Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337

COMMENTS OF WINDSTREAM COMMUNICATIONS, INC.

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Windstream Communications, Inc., on behalf of itself and its affiliates (collectively "Windstream"), submits the following comments in response to the Federal Communications Commission ("Commission") request for comment on its Notice of Inquiry and Notice of Proposed Rulemaking addressing existing high-cost universal service support and the development of the Connect America Fund ("CAF").[1]

I. INTRODUCTION AND SUMMARY

Windstream supports the Commission's intention to reform the high-cost universal service program and target new funds to close gaps in broadband availability. Such reform is essential to eliminate the rural-rural "digital divide" that has arisen under current federal program rules, wherein certain high-cost areas receive generous support and are served by enhanced

[1] *Connect America Fund; A National Broadband Plan for our Future; High Cost Universal Service Support*, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337, Notice of Inquiry and Notice of Proposed Rulemaking (rel. April 21, 2010) ("*NOI and NPRM*").

network facilities, while other high-cost areas—exhibiting comparable cost conditions—are virtually ignored. The Commission's approach should lay the groundwork for new and better broadband service in areas where the majority of rural consumers live.

Windstream has made significant progress with private investment, but this approach may have reached its limit. With relatively little assistance from the federal high-cost program,[2] Windstream has invested nearly $700 million in the past four years to extend broadband to approximately 90 percent of its customer base, up from 76 percent in 2006. Today more than 1.3 million of Windstream's 3.4 million customers subscribe to broadband—a broadband penetration rate that places Windstream ahead of mid-sized incumbent local exchange carriers ("ILECs") and Regional Bell Operating Companies ("RBOCs").[3] This performance is especially impressive in light of the fact that Windstream serves primarily rural regions, where deployment

[2] Windstream receives less than 1 percent of its total revenue from high-cost loop and model support, and less than 3 percent of its total revenues from all federal high-cost support combined.

[3]

Company	Access Lines	Broadband Lines	Broadband Penetration
Windstream	3,114,600	1,167,900	37.5%
AT&T	48,083,000	16,044,000	33.4%
CenturyLink	6,913,000	2,306,000	33.4%
Frontier	2,082,812	644,060	30.9%
Qwest	9,663,000	2,852,000	29.5%
Verizon	31,849,000	9,310,000	29.2%

Sources: Company financial reporting for 1st Quarter 2010 and Leichtman Research Group, "1.4 Million Add Broadband in the First Quarter of 2010," May 12, 2010, *available at* http://www.leichtmanresearch.com/press/051210release.html. Broadband penetration is the quotient of broadband lines divided by access lines.

and operating costs are high and subscriber density is low.[4] Windstream's service areas average less than 20 subscribers per square mile, versus about 100 per square mile for the largest telecommunications providers.

Unfortunately there remains a subset of consumers that lacks access to broadband service despite the substantial private investment made by Windstream and other broadband providers. These consumers generally reside in high-cost, low-density areas, where it is impossible to make a rational economic case for private sector investment in broadband deployment. And because of deficiencies in how universal service mechanisms currently allocate high-cost funds, these consumers' areas receive little or no federal high-cost support.[5]

Indeed, it is true that universal service funding has supported deployment of state-of-the-art fiber networks—some of the finest in the world. But the only entities that have any opportunity to access that level of funding are about 800 small companies and co-ops that together serve a fraction of all consumers in rural America. Other companies, receiving minimal per-line federal universal service funding, actually serve the bulk of rural consumers. The National Broadband Plan quantifies the impact of this disparity: About two-thirds of all housing units without broadband are located in the service territory of price cap companies like

[4] With an average subscriber density of approximately 18 subscribers per square mile, Windstream offers services to approximately 3.4 million access lines in 23 states. Windstream's annual capital expenditures are approximately $380 million.

[5] *See, e.g., High-Cost Universal Service Support, Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Comments of Windstream Communications, Inc. at 7-11 (filed April 17, 2008) (*High-Cost Universal Service Comments*).

Windstream, Frontier, CenturyLink, Qwest, and AT&T.[6] If Windstream received the same per-line support as that received by some of the 800 small companies and co-ops, it too would be able to deliver higher speeds and serve customers who cannot be addressed with private sector investment alone.

The Commission must act now to adopt universal service reforms that stop the current practice of effectively prioritizing one set of rural consumers over another. As recognized by the National Broadband Plan, it would be unconscionable to spend millions more on upgrades to the best networks in the nation before millions of others in rural America have access to any broadband at all.[7] Universal service reform to bring at least 4 Mbps to all unserved rural areas, as the Plan envisions, would make substantial progress in closing the digital divide.[8] Universal service funding should respond directly to the cost of deploying and sustaining networks in high-cost areas, rather than the size or business model of the companies serving those areas.

To facilitate these reforms, Windstream urges the Commission to develop a new model to estimate the costs of providing broadband and voice access to consumers who would not be served absent government support. This model, when approximating costs, should impose the same performance requirements on wireless networks as it does on wireline networks. In other words, performance should be viewed from the vantage point of the consumer, without regard to the platform or technology involved. Furthermore, the model should use a more granular

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[6] *See* Federal Communications Commission, Connecting America: The National Broadband Plan at 141 (rel. March 16, 2010) ("National Broadband Plan") (stating that about 50 percent of unserved households are in the territories of AT&T, Verizon, and Quest, and about 15 percent are in the territories of mid-sized price cap companies).

[7] *Id.* at 136.

[8] *Id*. at 135.

geographic unit than county as the basis for estimating costs. Cable and wireline telecommunications providers' operations typically do not span whole counties, so using counties as the basis for allocating support could cause these providers to engage in expensive new build-outs and create unnecessary spending pressure on the Universal Service Fund.

The Commission should use the new cost model to support two new distribution mechanisms—one to enable a provider of last resort to offer and maintain broadband and voice services throughout a high-cost area, and another that focuses only on new broadband deployment. The first mechanism would offer both up-front deployment and recurring funding, because conditions in high-cost areas receiving this support otherwise would preclude sustained operation of existing facilities, let alone entry of meaningful, unsubsidized competition. The second mechanism would complement the first by offering one-time-only funding for deploying broadband facilities to consumers residing in areas where costs are not high on average, but who nonetheless are very costly to serve. These customers generally live in very isolated pockets of wire centers that otherwise have extensive broadband coverage. Under both mechanisms, the Commission must ensure that support levels coincide with mandates accompanying the support.

Achieving complete broadband and voice availability will not come easily, and not without significant alterations to current allocations of universal service funds. Windstream supports a cap, at 2010 levels, adjusted for inflation, on legacy high-cost support, so long as recipients' support is commensurate with their universal service obligations. To generate additional program outcomes under this proposed cap, the Commission should act now to begin redirecting limited universal service resources. The Commission, in particular, should promptly phase out competitive eligible telecommunications carrier ("CETC") support to Verizon

Wireless and Sprint pursuant to their merger commitments, and the agency should quickly begin eliminating all legacy high-cost support to remaining CETCs. In addition, the Commission should move rate-of-return carriers to incentive regulation—or pursue other measures that would bring funding to rate-of-return carriers in line with support received by carriers under incentive regulation. Ensuring all universal service recipients are delivering communications services in the most efficient manner will alleviate pressures on the Fund and allow redistribution to underfunded, high-cost areas where the rural-rural digital divide is most acute today.

II. A THOUGHTFULLY CRAFTED MODEL CAN ASSIST THE COMMISSION IN DETERMINING APPROPRIATE LEVELS OF FUNDING TO SUPPORT QUALITY BROADBAND AND VOICE SERVICES IN HIGH-COST AREAS.

As the Commission notes, a model can be an efficient tool to assist it in estimating the appropriate amount of universal service funding to support networks providing broadband and voice service.[9] Even if the Commission ultimately adopts a primarily market-based mechanism to identify appropriate support levels for deployment in unserved areas, an accurate model, by providing an approximation of the proper costs to provide service, will assist the Commission in ensuring that limited high-cost funding is distributed as efficiently as possible. This in turn will minimize costs to consumers, who are ultimately the ones funding universal service.

With a cost model, as with most things, the devil is in the details. There are numerous crucial questions that the Commission's discussion so far has not addressed: What is the "quality voice service" that will be supported by CAF—facilities-based service over broadband, a voice application over broadband, Plain Old Telephone Service, or something else? What

[9] *NOI and NPRM* at ¶ 13.

features, services, quality levels, and reliability will be required? Would carriers be obligated to deploy broadband-capable connections to all customers in the supported areas, or only those who actually request broadband? Will the CAF support voice service in the highest-cost areas that the Commission envisions will be served by satellite broadband? How will the reforms of universal service and intercarrier compensation interplay? How will a new access recovery mechanism fit into calculations of appropriate universal service reform?

As the Commission considers these issues and the broader question of how to use a new model for distribution of CAF support, Windstream offers several recommendations. First, the Commission's model development process should be completely open and transparent, so that all interested parties can offer informed comment. Second, the Commission should develop a new model to estimate the approximate costs of providing broadband and voice services when a rational economic case cannot be made for offering these services absent government support. This model should be separate and distinct from the investment gap analysis used for the National Broadband Plan. Third, the Commission should use this new model to support two new distribution mechanisms—one to enable a provider of last resort to offer and maintain broadband and voice services throughout a high-cost area, and another to enable initial deployment of new broadband facilities needed to reach unserved households falling outside of areas where costs are consistently high. Fourth, any model should use a more granular geographic unit than county as the basis for CAF funding decisions. Finally, the Commission must apply rigorous oversight and devote adequate resources to maintaining the model used to support distribution of CAF funds.

A. The Model Development Process Should Be Rigorous, Open, and Transparent.

As the Commission advances the creation of any new cost model, it is essential that the development process be rigorous, open, and transparent. In the *First Report and Order* on universal service, the Commission set forth 10 criteria that any model methodology should meet,[10] and the Commission should revisit these criteria as it develops a national cost model for broadband and voice service. In particular, the following criteria have broad applicability:

> (8) The cost study or model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible.
>
> (9) The cost study or model must include the capability to examine and modify the critical assumptions and engineering principles. . . .[11]

As the Commission sets out to answer the myriad questions raised in the *NOI*—the appropriate cost basis for a model, extent to which revenues should offset costs, etc.—an open process in which all of the underlying data may be vetted by all interested parties is most likely to generate, if not a consensus, a fair process and considered approach for moving forward.

It makes sense to develop any new cost model using a similar, multi-stage procedure as that used for development of the Hybrid Cost Proxy Model ("HCPM"), and to permit all interested parties to review and comment on the Commission's proposals (including all underlying data) or to propose their own alternative algorithms and inputs. In the case of the HCPM, the development proceeded in two stages. The first established the model platform or framework, and in the second, the Commission selected inputs for the model, such as cost of

[10] *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 8899, ¶ 250 (1997) ("*First Report and Order*") (subsequent history omitted).

[11] *Id.*

components and various capital cost parameters.[12] As recognized in this process, only with complete transparency will parties be able to comment meaningfully and contribute to development of a model generating accurate results.

B. An Altogether New Cost Model Would Best Assess the Approximate Costs of Providing Broadband and Voice Services When There Is No Rational Economic Case to Be Made for Offering Services Without Government Support.

Comprehensive Universal Service Fund reform should include development of a new cost model for deployment, operation, and maintenance of broadband and voice networks when it would be uneconomic for a communications provider to invest in building and sustaining these networks absent support. This model should be comprised of two separate components. First, the model should include a component that calculates ongoing, forward-looking economic costs for offering voice and broadband services in specified high-cost areas. These ongoing costs would encompass operation and maintenance costs incurred for broadband and voice facilities, as well as depreciation and return on investment required for facilities already deployed with private sector investment.[13]

Second, the model should include a component that calculates new broadband deployment costs required to meet the Commission's baseline broadband availability target.

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[12] *Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High-Cost Support for Non-Rural LECs*, Fifth Report and Order, CC Docket Nos. 96-45, 97-160, 13 FCC Rcd 21323, 21328, ¶ 11 (1998) ("*Universal Service Fifth Report and Order*").

[13] *See First Report and Order*,12 FCC Rcd at 8899, ¶ 250 (concluding that long-run forward looking economic cost should address "a period long enough that all costs may be treated as variable and avoidable" and must not "be the embedded cost of the facilities, functions, or elements").

This component of the model would assess only incremental capital expenditures required when deploying broadband to unserved households.[14] Efficiency demands that the model take into account any relevant existing infrastructure—rather than utilizing a green-field approach—when comparing costs for build-outs using different technologies.[15] In addition, broadband costs addressed by the model should encompass only those costs that would need to be incurred to meet the "baseline" broadband availability target for all unserved areas.[16] Given that CAF resources are limited, the Commission should delay any consideration of targeting support toward higher-capacity service, such as 100 Mbps broadband capability in high-cost areas, as other parties have advocated,[17] until after the "baseline" broadband availability target is met in all areas.

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[14] "Unserved households," as used in these comments, refer to households that lack access to broadband service meeting the Commission's baseline availability target.

[15] *See* Omnibus Broadband Initiative, The Broadband Availability Gap (OBI Technical Paper No. 1) at 34 ("OBI White Paper").

[16] The National Broadband Plan recommends that the Commission direct public investment toward meeting an initial national broadband availability target of 4 Mbps download speed and 1 Mbps upload speed. *See* National Broadband Plan at 145. Though the 4 Mbps download speed threshold is appropriate, the Commission should reassess whether the incremental benefit of a ubiquitous 1 Mbps upload speed threshold outweighs the incremental additional deployment cost over a more universally accepted upload speed of 768 Kbps. *See* Appendix at 6. In particular, the Commission should consider setting a combined upload/download speed target (e.g., 5 Mbps) that would give service providers flexibility in allocating upload and download capacity when responding to their customers' needs.

[17] *See, e.g.*, Letter from Daniel Mitchell, NTCA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51, CC Docket No. 96-45, WC Docket Nos. 10-90, 05-337, and 01-92 (May 20, 2010) at 1 ("NTCA Letter"); Letter from Gerard J. Duffy, Blooston, Mordkofsky, Dickens, Duffy & Prendergast, LLP (on behalf of Organization for the Promotion and Advancement of Small Telecommunications Companies and the Western Telecommunications Alliance), to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51 and WC Docket Nos. 10-90 and 05-337 (May 19, 2010) ("OPASTCO and WTA Letter").

When implementing comprehensive reforms, the Commission should not seek to rely upon or tweak the existing HCPM when performing the function of establishing the total costs to maintain and operate broadband and voice facilities in areas requiring ongoing support. As the Commission notes, there have been many improvements in cost modeling in recent years, and the HCPM cannot be modified readily to estimate levels of direct support for various technologies that may be funded pursuant to comprehensive universal service reform.[18] While the HCPM could be a useful tool in implementing near-term reform,[19] a new and improved cost model will help the Commission ensure that limited high-cost funds reallocated by comprehensive reform are targeted to the high-cost areas most in need of support.

The investment gap analysis developed for the Omnibus Broadband Initiative ("OBI White Paper" or "White Paper") also is not well-suited for modeling existing network costs. As the Commission recognizes, the OBI White Paper has a very limited scope.[20] The analysis does not address the full cost of maintaining and operating existing voice and broadband networks, including the costs of fulfilling provider-of-last-resort obligations. Furthermore, the White Paper does not take into account universal service funds and intercarrier compensation revenues that carriers currently use to support their existing networks, or the impact that reducing or eliminating support would have on networks that have already been deployed.

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[18] *NOI and NPRM* at ¶ 32.

[19] *See* Comments of CenturyLink, Consolidated Communications, Frontier Communications Corporation, Iowa Telecommunications Services, Inc., and Windstream Communications, Inc., GN Docket No. 09-51 (Dec. 7, 2009), Attachment at 1-2 ("Broadband Now Plan").

[20] *NOI and NPRM* at ¶ 33.

The new model must recognize that wireless networks that are often proposed as lower-cost alternatives under the investment gap analysis often are wholly reliant on or rely greatly on existing wireline networks and may not be viable independent of the wireline networks they utilize. The Commission risks the possibility that some providers-of-last-resort will be unable to survive financially, and thus will abandon maintenance of the wireline networks on which local wireless providers may depend. If these issues are not accounted for by the new model, customers in high-cost areas could be stranded, lacking access even to basic voice service.

To the extent the model incorporates elements of the National Broadband Plan's investment gap analysis when assessing new deployment costs in unserved areas, the new model must ameliorate the shortcomings of the gap analysis presented in the OBI White Paper. Windstream is particularly troubled by undue disparities in how the OBI White Paper addresses presumed broadband deployment requirements for wireless and wireline networks. As conceived by the OBI White Paper, it appears that wireless providers, unlike their wireline counterparts, would not be required to offer ubiquitous 4/1 Mbps speeds to all consumers in a supported area: The gap analysis does not appear to account for the top 10 percent of broadband users (who are responsible for approximately 65 percent of network capacity needs) when modeling fixed wireless costs,[21] and the analysis seems to presume that wireless providers would not be required to offer 4/1 Mbps speeds throughout the entirety of a supported area like their wired network counterparts.[22] The OBI White Paper also seems to adopt unjustifiably different approaches to projecting revenues that wireless and wireline broadband services would generate

[21] Appendix at 2-3.

[22] *Id.* at 3-4.

to help offset deployment costs.[23] Windstream offers further comments and questions regarding the OBI White Paper in the attached Appendix.

Finally, it is essential that the Commission define what it means by "high-quality voice service" with regard to its National Broadband Plan goals.[24] Depending on whether the Commission envisions that carriers must provide facilities-based voice service over broadband, the financial impact to high-cost USF can be significantly different. For example, Windstream currently installs broadband ports sufficient to support the percentage of its customers that are forecasted to subscribe to its broadband service in the reasonably foreseeable future. If providers were required to supply broadband ports to all voice customers, in areas where broadband is already deployed, the costs would be significantly greater in total, perhaps by hundreds of millions of dollars just for a single provider.[25]

C. The New Cost Model Should Be Used to Support Two Separate Distribution Mechanisms—One that Targets Funds to Networks in Granular, High-Cost Areas Requiring Ongoing Support, and Another that Directs One-Time-Only Support to Reach Unserved Households Falling Outside of Areas Where Costs Are Consistently High.

The Commission should use its new cost model to support two distinct mechanisms for distributing CAF funding. First, the Commission should create a mechanism to distribute funding to a single entity for deployment and ongoing costs in each granular area designated as

[23] *Id.* at 7-8.

[24] *See, e.g.*, National Broadband Plan at 145.

[25] *See* Letter from Eric N. Einhorn, Windstream, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-45 and 01-92; WC Docket Nos. 99-68, 05-337, 06-122, 07-135, and 08-152 (Oct. 27, 2008) at 3.

"high-cost." This process will ensure that each area has a single provider of last resort that is not subject to unfunded obligations to deliver service. Second, the Commission should create a mechanism to distribute funding for broadband deployment to unserved households that are not located in consistently high-cost areas, but nonetheless are uneconomic to serve. In this mechanism, the cost model would be used primarily as a backstop against potential abuse in a market-based distribution process.

1. A New Mechanism Should Target Funds to the Provider of Last Resort Selected to Offer Broadband and Voice Services Throughout a High-Cost Area Requiring Support for Ongoing Costs.

The Commission should develop a distribution mechanism for broadband and voice facilities in granular, high-cost areas most in need of support. The model-determined support for each such area should include recurring support for ongoing costs,[26] as well as one-time-only support for new deployment of broadband facilities required to meet the Commission's baseline broadband availability target. This high-cost-area mechanism would ensure that a reasonable amount of support would be directed toward a single provider that is willing to assume provider-of-last-resort obligations for both broadband and voice.[27]

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[26] Consistent with costs assessed by the new model, these ongoing costs would include operation and maintenance costs incurred for broadband and voice facilities, as well as depreciation and return on investment required for facilities already deployed with private sector investment.

[27] An exception to this single-supported-provider regime would be if, as discussed in the National Broadband Plan, the Commission considers utilizing satellite broadband to address the highest-cost areas. *See* National Broadband Plan at 150. In that case, the Commission may support a satellite provider-of-last-resort for broadband and a terrestrial provider-of-last-support for telephone service.

Consumers seeking voice and broadband services in truly high-cost areas—which often have low household density, long distances between customer groups, and difficult terrain—depend upon continued government support of a provider of last resort for access to reliable broadband and voice services. Conditions in these high-cost areas would otherwise preclude sustained operation of existing facilities, let alone entry of meaningful, unsubsidized broadband and voice competition. Data on the presence of an unsubsidized cable competitor in the highest-cost wire centers—or, more typically, the absence of any such competitor—is clear evidence of the need for support of existing facilities. For example, in Windstream's wire centers where the forward-looking cost per line exceeds 2.75 times the national average, only 11 percent have a cable telephony provider present *somewhere* in the wire center (which does not mean that the cable provider offers telephony or broadband service *throughout* the exchange area).[28]

The Commission could ensure support for high-cost areas is allocated in a competitively neutral manner by making it possible for competitive communications providers to challenge and replace existing carriers as the provider of last resort for both broadband and voice. Specifically, Windstream proposes that the current provider of last resort in each area have the option to either offer to accept the model-determined support and continue to assume provider-of-last-resort obligations, or decline support and no longer be subject to provider-of-last-resort obligations. Other communications providers could challenge the incumbent's position by also offering to

[28] *High-Cost Universal Service Support, A Broadband Plan for our Future, National Cable and Telecommunications Association Petition for Rulemaking to Reduce Universal Service High-Cost Support Provided to Carriers in Areas Where There is Extensive Subsidized Facilities-Based Voice Competition*, WC Docket No. 05-337, GN Docket No. 09-51, RM-11584, Comments of Windstream Communications, Inc., at 20 (filed Jan. 7, 2010) (describing conditions in Windstream's 649 wire centers where the forward-looking cost per line exceeds 2.75 times the national average, based on the Commission's current high-cost model).

accept the support in exchange for assuming provider-of-last-resort obligations. If more than two providers sought out support, then the communications provider offering to assume the provider-of-last-resort obligations for the least amount of government funding would win the support and assume accompanying obligations. The sole communications provider designated as the provider of last resort would be held accountable for offering baseline broadband and voice services to all households within the supported high-cost region, while any other providers in the area would be relieved of any and all retail and wholesale regulatory obligations.

2. The Mechanism for Unserved Households in Areas Where Costs Are Not Consistently High Should Consist of a Competitive Bidding Process, with the New Model Used to Estimate an Appropriate Subsidy Level that Would Be Compared with Bids *After* They Are Received.

Even in areas where deployment and operating costs are generally low, there can be small pockets of households where, for various reasons, no rational economic case can be made for initial build-out of broadband service. For example, Windstream's Ashland, Kentucky exchange is generally characterized by areas of high density and low cost, but Windstream cannot develop a rational economic case to deploy broadband service to the 20 percent of its voice customers who reside in isolated pockets of the exchange where there are especially low population densities. Up-front government support is needed for broadband providers to extend their networks to unserved consumers like these—which may fall within clusters of just a few or several dozen households. Then, once the initial barrier to deployment is surmounted, ongoing

government support generally would not be required.[29] To address unserved consumers in Ashland and similar exchanges, Windstream supports the development of a separate distribution mechanism that would determine support for the initial build-out of broadband facilities to unserved households that do not fall within areas where deployment and operating costs are consistently high, but deployment to which nonetheless would be net present value-negative. This mechanism would rely primarily on market-driven outcomes determined by the providers in these low-cost areas to determine support based *solely* on the incremental cost of upgrading or extending existing networks to provide broadband. Consistent with the discussion above, the mechanism, at first, only would distribute funding required to meet the "baseline" broadband availability target for all unserved areas.

In this context, the new costs model should serve as a complement to a competitive bidding process that, when structured properly, can be an important tool to help the Commission distribute limited CAF support in an efficient and technology-neutral manner. Windstream supports the concept of using competitive bidding to identify appropriate support levels for unserved households that do not fall within consistently high-cost areas. As the Commission has recognized, a properly designed competitive bidding system is likely to identify the lowest-cost provider in an area and the minimum level of subsidy required to achieve the desired build-out.[30]

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[29] To the extent deploying to an unserved area could cause a broadband provider to incur high incremental operating costs (such as middle-mile lease transport expenses), additional government funding may be appropriate.

[30] *See High-Cost Universal Service 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 1495, 1500, ¶ 11 (2008); National Broadband Plan at 145.

It is critical that any market-based mechanisms impose the same performance requirements on all technologies.[31]

With regard to funding for build-out of new broadband facilities to unserved households falling outside of consistently high-cost areas, the model should be used primarily as a backstop against potential abuse in a market-based distribution mechanism. Specifically, the Commission should use the model to estimate an appropriate subsidy level that will be compared with bids *after* they are received. If bids to serve a particular area are lower than the subsidy level supported by the model for that area, then the Commission may accept the lower bid and avoid over-subsidizing the area. If the bid or bids are higher than the subsidy level supported by the model, the Commission may choose to seek further justification from the bidders before awarding a subsidy that is higher than what the model would suggest is appropriate, or it may choose to conduct another bidding round. In this way, the mechanism allows the market in most cases to determine the efficient level of subsidy for a given area, and provides a safeguard in cases where there is insufficient competition to set an efficient subsidy level, or where the market-based process otherwise could permit over-subsidization.

The model, however, should not be used to set a reserve price that is known by potential bidders before the bidding process begins. A transparent and open model development process need not lead to public disclosure of model-predicted costs for an individual geographic area.[32]

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[31] *See, e.g., Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, RM-8143, Report and Order, 11 FCC Rcd 18767 (1996) (requiring wireless telephone providers to subscribe to the same enhanced 911 standards as wireline telephone providers).

[32] To ensure a transparent model development process, the network design parameters, assumptions, and costs per unit of various network components will need to be available for

And indeed, it would be bad policy for the Commission to permit this disclosure to occur. As the Commission correctly notes, a publicly disclosed reserve price that is set too low might discourage bidders from participating.[33] Alternatively, a publicly disclosed reserve price that is set too high raises the possibility that too much support would be allocated to a particular area. To the extent that carriers can readily identify areas where the model overestimates costs, they can "game the system" by seeking out opportunities for over-subsidization. On a large scale, this misallocation of funds could put immense strain on the CAF.

D. County Is Not the Appropriate Geographic Unit on Which to Base Future CAF Funding Decisions.

Windstream understands the Commission's desire to aim toward using a geographic unit that will permit a technology-neutral evaluation when estimating costs that should be addressed with future CAF support. However, the use of counties, which were employed in the OBI White Paper, actually would be anything but technology-neutral in application.[34] In practice, the use of counties as the geographic unit for funding determinations would largely exclude wireline

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public review. Any company-specific proprietary information should be made available pursuant to confidentiality protections, for the limited purpose of assessing the reasonableness of the inputs and standard design plans. However, it is not necessary, for the purposes of model development, for the Commission to make public the broadband service conditions for all households in a given area (currently served and unserved), and geocoding on where those households are located. That information would be necessary to determine the model's prediction of costs or reserve price for an individual granular area.

[33] *NOI and NPRM* at ¶ 20.

[34] As the Commission notes, the OBI White Paper assessed the availability gap of various technologies at the county level, because the White Paper presumed that counties would be "large enough in most cases to provide the scale benefits but not so large as to inhibit the deployment of the most cost-effective technology." *NOI and NPRM* at 41-42.

telephone and cable companies from competing to receive high-cost funding, and would fail to leverage existing network facilities to extend broadband to unserved areas in the most efficient fashion. ILECs are certified to provide service in geographic areas that often merely encompass subsets of counties, and have deployed network facilities only in the areas where they are certified, which tend to represent townships or municipalities, not counties. For ILECs to provide service throughout a county, they must earn certification as competitive local exchange carriers ("CLECs") and deploy new facilities in areas outside their franchise areas. Deploying altogether new wired facilities outside of an ILEC's service territory is extremely expensive and likely would mean that the ILEC is not the lowest-cost provider for the county, though it may well be the lowest-cost provider, by far, for large portions of the county.

For the Commission to leverage existing network facilities to extend broadband to unserved areas (a key goal of the National Broadband Plan),[35] and to better serve the universal service mission of targeting support to *truly* high-cost areas,[36] providers such as ILECs (and cable providers, which also operate in specific franchise areas) must be able to receive funding to provide service in geographic areas that closely resemble or at least are compatible with their existing service areas. There is significant Commission precedent in support of this approach. The Commission recognized the need to leverage existing facilities when granting wireless CETCs permission to redefine ILEC study areas to better resemble their license areas when

[35] *See* National Broadband Plan at 138, 145.

[36] *See* 47 U.S.C. § 254(b) (stating that consumers in rural, insular and high cost areas should have access to telecommunications services at rates that are "reasonably comparable to rates charged for similar services in urban areas," and that these rates should be "just, reasonable, and affordable").

applying for federal support.[37] Moreover, the HCPM currently estimates costs based on conditions within a wire center—a far more granular unit than a county.[38] Consistent with this longstanding Commission precedent, geographic areas used to estimate costs necessarily should consider conditions within geographic units that are far smaller than counties.

E. The Commission Must Provide Adequate Oversight and Ongoing Support.

Finally, Windstream emphasizes that the Commission must provide adequate personnel and equipment support, as well as rigorous, transparent processes for ongoing adjustment of the models. A significant weakness of the existing HCPM is that adequate resources have not been dedicated to maintain and update it. The Commission acknowledges in the BAM Model Documentation the immense amount of technological resources that went into the development of data just to inform the OBI White Paper.[39] Without the commitment of significant initial and ongoing support, any new model will quickly become outdated and ineffective.

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[37] *See, e.g., High-Cost Universal Service Support Federal-State Joint Board on Universal Service, Alltel Communications, Inc., et al. Petition for Designation as an Eligible Telecommunications Carrier*, WC Docket No. 05-337, CC Docket No. 96-45, Order, 23 FCC Rcd 17940 (2008) (designating St. Lawrence Seaway as an ETC with a service area below the study area level of Citizens/Frontier).

[38] In the *First Report and Order* on universal service, the Commission recommended that the model "deaverage support calculations to the wire center serving area level at least, and if feasible, to even smaller areas such as a Census Block Group, Census Block, or grid cell." *First Report and Order*, 12 FCC Rcd at 8861, ¶ 150.

[39] *See, e.g.,* Broadband Assessment Model, Model Documentation, at Attachments 2, 10.

III. THE COMMISSION SHOULD HALT GROWTH IN THE HIGH-COST PROGRAM AND TAKE CALCULATED NEAR-TERM STEPS TO BETTER TARGET FUNDING ACCORDING TO NEED AND EFFICIENCY.

As the Commission is well aware, the current high-cost support program is seriously flawed. The fund has grown rapidly over the past 10 years, increasing the burden on consumers, who ultimately bear the costs of contribution. But even this larger fund is failing to achieve its goals because support levels are not based on the needs of communities, or in many cases, on the appropriate costs incurred by carriers. High-cost support is funding extremely high-speed networks in one small town served by a rate-of-return carrier, while failing to fund even baseline speed networks in the next town over, which is served by a price-cap carrier. Some rural areas have more than a dozen competing carriers, because each receives funding based on the costs of the local incumbent, which maintains the wireline infrastructure in the high-cost area. Significant change is needed, and as critical first steps toward a more efficient, equitable and accountable high-cost support system, Windstream supports a cap on legacy high-cost support and several short-term steps to better target funding according to need and efficiency.

A. To Address Sustainability of the Universal Service Fund, Legacy High-Cost Support Should Be Capped at 2010 Levels, So Long as the Commission Sufficiently Funds All Universal Service Requirements.

Windstream supports a cap, at 2010 levels, adjusted for inflation, on legacy high-cost support, as long as recipients' financial support is commensurate with their universal service obligations. Windstream agrees with the Commission that containing growth in the legacy high-cost support mechanisms is a critical component of comprehensive universal service reform.[40]

[40] *NOI and NPRM* at ¶ 51.

Windstream has long believed that capping the fund at some appropriate level is a reasonable means to address sustainability of the Universal Service Fund while the Commission determines how to distribute funds to high-cost areas in a more equitable, targeted manner.[41]

Such a cap can only be workable, though, if the Commission does not burden high-cost support recipients with unfunded obligations, such as a mandated extension of broadband offerings in high-cost areas or continuance of voice service in areas that are uneconomic to serve absent support. Imposing these types of obligations in the absence of additional support could prevent carriers that have not been able to deploy broadband in an area from being eligible to receive *any* high-cost assistance for that area, because the cost of further broadband deployment could greatly outweigh available universal service support.[42] Such carriers no longer would be able to use high-cost funds to help defray the substantial costs of shortening loops and otherwise upgrading dual-use plant. Unfunded mandates, therefore, both would fail to achieve their intended effect—more widespread broadband deployment—and would have the unintended effect of degrading existing communications services in high-cost areas.

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[41] *See, e.g., In re High-Cost Universal Service Support*, WC Docket No. 05-337, Comments of Windstream Communications, Inc. at 52-53 (filed Nov. 26, 2008) ("*Intercarrier Compensation Comments*").

[42] For Windstream in particular, the significant amount of capital investment required to meet a ubiquitous broadband commitment would far outweigh the amount of high-cost support it receives, even when this support is considered over a multiyear period. Windstream currently receives $108 million in annual federal high-cost support—just $3.06 per line per month—to offer telecommunications services over a sparsely populated service territory. This amount of high-cost support pales in comparison to the funding needed to offer broadband to Windstream's approximately 364,000 customers who currently do not have access to this service. Windstream previously has estimated that it would cost approximately $2 billion to deploy 6 Mbps downstream service to all of its customers. *A National Broadband Plan for Our Future*, GN Docket Nos. 09-47, 09-51, 09-137, Comments of Windstream Communications, Inc.—NBP Public Notice #11 at 6 (Nov. 4, 2009).

With regard to the implementation of the cap on legacy high-cost support, Windstream recommends that the Commission separately cap the level of support at its 2010 total amount under each of the five major support mechanisms—High Cost Loop, High Cost Model, Interstate Access, Interstate Common Line, and Local Switching—within each study area. This approach has two primary benefits. First, as the Commission develops its plans for repurposing the Universal Service Fund to support broadband and potentially phasing out certain existing support mechanisms, this approach will enable a more transparent and steady path for carriers that depend on high-cost support. Second, this approach will minimize unintended redistributions among support mechanisms and study areas and prevent some carriers from receiving windfalls during the transition at the expense of others.

Finally, to the extent the Commission enacts intercarrier compensation reform, as it intends, it must ensure either that the capped Fund is sized so that universal service support is available for access replacement required to accomplish this reform, or that there is a method by which the cap can be raised to account for new access replacement funding. Intercarrier compensation reforms, done in the wrong manner, might result in unprecedented reductions in carriers' revenues, and it would be essential that carriers have access to a mechanism for reasonable recovery of this lost implicit support.[43] This revenue loss could be devastating especially in light of the fact that the Universal Service Fund fails to provide sufficient, explicit high-cost support today. Unless the Fund is sized to account for this new explicit universal service support, an alternative recovery mechanism would be impracticable, and mid-sized price-cap carriers would be forced either to attempt to raise rates for customers in lower-cost areas to

[43] *See Intercarrier Compensation Comments* at 22-23.

subsidize the delivery of comparable service to customers in high-cost areas, or to lower overall operating costs and reduce investments in network maintenance and enhancements.[44]

B. The Commission Should Take Near-Term Steps to Eliminate Universal Service Support in Instances Where Such Support Clearly Is Not Justified.

For the most part, Windstream agrees with the National Broadband Plan's suggested first steps to reduce funding in the legacy high-cost support mechanisms and shift those funds toward deployment, operation, and maintenance of broadband and voice service in the areas that truly are most in need of support. The Commission should promptly phase out CETC support to Verizon Wireless and Sprint pursuant to their merger conditions, and also should quickly begin eliminating all remaining legacy high-cost support received by CETCs. Further, the Commission should move rate-of-return carriers to incentive regulation—or pursue other measures that would produce comparable savings—to effect a more efficient and equitable distribution of scarce resources. Windstream, however, disagrees with the Commission's recommendation to eliminate IAS without first conducting a reevaluation of its role and sufficiency, and without firming up successor funding sources. Finally, Windstream notes that the Commission must address the High-Cost Loop program, which represents nearly one-third of all high-cost funding, if it hopes to capitalize sufficiently on the CAF.

[44] *See id*.; Letter from Gregory J. Vogt (on behalf of Consolidated Communications, Windstream Communications, CenturyTel, Inc., Embarq, FairPoint Communications, Inc., Iowa Telecommunications Services, Inc., and Frontier Communications) to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-92, 99-68, and 96-45; WC Docket No. 05-337 (Oct. 20, 2008).

1. The Commission Should Eliminate All Legacy High-Cost Support to CETCs.

Windstream supports the National Broadband Plan recommendation that the Commission phase out remaining competitive ETC funding under the existing universal service mechanisms and target the savings toward the deployment of broadband and voice services.[45] Although ILEC support has declined slightly since 2003, competitive ETC support has grown more than 1,000 percent over that period.[46] The Commission must recapture this money, nearly one-third of the total high-cost funding, if it hopes meaningfully to fund broadband deployment in unserved areas. In addition, as recognized in the National Broadband Plan, subsidizing more than one provider per geographic area imposes irrational burdens on the consumers who contribute to the Universal Service Fund.[47]

Windstream agrees with the National Broadband Plan's recommendation that the Commission should issue an order implementing Sprint's and Verizon Wireless's commitments to phase out CETC funding,[48] and Windstream urges the Commission to require that this phase out occur by December 31, 2012, in accordance with the companies' voluntary commitments in 2008. CETC funding to other entities should be phased out over a period of no longer than five years, beginning in 2011. An accelerated phase-out of CETC high-cost funding, as contrasted with ILEC funding, is appropriate. CETCs are situated differently from ILECs: The identical

[45] *See* National Broadband Plan at 147-48.

[46] 2009 Universal Service Monitoring Report (data through August 2009), Federal-State Staff for the Federal-State Joint Board on Universal Service, Table 3.2 (Dec. 31, 2009) ("2009 Monitoring Report").

[47] National Broadband Plan at 145.

[48] *Id*. at 147.

support rule until now has provided a windfall to CETCs, and CETCs are not subject to the carrier-of-last-resort obligations and extensive rate and economic regulation imposed on ILECs. Even if they lose high-cost support, CETCs would be free to choose which markets to serve and determine how much to charge for services.

a. High-cost support to CETCs has skyrocketed, due to inefficient funding of more than one provider per high-cost area.

The Universal Service Fund has grown rapidly in recent years because of massive increases in support to competitive ETCs. Support to CETCs has grown from $500,000 to $1.4 billion (where it was capped on an interim basis in 2008), in less than a decade. ILEC support has actually declined slightly since 2003, while competitive ETC support has grown more than 1,000 percent, from $130 million to $1.4 billion, over that period.[49] CETC growth has occurred across all five major high-cost mechanisms, and overall the 212 CETCs draw nearly half of the amount that the 831 ILECs draw, and more than all of the "non-rural" ILEC support combined.[50] This imbalance threatens the health of the universal service program and contributes significantly to the lack of further broadband deployment in high-cost areas. As the Federal-State Joint Board on Universal Service ("Joint Board") recognized in recommending the interim cap on CETC support, "without immediate action to restrain growth in competitive ETC funding, the federal universal service fund is in dire jeopardy of becoming unsustainable."[51]

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[49] 2009 Monitoring Report at Table 3.2.

[50] National Broadband Plan at 159.

[51] *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Recommended Decision, 22 FCC Rcd 8998, ¶ 4 (2007) ("*Interim Cap Recommended Decision*").

A major factor in the explosive growth of CETC support is that, as noted in the National Broadband Plan, in some areas the Universal Service Fund supports more than a dozen CETCs that provide voice service,[52] and in many instances, wireless CETCs receive support for multiple handsets on a single family plan.[53] Given the priority the Commission has placed on targeting support to both broadband and voice service to all areas, the Commission must move away from subsidizing more than one carrier in high-cost areas and must redirect this substantial amount of CETC funding toward deployment, operations, and maintenance, by a single carrier in each area, of networks offering broadband and voice networks to unserved customers. This change in approach better serves the Commission's statutory mission by expanding services without unnecessarily burdening the consumers who contribute to the Universal Service Fund.[54] In addition, this strategy continues to serve the Telecommunications Act of 1996's goal of opening local markets to competition, because all eligible telecommunications companies, both incumbents and competitors, will be able to compete for CAF funding, so long as they agree to meet any provider-of-last-resort obligations that should accompany it.[55]

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[52] *See* Letter from Michael J. Copps, Acting Chairman, FCC, to the Honorable Henry J. Waxman, Chairman, Committee on Energy and Commerce, U.S. House of Representatives, Part 4 (May 4, 2009), *available at* http://energycommerce.house.gov/index.php?option=com_content&view=article&id=1644.

[53] National Broadband Plan at 148.

[54] *See* 47 U.S.C. § 254(b)(5) (stating the Commission should ensure "specific, predictable, and sufficient Federal and State mechanisms to preserve and advance universal service").

[55] *See Alenco Communications, Inc. v. FCC*, 201 F.3d 608, 620 (5th Cir. 2000) ("The Act only promises universal service, and that is a goal that requires sufficient funding of customers, not providers. So long as there is a sufficient and competitively-neutral funding to enable all customers to receive basic telecommunications services, the FCC has satisfied the Act and is not

b. CETCs—particularly the wireless CETCs who get the bulk of high-cost support—currently receive windfalls in universal service funding because of the identical support rule.

The identical support rule allows for the disbursement of high-cost support to CETCs based on the costs of the local ILEC, and permits CETCs to obtain support that bears no relation to the nature or level of their own costs. First, CETCs receive 34 percent of all IAS and 40 percent of all ICLS[56] even though CETCs have no legitimate need for access charge replacement funding. As the Commission has observed, "IAS and ICLS were created by the Commission in order to maintain the Commission's cap on subscriber line charges ("SLC") rates that incumbent LECs may charge end users, while eliminating the implicit support found in common line access charges, imposed by incumbent LECs on interexchange carriers, that previously preserved the lower SLC rates."[57] IAS and ICLS funding to incumbents largely subsidizes the non-traffic-sensitive (loop) portions of their networks. Wireless CETCs have no comparable loop components of their networks to justify the receipt of IAS or ICLS funding. In addition, permitting CETCs to receive these access charge replacement funds, as tentatively concluded by the Commission, is "inconsistent" with how CETCs are regulated, including how they "recover

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further required to ensure sufficient funding of every local telephone provider as well. Moreover, excessive funding may itself violate the sufficiency requirements of the Act.")

[56] Based on third-quarter USAC projections, 2010 IAS will be approximately $705 million, of which CETCs will receive $237 million, and 2010 ICLS will be approximately $1.86 billion, of which CETCs will receive $738 million.

[57] *High-Cost Universal Service 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 1467, 1477, ¶ 23 (2008) ("*Identical Support Rule NPRM*").

their costs or set rates."[58] ILECs are generally subject to provider-of-last-resort obligations and extensive rate and economic regulation. In contrast, CETCs can choose which geographic markets to serve, determine how much to charge for services, and recover all of their costs directly from end users.

Second, CETCs receive Local Switching Support ("LSS") based on a formula that bears no relation to their actual switching costs. As the Commission has noted, LSS includes a number of assumptions regarding switching costs, such as the economies of scope and scale, that are not likely to be accurate for CETCs.[59] CETCs receive support for offsetting special high costs incurred by small ILECs, though CETC switch expenses differ from those of small ILECs. Furthermore, CETCs generally serve large geographic areas with one switch and, thus, have more scale than the small ILECs (with study areas comprising less than 50,000 lines) for which LSS was intended.[60]

Finally, CETCs receive high-cost model and high-cost loop support as a function of incumbent carriers' costs, which are unrelated to the CETCs' costs and often are based on different technologies. Theoretically, the identical support rule could result in under-compensation of CETCs, if CETCs have higher network costs, but evidence supports the hypothesis that the rule most often results in over-compensation of CETCs. The Commission, in its 2008 *Order* establishing an interim cap on CETC high-cost support, adopted an exception to the cap for a CETC if it files cost data demonstrating that its costs meet the support threshold in

[58] *Id*.

[59] *Id*. at ¶ 24.

[60] *See First Report and Order*, 12 FCC Rcd at 8941-42, ¶¶ 303-04.

the same manner as the incumbent LEC.[61] The Commission has not approved any such requests for exception submitted by CETCs, and to Windstream's knowledge, only one cost data study has been submitted,[62] and it has not been approved by the Commission. The lack of cost study filings indicates that CETCs are receiving high-cost support that meets their needs, or exceeds their needs—and thereby undermines marketplace competition. Funding under the identical support regime would be competitively neutral only if all carriers' costs were identical, thereby ensuring that no provider received more support than its costs would justify.

The Commission must exercise caution in reducing or changing modes of support to incumbent carriers serving as the providers of last resort, but there is much less concern with respect to CETCs, which for years have received high-cost support at the same levels as incumbents despite the fact that they bear no responsibility for maintaining the essential network infrastructure. If the Commission hopes to achieve its goal of universal deployment of broadband, it must act to recapture, in an accelerated fashion, the nearly one-third of total high-cost support that currently is going to CETCs.

c. The Commission should reduce CETC support on an accelerated basis.

An accelerated timeline for reductions in CETC support is warranted in light of the unique funding environment in which CETCs operate. To recapture a substantial amount of

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[61] *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Alltel Communications, Inc., et al. Petitions for Designation as Eligible Communications Carriers, RCC Minnesota, Inc. and RCC Atlantic, Inc. New Hampshire ETC Designation Amendment*, Order, WC Docket No. 05-337, CC Docket No. 96-45, Order, 23 FCC Rcd 8834, 8848, ¶ 31 (2008) ("*CETC Interim Cap Order*").

[62] *See* Letter from Catherine Veach Moyer, WestLink Communications, LLC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 05-337, CC Docket No. 96-45 (Oct. 24, 2008).

funding for the CAF, the Commission should phase out all CETC high-support funding by the end of 2015.

First, the phase-out of CETC funding to Sprint and Verizon Wireless should begin immediately (if it has not already begun) and should be completed entirely by December31, 2012, in accordance with the companies' voluntary commitments. In 2008, as conditions of merger decisions, Sprint and Verizon Wireless agreed to five-year phase outs of their CETC high-cost support, with the first 20 percent reductions occurring no later than December 31, 2008, and support reduced in 20 percent increments annually thereafter.[63] Regardless of whether the Commission has yet begun to execute these phase-outs, both companies have been on notice since November 2008 that they would lose all CETC high-cost funding by the end of 2012. The companies made commitments in support of this timeline and already have over-recovered.[64] There is no reason for the Commission further to delay recapturing this support, which according to the National Broadband Plan represents up to $3.9 billion (present value in 2010 dollars) over a decade.[65]

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[63] *Applications of Cellco Partnership d/b/a Verizon Wireless and Atlantis Holdings LLC for Consent to Transfer Control of Licenses, Authorizations, and Spectrum Manager and De Facto Transfer Leasing Arrangements and Petition for Declaratory Ruling that the Transaction is Consistent with Section 310(b)(4) of the Communications Act*, WT Docket No. 08-95, File Nos. 0003463892, et al., ITC-T/C-20080613-00270, et al., ISP-PDR-20080613-00012, Memorandum Opinion and Order and Declaratory Ruling, 23 FCC Rcd 17444, 17529-17532, ¶¶ 192-197 (2008); *Applications of Sprint Nextel Corporation and Clearwire Corporation for Consent to Transfer Control of Licenses, Leases, and Authorizations*, WT Docket No. 08-94, File Nos. 0003462540 et al., Memorandum Opinion and Order and Declaratory Ruling, 233 FCC Rcd 17570, 17612, ¶ 108 (2008).

[64] *See NOI and NPRM* at ¶ 59 (stating that Commission will consider shortly an order clarifying how to implement Verizon Wireless's and Sprint's voluntary commitments).

[65] National Broadband Plan at 147.

Second, the Commission should phase out high-cost support to all other CETCs over a period of time no longer than five years, beginning by the end of 2011. If the phase-out begins in 2011, the Commission should reduce support by 20 percent, for each study area and each USF high-cost component, by December 31, 2011. Support should be reduced by 20 percent increments annually thereafter.

2. The Commission Should Require Rate-of-Return Carriers to Move to Incentive Regulation, or Should Pursue Other Measures To Bring Funding to Rate-of-Return Carriers in Line with Support Received by Carriers Under Incentive Regulation.

Windstream supports the National Broadband Plan's recommendation that the Commission require rate-of-return carriers to move to incentive regulation, or in the alternative would favor other measures that would bring rate-of-return carriers' universal service support in line with what they would receive under an incentive-based regime. Given the Commission's desire to stop growth in the existing legacy high-cost program and begin to recapture funding to be targeted toward providing both broadband and voice services in high-cost areas, the Commission must address rate-of-return regulation and the inequitable and inefficient resource distribution that it engenders.

Windstream's recent conversion of its rate-of-return cost study areas to price cap regulation is a testament to the company's view that incentive regulation is a better fit for the increasingly competitive and diversified marketplace. Windstream agrees that as an important first step toward reducing funding in the legacy high-cost support mechanisms and directing the

savings toward both broadband and voice deployment, the Commission must address, in some fashion, the current guaranteed cost recovery provided to rate-of-return carriers. One potentially effective method would be to replace rate-of-return regulation with the price cap framework adopted for the voluntary conversions of Windstream and others, and to convert rate-of-return companies' ICLS support to a frozen amount per line. This conversion to price-cap regulation would not result in the elimination of ICLS; rather, it would freeze support on a per-line basis to produce a reasonable transition to market-based support.

Price cap regulation was designed to be a natural extension of the competitive environment where carriers actively seek to gain efficiencies in their cost structure. The price cap structure is far more conducive to driving efficiency than the rate-of-return structure, and accordingly has been the Commission's preferred mode of regulation.[66] As the Commission explained in the *LEC Price Cap Order*, price cap regulation "permit[s] LECs to migrate their rates toward a set of prices that enhances efficiency."[67] Price cap regulation rewards "companies that become more productive and efficient," and this productivity and efficiency ultimately benefits consumers.[68] And as mentioned above, the Commission's price-cap regime provides reasonable transitions and does not require carriers to immediately reduce rates to a target.

In addition, "incentive regulation, by creating incentives for carriers to become more productive, generates powerful motives to innovate," while rate-of-return regulation, which sets

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[66] *See Policy and Rules Concerning Rates for Dominant Carriers,* Second Report and Order, 5 FCC Rcd 6786, 6790, ¶ 29 (1990) ("*LEC Price Cap Order*") (subsequent history omitted) ("[I]ncentive regulation is superior to rate of return . . . .").

[67] *Id.* at 6791, ¶ 35.

[68] *Id.* at 6790, ¶ 31.

rates based on fully distributed costs, "does not provide sufficient incentives for broad innovations in the way firms do business."[69] As noted in the National Broadband Plan, "In an increasingly competitive marketplace with unsubsidized competitors operating in a portion of incumbents' territories, permitting carriers to be made whole through Universal Service Fund support lessens their incentives to become more efficient and offer innovative new services to retain and attract customers."[70]

Incentive-based regulation produces these public benefits while using fewer regulatory and administrative resources to police carriers than are required to prevent the misallocation of costs under rate-of-return regulation. As the Commission discussed in the *LEC Price Cap Order*:

> Previous orders in this docket have articulated the pressures that a rate of return system places on cost allocation systems. . . . Indeed, given the incentives rate of return creates for companies to misallocate costs, thereby threatening our policy of ensuring that rates are based on their fully distributed costs, we spend a great deal of our regulatory resources policing our cost allocation systems. Under incentive regulation, prices would no longer be set by reference to a set of fully distributed costs. . . . Incentive regulation, by in large measure removing the incentive to misallocate costs between services, may mitigate misallocation as a regulatory concern.[71]

Finally, subjecting all carriers to the same regulatory regime would facilitate the Commission's comprehensive efforts to address the inequities that the current high-cost

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[69] *Id*. at ¶ 32.

[70] National Broadband Plan at 147. *See also LEC Price Cap Order*, 5 FCC Rcd at 6791, ¶ 35 ("Since it is no longer required that every service cover its fully distributed cost of overheads, LECs also have the incentive to provide more services, to the benefit of ratepayers. Furthermore, with additional services, LECs can take advantage of economies of scope, also to the benefit of ratepayers.").

[71] *LEC Price Cap Order*, 5 FCC Rcd at 6791, ¶ 34.

universal service system creates. Rate-of-return regulation tends to give carriers perverse incentives to spend more than is efficient simply to increase the rate base on which they earn their profits. In practice, this incentive leads rate-of-return carriers to seek and receive universal service support to fund Fiber to the Home in their high-cost areas, while comparably challenged high-cost areas served by price cap carriers receive little or no support. As Commissioner Clyburn recently noted, "Today, universal service support is largely determined by the regulatory status and size of the firm receiving support, rather than the economics of serving consumers in a particular geographic area."[72]

Windstream offers a good example for how the Commission can reduce these disparities by converting rate-of-return carriers to price cap regulation. As the Commission notes in the *NOI and NPRM*, a petition by Windstream in 2008 led to the Commission's adoption of a framework for the voluntary conversion of rate-of-return carriers to price cap regulation.[73] Windstream and a number of other mid-sized telephone companies have since converted many of their subsidiaries successfully to price cap regulation under the framework set forth in the *Windstream Order*.[74] In each case, the Commission effectively converted the companies' ICLS to a frozen amount per line. It would be sensible for the Commission to extend this model here

[72] Prepared Remarks of FCC Commissioner Mignon L. Clyburn, Mid-America Regulatory Conference, Annual Conference, Kansas City, Missouri, June 8, 2010.

[73] *In re Windstream Petition for Conversion to Price Cap Regulation and for Limited Waiver Relief*, Order, WC Docket No. 07-171, 23 FCC Rcd 5294 (2008).

[74] *See NOI and NPRM* at note 123; Responses of Julius Genachowski to Questions for the Record, Senate Committee on Commerce, Science, and Transportation Hearing on Reviewing the National Broadband Plan ("Genachowski Responses"), at 8 (June 15, 2010) ("[A] growing number of rural carriers have voluntarily elected to convert to price cap regulation to become more efficient and competitive.").

to replace rate-of-return regulation with the *Windstream Order* price cap framework. The converting companies should continue to receive ICLS for their converted study areas, but at frozen per-line levels going forward. In addition, the Commission should cap each converting company's future overall annual ICLS at an amount equal to its overall last full year under rate-of-return regulation after application of any required true-ups. This measure—in conjunction with other proposed reforms—would limit growth in the legacy high-cost program and would enable the Commission to begin to recapture universal service funding to put toward targeted support for both broadband and voice networks.

In lieu of a required transition to incentive-based regulation, Windstream also would support alternative measures, such as lowering the rate of return or disallowing investment of federal funds toward deployments in excess of the 4 Mbps initial national broadband availability target, that would reduce rate-of-return carriers' high-cost support to levels in line with what they would receive under an incentive-based regime. The strain to the high-cost program arises not from rate-of-return regulation per se, but from the built-in incentive to spend more due to guaranteed cost recovery, such as through ICLS. This regime leads to over-payments to rate-of-return carriers. Any steps to address the disparity in funding for rate-of-return carriers and price cap carriers would create a more equitable distribution of scarce resources and serve the Commission's goals of universal access to broadband and quality voice services.

3. ILEC Interstate Access Support Should Not Be Eliminated Before the Commission Conducts a Thoughtful Review of the Need for This Support and Establishes Other Universal Service and Intercarrier Compensation Reforms.

Interstate Access Support ("IAS") remains a substantial source of revenue for many price-cap carriers—made more necessary due to the previously discussed deficiencies in other forms of high-cost support. As noted in the National Broadband Plan, a reexamination of the role and sufficiency of the IAS funding mechanism is long overdue.[75] It is essential that the Commission first conduct this reexamination, before concluding that IAS should be eliminated in its current form.[76] Should the Commission then decide that it must phase out IAS, it should do so with a reasonable glide-path and in conjunction with reforms that will create new forms of universal service support. These measures will help ensure that carriers are not saddled with unreasonable, unfunded mandates.

IAS was established in 2000 pursuant to negotiations among the Commission, the interexchange carriers, and the ILECs, and was designed to replace implicit universal service support in interstate access charges.[77] The size of the support mechanism, $650 million, was the product of discussion among the parties and was within the widely disparate estimates of existing

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[75] National Broadband Plan at 147.

[76] Companies that transitioned to price-cap regulation after the establishment of the IAS mechanism generally continue to receive ICLS at frozen per-line amounts, rather than IAS. For the purposes of this discussion, IAS refers to the IAS funding established by the CALLS Order in 2000, and not to any ICLS funding that later-transitioning price-cap carriers receive.

[77] *Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long Distance Users, Federal-State Joint Board on Universal Service*, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, Eleventh Report and Order in CC Docket No. 96-45, CC Docket Nos. 96-262, 94-1, 99-249, 96-45, 15 FCC Rcd 12962, 13039 ¶ 186 (2000) ("*CALLS Order*").

implicit support in interstate access charges.[78] In the *CALLS Order* establishing IAS, the Commission noted that it would reevaluate the mechanism in five years to "ensure that such funding is sufficient, yet not excessive."[79] Ten years later, that reevaluation still has not occurred. Rather than arbitrarily concluding that IAS is no longer required, the Commission should formally conduct this reexamination of the role and sufficiency of the mechanism, and make any recommendations on that basis.

If the Commission subsequently decides that IAS should be redirected toward the CAF, it must take thoughtful measures to ensure continuity of service. As Joint Board member Larry S. Landis has recognized, the Commission must exercise caution in reducing or changing modes of support to incumbent carriers,[80] whose networks must remain viable to support ILEC retail services, and will continue to be expected to serve CLECs and mobile wireless providers with wholesale services. Therefore, the Commission would need to set a reasonable approach and timeline for transition.

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[78] *Id.* at 13044-45, ¶ 198. It should be noted that ILECs currently receive much less than $650 million in IAS funding. Based on third-quarter projections from USAC, 2010 IAS to ILECs will be approximately $468 million. CETCs will receive $237 in IAS in 2010.

[79] *Id*. at 13047, ¶ 203.

[80] Statement of Commissioner Larry S. Landis, *High-Cost Universal Service Reform, Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Recommended Decision, 22 FCC Rcd 20477, 20505 (2007) ("[G]reat care and attention must be given to the method by which a transition from the existing, increasingly dysfunctional mechanisms to the proposed new Funds is effected. In the Recommended Decision, appropriate attention is given to the importance of effecting the transition over time, to give providers the time required to adjust their business models to account for shifts in emphasis and process. Too frequently, particularly when it has come to communications policy, remediation has taken the form of a 'flash cut' to a new and presumably better framework.")

In addition, any reductions in IAS should be implemented in conjunction with universal service reforms that assure continued support is available for serving high-cost areas. The Commission's goal of universal broadband and voice deployment, even at a baseline level, will be extremely expensive, and ILECs cannot be left in a position where they face costly obligations and inadequate support. The Commission must ensure continuity of support so it will be economically feasible for companies to incur the costs of complying with the requirements the Commission imposes.

4. The Commission Should Act Now to Pursue Opportunities to Transition Existing High-Cost Loop Funding to Support More Equitable Deployment of Baseline Broadband and Voice Services.

The *NPRM* does not propose changes to the High-Cost Loop funding mechanism at this time, but Windstream submits that the Commission should promptly address the High-Cost Loop program, which represents nearly one-third of all high-cost funding, if the agency hopes to capitalize the CAF sufficiently. Reforms to this mechanism should be considered before other possible proposals for modifying high-cost support.

The National Broadband Plan sets forth an initial national broadband availability target of 4 Mbps of actual download speed.[81] As Chairman Genachowski recently noted, 4 Mbps is the median speed received by residential consumers today, and it represents an "aggressive" target and one of the highest universalization targets in the world.[82] Though many other rural local

[81] National Broadband Plan at 135.

[82] Genachowski Responses at 23 (June 15, 2010).

exchange carriers disagree,[83] Windstream believes that such a target is appropriate for now, and that the federal government at present should direct public investment toward meeting this goal.[84] The current High-Cost Loop program, with its idiosyncratic distribution mechanism, actually undermines this universalization target by enabling and encouraging overinvestment in some rural areas and failing to support even the most basic voice, much less broadband, facilities in others.

The High-Cost Loop support mechanism, though it does not explicitly support broadband build-out, has enabled many ILECs serving rural and high-cost areas to make great strides in deploying broadband to substantial portions of their customer bases.[85] However, even in the near term, the Universal Service Fund cannot continue to bear the strain of expansion of Fiber to the Home that is being deployed in some high-cost areas served by small, rate-of-return carriers. Each year, the cost level that triggers High-Cost Loop support—costs exceeding 115 percent of the national average cost per line—will grow higher and, because of the overall cap on High-Cost Loop support, only those companies that are spending the most in loop investment will

[83] *See e.g.*, NTCA Letter; OPASTCO and WTA Letter.

[84] *But see* note 16 (explaining why the Commission should reconsider the National Broadband Plan's endorsement of 1 Mbps as the upload speed for the initial national broadband availability target).

[85] *See* Letter from Joshua Seidemann, Independent Telephone and Telecommunications Alliance, Stuart Polikoff, OPASTCO, and Derrick Owens, WTA, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 09-47, 09-51, 09-137, WC Docket No. 05-337, CC Docket No. 99-45 (March 10, 2010) ("ITTA Letter"). This result is evidenced, in part, by rapid growth in the National Average Cost per Loop ("NACPL"), which increased more than 33 percent from 2001 to 2007 after increasing less than 8 percent from 1991 to 2001. Data from monitoring reports. NACPL was 234.49 in 1991, 252.85 in 2001, 336.73 in 2007, the most recent year for which data are available. Some of this NACPL increase also may be due to loss of customers, as fixed costs now are spread over fewer loops.

receive sufficient funding. Instead of focusing support on the rural consumers most in need of new broadband deployment,[86] this approach will expand the existing digital divide *among rural areas*, and make it less likely that the Universal Service Fund will be able to support broadband deployment in the remaining unserved areas and maintain quality voice serve where already deployed.

An assessment of high-cost support allocated to Windstream as compared to other recipients of federal high-cost support underscores the significance of existing disparities. The average NECA Traffic Sensitive Pool company wire center serves 786 lines and has an average density of 3.6 lines per square mile.[87] Windstream's 608 lowest-density wire centers, which represent 56 percent of its total wire centers, have an average size of 786 lines and average density of 4.8 lines per square mile. In other words, more than half of Windstream's wire centers have approximately the same composite geographic characteristics as the average NECA wire center. Universal Service Administrative Company data suggest, however, that Windstream receives far less high-cost support per line for its 608 lowest-density wire centers than the amount of funding awarded to the average recipient of high-cost support. Specifically, Windstream receives $4.24 per-line each month in *total* federal high-cost support for its 608 lowest-density wire centers, while high-cost loop support for the average recipient of this support is $13.00, ICLS for the average recipient is approximately $9.35, and LSS for the average

[86] *See e.g.*, NTCA Letter; OPASTCO and WTA Letter; ITTA Letter.

[87] NECA, Trends 2009: A Report on Rural Telecom Technology, *available at* https://www.neca.org/cms400min/NECA_Templates/ResourceInterior.aspx?id=100.

recipient is approximately $2.00.[88] Disparities are due to the current mechanism's failure to target support based primarily on cost conditions in granular, high-cost areas, rather than the size and business model of the companies serving these areas.[89]

As Commissioner Clyburn recently noted, "it is critical that we use our finite resources wisely. We should focus on supporting the broadband service that most Americans are using today to those areas where there is no private sector business case to do so."[90] This result cannot be achieved effectively until the Commission transitions the High-Cost Loop funding mechanism toward funding sufficient baseline broadband service in all unserved high-cost areas.[91]

Windstream cautions, however, that this transition must balance the need to end the race for Fiber to the Home in rural areas with the need to support carriers that have made loop investments in the recent past. Windstream does not suggest that the Commission desert rate-of-return carriers that in good faith have made investments on the understanding that the high-cost loop mechanism would help pay for them over time. The transition must be structured to discourage any future "gold-plating," but to help "pay off the mortgage" on past loop investments. Going forward, the Commission should limit the amount of loop investment allowed by a carrier in the calculation of its study area cost per loop to the reasonable loop

[88] Universal Service Administrative Company Third Quarter Appendices—2010, *available at* http://www.usac.org/about/governance/fcc-filings/2010/quarter-3.aspx.

[89] *See High-Cost Universal Service Comments* at 7-11.

[90] Mignon L. Clyburn, Commissioner, Federal Communications Commission, Remarks at Mid-America Regulatory Conference, Annual Conference (June 8, 2010).

[91] The High-Cost Model support mechanism functions more effectively than the High-Cost Loop mechanism, because it does not employ study area averaging. Under the Commission's proposal, Windstream nevertheless acknowledges that in the long term the Commission also will need to consider processes for transitioning High-Cost Model support toward the CAF.

investment required to deploy a "baseline" broadband network. In this way, carriers that have in good faith deployed networks with the expectation that High-Cost Loop funding would help to pay for the deployment over the life of the networks would be able to recoup their investments. At the same time, carriers would not receive full funding for future deployment of Fiber to the Home and networks capable of speeds well beyond the FCC's "baseline."

IV. CONCLUSION

As the Commission knows all too well, the existing federal high-cost program is seriously flawed. The Universal Service Fund has grown rapidly over the past 10 years, but even this larger Fund is incapable of meeting the Commission's goal of universal broadband and voice deployment. Funding levels often bear no relation to the actual needs of communities, and the program supports significantly enhanced services in some high-cost towns and no service in others. To remedy these deficiencies, Windstream urges the Commission adopt reforms that will target funding for broadband and voice facilities to the granular high-cost areas most in need of support, without regard to the size or business model of the company deploying service. Windstream also supports the Commission's intention that the high-cost program support deployment of baseline broadband service in all unserved areas, before funding improvements to that service. With thoughtful changes and an open cost model development process, the Commission can move toward ensuring that limited funding is distributed fairly and efficiently, and no consumers lack access to quality broadband and voice services.

Respectfully submitted,

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APPENDIX
Questions and Comments on the OBI Broadband Availability Gap White Paper

The Omnibus Broadband Initiative's Technical Paper on the Broadband Availability Gap ("OBI White Paper" or "White Paper") should be viewed as a useful first draft of the assessment needed to determine minimum public support required to deploy broadband to households lacking access today. Estimating the level of funding required to enable ubiquitous broadband availability is an extremely difficult task, and the White Paper provides a valuable baseline to inform meaningful debate and clarifications that will guide key decisions needed to realize National Broadband Plan goals. It is evident, however, that federal policymakers currently lack adequate data to identify granular areas without 4/1 Mbps broadband access; costs and revenues associated with wireless broadband deployment; and middle mile transport costs. These deficiencies lead the OBI White Paper to underestimate both wireless and wireline broadband deployment costs. With respect to wireless technologies in particular, assumptions and approximations of key inputs almost always seem to err to the benefit of wireless—compounding to distort cost estimates significantly and unduly suggesting that wireless technologies possess a cost advantage over wireline technologies. The Federal Communications Commission ("Commission"), therefore, should be careful to avoid placing undue confidence in the OBI White Paper's cost estimates and identification of technologies best suited to bear these costs. Instead, Commission officials should seek to build upon the White Paper analysis with the construction of a new infrastructure cost model that will address all broadband and voice facilities requiring federal government support. The questions and comments below are intended to aid this important effort.

(1) GEOGRAPHIC UNIT ASSESSED

- A county-level assessment should not be used to identify the broadband investment "gap" and the lowest-cost broadband provider best suited to fill that gap. Although it is difficult to identify any single geographic unit that would be entirely "technology-neutral," the Commission would be best served by assessing costs based on smaller geographic units that enable the greatest number of facilities-based providers to participate immediately and actively in broadband deployment. Unserved areas almost never will span an entire county; instead, unserved areas typically are very granular and fragmented across a variety of individual providers' service areas, which do not neatly correspond to county boundaries. These conditions most likely would lead to wired broadband providers' being precluded from participating in a regime requiring network build-out across an entire county. Since their service territories typically do not span whole counties, wireline providers would have to engage in build-outs in areas where they cannot leverage existing infrastructure. Wireline broadband deployments in such cases would entail inefficient, impractical local network architecture and almost assuredly would result in wireline providers' being priced out of competing for funds—even if they could

offer the greatest "bang for the buck" for deploying broadband in areas where they already have facilities in place. This result would run counter to the National Broadband Plan's conclusion that "[t]he analysis must account for existing deployments, both to the extent that they enable current service and can be used to extend service to currently unserved areas."[1]

(2) IDENTIFICATION OF SERVED/UNSERVED AREAS

- The OBI White Paper's estimation of unserved households is based upon availability data in just *five* states (California, Minnesota, Pennsylvania, Alabama, and Wyoming).[2] While limits to this data set are no doubt largely a function of time constraints placed upon development of the OBI broadband availability gap analysis, the Commission should be mindful of the fact that these data are an insufficient basis for any nationwide projections that would need to be relied upon when designing comprehensive universal service reform—and consequently the number of unserved households may be far larger than the OBI White Paper states.[3]

(3) ASSUMPTIONS RE: TECHNICAL CAPABILITIES AND REQUIREMENTS

(A) Exclusion of the Top 10 Percent of Broadband Users

- The OBI White Paper does not account for the top 10 percent of broadband users when modeling wireless network capacity requirements and costs. According to the White Paper, such users account for approximately 65 percent of network capacity needs,[4] so excluding these users significantly alters the assessment of network capacity—and suggests far lower wireless deployment costs—than likely would be

[1] Omnibus Broadband Initiative, The Broadband Availability Gap (OBI Technical Paper No. 1) ("OBI White Paper") at 1.

[2] *Id*. at 23.

[3] Indeed, other sources have suggested that the number of unserved households is far greater than the estimate used in the OBI White Paper. *See, e.g.,* Mignon L. Clyburn, Commissioner, Federal Communications Commission, Remarks at Mid-America Regulatory Conference, Annual Conference (June 8, 2010) (stating the number of unserved persons may be up to 24 million, rather than the 14 million, or approximately 7 million households, cited in the OBI White Paper).

[4] OBI White Paper at 90, 111. In the case of satellite, the presumed exclusion of the top 10 percent of users cuts the current busy hour offered load by two-thirds, from 111 Kbps to 39 Kbps.

required to offer quality broadband service to all consumers in a supported area.[5] It is unclear how such cost savings would be achieved in practice. Does this exclusion presume that the Commission would expect broadband funding recipients to cap broadband usage of consumers in rural areas? Furthermore, would the Commission propose to exclude 65 percent of the offered load for wireless, but not wireline technologies?[6] Such disparate treatment would effectively penalize consumers who are served by wireless networks and place wireline broadband providers, which would have to build and maintain networks capable of carrying nearly three times the load of wireless networks, at a distinct disadvantage to their wireless competitors. The policy implications of excluding the top 10 percent of users require more consideration before any presumption regarding exclusion of certain users is realized in practice.

(B) Apparent Presumption that Wireless Broadband Providers—Unlike Wireline Providers—Would *Not* Be Required to Offer 4/1 Mbps Throughout An Entire Supported Area

- The OBI White Paper seems to assume that wireline broadband providers and wireless broadband providers would be subject to two different performance requirements. Windstream and other wireline broadband providers would be required to offer 4/1 Mbps throughout *all* of their supported areas. In contrast, wireless link budgets in the White Paper presume 1 Mbps uplink within just *90 percent* of the supported cell coverage area in a fixed wireless access network.[7] Thus, it appears that any consumers in the remaining 10 percent would receive less than the 4/1 Mbps target broadband service, and there is no specified limit on the amount of permissible

[5] By way of illustration, Windstream's data for May 2010 indicate an average of 89 Kbps of usage per Windstream customer for the busiest 5-minute period in each month. Exhibit 4-AN in the OBI White Paper indicates a 2010 medium usage busy hour load of 49 Kbps. *Id.* at 91. This disparity of 40 Kbps of real usage cannot be ignored. If Windstream hypothetically were to limit its customer usage to the 49 Kbps level projected in the White Paper, its customers would face significant broadband service impairment and no doubt would be dissatisfied with the quality of their broadband service. *See also infra* note 8 (observing that a mistaken assumption regarding capacity required to support a cell site can have a profound impact on the calculation of the number of cell towers required to offer 4/1 Mbps service and total deployment costs for a wireless project).

[6] *See generally* OBI White Paper at 111 (discussion of this assumption only occurs in the terrestrial wireless and satellite sections). It is unclear whether this assumption is not mentioned in the wireline sections, because (1) the user exclusion is not applied to wireline technologies or (2) the resulting broadband deployment cost savings would be far less significant for wireline technologies as compared to other technologies.

[7] *Id.* at 67.

degradation for this 10 percent. Altering coverage obligations in this manner would have a profound impact on the number of new cell towers required to provide satisfactory wireless broadband service and lead policymakers to significantly underestimate how much it would cost for a wireless broadband provider to achieve full 4/1 Mbps capability for all consumers in a given area.[8]

- Proponents of this approach, guaranteeing cell site coverage only for 90 percent of the supported area, may assert that it treats wireless broadband providers the same as wireline providers, inasmuch as wireline providers would not be required to deploy their service in portions of a supported area where no consumer resides. This argument, however, inappropriately focuses on the mechanism by which broadband service is delivered, rather than whether all consumers are served. The Commission's ubiquitous broadband deployment goal calls for broadband deployment to all U.S. *consumers*.[9] It should make no difference whether a broadband provider must offer cell site coverage across an entire geographic region (if wireless) or run wired connections to individual homes (if wireline) to ensure that it meets its broadband deployment obligations. It would be contrary to the Commission's goal if a wireless broadband provider received support for serving all consumers in a supported area, but was not required to serve broadband to any consumers falling within 10 percent of the area. The 10 percent of the area designated for exclusion likely would encompass the highest-cost, unserved portions of the supported area—and include the consumers most in need of the broadband facilities that the National Broadband Plan intends to support.

(C) Projected Spectrum Availability

- The OBI White Paper states that "spectrum availability does not play an explicit role in our analysis."[10] Spectrum availability, however, appears to be fundamental to the broadband availability gap analysis's output. The output to a large degree is a function of an assumption that sufficient spectrum will be made available for deployment of fixed broadband service—an assumption that thus far is unproven. It

[8] *See id.* at 81. An additional $350,000 to $450,000 in costs are required each time a tower is presumed present, but actually would need to be constructed and maintained. Discovering after the fact that more towers are required would substantially drive up broadband deployment costs and could lead to a protracted delay in providing broadband to rural America.

[9] Federal Communications Commission, Connecting America: The National Broadband Plan at 135, Box 8-1 (rel. March 16, 2010) ("National Broadband Plan") (indicating that the National Broadband Availability Target is "[e]very household and business location in America should have access to affordable broadband service with . . . *[a]ctual* download speeds of at least 4 Mbps and *actual* upload speeds of at least 1 Mbps").

[10] OBI White Paper at 70.

remains to be seen whether private spectrum owners will be sufficiently interested in pursuing this opportunity, and/or interested in taking meaningful steps to make their spectrum available for other wireless broadband providers' use. Windstream offers the following questions and observations regarding the supposition that 2x10 MHz spectrum will be deployed at each rural cell site:

- What combination of competing carriers does the Commission envision providing fixed wireless broadband services from a given tower to yield the 2x10 MHz availability? 2x10 MHz seems optimistic. This spectrum usage would (1) require Verizon's entire 700 MHz spectrum at every rural site or (2) a combination of fixed broadband deployment by Verizon, AT&T, and another license holder—a proposition that seems unlikely, given only one wireless provider would be eligible to receive cost support. An arrangement of multiple carriers also would yield suboptimal statistical multiplexing gains, because each provider would operate only within its narrow band of spectrum.
- Thus far, AT&T and Verizon, the two largest 700 MHz license holders, have demonstrated little interest in deploying fixed wireless broadband service. If this does not change, does the Commission intend to take steps to incent or require Verizon and AT&T to use the spectrum for this purpose? And if the Commission takes such action, how would that impact the economics of deploying other technologies in these rural areas?
- The OBI White Paper briefly proposes the use of higher spectrum bands (i.e., 1.7-2.7 GHz) as an alternative solution to help address concerns raised above. The White Paper, however, does not address the cost of employing the alternative when determining the investment gap. This omission is potentially problematic: Since 700 MHz offers roughly twice the cell radius and thus four times the coverage area of 1900 MHz (PCS) spectrum,[11] use of higher spectrum bands would necessitate far denser tower spacing and have a profound impact on the investment gap.[12]

[11] *See id.* at 67-68 (observing that "the Okumura-Hata model predicts that the radius of rural cells in the 700 MHz band can be as much as 82% greater that the PCS band for comparable coverage. In suburban areas this benefit is 105%, while in urban areas the improvement is greater than 140%").

[12] *See id.* at 81-82 (concluding that a new tower is required only 15 percent of the time). The use of 1900 MHz and higher spectrum would drive the need for significantly more towers, which comprise the bulk of initial wireless capital expenditures at $350,000 to $450,000. *Id.* at 81. While this statistic is not incorporated into its investment gap estimate, the OBI White Paper finds that "if we deploy the network in the PCS band [rather than the 700 MHz band], the total cost of the FW deployment in counties with negative NPV is 96% greater." *Id.* at 79.

(D) Assumptions re: Existing Wireless Coverage

- The OBI White Paper assumes there is no need for new towers in areas where American Roamer indicates wireless coverage is already available.[13] The White Paper, however, readily acknowledges that "American Roamer data may overstate coverage actually experienced by consumers . . . ."[14] These data, provided by wireless carriers, reflect theoretical wireless coverage contours used for marketing purposes and do not necessarily reflect quality, drive-tested coverage. Overestimates of this nature could suggest fewer wireless towers need to be built and far lower costs need to be assumed than actually would be required. Use of the American Roamer data is particularly troublesome when compounded with assumptions regarding scope of cell site coverage (e.g., ability to avoid 4/1 Mbps deployment for 10 percent of the supported area and the expectation that the 10 percent highest users may be excluded from broadband service in the busy hour).

(E) Target Upstream Speed

- The Commission's National Broadband Plan outlined a preference for an initial national broadband availability target of 4 Mbps of download speed, 1 Mbps of upload speed.[15] Though the 4 Mbps download speed threshold is appropriate, the Commission should reconsider whether the incremental benefit of a ubiquitous 1 Mbps upload speed threshold outweighs the incremental additional deployment cost incurred when exceeding a more universally accepted upload speed of 768 Kbps. The White Paper apparently does not identify this incremental cost. The paper seems to presume that 1 Mbps upload speeds would be available to all customers served by standard ADSL 2+ architecture over a 24 AWG copper cable pair of 12,000 feet, but in fact, achieving 1 Mbps upload service to 12,000 feet would require special investment in solutions, such as two-pair bonded ADSL 2+, that would create incremental costs.[16] The Commission should consider setting a

[13] *Id.* at 25-26.

[14] *Id.* at 25. According to the OBI White Paper, "we potentially overstate the current footprint [of wireless] because what is commercially available is typically based on carrier reported data, perhaps at relatively low signal strength. Overstating the current footprint could lead us to underestimate the cost of future wireless build outs to provide service to the areas currently underserved."

[15] National Broadband Plan at 135.

[16] This 1 Mbps upload speed includes packet/cell overheads. The actual throughput of end user payload would be approximately 18 percent less, or about 820 Kbps. Because the Commission's broadband performance testing initiatives are focused on measuring end user payload, to achieve 1 Mbps of payload throughput would require an upload connection speed of more than 1.2 Mbps.

combined upload/download speed target (e.g., 5 Mbps) that would give service providers flexibility in allocating upload and download capacity when responding to their customers' needs.

(F) Sources of Broadband Infrastructure Data

- The OBI White Paper relies on infrastructure data from just *two* states (Alabama and Wyoming).[17] This limitation, like that for broadband availability data, surely is due in large part to time constraints placed on development of the OBI broadband availability gap analysis. But to be actionable for future universal service purposes, such data must be based on actual information for all states.

(4) ASSUMPTIONS RE: FINANCIAL CHOICES AND CONDITIONS

(A) Projected Revenues

- The OBI White Paper adopts two different approaches to assessing the degree to which wireless and wireline broadband technologies, respectively, would generate new, incremental revenues that could be used to help offset broadband deployment costs. Adopting significantly different assumptions for the two technologies leads to the unjustified conclusion that incremental revenues would be far superior for wireless broadband providers—a finding that makes the investment gap for wireless technologies appear far smaller than that for wireline. Although there is no one clear-cut approach that will lead to accurate revenue projections, the Commission, at a minimum, should be consistent in how it applies assumptions to different technologies.
  - Wireless Assumption: The OBI White Paper adopts the assumption that *all* new fixed wireless broadband customers will begin subscribing to wireless voice service when they initiate fixed wireless broadband service.[18] This take-rate assumption does not account for the fact that some fixed wireless broadband customers already will be subscribers to wireless voice service when they initiate fixed wireless broadband service and, therefore, will not generate incremental voice revenue when activating their fixed wireless broadband connection.[19] It

[17] OBI White Paper at 23.

[18] *See id.* at 50 (assuming a fixed wireless broadband provider receives incremental revenue for both broadband ($36.00-$44.00 per customer) and voice services ($33.46 per customer)).

[19] *See id.* at 26 (using Tower Maps to presume that significant wireless voice infrastructure already exists in high-cost rural areas), 82 (stating that "our model shows that new tower construction is necessary around 15% of the time"). Windstream questions whether this amount of wireless voice infrastructure exists, but in any event, the Commission should be consistent in

also disregards the fact that some future fixed wireless customers likely will decline to substitute their wireline voice service and/or over-the-top Voice over Internet Protocol service with a separate wireless voice offering.

- Wireline Assumption: In contrast, the OBI White Paper concludes that a DSL provider will receive *no* incremental voice revenue from new fixed broadband customers.[20] The analysis would be more accurate if it accounted for instances where a wireless-only voice customer would opt to purchase DSL service in a bundle that also includes wireline voice service.

- The OBI White Paper's assessment of incremental revenues from fixed wireless and wireline broadband services is further distorted by a disparity in its consideration of whether an unfunded broadband competitor would offer broadband service in a portion of the funding recipient's service territory. On one hand, the OBI White Paper assumes that *all* would-be broadband subscribers would purchase fixed wireless broadband service (at speeds of 4/1 Mbps) in a funded area, because no other broadband provider would deploy service in the area.[21] But on the other hand, the White Paper concludes that only *half* of all would-be broadband subscribers would purchase wireline broadband service, because an unsubsidized, commercial 4G competitor would enter into a significant portion of the wireline provider's funded area.[22] Application of these different assumptions leads to underestimation of the wireless investment gap relative to the wireline gap. Furthering this disparity, the wireless revenue analysis seems to presume that a wireless broadband provider receiving support would never experience any loss of embedded 4G service revenue, which would offset some of its fixed wireless revenue gains.

(B) Projected Costs

(i) Assessment of the Lowest-Cost Provider in Areas Qualifying for Satellite Broadband Service

- Because satellite is not shown as the lowest-cost technology for any county, yet it represents $13.4 billion (57%) of the total estimated $23.5 billion broadband investment gap at the macro level, the inclusion/exclusion of satellite would have

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its assumptions regarding current wireless infrastructure and the revenues derived from that infrastructure.

[20] *See id.* at 50 (assuming only incremental broadband revenue ($36.00-$44.00) for DSL providers).

[21] *See id.* at 13 (showing that none of the eight wireless model runs considered the impact of competition).

[22] *See id.* at 13 (splitting end-user revenue where there is 4G coverage).

a profound impact on whether DSL (FTT12K) or fixed wireless broadband service is determined to be the lowest-cost technology for a given county. The OBI White Paper, however, does not exclude the extremely difficult to reach, high-cost households (i.e., those designated for satellite broadband service) before assessing census block and county level costs and determining the lowest-cost provider in granular areas. This deficiency distorts the assessment of the lowest-cost provider.

(ii) Failure to Account for Costs Associated with Lease of 700 MHz Spectrum

- The OBI White Paper does not account for any costs associated with the lease of 700 MHz spectrum.[23] Thus, the White Paper understates the incremental costs for fixed wireless broadband providers that would need to lease spectrum to offer service.[24]

(iii)Wireline Middle Mile Cost Estimates

- The OBI White Paper inaccurately concludes that typically it is less expensive to build wireline middle mile facilities than operate them, due to flaws in the assessment of build costs and lease expenses.
  - Build Costs: The OBI White Paper allocates just one-third of new middle mile construction costs to broadband deployment in unserved areas.[25] This allocation cost model approach marks an undue deviation from the incremental cost approach generally employed by the OBI White Paper. If an unserved area requires new fiber to support interoffice transport for broadband, a significant percentage of middle mile costs should not be allocated to voice and wholesale services just because the fiber technically is capable of supporting these services as well. Generally a broadband provider will not attract much (if any) new demand for voice and wholesale services when it deploys a new fiber route, so there is no rational basis for allocating a

[23] Spectrum costs should be included in the calculation of incremental costs if a wireless broadband provider must lease 700 MHz spectrum from a license holder. A wireless broadband provider that already holds a 700 MHz license, however, need not factor spectrum costs into its decision about whether to build a fixed wireless access network to reach areas that currently lack broadband access.

[24] *See, e.g.*, Verizon Wireless, "LTE in Rural America," *available at* http://aboutus.vzw.com/rural/Overview.html (stating that "Verizon Wireless plans to work with rural companies to collaboratively build and operate a 4G network in those areas using the tower and backhaul assets of the rural company and Verizon Wireless' core LTE equipment and 700MHz spectrum").

[25] OBI White Paper at 117.

large degree of middle mile costs to services that do not require use of the new facilities.

- Lease Expenses: The OBI White Paper concludes that "NECA carriers are likely to provide these rural middle-mile connections."[26] But to the contrary, most middle mile transport to Internet Gateway sites would be over other broadband providers' facilities (e.g., Regional Bell Operating Company or cable facilities),[27] which typically offer lower rates than NECA carriers.[28]

(iv) Wireless Backhaul Cost Estimates

- It is unclear whether the OBI White Paper appropriately accounts for the cost of deploying a microwave link. In one place, the White Paper notes that "a microwave link can provide speeds of up to 500 Mbps over a distance of 20 miles at a typical equipment cost of roughly $50,000."[29] This estimate, however, does not address the fully installed cost of a microwave link, which can be $150,000-$200,000. Costs can be even higher if monthly tower rents are included in the assessment.

[26] *Id.* at 120-21.

[27] NECA companies typically only provide middle mile transport to the edge of their network, and it would be inefficient to fund these companies to build new transport facilities when others have existing facilities that can be leased for far less than the price to build altogether new networks. A variety of providers already have built out middle mile facilities in rural areas. For example, Windstream buys middle mile transport from many providers—including Lightcore, Georgia Public Web, Kentucky Data Link, Missouri Network Alliance, DukeNet, Zavo, and TW Telecom—that offer alternatives to RBOC facilities.

[28] *See* NECA Interstate Access Rate Comparisons, Issued by the Rate Development Group, September 2008.

[29] OBI White Paper at 75.