIP service in the first place. Second, by having all consumers and businesses nationwide connected to the PSTN, customers of VoIP service providers have the opportunity to call anyone anywhere.

Another reason that VoIP services must contribute to the preservation and advancement of universal service is that if, as some have predicted, VoIP and IP-enabled services become the predominant method by which consumers communicate, then without their participation in universal service funding the entire system would collapse, and the ubiquitous infrastructure upon which they depend would no longer be possible. In essence, the calling scope of VoIP providers will decrease dramatically unless these providers help support access to the public broadband infrastructure.

B. Guidelines for Supporting Multiple Carriers in High-Cost Areas

As Commissioner Martin has stated, "subsidizing multiple competitors to serve areas in which costs are prohibitively expensive for even one carrier … may make it difficult for any one carrier to achieve the economies of scale necessary to serve all of the customers in a rural area, leading to inefficient and/or stranded investment and a ballooning universal service fund." Clear guidelines should be developed that define areas where there would be a rebuttable presumption that providing high-cost support to multiple carriers would not be in the public interest.[45]

C. ETCs Must Accept an Obligation to Serve Throughout the Service Area

The purpose of high-cost funding, as clearly stated in Section 254(b), is to assure that consumers in all areas of the nation have access to affordable basic and advanced services comparable to urban areas. The Act also unambiguously states that carriers that receive such support *shall* provide supported services "throughout the service area for which the designation is received." Thus, a minimum obligation of any carrier that accepts ETC status must be an enforceable commitment to provide high-quality service throughout the entire service area within a reasonable period of time.[46] Carriers that do not provide high-quality service throughout the entire service area at the time of

[45] One such proposal has already been placed in the record in CC Docket 96-45 by Joint Board member and West Virginia Consumer Advocate Billy Jack Gregg. Mr. Gregg's proposal bases this definition on the amount of high-cost support currently being received by the incumbent. Other criteria, such as population density or other factors that influence network cost, could also be used to specify areas where supporting multiple ETCs and Carriers of Last Resort would not be in the public interest.

[46] In the case of a wireless carrier, high-quality service should be defined as the ability of all consumers within the service area being able to enjoy acceptable signal coverage using a conventional handset at their place of residence, as well as when traveling along national, state or county highways within the service area.

designation must submit a build-out plan detailing how they will achieve such coverage within a reasonable period of time. Carriers would be required to make an annual filing with the state commission and the FCC detailing their progress toward meeting the build-out plan. All CETCs must also be capable of assuming Carrier of Last Resort responsibilities.

D. High-Cost Support Should be Based On Each ETC's Cost

All ETCs should receive high-cost support based upon their actual cost of serving throughout the service territory.[47] The Joint Board should conduct a proceeding to develop appropriate costing methodologies for carriers using technologies for which the FCC's current rules may not be appropriate.[48] Support for incumbent rural wireline carries should continue to be provided according to their embedded cost. The Rural Task Force (RTF) determined that forward-looking cost models were not sufficiently accurate for the determination of sufficient support levels for rural telephone companies.[49] Nothing has occurred since this recommendation was made that would change the basis for the RTF's conclusions.

[47] The cost/benefit analysis involved in the initial ETC designation, as well as the general guidelines regarding areas where supporting multiple networks is not in the public interest, should eliminate situations where the build-out throughout the service area would be prohibitively expensive.

[48] Parts 32, 36 and 69 of the FCC rules define how costs are to be determined for wireline telephone companies, and likely are not relevant in all respects for carriers using wireless or other technologies. Appropriate rules should be developed to develop the appropriate levels of public support for such services.

[49] *Federal-State Joint Board on Universal Service*, *Rural Task Force Recommendation to the Federal-State Joint Board on Universal Service,* CC Docket 96-45 (September 29, 2000), at 18.

E. Minimum Qualification Criteria for ETC Designation

Mandatory minimum qualification criteria should be established for use in the public interest determination in ETC designation proceedings. These criteria must be mandatory, since individual state commissions decide who receives the funds, but the funding resources are national.[50] Mandatory minimum criteria will ensure that all ETC reviews are conducted in a consistent fashion. A consistent review process will ensure that states are not encouraged to approve ETC application merely to bring additional federal dollars into their state. These reviews also should also include a fact-based cost/benefit analysis using uniform methodology and standards. The minimum qualification criteria for prospective ETC applicants should include the following:

1. Ability to provide coverage throughout the service area – As described above, an ETC applicant must be capable of providing high-quality service throughout the service area within a reasonable period of time.

2. Ability to assume Carrier of Last Resort responsibilities– An ETC applicant must demonstrate its ability to function as a Carrier of Last Resort should the incumbent carrier relinquish its ETC status as provided in section 214(e)(4).

3. Ability to meet appropriate service quality standards– In return for the receipt of public support funds, an ETC, regardless of service technology, assumes public accountability for the quality of the services that it provides. An ETC applicant must demonstrate its ability to meet technology-specific service quality standards comparable to those required for the wireline incumbent.

4. Ability to remain functional during emergencies– Telecommunications services play a vital role in public health and safety and in homeland security. An ETC applicant must demonstrate that it has adequate battery, generator and other back-up power capability to remain functional in emergencies.

5. Ability to maintain adequate financial resources– An ETC applicant must demonstrate that it has adequate financial resources to complete any build-

[50] In cases where a state commission lacks the jurisdiction to make the ETC designation determination, the FCC assumes review authority under Section 214(e)(6).

out plans that it may have committed to, as well as to function effectively as Carrier of Last Resort.

F. Reform Intercarrier Compensation in a Manner That Supports Universal Service Goals

The current system of intercarrier compensation, which charges different prices based on the type of the call (local, intrastate, interstate, Internet) and the carrier making the call (ILEC, CLEC, IXC, CMRS, etc.), is badly in need of reform. Some parties have called for replacing the current intercarrier compensation regime with a "bill and keep" system where carriers would not compensate each other for the origination and termination of traffic, and all carriers would recover the cost of their networks either from their end-user customers or from the universal service fund. A mandatory bill and keep system would add over $2 billion of additional funding requirements on the already overburdened universal service fund, and make the reforms described in the previous section even more difficult to accomplish. To ensure that universal service goals continue to be met, any intercarrier compensation reform should include the following principles:

- Rural carriers have a right to fair compensation for use of their networks by other carriers, including VoIP and other IP-enabled service providers; and
- Mandatory bill and keep in rural areas will not serve the public interest and would be counter to universal service goals.

Conclusion

While it is neither necessary nor appropriate for Congress to micro-manage the administration of the universal service funds, it is critical that the goals to be accomplished through federal universal service mechanisms be clearly and unambiguously stated and understood. The current developments in universal service fund growth and CETC designations render the existing system unsustainable, and if changes are not made soon, then the universal service system as we have known it will suffer irreparable damage. Consumers in the most rural and high-cost areas of the nation will face the very real possibility of having no telecommunications carrier capable of connecting them to the telephone and information networks. The goals of universal service have been, and must continue to be, that all consumers, particularly those in rural, insular and high-cost areas, have access to at least one Carrier of Last Resort capable of providing access to affordable basic and advanced telecommunications services. The policy recommendations contained in this paper will help to ensure that this vision remains viable, and that universal service funding will be specific, predictable, sufficient and sustainable.

Appendix A – The Higher Cost of Serving Rural Areas

Two factors play a primary role in making telephone service more costly to provide in rural areas – distance and density. The farther from the central office a customer is, the higher the cost of reaching the customer. Also, the more sparsely populated the area, the higher the costs to connect individual customers to the network. A third factor – the number of lines per switch – also plays a role, as the lower the number of lines served by the switch, the higher the per-line cost.

In January 2000, the Rural Task Force published the landmark *White Paper 2 – The Rural Difference*, which provides facts and data summarizing the cost differences between rural and non-rural telephone companies.[1] Among the differences cited in this study are:

- Rural carriers serve about eight percent of the nation's access lines covering 38 percent of the nation's land area.
- The average population density is only 13 persons per square mile for areas served by rural carriers compared with 105 persons per square mile in areas served by non-rural carriers.
- Rural carriers have lower business customer density than non-rural carriers.
- The average population density of areas served by rural carriers varies radically. Rural carriers in Alaska and Wyoming on average serve populations of 0.58 and 1.25 persons per square miles respectively, while rural carriers in some states serve populations of over 100 persons per square mile.
- Rural carriers have only 1,254 customers on average per switch, compared to over 7,000 customers per switch for non-rural carriers.
- Total plant investment per loop is over $5,000 on average for rural carriers compared to less than $3,000 for non-rural carriers.
- Average total plant investment per line for rural carriers increases as the line size of the study area decreases. Average total plant investment per line ranges from

[1] Section 3(37) of the Communications Act defines "rural telephone company." Generally, a study area with less than 100,000 lines in a state is considered to be rural. Non-rural study areas serve significantly more lines, and most RBOC study areas are classified as non-rural.

$3,000 for rural carriers with the largest study areas to over $10,000 for rural carriers with the smallest study areas.

- The range of values for total plant investment per loop for rural carriers ($1,400 to $40,500) is far greater than the range for non-rural carriers ($1,570 to $4,350).

As the Rural Task Force noted, there is a wide diversity among rural carriers. This diversity is driven by demographics, terrain, distance, density and many other factors that influence the cost of delivering high-quality telecommunications services. The following data uses nationwide average cost results to illustrate the role that distance and density play in determining cost of providing basic telephone service.[2]

Chart A illustrates the impact that distance from the central office has on the monthly cost of providing basic telephone service (on the right-hand vertical axis), and the distribution of customer density for all U.S. households (on the left-hand vertical axis).

[2] This data includes loop, switching and transport functions, and was developed during the FCC's proxy model proceeding in the late 1990s. It comes from the BCPM 3.0 model with FCC Common Inputs. As the Rural Task Force identified in White Paper 4, proxy models are not sufficiently accurate at the individual rural wire center level to be reliable indicators of the costs of specific rural telephone companies. The date presented in Charts 1 and 2 reflects Nationwide averages of cost and is presented solely to illustrate the dramatic effect that distance and density may have on the average cost of providing basic telephone service.

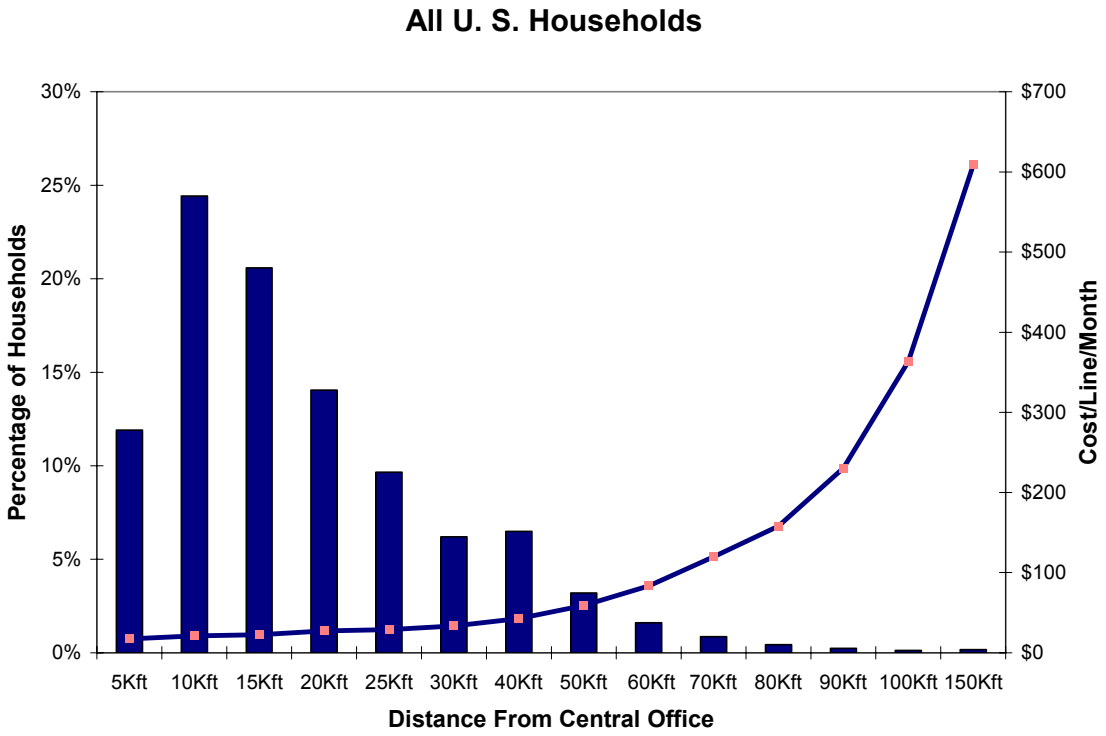

Chart A

Notice that nationwide well over half of all households are located within 15,000 feet of their serving central office, whereas only a small percentage are located at distances exceeding 50,000 feet. This chart also shows that costs are relatively low in close proximity to the central office, but grow geometrically as distances exceed 40,000 feet. This geometric expansion stems, in part, from the fact that the more distant customers generally are located in sparsely populated areas as well.

Chart B illustrates the impact that population density has on the average cost of providing basic telephone service.

Households per Square Mile	Nationwide Average Cost
0 to 5	$133.00
6 to 100	$48.44
101 to 200	$30.72
201 to 650	$26.87
651 to 850	$25.05
851 to 2550	$23.11
2551 to 5000	$21.83
5001 to 10,000	$20.25
> 10,001	$18.16

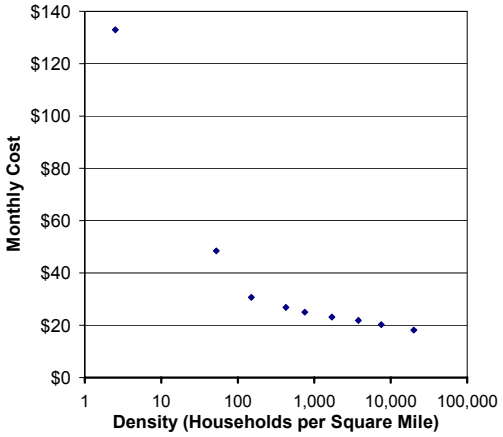

Chart B

Chart B shows that costs increase gradually with decreasing population density until around 100 households per square mile. Below this density level, costs increase geometrically as population density decreases. A good indicator of relative costs is the percentage of customers in the two lowest density bands – 0 to 5, and 5 to 100 households per square mile.

- Nationwide, 1.1% of residential customers are in service areas with less than 5 households per square mile, and 11.4% are in areas with less than 100 households per square mile.
- On average for rural companies 5.9% of residential subscribers are in service areas with less than 5 households per square mile and 38.1% are in service areas with less than 100 households per square mile.
- By contrast for non-rural companies only 0.5% of customers are located in areas with a density less than 5 households per square mile and only 8.0% are in areas with less than 100 households per square mile.
- The actual cost for each particular rural company is based on its particular mix of distance, density and other factors.