McLean & Brown

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One Year Later – One Year Closer
The Coming Train Wreck in Universal Service

One year ago, McLean & Brown published a white paper titled ***The Coming Train Wreck in Universal Service Funding – Why is it coming – and how do we avoid it?*** That paper outlined several factors that were causing the universal service fund to grow at a significant rate, and to potentially unsustainable levels. Among the issues identified in ***Train Wreck*** were:

- **FUNDING MECHANISM**
  The funds needed to pay for federal universal service obligations are raised through an assessment on the end-user revenues of interstate telecom providers. At the time ***Train Wreck*** was published, this assessment was 6.8% and rising. Some carriers were also adding surcharges to this mechanism that were pushing end-user surcharges to as high as 11.5%.
- **PORTABILITY**
  The 1996 Act provides for portability of support in areas served by rural telephone companies only when such portability is found to be in the public interest. Experience with portability proceedings at both the state and federal level indicated that wireless carriers were being granted Eligible Telecommunications Carrier (ETC) status and receiving "support" for large numbers of low-cost customers that they already served. Continuation of this trend could push the fund size to unsustainable levels.
- **ICLS**
  The new Interstate Common Line Support (ICLS) mechanism was approved as part of the MAG Order, and replaced access charges previously recovered from IXCs. Beginning in July of 2002, ICLS would add over $350M to the size of the fund, and almost $500M when the phase-out of the Carrier Common Line charge was completed in July of 2003.
- **THE "NON-RURAL-RURAL" PROBLEM**
  Over half of all high-cost rural customers are actually served by non-rural telephone companies. Under the FCC's non-rural USF program, these companies receive very little explicit support for their high-cost rural customers. These rural customers could represent a hidden funding liability of $2B to $3B per year.
- **INTERCARRIER COMPENSATION**
  The significant contribution that long distance services and access charges historically have made to affordable local service has steadily eroded as access charges have been reduced to near-zero levels. The FCC has proposed several models of "bill & keep" for intercarrier compensation with potentially serious implications for rural carriers at both the federal and state levels.

In assessing these challenges, ***Train Wreck*** offered the following policy observations:

1. Some way must be found to either control the size of the fund, or to find a more sustainable and larger funding mechanism, or to do both.
2. In making the public interest determination required for portability of support in rural telephone company areas, regulators must assure that the public benefits from supporting multiple ETCs exceed the public costs of supporting multiple providers.
3. Suggestions that the fund size could be managed by limiting support to one "primary line" per customer location would have serious unintended consequences, and could actually make the problem worse.
4. In some subset of rural America, the public interest may be best served by providing support to a single carrier operating as Carrier of Last Resort.

Now, one year later, the telecommunications industry and its regulators face the same problems, but with an increasing urgency. Following is a summary of where we stand now on these critically important issues.

Funding Mechanism

ICLS did not change the amount of money rural ILECs received. It merely replaced cost-based access charges with an explicit and portable "support" mechanism. As expected, however, the introduction of the new ICLS mechanism in July of 2002 had a significant impact on the fund – so significant that the FCC needed to take immediate action to avoid substantial increases in the universal service assessment. In the second quarter of 2002, just prior to ICLS implementation, the USF Contribution Factor was 7.3% of interstate end-user revenues. When the third and fourth quarter calculations were performed, it was determined that this assessment would need to be increased to 8.7% and 9.3%, respectively. In order to avoid this increase, the Commission took the unprecedented step of "borrowing" money from the Schools and Libraries fund to keep the Factor at the same 7.3% level. This required a transfer of $256.2M and $349.8M of S&L funds in the third and fourth quarters of 2002 respectively to support the high-cost mechanisms. In justifying this move, the Commission stated:

> In the ***Schools First Report and Order***, the Commission concluded that unused funds from the schools and libraries support mechanism would be applied to stabilize the collection requirement for universal service in the third and fourth quarters of 2002, and the first quarter of 2003, if necessary, while it examines whether more fundamental reform of the basis for assessing universal service contributions is warranted.[1]

On December 13, 2002, the Commission issued an Order that made interim modifications to the universal service fund collection mechanism, and included a Further Notice of Proposed Rulemaking (FNPRM) to address longer term solutions[2]. To respond to the growing practice of wireless carriers providing bundles of local and long distance minutes, the Commission increased the wireless "safe harbor" percentage from 15% to 28.5%. To address the concern of IXCs that falling interstate long distance revenues made it unfair to base fund assessments on historical revenues, the Commission will now base fund assessment on forecasted revenues. To respond to concerns by consumers that universal service assessments are becoming too high, the Commission will prohibit interstate carriers from marking up line item universal service surcharges beyond the basic Contribution Factor percentage. The Commission recognizes that these changes represent "…interim measures to maintain the viability of universal service in the near term – a fundamental goal of the Commission – while we consider further long term reforms". In the FNPRM the Commission seeks comment on three alternative "connections-based" funding mechanisms to "…ensure the continued viability of universal service as the marketplace evolves."

The basic problem with the interim plan is that it will not solve even the current funding shortfall. The 13.5% increase (28.5% - 15%) in the wireless safe harbor percentage will increase the USF Contribution Base by approximately $9.2B.[3] If the Contribution Factor were to remain 7.3%, this would yield an increase in annual funding of $670M, which equates to $167M of additional support per quarter. Thus, at most, this increase will be less than half of the approximately $350M shortfall experienced in the fourth quarter of 2002. Therefore, a significant increase in the contribution factor beyond the current 7.3% level will be necessary, even at the current funding levels. As previously mentioned, the fund will experience another significant increase when the second half of the ICLS phase-in occurs in the third quarter of 2003. The fund level is also growing through the approval of new competitive ETCs.

In the Collection Mechanism FNPRM, the Commission seeks comment on three "connections-based" alternatives for fund collection. At least two of these alternatives seek to place a $1 per month per connection charge on residence and single line business customers, with the balance of the needed funding assessed on a residual basis to multi-line business (MLB) customers. Earlier estimates of the impact of similar plans placed the monthly assessment on MLB customers in the vicinity of $4 per line. As the fund size grows, the MLB charge would bear all of the increase and rise even higher.

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[1] ***Proposed Fourth Quarter 2002 Universal Service Contribution Factor***, CC Docket No. 96-45, Public Notice DA 02-2221, Released September 10, 2002, at page 2.

[2] ***In the Matter of Federal State Joint Board on Universal Service***, CC Docket 96-45, et. al., Released December 13, 2002.

[3] This estimate was made using the $67.9B wireless end user revenue total for 2001 reported in Universal Service Monitoring Report (Table 1.9) times the 13.5% increase in the safe harbor percentage. This estimate is likely conservative, since the 28.5% represented the highest of a range of estimates of interstate minutes of use percentages, and the FCC stated that this would "provide mobile wireless providers an incentive to report their actual interstate revenues if they are able to do so".

Recently, MLB lines experienced a $3.20 per line increase in the SLC as a result of the MAG plan. Further increases in MLB monthly assessments of $4 or more would make currently overpriced MLB services even more vulnerable to uneconomic competition.

Joint Board Referral

On November 8, 2002 the FCC issued an Order requesting the Federal-State Joint Board on Universal service to review certain of the Commission's rules relating to universal service portability. The FCC requested the Joint Board to examine three specific areas:

- Support levels in study areas with competitive ETCs,
- Support for "second" lines, and
- The process for designating competitive ETCs.

Regarding the level of support, the Commission notes that under current rules CETCs receive the same per-line support as the incumbent. The Commission also states that some parties have argued that this creates a "windfall" for CETCs, while others have argued that this is necessary to preserve "competitive neutrality". They direct the Joint Board to:

- Review the methodology for calculating support for ETCs in competitive study areas, and
- Examine the rules governing calculation of high-cost support for CETCs using UNEs, and
- Address the current rules that cap the funds available to rural ILECs while not capping funds to CETCs., and
- Consider whether modification in procedures for determining the location of a line served by a mobile wireless provider (i.e., the billing address) is necessary.

Regarding support for multiple lines and carriers, the FCC notes that under current rules all residential and business lines provided by all ETCs are eligible for high-cost support. They ask the Joint Board to:

- Consider the extent to which supporting second lines impacts the size of the universal service fund, and
- Consider whether the goals of section 254 would be served if support were limited to a single connection to the end-user – whether provided by the incumbent or the CETC, and
- Consider whether such a rule would be competitively neutral and how it would impact competition.

Finally, the Commission notes that some parties have claimed that the current system has hampered the emergence of competition in rural areas, while others have suggested that state commissions should impose similar universal service obligations on ILECs and CETCs. They ask the Joint Board to:

- Consider whether it is advisable to establish federal guidelines for ETC applications, and
- If so, what should be included in such guidelines, and
- To what extent should the FCC provide additional guidance on the impact of the disaggregation of support on the designation of a service area other than the ILECs study area?

Recent FCC CETC Decisions

On November 27 and December 4, 2002, well after the Commission's referral of the above issues to the Joint Board, the Wireline Competition Bureau (WCB) issued decisions that approved the applications of Cellular South and RCC Holdings, respectively, for ETC status in the state of Alabama. In making its finding that these grants were in the public interest, the WCB continued its reliance on the belief that competition alone justifies multiple ETCs irregardless of cost, and that their policy is to "promote competition in all areas, including high-cost areas". The Alabama Rural LECs had presented evidence demonstrating the relationship of cost and subscriber density and had provided density statistics for the areas involved. They also demonstrated that these carriers were asking for support for low-cost customers that the wireless carriers already served, and questioned whether the overall benefits from providing this support would exceed the significant costs that would be created. While noting that "several parties raise concerns about the nature of high-cost support with respect to competitive ETCs", and that "these are important issues regarding universal service high-cost support", the Order nonetheless concludes that "these issues reach beyond the scope of this Order, which designates a particular carrier as an ETC". The Orders acknowledge that the Commission has referred questions regarding competitive ETC designations in high-cost areas to the Joint Board, yet they still continue with business as usual.

Several of the issues that have been referred to the Joint Board would directly undercut the WCB's rationale for concluding that this designation would be in the public interest. For example, the Order concludes that the designation of these carriers will not harm the affected rural telephone companies or their customers by stating "Moreover, the federal universal service support mechanisms support all lines served by ETCs in rural and high-cost areas. Under the Commission's rules, [the wireless applicant's] receipt of high-cost support will not affect the per-line support that the incumbent carrier receives". Of course this ignores the fact that the Commission has just asked the Joint Board to consider restricting funding to one line per customer location. This would cause potentially significant impact to the incumbent and its customers. Furthermore, the Order also states that the wireless applicant "demonstrates both the commitment and the ability to provide service to any requesting customer within the designated service area using its own facilities". However, this commitment is premised upon the expectation of support for each of these lines. Should the Commission later decide to limit support only to lines designated as "primary" through some as yet unknown process, the competitive carrier would be harmed by either not being able to construct the facilities it had committed to build, or being unable to cover the cost of facilities that it built under the understanding that all lines would be funded.

In light of these inconsistencies and potential harms to the public interest, the Alabama Rural LECs have filed Applications for Review (AFRs) requesting that the full Commission review and set aside these decisions, at least until it develops its rules and guidelines for ETC designation. The FCC has placed these AFRs out for public comment with comments due February 10, 2003, and replies due February 25.

Increasing Fund Size

To date, the impact of portability to competitive ETCs has been relatively modest, but has been growing at a significant rate. The following table summarizes the amount of high-cost funding going to providers with approved ETC status from the fourth quarter of 2001 through the first quarter of 2003.[4]

Quarter	Annual Funding
4Q01	$9.1M
1Q02	$8.3M
2Q02	$47.9M
3Q02	$63.6M
4Q02	$61.4M
1Q03	$106.6M

There are, however, valid reasons to anticipate that this impact could grow significantly in a relatively short period of time. Indeed, if all wireless providers nationwide were to seek and obtain competitive ETC status, this would add over $2B of additional funding requirements to the current $3.2B high cost fund. This estimate is likely conservative, as it assumes that wireless carriers will retain their current market penetration rate, and will not undertake special promotions to gain additional customers with billing addresses in high-support areas.

The wireless ETC applications that have been approved so far, reflect a relatively few regional wireless providers, operating in 16 states and 2 territories. To date, none of the major national wireless providers (Verizon, AT&T, Alltel, etc.) have applied for ETC status. Nationwide there are approximately 129M wireless lines vs. 185M ILEC lines[5]. Wireless providers operate in virtually all parts of the country, both urban and

[4] Source USAC HC01 Reports for 4Q01 through 1Q03.
[5] Source wireless lines FCC Local Competition Report, December, 2002, ILEC lines USAC HC04 1Q03.

rural. Wireless providers have established networks and provide service in most towns and along all major highways nationwide. The wireless business is extremely competitive, with most markets, including rural markets, having two cellular license holders and often multiple PCS license holders. If one provider in a market receives funding, others may need to do so simply to remain competitive. Furthermore if, as appears to be the case, support money is available merely for the asking, then carriers that do not request it may be violating their fiduciary obligations to their owners.

Many wireless providers have been waiting on the sidelines to see how the pending contested ETC applications would be resolved. The previously mentioned Alabama cases were also closely watched, since in a number of areas their service territories overlap. This signals the WCB's sanctioning of multiple wireless providers in sparsely populated rural areas. It can reasonably be expected that, given recent trends, there will soon be many new applications for ETC status.

In June of 2002, McLean & Brown issued a white paper titled ***USF Portability – Getting it Right***. ***USF Portability*** identified two cost factors that occur when an additional ETC is designated:

- Increased fund size, and
- Loss of network efficiency

Most of the $2B+ impact on the fund size will be due to a factor that ***USF Portability*** identified as the "customer list" problem. As discussed previously, wireless carriers have constructed networks and compete nationwide. They have built their networks in towns and along major highways where customer density is high and costs are low. When requesting ETC designation, however, most applicants have requested support for all of their existing customer lines.[6]\

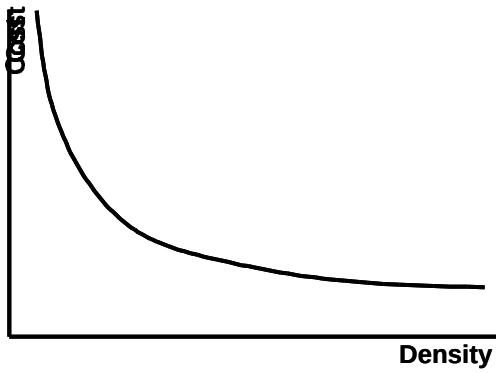
USF Portability also suggested that in making the public interest finding required when a second carrier seeks ETC status in the area served by a rural telephone company, regulators must assure that the benefits from supporting multiple carriers exceed the costs created by supporting multiple networks. The most frequently cited benefits from the support of multiple ETCs are the benefits generally associated with competition (i.e., more choice, lower prices, higher quality, efficiency incentives, etc.). Where a carrier is already providing service and competing successfully with the incumbent, regulators must take care to only consider the ***incremental*** competition that will come from new areas that the applicant would not be serving but for high-cost support, or new services that might be provided in performing the cost/benefit analysis.

Economics of Telecom Networks

USF Portability took major inspiration from the comments made by Commissioner Martin in his separate statement to the MAG Order. Commissioner Martin 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.

USF Portability developed an analytical construct to examine Commissioner Martin's concern that certain high-cost rural areas could not economically sustain competition from multiple providers, and doing so would result in network inefficiency and a ballooning high-cost fund. It used proxy data from the FCC's late-1990s proxy model effort to examine the impact that density had on the cost of providing telephone service. In sparsely populated rural areas the cost of providing service increases as population density decreases, since many of the fixed costs of a telephone network (switches, poles, structures, etc.) must be spread over fewer and fewer customers. As documented in ***Portability,*** the empirical data from the proxy model suggested a cost to density relationship for basic telephone service as shown below:



[6] One exception to this trend was Western Wireless which in many of its ETC applications requested funding only for their "fixed wireless" lines. On November 21, 2002, however, they made an ex-parte filing in which they announced that they would apply federal universal service support for the "full range" of their wireless offerings. As a result, their supported line count increased from 4,504 in 4Q02 to 176,675 in 1Q03, and support increased from $1.3M to $33.1M annually (Source USAC reports HC01 and HC04).

The phenomenon of fixed costs and increasing costs with decreasing density is not unique to the wireline industry. Indeed, the wireless industry exhibits a similar relationship of cost and subscriber density. One of the primary costs of a wireless network is the towers and associated radio equipment. The cost of the tower is essentially fixed regardless of the number of wireless phones that use it. Thus, a tower that serves a relatively densely populated area is inexpensive on a per customer basis, however as density decreases, and the number of customers or potential customers decreases, the cost per customer increases. Ultimately, at some point the cost per customer reaches a level where a potential tower would not be economically viable without outside support.

It is also worth noting that in virtually all markets, including rural markets there are at least two wireless providers, and often four or more. The wireless market is extremely competitive, and as mentioned previously, when one provider receives high-cost support, the others likely will also apply to remain competitive. This can become a vicious cycle, however, if multiple wireless providers seek funding to serve the same sparsely populated rural areas. Whereas one wireless provider may be able to obtain sufficient funding to make their towers economically viable, two or more providers may each be unable to attract sufficient customers to make their networks viable without increasing amounts of support. Policy makers must always apply a public interest test that objectively compares benefits and costs when making ETC decisions. Unless the public interest test is properly applied, incentives for uneconomic investment and over-capacity will surely occur.

"Primary Lines"

As a possible solution to the growing funding shortfall, the FCC has asked the Joint Board to examine whether support should be limited to one "primary" line at each end-user location. As discussed in both ***Train Wreck*** and ***Portability***, restricting funding to one primary line will create serious unintended consequences. These include the potential inability for any carrier (incumbent or competitor) to cover their network costs, serious administrative and social issues, and serious questions regarding the Carrier of Last Resort principle and the continued regulation of basic telephone service.

Telephone companies and wireless carriers don't build lines - they build networks. As discussed in the previous section, major components of the cost of these networks, wireline and wireless, are fixed, and (within reasonable ranges of output) do not go up or down significantly as individual lines are added or removed. Before network providers will construct facilities, they must have a reasonable expectation that they will recover their costs. The primary line concept has two problems in sparsely populated rural areas. First, there will be no certainty as to the support that a carrier will actually receive. This will complicate, and could stifle, investment decisions. Second, and of even more concern, is the prospect that if multiple providers serve the same sparsely populated areas, no provider mayl be able to charge an "affordable" rate and also cover their cost.

In the 1990s the FCC experienced many of the problems involved in determining primary lines when it attempted to establish different SLC charges for primary and secondary residential lines. Real-life customers do not always live in tidy, orderly households where it is obvious which line is "primary". The existence of multiple technology platforms further complicates the problem. It is not unusual today for a given "household" to contain two or more unrelated individuals, each with wireline and/or wireless lines. The primary line issue created serious administrative problems in the SLC context when the monetary difference amounted to only a dollar or two. These issues are sure to multiply many-fold, when this difference is measured as $20, $50 or even over $100 per month. Of even greater concern is the prospect for a new type of "slamming", where the flow of significant and vital network support funds to all carriers is caught in the balance.

Basic telephone rates, at least for ILECs, are regulated under the assumption that costs above the tariffed rate in high cost areas are covered by universal service support. What happens when a customer with both a (regulated) wireline and (unregulated) wireless phone selects the wireless line as the "primary" line? Is the wireline carrier still obligated to provide service? If so, at what rate? Is the provision of the wireline service in this case deregulated? Certainly any pretense of market power or monopoly would be long gone. What if no carrier chose to provide service to a particular customer? Might those customers at the extreme, the ones universal service is really about, be the most vulnerable?

Efficient and Sustainable Competition

One of the most notable aspects of the 1996 Act is the dynamic tension that it created with the twin goals of competition and universal service. These goals are often in conflict, and regulators frequently have to make difficult decisions and trade-offs as to what best serves the public interest and best achieves the overall objectives of the Act. Walking this path has not been easy, and recent experience in several areas has shown that the market can be cruel and

unforgiving when well-intentioned policy collides head-on with actions and plans that do not also have sound economic underpinnings.

The recent meltdown in several telecom service provider and equipment manufacturing sectors was caused in large part by serious overinvestment in plant and facilities far beyond what the underlying market fundamentals would, or ever could, support. Historians will debate for many years the roles that poor business plans, corporate greed and fraud, and well-intentioned but misguided regulatory strategies played in creating the current industry situation. What is important, however, is to learn from the past, and, to the extent possible, avoid repeating the same mistakes.

In his often-quoted comments from the MAG Order, Commissioner Martin cautions about "using universal service support as a means of creating 'competition' in high-cost areas", and the "inefficient and/or stranded investment and a ballooning universal service fund" that such strategies risk creating. More recently, Chairman Powell shared some profound observations regarding the lessons learned from experiences since the passage of the 1996 Act:

> "Under the statute and given the current characteristics of this market, we must be guided by twin imperatives. First, we fully recognize the dangers of continued monopolization and control of critical facilities…But, there is a second imperative that is more frequently neglected by regulators. That is in introducing competition, we should no more trust the promised benefits and representations of competitive entrants as we do the promises to do no harm from incumbents. We must insist on market fundamentals that provide proper incentives for long term, sustainable competition. Just as we are aggressive in policing anticompetitive behavior, we should be equally aggressive in developing incentives that push entrants to enter in a manner that offers long-term, sustainable choice and meaningful welfare for consumers.[7]

A rural competition/universal service policy that relies on continually increasing amounts of public support for uneconomical infrastructure to accomplish its goals does not rely on sound market fundamentals, and will not incent long term, sustainable competition. Neither will it serve the welfare of consumers who, at the end of the day, are the ones who must pay the escalating surcharges, and will ultimately bear the burdens of the inevitable market failures.

Intercarrier Compensation

Historically, virtually all of the explicit universal service mechanisms have focused on high loop costs experienced in sparsely populated rural areas. What is becoming more obvious as the intercarrier compensation debate proceeds, however, is that the issue of higher transport costs in rural areas must begin to receive more attention. Rural areas experience higher transport costs due to longer distances and lower volumes. Some of the alternatives for revised intercarrier compensation and transport charging structures currently under discussion at both the state and federal level have the potential of shifting additional cost onto rural consumers. If rural consumers are to have access to services and rates that are comparable to those in urban areas, then rural carriers must be able to charge cost-based rates for their transport services, or there must be appropriate universal service support mechanisms available.

Next Steps

Following are some thoughts on policy actions that could help avoid the "Train Wreck" and ensure that consumers in rural America continue to have access to affordable and advancing telecommunications services:

Find Additional Funding

Even at the current level of support, existing universal service funding mechanisms are near the breaking point. If at all possible, a broader base of funding must be achieved. This is particularly critical if regulators continue to use high-cost support to fund multiple technologies and providers in the highest-cost rural markets. In all likelihood this will involve extending contribution obligations to other industry segments that benefit from a ubiquitous telecom infrastructure, such as information service providers.

Define "Public Interest"

The FCC, in concert with the Joint Board, must develop specific guidelines for the consideration of multiple ETCs in areas served by rural telephone companies including:

1. The appropriate factors for consideration in determining when multiple ETCs in areas served by rural telephone companies are in the public interest.
2. Specific facts and data to be submitted by parties seeking or opposing the designation of a particular ETC in a particular rural telephone company study area.
3. Specific obligations that a carrier assumes when it accepts ETC responsibility.

[7] Remarks of Chairman Michael Powell at the Goldman Sachs Communicopia IX Conference, October 2, 2002.

Parity of Regulation and Opportunity

It can be argued that much of the success that the wireless industry has enjoyed in recent years has been enhanced by a relative lack of regulatory constraints and obligations. At the same time that wireless carriers had the freedom to develop pricing plans and service packages to meet the needs and desires of consumers, they also were free from many of the access fees and other obligations of incumbent providers. They also were not recipients of high-cost funding dollars. As our vision of local competition develops, however, some form of convergence must occur if the public interest is to be served. Incumbent wireline carriers must receive additional flexibility to price and bundle their services to meet changing customer needs. Similarly, if wireless carriers are to receive scarce public funds for serving remote high-cost areas, and conceivably become the sole provider in some markets, then they cannot forever retain the total exemption from local regulation that was intended to nurture their infancy.

Conclusion

The FCC stands at a crossroads, and has difficult choices to make regarding the future of universal service. Barring the emergence of some new source of funding, there is simply not enough money in the present system to continue funding access to affordable wireline infrastructure in rural America, and also provide identical per-line funding to wireless providers who are currently serving, or may serve, portions of these same areas. At its roots, universal service was about assuring that all customers, no matter how far away or how remote, had an affordable connection to the telephone network. More recently, universal service has taken on aspects of a venture fund to create "competition" in high-cost areas, and to bring alternative technologies to rural America. It is becoming painfully obvious, and will likely become more so in the coming months, that we may not be able to do both. In the most sparsely populated rural areas of the land the preservation of universally available and affordable service may hinge on defining a new paradigm for universal service that allows all rural Americans to enjoy the available, affordable and advancing telecom services that they were promised in the 1996 Act.