Before the
Federal Communications Commission
WASHINGTON, D.C. 20554

In the Matters of	)	
	)	
Connect America Fund	)	**WC Docket No. 10-90**
	)	
A National Broadband Plan for Our Future	)	**GN Docket No. 09-51**
	)	
Establishing Just and Reasonable Rates for Local Exchange Carriers	)	**WC Docket No. 07-135**
	)	
High-Cost Universal Service Support	)	**WC Docket No. 05-337**
	)	
Developing an Unified Intercarrier Compensation Regime	)	**CC Docket No. 01-92**
	)	
Federal-State Joint Board on Universal Service	)	**CC Docket No. 96-45**
	)	
Lifeline and Link-Up	)	**WC Docket No. 03-109**

COMMENTS BY STATE MEMBERS OF THE FEDERAL STATE JOINT BOARD ON UNIVERSAL SERVICE

The State Members of the Federal State Joint Board on Universal Service ("State Members") appreciate the extended opportunity to offer comments on the many issues presented in the Federal Communications Commission's ("FCC" or "Commission") February 9, 2011 "Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking" (NPRM).[1]

---

[1] *See*, *Connect America Fund*, WC Dkt 10-90, *A National Broadband Plan for Our Future*, GN Dkt 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Dkt 07-135, *High-Cost Universal Service Support*, WC Dkt 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Dkt 01-92), *Federal-State Joint Board on Universal Service*, CC Dkt 96-45), *Lifeline and Link-Up*, WC Dkt 03-109, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, FCC 11-13 (rel. Feb. 9, 2011) at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-13A1.doc., published at 76 Fed. Reg. 11632 (Mar. 2, 2011) at: http://www.gpo.gov/fdsys/pkg/FR-2011-03-02/pdf/2011-4399.pdf.

State Members[2] *particularly appreciate the Commission's decision to grant two additional weeks to permit formulation of these comments, the collegial approach of the Federal Members of the Joint Board, and the assistance of both the federal and State staff.*[3]

The Universal Service Joint Board has a crucial and statutorily defined role in any reform of the federal universal service program or the definition of supported services. These State Member comments both support and critique various options presented for comment. Because of their length, a brief overview of the comments follows.

---

[2] State Members include four State commissioners nominated by the National Association of Regulatory Utility Commissioners and approved by the Commission and one State-appointed utility consumer advocate nominated by the National Association of State Utility Consumer Advocates. The current members are Commissioner James Cawley, Pennsylvania Public Utility Commission (State Chair), Commissioner Larry Landis, Indiana Utility Regulatory Commission, John Burke, Member, Vermont Public Service Board, Commissioner Anne Boyle, Nebraska Public Service Commission, and Public Advocate Member Simon ffitch, Senior Assistant Attorney General, of the State of Washington.

[3] We especially thank Commissioner Mignon Clyburn, the Federal Chair of the Federal-State Universal Service Joint Board, along with the hard-working State and federal staff of the Joint Board. On the Federal Staff, we thank Angela Kronenberg, Zac Katz, Margaret McCarthy, Brad Gillian, Sharon Gillett, Carol Mattey, Rebekah Goodheart, Elise Kohn, Patrick Halley, Lisa Gelb, Cindy Spiers, Jamie Susskind, Rebekah Bina, Robert Finley, Trent Harkrader and Katie King. On the State staff, we particularly thank Labros Pilalis (State Staff Chair), Barrett Sheridan, Brian Mahern, Christine Aarnes, Earl Poucher, Gene Hand, George Young, Jing Liu, Joel Shifman, John R. Ridgway, Kathy Hagans, Kay Marinos, Kerri DeYoung, Lori Kenyon, Natelle Dietrich, Peter A. Pescosolido, Robert Haga, Vicki Helfrich, Brad Ramsay, and, of course, our two hardworking outside consultants Peter Bluhm and Dr. Robert Loube of Rolka Loube Saltzer Associates.

SUMMARY OVERVIEW OF RECOMMENDATIONS

State Members support expansion of the goals and mechanisms of universal service to cover both broadband and mobility services. Specifically, the FCC should define both "broadband Internet access service" and "mobility" service as included in the list of services supported by the federal universal service program.

Distribution of Support

However, the Commission should abandon its proposed reliance on auctions and instead distribute support based on three new mechanisms to support both broadband and mobility: a Provider of Last Resort (POLR) Fund, a Mobility Fund, and a Wireline Broadband Fund.

Each of these three funds should have separate purposes, mechanisms and budgets.

The POLR Fund should be a comprehensive cost-based support mechanism to provide sufficient support to carriers that accept provider-of-last-resort duties, adjusted for broadband services.

The Mobility Fund would offer *grants* to finance the building of wireless towers in areas the FCC designates as under-served or unserved by wireless broadband.

Similarly, the Wireline Broadband Fund would award *grants* to finance broadband wireline facilities in areas the FCC designates as under-served or unserved by wireline broadband.

The POLR Fund distribution mechanism should include elements to geographically target funds, support lost intercarrier compensation revenues, limit maximum support per line, and limit overall carrier earnings. It should also contain an incentive for State universal service

funding, with a fund matching feature, and an incentive for carriers to comply with reasonable build-out expectations, service quality, and performance standards. Finally, this mechanism should contain transition provisions designed to soften fiscal shocks of a transition to the new system. This approach would be fair to "early adopter" States that have already implemented access reforms and/or taken other steps to promote broadband deployment.

Operation of both the Mobility and Wireline Broadband Fund should be similar, although the two funds should have separate objectives and separate budgets. Each should rely on an allocation of funds to the States, followed by State commission review and a decision on grant applications. Grant funding would targeted to reduce but not eliminate the need for private capital for new wireless or wireline broadband construction projects.

There are many potential pitfalls inherent in the auction methodologies described in the NPRM, including the possibility that no bidders will appear, that competitive neutrality will not be observed in practice, that strategic bidding may drive up bid prices, and that bidder uncertainty will also drive up bid prices.

State Members are also concerned that grants will supplant private capital, that grants will impose external costs on other portions of the network, that census blocks are not appropriate units for auctions, and that auctions cannot be conformed to the requirements of the 1996 Act involving designation of Eligible Telecommunications Carriers. Indeed, the real impact of auctions is more likely to be declining service quality and unfairness to States that have taken early action to promote broadband.

The principles underlying the State Member plan approach include:

- Limiting support to cases of demonstrated necessity, i.e., areas where there is no private sector business case to provide broadband and high-quality voice-grade service based on a "total company" view of carrier finances;
- Primarily supporting debt (rather than direct grants of public capital) to maximize the continuing availability of private capital to telecommunications networks;
- Creating incentives for new investment;
- Imposing limits on excessive costs;
- Increasing accountability by establishing detailed expectations for supported carriers; and
- Encouraging financial and operational partnerships at the State and federal levels, without preempting State authority.

The Commission also needs to expand and modernize the public interest obligations of supported carriers. Appendix A contains a table of suggested "provider-of-last-resort" (POLR) obligations of supported carriers. The table has been extrapolated to broadband service from existing State-imposed carrier-of-last-resort obligations and existing federal ETC obligations for supported carriers.

States must be integrally involved in defining, administering and enforcing POLR obligations for broadband funding recipients.

Funding

State Members also recommend expanding the base of contributions to universal service to include services like DSL, cable modem and wireless broadband. This better matches the benefits of universal access programs to the burden of supporting those programs. It also would lower the federal surcharge rate considerably and should be more resistant to the erosion of

narrow-band voice service revenue. The FCC should also broaden the federal base to intrastate services and simultaneously clarify that States are similarly free to impose universal service surcharges on interstate services. The traditional dichotomy between services that were price-regulated at the federal level and those regulated at the State level no longer has relevance to the purposes for which universal service funds are used.

However, while there are some reasons to increase the current size of the high-cost fund, State Members also see opportunities to reduce current fund size.

On balance, State Members support maintaining the existing high-cost fund at $4.2 billion per year, but the FCC should continue to evaluate whether that support level will be sufficient.

States have strong interests in these proceedings. A primary interest is to ensure that federal funding is sufficient to the task undertaken. Insufficient support could harm universal service and leave States with unfunded mandates to replace lost federal support. States also oppose preemption, in large part because no matter which layer of government has legal authority, citizens will continue to be concerned if universal service goals are not met, and State governments will continue to be the first to hear about such problems. The Joint Board has historically played a critical role in mediating the interests of the federal government and the interests and capabilities of State commissions.

Intercarrier Compensation Reform

The comments include an analysis drawn from a combination of a very limited data collected directly from carriers and unaudited reports received from representatives of small and mid-sized ILECs. The analysis suggests that, as has been widely reported, current trends in the

industry are generally downward. Lines and minutes of use are both declining, although the scope of non-regulated revenues was not fully explored in our analysis. The analysis also suggests that intercarrier compensation proposals under consideration would affect most small carriers and some mid-sized carriers by reducing revenues, decreasing earnings, and potentially impairing access to capital. As expected, the "bill and keep" proposal would have the most dramatic effects. When looking at a particular combination of three proposals from the NPRM, the analysis suggests that a significant portion of carriers in 32 States would have to raise rates by at least $20.00 per month, and in 15 States a significant number of customers would see rate increases of at least $50 per month.

The FCC lacks legal authority to mandate rate changes to intrastate telecommunications service rates. Nevertheless, State Members recognize that certain characteristics of the current telecommunications network prevent normal market forces from operating, including the fact that each telephone number can be terminated only with a single carrier and that no terminating carrier is free to refuse a service request.

In this context, it is be desirable to achieve a single rate for functionally equivalent services and to reduce intercarrier rates consistent with other goals. However, State Members do not agree that a nationally uniform rate would be desirable, and they particularly doubt that a zero uniform rate would be desirable. The benefits of low intercarrier compensation rates must be balanced against other objectives, and it is not possible to ignore the large financial demand that intercarrier compensation reform will necessarily place on universal service funding.

As a preliminary matter, the FCC should immediately confirm that VoIP fits the definition of "telecommunications service" in the Federal Telecommunications Act. This will simplify several pending legal questions raised in the NPRM (and elsewhere), align the law with the public perception of the service, and eliminate artificial competitive advantages created by differential regulatory treatments.

Second, the FCC should adopt the State Members proposed intercarrier compensation solution, which is substantially different from that described in the NPRM. Under State Members' proposal, described *infra*, each carrier moves to a uniform rate for a particular service. Each seller offers a uniform rate to all buyers of termination service. But not all sellers offer the same rate. Under the plan, many rates decline, but some increase. The plan includes inducements for the States to participate. These comments also outline corresponding mechanisms to deal with "traffic pumping" and "phantom traffic."

Partnership, not Preemption

Finally, State Members encourage the Commission to affirm its continued expectation of working closely with the States to fund and administer universal service programs. This involves building on State COLR policies, avoiding preemption, strengthening financial partnerships, strengthening administrative partnerships, and generally building close working relationships that meet federal objectives that can rely on the specialized knowledge of State commissions about local conditions and intrastate needs.

Contents

I. Overall Vision....1
A. Universal Service and Broadband....1
B. Basic Principles....3
C. Fund Size and Sufficiency....7
D. Intercarrier Compensation....12
II. State Interests and the Role of the Joint Board....13
A. State Interests....13
B. The Role of the Joint Board....17
III. Definition of Supported Services....19
A. VoIP as a Telecommunications Service....19
B. Broadband as a Supported Service....22
C. Mobility as a Supported Service....25
IV. Support Distributions and State Members' Plan....27
A. The POLR Support Mechanism....29
1. Step 1 – Targeted Support....31
a. Financial Gap....33
b. Total Company View....33
c. Costs....35
d. Defining the High-Cost Sector....42
e. Mapping....43
f. Revenue....45
g. Lines and Locations....53
h. Reporting Data....55
2. Step 2 – Intercarrier Compensation Reform Support....56
3. Step 3 – Overall Earnings Ceiling....56
4. Step 4 –Limited Support to Extremely High-Cost Areas....58
5. Step 5 – Initial Federal Support....59
6. Step 6 – Adjustment for State USF Funding....60
7. Step 7 – Adjustment for Build-Out and Service Quality....62
a. Build-Out Requirements....62
b. Service Quality Requirements....64
8. Step 8 – Transition....64
9. Gradual Implementation....65

10. Implications for Early Adopters....66
a. Rate Redesign Early Adopters....66
b. Broadband Early Adopters....67
B. The Mobility Fund....68
1. State Role and Allocations....68
2. Delegation of Support Awards....70
3. Amount of Grants....71
4. Requirements for Continued Support....72
C. The Wireline Broadband Fund....73
1. State Role and Allocations....74
2. Delegation of Support Awards....75
3. Amount of Grants....76
4. Requirements for continued support....77
V. Auctions....78
A. No Bidders....78
B. Competitive Neutrality....79
C. Strategic Bidding....80
D. Bidder Uncertainty....82
E. Supplanting Private Capital....83
F. External Costs....84
G. Census Blocks....85
H. The ETC Statute....86
I. Declining Service Quality....89
J. Early Broadband Adopters and Tranches....91
VI. Data Analysis....93
A. Data Sources....94
1. Small ILECs....94
2. Mid-Sized Carriers....95
3. Large Carriers....96
B. Trend Analysis....97
1. Small Carrier Analysis by NECA....97
a. Lines....98
b. Minutes....98
c. Average Revenue Per Unit....99
d. Plant Investment....99

2. Small Carriers - Fred Williamson Associates 100
3. Small Carriers - NECA Data Provided to State Members 100
4. Small Carriers - Template Data Provided to State Members 100
5. Mid-Sized Carriers 101

C. Stress Analysis 101

1. Small Carrier Analysis by NECA 102

a. Local Rate Increases 102
b. Earnings 109
c. Debt 111

2. Small Carriers - Fred Williamson Associates 113
3. Small Carriers - NECA Data Provided to State Members 113
4. Small Carriers - Template Data Provided to State Members 114
5. Mid-Sized Carriers 114

D. Conclusions 115

VII. Contributions 117

A. Expanding the Base 117

B. Interstate and Intrastate 121

VIII. Public Interest Obligations 124

A. Roots of Public Interest Obligations 125

B. Defining POLR/ETC Duties 127

1. Traditional COLR Duties 127
2. Comparing State COLR Duties and Federal ETC Duties 128
3. POLR Duties for Broadband 130
4. Technological Neutrality and Partnerships 132
5. Role of the States 135

C. Defining Service Areas 137

D. Enforcing POLR Violations 139

E. Relinquishing ETC Status and Serving Unserved Areas 140

IX. Intercarrier Compensation 143

A. Legal Authority 143

B. Network Dynamics 145

C. Goals for Intercarrier Compensation Reform 146

1. Single Rate for Functionally Equivalent Services 147

2. Low Rates Create Public Benefits 148
3. Zero Rates 148
4. The NPRM 151

D. State Members' ICC Reform Proposal 153

E. Traffic Pumping 155

F. Phantom Traffic 157

X. Conclusions....157

XI. Appendix A - Possible Duties of Broadband ETCs....159

XII. Appendix B – Illustration of Support Mechanism 165

COMMENTS BY STATE MEMBERS OF THE FEDERAL STATE JOINT BOARD ON UNIVERSAL SERVICE

State Members welcome this opportunity to file comments on the Commission's rulemaking. As noted, *supra*, State Members particularly appreciate the FCC's decision to grant two additional weeks for completion of these comments, the collegial approach of the Federal Members of the Joint Board, and the assistance of both the federal and State staff.

I. Overall Vision

A. Universal Service and Broadband

Last November, the Joint Board recommended adoption of a principle "that universal service support should be directed where possible to networks that provide advanced services, as well as voice services."[4] The Joint Board found this principle is consistent with Section 254(b)(3) of the Communications Act and would serve the public interest. State Members were pleased to read in the NPRM that the Commission has now concluded that this principle strikes a reasonable balance between the goal of preserving and advancing universal service as currently supported and the goal of increasing access to advanced telecommunications and information services.[5] State Members continue to support adoption of this principle pursuant to Section 254(b)(7).

State Members also agree with the NPRM's proposed goal of providing "ongoing support to enable Americans to access robust, affordable IP-based networks that are capable of providing

---

4 *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Recommended Decision, 25 FCC Rcd 15598, 15625 ¶ 75.

5 NPRM ¶ 59.

both high-quality voice service and broadband Internet access service."[6] In addition, reiterating the Joint Board's *2007 Recommended Decision*,[7] the current State Members also recommend expanding the definitions of supported services to include both broadband Internet access service and mobility.[8]

The NPRM asks how the new principle should be applied.[9] New principles for broadband and mobility require restructuring of all existing support mechanisms across the entire span of the high-cost support system. To that end, and in response to the many issues raised in the NPRM, State Members have developed and propose in these comments a comprehensive "State Members' Plan." The Plan recommends the FCC change existing support mechanisms in a number of key ways, notably by creating three separate funding mechanisms: 1) a Provider of Last Resort (POLR) Fund; 2) a Mobility Fund; and 3) a Wireline Broadband Fund.

Each fund would have a separate budget and distinct methods of awarding support.[10] State Members encourage the Commission to reconsider the proposals to use auctions for provider-of-last-resort services, because they appear to have many potential drawbacks.[11]

---

6 NPRM ¶ 398.

7 *See High-Cost Universal Service Support*, WC Docket No. 05-337, Recommended Decision, FCC 07J-4, 22 FCC Rcd 20477 (*2007 Recommended Decision*). The Commission released the *Recommended Decision* for public comment on January 29, 2008. *High Cost Universal Support; Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Notice of Proposed Rulemaking, 23 FCC Rcd 1531 (2008).

8 *See* Section III *infra*.

9 NPRM ¶ 59.

10 *See* Section IV *infra*. The NPRM asks whether the Commission should retitle the new high-cost support system as the "Connect America Fund." NPRM ¶ 15. Since State Members recommend three

These comments include the summary results of an independent analysis performed upon data collected independently from incumbent local exchange carriers (LECs).[12] We also recommend revision to the current methods by which contributions are made to universal service funds.[13] We offer suggested revisions to the public interest obligations of supported Eligible Telecommunications Carriers (ETCs).[14] Finally, we offer a substitute plan for revising intercarrier compensation.[15]

State Members' Plan was designed to advance the goals set forth in the National Broadband Plan (NBP) while at the same time preserving existing voice services. The plan should also allow local exchange providers to maintain reasonably comparable and affordable voice rates in all areas that now have service. After five years, the plan should also achieve service availability and quality of broadband service in most rural areas that is reasonably comparable to urban areas.

B. Basic Principles

State Members' Plan applies some underlying principles to the problem of preserving and advancing universal service in a competitive, multi-modal environment. A fundamental goal

---

separate funds (POLR, Mobility and Wireline Broadband), we are concerned that describing all three by the single term "Connect America Fund" would incorrectly imply there is only one fund with one set of rules and one budget.

11 *See* Section V *infra*.

12 *See* Section V.J *infra*.

13 *See* Section VI.DVI.D *infra*.

14 *See* Section VIII *infra*.

15 *See* Section IX *infra*.

was to limit support to cases of demonstrated necessity, thereby controlling the overall size of the fund. This principle underlies many features in State Members' Plan, including eliminating duplicate recipients, eliminating the Identical Support Rule, targeting support to higher cost areas, improving cost and revenue modeling, reducing the earnings level used to calculate federal support, and ensuring that carriers always must carry a burden of proof to provide data sufficient to recertify their continuing eligibility for support and the proper amount of that support.

The NBP proposed to limit support under the Connect America Fund (CAF) to areas where there is no private sector business case to provide broadband and high-quality voice-grade service, often termed market failure areas.[16] State Members' Plan adopts this overall strategy. One implication is that the plan uses the same support parameters to support rural and nonrural carriers.[17]

The NBP defined the financial gap as the difference between a provider's capitalized revenue expectations and its capital needs. In estimating the gap, the NBP took a comprehensive view of the financial needs of supported carriers, including all likely revenue sources, regulated and unregulated, telecommunications services and information services. State Members' Plan takes a similarly broad view of financial viability. It takes a "total company" view of both costs (not merely loop or switching) and revenues (not merely from traditional "regulated" activities). The POLR Fund, which is the principal support mechanism, is designed around a plausible business case for providing service to a high-cost area.

---

[16] NBP at 145.

[17] The plan does measure some costs differently as between nonrural carriers and some rural carriers.

State Members' Plan also relies primarily on supporting debt rather than on direct grants of capital. This has been the predominant mechanism for financing capital expenditures in current universal service mechanisms. This approach has allowed existing support mechanisms to provide predictable high-cost support over the long term, which in turn has promoted the availability of both debt and equity capital for network upgrades. Providing support for capital costs is an essential prerequisite to the continued flow of private capital into telecommunications networks serving high-cost areas. Bankers and equity investors need to be able to see that both past and future investments will be backed by long-term support programs that are predictable over typical loan repayment periods, which in the past have extended to 20 years or more. Under State Members' Plan, existing capital investments that have generated debt and equity capital will not be stranded, and the predictability of the support mechanisms will give bankers and equity investors continuing incentives to make new capital available for industry investments in high-cost areas.

State Members' Plan creates financial incentives that facilitate and encourage the availability of broadband-capable networks. It allows voice carriers to continue providing voice services everywhere they are now provided. The plan also allows early broadband adopters to recover existing network investments and also to make further network upgrades. At the same time, it imposes limits on excessive costs by imposing caps on various categories of investment and expenses.

State Members' Plan does not presume that carriers should continue to receive their current support levels. Nevertheless, State Members recognize that existing support mechanisms sustain service in many areas where there is otherwise no business case to build broadband

facilities, and in some areas even to continue offering voice services. Moreover, we recognize that abrupt changes in support levels can harm consumers. To balance these competing principles, the plan includes a set of reasonable transition rules.

State Members' Plan increases accountability by including detailed expectations for supported providers. These combine many of the same duties historically imposed by States under carrier-of-last-resort policies as well as duties imposed in the past by Commission rule on ETCs. State Members believe that detailed public benefit expectations, together with effective enforcement, are key elements of a successful universal service mechanism.

State Members' Plan encourages the Commission to develop a meaningful partnership with States in administering universal service support mechanisms and in sharing the financial burden of meeting universal service goals. While State Members agree with many of the Commission's expressed universal service and intercarrier compensation goals, we recommend against preempting any existing State authority. Preempting State authority over intrastate communications is contrary to law and the intent of Congress. If the Commission were to preempt the States, litigation would very likely delay the achievement of important objectives. Even more important, preemption of State authority would likely impair the working partnership between the Commission and the State commissions. That partnership should be strengthened, not weakened, if the country is to achieve its universal service goals.

C. Fund Size and Sufficiency

The NPRM seeks comment on the principle of "fiscal responsibility," which the Commission defines as controlling the size of USF as it transitions to support broadband, including by reducing waste and inefficiency.[18] In addition, the NPRM asks whether the overall budget for the CAF should be capped such that the sum of the CAF and any existing high-cost programs (however modified in the future) in a given year would be limited to the size of the current high-cost program in 2010.[19]

The Act requires that universal service funding be sufficient to ensure that services and rates in rural areas are reasonably comparable to urban areas. At the same time, the NPRM correctly notes that several courts have recognized that telecommunications services can become unaffordable through excessive universal service surcharges. Our nation's ability to keep the fund size reasonable and affordable will depend on the balance between the statutory goals and increasing demand for funding on the one hand, and opportunities for greater efficiencies and increased funding on the other.

State Members agree that the level of broadband and legacy support should be the minimum amount that can achieve ubiquitous availability and make both rates and services in rural areas affordable and reasonably comparable to urban areas. The fund size should only be increased above the current level if it is demonstrably necessary to meet those statutory goals. If and when the goal of ubiquitous availability is accomplished, ongoing support should then be

---

[18] NPRM ¶¶ 10, 11.

[19] NPRM ¶ 414.

restricted to the highest cost areas where a viable business case cannot be made for continuing unsubsidized service.

Several current dynamics affect the demand from carriers for high cost support. The most significant factor has been change to the nature of incumbent LEC revenues. Intrastate regulated revenue has declined, a trend generally confirmed by our data analysis described below. The NPRM itself illustrates that switched access minutes for incumbent LECs have declined from over 500 billion in 2000 to approximately 300 billion today.[20]

One cause for traffic erosion has undoubtedly been the increase of Internet-only communications. For example, email has increasingly substituted for at least some voice calling.[21]

A second component has been the decline in access lines and end-user revenues. The intrastate end-user telecommunications revenues of incumbent LECs declined from $59 billion in 2003[22] to $45 billion in 2008.[23] Our data analysis below shows that access line erosion is continuing. Another cause has been the ability of some service providers to avoid reporting access minutes.

At the same time, incumbent LECs (ILECs) have developed important new sources of revenue. Larger companies in particular have seen greatly increased revenues from regulated

---

[20] NPRM ¶ 503.

[21] Differences in intercarrier compensation obligations and differences in universal service charges applied to substitutable services could also cause bypass.

[22] *Universal Service Monitoring Report*, 2005, Table 1.15, page 1-42.

[23] *Universal Service Monitoring Report*, 2010, Table 1.15, page 1-40.

special access services. ILECs both large and small now have substantial revenue from unregulated services, including DSL and video, all of which are served by a single network infrastructure. Some ILECs also offer wireless services. Many carriers have much stronger revenue pictures when viewed on a "total company" basis than on a "regulated activities" basis. Broad recognition of each supported carrier's full revenue picture can help reduce the demands on the fund, and thus help control fund size, by limiting support to cases where it is truly required.[24]

Industry changes have also affected costs for ILECs. As line counts decline, subscriber revenue generally declines much faster than does ILEC total cost, which may be largely unchanged. Moreover, to the extent that competition generally concentrates in low-cost areas, the ILEC's average cost per subscriber increases. Both effects increase an ILEC's demand for universal service support. Whatever the causes, this erosion of the wireline industry business model can present a choice between increasing support and accepting a network increasingly characterized by deferred maintenance, poor customer support, and declining service quality for both voice and broadband services.

The inclusion of ubiquitous broadband as a supported service only increases the demand for support. It is important to note that existing service providers today provide broadband service to more than 90% of households in the country. This has produced billions of dollars in new revenue that were not anticipated in 1996. Nevertheless, the cost of completing the national

---

[24] Carriers' receipt of support should be contingent on provision of the necessary data about revenue.

broadband build-out will be substantial and will require added universal service support. A proposed speed in the 1-4 Mbps range could cost $23.5 billion[25] or more.[26]

Impending reforms of intercarrier compensation rules also increase the need for support. The Commission is considering mandating lower intercarrier compensation rates, although some ILECs depend heavily on this revenue source. Some intercarrier compensation losses could no doubt be recovered from other revenue sources that are increasing, such as special access. Nevertheless, if intercarrier revenues decline substantially, some combination of events are likely to follow, including local rate increases, increased demand on State universal service funds, and ILEC budget reductions. Our data analysis below shows that some of the impacts of intercarrier compensation reform could be substantial.

On the other hand, State Members believe that there are opportunities for savings within the current high-cost mechanisms. Some existing high-cost mechanisms could be reformed or eliminated without causing any likely harm to universal service. We recommend elimination of the support currently given to competitive eligible telecommunications carriers (CETCs) by the Identical Support Rule, a measure that should free up funds for other purposes. Second, costs that now are treated separately in programs aimed at loop costs and switching can be treated comprehensively. Third, support mechanisms can be modified to recognize new and enhanced

---

[25] FCC, *The Broadband Availability Gap,* OBI Technical Paper No. 1 (*Broadband Availability Gap*) at 1, 38.

[26] Some features of the Commission's *Broadband Availability Gap* analysis probably understated costs, such as the assumed ready availability of existing wireless towers and the ability of wireless spectrum to support multiple concurrent broadband users. Also, the Commission averaged financial gaps at the county level, thereby disregarding all gaps in census blocks located in counties that, on average, had no gap. Other features tended to overstate cost, such as that support would be based on the technology with the second lowest cost and that new distribution facilities must be constructed in all unserved areas.

sources of network revenue, including special access and traditionally unregulated services. As the NPRM recognizes, caps on excessive investment and expense can also be made more effective.[27]

State effort is another factor that can moderate the demand for federal support. State Members recommend that the Commission encourage States to share the financial burden of supporting universal service. Support mechanisms therefore should give States a financial incentive to participate meaningfully in the financing of universal service. In State Members' Plan described below, some matching support would be available for States that generate their own universal service funds.

On balance, State Members agree that, at least initially, the total current fund size for high cost support should be limited to $4.2 billion per year. We recognize that, over time, it is possible that the total size of the federal fund may need to increase above this figure to finance broadband-related modifications to the Lifeline program. As the Commission reforms the existing support mechanisms, it should try to maintain the existing budget, attempting to reduce fund size if possible.

As noted above, the State Member Plan would create three new funds to replace the existing support mechanisms, the POLR Fund, the Mobility Fund, and the Broadband Wireline Fund. Within the overall fund size cap, State Members recommend that a specific portion of

---

[27] Past caps on certain high cost funds may actually have stimulated investment. However, not all of those investments were necessarily productive. As the HCL threshold for support has risen over the years due to the fund size cap, individual carriers have had to face a choice between continuing to invest and losing support. Some of these additional investments may have been unnecessary, although many amounted to upgrading the network to provide broadband, a goal targeted by the NPRM.

CETC support be redirected to the Mobility Fund. An equal amount of funding would be directed to the Broadband Wireline Fund. Funding for the two grant programs, Mobility and Wireline Broadband, should not be so large as to prevent sufficient funding for the POLR Fund, on which we place primary reliance to prevent loss of continued voice service and to encourage new broadband investment using private capital.

Over the longer term as reforms are implemented to the support mechanism, it will be important to actively evaluate their effects. State Members cannot make the judgment yet that the current support level will be more than needed, sufficient, or less than needed to accomplish the goals of the Act indefinitely. Experience gained in the first few years of a new system will be invaluable in determining whether initial support levels are sufficient, insufficient, or excessive. As more hard data become available over time, the Commission should evaluate whether the fund size should be increased or decreased.

D. Intercarrier Compensation

State Members are not persuaded that there should be a single national rate for intercarrier compensation, nor that any such rate should approach zero. Forcing intrastate intercarrier compensation rates to zero or near zero would greatly exacerbate the already difficult task of funding universal service. Instead, State Members believe that essential goals for intercarrier compensation reform can be achieved by promoting a single rate for each carrier that is just and reasonable in light of the carrier's cost of offering the service. Moreover, State Members recommend that these reforms be approached cooperatively with State commissions, not preemptively.

II. State Interests and the Role of the Joint Board

The NPRM in this proceeding proposes a comprehensive renovation of the services supported by universal service programs. The NPRM proposes to change what is supported, how support is calculated and distributed, and how support recipients will account for results. Only in omitting a discussion of contribution mechanisms has the NPRM proposed less than a comprehensive restructuring of the entire system.

The Commission released the National Broadband Plan (NBP) one year ago,[28] and the NPRM proposals are generally consistent with the vision set forth in the NBP. Some of the proposed short-term and long-term changes are fundamental, such as to abandon traditional cost-based mechanisms that support debt expense arising from privately generated capital and replace them with an auctions-based mechanism that provides public capital for broadband construction projects.

A. State Interests

The nation's universal service policies have been and continue to be a joint enterprise between the States and the federal government. Federal law is supreme, and the federal government collects and distributes the majority of universal service funding in the country. Yet the States are the original authors of carrier-of-last-resort policies for voice services, and they are the source of many other fiscal and regulatory policies that have been and will continue to be important to universal service.

---

[28] FCC, *Connecting America: The National Broadband Plan*, (NBP) (March 16, 2010).

States have unique knowledge of local conditions and hear first about consumer problems. Most States necessarily know more detail about the extent of competition and the local conditions that are likely to make national universal service policies successful or unsuccessful than any federal agency. This has led the States, by and large, to be the principal actors in the mapping of broadband availability around the nation.

States have also been significant partners in universal service since 1996. In most States it is a State utility commission that designates ETCs as eligible for federal support. States annually certify that universal service funds are being properly used. Finally, States participate financially in direct support for universal service. More than 20 States administer their own supplemental State universal service programs.

Adequacy of federal funding for universal service is the most important issue for the States and for consumers. The NPRM recognized that competition and technological advancements have put additional pressures on the intercarrier compensation system.[29] The FCC has identified a so-called "broadband availability gap" of approximately $23.5 billion,[30] and it has acknowledged that "[o]ther government support is required to complete the task of

---

29 NPRM ¶ 503.

30 FCC, *The Broadband Availability Gap,* OBI Technical Paper No. 1 (*Broadband Availability Gap*) at 1.

connecting the nation to ensure that broadband reaches the highest-cost areas of the country."[31] Finally, the Commission proposes to reduce intercarrier compensation rates, possibly to zero.[32]

It is difficult to understand how the current USF financial structure will be adequate to support these expanded objectives when the chief funding source applied to the task will be the repurposing of the current $4.2 billion of high-cost funding. The goal of universal broadband within the United States by itself may require a national funding commitment that goes well beyond the existing size of the federal USF. Yet the NPRM seems to suggest in some places that the Commission is prepared to restructure high cost mechanisms whether or not funds are sufficient.[33]

If the Commission does not have enough funds to achieve its goals, but it does nevertheless take the actions proposed in the NPRM, the net result could be actual harm to universal service. For carriers now receiving support, reductions could translate into an inability to pay existing debts that were incurred for past network improvements, notably deploying broadband. Reductions could also induce defensive responses by carriers such as reducing capital expenditures, cutting back on customer service, and deferring maintenance. Over the next decade, customers in some rural areas could simply lose telecommunications service

---

31 *NBP* at 139; *see NBP* Exh. 8-D; *NBP* at 157 n.18.

32 The NPRM repeatedly states that the FCC's goal is to "move away from per-minute charges, either by bill-and-keep or some other method." NPRM ¶¶ 516, 532, 550. In some places, the NPRM uses the phrase "move away" from per-minute charges as synonymous with eliminating per-minute charges. NPRM ¶¶ 592, 593.

33 For example, in the discussion of how to administer auctions over the long-term, the Commission suggests that it would fund only "providers that propose to achieve the greatest broadband coverage with the limited funding available." NPRM ¶ 419.

altogether or find that their provider's facilities are so poorly maintained and so unreliable as to make their telecommunications service almost worthless.

The NPRM therefore fairly raises a question of whether it would preserve and advance universal service. States are understandably concerned about the likely effects on local rates and on existing State universal service funds. Not only are services at risk, but decreases in federal support could quickly translate into an unfunded mandate for States to replace the lost support, at a time when many States are financially stressed.

Preemption and its effects on customers is a second major issue for the States. The NPRM proposes new preemptive rules on intercarrier compensation that would lower intercarrier revenues in many States. The States are deeply concerned about the legal issues involved in preempting State ability to set rates for this carrier revenue source, particularly when the claimed authority is a new interpretation of a statute enacted 15 years ago.[34] Of even greater concern are the possible financial effects of preemption followed by mandates for lower intercarrier compensation rates. These changes could be another cause leading to local rate increases and increased demand on State universal service funds.[35] Finally, survivability could be imperiled for carriers that are essential to delivering universal services at reasonable prices. No matter which layer of government has legal authority over broadband, citizens will continue to be

---

[34] *See, e.g.* NPRM ¶ 513 (proposing that 47 U.S.C. § 251(b)(5) allows the FCC to prescribe rates for all telecommunications traffic exchanged with LECs).

[35] Over 20 States have existing high-cost funds. If federal funding for universal service becomes insufficient, these States will have to make adjustments to their funds. Moreover, still other States might be forced to adopt high-cost funds for the first time.

concerned if universal service goals are not met, and State governments are often the first to hear about such problems.

The NPRM proposes to forbear from requiring supported carriers to become ETCs.[36] Most States use federal ETC designation (and the parallel annual certification process) as a key intrastate tool in overseeing the preservation and advancement of universal service. But in any case, the FCC lacks authority to forbear in this context. Even assuming, *arguendo*, that such legal authority exists, State Members find it difficult to imagine a successful universal service program operating without a largely equivalent system for engaging States meaningfully in the task of administering universal service programs.

B. The Role of the Joint Board

Created in 1996, the Federal-State Joint Board on Universal Service was modeled on the Separations Joint Board.[37] Over the ensuing 15 years, the Universal Service Joint Board has had an important role in developing and overseeing universal service programs, primarily because it includes appropriate representation for federal, State, and consumer stakeholders.

In the Telecommunications Act of 1996, Congress specifically tasked the Joint Board with the lead role in recommending the regulatory changes necessary to implement Section 254 of the Act, which was the Act's main universal service provision. Congress considered this work

---

36 NPRM ¶ 72.

37 *See* 47 U.S.C. § 410(c).

so important that it required the new Joint Board's first recommended decision to be completed within nine months of the bill's passage.[38]

Congress also intended the Joint Board to have a continuing role after 1996. The Joint Board has explicit authority to recommend, "from time to time," modification of the definition of supported services, a responsibility that extends indefinitely into the future.[39] In addition, the Act requires the Commission to act within one year on any recommendation received from the Joint Board, regardless of when that recommendation may be delivered.[40] Finally, the Joint Board has a continuing statutory responsibility to ensure that federal universal service policies are based on a list of articulated principles.[41]

Soon after the Act passed in 1996, the Commission acknowledged that the Joint Board would have a continuing role. The Commission promised to "periodically review, *after obtaining further Joint Board recommendations,* the definition of services supported by universal

---

[38] 47 U.S.C. § 254(a)(1).

[39] 47 U.S.C. § 254(c)(2); *see also* 47 U.S.C. § 254(c)(1)(C) ("[t]he Joint Board in recommending, and the Commission in establishing, the definition of the services that are supported ... shall consider the extent to which such telecommunications services. . . are being deployed in public telecommunications networks by telecommunications carriers.")

[40] 47 U.S.C. § 254(a)(2) (after its May 8, 1996, deadline to implement the 1996 Act, "the Commission shall complete any proceeding to implement subsequent recommendations from [the] Joint Board ... within one year after receiving such recommendations.")

[41] 47 U.S.C. § 254(b) ("Joint Board and the Commission shall base policies for the preservation and advancement of universal service on the following principles ...")

service mechanisms ... as well as *the regulations adopted to implement the universal service mandates of the 1996 Act*."[42]

The Joint Board's *2007 Recommended Decision* laid the ground work for much of what was contained in the National Broadband Plan and the NPRM. Just a few months ago, the Joint Board sent to the FCC a Recommended Decision[43] on the Lifeline program. These comments continue the active involvement of State Members in Universal Service issues.

Given the strong State interests in a universal service partnership with the Commission, cooperation between the Commission and the States will be essential to successfully implementing new universal service rules. Meaningful collaboration with the Joint Board therefore is more important than ever.

III. Definition of Supported Services

A. VoIP as a Telecommunications Service

To date, the Commission has not classified interconnected VoIP service as either an information service or a telecommunications service. The NPRM asks whether the FCC should classify interconnected VoIP as a telecommunications service or an information service.[44] State Members recommend that the FCC classify interconnected VoIP as a telecommunications service.

---

42 *Federal-State Joint Board on Universal Service,* 11 FCC Rcd 18092, 18094 (1996) *(First NPRM)* (emphasis added) (footnote omitted).

43 *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, Recommended Decision, FCC 10J-3, (released Nov. 4, 2010) ("*Lifeline Recommended Decision").*

44 NPRM ¶ 73.

Interconnected VoIP has already been assigned many of the hallmark duties of telephone services. As the NPRM illustrates, these include number portability, 911 emergency calling capability, universal service contributions, CPNI protection, disability access and TRS contribution requirements and Section 214 discontinuance obligations.[45] Moreover, VoIP services are marketed as a substitute for telephone service, and customers understand the service in this way. Interconnected VoIP services are today widely provided over fixed networks that use copper wires (albeit coaxial wires), just as telephone service has been provided for many years.

At the same time, much of the traffic currently classified as telecommunications service is transported in part over digital networks, using packet switching in part of its transmission path. Indeed, so far as we are aware, the principal differences between VoIP service and telephone service are those created by the regulatory ambiguity that we here recommend ending.

A decision to classify interconnected VoIP as a telecommunications service would not necessarily control whether and how the rates for VoIP services are regulated. If the Commission wishes to refrain from regulating the price of VoIP services, it has other tools with less global ramifications than classifying VoIP as an information service.

The NPRM notes that if the Commission did classify interconnected VoIP as a telecommunications service, it could then more readily support networks that provide interconnected VoIP, including broadband networks.[46] As mentioned above, State Members

---

45 NPRM ¶ 73.

46 *Id.*

agree that federal high-cost mechanisms should provide support for broadband networks. Nevertheless, eligibility for support should not hinge on the accidental fact of whether a broadband network "provides VoIP." In the next section we recommend a more direct solution.

The FCC's failure to definitively classify VoIP traffic[47] has given VoIP providers an artificial competitive advantage that has exacerbated the problem of revenue erosion. ILEC network facilities today are used to terminate VoIP traffic, although transmitting carriers sometimes refuse to pay compensation or pay at much lower rates. Many of these transmitting carriers pay $0.0007 per minute of use (MOU), a rate the FCC established some time ago for dial-up ISP traffic. A number of States have successfully adjudicated a number of intercarrier compensation disputes involving VoIP traffic. To resolve these cases, States have used existing federal and State law and applicable common carrier principles.[48] Some States have made an affirmative finding that fixed wireline VoIP is a telecommunications service.[49] State laws deregulating retail VoIP services have further complicated the issue.[50]

---

47 The FCC again avoided the issue in its December 23, 2010 *Net Neutrality* Order through the use of the term "specialized traffic." *In the Matter of Preserving the Open Internet Broadband Industry Practices*, GN Docket No. 09-191 and WC Docket No. 07-52, Report and Order, released December 23, FCC 10-121.

48 *See generally Palmerton Tel. Co. v. Global NAPs South Inc. et al.*, (Pa. PUC, March 16, 2010) Docket No. C-2009-2093336; *Hollis Tel., Inc. et al.*, (NH PUC, November 10, 2009), DT-08-28, Order No. 25, 043. Similar disputes have arisen when competitive local exchange carriers (CLECs) terminate IP-based traffic.

49 *See generally Public Utilities Commission Investigation into Whether Providers of Time Warner "Digital Phone" Service and Comcast "Digital Voice" Service Must Obtain Certificate of Public Convenience and Necessity to Offer Telephone Service*, (Maine PUC, October 27, 2010), Docket No. 2008-421 Order; *Petition of AT&T Wisconsin for Declaratory Ruling that Its "U-verse Voice" Service is Subject to Exclusive Federal Jurisdiction*, (Wisconsin PSC, September 24, 2010), 6720-DR-101, PSC

The Commission recently collected comments regarding Part XV of the NPRM, relating to intercarrier compensation. One State commission noted that in that context at least, the classification of interconnected VoIP is not absolutely crucial because the States have successfully been resolving intrastate intercarrier compensation disputes involving VoIP traffic through the use of existing mechanisms and common carrier principles.[51] To do so, the States have treated VoIP calls as but one species of a "telecommunications service" that is properly subject to the bi-jurisdictional regulatory oversight of the States and the FCC.[52] If the States are treating VoIP as a telecommunications service for purposes of State law, the Commission should treat VoIP as a telecommunications service for purposes of federal law. If it does not, however, the Commission should still refrain from preempting State decisions regarding the applicability of intrastate access charges and reciprocal compensation charges to VoIP traffic.

B. Broadband as a Supported Service

Restating the entire Joint Board's recommendation in the *2007 Recommended Decision*,[53] State Members today recommend that the Commission revise the current definition of supported services to include "broadband Internet access service."

Ref# 139149; *Investigation into regulation of Voice over Internet Protocol ("VoIP") Services* (Vermont PSB, October 28, 2010) Docket No. 7316.

[50] *See generally* Pennsylvania "Voice-Over-Internet Protocol Freedom Act," 73 P.S. § 2251.1 *et seq.*

[51] Comments of Pennsylvania PUC, April 1, 2011, WC Docket No. 10-90 at 3, 6.

[52] *Id.* at 14.

[53] *2007 Recommended Decision* ¶ 56.

Adding broadband to the list of services eligible for support under Section 254 will have several beneficial results. First, it will effectively declare an explicit national goal of making broadband Internet service available to all Americans at affordable and reasonably comparable rates. It is also an appropriate way to memorialize the policy recommendations in the National Broadband Plan. Second, the change will legitimize existing support mechanisms that already provide support for broadband-capable facilities. Third, the change will focus appropriate attention on the tendency of existing support mechanisms to promote broadband deployments only in some areas. Finally, by applying universal service goals to an expanded definition of broadband, mechanisms can be designed that support integrated broadband networks that are capable of providing both data and voice communications, to anchor institutions and to residential customers, and to both urban areas and rural areas.

The Act explicitly tasks the Joint Board with recommending to the Commission modifications in the definition of the services that are supported by Federal universal service support mechanisms.[54] The Act also recognizes that universal service is an evolving level of telecommunications services that should be revised periodically, taking into account advances in telecommunications and information technologies and services.[55] Currently, all ETCs must

---

54 *See* 47 U.S.C. § 254(c)(2).

55 *See* 47 U.S.C. § 254(c)(1).

provide all of the services supported by universal service. The services currently required were designed for voice telephones in 1997.[56]

- Broadband Internet access service satisfies the statutory criteria for inclusion.[57] Broadband Internet access services are essential to education, public health, and public safety. The Internet is increasingly used for education, in significant part by sharing materials and audio and video streams in educational environments, as well as through informal educational content such as online news services that can be customized to reflect the user's interests. The Internet is also increasingly used by health care professionals, such as for sharing medical records and diagnostic information. Moreover, many residential users get health care advice from the many medical compendiums that are available online. In all of these applications, classical dial-up Internet access is marginally useful, and is often inadequate.
- Broadband Internet access service is subscribed to by a substantial majority of residential customers. More than half of the households in the United States have subscribed to broadband since at least 2007.[58] One year ago, the Commission announced that seven million homes in the country do not have broadband service.[59] Since there are 130 million homes, that means 123 million out of 130 million do have broadband service. Americans have made a clear judgment, consistent with the rest of the developed world, that broadband Internet access is an important component of modern life.
- Broadband Internet access service is being deployed in public telecommunications networks by telecommunications carriers. Millions of customers today purchase DSL service, the version of broadband Internet service that is customarily provided through copper telephone networks. Millions of others purchase broadband Internet access through their cable television providers or their wireless telecommunications carriers.
- Including broadband Internet access service in the list of supported services is consistent with the public interest, convenience, and necessity. Congressional committees have repeatedly stressed to members of this Joint Board their opinion that uniform broadband deployment is an important national telecommunications

---

[56] *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Fourth Report and Order, 13 FCC Rcd. 5318 (1997).

[57] *See* 47 U.S.C. § 254(c)(1).

[58] FCC, Industry Analysis and Technology Division, *High-Speed Services for Internet Access: Status as of December 31, 2006*, Table 15, released Oct., 2007.

[59] *Broadband Availability Gap* at 2,4 n.4.

> goal. This is consistent with the public's view. State Members all have personal experience with consoling irate telephone customers who find themselves unable to purchase access to broadband Internet service at home or at their place of employment or who can purchase service only at a considerably lower speed than service available in neighboring areas. We conclude that ubiquitous broadband access will improve the lives of millions of Americans, particularly in the coming years when Internet communications are expected to become an even more essential communications tool in daily life.

In sum, Americans have made a collective judgment that broadband Internet access service is an important service. Therefore, the Joint Board believes that it should be eligible for support under Section 254, with the goal of making it available to all.

If broadband is added as a supported service, the Commission should explicitly encourage States to reevaluate existing ETC service areas under the standards set forth for new ETC designations. Some ETCs may have areas served by voice at the present time that they do not wish to serve with broadband. In that event, the State commission might consider granting relinquishment of ETC status for the area, just as some State statutes allow incumbents to surrender carrier of last resort (COLR) responsibilities and withdraw service.[60]

C. Mobility as a Supported Service

As the Joint Board unanimously recommended in the *2007 Recommended Decision*,[61] State Members today recommend that the Commission revise the current definition of supported services to add "mobility" to the list of supported services. Telecommunications services have evolved since the enactment of the Act, and mobile services have grown dramatically. Consumers throughout the nation today depend on those services for basic, essential

---

[60] As we discuss *infra*, 47 U.S.C. § 214(e)(4) does not address relinquishment by a sole ETC.

[61] *2007 Recommended Decision* ¶ 63.

communications that are no longer limited by the location of their wireline telephones. Due to this explosive growth and consumer dependence on mobile communications, mobility satisfies the statutory requirements for inclusion as a separately supported service and should no longer be eligible for support simply because it happens to satisfy requirements designed for wireline voice communications.

- The demands for mobile services, including demands for wireless broadband, have grown sufficiently that mobile services are today essential to the education, public health, and public safety of this nation. Wireless telecommunications services are no longer a luxury in our society, but are a complementary necessity for an overwhelming majority of consumers for public health, safety, and economic development.[62] From a public service standpoint, the initial emphasis on mobility expansion should be to identify and serve those communities that are presently unserved by mobile services.
- A substantial majority of residential customers take mobile service. The Act requires only that a supported service be subscribed to by a substantial majority (over 50%) of residential customers. At the end of 2008, the country had 162 million end-user switched access lines served by ILECs and competitive LECs,[63] and 261 million mobile wireless telephone subscribers.[64] A recent study found that about 21 percent of adults with higher incomes use only cellphones, while nearly 40 percent of all adults living in poverty use only cellphones.[65] Although these counts include both business and residential customers,[66] the wireless numbers are so large as to compel a conclusion that mobile wireless service is subscribed to by a majority of residential customers and has become an essential element in our nation's telecommunications services.

---

[62] Coalition Working for Equality in Wireless Telecommunication, *Connecting Rural America,* Ex Parte filing, WC Docket No. 05-337, Oct. 15, 2007.

[63] FCC, *Trends in Telephone Service*, 2010 report, FCC, table 8.1.

[64] *Id.* table 11.1 (based on FCC form 477).

[65] S. Tavernise, *Youth, Mobility and Poverty Help Drive Cellphone-Only Status,* New York Times, April 20, 2011.

[66] Residential line counts are not separately reported.

- Mobile service, like broadband, is being deployed in public telecommunications networks by telecommunications carriers. The list of mobile services available throughout the country is rich and diverse. Mobile services have unique characteristics that are significantly different than those of the wireline network. The record shows many examples where customers have used wireless services in emergencies where wireline communications were either unavailable or not operational. Mobility provides freedom of communication not tied to specific location, communication occurring during travel on highways, and communication in areas where wireline phones are not available.

For all of these reasons, State Members conclude that including mobile service in the list of supported services is consistent with the public interest, convenience, and necessity.

IV. Support Distributions and State Members' Plan

State Members' Plan is State Members' principal response to the NPRM. The plan proposes three separate funds to provide support for high-cost areas. The funds are: 1) a Provider of Last Resort (POLR) Fund; 2) a Mobility Fund; and 3) a Wireline Broadband Fund. Each fund has different (although complementary) goals, separate budgets, separate criteria and mechanisms for calculating support, and should continue indefinitely. These three new funds should replace all existing high-cost support mechanisms.

The Mobility Fund and the Wireline Broadband Fund each provide grants to support new construction. These funds will operate in many ways similar to the Connect America Fund interim proposals described in the NPRM. The NPRM asks whether federal support should be provided to both fixed and mobile networks.[67] By proposing both a Mobility Fund and a Wireline Broadband Fund, State Members answer in the affirmative.

---

[67] NPRM ¶ 403.

State Members' Plan places great reliance on preserving and advancing universal service through a Provider of Last Resort (POLR) Fund. This POLR Fund will provide continuing cost-based support to high-cost ETCs that provide both voice and broadband service. Those ETCs will have to comply with costly POLR duties that include broadband service quality and broadband availability standards. Support calculations will be designed to allow these ETCs to raise private capital and to maintain their financial viability as providers of voice and broadband to high-cost areas.

State Members' Plan contains revenue separations rules. In at least some States, State rate-setting activities for incumbent LECs requires the separation of all regulated operating costs and revenues. This creates a need for a rule to assign a portion of federal support funds received by those ILECs to the intrastate jurisdiction. The rule is that ILECs will allocate federal support to the interstate jurisdiction in the same overall percentage that their interstate costs currently bear to their total costs. The remaining share of support will be allocated to intrastate.[68] The rule will apply to whatever support is received from the POLR Fund, the Broadband Wireline Fund and the Mobility Fund.[69]

---

[68] This rule is suggested by the existing High Cost Model program, which is designed to affect intrastate costs. That program pays only 76% of the gap between a carrier's costs and a benchmark. The rationale was that 24% was the industry average interstate cost separations factor at the time the program began. Under this rule, a similar split would occur, but using company-specific cost separations factors.

[69] State Members of the Separations Joint Board have proposed cost separations changes relating to broadband and special access. If those cost separations changes are enacted, the rule would change separations allocations automatically, without need for further rule changes.

A. The POLR Support Mechanism

The POLR mechanism will continue to provide cost-based support for ETCs. If adopted, the net effect will be to consolidate existing high-cost support mechanisms into a single program.

State Members' Plan is not concerned with and does not affect how a telecommunications service may be regulated at the State or federal level. In particular, the Plan would not directly affect existing FCC "price cap" arrangements and "pricing flexibility" arrangements. Similarly, the Plan does not concern itself with whether a State has "deregulated" telecommunications or broadband services. Conversely, the Plan does respond to changes in regulation. For example, the mechanism has an explicit component designed to respond to intercarrier compensation reforms.

The support mechanism contains a series of modular steps, each of which is a set of mathematical procedures that can be described and illustrated on a spreadsheet, a copy of which is attached as Appendix B. The Plan defines these mathematical procedures in a modular way, thereby making it possible to examine separately the questions of whether each component is desirable, how it should best be designed, and how it should fit into the larger multistep mechanism. This approach also facilitates making adjustments later as the Commission gains experience with this method.

A multistep mechanism can clarify some issues that have been problematic in the past. For example, the Plan separates the question of the proper scale for aggregating an ETC's costs from the question of how much support a State should generate for its own high-cost areas. Similarly, the Plan separates the question of whether costs should be measured by models from the question of how those costs, once measured, should affect support. Finally, the Plan

explicitly relates the parameters used in calculating support to the expected effects on consumer rates.

Most of the steps require ETC-specific measured data. Most of the steps also operate with prescribed parameters that would be uniform nationally. Many of the steps rely on results from earlier steps. The major steps are:

1. A geographically targeted cost-based mechanism that supports "donut" areas with a large gap between their high costs and their low revenues;
2. A support mechanism to compensate carriers for mandated intercarrier compensation revenue reductions;
3. A rate-of-return mechanism to ensure that support does not produce excessive profits for supported ETCs;
4. An upper limit on support per location that would apply in areas with extremely high costs;
5. A means of combining all of the preceding support mechanisms;
6. An incentive for State universal service funding, with a fund matching feature;
7. An incentive to encourage carrier compliance with reasonable build-out expectations, service quality, and performance standards; and
8. A transition provision that softens any fiscal shocks to ETCs and their ratepayers.

Figure 1 illustrates how these components interact.

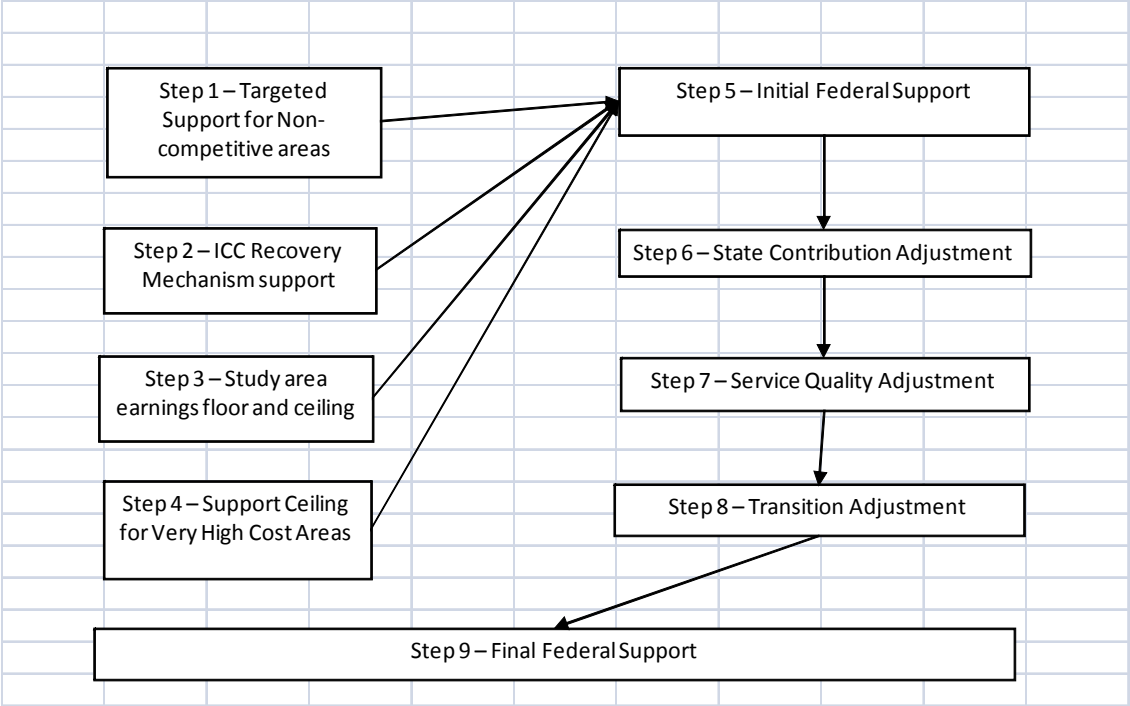

Figure 1. Interaction of POLR Plan Steps

1. Step 1 – Targeted Support

In the past, the geographic unit for calculating cost-based support areas has been study areas, and in some cases State boundaries. At the same time, the Commission has taken some steps to "target" support to higher cost areas. Rural carriers were allowed an opportunity to disaggregate their study areas ten years ago. The Commission also performs some but not all High Cost Model (HCM) calculations at the exchange level.

The basis for these "targeting" efforts is that, even within rural wire centers, there are regions of relatively high cost and other areas with relatively low cost. Only ETCs are usually required to serve the high-cost areas with their own facilities, in some measure through federally mandated ETC rules, but also through State-imposed carriers of last resort (COLRs) policies. A support mechanism that uses average costs assumes that the ETC will average its rates, and that

higher returns in low-cost areas will offset lower and negative returns in high-cost areas. Yet this assumption is weakened as competitors enter low-cost areas and charge lower rates, thereby eliminating revenues that have traditionally made implicit contributions to high-cost regions. These localized cost differences are masked from any support mechanism that averages costs over a wider area.

The importance of this targeting concept was memorably advanced by Embarq in a series of 2007 filings that described high cost "donuts" and low-cost "donut holes."[70] Embarq reported, for example, that it served 645 subscribers in Goodland, Indiana, at an average forward-looking cost per line of $93.14 per month. When it divided the areas, Embarq found that the "hole" around the city center (452 lines) had an average cost of $19.04 per month, while the surrounding "donut" area (193 lines and the great majority of the land area) had an average cost of $266.70 per month.[71]

Other commenters more recently have agreed with the concept of targeted support. For example, NCTA agrees that support should be analyzed on a more granular basis and that high cost support should be assigned to areas without an unsubsidized competitor.[72]

---

[70] Dr. Brian Staihr, D. Bartlett, J. Lanning, *Comments of Embarq on the May 1, 2007 Public Notice*, WC Docket No. 05-337, filed May 31, 2007.

[71] Dr. Brian Staihr, D. Bartlett, J. Lanning, *Reply Comments of Embarq on the May 1, 2007 Public Notice*, WC Docket No. 05-337, filed July 3, 2007. Appendices to Embarq's reply comments contained differential cost data for all its exchanges in Florida and Indiana.

[72] *Comments of the National Cable & Telecommunications Association*, Docket 10-90, Filed April 18, 2011, at 10-11.

Step 1 of State Members' Plan addresses this targeting concern by taking a more granular approach to calculating support. It calculates a support amount solely for the "high-cost sector" or "donut" areas in each exchange.[73]

a. Financial Gap

Step 1 Support seeks to provide support to cover the ETC's financial "gap," the difference between its costs and its reasonably expected revenues from all services. This approach, like some existing high-cost mechanisms, will help to cover debt and equity obligations arising from privately raised capital.[74] The basic "support equation" in Step 1 therefore takes the following form:

$$\text{Support1} = \big[[Cost] - [Revenue]\big], but\ not\ less\ than\ 0$$

In Step 1 those costs and revenues will be measured or estimated solely within the boundaries of the high-cost sectors within existing ETC study areas.

b. Total Company View

In estimating these costs and revenues, State Members' Plan generally takes a "total company" financial view. State Members' Plan considers costs and revenues associated not only

---

[73] Given the way that exchanges were engineered, a single exchange typically has one high-cost sector, although it can have more than one "hole" or low-cost sector.

[74] A later recommendation included here does propose support in the form of direct capital grants for construction. Such grants should be treated as customer contributed funds like existing ratemaking treatment for "aid to construction."

with the supported carrier's "regulated" voice operations (interstate and intrastate, switched and special access), but also the costs and revenues from broadband operations.[75]

State Members' Plan treats video operations as a special case. Our conclusion is based on several facts. First, while video is an application that is often provided over broadband facilities, it is not in itself a supported service, and State Members do not recommend that it become a supported service. Second, fiber-based wireline networks typically incur little additional plant cost to provide video, since a fiber capable of supporting Internet is generally also able to support video. Third, video content is the leading, if not the "killer," application in the bundling of services by competitors seeking to enter discrete mid-size, small, and rural markets. Without reasonable and economic access to that content, small carriers will lack the ability to enter those markets and cannot compete effectively against larger providers. For a rural provider, the ability to offer the so-called "triple-play" is crucial to a successful business plan and essential to gain access to the capital required to bring video and broadband services to a currently unserved area.

The final and key fact about video is that programming costs can be high, particularly for smaller video providers. In recent years some transfers of networks from large to mid-sized carriers have been followed by significant rate increases. Those rate increases were attributed, in whole or in part, to wholesale price increases. The Commission has not, however, dealt broadly with the availability and potentially discriminatory pricing of content, even though that

---

75 *See* NPRM ¶ 392.

discrimination can disadvantage small and mid-sized LECs and comparable small and medium-sized cable providers.[76]

If State Members could be assured that video content will remain available at a reasonable cost, allowing video costs and expenses into the support calculation might allow providers to increase their incremental revenue, which in turn could facilitate faster broadband build-out and eventually reduce demand for support. Nevertheless, wholesale video costs are not controlled, and there is a risk that some federal support might subsidize video operating losses attributable to unregulated programming costs. To avoid that risk, State Members' Plan recommends that, at least initially, the support mechanism should not factor in either the revenues from video operations or the marginal costs of video operations (programming and additional equipment).[77] In other words, the plan assumes the risk of an unmeasured profit so as to avoid the risk of subsidizing a measured loss. A corollary of this decision is that Internet providers will offer video operations, or not, based purely on the service's economics, and without being influenced by universal service support.

c. Costs

In Step 1, cost will be defined as the carrying cost of a total network capable of providing both broadband and voice to the entire non-competitive area, often referred to as the "donut."

---

[76] NARUC passed a resolution in February of 2011 recommending that the matter of availability and potentially discriminatory pricing of content be referred to the Section 706 Joint Conference.

[77] State Members considered an alternative under which POLR Step 3 support would be modified to be the lesser of the amount described *infra* or the Step 3 support resulting from including all video costs and revenues. Although State Members thought this proposal has merit, it is not presented here in any detail because it would further increase the complexity of the POLR Fund proposal.

This does not imply any requirement for separate voice and broadband networks, merely that voice functionality will be provided continuously as the ETC extends its broadband service. *Cost* should cover all capital costs, including depreciation, a reasonable return on net investment, and operating costs, including "middle mile" broadband transmission costs from the end user to the Internet backbone.

Under State Members' Plan, all nonrural carriers will have their Step 1 costs determined by a cost model. Rural carriers will also be subject to a model, except that any rural carrier could elect to have its cost determined on an embedded basis.[78]

State Members propose that costs be calculated using a new rate of return on capital lower than the currently prescribed rate. The current rate of 11.25% was set 20 years ago at a time of high interest rates on debt.[79] The Commission should propose a rule prescribing the rate of return, for universal service calculations, at 8.5%.[80] Based on State Members' experience from a variety of sources, the current interest rate cost for the telecommunications industry is 5.0% or lower.[81] Given that the equity to capital ratio among larger incumbent LECs varies

---

[78] Because the use of models can eliminate incentive to actually build plant, a later provision in the Plan contains a separate performance requirement regarding broadband availability and service quality.

[79] The interest rate on a three month Treasury Bill in January of 1990 was 7.83%. In January of 2011 the rate was 0.15%. Available at http://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2011, consulted April 27, 2011.

[80] Patronage equity for cooperatives should be calculated at a rate closer to the marginal cost of debt. The Commission should review the prescribed rate of return at least every five years to reflect current economic conditions.

[81] This contrasts with the 8.8% interest rate on debt that was used to calculate the current 11.25% rate of return. *Represcribing the Authorized Rate of Return for Interstate Services of Local Exchange*

greatly,[82] State Members recommend using a *pro forma* capital structure in universal service calculations that assumes 50% of capital is equity. With interest rate and capital structure known, an overall return of 8.5% implies a return on equity of 12%. Although risk in the wireline industry is higher now than in the past, under State Members' Plan a designated ETC can have a reasonable expectation of continuing support, and that expectation itself mitigates much of the financial risk. An authorized equity return of 12% should be ample to attract capital to an ETC. Reducing the rate of return for universal service calculations from 11.25% to 8.5% will reduce the support calculated for most supported carriers and will help the Commission to stay within the proposed fund size limitations discussed above.

(1) Cost Model Changes

Nonrural carriers and some rural carriers will have their costs estimated by a forward-looking cost model. Under State Members' Plan, the FCC will continue to use its existing cost model, but with some modifications:[83]

- The model should use current geocoded data for all switched customer locations.
- The model should be revised to account for the effects of special access lines. Immediately, the model should use current measured special access line counts by wire center. If possible, geocoded customer locations for special access customers should also be used. Before the end of 2013, the Commission should

---

Carriers, CC Docket No. 89-624, Order, FCC 90-315 5 FCC Rcd 7507 (1990) (*Represcription Order*) ¶¶ 8, 28.

[82] The 2010 common equity ratios (at the holding company level) of the TDS companies was reported at 72%. AT&T was reported at 63%. Frontier was reported at 39%. Windstream was reported at 10%. Standard and Poors "Stock Reports" for 2010.

[83] Some of the modifications listed should be examined after issuing a public notice.

commit to updating how the model adjusts costs in an area based on the presence of special access circuits, particularly DS-3 circuits and larger.[84]

- The model should use a road-constrained minimum spanning tree. The model currently uses a minimum spanning tree that is not road constrained. Modeled plant shall not be built across geographic barriers unless a right of way exists.
- The model should be adjusted to reflect the costs of actual distribution plant mix (aerial, buried, and underground) or it should develop a way to predict optimum plant mix based on topography, soil, bedrock, forest cover, and weather and icing conditions. The model should also be refined to reflect industry best-practice maintenance expense for each type of plant, with adjustments for local conditions.
- Costs should reflect the usage and longer-range communications of modern networks, including the costs of current toll calling usage (including intra LATA and inter LATA toll) and EAS, as well as middle mile transport costs for Internet data.

State Members recognize that statistical cost models are a potentially promising substitute for the engineering-based cost models currently in use. In a statistical cost model, measured public demographic and geographic data, such as population, households, road mileage, climate, and soil conditions, are used to predict costs.[85] State Members encourage the FCC to examine statistical cost models as a possible substitute for engineering cost models.

(2) Embedded Cost Caps

State Members' Plan will establish a cap on investment and a cap on expenses for rural carriers that have elected to use embedded costs. This investment cap limits the size of the gross plant used to determine support. This cap also will prevent carriers from making excessive investments solely or primarily to obtain new or secure existing universal service funding. If

---

[84] The current FCC cost model takes a simplified approach to special access and costs. The model ignores circuits larger than DS-3, and assumes that DS-3 circuits are 28 times as costly as DS-1 circuits. Also, the current FCC support mechanism makes these cost adjustments for special access but makes no adjustment for special access revenue.

[85] NPRM ¶ 441.

funds permit, the investment cap could be raised over time to allow for construction of fiber-to-the-home facilities on wireline networks. The expense cap would be similar to the current corporate operations cap used in the high cost loop mechanism, but it could be extended to include other expenses.

As suggested in the NPRM,[86] the caps should be based on either engineering or statistical models. The capped levels should allow for normal investment and expenses. They should also allow a reasonable amount of headroom to reflect the uncertainties inherent in cost models and for unforeseen local conditions. To handle extreme cases, the Commission could create a waiver process for areas where the caps demonstrably understate actual cost.

(3) Resale and UNEs

The Act allows carriers to receive ETC designations even though some of their customers receive only services that are resold from carriers.[87] When this occurs, cost models no longer can reliably predict an ETC's costs, and unadjusted support mechanisms could provide too much support. The same problem can arise when carriers serve some customers through purchase of unbundled network elements[88] and when a supported carrier serves some customers through satellite service and others through terrestrial service.

Under State Members' Plan, where a supported carrier resells (terrestrial or satellite) service or uses UNEs, its actual cost in serving the affected customers will be an upper limit on

---

86 NPRM ¶¶ 441-42.

87 47 U.S.C. § 214(e)(1)(A).

88 47 C.F.R. § 54.204(f) (UNEs treated as "own facilities.")

costs recognized in the support calculation. If a carrier purchases and resells the services of an affiliate, additional limits may be needed to prevent manipulation of the "actual costs" to increase USF support.

(4) Allocating Costs to the High-Cost Sector

Because Step 1 would apply a financial gap analysis solely to the high-cost sector, it will be necessary to allocate costs between high-cost sectors and low-cost sectors. This problem exists for both modeled-cost areas and embedded-cost areas, even if the solution methods differ.

A basic problem is to find a fair allocator for each kind of cost. It is seldom acceptable to simply divide costs using a simple allocator such as locations, subscribers, or route miles from the central office. First, not all customers impose the same level of costs. Serving a truly rural customer typically requires more cable and wire facilities (C&WF) than an in-town customer. Therefore, the allocated C&WF investment for a rural customer is typically higher than an urban customer. On the other hand, the per-mile cost of laying cable in urban areas is often many times that of rural areas because installation requires different tools and because there are frequent and costly interactions with roads and other utility lines. Therefore, a more sophisticated analysis is needed that considers not only the facilities devoted to a customer but the costs of installing those facilities.

Another allocation difficulty arises from common investment and expenses. Network scale economies are generated by common facilities or joint operations, and the benefits are shared at the exchange level, the study area level, and even the holding company level. Actual networks are rarely built solely to serve high-cost sectors.

To calculate the stand-alone costs of serving only the high-cost sector is to ignore the common cost problem. Such a cost estimate might legitimately be relevant to a new competitor who chooses to serve only the donut, but that rarely occurs. In the common case of an incumbent LEC that actually serves both its high-cost and low-cost sectors and actually has economies of scale, that calculation is potentially harmful because it is likely to overstate cost,[89] leading to unnecessarily large support amounts.

This problem can be solved by calculating the "avoided" cost of the high-cost sector. This is the carrier's cost of not serving in the high-cost sector, while still continuing to serve the low-cost sector. Technically, it would be equal to the cost of the entire exchange, minus the stand-alone cost of only the low-cost sector(s). In general, the avoided cost is lower than the stand-alone cost of a new network in the high-cost sector, thereby avoiding excessive support payments.

As noted above, some carriers would have their cost defined by the FCC's cost model. For these carriers, consistent with current practice, cost data will be calculated on an exchange-by-exchange basis. Specifically:

- Cable and wire facilities (C&WF). This cost should be estimated using the avoided cost method. The model first develops customer serving areas (CSAs)[90] within each exchange. Second, the model assigns each CSA to either the high-cost sector or the low-cost sector of that exchange, based on locations per cable

---

[89] In addition, such a cost estimate would generally overstate the cost of a new entrant, such as a cable company, that is constructing new facilities from an established base in a nearby low-cost sector.

[90] A customer serving area under the FCC's current model is an area capable of being served by a single remote terminal and copper loops of 12,000 feet or less. The model "constructs" a feeder and distribution network. The feeder cable connecting the remote platform to the wire center may serve more than one remote platform.

route mile. Third, the model calculates the C&WF cost in the entire exchange and in the low-cost sector. Finally, the cost in the high cost sector is set equal to the total exchange C&WF cost minus the low-cost sector C&WF cost.

- Central office. The FCC model would allocate these costs within the exchange that the FCC already uses to "target" costs on a study area basis.
- Corporate operations and customer operations should be shared among customers within a study area or among all of the customers served by the holding company, if any.

For embedded cost carriers, the FCC should use the following allocations:

- Cable and wire facilities (C&WF). These investment and expenses should be allocated by route mile, with an extra weight added for in-town or low-cost sector miles.
- Central office. These investments and expenses should be allocated between those sectors by locations served. For example, in a high-cost sector area that serves 40% of the locations in an exchange, it would be reasonable to allocate 40% of switching cost to the high-cost sector. Exceptions may be needed in extremely low density areas where more distributed switching topologies can justify stand-alone switches and routers.
- Corporate operations and customer operations should be shared among customers within a study area or among all of the customers served by the holding company.

d. Defining the High-Cost Sector

If there is to be targeted support, defining the boundaries of the high-cost sector will be an essential task. In embedded cost areas, accounting records are unlikely to be sufficiently specific to support this task. Three methods are possible:

1. Cost model. Any result based on the current FCC cost model would likely aggregate high-cost CSAs into a high-cost sector and aggregate low-cost CSAs into the low-cost sector. In embedded cost areas, the model could also be run to perform a similar function of defining the boundary of the high-cost sector.
2. Density. C&WF investment is the largest cost driver in most high-cost networks. Density explains most of that variation in C&WF expense, through a simple equation such as:

$$Cost = A + B/Density$$

> High cost exchanges often have a "hockey-stick" cost curve. That is, cost is fairly stable over a wide range of densities, but cost increases rapidly as density further decreases below an identifiable level. The Commission could select a reasonable density-base boundary at or near a common turning point. For example, the high-cost sector would include all customer serving areas that have a density less than 20 locations per route mile.

3. Exclude competitive areas. Areas should be excluded that have at least one unsubsidized facilities-based competitor offering equivalent services.[91] At minimum, areas with wireline competition would be excluded. Areas with reliable 4G wireless service could also be excluded.

State Members' Plan combines item #2 and item #3. Each high-cost sector will consist of what is left of an entire exchange after two areas have been excluded. The first area subtracted will be high density areas. Density will be defined linearly, as in locations or households per route mile or per road mile. The second area subtracted will be all areas where there is a wireline fully facilities-based competitive service. Any location that is not in either the high-density area or the competitive area will be in the high-cost segment. Depending on location, a high-cost segment could have more than one "hole."

e. Mapping

State Members recommend requiring ETCs to prepare maps that accurately reflect the boundaries of study areas, exchanges, and high-cost sectors. Maps should also show geocoded customer locations.[92]

---

[91] *See* NPRM ¶ 391 (referring to NCTA petition).

[92] Many carriers already have the ability to geocode their customer locations. The remaining carriers have customer addresses, which can be less reliable. Geocoding has advanced considerably since 1998 when the Commission adopted a proxy method of determining customer locations.

Maps will serve several purposes. Maps will allow State commissions to define areas of POLR responsibility. Maps will allow States to avoid service holes and overlaps where more than one carrier is designated. Maps will also allow States and the FCC to better assess in which portions of service areas providers actually offer broadband service to customers. Finally, because Step 1 offers support only for costs incurred in high-cost sectors, maps will affect the amount of support made available to the ETC serving it.

State Members recommend requiring ETCs to map their service areas to a specified level of accuracy. Maps should be prepared at a scale sufficient to show individual customer locations. A map accuracy of 40 feet should be sufficient.[93]

Maps at the scale of census blocks will not be sufficiently accurate to use in support calculations. Facilities-based competitors do not always offer service to every customer in a census block. Moreover, census block boundaries often cross exchange boundaries, leading to approximation of true service conditions.[94] For example, current broadband mapping efforts are based in part on the use of census blocks. If a single customer has competitive service, then the entire census block is marked as "competitive." For this reason, census block-based maps often

---

[93] A USGS 7.5 minute quadrangle topographic map is scaled at 1:24,000. The National Map Accuracy Standard is 1/50 of an inch or 40 feet. According to the standard, the positions of 90 percent of points on the map must be accurate to within 1/50 inch of 40 feet.

[94] Geographic Information System (GIS) refers to any program that captures, stores, analyzes and presents data integrated with geographic location data. While existing GIS programs can map boundaries to the necessary precision for both service areas and census blocks, when the two boundaries are not congruent, GIS systems must estimate how to translate data associated with one boundary set to data associated with another.

overstate broadband availability. Similarly, if census blocks were used to define high-cost sector maps, the resulting mapping errors could overstate true costs.

To ensure that maps are useful, map data should be reported in a format compatible with standard GIS software. The cost of preparing maps should be paid by ETCs. The actual cost of preparing such maps should be reasonable. Map data are widely available on such facts as road locations and housing locations. GIS standards are mature, and GIS technology is widely available today at reasonable cost on standard computers.

To calculate support accurately, maps must be updated frequently. Competitors come and go, and they sometimes extend their lines. Maps should be updated at least every five years. A State commission should be able to mandate more frequent updates if competitive conditions have changed.

Given the importance of local knowledge, State commissions should be involved closely in this mapping work. State Members' Plan would require ETCs to submit GIS maps to State commissions and to obtain an endorsement of accuracy (or at least a decision not to oppose the map) before filing it with the FCC. The State commission would compare maps by adjacent ETCs to ensure that service area edges conform and do not leave unintended gaps. State commissions would perform this work in conjunction with their annual certifications to the FCC and USAC. The map conformance work will be familiar to some commissions that in the past reviewed carrier disaggregation maps.

f. Revenue

Under State Members' Plan, the basic support equation subtracts revenue from cost. This is not the traditional choice for high-cost support. Current FCC support mechanisms subtract a

fixed number, often termed a "benchmark" or a "cost benchmark." By proposing that revenue be subtracted from cost, State Members' Plan is a "revenue benchmark" plan. A revenue benchmark is desirable for several reasons:

First, a revenue benchmark more accurately reflects the overall economics of operating a telecommunications enterprise in a high-cost area. As the FCC recognized in its "*Broadband Availability Gap*" paper, the gap between "likely commercial deployments and the funding needed to extend universal broadband access to the unserved" is what makes or breaks a business plan to invest in broadband facilities.[95] The same is true for multipurpose telecommunications networks that provide both broadband and voice. The gap between projected costs and projected revenues controls whether existing carriers are willing to invest in modern facilities as well as whether new entrants are willing to build competitive facilities.

In other words, a revenue benchmark promotes explicit consideration of virtually all revenue sources produced by the network.[96] Cost benchmarks, on the other hand, tend to assume that all networks with similar costs need the same amounts of support, regardless of the services they offer. By taking into consideration all revenues generated from the network, a revenue benchmark therefore facilitates a better targeted and more efficient use of limited federal support funds.

Second, a revenue benchmark promotes explicit consideration of how support should affect subscriber rates. One effect is to increase transparency and accountability. A revenue

---

95 *Broadband Availability Gap* at 1.

96 As discussed above, video revenues are a special case and would be excluded.

benchmark for supported companies creates an opportunity to compare revenues for unsupported companies in urban areas. This will create new and valuable data on whether support levels are sufficient to make the carrier's actual rates reasonably comparable to urban areas. Similarly, a revenue benchmark allows policy makers to target the rate benefits of support to particular customer groups. For example, the FCC can set separate expectations for revenue per voice customer and for revenue per broadband customer.[97]

Third, a support mechanism based on a revenue benchmark can more easily respond to changing competitive conditions in the ETC's local markets that actually affect the ETC's ability to continue providing service. For example, in areas where ETCs face effective competition, a revenue benchmark can reduce the expected take-rates and Average Revenues Per Unit (ARPUs), and thereby adjust the support needed.

As explained above, State Members' Plan takes a total company financial view (regulated and unregulated), except for video. Therefore the *Revenue* term in the basic support equation can be expanded into a "revenue equation" of the following form:

$$Revenue = [Subscriber\ Revenue] + [Switched\ Access\ Revenue] + [Special\ Access\ Revenue] + [Broadband\ Revenue] + [Other\ Revenue]$$

Other Revenue should not include business operations unrelated to the network. For example, if a supported provider engages in real estate transactions, revenue from that operation

---

[97] We note that the price elasticity of voice service has apparently increased greatly in the last decade as many households have switched to wireless. If a carrier offers a dual-purpose network capable of providing both voice and broadband, a decision to offer a low price for voice alone may actually be the carrier's optimum strategy among customers who will not take broadband service.

will be excluded. Generally, each type of revenue will be based on carrier reports of actual revenues, but subject to constraints.

(1) Revenue Constraints

As noted above, State Members' Plan calls for using carrier-reported revenues in the basic support calculation. Generally, every dollar of revenue from another source reduces the support need by a dollar. Unless constrained, that simple rule could create some undesirable incentives. Perverse incentives include inducing carriers to reduce rates below a reasonable minimum or to make an inadequate effort to market their advanced services. Either action could cause support inappropriately to supplant subscriber revenues.

State Members propose some revenue constraints to reduce or eliminate those undesirable incentives. As explained above, the basic revenue equation estimates *Subscriber Revenue*, *Switched Access Revenue*, *Special Access Revenue*, *Broadband Revenue,* and *Other Revenue.* One or more constraints are possible for each term.

One possible constraint would be to freeze *Revenue* at its initial level for an extended period. A freeze eliminates perverse incentives because carrier actions cannot affect future support.[98] Frozen data create a risk, however, that support will be insufficient if the carrier's revenues are shrinking for legitimate reasons, such as new competitors or changing consumer preferences. Similarly, frozen data creates the risk of too much support if the carrier's revenues are increasing.

---

[98] Cost benchmarks used by the current HCL and HCM programs are similarly unaffected by revenue changes, although they change with costs.

A second possible constraint is to establish minimum or "floor" prices for supported services.[99] Several State USF programs apply a local rate floor of this kind, imputing minimum revenues within their support calculations. This mechanism avoids the risk that support would subsidize unduly low local rates. Similarly, minimum or "floor" take-rates could avoid subsidizing inappropriately low subscribership rates that are caused by the supported carrier's failure to promote and market its broadband service.

The most complex option would be to use a full "revenue model" to establish a floor for each of the *Revenue* terms. Such a model could account not only for prices and take-rates, but also for demographic effects such as income or ethnic mix.[100] Such a model would be complex, but probably no more so than the Commission's current cost model.

Revenue models are not new. For example, the Commission's "*Broadband Availability Gap*" paper, issued last year, used a revenue model. The paper estimated broadband subscriber revenue by estimating expected average revenue per unit (ARPU) for broadband service and multiplying that number by likely broadband subscriber counts, which in turn depended on predicted take-rates.[101] The State Members' Plan suggests similar calculations, but for the full range of services provided over a modern network, including voice.

---

[99] Confusingly, this kind minimum revenue floor is also called a "benchmark." It is distinct from a support equation "benchmark," which is a common term for any number that is subtracted from cost in the basic support equation.

[100] A revenue model can also account for "scaling factors," "bundling percentages," and "product tiering percentages." *See Broadband Availability Gap* at 47-48.

[101] *Broadband Availability Gap* at 45-49.

A revenue model can be a key tool in managing both fund size and comparability. A lenient revenue model could provide support to carriers that charge unjustifiably low prices and that have unjustifiably low take-rates. Such a model would allow fund size to expand beyond what is acceptable and affordable. Conversely, an overly strict revenue model could drive actual rates above levels that are reasonably comparable to urban rates.

(2) Subscriber Revenue Groups

The first term in the revenue equation is *Subscriber Revenue.* State Members' Plan recognizes that facilities in modern networks provide a range of communications services, including voice, toll, Internet and video. State Members' Plan therefore defines three subscriber groups and estimates revenue separately for each group. The groups are: 1) local exchange voice, 2) voice and toll bundle, and 3) voice, toll and Internet bundle. For each group, the basic calculation multiplies the number of subscribers in that group with the rate for that group. Therefore, *Subscriber Revenue* in the revenue equation can be expanded as follows:

$$\begin{aligned} &Subscriber\ Revenue \\ &= \big[[Voice\ ARPS] * [Voice\ Subs.]\big] + [Other\ Voice\ Revenue] \\ &+ \big[[Toll\ Bundle\ ARPS] * [Toll\ Bundle\ Subs.]\big] \\ &+ \big[[Broadband\ Bundle\ ARPS] * [Broadband\ Bundle\ Subs.]\big] \end{aligned}$$

In each term, the Average Revenue Per Subscriber (ARPS) term reflects the carrier's experience for the relevant subscriber group, counting all mandatory charges, including any mandatory extended area service (EAS) charges, federal subscriber line charges (SLCs), any State SLC, State and federal universal service fund charges, and mandatory E-911 surcharges.

- *Voice Subscribers* means only those local exchange subscribers who purchase voice on a stand-alone basis and do not subscribe to any prepaid toll, broadband or video service from the supported carrier. *Voice ARPS* is the average revenue per subscriber for this group. Many local exchange subscribers pay additional charges for "vertical services" and in some cases for touch-tone service. For this group, an additional "*Other Voice Revenue*" term covers the carrier's actual reported revenue received for other services provided to non-broadband subscribers.
- *Toll Bundle Subscribers* includes all who subscribe to local and toll service from the supported carrier but not Internet or video. Customers who purchase toll service a la carte also are included. The *Toll Bundle ARPS* is the average revenue per subscriber for this group.
- *Broadband Bundle Subscribers* includes all who subscribe to a service bundle that includes broadband but not video, whether or not voice toll is included. This group also includes "triple play" subscribers who also take voice, Internet and video services. *Broadband Bundle ARPS* would be the average revenue per subscriber for this group, but excluding video revenue.

(3) Subscriber Revenue Constraints

State Members' Plan does not assume the existence of a full revenue model for all forms of *Revenue*, although it does not preclude such a model. A model will be needed in the future if it appears that carriers are inappropriately supplanting subscriber revenue and intercarrier revenue with universal service. For now, State Members' Plan proposes two more modest steps to control perverse incentives.

The first proposed constraint is to establish a revenue-per-subscriber floor for each subscriber group ("rate floor"). The rate floors should be uniform nationally. Each carrier's *Subscriber Revenue* should be set at a value no lower than what would be generated by charging its average subscriber the rate floor amount.

To initiate the discussion, State Members' Plan suggests particular values for these rate floors. Generally, the suggested numbers should be equal to or somewhat higher than prevailing urban rates. We have made only a cursory survey, however, and the Commission should conduct

a more thorough review before implementing these suggested values. Once the FCC establishes the floors, it should reevaluate them every five years. Table 1 below suggests rate floor amounts.

Service Level	Suggested Floor ARPS
Voice only[102]	$25
Voice and toll bundle	$60
Voice, toll and Internet bundle	$80

Table 1. Minimum Suggested Average Revenue Per Subscriber

In Step 1, these ARPS floors establish a minimum *Subscriber Revenue* term for each carrier. To the extent that actual revenues fall below the target, the difference is imputed revenue.

A second constraint on *Subscriber Revenue* would be a minimum take-rate, expressed as a ratio of subscribers to locations passed. As noted above, the basic support equation is structured so that any increase in subscriber revenue decreases support. These take-rate floors therefore create an incentive for carriers to market services effectively, an issue that is of particular regulatory concern for broadband services in some areas.

State Members' Plan recommends a minimum take-rate expectation for broadband, but it does not suggest any nationally uniform value. In general, a reasonable take-rate will vary from

---

[102] The FCC's 2008 "*Reference Book*" reports that the average rate for flat-rate calling with touchtone service in 95 sampled cities was $25.62. Industry Analysis Division, Wireline Competition Bureau, *Reference Book of Rates, Price Indices, and Household Expenditures for Telephone Service*, 2008, p. I-2. The *Broadband Availability Gap* paper assumed an ARPU of $33.46 per voice line. *Broadband Availability Gap* at 50, Exhibit 3-V.

one location to another. A reasonable method would certainly take into account whether the supported carrier faces facilities-based competition.[103] For broadband, a reasonable take-rate floor should also adjust for the number of months or years since broadband became available in that area.[104]

g. Lines and Locations

In this Plan, both the cost term and the revenue term in the support equation are expressed in units of "cost-per-location" rather than the traditional "cost-per-(switched) line." There are several reasons.

- Switched services are a small part of the business of modern networks. Defining "cost-per-line" solely in relation to switched services overlooks the costs for subscribers who purchase varying mixtures of local, toll, special access, and broadband services.
- Location count is a reliable basis for estimating construction cost. Telecommunications engineers generally produce estimates of loop construction projects on a cost-per-location basis, not a cost-per-subscriber basis. Locations-per-route-mile is highly predictive of the per-location cost of building a rural wireline network. Whether customers will actually subscribe at those locations is ordinarily a second order cost consideration.[105]

---

[103] For example, the *Broadband Availability Gap* paper estimated wireline DSL revenues in areas with competition by splitting revenues equally with any existing 4G wireless provider. The paper used an ARPU of $37 per month for mobile voice service in noncompetitive areas and an ARPU of $18.50 per month in areas with 4G competition. *Broadband Availability Gap* at 24, 57, note 42; *see also* FCC, *Broadband Assessment Model (BAM), Model Documentation*, (2010) at 35 ("The model must reflect impact of competition by way of a factor which can be applied to appropriately allocate total potential take-rate among the competing providers and reduce the overall ARPU as a result of competition.")

[104] The *Broadband Availability Gap* paper used a "Gompertz curve" to estimate the trend in adoption over a period of more than 10 years. *Broadband Availability Gap* at 45-49, Exhibit 3-R.

[105] An additional subscriber generally adds the cost of a drop and a network interface device. The latter can be expensive for fiber-to-the-premise (FTTP) networks. Transport costs can also increase.

- Using locations in the revenue term facilitates more explicit consideration of how variations in take-rates should affect support.

Measuring locations is more difficult than measuring switched lines. The National Technology and Information Administration (NTIA) has done some of this work, but it is not accurate enough for support distributions.[106] Commercial sources of geographic information system (GIS) data may help solve this problem. If GIS data is used, some studies may be needed to define a workable metric for estimating locations based on public data, such as road mileage or E911 locations.

In rural areas, census households can be a close match to locations passed. A new location metric will be needed to apply to various kinds of office, commercial, and industrial properties.[107] Commercial and industrial properties can also have anchor tenants that require unusual cabling and that may make costs and revenues atypical, although such events are generally infrequent in high-cost sectors.

Switching the metric from lines to locations has a major effect on the dynamics and incentives of the support mechanism. In a traditional cost-based support program that operates on a "cost-per-line" basis, when an ILEC loses a line to a competitor, its "cost-per-line" increases.[108] Under mechanisms like HCL, such a reduced line count would increase per-line

---

[106] NTIA collected data on customer locations. It allowed reporting entities to aggregate locations in all census blocks that are under two square miles. Some high-cost areas are in census blocks smaller than two square miles.

[107] For example, an office building metric might be deemed to have one location for a fixed number of square feet of rentable office space.

[108] The effect is limited for the HCM program, because the Commission has not run the cost model with new line count data for many years.

support to the carrier, and much or all of the lost subscriber revenue would be replaced with high-cost support.[109] State Members' Plan measures costs-per-location and has a revenue benchmark. State Members' Plan would have a similar result. Under this new system, the loss of a subscriber would be likely to decrease *Revenue* more than *Cost,* which would be based on the number of locations where service is available.

h. Reporting Data

Supported providers should always have to show that they have a need for USF support. Carriers receiving high-cost support have historically provided data routinely to the National Exchange Carriers Association (NECA) and to USAC. Such routine reporting should continue, albeit with data appropriate for operating the new support mechanism and reliably calculating the need for federal support. In addition, supported carriers should be subject to audit as to the data underlying their filings.

If supported carriers carry the burden of proof on need for support, they should be disqualified from receiving support for any periods in which they do not provide information adequate to verify their continuing eligibility to receive support and adequate to perform support calculations. Furthermore, if the data they file shows that they have substantial financial strength, their support calculation should routinely deny them support.

---

[109] The HCL mechanism is more complex because it also has a funding cap that dynamically redistributes support among eligible carriers. If there were no funding cap (or to the extent that a single carrier is too small to affect the overall cap noticeably), the HCL mechanism replaces most or all of the revenues lost when eligible ILECs lose lines through competition.

2. Step 2 – Intercarrier Compensation Reform Support

Step 2 provides support to replace access revenues lost through federal and State policy changes regarding intercarrier compensation policies. This step allows the FCC to evaluate the effects on high-cost funding of any actions to reduce intercarrier compensation. It also allows the lost revenues to be phased down over time, if that is desired.

The Step 2 calculation is simple. Intercarrier revenue is measured before and after the regulatory change. The difference, multiplied by a transition factor, is the per-line support amount under this step. The transition factor will make Step 2 support decline over a period of years to zero. State Members suggest setting that period at five years. Therefore, once a carrier's ICC revenue loss is determined, its Step 2 support in year two of the plan would be 80% of that amount.

3. Step 3 – Overall Earnings Ceiling

This step uses rate-of-return principles to calculate a maximum allowable support level for the ETC's entire study area. As in Step 1, the Step 3 earnings calculation applies solely to federal universal service support. It does not replace or govern any FCC or State commission regulatory plan that controls what rates carriers may charge.

State Members' Plan proposes that the calculation in Step 3 use most of the same cost and revenue parameters as Step 1, including taking a "total company" financial view and revenue models and constraints. The principal difference is that the calculation is performed over the entire study area rather than the high-cost sector or "donut."

Step 3 limits the risk that other kinds of support would allow a supported carrier to earn more than a reasonable return. Step 3 therefore improves the effectiveness of the limited funds

available through the federal support mechanism. There are several circumstances where Step 3 would limit the support that would otherwise be provided by Steps 1 and 2.

- The ETC is entitled to some Step 1 support for a small high-cost sector, but it has a large low-cost sector that drives down its average study area cost below the threshold for Step 3 support.
- The ETC is entitled to Step 1 support but has large revenues (such as special access revenues) that are generated in its low-cost area.
- The ETC has efficiencies at the study area level that do not appear when calculating costs solely of the high-cost sector. For example, the study area has greater efficiencies in storing spare parts and maintaining outside plant.
- The ETC is entitled to Step 2 support to replace access revenues lost through intercarrier compensation reform, but that support would produce excessive earnings.

The first point above is particularly important. Incumbent carriers seldom engage in rate de-averaging within their borders.[110] When all customers in an exchange or study area are actually paying the same reasonably comparable rate for service, there is no customer-related basis to provide support, even if some outlying customers theoretically are costly to serve. Unless those costs are reflected in de-averaged rates, the distribution of cost within the rate zone is not relevant. Step 3 therefore responds most directly to the statutory goal that local rates should be affordable and reasonably comparable.

Step 3 could be modified to also include a minimum earnings calculation, although State Members' Plan does not currently include this feature. The rationale would be that ETCs with at least some customers in a high-cost sector serve an essential function that would be at risk without support. It is possible that support under Step 1 could be inadequate to keep a carrier in

---

[110] Most large ILECs have abandoned zone charges that were formerly charged to outlying customers more than a fixed distance from the central office.

business. Additional support under Step 3 would give the ETC an opportunity to continue to provide essential POLR services.

A second difference between Step 1 and Step 3 is how costs are measured. Step 3 uses embedded costs for all carriers. This is one of two ways that State Members' Plan ensures that ETCs continue to invest in broadband facilities. To the extent that a carrier allows its plant to become highly depreciated, its rate base decreases, and support also decreases. Using embedded costs thus encourages carriers to maintain a quality network that is capable of providing good voice and broadband services.

As in Step 1, State Members' Plan suggests that the Commission should investigate whether the rate-of-return support calculation should include expense and investment caps. Because all carriers' Step 3 support would depend on embedded costs, all carriers would be subject to the caps.

Step 3 will also consider all sources of actual revenue, including any federal broadband build-out funding obtained by the ETC from USAC, NTIA, or other sources. This feature prevents double recovery of broadband investment costs. To the extent that federal funds provide a capital contribution without a repayment requirement, net plant will be reduced, and the federal funds treated as a customer contribution of capital.

4. Step 4 –Limited Support to Extremely High-Cost Areas

Step 4 proposes a limit on support in extremely high-cost areas. The underlying policy premise is that the nation cannot afford to provide broadband service in all areas and must limit public expenditures for extremely remote areas and extremely low-density areas. The Plan also assumes that satellite-based services are capable of providing the services supported by universal

service, and that satellite-based broadband service is generally available at a rate of about $80 per month.

With these parameters in mind, State Members' Plan proposes that support be limited to not more than $100 per high-cost sector location per month. This allows for some terrestrial service to receive a subsidy higher than the prevailing retail price of satellite service, but it avoids promising support levels that are substantially above that level.

The Commission should create a waiver process for areas where geographic factors make satellite service unavailable or unreliable or where applying the $100 limit would deprive an area of existing voice service. State Members' proposed Wireline Broadband Fund and a Mobility Fund can also mitigate these problems.

5. Step 5 – Initial Federal Support

Step 5 combines all four of the preceding support estimates into a preliminary or initial federal support amount. First, Step 5 first combines the targeted cost based support from Step 1 with the Intercarrier Compensation Reform Support calculated in Step 2. Step 5 does not add the two amounts, but takes the larger. If the Step 1 amount is higher, then the carrier (tentatively) receives Step 1 support. This method essentially makes high cost a condition precedent of receiving support for lost revenue. It would be improper to add the support amounts from Step 1 and Step 2 because they take different views of the same financial operating statement. Adding together the Step 1 and Step 2 support amounts would allow double recovery of costs. Next, Step 5 applies the limits set in Step 3 (maximum earnings) and Step 4 (very high costs).

6. Step 6 – Adjustment for State USF Funding

Section 254(f) of the Act authorizes States to create universal service funds. Step 6 creates an incentive for States to take this step and to share financially in the burden of high-cost funding. The Step 6 adjustment operates at the State level and comprises two steps.

The amount of support calculated in Step 5 is reduced by a fixed amount that is uniform nationally. State Members' Plan suggests $2.00 per location per month.

States can restore the amount deducted above, on a 100% matching basis, with funds raised under a high-cost universal service program under Section 254.[111] State efforts would be measured on the basis of the State funds USF revenue per year, divided by the number of households in the State, as reported by the U.S. Census Bureau. State Members recognize, however, that a little more than half of the States have not adopted State universal service funds, and that many of these States have chosen to address universal service and access charge reform issues in other ways. Accordingly, States should also have an opportunity to demonstrate how they have addressed intrastate issues, particularly issues involving intercarrier compensation rates, by means other than a State USF fund. A State that demonstrates that it has made comparable efforts in other ways, such as by increasing local rates or by other means, should also receive credit.

For example, where a State raises $1.50 per household per month from its own high-cost program, carriers in that State would have a net support reduction of $0.50 per location per

---

[111] A similar matching mechanism already exists for low-income customers. The Lifeline program has a matching grant zone with a 50% federal match.

month. First, the standard $2.00 would be subtracted from the support amount from Step 5. Then the State's $1.50 effort would be added back.

This mechanism is consistent with the view of federalism expressed by the Tenth Circuit Court of Appeals. That court held that the Act plainly contemplates that support for universal service will be a "partnership," and "it is appropriate – even necessary – for the FCC to rely on State action in this area."[112] In addition the court said the FCC cannot "simply assume" adequate State action. Instead, the FCC:

> remains obligated to create some inducement--a 'carrot' or a 'stick,' for example, or simply a binding cooperative agreement with the states--for the states to assist in implementing the goals of universal service. For example, the FCC might condition a state's receipt of federal funds upon the development of an adequate state program . . . .[113]

State Members' Plan includes such an inducement, albeit a milder one than conditioning all federal support on an adequate State program.[114]

By proposing a standard $2.00 support reduction for all States, State Members intend to create an incentive for States to take an active part in universal service preservation, including by making a financial effort. It is also appropriate that customers in States willing to make that

---

112 *Qwest Corp. v. FCC*, 258 F.3d 1191, 1203 (10th Cir. 2001).

113 *Id.* at 1204.

114 The same issue is also raised in the NPRM at ¶ 296 (seeking comment on whether and how the Commission could use CAF support to create incentives for States to take action that will advance our mutual goals).

effort should generally have better results. There is no intent to penalize any State for inaction, only to create an incentive for action.[115]

The standard $2.00 deduction does create a risk that a carrier's total support will be insufficient if a State has no State fund. Nevertheless, we believe that risk will be small, and the harm minimal. Moreover, to make no deduction at all creates a risk of providing excessive support in States that do have funds and do provide support for their carriers beyond federal support. State Members believe it reasonable to expect all States, even those with high average costs, to make an effort of $2.00 per location per month in order to promote universal service.[116]

7. Step 7 – Adjustment for Build-Out and Service Quality

Step 7 is intended to ensure that support payments are effective in producing and maintaining ubiquitous and high quality broadband and voice services. It reduces support if the ETC fails to meet specific build-out requirements or to provide adequate service quality. This system prescribes reasonable service quality goals. It also allows carriers to avoid reductions to support amounts due to competitive line losses.

a. Build-Out Requirements

The first set of standards applies to broadband build-out, and they are increasingly demanding over time. State Members' Plan establishes two separate broadband standards for the

---

[115] We considered but rejected a plan that would eliminate the $2.00 reduction. In that case an ETC would receive all the support it needs from federal sources. Any State effort would produce more than the carrier needs. The net effect, therefore, would actually be a disincentive for the State to act.

[116] Of course, if no carriers in a State stand to receive any POLR support, there will be no incentive under this mechanism.

first, third, and fifth year of the transition period. The higher standard is the "full availability" standard. A carrier that meets or exceeds the full availability standard would retain all of its current support. The lower standard is a "minimum standard." A carrier that fails to meet the minimum standard loses all of its support. A carrier operating between the minimum and full availability standards would receive a pro rata share of support.

In addition, the minimum qualifying speed for broadband would also increase over the same period. The proposed standards are shown in Table 2.

	Downstream Speed	Minimum Standard	Full Availability
2012	768 kbps	40%	90%
2014	1.5 Mbps	50%	95%
2016	4 Mbps	60%	98%

Table 2. Proposed Broadband Build-Out and Speed Standards

Thus, to receive the full amount of POLR support in year five, the carrier must provide broadband service at 4 Mbps, and that service must be available to 98 percent of the residential locations in its study area. States would have the opportunity to impose higher standards during the ETC designation process. State Members believe this mechanism is likely to produce faster build-out than under the proposals in the NPRM.

Availability would be measured and reported only in the carrier's high-cost sector, as identified in Step 1. Over the long run, this step will ensure that support is actually used to provide broadband in the areas that generate the support.

b. Service Quality Requirements

No service quality adjustment currently exists in federal high-cost support programs. Such adjustments are common elements, however, in State alternative regulation plans. These State plans sometimes impose cash penalties on carriers that, while subject to the plan, have failed to meet specified service quality and reliability requirements. Typical service quality requirements include installation and repair deadlines. Requirements also commonly relate to network reliability and performance, including emergency power back up and designs that avoid interruptions due to adverse environmental conditions.

While State Members' Plan does suggest inclusion of a service index, we do not presently propose specific standards. We recommend that the Commission design such an index and test its effects on support.

8. Step 8 – Transition

Step 8 is to gradually transition from old support levels to new support levels. The purpose is to avoid any possible rate shocks in areas where support is declining. The mechanism would also allow the FCC to ensure that federal USF surcharge rates do not become excessive. The ETC's final support would have increasing shares over time of the new support amounts from Step 7, and decreasing shares over time of its pre-reform support levels.

State Members' Plan suggests a five-year transition. Suppose carrier A now receives $1,000 per month and would receive $500 per month under Step 7. In the first year of the transition, carrier A would receive $900 per month [(80% * $1,000) + (20% * $500)]. In subsequent years, the phase-in percentages and the Step 7 support amount might change, but the base support amount would not change.

9. Gradual Implementation

Some steps in State Members' Plan can be implemented quickly. Other portions will require more time.

- Step 1 support should be delayed until 2015. This will allow three years to complete the databases and models needed to operate it. In 2012, each incumbent ETC's 2011 federal high-cost support amounts would be substituted for the Step 1 support amount described above. The new Step 1 support amount would be substituted in 2015, and the Step 8 transition phase-in would then re-start with a new base amount and would again use the year 1 percentages.
- Step 6 regarding State support contribution adjustments would be delayed until 2014. This would allow State commissions and State legislatures a reasonable period to obtain the necessary legal authority under State law and to design an appropriate mechanism for financial participation.
- Step 7 regarding broadband availability should be implemented immediately with regard to broadband deployment and availability. The service quality adjustment would be delayed until 2014 to allow the FCC time to enact the details in a rule.

The net effect in the first year is that existing support levels would continue unless: 1) Step 2 support would increase that support; or 2) the earnings cap in Step 3 would decrease support; or 3) the support cap in Step 4 would decrease support. Under Step 8 any support changes would be phased in over 5 years. Later, when the new Step 1 calculation is ready to be implemented, there would be a new five-year phase in under Step 8.

State Members are reinforced in their view that this kind of gradual transition is needed after reviewing the data analysis discussed in part VI *infra*. That analysis shows, for example, that immediate Commission action to implement three of the NPRM's proposed intercarrier compensation and USF changes could produce substantial rate increases in many States and could impair access to capital for many companies. A gradual transition process that begins with the current level of support and gradually moves toward a new target should minimize most of these transition difficulties.

10. Implications for Early Adopters

Many States are interested in how "early adopter" carriers and States should be treated in any revised federal support mechanism. The issue arises in two contexts. The first relates to "rate design early adopters," States that have reduced access or revised retail rates in ways that reduce implicit support to high-cost areas. The second relates to "broadband early adopters," States that have adopted costly policies to promote broadband within their borders.

a. Rate Redesign Early Adopters

Many States have taken steps to reduce access charges, restructure retail rates, or both. Some of those States have created State high-cost universal service programs that have replaced some part or all of the lost revenue. The question is whether and how federal support in the form of a revenue recovery mechanism (RM) should reflect these State-to-State differences.

State Members' Plan takes a middle ground by providing RM in some but not all cases. Step 2 of the plan does calculate an RM support amount to replace all revenue lost, but that is only a preliminary result. Some or all of that support may be lost under certain conditions. Step 2 RM support is not paid out at all if Step 1 support is larger than RM support. Similarly, Step 3 can reduce RM support in order to prevent over-earning.[117] Step 4 would reduce RM support of more than $100 per location per month. Finally, if the carrier does not meet broadband availability standards or service quality standards, Step 7 would reduce RM support.

---

[117] As discussed above, the Step 3 calculation includes retail subscriber revenue floors. These floors would reduce RM support if the carrier has high earnings but low subscriber rates.

b. Broadband Early Adopters

Some States have done a great deal to promote broadband. Many States allowed rate recovery of loop expenses that support both voice and broadband. Some States have contributed capital by waiving penalties that were otherwise due under regulatory systems such as alternative regulation plans. A few States have provided public funds to construct broadband facilities, through public-private partnerships, State USF programs or in some cases through grants of public bond proceeds. Vermont explicitly waived a sizeable rate reduction in exchange for a broadband commitment from Verizon.[118] The question is whether these early actions to finance broadband through State mechanisms should alter support amounts.

State Members' Plan would increase support, indirectly, to carriers in States that have been more effective at promoting broadband investment. Under Step 3, support is allocated to areas with high costs, measured by embedded plant. States that have engaged in broadband promotion in the past are likely to be States in which carriers have higher net plant investment. Therefore, past State efforts to promote broadband are likely but not certain to generate more federal support. State Members consider this result to be desirable. Past experience with rural ILECs shows that a mechanism that rewards new investment with increased support can be an effective inducement to getting more broadband facilities deployed in rural areas.

---

[118] *Investigation into a Successor Incentive Regulation Plan for Verizon New England Inc., d/b/a Verizon Vermont*, Docket No. 6959, and *Investigation into Tariff Filing of Verizon New England Inc., d/b/a Verizon Vermont, in re: Compliance Filing in Docket 6959*, Docket No. 7142, (VT PSB, April 4, 2006).

B. The Mobility Fund

The Mobility Fund is the second of the three major high-cost funds proposed by State Members' Plan. It would offer grants to finance the building of wireless telecommunications towers in areas the FCC designates as under-served or unserved by wireless broadband.

The fund size would be capped at $500 million per year. Funds will be derived from reallocation of support currently given to CETCs under the equal support rule. The program will begin gradually with awards of $50 million in the year one, $100 million in the year two, and then increase by $100 million per year until it reaches the $500 million final budget in year six.

State Members recognize that the Mobility Fund will create a risk that government grants could supplant private capital, using government funds for projects that would otherwise occur without that funding. It is important to recall that areas that are unserved are not necessarily uneconomic to serve, but may simply reflect past decisions regarding geographic priorities or areas of emphasis. By commencing the program on a limited budget, the Commission and the Joint Board will retain the ability to evaluate whether these grants are supplanting private capital.

1. State Role and Allocations

To distribute support, State Members do not support using the auction mechanism described in the NPRM. Instead, State Members recommend the FCC allocate support among the States. Then, from each State's allocation, the State commission would make grant or deny individual ETC applications for funding.

State allocations should be made principally in proportion to the number of unserved and underserved locations in each State. In the context of the Mobility Fund, an underserved location is a location where a potential subscriber cannot receive a strong and reliable wireless

signal at his or her residence that is capable of meeting the speed standard set forth in the definition of universal service.[119] Because the purpose of this fund is to enhance mobility services, a secondary State allocation factor might also be the State's unserved mileage along State and federal highways.

State Members believe that by including underserved locations, the allocation mechanism would appropriately assess the provider's need for public support. The concept of "unserved" customers has been narrowly defined in a variety of contexts. For example, in June of last year, the Commission reported that 60% of reportable broadband connections had a speed rating of less than 3 Mbps.[120] State Members believe that locations where some broadband service is available, but the service is not up to the current standard, should be included when making State allocations. Federal support should be available to bring all customers to current broadband standards.

Including underserved locations also avoids the converse problem of providing unnecessary funding. Government grant funding is not needed in areas where a provider already provides qualifying service.

Allocation by underserved location appropriately considers the effects of past State and carrier activity to promote broadband service. In many areas, both State broadband mandates and carriers' current facilities were designed to less rigorous standards than 4 Mbps, often with

---

[119] If the standard for broadband service is 4 Mbps service, then customers who live in areas where reliable "3G" wireless service is available would be considered "underserved."

[120] *See, e.g.* Industry Analysis and Technology Division, Wireline Competition Bureau, *Internet Access Services: Status as of June 30, 2010* (March 2011) p. 2, Figure 1(a).

government encouragement. Until recently, for example, 1.54 Mbps has been considered an acceptable broadband download speed in many States.[121] An allocation solely by "unserved" location might treat areas with 1.54 Mbps service as fully served even though the customers in that area would benefit from a facilities upgrade that is designed to meet the current broadband goal. This result would harm States and carriers that have already made significant commitments to provide broadband service and States that, using their regulatory and financial authority, have previously promoted broadband at lower speeds.

2. Delegation of Support Awards

State Members recommend that States be offered delegation agreements giving them authority to award Mobility Funds.[122] States would award funds on a project-by-project basis. Funds would be awarded to only one provider in any geographic area, but that provider may not be the incumbent LEC.

Allowing States to award the grants reduces the administrative burden on the FCC and utilizes the local knowledge of the State commissions. The availability and quality of wireless service can vary over small distances and short time spans. State governments are much more likely than the Commission to be aware of this information and therefore to make grants that are efficient and effective. That local knowledge would be unavailable if the entire award process is conducted at the FCC.

---

[121] For example, the Pennsylvania statutory mandate for broadband deployment specifies a 1.54 Mbps download speed standard. *See* 66 Pa. C.S. § 3012 (definition of "broadband").

[122] The FCC would conserve its resources and review applications for funding only in States that decline to sign delegation agreements.

Grant applications would describe the proposed facilities, which usually will consist of new wireless broadband towers. The application would include a map showing the service area that the provider would serve and would estimate capital expenditure (CapEx) for tower construction and associated capital expenditures for electronics and antennas. States could bifurcate the application process, as was done for the BTOP program, using the first round primarily for qualifying providers and then following with a more robust application and review process during the final round.

Grant applications would be rated to determine whether the proposed CapEx is reasonable, whether the service area is unserved or underserved by wireless broadband, and whether the service area is unlikely to be served if the provider is not granted a government subsidy. The FCC would develop general standards for evaluating grant applications, and these standards would bind State commissions when making awards. States would be required to provide copies of service area maps to the FCC. States would also be required to meet federal standards for awarding funds and accountability.

3. Amount of Grants

State Members understand that the Commission currently anticipates awarding CAF funding primarily for capital grants in aid of construction. State Members, however, recommend that support from the Mobility Fund be used to fund the debt cost of new construction. Supporting debt cost increases the total amount of capital available because support payments are leveraged by private capital markets.

State Members recommend that grant awards be paid out over ten years. The grant would cover 50 percent of the debt cost of new construction, including interest and principal, for

the awarded project, financed over those ten years.[123] Carriers would have to secure private funding for the other half of the project's capital cost. This limitation is intended to ensure that carriers invest prudently and would avoid making wasteful capital expenditures.

Mobility Fund support would affect any POLR support to which the same carrier is entitled. The support would be treated as supplemental revenue and added to the "other revenue" term in the Step 1 and Step 3 calculations.[124]

4. Requirements for Continued Support

The second and subsequent annual payments to any grantee would be paid only if:

- The grantee has certified that construction is complete.
- The State has inspected the site and found that the project is actually providing broadband service in the areas proposed in the application and with adequate speed and quality.
- The grantee has obtained Eligible Telecommunications Carrier status under 47 U.S.C. § 214(e).

Grantees would also be required to meet speed, availability and service quality standards.

- The broadband speed standard would be at least 4 Mbps downstream and 1 Mbps upstream, available to all customers actually using that service, with a peak usage overload only 1% of the time. This service standard should be reviewed periodically by the Commission to ensure that customers benefitting from wireless broadband grants receive service comparable to urban service offerings.

---

[123] The annual support amount would equal CapEx times 50% times a just and reasonable interest rate on a ten-year bond. The FCC would have to annually set a reasonable interest rate, based on the interest rates currently paid on communications sector corporate bonds.

[124] State Members recognize that the Commission may, notwithstanding our recommendation, provide funds for grants in aid of construction. In that case, the support would be treated for purposes of POLR Support as Contributions in Aid of Construction. The amount of the grant would be deducted from net plant in the Step 1 and Step 3 calculations, whether measured by a model or using embedded methods.

- The minimum availability standard would be to provide broadband service to at least 99% of the household locations in the service area.
- The minimum service quality standard should include, but not necessarily be limited to, a network reliability record of at least 99%.

C. The Wireline Broadband Fund

Consistent with the recommendations of the entire Joint Board in the *2007 Recommended Decision*,[125] *State* Members continue to support creation of a third major high-cost fund, the Wireline Broadband Fund. Like the Mobility Fund, the Wireline Broadband Fund would also offer grants. In this case the grants would finance the building of broadband wireline facilities in areas that the FCC designates as under-served or unserved by wireline broadband.

The fund size of the Wireline Broadband Fund would also be capped at $500 million per year. Funds will be derived from reallocation of support currently given to CETCs under the equal support rule. The program will begin gradually with awards of $50 million in year one, $100 million in year two, and then increase by $100 million per year until it reaches the $500 million final budget in year six.

State Members recognize that the Wireline Broadband Fund will create a risk that government grants could supplant private capital, using government funds for projects that would otherwise occur without that funding. It is important to recall that areas that are unserved are not necessarily uneconomic to serve, but may simply reflect past decisions regarding geographic priorities or areas of emphasis. By commencing the program on a limited budget, the

---

125 *2007 Recommended Decision,* ¶ 11.

Commission and the Joint Board will retain the ability to evaluate whether these grants are supplanting private capital.

State Members also recommend limiting the size of this program to reduce the risk of imposing external costs. If a new entrant were granted funds to serve a low-cost sub-area of an existing exchange, the incumbent's average costs would likely increase, and its subscriber revenues would likely decrease. The external cost therefore might cause incumbents to be entitled to more high-cost support to replace lost subscriber revenue. The external cost could also cause the incumbent to exit from the local exchange market. By limiting the budget of the Wireline Broadband Fund, the Commission and the Joint Board will retain the ability to evaluate whether these grants are imposing undue external costs.

The recent history of broadband grants also argues to limit the budget for the Wireline Broadband Fund. In 2007, the broadband grant idea was relatively new. Today, many deserving broadband projects have already received funding from the National Telecommunications and Information Administration (NTIA) and the Rural Utilities Service (RUS) under the American Recovery and Reinvestment Act as well as ongoing RUS programs. These programs operated by other government agencies, combined with the expected effects of the POLR Fund, reduce the budget needed for this purpose.

1. State Role and Allocations

As with the Mobility fund, State Members do not support using the auction mechanism described in the NPRM. Instead, State Members recommend that the FCC allocate support among the States. Then, from each State's allocation, the State commission would make grant or deny individual ETC applications for funding.

State Members recommend that State allocations be made in proportion to the number of unserved or underserved locations in each State. In the context of the Wireline Broadband Fund, an "underserved location" would be a habitable business or year-round residential location where a potential subscriber can subscribe to a wireline[126] broadband Internet service but that service is not capable of meeting the speed standard set forth in the definition of universal service.[127]

State Members recommend including both unserved and underserved locations in the allocation mechanism. As explained above in relation to the Mobility Fund, this mechanism will both appropriately assess the provider's need for public support and appropriately consider the effects of past State and carrier activity to promote broadband service,

2. Delegation of Support Awards

State Members recommend that States be offered delegation agreements giving them authority to award Wireline Broadband Funds.[128] States would award funds on a project-by-project basis. Funds would be awarded to only one provider in any geographic area, but that provider may not be the incumbent LEC.

Allowing States to award the grants reduces the administrative burden on the FCC and utilizes the local knowledge of the State commissions. The availability and quality of wireline broadband service can vary over small distances and short time spans. State governments are

---

126 "Wireline" here would mean a service provided to the subscriber's location using a wire or light fiber.

127 For example, if the standard for broadband service is 4 Mbps service, then customers who live in areas where reliable 1.54 Mbps DSL service is available would be underserved.

128 The FCC would conserve its resources and review applications for funding only in States that decline to sign delegation agreements.

much more likely than the Commission to be aware of this information and therefore to make grants that are efficient and effective. That local knowledge will be unavailable if the entire award process is conducted at the FCC.

Grant applications would describe the proposed facilities, which usually will consist of upgraded feeder and distribution facilities and associated electronics, including upgrading of remote terminals.[129] The application would include a map showing the service area that the provider would serve and would estimate capital expenditures. As with the Mobility Fund, States could bifurcate the application process into an initial round and a final round.

Grant applications would be rated to determine whether the proposed CapEx is reasonable, whether the service area is unserved or underserved by wireline broadband, and whether the service area is unlikely to be served if the provider is not granted a government subsidy. The FCC would develop general standards for evaluating grant applications, and these standards would bind State commissions when making awards. States would be required to provide copies of service area maps to the FCC. States would also be required to meet federal standards for awarding funds and accountability.

3. Amount of Grants

State Members understand that the Commission currently anticipates awarding CAF funding primarily for capital grants in aid of construction. State Members, however, recommend

---

[129] Legacy remote terminals can block the provision of broadband services. In one common scenario, the remote terminal is served by a fiber cable, the cable has spare dark fibers, and the terminal has spare shelf capacity. In this case, upgrading service to provide broadband service entails placing new electronics in the remote. In a second common scenario, the remote terminal is served by copper feeder using T-carrier systems and the remote is near capacity. This scenario usually requires the carrier to place new fiber feeder cable and invest in a new cabinet.

that support from the Wireline Broadband Fund be used to fund the debt cost of new construction. Supporting debt cost increases the total amount of capital available because support payments are leveraged by private capital markets.

State Members recommend that grant awards be paid out over ten years. The grant would cover 50 percent of the debt cost of new construction for the awarded project, including interest and principal, financed over those ten years.[130] Carriers would have to secure private funding for the other half of the project's capital cost. This limitation is intended to ensure that carriers invest prudently and would avoid making wasteful capital expenditures.

Wireline Broadband Fund support would affect any POLR support to which the same carrier is entitled. The support would be treated as supplemental revenue and added to the "other revenue" term in the Step 1 and Step 3 calculations.[131]

4. Requirements for continued support

The second and subsequent annual payments to any grantee would be paid only if the conditions listed above for the Mobility Fund are satisfied. Grantees would be required to meet the same speed, availability and service quality standards as wireless grantees under the Mobility Fund. In addition, Wireline Broadband Fund grants could not be used to replace feeder or

---

[130] The annual support amount would equal CapEx times 50% times a just and reasonable interest rate on a ten-year bond. The interest rate would be the same rate used for Mobility Fund grants.

[131] State Members recognize that the Commission may, notwithstanding our recommendation, provide funds for grants in aid of construction. In that case, the support would be treated for purposes of POLR Support as Contributions in Aid of Construction. The amount of the grant would be deducted from net plant in the Step 1 and Step 3 calculations, whether measured by a model or using embedded methods.

distribution facilities with copper wire, and all office and platform designs would have to be designed in a way that would allow efficient upgrading in the future to 100 Mbps service.

V. Auctions

The NPRM sought comment generally on the use of a competitive process to determine recipients of support and support amounts, and on the auction format it described in the NPRM.[132] State Members have many concerns about pursuing this approach, and we do not support proceeding further with universal service auctions. The delegated grant system described above for the Mobility Fund and the Wireline Broadband Fund offer many of the same advantages that the NPRM has claimed for auctions, but without the many risks.

A. No Bidders

Several aspects of the auction proposal make it likely that no bids will be filed in many areas subject to the auction. The auction proposed in the NPRM had a reserve price above which no bid would be accepted.[133] In addition, an auction winner will have to make a long-term commitment to assume comprehensive POLR duties.[134] Unlike most wireless auctions, the auction area can be quite small,[135] and the overhead of preparing a bid could be substantial. Finally, if a non-incumbent wins the auction, that may destabilize the incumbent LEC, which the

---

132 NPRM ¶ 285.

133 NPRM ¶ 343.

134 NPRM ¶ 313 (public interest obligations following Phase I CAF grant would be five years).

135 The NPRM allows bidders to aggregate service areas consisting of units of census blocks. ¶ 343.

bidder may be expecting to provide some carrier-to-carrier services such as special access. For all these reasons, there is a substantial risk that no bidders will appear.

B. Competitive Neutrality

State Members are also concerned that it is possible to manipulate any auction by structuring the rules in a way that eliminates certain players. The likelihood that this will occur, whether intentionally or accidentally, is significantly increased by using inter-modal bidding and by allowing bidders to aggregate service areas. Much of the Commission's successful experience with auctions involves like-technology bidders moreover. If, for example, an auction area does not happen to coincide with an ILEC's territory, the ILEC has almost no chance of offering a successful bid. State Members agree with comments filed in the past by Embarq to the effect that cost differentials between "in-town" and "truly rural" service areas have caused competitors to flock to many in-town areas with low cost, and these areas often have more than one wireline, cable or wireless broadband provider.[136] The geographic boundaries of these existing overlapping networks, and their accidental congruence with census blocks, will be highly relevant to the number of bids submitted. If the Commission does pursue auctions, it should consider imposing a restriction requiring bidders to serve at least the minimum existing service area of an existing ETC.

---

[136] Dr. Brian Staihr, D. Bartlett, J. Lanning, *Comments of Embarq on the May 1, 2007 Public Notice*, WC Docket No. 05-337, filed May 31, 2007 at 4.

C. Strategic Bidding

The bid prices submitted in an auction may not be as favorable as the NPRM suggests. The NPRM asserts that auctions "allow the market to identify the lowest level of public support needed to deploy broadband in areas unserved by broadband today."[137] The Commission apparently assumes that bidders would not bid higher than their own costs.[138] This assumption seems unwarranted, particularly if the auction parameters deter multiple bidders or the incumbent landline provider from bidding. As a result, the auction, in the form proposed, seems likely to yield bid prices far above the bidders' efficient costs.

Bidders will be restrained from bidding above their cost if they have a realistic expectation of having to compete against a lower bid. This condition requires that a bidder expects another bidder within the same service area, has knowledge about the competitor's likely bid price, and has an incentive to offer a lower bid. It is unclear whether the auction procedures defined in the NPRM will satisfy any of these conditions.

- Unlike spectrum auctions which are offered over large areas, universal service auctions will potentially apply to quite small areas, the size of one or more city blocks. Some census blocks contain a very small number of households, often fewer than two dozen. It is not reasonable to simply assume that there will be multiple bidders in every market. The uncertainty is magnified by the opportunity for bidders to define their own preferred service areas, which are likely to overlap proposals from other bidders.
- The winning bid will not necessarily be based on the winning bidder's cost. The *Broadband Availability Gap* paper candidly admitted that auction bid prices are

---

137 NPRM ¶ 284.

138 NPRM ¶ 285.

likely to be the "second-lowest" price in an area. This single change increased the national "broadband availability gap" from $8.0 billion to $23.5 billion.[139]

- Bidders can collude without being detected. It is difficult to see how the Commission could prevent (or in the alternative detect and punish) bid collusion, absent egregious facts evident over a wide area involving many bids. The difficulty in detecting collusion is magnified by the "combinatorial auction" opportunity that the NPRM offers bidders to define their own service areas.

Even if there are many bidders and if there is no collusion, it is naïve to assume, without proof, that bidders will actually offer bids based on their own local costs. The NPRM described how the proposed auction would award funding to a sorted list of applicants based on their ratio of customers served to dollars of subsidy.[140] This auction rule is likely to produce bids even higher than the second-lowest prices anticipated in the *Broadband Availability Gap* paper. State Members suggest that a rational bidder in the proposed auction would be likely to construct its bid price using two rules. First, the bid price must be above the bidder's own cost. Second, the bid price should be slightly below the expected "auction clearing price," which in this case is the bidder's expectation of the subsidy to customer ratio of the last project funded.[141]

Suppose, for example, a bidder with an existing network could meet ETC requirements for an additional investment of $100 per location served.[142] Suppose also that the bidder estimates that the Commission will fund all bids at $1,000 per location or less. A rational bidder

---

139 *Broadband Availability Gap* at 39.

140 NPRM ¶ 286 ("All bids, across all areas, would be compared against all other bids, and would be ordered from lowest-price-per-unit bid to highest.").

141 To the extent that a bidder is uncertain about the auction clearing price, it should lower its bid somewhat to reduce the probability of bidding above the auction clearing price.

142 This is possible since incumbent LECs in many areas need to make only minor incremental investments to meet the NPRM's broadband performance standards.

would be likely to submit a bid closer to $990 than to $110.[143] Nationally, the likely result would be a level of subsidy far greater than needed to cover the bidder's own financial gap, or even that of the second-lowest cost bidder.

Reverse auctions work best when all bidders are approximately the same size, there exists a semblance of a level playing field across a range of bidder sizes and bidder technologies, and the opportunity for gaming is limited. The auction methodology proposed in the NPRM seems unlikely to achieve these conditions.

D. Bidder Uncertainty

Bidder uncertainty is another problem for the proposed auctions. Even a well-capitalized bidder that is entering the market in the area subject to the bid would face major uncertainties about future debt cost, take-rates, and average revenue per unit (ARPUs). Wireless providers would also face uncertainties about signal propagation. The rational bidder's response to uncertainty is either to add a risk premium to its bid or refrain from bidding altogether.

This kind of proposed auction for network services creates an additional uncertainty based on interdependence between the bidder and the incumbent's network. Wireless providers are commonly dependent on second-mile facilities leased from incumbent LECs, often in the form of special access lines.[144] Yet by winning the auction a wireless ETC might deprive the

---

[143] The Commission anticipated a similar problem. In its *Broadband Availability Gap* paper the Commission estimated the national gap assuming that bids would be offered at the second-lowest local price. *Broadband Availability Gap* at 39. Bids based on each bidder's estimated auction clearing price could be higher or lower.

[144] This fact remains true despite the BTOP program's heavy emphasis on and investment in second-mile facilities.

ILEC of sufficient existing support that the incumbent LEC exits the local exchange market. At that point the wireless ETC would have to make substitute arrangements for second-mile transport, with the perverse effect of increasing the overall cost to bring broadband to the unserved area in question.

All of these risks are likely to cause bidders to add a risk premium to any bids they might offer in a universal service auction. The greater the interdependence with the incumbent LEC's network, the greater the probability that bid prices will include substantial risk premiums.

E. Supplanting Private Capital

The proposed auction plan creates a risk that federal support will supplant private capital. The NPRM proposes that funds will be awarded to projects that have the best ratio of price-per-location served in unserved areas.[145] Knowing that an area is currently "unserved" doesn't necessarily prove that it is also "uneconomic" to serve in the future. Depending on the incumbent provider and its historical investment patterns, perhaps as much as 40% of its "unserved" service area may not be "uneconomic" to serve. Moreover, capital spending on telecommunications networks continues each year. Wireless networks in particular are reported as planning large capital expenditures for 4G upgrades. Some unserved areas are not uneconomic but rather simply reflect telecommunications provider decisions to deploy capital elsewhere.

The NPRM recognized the supplanting problem by proposing to refrain from funding "existing facilities or deployment to which a carrier has already committed to federal or State

---

[145] NPRM ¶ 286 (first phase of CAF), ¶ 419 (long-term vision).

regulators."[146] Yet the problem is much broader. State Members believe that conducting auctions in the manner described in the NRPM will fund many construction projects that would have been constructed anyway with private capital, thereby making the public expenditures ineffective at advancing universal service and increasing the burden on the fund. If the Commission proceeds with auctions, it should first poll ILECs regarding their intent to build complying broadband facilities in such areas without federal support over a predetermined period such as 36 months.

F. External Costs

Allowing bidders to define their own service areas is also likely to impose external costs on other ETCs serving the same or surrounding areas. If a new entrant were to receive a grant to serve a low-cost village or town area within an existing exchange, the incumbent's average costs would likely increase, and its subscriber revenues would likely decrease. The ILEC's external cost therefore might translate into higher demand for ILEC support or, in the alternative, the ILEC's decision to exit from serving that exchange, followed by major consequences for any small businesses in the affected area.[147] The auction proposal therefore risks creating large secondary effects in areas where networks already exist and existing ETC service areas have been designated.

To conserve high-cost funding, the NPRM commendably aims to provide support to only one carrier. But awarding construction grants in carrier-defined service areas would seem to

---

146 NPRM ¶ 308.

147 We are not aware that any economics work has been published evaluating the secondary effects on universal service of ARRA grants.

frustrate that objective. It is likely to generate construction grants for islands of relatively higher density while leaving existing ETCs the task of serving lower-density areas. The result could well be support for two networks in the grant area, plus increased demand for support in the surrounding exchange.

The external cost problem can be solved by considering network effects outside the award area. However, any such change would require a more complex set of rules for evaluating auction bids. For example, the auctioneer would want to accept comments and evidence from any existing ETCs in the service area regarding impacts on their operations. In the end, the grant award process would converge on a process that is a joinder of an auction and an ETC proceeding in which issues of public interest are considered, including larger effects on universal service. This added complexity may be beyond the Commission's reach. In any case, State Members oppose conducting an auction solely on cost-benefit ratios within the award area and without considering network effects.

G. Census Blocks

The proposed use of aggregated census blocks to define service areas is inefficient. The NPRM proposes to identify unserved areas on a census block basis and to offer support for deployment of broadband to bidder-defined service areas, which could be individual census blocks or aggregations of census blocks.[148] This method has understandable appeal. The Census has produced a database of unparalleled detail that is available at little or no incremental cost to

---

[148] NPRM ¶ 289. The NPRM sought comment in ¶ 291-94.

the Commission. Using this data the Commission can run an auction based on information already sitting in the FCC's computers in Washington D.C.

Nevertheless, census block boundaries often do not match well to existing exchange boundaries or to the natural boundaries in which a new entrant might wish to serve. The mapping activities recently undertaken by the National Telecommunications and Information Administration illustrate the problem. The NTIA allowed some reporting by census block.[149] The reports therefore appeared to classify each census block as either fully served or fully unserved. The reporting rule was that if any portion of the census block was served, then the whole census block was treated as served. This overstated the availability of broadband. State Members are concerned that an equally imprecise procedure, if followed during an auction, could bias the auction in favor of entities that can easily serve some aggregation of census blocks. An incumbent LEC that serves half a census block would have to choose between building new facilities in the unserved half or deleting the served half from its bid. If the Commission does go forward with auctions, it should require more precise location-scale maps of service areas from auction bidders.

H. The ETC Statute

The proposed auction mechanism is inconsistent with the statute regarding designation of ETCs. The NPRM proposes that the Commission will forbear from requiring ETC

---

[149] NTIA did collect some data on customer locations. It allowed reporting entities, however, to aggregate locations in census blocks that have less than two square miles. Moreover, wireless carriers generally provided NTIA with location data that showed signal coverage areas rather than customer locations.

designations.[150] This forbearance seems to be an essential element to implementing the Commission's proposed auctions plan, since support recipients could define their own service areas without any regard to subsection 214(e). On both legal and practical grounds State Members oppose forbearance from ETC obligations.

State Members do not believe that the Commission can circumvent the statutory ETC process through forbearance. The forbearance power clearly applies to regulatory obligations imposed on carriers. In this case, however, the proposed forbearance would apply to a statutory limitation on the Commission's own powers. Subsections 214(e)(1) and 254(e) say that "only" an ETC is eligible to receive universal service support. This language is a limitation on what the Commission may do, not a regulatory obligation on carriers. The Commission cannot "forbear" from limits on its own authority. Therefore the commission cannot provide high-cost support to entities that are not ETCs.

The NPRM proposes to allow auction bidders to define their own auction service areas.[151] This is improper under the Act. Subsection 214(e) delegates to the States the role of determining whether a federal subsidy should be provided within their areas and requires them to determine whether granting ETC status is in the public interest.[152] This delegation is not an antiquated regulatory requirement. Rather, it defines the structure of the working partnership between the

---

150 NPRM ¶ 88 (generally), ¶ 318 (first phase of CAF).

151 NPRM ¶ 293 (bidders could aggregate census blocks to cover larger areas).

152 *See* 47 U.S.C. § 214(e)(2).

States and the Commission as they jointly seek to preserve and advance universal service. It also authorizes and encourages important State work in enforcing ETC public interest obligations.

Past Commissions have viewed a strong State role in the ETC designation process as useful, and they have strengthened it. In 2005, the Commission broadened its own criteria for evaluating ETC cases, and it suggested that States follow similar criteria.[153] The Commission specifically encouraged States to engage in a broad public interest analysis during ETC proceedings, including evaluating the potential benefits and harms from designation, evaluating any unique advantages or disadvantages of the applicant's service offering, and in many cases determining whether designation would lead to "cream-skimming." The goal of these suggestions was to engage the States in ensuring the effective use of federal high-cost support funds.

Many States followed this advice and, since 2005, have scrutinized ETC applications more carefully. The strengthened ETC designation process and the strengthened annual certification process have increased State commission participation. Many commissions now take an active interest each year in evaluating the status of universal service in their States, and that has led to more effective use of federal support. Because the 2005 changes also suggested State review of ETC capital expenditures, the States' increased scrutiny has also generated more capital expenditures for broadband.

State Members believe that it is important to reaffirm and even strengthen State partnership roles in achieving universal service goals. States are uniquely qualified to

---

153 *ETC Designation Order* ¶ 58.

differentiate the hotspots where competition is vibrant from the less desirable areas where broadband is not available. States are also best able to assess local conditions generally, and service quality in particular. Finally, States are uniquely qualified to identify public benefits and harms that occur when a new ETC is designated. State commissions and consumer advocates have frequent ongoing contacts with residential and business customer populations in many settings. As a practical matter, these State officials are more easily accessible and available to customers than federal telecommunications agencies and staff. Forbearance from the statutory ETC process as it now exists would greatly impair the ability of State commissions to continue to promote broadband and service quality in their States.

I. Declining Service Quality

The auctions proposal creates a risk of declining service quality. The NPRM seems to envision that grant funds will be used primarily for construction grants, although the NPRM also suggests that a winning bidder would be required to meet public interest obligations for five years following the time it completes construction.[154] State Members are concerned that this term is not sufficient.

Once a construction grant has been made, the recipient should continue to provide service not for five years, but so long as it remains an ETC. A period of performance is an unnecessary concept made necessary by the decision to award one-time construction grants. Even a five year commitment, however is not sufficient to ensure universal service goals are met over the long term. A better remedy is already in place under the current support mechanism, which holds

---

[154] NPRM ¶ 313.

supported ETCs accountable for results every year through a certification issued by the State commission.

Second, it is extremely difficult to ensure a long-term course of performance by the recipient after its one-time grant has been received. The NPRM notes this problem and asks whether construction grantees should be required to provide letters of credit that would ensure compliance with "the program obligations."[155] While a letter of credit may be useful, it is a poor substitute for an annual certification process by which ETCs currently must demonstrate continuing compliance every year with their public interest obligations. Moreover, some form of "clawback" provision seems necessary to anticipate premature relinquishment of ETC status.

The task of ensuring long-term service quality will be made more difficult by the decision to convert from a continuing subsidy based on the carrying costs of private capital to direct one-time grants of public capital. Across the country, some ILECs are allowing their outside plant to become ever more depreciated and antique. Some existing ILECs have a tendency to collect rates every month on their existing rural plant while deferring maintenance expenses and by cutting staff at customer service centers. This tendency to "milk" the existing network has created serious service quality problems in some States.

State Members observe that these areas with poor service tend to be served by large ILECs (or their successors) that are subject to price cap regulation and whose universal service support is based on model costs rather than actual embedded investment. Under both of these

---

155 NPRM ¶ 366.

systems an ILEC has no financial incentive to add capital to its outside plant. State Members believe that an auction system awarding one-time grants would suffer from this same problem.

J. Early Broadband Adopters and Tranches

The current auction design will harm early adopter States that have already taken initiatives to promote broadband. The NPRM says that bids will be ranked in order of dollars per household passed.[156] Bidders will then compete with other bidders throughout the nation.

To the extent that a State has already promoted broadband within its borders, "low hanging fruit" will likely have been harvested first, making it less likely for the State to have residual projects that can pass the dollar-per-household screen.[157] Citizens of that State will, nevertheless, be required to make federal universal service fund contributions. Therefore the citizens of a State that has been an early adopter in promoting broadband will likely become net contributors to other States that have done less. The Commission should seek to avoid creating such a perverse incentive.

If the FCC goes forward with auctions notwithstanding the preceding recommendations, State Members further recommend that the auction plan be amended to divide project applications into three "tranches"[158] or separate pools for awarding grants. One tranche would

---

156 NPRM ¶ 419.

157 For example, in Pennsylvania, only the four major incumbent carriers do not offer 100% broadband availability. Northern New England States have imposed rigorous broadband construction obligations on FairPoint.

158 The tranche modification can also be used if the FCC adopts a separate Mobility Fund and a separate Wireline Broadband Fund but decides to reject our recommendations regarding allocation and delegation to State commissions and conduct auctions within those funds.

apply to projects that propose to serve at least 90% of their locations. A second tranche would fund projects proposing to serve from 80% to 90% of their locations. A third tranche would apply to all other applicants. The total funds available under the auction would be divided equally among the three tranches. Providers would compete for funding only within their tranche.

Among wireline carriers, the cost of upgrading a network for broadband is often a reflection of the carrier's past policy regarding remote terminal upgrades. These remote terminals can be grouped into two common scenarios. In the low-cost upgrade scenario, the remote terminal is connected to a fiber feeder cable that has spare dark fibers, and the terminal itself has spare shelf capacity. An upgrade in this case usually costs little and entails merely placing new electronics and plug-ins in the remote terminal. In the high-cost upgrade scenario, the remote terminal is fed by a copper-based T-carrier system, and the remote is approaching its full capacity. An upgrade in this case usually is costly because it requires new fiber feeder cable, a new remote terminal cabinet, and new electronics.

Suppose carrier A currently can provide broadband service to only 60 percent of its customers. Usually, carrier A will have many low-cost upgrade opportunities. Suppose carrier B currently provides broadband service to more than 80 percent of its customers. Usually, carrier B will already have used its low-cost upgrade opportunities, and will have available only high-cost upgrades. Requiring carrier B to bid against carrier A for limited funding opportunities makes A likely to win all the funding. A would therefore be rewarded for having failed earlier to eliminate low-cost upgrade opportunities using its own capital.

The tranche system solves this problem. An applicant that has already upgraded its low-cost areas can still have a meaningful opportunity to secure funding. By limiting competition to applicants within a single tranche, not all higher cost applications would be disqualified. The net effect would be to reduce the bias against States and carriers that have already made substantial investments in broadband.

The tranche system can also improve the auction's efficiency by reducing average bid amounts. A bidder that is competing in a pool with similar cost characteristics has a greater incentive to bid close to its own cost. As noted above, a provider with low-cost opportunities has an incentive to inflate its bid if the provider believes that other higher cost bidders will be successful.

VI. Data Analysis

State Members decided in November of 2010 that these comments should be informed by an analysis of current trends in the local exchange industry. To that end, State Members retained consulting assistance from Rolka Loube Saltzer Associates (RLSA) and undertook to collect data comprehensively on a range of matters including carrier revenues and expenses, rates, and units of sale. RLSA developed a "template" for carriers to submit data to us, covering the years 2007 through 2009. RLSA distributed that template to incumbent carriers. RLSA offered that any data submitted to it would remain confidential and would not be provided either to the Commission, State Members or their staffs.

A. Data Sources

RLSA received a large amount of data, although only a small portion was in the form that we had originally requested. We wish to thank the nearly two hundred local exchange carriers that provided data to us directly[159] and the many individuals and organizations that contributed in less direct ways. [160]

1. Small ILECs

We received data concerning small ILECs in four forms:

1. We received data directly from 26 small ILECs on our own data template.
2. We received data from 152 small ILECs in a format previously developed by the National Exchange Carriers Association (NECA). Our data collection efforts paralleled a data collection by NECA, and many carriers had already completed the NECA forms when ours was circulated. We decided to accept data in the NECA format to increase the number of reporting carriers. The NECA format contained less information than our template, and that limited our analysis, although the large number of cases gave us a much broader base of data to verify other results.
3. NECA cooperated with State Members' inquiries and provided an analysis of confidential and non-confidential data held by NECA regarding small carriers that are providing data to the FCC and USAC with the help of NECA. In addition to the data collection mentioned above, NECA has a number of ongoing data collection programs associated with its role in assisting small carriers with tariff and universal service filings. NECA was able to combine all this information to create a rich and more complete data base than would have been possible for State

---

[159] We want to particularly thank to Tom Conry and Ryan Boone in Iowa who were both extraordinarily helpful in providing data directly to our consultants.

[160] We want to particularly thank the National Exchange Carriers Association (NECA), Paul Cooper of Fred Williamson Associates and Reynolds Schultheis Consulting, Inc., all of whom provided analysis of confidential data in their hands. We also thank John Jones at CenturyLink who greatly facilitated collection of data from the mid-sized carriers. All of these efforts added greatly to the quality of our analysis and the recommendations in these comments.

Members to collect.[161] The number of carriers in the data base varied by the type of information that was compiled.[162] NECA performed the analysis our consultants requested and provided the results to State Members and their consultants. The NECA results in most cases were reported aggregated at the State level. A few States had an insufficient number of LECs to protect confidentiality, and NECA aggregated the results for these States with those of other nearby States.

4. Fred Williamson Associates provided data on the likely effects of the NPRM on its 11 small ILEC clients.

2. Mid-Sized Carriers

State Members also sought data from mid-sized carriers. We received significant assistance from CenturyLink, which arranged for five mid-sized carriers[163] to provide data to Reynolds Schultheis Consulting, Inc. (RSC). RSC then performed a series of queries of this data that were jointly designed by RSC and our consultants.

The RSC results focused on the impact of the intercarrier compensation proposals and trends in minutes and lines. The data did not support any analysis regarding the impacts of proposed universal service changes, and no data were collected or analyzed regarding capital structure, interest payments or other expenses.

---

[161] Before we could receive the confidential data, NECA advised us that individual confidentiality waivers would be required from individual ILECs. We therefore accepted NECA's alternative offer that NECA would perform an analysis of this confidential data pursuant to inquiries prepared by our consultants.

[162] NECA did not receive any data from the following States and territories: American Samoa, Connecticut, the District of Columbia, Delaware, Guam, Hawaii, Maryland, Mariana Islands, New Jersey, Puerto Rico, and Rhode Island.

[163] The five mid-sized carriers are CenturyLink, FairPoint, Frontier, Qwest, and Windstream.

3. Large Carriers

State Members also sought data from AT&T and Verizon. State Members provided our data template to AT&T on February 10, 2011. On March 25, 2011, AT&T responded that it had analyzed our request and would not be providing any data for the Joint Board. No further explanation was offered. On April 7, 2011 AT&T unexpectedly wrote again reporting that it had filed "a subset" of the information we had requested at the Commission. AT&T reported that this information was filed under a protective order and that AT&T was "assuming" that State Members had "taken the necessary steps to gain access to the protected information and thus hope that you will avail yourselves of that method to view AT&T data." State Members had not previously filed the documents necessary to gain that access. AT&T's offer was received at a time close to State Members' comment deadline, and State Members and their consultants were not able to gain access to the information in time to inform these comments.[164]

State Members provided our data template to Verizon on February 8, 2011. A preliminary discussion was held on February 21. Between February 28 and March 25, Verizon and our consultants traded drafts of a nondisclosure agreement. After March 25, when it appeared that AT&T would not be providing any data, our consultants agreed with Verizon that, even if Verizon did provide the data, we would likely be unable to report any conclusions regarding large company trends or impacts without disclosing confidential Verizon data.

---

[164] State Members are considering whether to undertake a supplemental analysis that would include the AT&T data currently on file at the Commission. If we do so, we will file the results on an ex parte basis after these comments.

Instead, Verizon agreed to provide annual report information that it had provided to State commissions. On April 7, Verizon did provide data for 2008 and 2009 for several States, although some of that data was confidential.[165] At the time of filing these comments, however, RLSA had not been able to determine how it could preserve Verizon's confidentiality in any summary reports. Therefore, RLSA did not report any analysis of the Verizon data to State Members or their staffs, and State Members make no findings here about Verizon or AT&T.[166]

B. Trend Analysis

The first portion of the data analysis sought to identify existing trends in industry data. We examined four data trends:

1. Changes in access lines;
2. Changes in intrastate, interstate and reciprocal compensation minutes;
3. Changes in average revenue per user (ARPU); and
4. Changes in plant statistics.

1. Small Carrier Analysis by NECA

NECA's trend analysis reported on changes from 2007 through 2009. The report that NECA provided to us summarized results by reporting on 38 States individually and seven

---

[165] The States were California, Maryland, Massachusetts, New Jersey, New York, Texas, Pennsylvania, and Rhode Island.

[166] As with AT&T, State Members are considering whether to undertake a supplemental analysis at this time that includes the Verizon data currently on file at the Commission. If we do so, we will file the results on an ex parte basis after these comments

additional States aggregated in three multistate groups.[167] It is important to remember that these NECA results show State level averages, not individual company data.

a. Lines

NECA reported the trend in the number of lines for 702 carriers. Lines decreased by 8.7% percent decline over the two year period, from 3.40 million in 2007 to 3.10 million lines in 2009. Every State or group of States lost lines during this period. Montana suffered the smallest percentage decline, 4.9% percent, while Ohio incurred the highest percentage decline, 18.0%. The median carrier served 2,339 lines in 2009, while the mean number of lines served was 4,418.

b. Minutes

Minutes of use also decreased over this same period.

- *Intrastate minutes.* For a set of 572 carriers that reported data for 2007, total intrastate minutes declined by 17.2% over the two year period. On the other hand, three States, Ohio, Maine and Vermont reported increases of intrastate minutes of 51, 9.9 and 5.7 percent respectively.[168] New Mexico incurred the largest decrease in intrastate access minutes, 36.6%.
- *Interstate minutes.* For interstate access minutes, the total minutes declined by 21.4% from 9.6 billion minutes in 2007 to 7.6 billion minutes in 2009. Nevada and Utah incurred the largest decreases of 66.7% and 67.5% percent respectively. Only Indiana registered an increase, 10.9% percent. Kentucky had the smallest decrease in interstate access minutes at 1.8% percent.

---

[167] For States reported in groups, the number of carriers per State was not large enough to protect the confidential data of an individual carrier.

[168] The Ohio increase appears to require verification, especially in light of the large line losses incurred in that State.

c. Average Revenue Per Unit[169]

NECA reported average revenue per unit for residential and single line business customers and separately for multi-line business customers. The data set included 638 cases for one variable and 702 for another.

- *Residential and single line business ARPU.* Between 2007 and 2009, the mean ARPU increased 2.6% from $14.36 to $14.79. The rate for the 90th percentile was $20.85 and the rate for the 10th percentile was $9.09. ARPU increased in 25 States or State groups and decreased in 15 States or State groups. The largest ARPU increase, 15.8%, was in Wyoming. The largest rate decrease, 2.6%, was in New York.
- *Multiline Business ARPU*. Between 2007 and 2009, the mean ARPU increased by 4.8% from $24.00 to $25.13. The ARPU for the 90th percentile was 37.39 and for the 10th percentile the rate was $12.30. ARPU increased in 31 States or State groups and decreased in 9 States or State groups. Idaho reported the largest percentage rate increase, 84.9%, from $17.38 to $33.40. The largest decrease, 1.1%, occurred in Kentucky.

d. Plant Investment

NECA reported changes in plant values for 493 carriers.

- *Gross plant* increased by 9.7% from $14.7 billion to $16.2 billion. Gross plant increased for all reporting States or State groups. Indiana reported the largest increase, at 17.8%. The State group containing Pennsylvania, Virginia and West Virginia reported the smallest increase, 1.2%.
- *Net plant* increased by 5.5% from $5.66 billion to $5.98 billion. 28 States or State groups reported increases. The largest percentage increase, 22.11 percent, occurred in New Mexico. 12 States or State groups reported decreases in net plant. The greatest decrease, 12.6%, occurred in the State group with Pennsylvania, Virginia and West Virginia,
- *Depreciation reserves* increased by 12.1% from $9.2 billion to $10.3 billion. The largest percentage increase, 21.0%, was reported in North Carolina, and the smallest percentage increase, 4.38 percent, was reported for the State group containing Pennsylvania, Virginia and West Virginia.

---

169 Subscriber line charges are not included in these data.

2. Small Carriers - Fred Williamson Associates

The Fred Williamson filing focused on current and forecasted years and did not provide historical trend information.

3. Small Carriers - NECA Data Provided to State Members

Because the data collected and analyzed by NECA was more complete than the data provided to State Members, State Members do not separately describe the trend analysis for this data set.

4. Small Carriers - Template Data Provided to State Members

26 carriers provided trend data on State Members' data template, although not all filings were complete. The data covered the years 2007 through 2009.

Lines. All carriers lost access lines from 2007 to 2009. The average loss was 12%.

Minutes. In general, minutes decreased from 2007 to 2009. However, in each category, some carriers reported increases.[170]

- *Interstate terminating minutes*. The average decrease was 15%, with four carriers reporting increases and 19 carriers reporting decreases.
- *Interstate originating minutes*. The average decrease was 18%, with two carriers reporting increases and 16 carriers reporting decreases.
- *Intrastate terminating minutes*. The average decrease was 16%, with 5 carriers reporting increases and 16 carriers reporting decreases.
- *Intrastate originating minutes*. The average decrease was 24%, with 2 carriers reporting increases and 17 carriers reporting decreases.
- *Reciprocal compensation minutes*. Terminating minutes decreased by 7%. Not enough carriers reported originating minutes to justify reporting.

---

[170] Some carriers did not submit separate data for terminating and originating minutes.

5. Mid-Sized Carriers

RSC analysis data from mid-sized carriers covering 264 study areas and comparing 2008 and 2010 data. The RSC report to RLSA covered 26 States individually and an additional 17 States aggregated into five State groups. It is important to remember that these RSC results show State level averages, not individual company data.

Lines. Lines decreased by 18.1% from 2008 to 2010, from 33.9 million lines to 27.8 million lines. Access lines decreased in every mid-sized carrier State or State group. The greatest loss, 25.8% percent, occurred in Michigan, while the smallest loss, 7.6%, occurred in Texas.

Minutes. Traffic decreased significantly from 2008 to 2010.

- *Interstate access*. Minutes decreased by 25.0%. Minutes also decreased in every reporting State and State group.
- *Intrastate access*. Minutes decreased by 25.3%. Minutes also decreased in every reporting State and State group.
- *Reciprocal compensation*. Minutes decreased by 17.3%. However, for four States (Kansas,[171] South Carolina, Oklahoma and Pennsylvania) and for one State group (the group including Maine, New Hampshire, New Jersey, New York and Vermont), reciprocal compensation minutes increased.

C. Stress Analysis

State Members also sought in their data analysis to identify the effects of proposed near-term policy changes. We considered both near-term universal service proposals and intercarrier

---

[171] The Kansas results are difficult to explain because Kansas interstate access minutes decreased by 33.3% while Kansas reciprocal compensation minutes increased by 37.4%.

compensation proposals, attempting to examine the following possible impacts on incumbent local exchange carriers. We considered the impact of a proposal on:

1. Local rates if the revenue impact is offset by an across-the-board local rate increase that fully replaces all lost revenue.
2. Earnings if the revenue loss only reduces equity earnings and income taxes.
3. Three financial statistics (debt leverage, interest coverage and TIER) if the revenue loss only reduces equity earnings and income taxes.
4. Non-regulated earnings.

1. Small Carrier Analysis by NECA

a. Local Rate Increases

NECA reported the rate effects of three intercarrier compensation proposals: 1) reducing intrastate access rates to interstate access rates; 2) setting both intrastate and interstate access rates at the reciprocal compensation rate; and 3) bill and keep. NECA's report in this analysis included some statistical facts regarding individual carriers within each State.

NECA also reported the rate effects of near-term universal service proposals: 1) eliminate corporate operations expenses from high cost loop (HCL), local switching support (LSS) and interstate common line support (ICLS) calculations; 2) combine the LSS and HCL mechanisms; 3) reduce the HCL support percentages from 65 and 75 percent to 55 and 65 percent; and 4) reduce intrastate access charges to interstate charges, eliminate corporate operations expenses and reduce the HCL support percentages.

(1) ICC - Intrastate Access to Interstate Access

NECA reported that if access rates were reduced to interstate access rates, the national weighted mean effect on local rates would be a rate increase of $5.98. By State, subscribers in Alaska would experience the largest average rate increase, at $16.29, and New Mexico would

have the smallest, at $0.07. We were surprised to find that several States usually understood as already having achieved parity between intrastate and interstate access nevertheless were reported to require rate increases, with Maine at $1.63 and Indiana at $1.62.

NECA also reported 90th percentile and 10th percentile data for each State and nationally. Nationally, the 90th percentile rate increase was $16.23, while the 10th percentile customer would have no rate increase. The State percentile data showed that the 90th percentile carrier in 10 States would have to raise its rates at least $20.00 per month. Once again, Alaska led the list with a projected 90th percentile rate increase of $42.93.

NECA also reported the frequency at which rate increases of at least $5.00 and $30.00 would occur for each State and nationally. Nationally, 46 percent of subscribers would experience rate increases greater than $5.00. In 18 States, more than half of the subscribers would have rates increase by $5.00 or more. In Arkansas, Georgia, Kentucky, Michigan, Missouri, Mississippi, North Dakota, South Dakota, and Washington, more than 75% of subscribers would have rates increase by $5.00 or more. In Alaska and Nevada, at least 10% of subscribers would experience a rate increase of $30.00 or more.

(2) ICC - Access to Reciprocal Compensation

NECA reported that if intrastate all access rates were reduced to reciprocal compensation rates, the national weighted mean effect on local rates would be a rate increase of $11.77. In performing this calculation, NECA assumed that every carrier's reciprocal compensation rate was $0.0128. Considered by State, subscribers in Alaska would again experience the largest average rate increase, $25.15. Carriers in Maine would experience the smallest rate increase, at $4.03.

Nationally, the 90th percentile rate increase was $25.89, and the 10th percentile rate increase was $4.52. The State percentile data showed that the 90th percentile carrier in 27 States would have to raise its rates at least $20.00 per month. Astoundingly, in Nevada the 90th percentile carrier is expected to have a rate increase of more than $1,000 per month.

Nationally, 81% percent of subscribers would experience rate increases greater than $5.00. In 34 States, more than half of the subscribers would have rates increase by $5.00 or more. In 24 States, more than 75% of subscribers would have rates increase by $5.00 or more. In Alaska, Nevada, and South Dakota, at least 10% of subscribers would experience a rate increase of $30.00 or more.

(3) ICC - Bill and Keep

NECA reported that if all intercarrier compensation were eliminated under a bill and keep regime, [172] the national weighted mean effect on local rates would be a rate increase of $16.47. Considered by State, subscribers in Alaska would experience the largest average rate increase, $31.54. Carriers in North Carolina would experience the smallest rate increase, at $8.60.

Nationally, the 90th percentile rate increase from bill and keep was $31.17, and the 10th percentile rate increase was $8.43. The State percentile data showed that the 90th percentile carrier in 34 States would have to raise its rates at least $20.00 per month. In Nevada the 90th percentile carrier would again be expected to have a rate increase in excess of $1,000 per month.

---

[172] RLSA believes NECA has understated the true effect by assuming that reciprocal compensation revenue and reciprocal compensation expenses are in balance. RLSA believes that reciprocal compensation revenue actually exceeds reciprocal compensation expenses for most small carriers.

Nationally, 99% percent of subscribers would experience rate increases greater than $5.00. In 39 States, more than 90% of the subscribers would have rates increase by $5.00 or more. In 10 States, at least 10% of subscribers would experience a rate increase of $30.00 or more. In Alaska, Nebraska, and South Dakota, at least 25% of subscribers would experience a rate increase of $30.00 or more

(4) USF – Corporate Operations Expense

NECA analyzed what would happen if corporate operations expenses were eliminated from support calculations. Because the LSS and ICLS mechanisms are revenue requirement mechanisms, reducing corporate operation expense would reduce support under these mechanisms. On the other hand, because HCL support is a capped fund, changes in the HCL mechanism cause reallocation of the capped support, but no change to fund size.

NECA reported that if corporate operations expenses were eliminated from support calculations, the national weighted mean effect on local rates would be a rate increase of $5.08. Average local rates would increase for all States and State groups. Considered by State, subscribers in New Mexico would experience the largest average rate increase, $15.26. Carriers in Kentucky would experience the smallest rate increase, at $0.55.

Nationally, the 90th percentile rate increase was $27.35, and the 10th percentile rate increase was $1.63. The State data showed that the 90th percentile carrier in 19 States would have to raise its rates at least $20.00 per month. In Arizona, Colorado, Mississippi, Nevada, Oregon, and Wyoming, the 90th percentile carrier is expected to have a rate increase of at least $50.00 per month.

Nationally, 27% percent of subscribers would experience rate increases greater than $5.00. In 10 States, more than half of the subscribers would have rates increase by $5.00 or more. In Alaska and New Mexico, more than 75% of subscribers would have rates increase by $5.00 or more. In Nebraska, at least 10% of subscribers would experience a rate increase of $30.00 or more.

(5) USF - Combining LSS and HCL

NECA analyzed what would happen if the cost per line from the Local Switching Support mechanism were added to the cost per line from the High Cost Loop mechanism, and the result is used as the input to the High Cost Loop distribution rules. The effects of such a change can be substantial on individual carriers that have either high loop cost or high switching cost, but not both kinds of cost. The calculation would not be expected to have a substantial effect on national average rates, however, because the proposal merely reallocates existing support. [173]

Consistent with our expectation, NECA reported that the national weighted mean effect on local rates would be a rate *decrease* of $0.19.[174] But the differences among States and among carriers were substantial. Subscribers in Alaska would experience the largest average rate increase, $12.11. Average carriers in 18 States would experience net rate decreases.

Nationally, the 90th percentile rate increase was $4.43, and the 10th percentile rate was a decrease of $6.47. The State data showed that the 90th percentile carrier in four States would

---

[173] Since NECA reported on a subset of carriers receiving HCL and LSS, some changes would be expected.

[174] RLSA extracted NECA's "method 5b" for this report.

have to raise its rates at least $20.00 per month. The extreme case was Utah, in which the 90th percentile carrier would have a rate increase of $140.07 per month.

Nationally, 9 % percent of subscribers would experience rate increases greater than $5.00. In Alaska and Arizona, more than half of the subscribers would have rates increase by $5.00 or more.

(6) USF – Changing the HCL Percentages

NECA analyzed what would happen if the support percentages were reduced under the High Cost Loop program. Since, the fund size for this program is capped, this change was expected to redistribute support but not to make any substantial change to national averages.[175]

NECA reported that the national weighted mean effect on local rates would be a rate increase of $0.60.[176] Considered by State, subscribers in New Mexico would experience the largest average rate increase, $6.21. Carriers in 15 States would experience average rate decreases.

Nationally, NECA reported the 90th percentile rate increase was $7.63, and the 10th percentile rate increase was $1.56. The State data showed that the 90th percentile carrier in

---

[175] Since NECA reported on a subset of carriers receiving HCL and LSS, some changes would be expected.

[176] Using public data filed with the FCC by NECA for the HCL mechanism, RLSA evaluated the impact of the change in support percentages for all carriers participating in the HCL mechanisms. Their results showed that the change in support percentages shifted $24.2 million to mid-sized carriers and from other carriers. This supported the accuracy of the NECA reports.

Colorado, Nevada, and Oregon States would have to raise its rates at least $20.00 per month. In Arizona, the 90th percentile carrier would have to raise its rates $63.48 per month.

Nationally, 7 % percent of subscribers would experience rate increases greater than $5.00. In Kansas, more than half of the subscribers would have rates increase by $5.00 or more.

(7) Intrastate Access to Interstate, Corporate Operations, and Changed HCL Percentages

NECA analyzed what would happen if the Commission were to take several actions concurrently: 1) reduce intrastate access charges to interstate charges; 2) eliminate corporate operations expenses; and 3) reduce the HCL support percentages. NECA reported that the national weighted mean effect on local rates would be a rate increase of $11.65. Considered by State, subscribers in Alaska would experience the largest average rate increase, $30.91. Subscribers in South Carolina would experience the smallest rate increase, at $4.86.

Nationally, the 90th percentile rate increase was $43.34, and the 10th percentile rate increase was $4.19. The State data showed that the 90th percentile carrier in 32 States would have to raise its rates at least $20.00 per month. In 15 States, the 90th percentile carrier would have to raise its rates at least $50 per month.

Nationally, 77% percent of subscribers would experience rate increases greater than $5.00, and 6% of subscribers would have rate increases of at least $30.00. In 37 States, more than half of the subscribers would have rates increase by $5.00 or more. In 24 States, more than 75% of subscribers would have rates increase by $5.00 or more. In Arkansas, Arizona, Kansas, Missouri, and New Mexico, at least 20% of subscribers would have rates increase by $30.00 or more.

b. Earnings

NECA reported the impact on carrier earnings on regulated operations in both jurisdictions.[177] NECA's data covered 693 study areas. NECA did not report non-regulated earnings.

(1) Base Case

NECA's reporting began with a base case reflecting current earnings. NECA reported that 67% of the study areas currently are earning a return of less than 11.25%, 51% of study areas are earning less than 8%, and 14% of study areas have negative earnings in the base case. In 6 States, more than 20% of the study areas are earning negative returns.

(2) ICC - Intrastate Access to Interstate

A reduction of intrastate access rates to interstate access rates would reduce earnings. 81% of the study areas would earn a return of less than 11.25 percent, 68 percent of the study areas would earn a return of less than 8 percent, and 38 percent of the study areas would earn negative returns. In 19 States, more than 20% of the study areas would earn negative returns.

(3) ICC - Bill and Keep

NECA reported that under a bill and keep regime,[178] 93 percent of the study areas would earn a return of less than 11.25 percent, 86 percent of the study areas would earn a return of less

---

[177] Earnings are the return on investment calculated as the sum of net income after taxes plus interest divided by net investment.

[178] NECA's bill and keep regime modeling was limited because NECA did not have information regarding reciprocal compensation minutes and thus was not able to eliminate reciprocal compensation revenue and expenses from its calculations.

than 8 percent, and 48 percent of study areas would report negative earnings. In 19 States, more than 20% of the study areas would earn negative returns.

(4) USF – Corporate Operations

If corporate operations expenses were eliminated from USF support, then NECA reports that 80% of study areas would earn a return of less than 11.25%, 68% of study areas would earn a return of less than 8%, and 28% of study areas would report negative earnings. In 23 States, more than 20% of the study areas would earn negative returns.

(5) USF – Changing the HCL Percentages

If HCL support percentages were changes in the manner described in the NPRM, then NECA reports that 69% of study areas would earn a return of less than 11.25%, 53% of study areas would earn a return of less than 8%, and 14% of study areas would report negative earnings. In 6 States, more than 20% of the study areas would earn negative returns. These results are not substantially different from the base case.

(6) Intrastate Access to Interstate, Corporate Operations, and Changed HCL Percentages

NECA evaluated the earnings effects if the Commission were to were to take several actions concurrently: 1) reduce intrastate access charges to interstate charges; 2) eliminate corporate operations expenses; and 3) reduce the HCL support percentages. NECA reported that 88 percent of the study areas would earn a return of less than 11.25 percent, 80 percent of the study areas would earn a return of less than 8 percent and 41 percent of the study areas would report negative earnings. In 31 States, more than 20% of the study areas would earn negative returns. These results are substantially worse than the base case.

c. Debt

NECA reported debt data on 177 study areas, a relatively small sample. NECA reports that its median study area had a debt to capital ratio of 36%.[179] The median NECA study area had debt of $1,782 per subscriber.

"EBITDA" is Earnings Before Interest, Taxes, Depreciation and Amortization. "Debt Leverage" is the ratio of a study area's total debt to its EBITDA. A study area with higher debt leverage presents greater risk to a lender. RLSA generally understands that a carriers' access to capital markets decreases when the debt leverage increases above 4.0 to 4.5.

"TIER" measures the sum of net income plus interest and then divided by interest. Carriers with a TIER of less than 1.0 would tend to be shut out of capital markets and may be in default of their current loans.

(1) Base Case

Currently, the median NECA study area has a debt leverage of 2.76 and the weighted mean is 2.65. These leverage levels are relatively safe from a lender's standpoint, although some NECA carriers are in a more precarious position. The 90th percentile NECA study area currently has a debt leverage of 7.35, which is far above the 4.0 to 4.5 range.

Currently, the median NECA study area has a TIER of 2.4 and the weighted mean is 2.72. Again, this is a relatively safe value, although some companies are in a more precarious position. In 16 States, the 10th percentile study area has a TIER of less than 1.0.

---

[179] Debt ratio = 2009 debt / (2009 debt + equity)

(2) ICC - Intrastate Access to Interstate

NECA reported that a reduction of intrastate access rates to interstate access rates would change its companies' weighted mean debt leverage from 2.65 to 2.99. TIER would decline from a weighted mean of 2.72 to 1.92. This scenario would not be likely to impair access to capital markets, except in unusual cases.

(3) ICC - Bill and Keep

NECA reported that under a bill and keep regime its companies' weighted mean debt leverage would rise from 2.65 to 3.96, a number very close to 4.0. TIER would decline from a weighted mean of 2.72 to 0.27. This scenario may reduce many companies' access to capital markets.

(4) Intrastate Access to Interstate, Corporate Operations, and Changed HCL Percentages

This scenario consists of a combination of eliminating corporate operations support, reducing intrastate access rates to interstate levels and decreasing the HCL support percentage. This scenario would be likely to reduce access to capital markets for many carriers. NECA reported that if the FCC adopts these rules, then the weighted average debt leverage would rise from 2.65 to 3.46. Also, 36% of NECA study areas, representing 18% of subscribers, would have a debt level above 5.

Under these same circumstances, NECA reports that the weighted average TIER would decline from a weighted mean of 2.72 to 1.01. 57% of study areas nationally would have a TIER less than 1.0. The weighted mean TIER would be less than 0.0 in Arkansas, Iowa, and Missouri.

2. Small Carriers - Fred Williamson Associates

The Fred Williamson filing presented a base-line return on investment and TIER and two forecasts. The first forecast was a business-as-usual forecast and the second forecast included universal service and a cap on the annual carrier support. In the business-as-usual case, Fred Williamson assumed that HCL support would continue to decrease due to the impact of the cap mechanism on the fund size.

Currently Fred Williamson reports that its carriers have regulated-only earnings of 3.7% on net investment and report a TIER of 1.83. Under the business-as-usual forecast, earnings would decrease to 0.1% by 2014 and the 2014 TIER would be 1.03. If the FCC proposals are adopted, Fred Williamson predicts its carriers' 2014 earnings would decrease to negative 4.5% and their 2014 TIER would be negative 0.16. The Fred Williamson filing also stated that its clients' typical debt repayment period is between 15 and 20 years.

3. Small Carriers - NECA Data Provided to State Members

152 carriers provided data to RLSA in the NECA format. Many of these included data on non-regulated operations and profits. RLSA concluded that some of this raw data should be reviewed very carefully before it could be used.[180] 34 of the 152 filers provided no non-regulated revenue or cost data of any kind. Among those carriers that did provide nonregulated data, some provided toll operations data, some provided Internet operations data, and some provided video data. Of the 152 filing companies:

---

[180] For example, there were instances where a carrier reported revenue without reporting any associated costs. Therefore, it is understandable that NECA was reluctant to summarize the data that it received on non-regulated operations.

- 99 carriers reported toll operations. 69 of these, or 70%, reported a positive profit.
- 113 carriers reported Internet operations. 97 of these, or 86%, reported a positive profit.
- 29 filers provided video revenue or cost data. This suggested that many carriers are not providing video services. Only 8 of those 29 carriers, or 28%, reported a positive profit.

4. Small Carriers - Template Data Provided to State Members

RLSA received 26 filings on its own data template. RLSA did not perform any testing of regulated operations because there were so few filings. 23 of these carriers reported non-regulated profits using the template. Three carriers did not report any non-regulated activity, 13 carriers reported positive non-regulated profits, and 7 carriers reported negative non-regulated profits. Toll and Internet services usually generated positive profits. Only eleven carriers provided video services, and 8 of the eleven carriers reported negative video profits.

5. Mid-Sized Carriers

Reynolds Schultheis Consulting (RSC) reported the revenue effects of three intercarrier compensation proposals in the NPRM for the five mid-sized carriers.[181] RSC provided an analysis of revenue effects of various NPRM proposals. RSC did not have available to it complete data on expenses, debt or capital.

RSC found that reducing intrastate access rates to interstate access rates would cause a $626 million revenue reduction for the mid-sized carriers.[182] For several States such as Indiana and New Mexico the revenue reductions are very small. However, for Missouri, the revenue

---

[181] The five mid-sized carriers are CenturyLink, FairPoint, Frontier, Qwest, and Windstream.

[182] No costs savings were calculated, although there would certainly be some such savings.

reduction equals 9.7 of total revenue, and for the State group that includes Arizona, California and Nevada, the revenue reduction equals 7.0 percent of total revenue.

Equating access rates with reciprocal compensation rates would reduce revenues even more, by $898 million for the mid-sized carriers. In at least 11 States[183] we found that there exist some carriers with reciprocal compensation rates that are greater than their access rates, and thus this proposal would actually *increase* revenue for some carriers. Average carrier revenue as a percent of total revenue would actually increase by 1.7% in New Mexico. The State group that includes Arizona, California and Nevada would see an average carrier revenue decrease as a percent of total revenue by 7.0%.

Bill and keep would reduce revenue by $1.5 billion for the mid-sized carriers. Revenue would decrease in every State and State group. The largest effect would be in Missouri, where the average carrier revenue as a percent of total revenue would decrease by 16.7%. The smallest decrease would occur in New Mexico with an average carrier revenue decrease of 4.9%.

D. Conclusions

State Members made a significant effort to collect and analyze data that would assist us in evaluating the many proposals now pending regarding universal service and intercarrier compensation. We did receive a large amount of data directly. We also received cooperation from many association and consulting groups. In the end, our conclusions are based to an unexpected degree on analysis performed not by our consultants but by industry-chosen

---

[183] The States are Colorado, Georgia, Illinois, Indiana, Kansas, Montana, New Mexico, Pennsylvania, South Carolina, Texas, and the State reporting group that includes Alabama, Louisiana and Mississippi.

consultants and by industry groups such as NECA. This does not reflect any lack of cooperation by these consultants and NECA, but does reflect the limited abilities of four State utility commissioners and one consumer advocate acting as Joint Board members to collect and use confidential data.

As has been widely reported, current trends in the industry are generally downward. Lines and minutes of use are both declining at a significant rate. For example, 51% of study areas are earning less than 8% on capital, and 14% of study areas have negative earnings in the base case. The one bright spot in this picture, non-regulated revenues, is an area where data collection was most difficult and where we ultimately received very little useful data.

Overall, State Members are quite concerned about whether current trends can continue indefinitely without witnessing an increasing number of incumbent carriers (at least the small and mid-sized carriers) losing money. They may find that they are unable to raise capital needed for broadband enhancements and to replace aging plant. They may find that they are forced to reduce costs, even by deferring maintenance and by degrading service quality. They may find that they must consider exiting from unprofitable rural markets.

State Members found that all three intercarrier compensation proposals examined would affect most small carriers and some mid-sized carriers by reducing revenues, decreasing earnings, and potentially impairing access to capital. As expected, the bill and keep proposal in particular had the most dramatic effects.

State Members found that some of the short-term universal service changes proposed in the NPRM would rearrange support among carriers. Some of the proposals that reallocated

within a funding cap seemed to shift support back and forth between the small carrier/NECA group and the mid-sized carrier group.

State Members found that the multi-proposal combination of reducing intrastate access to interstate, eliminating corporate operations expense and reducing HCL percentages would be particularly significant. Among NECA companies, a significant share of carriers in 32 States would have to raise rates by at least $20.00 per month, and in 15 States some rate increases would be at least $50 per month. Debt ratios among NECA companies would degrade to the point that most companies would experience difficulty in raising capital. Among mid-sized companies the effects are not as thoroughly analyzed, but they would appear to be of a similar nature, with significant decreases in current revenues likely to lead to rate increases, impairment of access to capital, or both.

VII. Contributions

A. Expanding the Base

State Members recommend that the FCC expeditiously evaluate fundamental changes to the current contribution mechanism. Under current practice, contributions to federal support are drawn solely from surcharges on regulated interstate and international telecommunications services. Likewise, State support is drawn, with some exceptions, solely from surcharges in intrastate telecommunications services. Dividing the revenue base in this way has created fiscal problems at both levels of government.

The federal support base of "interstate telecommunications services" has been shrinking over time due to the network evolution from narrow band to broadband information services and from wireline to wireless services. The resulting federal surcharge rates have risen to alarming

levels, and the narrow base has made it much more difficult to achieve the statutory goals set forth in subsection 254(b). The difficulties for universal service funding will only increase over time as the existing base of interstate end user telecommunications services continues to shrink. Many characterize the current network evolution in terms of lost revenues or lost access lines. In reality, many of the "losses" are due to relatively low-revenue voice customers upgrading to more costly wireless and information service packages that are provided by the existing vertically integrated carriers.

State universal service funds have also been constrained by unforeseen shifts in market choices and legal rulings. One shift that was unforeseen in 1996 has been the movement of large ILECs away from dependence on switched services that are primarily intrastate and toward dependence on special access services that are primarily interstate. In addition, the Commission's jurisdictional classification of broadband Internet services as "interstate" and its "safe harbor" ruling for VoIP services have both restricted State USF revenue. These events have produced unforeseen limitations on the ability of State universal service to raise sufficient revenue at a reasonable surcharge rate.

State Members recommend that the Commission broaden the federal universal service contributions base to include all services that touch the public communications network. By "public communications network" we mean the interconnected communications network that uses public rights of way or licensed frequencies for wireless communications. The same contribution base should be used to generate support for High Cost programs and for Schools and Libraries, Health Care and Low Income programs. This proposal would better match the

realm of services that benefit from universal access to the services that must contribute to that universal access.

State Members recognize that some line drawing is needed between the services that should contribute to universal service and those that should remain exempt. We do not claim to have fully defined that line at this time. We do recommend, however, that broadband and services closely associated with the delivery of broadband should make a contribution. This change is essential if universal service funds are going to be used to build broadband facilities. Broadening the contribution base matches well with a broadening of the distribution purposes of the fund to include the total network deemed essential for universal service in the future.

The USF surcharge should apply to all broadband services such as DSL, Cable Modems, and wireless broadband. The surcharge may also include services, such as ISP service, that are traditionally bundled with those broadband services. Generally, we do not intend that pure content delivered by non-telecommunications carriers over broadband facilities should contribute. For example, data services such as Westlaw or Lexis should not be required to contribute. We recognize, however, that many difficult line drawing problems arise when the same company sells broadband service and the content, particularly when the two are bundled.

To assist the Commission in defining this line more clearly, State Members suggest that the Commission examine the current reporting categories defined for FCC Form 499-A.[184] Form

---

[184] Carriers report on line 406, for example, "all revenue from broadband service (including the transmission component of wireline broadband Internet access service) provided on a common carrier basis" and carriers report on line 418 all "revenues for the provision of wireline broadband Internet access transmission on a non-common carrier basis." 2011 Instructions to the Telecommunications Reporting Worksheet, Form 499-A at 16, available at http://www.fcc.gov/Forms/Form499-A/499a-2011.pdf.

499-A requires reporting on Line 418 some services that should be subject to the USF surcharge, like DSL, and some services, like Westlaw, that should not be subject to the USF surcharge.

State Members are aware that the Commission has drawn a fundamental divide between "telecommunications services" and "information services," and the Commission has placed broadband services in the latter group. Nevertheless, we do not believe that distinction will be particularly helpful in defining the contribution boundary for universal service, particularly when the fund is used to support both classes of service. If the "information service" concept is to be useful here at all as an exception from contribution requirements, it should be narrowed to a more traditional scope that excludes services like Westlaw but that includes retail broadband service.

Broadening the base would greatly reduce the federal surcharge rate and should also be more resistant to the erosion of narrow-band voice service revenue. State Members' staff has estimated that if all revenues currently reported on line 418 of FCC Form 499 were required to contribute, that would reduce the carrier contribution factor to approximately 2%. We recognize that when some information services currently reported on line 418 are excluded, that would raise the rate somewhat, but the final USF surcharge rate would be far lower than at present.

Broadening the base will also simplify billing, since the new federal USF surcharge rate would generally apply to an end user's total bill. The Commission should require that when carriers pass through the USF surcharge, the bill description states in substance "Universal Service surcharge for Schools and Libraries, Health Care, High Cost and Low Income support."

As a statutory basis for this proposed action, State Members recommend that the Commission use its discretionary Section 254(d) funding authority to require contributions from

any "provider of interstate telecommunication." The Commission previously used this authority to impose surcharges on voice over Internet protocol services.[185]

B. Interstate and Intrastate

We recommend that the Commission make the maximum effort to separate the question of what services should contribute to universal service from the question of whether service rates are "regulated" and, if so, at what level of government. We conclude that the list of contributors to universal service should have little or no relation to: 1) whether the FCC has authority to prescribe rates and standards for that service; 2) whether States have that regulatory authority; or 3) whether no government has that regulatory authority.

The courts have held that States may constitutionally impose sales taxes on both interstate and intrastate telecommunications.[186] Similarly, State Members believe that the U.S. Constitution does not prohibit either a federal universal service surcharge or a State universal surcharge, or both, on all services delivered over the public communications network.

The statute requires that contributions must be "equitable and nondiscriminatory."[187] State Members do not believe it to be either inequitable or discriminatory for a single service to

---

185 *In re Universal Service Contribution Methodology*, WC Docket No. 06-122, Report and Order and Notice of Proposed Rulemaking, FCC 06-94, 21 F.C.C.R. 7518 (2006), *affirmed, Vonage Holdings Corp. v. FCC,* 489 F.3d 1232 (D.C.Cir. 2007).

186 *Goldberg v. Sweet,* 488 U.S. 252 (1989).

187 47 U.S.C. § 254(d).

be subject to both a State universal service surcharge and a federal universal service surcharge.[188] While the two universal service programs aim at a common goal, they often support different elements. The federal program supports schools and libraries, health care, and low-income programs, while many State programs do not. At least one State has a universal service program that supports E-911 services, while the federal program does not. Moreover, even in States where only high-cost support is provided, the State and federal programs can and should function cooperatively, not competitively.

The actual benefits of existing universal support programs have only tenuous connections to traditional regulatory classifications or the level of government that collects USF contributions. While two federal high-cost programs are aimed at "interstate" costs,"[189] all the others aim primarily to reduce intrastate rates.[190] Support for Schools and Libraries, Health Care and Low Income support is used by grantees to purchase an inextricable combination of interstate and intrastate services. Moreover, when today's service providers use high-cost support to extend the reach or the capability of their existing networks, they are not deploying an interstate or an intrastate product, only non-jurisdictional facilities. Today's service providers spend new construction dollars to meet the present and future demands of their customers, and

---

[188] Of course, as the Supreme Court found in *Goldberg,* any service subject to a State surcharge must have a constitutionally sufficient nexus to the State and must be fairly apportioned.

[189] The IAS and ICLS programs are methods of recovering costs that have been separated to the interstate jurisdiction.

[190] The HCL program mandates an expense transfer that reduces net intrastate costs. The LSS program similarly reduces intrastate-separated costs. The HCM program is demonstrably aimed at intrastate costs because it only support 76% of the carrier's cost above a threshold; 76% was the average intrastate cost separation factor at the time the program was created.

jurisdictional distinctions have little to do with that process. The Commission, State Members and carriers all seek to maximize the deployment of the best infrastructure to meet the future needs of our nation and achieve the goals of universal service.

State Members conclude that regulatory jurisdiction over a service should not determine whether that service contributes to universal service. To the extent that federal or State support induces carriers to install and maintain communications facilities in the public communications network, the benefits flow to all regulated and unregulated "telecommunications services" (interstate and intrastate) and "information services" that traverse that network. The narrowband voice network continues to evolve toward a ubiquitous, multipurpose broadband network capable of delivering the "triple play" consistent with new universal service goals that have been announced by the FCC. Those who benefit from the universal service funding in the future should contribute equitably to its ongoing deployment.

State Members recognize that the 1999 federal court decision in *TOPUC v. FCC* limits the FCC from imposing universal service surcharges on interstate telecommunications services.[191] *TOPUC* was based on 47 U.S.C. § 152(b), which prohibits the FCC from establishing any charge in connection with intrastate service. The court held that Section 152(b) creates a "presumption" that the FCC cannot set any charges on intrastate services, including USF surcharges. The court rejected the FCC's argument that the FCC was assigned primary responsibility for ensuring the sufficiency of universal service.[192]

---

191 *Texas Office of Public Utilities Counsel v. FCC*, 183 F.3d 393 (5th Cir. 1999).

192 *Id.* at 447.

State Members believe that *TOPUC v. FCC* was wrongly decided. The terms of Section 254 are clear. The FCC can impose equitable and nondiscriminatory surcharges on any or all services provided by any "telecommunications carrier that provides interstate telecommunications services."[193] Likewise, any State can impose equitable and nondiscriminatory surcharges on any or all services provided by any "telecommunications carrier that provides intrastate telecommunications services."[194] Both statutes are clear regarding who must contribute, and both are silent on the amount of the contribution or the base on which that amount is calculated.

Moreover, we disagree with the *TOPUC* court's conclusion about the FCC's role. The FCC does indeed have primary responsibility under the law for ensuring the sufficiency of universal service. If a rural State has high costs and high rates, only federal support can achieve the goals of universal service without creating a burden on that State's ratepayers that would prevent rates from being comparable to urban areas. Yet today's narrow federal contribution base and the high federal surcharge rate are increasing the risk that the statutory purposes cannot be achieved.

VIII. Public Interest Obligations

The NPRM sought comment on what public interest obligations should apply to ETCs going forward, as the FCC reforms and modernizes the existing high-cost program to advance

---

193 47 U.S.C. § 254(d).

194 47 U.S.C. § 254(f).

broadband.[195] The NPRM proposes that all high-cost fund recipients be required to meet public interest obligations tied to the provision of voice and/or broadband services.[196] State Members agree generally. This section describes what those public interest obligations should include.

Whether applied to voice, broadband, or both, the most basic goal of universal service policy is ubiquitous, affordable service. Therefore, geographic coverage must be a central obligation of supported carriers. The statute requires the Commission and the Joint Board to both "preserve" and "advance" universal service. In the present environment this means that the Commission must preserve voice service as well as seek to extend services to broadband. The Commission's success in this episode of renovating universal service rules therefore will be measured not merely by whether broadband advances to serve every location in the country, but also by how well the Commission preserves existing voice and broadband services.

A. Roots of Public Interest Obligations

The "universal service" principle of ubiquity is descended from older policies adopted by States. States enunciated the principle of "carrier-of-last-resort" (COLR) and used it as a key element of the obligations of telephone companies and other utilities.

The COLR concept was derived from even older common law principles that have been recognized for centuries. Long before telephones were invented, English and then American citizens had developed expectations about the conduct of certain kinds of businesses that were

---

195 NPRM ¶ 92.

196 NPRM ¶ 93.

enforced through tort laws.[197] Those common law principles were adopted and enforced by State courts, and they were evolved into "common carrier" duties that applied to certain forms of business conducted with the public at large, such as coaches, ferries and inns. State law also gave special benefits and duties to "franchised" enterprises that made capital improvements, allowing them to benefit exclusively from the services produced by those improvements. These common law roots led to the COLR doctrine when States and the federal government began to regulate utilities.

The NPRM indicates that the FCC will continue to recognize COLR policy in some form, calling it "provider of last resort" (POLR) policy in the broadband context. The NPRM proposes that all funding recipients be required to meet "public interest obligations" tied to the provision of voice and/or broadband services.[198]

State Members agree that defining a modern POLR policy for broadband is a key objective in advancing universal service goals for broadband. It is equally important in preserving universal service for voice customers. First, the duties themselves must be defined. Then, the Commission must clarify how these duties will be assigned to particular carriers and particular areas. The duties must also be enforced, and means must be found to supervise carrier exits from existing service areas.

---

[197] Cherry, Dr. Barbara, *The Political Realities of Telecommunications Policies in the U.S.: How the Legacy of Public Utility Regulation Constrains Adoption of New Regulatory Models*, 2003 Mich. St. DCL L. Rev. 757 (2003).

[198] NPRM ¶ 93.

B. Defining POLR/ETC Duties

1. Traditional COLR Duties

The preeminent duty of a voice COLR has been the "duty to serve." The NBP defines a "carrier of last resort" as:

> The carrier that commits (or is required by law) to provide service to any customer in a service area that requests it, even if serving that customer would not be economically viable at prevailing rates.[199]

Construction charges are an important limitation on the duty to serve. If a carrier has the ability to impose high construction charges on any line extension, that carrier's duty to serve effectively is bounded by where it already has facilities. In addition, States sometimes have allowed recapture of construction charges from later-arriving customers who connect within a fixed period of time to a new line paid for by another customer.

Voice COLR duties are broader than the duty to serve. COLRs have a variety of service quality requirements, public safety requirements and carrier-to-carrier requirements. These functions include but are not limited to accurate voice reproduction, infrequent call blocking and call drops, limited network downtime, coordination with E-911 authorities, and protecting customer proprietary information. Similarly, voice COLR requirements include carrier-to-carrier obligations such as providing direct and indirect physical connections. These COLR obligations are summarized in the first column of Appendix A.

---

[199] NBP at 351.

2. Comparing State COLR Duties and Federal ETC Duties

The 1996 Act restated some traditional COLR duties for ETCs, but it overlooked others. Possibly the most important difference is that the ETC's duty to serve is qualified. Under the statute and current FCC rules, a carrier can be designated where it provides services through a combination of some of its own facilities, resale of another carrier's services, and use of unbundled network elements.[200] These provisions have allowed CETCs to be designated as ETCs without themselves constructing a ubiquitous network. The existing ETC rules, therefore, are a kind of "COLR-lite" in which many COLR duties were redefined or eliminated in order to broaden support eligibility. Historically, no similar opportunities were available to telephone companies. When telephone service was being expanded in rural areas in the 1950s and 1960s, there were no other services to resell. Telephone companies had to build facilities in accordance with State COLR rules.

The Commission itself has moved towards the more traditional view of COLR duties. In 2004, the Commission decided two ETC cases affecting Virginia, a State that does not designate ETCs.[201] These cases established that the Commission had evolved to view ETC policy as converging to traditional COLR policy.[202] Separate statements from three commissioners said

---

[200] 47 U.S.C. § 214(e)(1)(A); 47 C.F.R. § 54.205(e), (f).

[201] Virginia and a few other States have declined the offered delegation to designate ETCs. Alabama, Connecticut, Delaware and New Hampshire have declined to designate wireless carriers. Florida, Massachusetts and Pennsylvania initially declined to handle ETC cases for wireless carriers, but now do so.

[202] *Virginia Cellular, LLC Petition for Designation as an Eligible Telecommunications Carrier for the Commonwealth of Virginia*, CC Docket No. 96-45, Memorandum Opinion and Order, 19 FCC Rcd 1563 (2004) (*Virginia Cellular*); *Highland Cellular, Inc. Petition for Designation as an Eligible*

that compliance with State COLR obligations should be a precondition of ETC designation.[203] FCC rules, however, have never imposed that requirement explicitly.

In 2005, the FCC issued an order that moved ETC standards closer to replicating COLR requirements.[204]

- ETC proceedings now inquire about and impose conditions regarding an applicant's plans to build out its network, much as a State commission traditionally required COLRs to serve their entire service areas.
- Conditions may be imposed regarding service quality, once again paralleling traditional State COLR policies.
- The ETC designating authority may consider the economic effects of competition on the incumbents, by authorizing an examination of cream skimming and the effects on the demand for universal service funding.

Traditional COLR duties have gone beyond the duty to serve and well beyond the list of duties currently required of federal ETCs. State Members agree with the past FCC commissioners who stated that compliance with State COLR obligations should be a precondition of ETC designation, and we so recommend, if State law allows.[205]

Telecommunications Carrier for the Commonwealth of Virginia, CC Docket No. 96-45, Memorandum Opinion and Order, 19 FCC Rcd 6422 (2004) (*Highland Cellular*).

[203] *Virginia Cellular*, Separate statement of Chairman Michael K. Powell; Separate statement of Commissioner Kathleen Q. Abernathy (wireless networks must be 'ready, willing, and able' to serve as carriers of last resort); *Highland Cellular*, Separate statement of Commissioner Kevin J. Martin (CETCs should have the same COLR obligations as incumbent service providers).

[204] FCC, *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, Report and Order, 20 FCC Rcd 6371, ¶ 58 (2005) (*ETC Designation Order*).

[205] State Members are aware that some States have statutes that allow ETCs to surrender their certificates at will, e.g., Ind. Code § 8-1-32.4 e*t seq* and Ind. Code § 8-1-29.5-5.

3. POLR Duties for Broadband

The NPRM asks what public interest obligations or POLR duties should apply to supported telecommunications networks.[206] State Members believe that the public interest obligations of recipients of high-cost support should be clearly defined, success should be measured, and plausible enforcement mechanisms should be established for failures to comply.

The NPRM suggests that public interest obligations should apply to both voice and broadband services.[207] State Members agree. Eventually, it may be possible to drop voice-only requirements, but that day has not yet arrived. For the foreseeable future, ETCs should provide both broadband and voice service at rates and service levels that are reasonably comparable to urban areas.

The NPRM asks whether the current list of 9 voice functions should be replaced by the single phrase "voice telephony service.[208] Some elements of the list should be reviewed,[209] but State Members are unsure why a change to this single phrase would be desirable. Section 254

---

206 NPRM ¶ 92.

207 NPRM ¶ 93.

208 NPRM ¶¶ 97-98.

209 For example, one element in the list has never been fully defined. In 1997 the FCC promised to prescribe by the end of that year how many minutes of flat-rated local usage service would be required to be included within local usage. *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, First Report and Order, 12 FCC Rcd. 8776, 8915, (1997) (*USF First Report and Order*) (subsequent history omitted) ¶ 67. The FCC has never made that decision. In 2004, the commission sidestepped the requirement in two ETC cases, instead accepting assertions that the carriers would in the future comply if the FCC should ever define the requirement. FCC, *Federal-State Joint Board on Universal Service; Highland Cellular, Inc. Petition for Designation as an Eligible Telecommunications Carrier for the Commonwealth of Virginia,* CC Docket No. 96-45, Memorandum Opinion and Order, 15, 19 FCC Rcd. 6422 (2004); FCC, *Virginia Cellular, LLC Petition for Designation as an Eligible Telecommunications Carrier for the Commonwealth of Virginia,* CC Docket No. 96-45, Memorandum Opinion and Order, π 14, 19 FCC Rcd. 1563 (2004).

continues to require the Joint Board and the Commission to establish a "definition of the services that are supported by Federal universal service support mechanisms."[210] Moreover, some of the elements will be needed in the future. For example, providing access to emergency services is an important element in the public interest obligations of a POLR.

The NPRM asks whether there should be a "standard distance" where service must be provided at no incremental cost to the subscriber and when and how much construction cost the carrier can recover from its customer.[211] State Members recommend adopting such a standard, at least for wireline service. No construction charges should be imposed on a customer that is a reasonable distance from a maintained public highway. On the other hand, reasonable construction charges should be authorized in at least some instances where construction is required on other private property. For wireless, the Commission should adopt standards about what additional fees can be imposed on customers seeking wireless service in areas with weak signals. Wireless provider fees should be limited when recovering costs for providing high-power equipment or for adjusting the provider's existing equipment.

Appendix A is a table describing the elements of voice COLR duties as established in some States. The second column describes corresponding ETC duties, to the extent they exist, as imposed by federal statute and Commission rules. The last column proposes an analogous set of broadband POLR duties. State Members recommend consideration of the elements of this last

---

210 47 U.S.C. § 254(a)(1).

211 NPRM ¶ 126.

column of Appendix A as POLR duties for broadband ETCs. Ultimately, those duties should be established by rule, similar to the ETC standards now found in 47 C.F.R. § 54.101.

The NPRM asks whether there should be a coverage requirement expressed as percentage of households covered.[212] State Members believe States should have the discretion to determine coverage requirements during ETC proceedings. Also, as discussed above, State Members recommend a support reduction for ETCs that cannot meet minimum build-out requirements.[213]

4. Technological Neutrality and Partnerships

The NPRM asks whether broadband should be defined without reference to any particular technology.[214] State Members believe that this is desirable only if service quality standards are defined adequately and are meaningfully enforced. It is not obvious that all services that advertise broadband service are equally satisfactory. For example, the Commission has previously recognized that not all technologies reach their targeted speeds.[215]

The FCC has particularly concluded that "Satellite service is ideally suited for serving housing units that are the most expensive to reach via terrestrial technologies."[216] That is not always true. Many State regulators have heard consumers complain about poor quality satellite-

---

212 NPRM ¶ 129.

213 *See* Section IV.A.7.a

214 NPRM ¶ 104.

215 NPRM ¶ 114.

216 NPRM ¶ 133.

based broadband services. Complaints have involved latency,[217] which primarily affects the quality of voice communications, and sensitivity to weather, which affects both voice and data.

Nor should the FCC assume that wireless is necessarily always the best choice for service provisioning. Verizon Wireless' "Can you hear me now?" advertisements were effective only because consumers understand that wireless service is unavailable in many locations. The Regulatory Commission of Alaska has conducted a docket in which wireless customers in some residential subdivisions complained about the quality of wireless local exchange service. The utility in that docket offered, and the Commission accepted, a proposal to install wireline service to replace wireless service.[218]

If broadband is defined without reference to a particular technology, then the performance standards should be truly neutral regarding both capacity and performance. State Members caution against creating an implicit preference for wireless based on the assumption that wireless broadband products can be delivered concurrently to more than a plausible number of users.[219]

---

[217] Satellite communication has a minimum transmission delay of about 250 milliseconds for a round trip to a geosynchronous satellite. That creates a minimum delay of about ½ second on all "double hop" calls where both users are served by satellite.

[218] Regulatory Commission of Alaska, Investigation of Local Exchange Service provided by ACS of the Northland, Inc. d/b/a Alaska Communications Systems, ACS Local Service and ACS in Thorne Bay and Klawock, Alaska, Docket U-08-023 , Order No. 10, (March 18, 2011).

[219] We have some doubt that wireless broadband can be delivered to as many people as the Commission claimed in its *Broadband Availability Gap* paper. In that paper the Commission relied on a "Busy Hour Offered Load" parameter of 160 kbps to deliver an offered service at 4 Mbps to each customer. *Broadband Availability Gap* at 71. That means a wireless carrier can sell 25 times as much bandwidth as it actually constructs (= 4,000 kbps/160 kbps). While not all customers use the network concurrently, we have some doubt about whether this high level of loading for wireless will provide

The NPRM also suggests that bidders will be encouraged to "partner" with satellite companies to cover larger areas.[220] The objective evidently is to encourage satellite providers to form joint enterprises with either wireline or wireless terrestrial providers. Also, joint enterprises between terrestrial wireless and wireline providers would be possible. Joint enterprises can be useful in promoting universal service. They are already common in the wireless industry where many affiliated companies often operate under a single business name.

Multi-mode aggregation creates a new risk. We noted above the potential for service quality problems related to satellite and wireless services. If grantees can "partner" mixed technologies for a single service area, some customers within a supported area may have considerably better service than others.

If the Commission does consider funding multi-mode partnerships, the Commission should take additional precautions:

- States are best able to judge, based on local circumstances, whether public benefits of ETC service, including service quality and emergency services, can be maintained by satellite services. The Commission should clearly articulate that States continue to have the ability in their ETC proceedings to determine whether an ETC is likely to provide an acceptable level of service and to meet State service quality standards.
- The Commission should require the ETC to designate a single entity that is responsible for providing service and answering consumer complaints.
- The Commission should explain that, absent a waiver granted by the State commission, a multi-mode partnership ETC should expect to receive less support

---

functionally comparable service to a wireline network that can actually deliver 4 Mbps concurrently to each customer.

220 NPRM ¶ 99.

than single mode ETCs because it will generally have lower costs than a single-mode provider serving the same area.[221]

5. Role of the States

States have an important role in administering POLR obligations. Not only has State law been the source of original POLR policies, since 1996 State commissions have been local partners with the FCC in advancing universal service. The Courts have held that the FCC cannot prohibit States from imposing additional requirements on carriers otherwise eligible for ETC designations.[222]

Since 2005, the Commission has actually encouraged States to add certain State-generated requirements in ETC cases. In 2005 the Commission broadened its own criteria for evaluating ETC cases, while recognizing many of the important interactions between the State and federal governments in defining and enforcing POLR policies. The Order:

- Encouraged States to add several types of requirements, and many States have done so.[223]
- Encouraged States to fill in gaps in the definitions of federal terms, such as to use State law to determine what constitutes a "reasonable request" for service.[224]

---

[221] Maintaining two technologies can be more costly than one. Nevertheless, in situations where multi-mode partnerships are created, it is likely that adding the second technology will produce a net savings over the entire area. For example, if a wireline-satellite dual technology were applied in a low density area surrounding a town center, the resulting cost could be lower than a wireline system serving the entire area.

[222] *Texas Office of Public Utilities Counsel v. FCC*, 183 F.3d 393, 418 (5th Cir. 1999), *cert. dismissed sub nom. GTE Serv. Corp. v. FCC*, 531 U.S. 975, 121 S.Ct. 423, 148 L.Ed.2d 327 (2000).

[223] FCC, *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, Report and Order, 20 FCC Rcd 6371, ¶ 58 (2005).

[224] *ETC Designation Order* ¶ 21.

- Encouraged States to harmonize any build-out commitments they establish in ETC cases "with any existing policies regarding line extensions and carrier of last resort obligations."[225]
- Encouraged States to engage in a public interest analysis during ETC proceedings that parallels the fact-specific analysis performed in the Commission's own ETC cases.[226] This analysis includes evaluating the benefits of increased consumer choice, and the unique advantages and disadvantages of the competitor's service offering. In cases where the applicant seeks designation below the study area level of a rural telephone company, the Commission conducts a cream-skimming analysis.[227]
- Encouraged States to adopt in parallel the new federal requirements such as requiring a five-year service improvement plan, with annual status updates.[228]

State Members believe that States should continue to have a broad role in defining and administering POLR duties. The States have unique capabilities that suit them well to administer the definition, assignment and enforcement of POLR duties. State commissions can more easily hold hearings in the areas affected by an application and can hear from customers. States do hear frequent complaints from local citizens when service quality is poor or when service is not available at all. State commissions are also closer to local legislators who may hear from consumers even more frequently on these topics. Given the resource limitations of the FCC and the manner in which it conducts its business, it is hard to imagine the FCC effectively administering a nationwide POLR system. A centralized system of POLR administration would be unlikely to meet universal service goals for broadband in a viable and sustainable manner.

---

225 *ETC Designation Order* ¶ 21 (internal quotation omitted).

226 *ETC Designation Order* ¶¶ 19, 41.

227 *ETC Designation Order* ¶ 41.

228 47 U.S.C. § 54.209; *ETC Designation Order* ¶¶ 21, 29 (the Order also referred to a "five-year network quality improvement plan," which appears to be the same thing).

The above recommendation is based on our assessment of the typical procedures, information sources, and staff resources of State and federal regulators. Jurisdictional classifications regarding broadband Internet service does not change any of this.

State Members believe that a meaningful State role in universal service does not in any way impair jurisdiction that the Commission might assert over the Internet. The important role of States is not changed from the days before broadband. In the past, the voice network carried both intrastate and interstate switched traffic, yet States were the authors of COLR duties that most State commissions still enforce today and that were partly incorporated into federal ETC policies. Those COLR policies advanced universal service, rather than creating conflicts. The migration from switched circuits to packets does not fundamentally change the task or the resources available at the State and federal levels. State commissions are still the bodies most aware of local conditions in communications and still have the greatest motivation to ensure that telecommunications service is universally available and of good quality.

State Members recommend that the FCC explicitly affirm that States can add POLR requirements during ETC designation cases beyond minimum federal standards. At a minimum, States should be able to adopt specific supplementary rules regarding construction charges, service quality, rate designs, advertising, and market exits.

C. Defining Service Areas

Each ETC is assigned a service area over which its obligations apply. Determining the optimum size for a service area requires a balancing of several factors. Small service areas make it easier for competitors to make offers to be substituted as ETCs, since less capital is needed to

contest an ETC designation in a small area. Also, the desire to conserve high-cost funds might suggest assigning small service areas that exclude low-cost areas or areas with competition.[229]

On the other hand, economies of scale suggest assigning larger service areas. Calculating costs over larger service areas actually reduces the apparent demand for support from universal service funds. Cost averaging can be reasonable if the scale of the service area matches the scale at which rates are determined. In contrast, if an ETC's service area is smaller than the area over which the ETC's rates are uniform, a support mechanism could tend to award more support than is needed to keep rates reasonably comparable with urban areas.[230] Depending on the particular location, defining small service areas below census could result in a Balkanization of service.

The Act allows States to define individual service areas for ETCs as a part of ETC designation proceedings.[231] States are best positioned to make sound decisions on these matters. They have the greatest local knowledge and expertise to understand what areas are unserved. States are also better positioned than the FCC to evaluate whether a proposed ETC is financially and technically qualified to serve as an ETC. As in the past, where the States are free to make a discretionary decision, advice from the FCC can be very useful and often will be followed.

---

[229] State Members' Plan addresses this issue through the distribution mechanism. Step 1 of the POLR plan described in Section IV.A *infra* describes how support would be targeted.

[230] We note that although wide-area rate averaging has been frequently criticized in the past, the Act did not mandate that States replace existing implicit subsidies with explicit support mechanisms. *Qwest Communications. International, Inc. v. FCC,* 398 F.3d 1222, 1233 (10th Cir. 2005). We also note that many national wireless carriers and VoIP carriers offer nationwide rates.

[231] 47 U.S.C. § 214(e)(2).

The NPRM proposes that only a single ETC per area should receive support.[232] If that policy is adopted, States must decide which carriers should receive the single ETC designation in each geographic area. State Members recommend that, after the single payee rule is implemented, designating States should initially re-designate the incumbent LEC and should confirm that the LEC's study area remains its service area for universal service purposes. This initial designation will fairly balance the factors discussed above in most cases, although adjustments may still be needed over timeF.

In a very few cases where a CETC has overbuilt ILECF facilities over a wide area, the State commission should, on petition, conduct a fact-specific proceeding to determine whether the ILEC or the CETC should be designated as the single supported carrier.

In the future, a provider using a different technology (such as a wireless carrier or a cable voice provider) might want to be designated as the single supported ETC, thereby disqualifying the ILEC from further support in some or all of its existing service area. On receiving such a petition, the State commission should conduct a fact-specific proceeding to determine whether the ILEC should be disqualified and replaced as the supported ETC. If the challenger is given the sole designation, the State might consider providing funding from a State universal service fund which would similarly be determined in a fact-specific proceeding.

D. Enforcing POLR Violations

Once an ETC has been designated for a defined service area and has begun receiving support, its public interest POLR obligations must be enforceable. In the past, the FCC has

---

232 NPRM ¶ 402.

relied primarily on State commissions to perform this role. State commissions have been required to submit annual certifications that support has been used for the purposes intended. State Members believe this basic model is fundamentally sound, although it should be updated for the POLR duties assigned to broadband providers, and it should be broadened to allow States to take action against fraud and abuse.

One of the problems with annual certification is that a State has only one remedy, denial of certification. While this can give the State bargaining power, ultimately it is a remedy that neither the carrier nor the State wants to deploy. One feature of the POLR support mechanism proposed in Section IV.A.7 *infra* is a support adjustment where a carrier is not meeting build-out and service quality obligations. This support adjustment mechanism provides a less draconian remedy for failure to meet POLR obligations.

E. Relinquishing ETC Status and Serving Unserved Areas

The Act contains explicit provisions relating to how ETCs relinquish their obligations and exit the telecommunications market in an area. In reading this statute, it is also important to understand the interactions with the FCC's current policy that broadband Internet service is an information service, not a telecommunications service.

Subdivision 214(e)(3) of the Act prescribes what can be done to provide service to an "unserved area." The statute allows the FCC (for interstate services) and the State commission (for intrastate services) to order a "*common carrier*" to provide service and to be designated as an ETC. Under current FCC preemption policy, State Members are unsure whether State commissions might have legal authority to require similar service from an "information service" provider.

Subdivision 214(e)(4) of the Act prescribes what happens when an ETC seeks to relinquish that status. On close reading, however, the statute only provides standards for a case where the proposed relinquishment applies to "an area served by *more than one*" ETC.[233] In that case, safeguards apply such as adequate notice, the "remaining" ETCs are obligated to provide service to the abandoned customers, and the statute allows State commissions to order the "remaining" ETC to construct new facilities as needed.

The rules in subdivision (e)(4) are entirely appropriate to a case where a competitive wireline LEC exits a geographic market, leaving behind an active incumbent LEC. The statutory solution in that case is that the incumbent LEC (which is here called the "remaining ETC") is assigned a form of Provider of Last Resort duty.

The statute is silent about what should happen when a *sole* ETC seeks to relinquish its ETC designation because it is unwilling to continue serving unprofitable areas. Congress apparently considered this possibility either so unlikely that it could be safely ignored, so difficult that it could not be provided for, or so easy that it wasn't necessary to say no such petition could be granted.

Yet abandonment by an incumbent LEC is no longer so unlikely as to be safely ignored. Current trends and proposed reforms create a risk that incumbent carriers will become unprofitable in some high-cost areas. Indeed, major carriers in four States have gone through bankruptcy in recent years. If the federal statute is of no help, the uncertainty is compounded by the Commission's past rulings that broadband Internet service is an "information service." These

---

[233] 47 U.S.C. § 214(e)(4).

rulings potentially place broadband Internet facilities beyond the jurisdictional reach of State commissions, even though in many cases the broadband services are provided over facilities used in common with the telephone system.

One view is that a common carrier simply cannot relinquish service under these circumstances. The statute seems to support this view. If relinquishment were to be granted under subdivision (a)(4), the area would be unserved and the same carrier could immediately be drafted back into service under subdivision (a)(3). In practice, such unwilling corporate servitude is unlikely to be satisfactory. The State commission's only alternatives seem to be to let service lapse in the area or to provide enough universal service subsidy to induce the carrier to continue in service.

The second problem concerns relinquishment by a broadband provider. Under current FCC policy, a broadband Internet provider is not a "common carrier." Therefore a sole broadband-only provider apparently can relinquish service without the risk that it will be drafted back into service under subdivision (a)(3). In addition, such a broadband provider would have no risk, unlike a common carrier, that it would be ordered to serve a new unserved area. This result is not competitively neutral. Moreover, in areas where only broadband service is available (and voice rides as an application), customers could be left without remedy for an abandonment by the existing provider or to get service where none exists.

In sum, the statute, combined with current FCC policy about broadband, apparently leaves existing customers of broadband services subject to abandonment at will and leaves unserved customers without any remedy. Regardless of whether the Commission modifies its classification of broadband Internet service, the public interest obligations of ETCs should be

defined to give communities reasonable assurance that all their citizens will receive broadband service from a supported provider and that this service cannot be abandoned at will.

IX. Intercarrier Compensation

A. Legal Authority

The NPRM proposes that the Commission apply 47 U.S.C. § 251(b)(5) to all telecommunications traffic exchanged with LECs, including intrastate and interstate access traffic.[234] The NPRM also says that Section 251(g) strengthens the above conclusion by temporarily grandfathering access traffic.[235]

State Members oppose federal preemption of State authority. The structure of the 1996 Act preserved existing State authority over the rates charged for intrastate access. There was no *quid pro quo* in the Act by which the States gave up their existing authority to set the rates for intrastate services, including access. What was toll access before 1996 is still toll access. Subsection 251(g) was intended to maintain the pre TA-96 *status quo* regarding interconnection arrangements and existing intercarrier compensation rates, not to supply the FCC with an additional or new legal authority capable of preempting traditional State jurisdiction under Section 152(b).

The FCC's interpretation of subsection 251(g) is contrary to both Section 251 and 252. Subsection 251(b)(5) obligates carriers to establish reciprocal compensation arrangements for the transport and termination of telecommunications. The authority claimed by the Commission in

---

234 NPRM ¶ 512.

235 NPRM ¶ 514.

the NPRM is the preemptive right to mandate rates, including zero rates, for that transport and termination. Mandating a rate of zero would be contrary to subsections 252(a) and (b), which establish a system of negotiation and arbitration to establish rates for interconnection. A rate cannot both be negotiated by the carrier and prescribed by a regulator. When regulators are able to enter these arrangements, it is pursuant to subsection 252(b), which establishes a procedure for State commissions, not the FCC, to arbitrate the rate. The rate standard set by subsection 255(d) is that rates must be based on cost and may include a reasonable profit. A zero rate by definition fails both of these tests.

If 251(g) ever gave the FCC authority to preempt State authority over intrastate access rates, that authority has expired. Section 251(d)(1) required the commission by July 8, 1996 to complete "all actions necessary to establish regulations to implement the requirements" of Section 251. Even if Section 251(g) had initially granted the claimed authority, by failing to exercise it for fifteen years, the Commission has allowed that authority to lapse. The more reasonable explanation however is that fifteen years ago the FCC correctly interpreted State access as outside the scope of reciprocal compensation.

Preemption would also violate subsection 251(d)(3). This subsection preserves State access regulations, with limited exceptions.[236] None of the exceptions apply to intrastate access rates, and the Commission therefore cannot preempt those rates.

---

[236] 47 U.S.C. § 251(d)(3) provides as follows;

(3) PRESERVATION OF STATE ACCESS REGULATIONS.--In prescribing and enforcing regulations to implement the requirements of this section, the Commission shall not preclude the enforcement of any regulation, order, or policy of a State commission that--

(A) establishes access and interconnection obligations of local exchange carriers;

The NPRM asks whether 47 U.S.C. § 332 gives the Commission authority to regulate not only wireless termination charges imposed by wireless carriers, but also charges that wireless carriers must pay to other carriers, including charges imposed by LECs for termination of wireless traffic.[237] State Members do not believe such authority is granted by the Act. States have exclusive authority over intrastate rates, including toll access rates. The only exception is that reciprocal compensation for local traffic is controlled by Sections 251 and 252.

Subdivision 332(c)(3) gives the Commission authority only over "rates charged" by commercial mobile service providers. There is no basis in statute or Congressional history to suggest that a rate charged by a person selling a service also means the "price paid" for something that same person purchases.

B. Network Dynamics

Telecommunications networks create market power in ways that do not arise in normal markets. One factor is technological and the other two are legal.

- Each telephone number has a unique terminating carrier. Although many customers have the competitive option over the long-run to change their provider, in the short run each telephone call is dialed to a particular number, and only one carrier can terminate that call. Any carrier seeking access to that telephone number must transmit the call to its unique terminating carrier. This gives terminating carriers market power in the market for terminating conventional circuit-switched as well as packet-switched VoIP calls.
- Terminating carriers cannot ignore a termination request. LECs are required by the FCC and by many States to terminate each call submitted by another carrier,

---

(B) is consistent with the requirements of this section; and
(C) does not substantially prevent implementation of the requirements of this section and the purposes of this part.

[237] NPRM ¶¶ 511, 539.

whether or not the requesting carrier pays compensation. Where one party to a transaction is obligated by law to accept all offers of incoming traffic irrespective of traffic protocol, there can be no market-based pricing mechanism for termination.

- Some LECs are required to allow competitors the use of their facilities for toll call origination, without additional compensation from the subscriber. Where one party to a transaction is obligated by law to accept all offers of outgoing traffic, there can be no market-based pricing mechanism for origination.

These three facts control the dynamics of the switched access services telecommunications market and require some form of continued price regulation of intercarrier compensation. Properly done, such regulation can avoid price gouging by terminating carriers and ensure that originating and terminating carriers receive compensation that is just and reasonable, is sufficient to ensure continued service, provides for access network capacity to handle increasing access traffic demand in a variety of associated protocols, and eliminates practices such as traffic pumping and phantom traffic which "game" the system.

C. Goals for Intercarrier Compensation Reform

The NPRM repeatedly states that the FCC's goal is to "move away from per-minute charges, either by bill-and-keep or some other method.[238] In some places, the NPRM uses the phrase "move away" from per-minute charges as synonymous with eliminating per-minute charges.[239] These words suggest that the Commission intends to impose a "bill and keep" regime for intercarrier compensation. State Members do not agree that this step is warranted.

---

238 NPRM ¶¶ 516, 532, 550.

239 NPRM ¶¶ 592, 593.

Some intercarrier compensation reform is desirable. However, it can and should be achieved without preempting State authority, without increasing SLC charges above existing maxima,[240] and without substantially increasing overall USF support levels.

1. Single Rate for Functionally Equivalent Services

State Members agree that functionally equivalent intercarrier compensation services should be offered at a single rate to all purchasers of network access services at a single location. To the extent that various telecommunications networks fail to follow this principle, carriers will seek to bypass the more expensive access services, and the regulatory system can inadvertently create opportunities for arbitrage and access service bypass. Requiring a uniform rate for all purchasers also promotes competitive neutrality and avoids creating regulatory advantages for some industries or technologies.

This principle requires elimination of some traditional rate design distinctions, notably:

- Distinctions between the rates charged for interstate services and intrastate services.
- Distinctions between access rates for terminating toll traffic and terminating local traffic.
- Distinctions between the intercarrier compensation rates charged to wireline and wireless carriers.
- Distinctions between digital transmission capacities that are based on the historical epoch in which a service was defined.

This principle does not require national rate uniformity for originating or terminating service. It merely requires that all buyers of a single service at a single location must pay the

---

[240] SLC charges are non-traffic sensitive charges and should not be increased to compensate for the loss of revenues that support traffic sensitive costs.

same price. Given our view that States retain authority over State access rates, State Members would achieve the above in part through State inducements rather than federal preemption, as explained *infra*.

2. Low Rates Create Public Benefits

Low per-minute retail rates tend to promote usage. Lower toll rates over the last 20 years have certainly helped increase toll traffic volumes. Retail toll rates in turn depend on the provider's costs of providing toll service, including access costs. If terminating access rates are reduced, and if competition requires pass-through of the benefit to end-users, it is reasonable to believe that toll rates will decline and customers will use the network more frequently. That usage growth is generally desirable.

3. Zero Rates

As noted above, the NPRM can be read as a signal that the Commission is moving toward mandating a "bill and keep" regime with zero rates. Certainly it is possible in unregulated markets to develop occasional bill and keep agreements. As even the Internet demonstrates, however, bill and keep is a special case. In the Internet world, retail ISPs with retail subscribers usually pay the ISPs that have backbone transport facilities. Bill and keep arrangements on the Internet generally are limited to pairs of ISPs that have roughly equal traffic flows. In general, a bill and keep interconnection rule between two parties will arise naturally only if both parties derive approximately equal benefits from the trade, which are not always monetary. That occurs, however, only where traffic is roughly balanced and costs are roughly balanced. If there is a traffic imbalance or an interest imbalance, then bill and keep will not develop naturally.

For that reason, State Members believe a bill and keep system cannot arise naturally in an unregulated market as a universal rule for interconnection. State Members cannot understand how a market could operate requiring some participants to offer their assets to others without charge. Indeed, the premise of all the current bill and keep proposals is that regulatory power is necessary to reach a result that does not arise naturally.

Prescribing zero rates for intercarrier compensation would greatly increase the burden on federal and State USFs. Incumbent LECs have three major revenue sources: 1) subscriber revenues; 2) intercarrier revenues (including per-minute services like toll access payments and per-month services like special access circuits); and 3) universal service. Eliminating or greatly reducing intercarrier compensation would force carriers either to find other revenue sources or to dramatically reduce their costs, which could jeopardize the capital resources needed to build broadband networks. For the more costly networks, costs cannot be recovered solely from subscribers without violating universal service principles. Therefore, mandating zero rates would require more support to keep these networks functioning.

Prescribing zero rates for intercarrier compensation can inhibit sufficient investment. To the extent that regulatory policy mandates that carrier A can have access to carrier B's network facilities without paying compensation, regulators create an incentive for all telecommunications and communication service providers to adopt business plans similar to A's rather than B's. Yet if carriers like B must continue to invest to provide adequate facilities and adequate capacity for access services, the result can be insufficient investment and traffic congestion.

Prescribing zero rates for switched intercarrier compensation would place existing point-to-point services at a competitive disadvantage. Existing telecommunications networks that pay

for special access and advanced services would have a financial incentive to use free switched telecommunications network services. For example, companies that operate private branch exchanges (PBXs) and private networks that are connected to larger public networks via special access facilities and services would have incentives to reconfigure their networks to use more switched access services. Such a market distortion would be similar to, but in the opposite direction from, the one that drove the growth of special access in the 1980s.

Zero intercarrier compensation rates also inevitably have an effect on the services supported by universal service. The Act requires the Commission, for interstate services, to:

> establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services.[241]

If intercarrier compensation rates were mandated at zero, or if they covered only marginal cost, then all of the fixed joint and common costs of facilities providing universal service would fall on end-users as fixed monthly "local exchange" charges and SLCs. State Members believe that these local fixed charges were precisely what Congress intended to limit in subsection 254(k). If this subsection is to have any meaning at all, it must mean that regulators cannot impose 100% of joint and common network costs on the end user. Therefore, State Members conclude that subsection 254(k) requires intercarrier compensation payments to cover a reasonable portion of network costs that that are commonly used with wholesale access services.

A zero rate is simply a mandate allowing one carrier license to use another carrier's facilities without compensation. State Members do not believe that the arrival of the Internet has

---

[241] 47 U.S.C. § 254(k).

repealed the economic principle that both parties to a commercial transaction should benefit. State Members do not see a "bill and keep" system as inevitable or even as desirable. The only plausible way for a "bill and keep" system to arise is if the FCC imposes it. Such a choice would be neither good economics nor good public policy.

4. The NPRM

The NPRM asserts that the current intercarrier compensation system:

> . . . is not sustainable in an all-broadband Internet Protocol (IP) world where payments for the exchange of IP traffic are not based on per-minute charges, but instead are typically based on charges for the amount of bandwidth consumed per month.[242]

State Members agree that changes to the current system are desirable, but they disagree that the current system will necessarily self-destruct. The ability to reach telephones connected to common carrier networks and reachable through a common telephone numbering system means that public telephone networks will retain value even if much of their current business moves to non-numbered IP-based addressing. Individuals and businesses still will want telephone numbers at which they can be reached, and other carriers will continue to seek access to the networks that can terminate calls at those numbers.

Internet service providers have recently shown some interest in usage charges. We note with interest the increasing tendency of wireless carriers to offer retail 4G plans that set limits on the customer's bit usage per month. This development makes packet networks look more like traditional telephone networks. We also note that advances in computers and networking now

---

[242] NPRM ¶ 505.

allow differential tracking and pricing of some kinds of IP traffic, and this can have an effect on network pricing both for carrier-to-carrier transactions and for retail services.

The NPRM criticizes the "assumption that the calling party was the sole beneficiary and sole cost-causer of a call." It reports that "more recent analyses" show that both parties to a call benefit and therefore should share in the cost of a call.[243] State Members believe this statement is accurate for some, but not all, calls. In any case, that theory is not a sufficient basis to impose a universal "bill and keep" rule for compensation.

The NPRM asserts that the "current system is hindering progress to all IP networks," and that:

> intercarrier compensation reform will encourage carriers to more rapidly deploy broadband facilities and the IP based services, and that the current system motivates some carriers to refrain from transitioning networks to IP architecture which has the compounding effect of forcing interconnecting carriers to also retain legacy TDM network architecture to accommodate the exchange of traffic.[244]

State Members disagree. First, it is not clear what the FCC means by "transitioning networks to IP architecture." Existing networks contain a mix of both legacy and broadband technologies, and they are capable of handling traffic of various protocols. Existing switched networks often rely on packet switching, especially for interoffice trunking, even if they do not specifically use "TCP/IP" software. There is no technical reason to make a black and white distinction between some existing switched architectures that rely on packets and "IP architecture." Indeed, that distinction contravenes current convention and practice. Second, the

---

243 NPRM ¶ 525.

244 NPRM ¶ 506 (internal quotations omitted).

FCC apparently has only anecdotal evidence about which carriers have the most advanced networks. State Members have observed that many more rural LECs seem to have deployed soft switches than have major incumbent carriers. This tendency is contrary to the trend asserted in the NPRM.

D. State Members' ICC Reform Proposal

State Members believe that it is possible to prevent the exercise of terminating monopoly power, to eliminate arbitrage opportunities, and to improve economic efficiency by establishing a cost-based intercarrier compensation regime. Moreover, cost-based rates can be established that would not require either increases in SLCs or increases in universal service funding. Given all the other demands on limited universal service funds, a solution to the intercarrier compensation problem that does not require more universal service funding is highly desirable.

The plan *infra* addresses many of the concerns raised in the NPRM, without unduly burdening the federal universal service fund. The plan would:

- Move to *uniform* per-minute rates in which each purchaser of access pays the same rate. Arbitrage opportunities are not caused solely by State commissions setting high State access rates. Rather, they are caused by differential rate treatment of substitutable services. To the extent that a single carrier offers a single intercarrier compensation rate, arbitrage opportunities disappear. It is not also necessary that the rate be zero.
- Reduce some high intercarrier compensation rates, but increase others.

As explained above, State Members do not agree that the FCC has authority to mandate reductions in intrastate access. Nevertheless, we believe that some reductions would be desirable. Therefore we propose a plan to reduce intrastate rates that is optional to the States but that contains inducements for the States to accept the offer.

State Members propose that the FCC offer each State an option for adjusting intercarrier compensation rates. Where a State accepts this option, two things would happen on the same date:

- The State would require carrier intrastate access rates to meet a standard. That standard would be that each telecommunications carrier in that State would establish a maximum intercarrier per-minute termination rate that is no higher than the lower of its own current per-minute interstate termination rate and its average intercarrier compensation terminating rate.245 The single rate would be available to interstate and intrastate traffic, to traffic delivered by both wireline and wireless carriers, and to toll traffic, and local traffic and ESP traffic. The single rate would be adjusted if the FCC were to recalibrate a carrier's allowed interstate access rate, as provided in the traffic pumping adjustment described *infra*.
- The FCC would require wireless carriers to recognize wireline local exchange boundaries for purposes of paying access on intrastate traffic.

A holding company that has multiple study areas could establish a single terminating rate for each State in which it operates. A holding company that has study areas in multiple States could establish a single rate for all its States. In each case the rate would be the lower of interstate terminating access or average reciprocal compensation for any study area within the combined rate area.

The maximum rate for each carrier would be calculated only one time, in 2012. That rate would continue to apply through at least 2017. It would also apply thereafter until a new system is adopted or a new federal law is passed by Congress.

---

245 Average intercarrier compensation terminating rate would be defined as the sum of current terminating revenue divided by the sum of terminating minutes. We note that NECA companies have banded rates, so different NECA carriers charge different interstate access rates.

The new unified rate system would reduce intercarrier revenues for many ILECs. To compensate for those losses, ILECs would first increase their SLC rates, up to the current SLC caps. Any remaining revenue losses would be treated as inputs for Step 2 of the POLR support mechanism, thereby becoming a possible basis for additional high-cost support.

E. Traffic Pumping

Traffic pumping refers to the LEC practice of encouraging terminating customers to use the LEC's network for the purpose of increasing revenue and profits. A typical traffic pumping activity is to offer toll-free 800 lines for conference calls.

It is often said that high per-minute access rates cause traffic pumping. In reality, the cause of traffic pumping is the existence of rates that are higher than cost. A high rate that is equal to cost does not provide an incentive to engage in a traffic pumping strategy. Moreover, merely requiring all carriers to charge the same rate would not eliminate the incentive to engage in traffic pumping.

The following example illustrates the point. Suppose carrier A has an access rate of $0.03 per minute and carrier B has an access rate of $0.01 per minute. If both carriers' costs equal their rates, neither carrier has an incentive to engage in traffic pumping, even though the rates are different. If regulators forced all carriers to terminate at a uniform rate of $0.02, two things would happen. First, A would be forced out of business or be forced to engage in strategies that reduce its terminating traffic. Second, B could raise its rates, engage in traffic pumping, and increase profits. In sum, a uniform rate would not prevent traffic pumping; it would exacerbate the problem.

A "bill and keep" access regime would eliminate all incentive to engage in traffic pumping strategies. The effect would not, however, be achieved by setting uniform rates. Rather, the effect would occur because the new mandated rate is below the cost of every carrier. Every carrier would have an incentive to reduce terminating traffic rather than increase it. A bill and keep regime would change incentives for both carriers that provide terminating carriers access and those that use other networks for termination.

- It would cause terminating carriers to reduce their terminating traffic. This result would be the antithesis of reasonable communications policy, which is normally designed to encourage the use of the network.
- Buyers of terminating service would have an incentive to uneconomically increase their switched access activities and uneconomically decrease their activities based on other billing regimes. For example, carriers might find ways to bypass using special access. This could reverse the recent trend toward increasing special access purchases from large incumbent LECs, possibly altering their revenues.

State Members propose a different mechanism to address traffic pumping. The FCC would annually adjust terminating access rates downward for all carriers that are engaging in traffic pumping. The adjustment mechanism would be applied on a carrier-specific basis based upon screening for companies that have a high terminating-to-originating ratio (T/O Ratio). The process would have three steps:

- The FCC would determine a national average T/O Ratio.
- The FCC would determine a "High Limit T/O Ratio" that is one standard deviation above the national average.
- The FCC would adjust the carrier's rates so that the terminating revenue for any carrier equals the carrier's initial rate times its originating minutes times the High Limit T/O Ratio.

For example, assume the national average T/O ratio is 1.2 and the T/O High Limit (one standard deviation above the average) is 1.7. Assume a carrier has a rate for originating and

terminating of $0.01 and has 100 originating minutes and 200 terminating minutes. The carrier's T/O Ratio is 2.0, which is above the 1.7 High Limit. Currently the carrier would receive $2.00 in terminating revenue (1 cent times 200 minutes). Under the Plan the carrier would receive only $1.70 (1 cent times 100 originating minutes times 1.7). To achieve this revenue target, the carrier would have to lower its terminating rate to $0.0085 ($1.70 divided by 200 minutes). As with all other carriers, the new uniform rate would apply to all terminating traffic.

The FCC would use this mechanism whenever there is cause to believe a carrier has an extraordinarily high T/O Ratio. The FCC would also revise the High Limit T/O Ratio at least once every five years.

F. Phantom Traffic

State Members support the approach taken in the NPRM that carriers have an obligation to report where traffic originates and terminates. To constrain phantom traffic, the FCC should allow carriers to decline transmission or termination for external traffic that is not billable to another carrier. Traffic that is delivered on a dedicated trunk or delivered on a per-call basis with sufficient identifying information would be treated as billable. While this new rule may increase uncompleted calls in the short run, the system should self correct very quickly, as the burden falls, as it should, on practitioners. The FCC should offer delegation of enforcement authority to States as necessary to compel compliance with FCC directives in this area.

X. Conclusions

The preceding comments support the Commission's basic goals, but offer a comprehensive roadmap to achieving the same ends. State Members support expanding the

goals and mechanisms of universal service to cover both broadband and mobility services. Rather than supporting auctions, however, State Members recommend creation of a different three-fund mechanism that is at least initially funded at the current level. The POLR fund would operate using a multistep process for defining support need that considers targeting, recovery of intercarrier compensation losses, and limited overall earnings. The Mobility and Wireline Broadband Funds would provide grants in limited amounts to encourage construction of new wireless and wireline broadband facilities.

State Members encourage the Commission to affirm its continuing expectation of working closely with the States in funding and administering universal service programs. This involves building on State COLR policies, avoiding preemption, strengthening financial partnerships, strengthening administrative partnerships, and generally building close working relationships that meet federal objectives but that rely on the specialized knowledge of State commissions regarding local conditions and the needs of the people of each State.

Respectfully Submitted:

James H. Cawley	State Chair, Federal State Joint Board on Universal Service Commissioner, Pennsylvania Public Utility Commission
Anne C. Boyle	Commissioner, Federal State Joint Board on Universal Service Commissioner, Nebraska Public Service Commission
John Burke	Commissioner, Federal State Joint Board on Universal Service Commissioner, Vermont Public Service Board
Larry S. Landis	Commissioner, Federal State Joint Board on Universal Service Commissioner, Indiana Utility Regulatory Commission
Simon ffitch	Consumer Advocate, Federal State Joint Board on Universal Service Senior Assistant Attorney General, State of Washington

XI. Appendix A - Possible Duties of Broadband ETCs

Topic	Typical State COLR Requirement	Current FCC ETC Rules	Possible Broadband POLR Requirement
Facilities			
Geographic duty to serve	Offers retail and carrier-to-carrier services throughout the service area.	Offers retail service throughout the entire service area.	Retail and carrier-to-carrier services are offered throughout the service area.
	Construction contributions can be required, subject to limits. Later-arriving-customers can be required to reimburse first-customers for recently paid construction charges of mutual benefit.		Construction contributions can be required, subject to limits. Later-arriving-customers can be required to reimburse first-customers for recently paid construction charges of mutual benefit.
Facilities Ownership	COLRs generally must serve customers with their own facilities.	Facilities can be owned, rented (UNEs) or resold, so long as some are owned. Section 54.201(d)(1).	POLRs must offer services using facilities that are either: 1) owned, 2) under long-term lease, or 3) under sufficient insurance or bonds to ensure continued availability if the provider fails.
Duty in unserved and abandoned areas	State commission may order common carrier to serve unserved areas.	FCC and state commission may order common carrier to serve unserved areas. 47 U.S.C. § 214(e)(3). Where an ETC relinquishes a designation, state commission may order remaining ETC to build facilities. 47 U.S.C. § 214(e)(4).	Same as ETC.
Adequate distribution facilities	Single line service (no party lines)	Single line service (no party lines). § (a)(4)	Meets minimum speed requirements as periodically reviewed and determined by the FCC

Topic	Typical State COLR Requirement	Current FCC ETC Rules	Possible Broadband POLR Requirement
Network Functions and Services			
Network adequacy	Accurate voice reproduction.	Transmits 300 to 3,000 Hertz audio range. § (a)(1)	Meets minimum speed requirements as periodically reviewed and determined by the FCC
	Equal access to IXCs (most states)	Access to IXCs.§ (a)(7)	
	Offers vertical services such as call waiting, call forwarding, 3-way calling.	Touch-tone (DTMF) dialing. § (a)(3)	
	Infrequent call blocking and call drops		Limited jitter and packet dropping.
	Limited network downtime due to internal problems	Reporting of network outages (2005 order)	Same as ETC
Network compatibility	No network features that are incompatible with service to persons with disabilities. (47 U.S.C. § 255)		No network features that are incompatible with service to persons with disabilities.
	No network features that are incompatible with interconnectivity requirements. (47 U.S.C. § 256)		No network features that are incompatible with interconnectivity requirements.
Services			
Basic service	Voice service	Transmits and receives voice communications (including signaling and ringing). § (a)(1)	Transmits and receives IP data stream between subscriber and Internet
Fully interconnected Network	Subscriber can reach and receive calls from all working NANPA numbers.		Subscriber can send packets to and receive packets from all locations generally available on the Internet.

Topic	Typical State COLR Requirement	Current FCC ETC Rules	Possible Broadband POLR Requirement
Emergency services		Offers subscribers access to emergency services § (a)(5).	Offers subscribers access to emergency services.
	Coordination with E-911 authorities, including providing required customer information.		Coordination with E-911 authorities, including providing required customer information.
	Maintains emergency service continuity plan.		Maintains emergency service continuity plan.
Hearing impaired	"Relay" (711) services for the hearing impaired		"Relay" (711) services for the hearing impaired.
Ancillary services	Directory assistance	Directory assistance. § (a)(8)	N/A
	Operator services	Operator services. § (a)(6)	N/A
Pricing			
Rate designs	Offers retail switched voice or equivalent service without requiring purchase of any other service.	Offers "local usage," meaning "an amount of minutes of use of exchange service, prescribed by the Commission, provided free of charge to end users." § (a)(2). The FCC has never prescribed that minimum.	Offers retail broadband Internet service without requiring purchase of any other service.
	Basic package is flat rated within local calling area for fixed monthly rate.		Basic package (at qualifying speed) is flat rated with either no bit limit or a reasonable upper limit on bits per month.
		Rates in all areas are reasonably comparable to national average urban rate (§ 254(b)(3))	Rate for the basic package is reasonably comparable to national average urban rate.

Topic	Typical State COLR Requirement	Current FCC ETC Rules	Possible Broadband POLR Requirement
	Providers may impose higher rates for higher capacity service such as ISDN and T-1 lines.		Providers may impose higher rates for service with higher flow capacity or higher bits per month limit.
Programs for low-income customers	Offers Lifeline and Link-Up programs, using state-defined parameters for eligibility and benefits "Toll blocking," of outgoing direct-dialed toll calls	Offers Lifeline and Link-Up Toll limitation § (a)(9)	Participates in FCC and state programs for low-income broadband benefits.
Nondiscrimination			
Nondiscrim-ination	No unreasonable price discrimination		No unreasonable price discrimination
	No discrimination against lawful content		No blocking of lawful content, applications, services, or non-harmful devices, subject to reasonable network management (2010 order). No blocking of lawful websites, subject to reasonable network management. No unreasonable discrimination in transmitting lawful network traffic.
C2C			
Inter-connection	On request, interconnects with and trades traffic with other carriers		On request, interconnects with and trades traffic with other carriers and Internet service providers

Topic	Typical State COLR Requirement	Current FCC ETC Rules	Possible Broadband POLR Requirement
	Offers physical access to poles and conduits (47 U.S.C. § 224).		Offers physical access to poles and conduits (47 U.S.C. § 224).
Carrier-to-carrier services and rates	Offers direct or indirect physical connections to all other telecommunications carriers at feasible points of interconnection within the POLR service area (47 U.S.C. § 251(a))		Offers direct or indirect physical connections to all other Internet service providers at feasible points of interconnection within the POLR service area
	Offers interconnecting carriers ability to terminate calls to all end users with dial tone lines		Offers interconnecting service providers ability to send packets to all end users
	Offers digital point-to-point lines to other carriers, including T-1 and T-3		Offers capacity-rated middle-mile services to other service providers, such as gigabit Ethernet
	Interconnection and transport rates are just and reasonable.		C2C rates are just and reasonable.
Management and customer service			
Advertising		Advertise that services are available. § 214(e)(1)(B)	Advertise that services are available.
	Comply with state and federal truth-in-advertising rules.		Comply with state and federal truth-in-advertising rules.
			Publicly disclose accurate information regarding network management practices, performance, and commercial terms.
Capital planning		Submit five-year service quality improvement plan. (2005 Order)	Submit five-year service quality improvement plan.

Topic	Typical State COLR Requirement	Current FCC ETC Rules	Possible Broadband POLR Requirement
Customer service quality	Goals for new service installation		Goals for new service installation
		Reporting of unfulfilled service requests (2005 Order)	Same as ETC
	Limits on unscheduled outage times		Limits on unscheduled outage times
	Reporting of network downtime	Reporting of network outages (2005 Order)	Same as ETC
	Limits on customer trouble occurrence rates		Limits on customer trouble occurrence rates
	Maximum average response time for trouble calls		Maximum average response time for trouble calls
		Reporting of complaints per 1,000 handsets or lines (2005 Order)	Same as ETC
Mapping	Develop maps of service area.		Develop and files GIS maps of service area.
Privacy	Protect privacy of customer information (47 U.S.C. § 222)		Protect privacy of customer information (47 U.S.C. § 222)
Exit	State commission must grant permission to exit market or sell assets. Exiting LEC must follow state mass migration rules.	Before relinquishing ETC, gives adequate notice to customers and state commission, engages in joint planning of exit with other carriers, and obtains advance approval of state commission. 47 U.S.C. § 214(e)(4)	Same as voice ETC. Follows state mass migration rules.

XII. Appendix B – Illustration of Support Mechanism

(Excel spreadsheet filed separately)