

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

<i>In the Matter of</i>)	
)	
Connect America Fund)	WC Docket No. 10-90
)	
A National Broadband Plan for Our Future)	GN Docket No. 09-51
)	
Establishing Just and Reasonable Rates for Local Exchange Carriers)	WC Docket No. 07-135
)	
High-Cost Universal Service Support)	WC Docket No. 05-337
)	
Developing an Unified Intercarrier Compensation Regime)	CC Docket No. 01-92
)	
Federal-State Joint Board on Universal Service)	CC Docket No. 96-45
)	
Lifeline and Link-Up)	WC Docket No. 03-109
)	
Universal Service Reform – Mobility Fund)	WT Docket No. 10-208

COMMENTS OF GENERAL COMMUNICATION, INC.

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COMMENTS OF GENERAL COMMUNICATION, INC.

INTRODUCTION AND SUMMARY

General Communication, Inc. (“GCI”) files these comments regarding issues raised in Sections XVII.A-K of the Federal Communication Commission’s (“FCC” or “Commission”) *Report and Order and Further Notice of Proposed Rulemaking* (“*Order*” or “*FNPRM*”) seeking to reform and modernize the universal service and intercarrier compensation systems.¹ While

¹ *Connect America Fund; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Lifeline and Link-Up; Developing an Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; A National Broadband Plan for Our Future; Universal Service Reform – Mobility Fund, Report and Order and Further Notice of Proposed Rulemaking, WC Docket Nos. 10-90, 07-135, 05-337, 03-109; CC Docket Nos. 01-92, 96-45; GN Docket No. 09-51; WT Docket No. 10-208, FCC 11-161 (rel. Nov. 18, 2011) (“Order” or “FNPRM”).*

GCI appreciates the Commission's stated "commitment to Tribal lands, including Alaska,"² GCI reiterates its concern that the Commission's proposed reforms to mobile services support in particular may not advance the deployment of broadband and advanced voice services to Remote Alaska, particularly to areas that are unserved by any wireless services today. To advance broadband deployment in Remote Alaska, the Commission will have to recognize and account for the uniqueness of Alaska in developing and implementing all aspects of its new Connect America Fund, whether for fixed or mobile services.

As GCI has previously set forth, Alaska is a uniquely high-cost area within which to provide any telecommunications, whether traditional telephony, mobile or broadband. Much of Remote Alaska lacks even the basic infrastructure critical to most telecommunications deployment, such as a road system and an intertied power grid. Advanced telemedicine, distance learning, and other many enterprise broadband services will require the deployment of terrestrial middle-mile facilities: satellite services cannot support applications that tolerate only very low latency. These terrestrial facilities are also critical to scaling middle-mile capacity to keep pace with anticipated mass market Internet demand. Yet terrestrial middle mile in Alaska is extremely costly. GCI's TERRA-SW network was funded by \$42 million in RUS grant funding and \$100 million in private risk capital. GCI's second proposal to continue the network north and complete the ring with fiber running along the Alaska pipeline, had it been funded under the Broadband Infrastructure Program, would have cost \$154 million.³ The additional cost of

² *Order* ¶ 481.

³ *See* Comments of General Communications, Inc., WC Docket Nos. 10-90 et al. at 25 (filed Apr. 18, 2011). With a grant award by the Regulatory Commission of Alaska and additional financing, GCI has recently undertaken a project to extend the TERRA network north into the Nome region.

deploying fiber-microwave rings from the North Slope down to the Nome region would likely also range in the hundreds of millions of dollars.

Moreover, the small residential populations in Remote Alaska cannot, by themselves, sustain demand for telecommunications services along any of these routes sufficient to support the construction, operation, maintenance, and upgrade of these terrestrial backbone networks. As GCI and other Alaskan commenters previously explained, more than 200 rural Alaska communities are accessible only by airplane, boat, or snow machine. The largest such communities are regional hubs such as Bethel, Barrow, and Nome, with populations of 6,080, 4,000 and 3,500 respectively.

In these off-road areas, there is no extensive power grid. Outside of the Alaska Railbelt, which essentially runs from Homer, south of Anchorage, up to Fairbanks, power is not distributed through an intertied grid.⁴ Rather, each community generates its own power, primarily through the use of diesel generators that burn fuel, often costing rural power companies up to \$7 per gallon.⁵ Recently, utilities have begun adding wind turbines to the diesel generation systems, but these have generally slowed price increases rather than providing price reductions. There are a small number of communities in rural Alaska that use hydroelectric or other renewable resources, but they are atypical. As a result, power in these isolated areas can be extremely expensive. Many of these rural communities pay more than \$0.50 per kWh,⁶ five

⁴ Alaska Power Association, *New Energy for Alaska*, at 3 (March 2004), <http://www.alaskapower.org/docs/New-Energy-For-Alaska.pdf>.

⁵ *See generally id.*; Institute of Social and Economic Research, University of Alaska, *Wind-Diesel Systems in Alaska: A Preliminary Analysis*, at 1 (September 2010) http://www.iser.uaa.alaska.edu/Publications/researchsumm/wind-diesel_summary.pdf.

⁶ *See* Alaska Village Electric Cooperative, *Table of Small Commercial Rates*, (effective as of Jan. 6, 2012) *available at* <http://www.avec.org/downloads/Small%20Commercial%20Rates.pdf> *and* <http://avec.securesites.net/customer-service.php> (*see* Table of Small Commercial Rates).

times the national average for commercial retail electricity, which is about \$0.10 per kWh.⁷ In some villages in southwestern Alaska, electric power costs over \$.90 per kWh. For some middle-mile facilities that are not close to any established communities, GCI has to install its own diesel generators and fly in diesel fuel twice per year.

Recent press reports highlight the unique difficulties that rural Alaska faces in ensuring that the diesel fuel necessary to generate electricity can be delivered, and the extraordinary costs of doing so. For instance, after not receiving its scheduled delivery of fuel in November, the city of Nome recently was forced to rely on a Russian tanker escorted by a Coast Guard icebreaker to bring 1.3 million gallons of emergency gasoline and diesel through the now-frozen icepack.⁸ Without this delivery, Nome would likely have run out of these critical supplies by March, before another barge could be brought in. The alternative would have been very expensive air shipments of diesel fuel. Citizens, businesses, and telecommunications providers in the Lower 48 do not have to confront such obstacles.

The Remote Alaska interim support mechanism outlined in the *Order* recognized the need “to preserve newly initiated services and facilitate additional investment in still unserved

⁷ See *Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through September 2011 and 2010*, U.S. Energy Information Administration (last visited Jan. 17, 2011), available at <http://www.eia.gov/electricity/data.cfm#sales> (under Sales (consumption), revenue, prices and customers).

⁸ See, e.g., William Yardley, *A New Race of Mercy to Nome, This Time Without Sled Dogs*, N.Y. Times, (Jan. 9, 2012), http://www.nytimes.com/2012/01/10/us/icebreaker-slowly-carves-path-for-tanker-to-bring-emergency-fuel-to-alaska.html?_r=2&nl=todaysheadlines&emc=tha23; see also Rachel D’Oro, *Harsh winter causing fuel shortages in Alaska*, Washington Times (Jan. 14, 2012), <http://www.washingtontimes.com/news/2012/jan/14/harsh-winter-causing-fuel-shortages-alaska/>.

and underserved areas [of Remote Alaska] during the national transition to the Mobility Funds.”⁹ The FCC must establish a subsequent replacement mechanism that is sufficient, stable, and sustainable to ensure that Remote Alaska has access to telecommunications and advanced services reasonably comparable to the rest of the country. GCI estimates that, if modified in accordance with GCI’s Petition for Reconsideration of the *Order*,¹⁰ Remote Alaska would receive \$94 million in annual support under the transitional CAF regime until Mobility Fund Phase II was implemented.¹¹ It is critical to the sustainability of mobile services in Remote Alaska and the potential for new deployment to at least some remaining unserved communities that the state continue to receive this amount of support, at a minimum, unless circumstances change and the record shows that this level of support is no longer necessary.

The *FNPRM* recognizes the challenges in Remote Alaska, and asks whether and how the proposed funding mechanisms, specifically Mobility Fund Phase II and its Tribal component, can be tailored to meet the needs of Remote Alaska. As an initial matter, the Commission should not rush to judgment. The FCC has just adopted enormous and enormously complex Universal Service Fund (“USF”) and Intercarrier Compensation (“ICC”) reform. Before implementing specific follow-on proposals, the FCC should assess how these newly-implemented USF and ICC mechanisms are working, and whether they are supporting deployment to high-cost areas of the country as intended. In particular, it appears unwise for the Commission to forge ahead with

⁹ *Order* ¶ 529. The *Order* defines “Remote Alaska” to include “all areas other than the study areas, or portions thereof, that include the three major cities in Alaska with over 30,000 in population, Anchorage, Juneau, and Fairbanks.” *Order* ¶ 529, n.876.

¹⁰ *See* General Communication, Inc., Petition for Reconsideration, WC Docket No. 10-90 et al. at 10, n.20 (filed Dec. 23, 2011) (“GCI Petition”).

¹¹ Without the changes suggested in GCI’s Petition, GCI estimates that the support subject to the Remote Alaska delayed phase out and transitional cap would be approximately \$75 million. This does not include support to carriers serving Remote Alaska that nonetheless would be subject to phase out beginning July 1, 2012. *See id.*

creating a framework and rules for a Mobility Fund Phase II without assessing how Mobility Fund Phase I works in practice, or what results are achieved in terms of actual deployment in unserved areas.

Ultimately, however, the Commission must come to grips with the simple fact that none of the Connect America Fund’s various mechanisms as currently implemented or proposed are likely to bring broadband, fixed or mobile, to much of Remote Alaska. The Commission thus should, at a minimum, provide sufficient, predictable support to ensure that Remote Alaska has comparable *voice* services—specifically, modern wireless capabilities—to the rest of the United States, and determine how much it believes it will cost to deliver broadband service to Remote Alaska, under a defined set of performance obligations. As the Commission allocates scarce resources in support of both critical missions, it should: 1) set aside sufficient funding for Alaska such that Alaska providers are not required to undertake the impossible task of underbidding carriers providing service in the Lower 48, who do not face similar costs to service such sparse populations; and 2) reallocate support available within the state when it has failed to produce the desired result with respect to deployment.

I. IN DEVELOPING MOBILITY FUND PHASE II, THE COMMISSION MUST RECOGNIZE ALASKA’S UNIQUELY HIGH COSTS AND QUANTIFY AND SET ASIDE SUPPORT SUFFICIENT TO ACHIEVE REASONABLY COMPARABLE SERVICE.

As the *FNPRM* suggests, Alaska’s unique circumstances necessitate a different approach than for the rest of the country.¹² The extremely high costs of mobile broadband facilities and operations, particularly in those parts of Alaska beyond the National Highway System (“NHS”), combined with small populations, make it extremely unlikely that remote Alaska will receive any support in a nationwide reverse auction—whether in the non-tribal or the tribal portion. Unless

¹² *FNPRM* ¶ 1165.

the Commission sets aside sufficient support from Mobility Fund Phase II (and any other) mechanisms to support mobile broadband and voice services in remote Alaska, these particularly hard-to-serve areas will fall further and further behind the rest of the country.

A. A Set-Aside is Necessary to Ensure that Remote Alaska Will Receive Adequate (or Any) Support to Deliver Mobile Broadband and Voice Services Reasonably Comparable to the Rest of the United States.

GCI appreciates the Commission’s recognition of the “relatively low level of telecommunications deployment[] and distinct connectivity challenges on Tribal lands,” and its “commitment to address Tribal needs” as part of the Mobility Fund Phase II mechanism.¹³ But the Commission’s Mobility Fund and Tribal proposals will leave large swaths of Remote Alaska without mobile (or fixed) broadband for the foreseeable future. The massive costs to deploy and sustain mobile broadband in Remote Alaska, coupled with lack of roads and minimal revenues that can be expected from such small populations, will assuredly result in uncompetitive per-unit bids when competing in a nationwide reverse auction with companies that will have lower costs to serve larger populations. GCI therefore urges the Commission to dedicate separate funding for Remote Alaska, whether as part of the Mobility Fund or otherwise.¹⁴

There is no dispute in the record that bringing mobile broadband to Remote Alaska will entail extraordinary costs. For instance, the CTIA CostQuest study’s attempts to quantify even the *initial* investment necessary to achieve mobile broadband services throughout the nation demonstrates the extreme costs of bringing broadband to Alaska.¹⁵ The study estimates that it

¹³ *Id.*

¹⁴ The Commission in the *Order* defines “Tribal lands” to include Alaska Native regions established pursuant to the Alaska Native Claims Settlements Act (85 Stat. 688). *Order* ¶ 126, n.197.

¹⁵ CTIA-The Wireless Association, U.S. Ubiquitous Mobility Study, September 21, 2011, WC Docket Nos. 10-90 et al. (filed Sept. 22, 2011) (“CTIA CostQuest Study”); *see also* Letter

will cost approximately \$943 per capita to deploy ubiquitous EVDO and HSPA coverage in Alaska. This is more than *double* the estimated cost of covering Montana, and *ten times* the cost of covering North Dakota, and still underestimates the cost of deployment to areas now defined as Remote Alaska. To fund ubiquitous deployment of even a single next generation OFDM service (LTE or WiMax), the study estimates an initial investment of \$647 per capita, which is more than *triple* the cost of doing so in Idaho, and more than *ten times* the cost of doing so in Maine. The CTIA CostQuest Study not only confirmed the general understanding that Alaska mobile services are far behind the rest of the country, but also that it will be much more difficult to provide services to consumers in Alaska than anywhere else in the country.

And as well-conceived and executed as this study was, and as forcefully as it demonstrated the severe investment challenges facing Alaska providers, it nonetheless underestimated the costs of providing service in Alaska, because it expressly excluded operating and maintenance costs, which are typically much higher in Alaska. Moreover, the Study estimated the costs necessary to provide coverage both “where [the] population resides as well as how that population could move.”¹⁶ It appears, however, that the study methodology used roads as a proxy for both “populated areas and paths for movement.”¹⁷ But these assumptions do not work for Alaska Native regions. Much of the State is not served by roads. Instead, populations in rural communities move via boat, plane, or snow machine. Thus, by excluding those areas without any roads, it appears that the study did not capture the costs to cover many of Alaska’s rural residents, a majority of whom are Alaska Natives. Finally, the Study estimated costs based

from Tina Pidgeon, Megan Delany, and Christopher Nierman, GCI, WC Docket Nos. 10-90 et al. (filed Oct. 6, 2011).

¹⁶ CTIA CostQuest Study at 6.

¹⁷ *Id.*

on “a typical portion of microwave backhaul to provide the desired level of mobile broadband coverage.”¹⁸ This methodology surely underestimated the cost to close the massive gap in the availability of terrestrial middle-mile facilities in Alaska and likely the existing costs of satellite backhaul for completing intra-MTA, inter-community calls.

Moreover, support allocated specifically for Remote Alaska¹⁹ is not only necessary to provide long-term support sufficient to overcome the unique circumstances in Alaska, but also to ensure that the availability of such support is predictable enough to “facilitate additional investment in still unserved and underserved areas during the national transition to the Mobility Funds.”²⁰ This was the fundamental reason for the Commission’s delayed phase down of Competitive Eligible Telecommunications Carrier (“CETC”) support in Remote Alaska, and it is an objective that would be frustrated without a set-aside that provides sufficient support for Alaska to accomplish this objective.

GCI suggests that funding set aside for Remote Alaska could be drawn from the Mobility Fund, the Tribal Mobility Fund, and the Remote Areas Fund (“RAF”). Additionally, before underfunding necessary first-time mobility services in many communities, the Commission needs to look at funding levels where the ILEC wireline services have not produced, and thus, are not likely to produce, meaningful expansion of fixed broadband services. There is little chance that any of these support mechanisms as currently structured or proposed will result in the deployment of broadband services to much of Remote Alaska. Allocating support specifically for Remote Alaska from across current and proposed mechanisms thus need not negatively impact the Commission’s top-line USF budget and would be appropriate given that

¹⁸ CTIA CostQuest Study at 12.

¹⁹ See *FNPRM* ¶ 1169.

²⁰ *Order* ¶ 529.

there is no modeling or other record evidence to the relative allocations for high-cost support in Alaska as between the price cap ILEC-served areas, rate-of-return ILEC-served areas, the Mobility Fund Phase II, and the RAF. This reallocation would enable the Commission to direct scarce funding to the services most desired by consumers, rather than along specific technology or company lines.

1. The Commission Must Make At Least a Preliminary Assessment of the Support Necessary to Deliver Mobile Broadband within the FCC's Performance Requirements to Remote Alaska.

As set forth in GCI's Petition for Reconsideration, the record currently contains no information demonstrating that the current amount of high-cost support received by mobile CETCs in Remote Alaska is excessive and unnecessary to deliver mobile broadband services in those areas.²¹ There are currently no publicly vetted models of the costs of delivering broadband to rural Alaska, and the National Broadband Plan model was demonstrably flawed in its basic assumptions about the existing infrastructure in the state.²² As demonstrated by the CTIA CostQuest model outputs and GCI's own expectation based on its experience of deploying and delivering voice and basic data mobile services in Remote Alaska, the costs of deploying and operating 4G wireless services in Remote Alaska will require substantially more support annually than will be delivered through interim Remote Alaska CETC support. Given the lack of any data, the Commission cannot at this time make any reasoned decisions as to the amount or distribution of Mobility Fund Phase II support: any such allocations would be arbitrary and without any foundation in the record.

²¹ See GCI Petition at 3.

²² See Comments of General Communication, Inc. WC Docket Nos. 10-90 et al. (filed Aug. 24, 2011) ("GCI USF Further Inquiry Comments"); see also Reply Comments of the Regulatory Commission of Alaska, WC Docket No. 10-90 et al. (filed Sept. 6, 2011).

The question of whether a Remote Alaska set-aside is necessary also cannot be answered simply through a reverse-auction process. Even if the Commission adopts a reverse auction, a set-aside is a tool that should be used because a reverse auction to allocate support among competing bids from across the entire United States would be expected, in the ordinary course, to allocate too little support to ensure reasonable comparable mobile broadband and voice service in rural Alaska. Even if a model is not used to determine the amount of support ultimately to be distributed, some modeling is necessary to assess whether support within the Mobility Fund Phase II caps can be expected to be sufficient to ensure reasonably comparable mobile broadband service, and whether the costs of service in Alaska are so much higher than the rest of the country such that a reverse auction is unlikely to yield sufficient support.

Thus, before the Commission can determine whether and how much Mobility Fund Phase II support should be set aside for service to Remote Alaska, it must make some assessment of the anticipated costs. At least as a preliminary matter, that most likely requires the development of an Alaska-specific model of the costs of delivering 4G wireless services in Remote Alaska. While the Commission directed the Wireline Competition Bureau to “consider the unique circumstances of Alaska ... when adopting a cost model, and consider whether the model ultimately adopted adequately accounts for the costs faced by carriers serving these areas,” the Bureau has not yet even sought comments on these issues, stating that it would do so in a subsequent notice.²³ Modeling can give the Commission some basis for determining how much funding it needs to set aside to assure mobile broadband can be provided in rural Alaska, as well as whether additional support—if capped at a level below that necessary to ensure affordable

²³ *Request for Connect America Fund Cost Models*, Public Notice, WC Docket Nos. 10-90, 05-337, DA 11-2026 (rel. Dec. 15, 2011).

mobile broadband service statewide—would need to be directed to some areas (for example, those not adjacent to the NHS) rather than others.

Because these comments are due before the Commission has received any of the national models into the record in a form in which they can be evaluated²⁴—and because there are no extant tools with which to evaluate Alaska’s “need” both on its own and in comparison to other areas of the country—the *FNPRM*’s questions regarding whether and to what extent Mobility Fund Phase II should include a set-aside of support for Alaska are premature. To respond fully to the *FNPRM*, GCI and other Alaska stakeholders will need to evaluate the national models submitted for Commission consideration, and develop any improvements or alternatives necessary to better reflect the realities of Alaska’s existing network deployments (or lack thereof), topographies, and demographics. GCI intends to do that, and will supplement these comments once model data and algorithms are available.

2. Any Models or Other Cost Estimates of Delivering Mobile Broadband Must Recognize that Higher Included Usage and Speeds, as Well as Lower Latency, Will Necessitate Higher Support.

In addition to all of the costs of providing mobile voice services, including construction, placement and maintenance of towers and radios, power, switches, Home Location Registers and Visitor Location Registers, 911 infrastructure, intercarrier compensation, customer service, marketing, and billing, mobile broadband services require backhaul capacity between the towers in local communities or regional distribution hubs, and the connection with the Internet. The necessary middle-mile capacity grows directly as customer usage grows. And the costs of acquiring such capacity also grow with capacity, whether terrestrial or satellite.

²⁴ GCI is not aware of any models for estimating costs and revenues related to mobile services other than the CostQuest Associates models submitted by CTIA, US Cellular and MTPCS. *See also FNPRM* ¶ 1176. That model, however, has yet to be submitted in a form that permits third parties to examine its assumptions and algorithms for estimating costs.

In an unsubsidized market, providers can (and do) attempt to control usage growth by limiting the amount of included capacity and assessing above-cap usage fees. If, however, as a condition of Mobility Fund Phase II support the Commission mandates a relatively high level of included usage (such as included usage comparable to urban areas that do not face the same types of middle-mile costs), then the costs of providing the mandated service will also increase, driven directly by middle-mile costs. Higher required transmission speeds have a similar effect because they typically increase the amount of required simultaneous transmission capacity.

A specific threshold for minimally tolerable round-trip latency also must be defined in order to develop an adequate cost estimate. If round trip latency of 200 milliseconds or more is sufficient to “enable[] the use of real time applications,” then satellite middle mile can be used. However, if lower latency is mandated, such as to support some types of telehealth applications, teleconferencing, or common Internet activities like gaming, then cost estimates will need to use only terrestrial middle mile to all locations—a result that will substantially increase the middle-mile costs that need to be supported in order to provide affordable mobile broadband services to the end user.

Thus, before the Commission can estimate the costs of providing mobile broadband and voice in rural areas, particularly those like Remote Alaska without unsubsidized competitors, it needs to define the minimum service that the supported provider is expected to deliver, including speed, included usage, and latency. To the extent that particular thresholds require higher levels of support than the Commission is willing to distribute, it must then adjust those minimum service requirements accordingly. Otherwise, the Commission’s estimates of the costs of service will not align with the minimum service required to be provided—a result that would be highly arbitrary and unreasoned.

B. If the Commission Attempts to Include Alaska in a Nationwide Competitive Bidding Mechanism, It Must do so in a Manner That Will Permit Alaska Providers to Compete for Support.

If the Commission ultimately decides to use a competitive bidding model to allocate Mobility Fund Phase II support (a decision which requires the development of far more data and support than exists today), that mechanism must be designed to allow providers in Remote Alaska to compete for support on a nationwide basis. The Commission’s proposal to base the number of bidding units and the corresponding coverage requirement on the number of road miles in each eligible geographic area, or, alternatively, population,²⁵ will systematically place Alaska at a disadvantage in a nationwide competitive bidding process, and would deepen the digital chasm between the Alaska population and the rest of the country.²⁶

Lowest support per “road mile” would be extremely problematic for rural Alaska—much of which lacks roads. No highways connect villages and regional centers in the Alaska bush. In fact, a distinguishing feature of rural Alaska is a lack of roads; nearly all access is by plane, boat, or snow machine.

Providing Mobility Fund Phase II support on the basis of lowest support per covered population would similarly result in little, if any, support going to Alaska. One of the hallmarks of a rural (and high cost) area is low population density. Alaska’s overall population density is the lowest in the nation—1.2 persons per square mile,²⁷ as compared to 103.8 in the Lower 48,²⁸

²⁵ See *FNPRM* ¶ 1134.

²⁶ See also Comments of General Communication, Inc., WT Docket No. 10-208 at 1-2; (filed Dec. 16, 2010) (“GCI Mobility Fund Comments”); GCI USF Further Inquiry Comments at 20-21.

²⁷ See United States Census 2010, Resident Population Data, Population Density, at <http://2010.census.gov/2010census/data/apportionment-dens-text.php> (last visited Jan. 17, 2012).

and substantially lower in Remote Alaska. Alaska's urban populations are small compared to rest of the country,²⁹ and even Alaska's regional centers have year-round populations of only a few thousand people.³⁰ In Remote Alaska, (outside of Anchorage, Fairbanks, Juneau), the populations are half as dense, only 0.6 persons per square mile.³¹ Many of the villages in rural Alaska are extremely tiny—with only a few hundred year-round residents each, and some with fewer than 50. In fact, of the 180 communities that GCI classifies as rural (508 residents or POPs on average per community), 85 (45 percent) have fewer than 200 POPs, and 45 (25 percent) have fewer than 100 POPs. In fact, GCI serves or had planned to serve (assuming sufficient high-cost support) a significant number of rural communities with fewer than 50 POPs. With such small populations, no Alaska service area is likely to be the winner of a “lowest support per newly served population” auction, even though its citizens are exactly those who would benefit most from Mobility Fund support.

Faced with these obstacles, should the Commission nonetheless include Alaska in a nationwide competitive bidding mechanism, it must find alternative methods of accounting for

²⁸ See United States Census, Population Density for States and Puerto Rico, July 1, 2009, <http://www.census.gov/popest/gallery/maps/popdens-2009.html> (last visited January 17, 2012).

²⁹ For instance, Anchorage has only 291,826 residents, Fairbanks has only 31,535 residents, and Juneau has only 31,275 residents. See State of Alaska, Alaska Community Database Custom Data Queries, http://www.commerce.state.ak.us/dca/commdb/CF_CUSTM.htm (last visited Jan. 17, 2012).

³⁰ Barrow and Nome, for example, have only 4,212 and 3,598 residents, respectively. See State of Alaska, Alaska Community Database Custom Data Queries, http://www.commerce.state.ak.us/dca/commdb/CF_CUSTM.htm (last visited Jan. 17, 2012).

³¹ U.S. Census Bureau, State & County Quick Facts, Alaska (Dec. 23, 2011), <http://quickfacts.census.gov/qfd/states/02000.html> (Population and land area figures for Anchorage, Fairbanks and Juneau are available under the City search tab at the top of the website. It is thus possible to subtract the total land area and population of these three cities from the statewide totals, and divide the remaining population by the remaining land mass, to arrive at a figure of approximately 0.6 persons per square mile in Remote Alaska).

the lack of roads and low population densities if it wants to provide a realistic opportunity to provide sufficient support to Remote Alaska.

C. Any Competitive Bidding for Support in Alaska Should Promote Efficient, At-Scale Deployments, Rather than Subscale, Isolated Networks.

If the Commission uses competitive bidding to distribute support within Alaska, it should ensure that support is properly targeted, and it should also promote efficient at-scale deployments, rather than isolated, subscale “island” networks. Alaska will benefit the most from a statewide mobile infrastructure that has common air interfaces, common handsets, and a common technology upgrade path.

1. Census Blocks Should Be the Basic Geographic Building Block for Competitive Bidding, but Aggregation into Larger Packages Should Also be Permitted.

GCI agrees that census blocks should serve as minimum geographic building blocks for defining eligible areas, but that the blocks themselves should not serve as sole bidding unit.³² Instead, carriers should be allowed to aggregate bidding units to facilitate the ability of potential providers to harness geographic economies of scale. Combinatorial bidding would be critical to any reverse auction proposal; without the ability aggregate census blocks into logical regions, the Mobility Fund would balkanize network infrastructure and increase the cost of expanding mobile broadband services to Remote Alaska.

2. Small Business Credits Should Not Promote Balkanization of the Network into a Multiplicity of Sub-Scale Providers.

With respect to the auction process framework, GCI does not believe that small businesses should be eligible for a “reverse” bidding credit, particularly if such a credit would

³² See *FNPRM* ¶ 1126.

result in less coverage achieved.³³ Ubiquitous modern wireless service in Alaska’s rural areas can best be provided through a network that takes advantage of economies of scale from urban population centers. For instance, GCI was able to build out wireless networks to serve rural communities only when it could share substantial resources and infrastructure, including backhaul facilities and core network equipment in Anchorage, across both urban and regional centers. Among other things, GCI’s core facilities in Anchorage provide the Home Location Router functions, SS7 signaling, support for 2G data services such as GPRS and EDGE, and network monitoring.

Thus, to meet the assigned high cost budget constraints while maximizing the service opportunities to consumers living in rural, high cost areas, Mobility Fund Phase II recipients must be able to leverage economies of scale—both financially and in terms of physical infrastructure and connection to “urban” networks—that are critical to overcoming the unique challenges that rural Alaska presents.³⁴ Providing “reverse” bidding credits to small businesses would, by contrast, foster “island” operations that would not best serve unserved Tribal populations. Moreover, even with roaming, such “island” operations are unlikely to be able to be part of a common network upgrade path with the rest of the state and may even have incompatible air interfaces—all of which will further tend to isolate those communities and deprive residents of the benefits of a statewide wireless network.

3. The Commission Should Prioritize Mobility Fund Support for Areas Not Served by the National Highway System.

As it allocates Mobility Fund Phase II or Tribal Mobility Fund Phase II support, the Commission should prioritize support to areas that do not have access to the NHS, as defined by

³³ See *FNPRM* ¶ 1157.

³⁴ See also Comments of General Communication, Inc. WC Docket Nos. 10-90 et al., at 18, 20 (filed April 4, 2011) (“GCI CAF NPRM Comments”).

the United States Department of Transportation (*i.e.*, one cannot drive along roads to reach the NHS). Roads and highways are important sources of rights-of-way, including for fiber backbones. Many parts of rural Alaska, however, lack any roads to the NHS. By prioritizing areas that do not have access to the NHS, the Commission would direct support to those areas least likely to see deployment and service upgrades without support.

Mobile deployments in such areas serve, among other things, an important public safety function, bringing communications capabilities to areas where travel may be difficult.³⁵ Certain areas of Remote Alaska are so costly to serve that modern wireless service has not even gotten there. In these areas, mobile service is desperately needed, as driving to the next town for communication or assistance is not an option.

While a landline connection can place an emergency call only from a single location, a mobile wireless service allows that emergency call to be made from anywhere the emergency might be occurring. For instance, a person whose snow machine breaks down in the middle of a frozen snowpack or tundra cannot summon help using the landline phone at his or her house. That person needs to have a mobile phone and mobile service. In addition, mobile service allows law enforcement officials to stay in contact with their agencies and the public more easily when they travel to a village outside the regional center. Also, seasonal workers and/or those individuals in migrating communities, *e.g.*, workers on fishing boats, will not generally have easily accessible fixed line service. For these individuals, wireless service is more likely than wireline to be the primary mode of connectivity. Expanding wireless service into areas that are not otherwise connect by roads will permit these individuals to have better access to

³⁵ See also GCI CAF NPRM Comments at 37-39.

communications for emergencies, for transacting business, and for keeping in contact with family and friends..

4. The Commission’s Other Tribal Proposals will not Benefit Alaska.

The Commission’s proposals with respect to Tribal issues will not work to bring ubiquitous mobile broadband to Alaska.³⁶ In fact, some of the Commission’s proposals would only add unnecessary complexity and uncertainty without providing positive results. However, the Commission’s “priority units” or bidding credit approaches could work if applied to Tribal lands or all providers serving Remote Alaska.

GCI does not support the Commission’s proposal to allocate “priority units” to Tribal governments rather than providers who might ably fulfill the need given sufficient funding.³⁷ First, such a proposal is unlikely to address situations in which there is widespread lack of 3G or 4G mobile broadband. It is very unlikely that a single island of 3G mobile broadband would be viable even over the short-term, much less the long-term, and GCI questions whether a single island of service within a Tribal area is an appropriate goal.³⁸

In addition, such a system would not work in Alaska, because it does not reflect how Congress resolved Alaska Native land claims, or the unique governance structure of Alaska Tribal governments.³⁹ The Commission’s proposal to address the “unique Alaska Native

³⁶ See generally *FNPRM* ¶¶ 1165-1172.

³⁷ See *FNPRM* ¶ 1170.

³⁸ See also Comments of The Alaska Telephone Association, Alaska Communications, and General Communication, Inc., WT Docket No. 10-208 at 3 (filed May 4, 2011).

³⁹ Congress addressed the land claims of Alaska Natives differently than it did with respect to native land claims in the Lower 48. Alaska claims were settled by Congress in the Alaska Native Claims Settlement Act, Pub. L. No. 92-203, 85 Stat. 688-716 (“ANCSA”), enacted in 1971. ANCSA divided Alaska into twelve geographical regions, and provided for the establishment of multiple for-profit Alaska Native Village Corporations and a single for-profit Alaska Native Regional Corporation in each region. The Village Corporations own the

government structure and the large number of Alaska Native Villages likely to be clustered in any given geographic area” by “allocat[ing] priority units proportionately, according to the relative size and/or number of unserved units of all Alaska Native Villages in any given geographic area”⁴⁰ would not adequately address the complexities with respect to Tribal populations in Alaska.

Instead, if the Commission were to institute a “priority units” designation process, GCI recommends that the Commission allocate “priority units” to Tribal lands – not Tribal governments—and allow the most efficient provider, whether tribally-owned or not, to competitively win support.

GCI also does not support the Commission’s proposal to apply a 25 percent bidding credit preference for Tribally-owned or controlled providers in Phase II, and does not believe that such a bidding credit would provide any benefit to Alaska.⁴¹ First, as a threshold matter, according to the Commission, there are currently only eight Tribally-owned and controlled ETCs nationwide, none of which are in Alaska.⁴² GCI also is not aware of any Tribally-owned or

surface estate of the lands granted to them under ANCSA; each Regional Corporation owns the subsurface estate of the lands granted to the Village Corporations in its region. ANCSA also granted surface and subsurface lands and other rights directly to the Regional Corporations.

While there are more than 200 Alaska Native entities included on the list of federally recognized tribes updated periodically by the Bureau of Indian Affairs pursuant to the Federally Recognized Indian Tribe List Act, Pub. L. No. 103-454, § 103, the listed entities generally are not the Regional or Village Corporations. As a result of ANCSA, Alaska Native villages that have been recognized by the federal government – as opposed to the Village or Regional Corporations – generally do not own land. In this respect, Alaska is very different from areas in the Lower 48 where tribes own and have legislative jurisdiction over particular reservation lands. *See also id.*

⁴⁰ *FNPRM* ¶ 1171.

⁴¹ *See FNPRM* ¶ 1166.

⁴² *See FNPRM* ¶ 490, n.814. *See also Improving Communications Services for Native Nations*, Notice of Inquiry, CG Docket No. 11-41 at 9 n.46 (rel. Mar. 3, 2011): “The eight Tribally-

controlled entity in Alaska that could be eligible for ETC designation. Furthermore, such a system would hamstring Tribal governments with respect to any allocation of a specified number of “priority units” to Tribal governments, forcing them to use credits only on tribal-owned/controlled providers, rather than allowing the credits to go to the most efficient provider, even if it is not tribally owned or controlled.

D. Model-based Support for Any Mobile ETC Serving an Area May Be a Reasonable Alternative to Reverse Auctions.

As an alternative to competitive bidding through reverse auctions, the *FNPRM* seeks comment on the use of a model to determine forward-looking support levels.⁴³ While all models can be criticized, a singular advantage of the model-based approach is that it does not require the elimination of competition as a driver of service improvements in subsidized areas. Under such an approach, providers would be able to build a business case around a predictable level of support. However, if the support amount would justify only a single network, only a single network will arise. If a dozen distinct supported networks were to arise in a particular area, the area likely would not need support, and it would be indication that support could be ratcheted

owned local exchange carriers with ETC designations are: Hopi Telecommunications, Inc. (Hopi Tribe); San Carlos Telecommunications and Utilities, Inc. (San Carlos Apache Tribe); Mescalero Apache Telecommunications, Inc. (Mescalero Apache Tribe); Gila River Telecommunications, Inc. (Gila River Indian Community); Saddleback Communications (Salt River Pima Maricopa Indian Tribe); Fort Mojave Telecommunications, Inc. (Fort Mojave Indian Tribe); Tohono O’odham Utility Authority (Tohono O’odham Nation); and Cheyenne River Sioux Tribe Telephone Authority (Cheyenne River Sioux Tribe). The Commission performed the majority of these ETC designations. Mescalero Apache Telecommunications, Inc. received its ETC designation from the New Mexico Public Regulatory Commission. Standing Rock Telecommunications, Inc. (Standing Rock Sioux Tribe) is the Tribally-owned wireless company, and received its ETC designation from the Commission.” Of course, that list may not be exhaustive and does not exclude future such entities.

⁴³ See *FNPRM* ¶ 1174 *et seq.*

downward, but that would be no reason to artificially limit the number of competitors everywhere.

As discussed in Section II, the proposed RAF takes a similar approach with its portable consumer subsidy and topline budget. This mechanism could be adjusted to better suit Alaska's needs in the manner and for the reasons described below.

II. THE REMOTE AREAS FUND FEATURES POSITIVE DISTRIBUTION CONCEPTS, BUT AS PROPOSED, WILL NOT BE SUFFICIENT TO ENSURE REASONABLY COMPARABLE MOBILE OR FIXED BROADBAND SERVICES IN RURAL ALASKA.

The *Order* adopts a \$100 million budget for the RAF, which would provide a portable consumer subsidy for voice and broadband service to qualifying residences/households in areas that the Wireline Competition Bureau determines to be extremely high-cost, according to a yet-to-be developed forward-looking cost model.⁴⁴ As outlined in the *FNPRM*, fixed wireless or satellite services could be deployed to serve these areas on a per-location basis.⁴⁵ While a portable-support model among competing providers on a line-count basis would generally be a preferable distribution mechanism to a nationwide reverse auction, the location-based implementation proposed for the RAF would deny entire communities in Alaska access to either enterprise anchor tenant broadband services necessary for applications such as distance learning and telemedicine or mass market broadband services.

A. RAF Funding Is Not Likely to Provide Need Support to Remote Alaska, Because Satellites Do Not Serve Much of Remote Alaska, Particularly Outside of the National Highway System, and WISPs Face the Same Challenges As All Other Broadband Providers.

The assumption underlying the RAF—that there is or soon will be satellite-based voice and broadband service available covering rural Alaska—does not appear to be true. As both GCI

⁴⁴ See *FNPRM* ¶¶ 1223, 1229.

⁴⁵ See *FNPRM* ¶ 1224.

and the State of Alaska have previously pointed out, even next-generation satellites being launched are unlikely to have spot beams that cover the entire state. Indeed, indications are that the spot beams on these satellites will focus on the parts of the state with the most inhabitants—*i.e.*, on the urban and suburban areas that already have broadband service.⁴⁶ Thus, much of Remote Alaska will lie outside of the satellite service areas.

Terrestrial Wireless Internet Service Providers (“WISPs”) could potentially serve these areas—as GCI already does, albeit at speeds below 256 kbps—but WISPs face the same middle-mile backhaul challenges and costs as all other providers in Alaska, whether fixed or mobile. Whether under the fixed site CAF, the Mobility Fund, or the RAF, Remote Alaska, particularly away from the NHS, will not receive reasonably comparable broadband service without sufficient support to cover *all* the costs of providing broadband service, including middle mile.

B. As Proposed, the RAF Will Not Support Mobility in Remote Alaska Sufficient to Meet Public Safety Needs.

The RAF, as proposed, would be a one-per-household, customer-centered support, and possibly would be means-tested.⁴⁷ While a customer-centered approach is commendable, the one-per-household approach makes clear that the purpose of the RAF is not to assure that the extremely high-cost areas have access to mobile services reasonably comparable to the rest of the country. Everywhere else in the country, mobile services are used on an individual basis—*i.e.*, a handset to an individual—and not on a one-per-household basis.

⁴⁶ See GCI USF Further Inquiry Comments. Wildblue website says it plans to serve Anchorage and Kenai in 2012, but does not mention the rest of Alaska. See Wildblue, Frequently Asked Questions, *available at* http://www.wildblue.com/overview/faqs#5_6. At the time of this filing, the Wildblue website states that service is available only in the 48 contiguous states. See Wildblue, Availability, *available at* <http://www.wildblue.com/options/availability>.

⁴⁷ As a preliminary matter, the *FNPRM* is ambiguous as to what it is proposing. It proposes to adopt a limitation similar to Lifeline, but the Commission has not yet adopted changes to its Lifeline rules, and will not do so until after these comments are filed. See *FNPRM* ¶¶ 1225, 1228.

The one-per-household limitation would have a direct, deleterious impact on public safety in these areas. Adopting a one-per-household rule would deny a consumer in a RAF-supported household the ability to dial 911 in an emergency every time that an individual RAF-supported household member puts his or her mobile phone in his or her pocket and walks out the door. According to the Commission's own reports, 70 percent of 911 calls now come from wireless phones.⁴⁸ A Pew Research Center study also found that 40 percent of wireless phone users have found their wireless phones to be helpful in an emergency.⁴⁹ As the Commission has stated, "[o]ne of the most important opportunities afforded by mobile telephony is the potential for the American public to have access to emergency services personnel during times of crisis, wherever they may be."⁵⁰ A one-per-household rule would acutely impact consumers who

⁴⁸ See Federal Communications Commission, FCC Consumer Facts: Wireless 911 services, <http://www2.fcc.gov/cgb/consumerfacts/wireless911srv.pdf>.

⁴⁹ Aaron Smith, *Americans and their Cell Phones*, Pew Internet, at 2 (Aug. 15, 2011), <http://pewinternet.org/~media/Files/Reports/2011/Cell%20Phones%202011.pdf>.

⁵⁰ *Wireless E911 Location Accuracy Requirements*, Second Report and Order, PS Docket No. 07-114, 25 FCC Rcd. 18909 ¶ 1 (2010); see also Separate Statement of Chairman Julius Genachowski, *Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, Notice of Proposed Rulemaking, PS Docket No. 11-82, 26 FCC Rcd. 7166, 7223 (2011) ("When disaster strikes, the public must be able to make emergency calls to summon help, particularly those facing life-threatening situations."); Separate Statement of Commissioner Michael Copps, *Framework for Next Generation 911 Deployment*, Notice of Inquiry, PS Docket No. 10-255, 25 FCC Rcd 17869, 17901 (2010) ("[W]e can all agree that the safety of the American public must always be our top priority."); Separate Statement of Robert M. McDowell, *Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, Notice of Proposed Rulemaking, PS Docket No. 11-82, 26 FCC Rcd. 7166, 7226 (2011) ("My colleagues and I agree on the vital importance placed on voice calls to 9-1-1. All Americans rightly expect their emergency calls to go through, even though most may not understand the technologies involved, how the systems operate or their regulatory treatment."); Mignon L. Clyburn, Comm'r, FCC, Welcoming Remarks at NENA's "9-1-1 Comes to Washington Conference (March 29, 2011), http://transition.fcc.gov/Daily_Releases/Daily_Business/2011/db0329/DOC-305439A1.pdf

depend on USF-supported mobile service, demoting their ability to make emergency calls from a “top priority” to second place.

This problem would be particularly acute in Remote Alaska, where the environment is unusually harsh, the distances between points are unusually great, and the population is unusually migratory, as people follow seasonal employment opportunities in different parts of the state. Wireless services give individual consumers the ability to call 911 despite great distances and seasonal migrations, whether they are calling from home, from a broken snow machine in the middle of a remote ice field, from a commercial fishing boat in the harbor, from a cannery, from a dormitory of cannery workers, or from other remote points.

C. The RAF Will Not Provide Reasonably Comparable Fixed Services for Rural Alaska.

The RAF is focused on delivering mass market broadband, and not enterprise services. But even if it were expanded to enterprise services, the RAF could not provide reasonably comparable services to rural Alaska. As discussed above, all broadband for Remote Alaska is dependent upon having adequate middle-mile capacity, and the costs of obtaining that capacity comprise a significant portion of the total cost of delivering service. In the context of service to anchor institutions, this need is even more acute, because some critical applications such as electronic medical records management and real-time teleconferencing for telemedicine—such as telepsychiatry—will not function adequately with satellite-based latencies. Indeed, one of the most significant public interest benefits of the TERRA-SW network is the ability to deliver high-capacity, very low latency connections both between villages and the regional centers, and to the

(“One of the top priorities for any government -- federal, State, or local -- should be to ensure the safety of our citizens.”).

Internet. This enables, for example, psychiatrists in the Lower 48 to treat patients in a rural health clinic in a tiny village in western Alaska.

These types of low-latency services simply cannot be delivered over geostationary satellites. The speed of light sets a limit on the round-trip latency, and realistically those latencies will never drop below approximately 200 milliseconds. Even in the mass market, Wildblue openly admits that it does not support VoIP, and that latency may cause problems with applications such as VoIP.⁵¹

Satellite capacity is also extremely expensive and non-scalable; satellite costs rise directly in proportion to capacity needs. Therefore, unless terrestrial middle-mile networks can be built, the cost to the USF will continue to rise as consumers' demand increases. The only alternative would be to either increase the cost to consumers—which would likely render rates unaffordable and not reasonably comparable to urban areas—or render the services not reasonably comparable due to much lower amounts of included usage than in urban areas.

D. The Initial Focus of the RAF on Price Cap LEC Areas with No Wireline or Terrestrial Wireless Broadband Service Leaves Out the Vast Majority of Remote Alaska.

In the *FNPRM*, the Commission suggests that the initial focus of the RAF will be price cap areas with no wireline or terrestrial wireless broadband service.⁵² In Alaska, this limitation would focus only on the ACS-served study areas, to the exclusion of the Rate of Return (“RoR”) Local Exchange Carrier- (“LEC”) served areas, thus excluding nearly *all* areas in “Remote Alaska” as specifically defined by the Commission in the *Order*.⁵³ Moreover, the *FNPRM* does

⁵¹ See Wildblue, Frequently Asked Questions, http://www.wildblue.com/overview/faqs#5_9.

⁵² See *FNPRM* ¶ 1230 and n.2292.

⁵³ The *Order* defines “Remote Alaska” to include “all areas other than the study areas, or portions thereof, that include the three major cities in Alaska with over 30,000 in population, Anchorage, Juneau, and Fairbanks.” *Order* ¶ 529, n.876. Outside of these price-cap served

not indicate the level of broadband service that would be used to determine whether an area is unserved, *i.e.*, information about speeds, latency and included usage.

The Connect Alaska map (the Alaska SBI-supported broadband map) reveals that only a small part of Alaska—primarily congregated along the NHS—has broadband with *advertised* speeds of 768 down and 200 kbps up. This performance level is wholly inadequate. For example, there are approximately 50 rural Alaskan villages in the interior of Alaska that have no wireless service today in which GCI had been planning, prior to the *Order*, to launch wireless service within the next couple of years. None of these villages has even 768 down /200 kbps up broadband service. Yet *none* of these villages, which lie in rate-of-return LEC areas, would fall within the RAF’s initial focus areas.

E. Enforcing the RAF Budget Through a “First-Come, First-Served” Approach or Pro Rata Support Reductions Would Not Meet the Statutory Requirement of Sufficiency.

Section 254(e) requires support to be sufficient.⁵⁴ “Sufficient” must be defined with respect to statutory objectives of affordable and reasonably comparable services.⁵⁵ “First-come, first-served” budget enforcement by definition flunks this test because at the point at which budget funding would be exceeded, new applicants would lose access to affordable and reasonably comparable services. This is not a situation in which Congress has legislated a fixed, appropriated amount of funding. To the contrary, Congress set no funding caps, but, rather, included a *statutory requirement* of sufficiency.

areas, the vast majority of Alaska is served by RoR LECs, which would not be eligible for RAF funding.

⁵⁴ See 47 U.S.C. § 254(e).

⁵⁵ See *Qwest Corp. v. FCC*, 258 F.3d 1191 (10th Cir. 2001) (“Qwest I”); *Qwest Commc’ns Int’l, Inc. v. FCC*, 398 F.3d 1222, 1233-1237 (10th Cir. 2005) (“Qwest II”).

The same failing holds true with respect to *pro rata* support reductions for this consumer-based support. Such reductions would render support both insufficient and unpredictable, contrary to the express goals of Section 254.

III. THE MIDDLE MILE IS A COST THAT MUST BE COVERED BY THE SUPPORTED BROADBAND PROVIDER, RATHER THAN A TARGET FOR DIRECT SUPPORT OF FACILITIES CONSTRUCTION OR AN INCLUSION IN THE RATE-OF-RETURN RATEBASE.

As discussed above, middle-mile costs will be a significant (but not the only) component of the high costs of delivering any type of broadband – whether fixed or mobile – to Remote Alaska. GCI agrees with the State of Alaska that the middle mile is an essential component of providing affordable and reasonably comparable broadband services to rural Alaska, and of creating a communications infrastructure that can support critical public health, education and safety needs. The *FNPRM*, however, lacks a consistent approach to middle-mile costs. In its discussion of the Mobility Fund Phase II and Tribal Lands, the Commission seeks comment on whether any Alaska-specific funding should be focused on the middle mile and how any such mechanism could be structured to facilitate the construction of microwave and fiber-based middle-mile facilities.⁵⁶ In the RoR LEC CAF proposal, however, middle-mile investment is placed into the ratebase, upon which an RoR LEC could receive a regulated return that would be assured through USF support.⁵⁷ For price cap LECs, the treatment of the middle mile is less clear, but presumably the middle mile would be a component of the cost model used to determine support for unserved areas.⁵⁸

⁵⁶ See *FNPRM* ¶ 1172.

⁵⁷ See *FNPRM* ¶¶ 1033, 1035; *FNPRM* at 602-607, Appendix G, proposed rules 36.126(b)(4), (g), 36.158.

⁵⁸ The Commission has directed the Wireline Competition Bureau to “consider the unique circumstances of [Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands and Northern Marianas Islands] when adopting a cost model, and . . . to consider whether the model

The Commission should not treat the middle mile differently for different types of carriers. Middle-mile costs are not likely to vary by the type of provider (*e.g.*, fixed price cap, fixed RoR LEC or mobile) within a community, but rather by the distance and difficulty of connecting the community itself back to the fiber backbone. The middle-mile costs of reaching, for example, Bethel are likely to be similar for a megabit of traffic regardless of whether that megabit terminates over a RoR ILEC's last mile, over a fixed WISP, or over a mobile broadband network. The same would be true for any other Alaska community that is not on an existing fiber network. As discussed above, middle-mile costs will vary with the level of speed, included usage and latency specified by the Commission as the minimum to be delivered by the supported service—not by whether the ISP is a price cap ILEC, an RoR LEC, or a fixed or mobile wireless provider.

Moreover, in Alaska, middle-mile capacity generally is not a local exchange carrier service, but is an interexchange carrier service. Even within a single ILEC study area, transport between communities is often an interexchange service, as the traffic today transits satellite connections between villages. When an ILEC offers intervillage middle-mile transport today, it must do so consistent with the FCC's requirements that in-region interexchange services be offered through a separate affiliate.⁵⁹

Supporting RoR LEC investment in the middle mile through a rate-of-return mechanism creates a bias in favor of construction of such facilities by RoR LECs, and subsidizes the RoR LEC's entry into a competitive business—in direct contravention of Section 254(k) which states, “a telecommunications carrier may not use services that are not competitive to subsidize services

ultimately adopted adequately accounts for the costs faced by carriers serving these areas.”
Order ¶ 193.

⁵⁹ See 47 C.F.R. § 64.1903.

that are subject to competition.”⁶⁰ The incentives of RoR regulation will be to make capital investments, even if those investments duplicate existing middle-mile transport facilities, so that the RoR LEC can earn a regulated rate of return on that investment with attendant universal service support. This type of approach could lead to wasteful duplicative investment in middle-mile facilities for areas that already have very thin demand. In no event should any aspect of the CAF—including any RoR LEC-oriented CAF—be directly supporting duplicative middle-mile construction, rather than the procurement of needed middle-mile inputs.

Moreover, in Alaska, there is no reason to believe that the RoR LECs will be providers, let alone efficient providers, of middle-mile capacity. Indeed, the evidence is to the contrary. Middle-mile transport in Alaska is an interexchange service, and has been provided to date outside of any provider’s ratebase. This is especially true outside of the areas connected to the NHS, which, with the exception of the area served by TERRA-SW, all utilize satellite-based middle mile today. RoR LEC service areas are extremely small and discontinuous, with networks limited to individual villages, and generally do not include transport between villages. While there are some exceptions, the RoR LEC service areas do not necessarily incorporate contiguous territory.

Furthermore, terrestrial middle-mile transport capacity, when and where constructed, will not support just a single service, whether fixed mass market broadband and voice, mobile mass market broadband and voice, or dedicated enterprise services. Rather, terrestrial middle-mile transport facility will support *all* of these different types of services and, in fact, will need to do so because demand is so thin in Remote Alaska that these areas are unlikely to support a multiplicity of terrestrial transport.

⁶⁰ 47 U.S.C. § 254(k).

Under these circumstances, the Commission should treat middle mile similarly under all aspects of the CAF, whether fixed or mobile. The best way to do so is to ensure that all mechanisms assume similar per-megabit costs for middle-mile transport, differentiated by whether an area is fiber, microwave or satellite served. These costs should be treated as expenses in determining support levels, which should provide support sufficient to enable the supported ETC broadband provider to procure necessary middle-mile capacity. However, the Commission should leave to the marketplace—and potentially to other forms of grant or loan-based support – the decision of whom the provider of middle-mile transport will be. This approach uses demand to support middle-mile deployments, dovetailing dovetails most closely with the rural health care and e-rate USF support mechanisms, which also support customer procurements of middle-mile capacity. By empowering demand, this approach best recognizes that middle-mile facilities are likely to build a business case out of service to a wide variety of customers, and not just a single type of broadband service.

IV. THE LONG-TERM RATE-OF-RETURN LEC CAF PLAN SHOULD ENABLE COMPETITION AND FOSTER EFFICIENT USE OF USF DOLLARS.

Wireless service, whether fixed or mobile, is the most cost-effective way to provide broadband service to Alaska’s remote and isolated populations. Supporting unnecessarily expensive technology such as last-mile copper or fiber harms Remote Alaska by diverting support from critically necessary middle-mile connections.⁶¹ The Commission should ensure that any long-term CAF for RoR ILECs harnesses competition to ensure that support is put to its best and highest use rather than reflexively continuing to support legacy providers and services at the same level regardless of cost or benefit.

⁶¹ See Section III, *supra*.

For Remote Alaska, RoR ILECs are likely not the most efficient providers of broadband services. Rural Alaska is characterized by small villages—small, isolated clusters of population with virtually no population between villages. Wireless, whether fixed (through a WISP), mobile, or a combination thereof, is the most efficient way to bring broadband to these isolated areas. Alaskan villages, and even Alaskan regional centers, tend to be sufficiently compact as to permit coverage with no more than one or two antennas, eliminating the need for ubiquitous deployment of costly copper or fiber cabling. For this reason, scarce USF dollars in Rural Alaska should be focused on most efficient uses to ensure the broadest benefit and impact. Conversely, proposals for continued RoR-based CAF for the RoR ILEC-served areas would reward costly deployments instead of creating incentives to adopt the most efficient broadband technology.

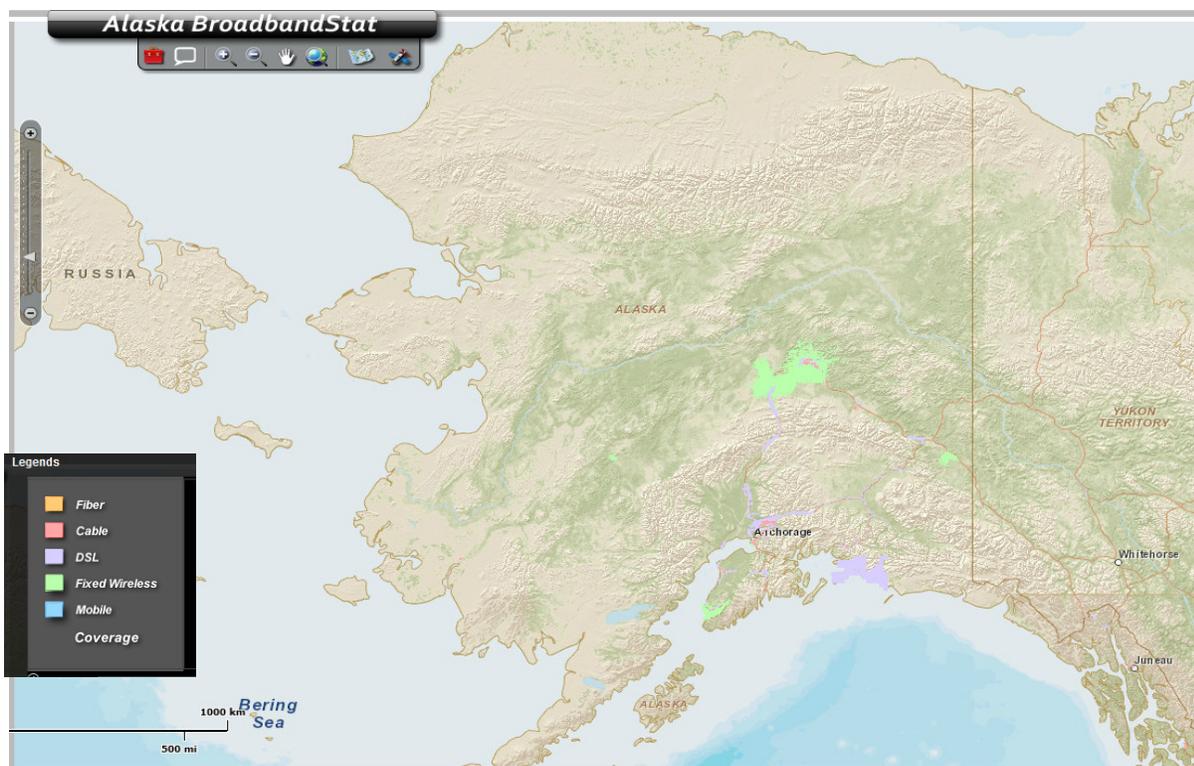
The Commission could mitigate these harms by offering competitors an opportunity to become the supported broadband service provider within a given geography, such as an unserved or underserved census block. The check of a competitive recipient will create incentives for all providers, not just competitors, to deploy the most efficient technology, as only the most efficient technology would be funded.

Similarly, the Commission should not adopt a long-term CAF for RoR ILEC-served areas that ignores competitive alternatives in favor of continued support for unnecessarily expensive services that consumers themselves are abandoning. In Alaska, RoR ILEC subscribership is rapidly declining. Between the first quarter of 2009 and the first quarter of 2012, Alaskan RoR ILEC access lines fell from 133,000 to just over 99,500, a cumulative drop of 12 percent. USF dollars are scarce, as the Commission has recognized, and the Commission should use those dollars in the most efficient manner possible. As this decline in subscribership shows, rural

Alaskan consumers are abandoning their traditional landline service and sending a message that USF should not be spent perpetually subsidizing fixed wireline service at continuing levels.

In light of the very limited broadband deployment that has resulted from past USF subsidies delivered to Remote Alaska RoR ILECs, there is no reason to presume that incumbent providers will now use these subsidies to build broadband-capable networks or the middle-mile connections needed to deliver robust broadband services to isolated and remote RoR networks.

Alaska Fixed Broadband Availability Map⁶²



Finally, the Commission should focus any long term CAF for RoR LEC-served areas on supporting at-scale, rather than sub-scale operations. This cannot be accomplished if RoR ILECs receive an exclusive right to support, as is the case with legacy support, the right of first refusal, or an overwhelming bidding credit in a reverse auction. The simplest and most effective way to

⁶² Connect Alaska, Alaska Broadband Interactive Map, http://www.connectak.org/mapping/_interactive_map_interface/?q=map.

achieve this goal is through competition, specifically by ensuring that non-ILECs have the ability to compete to be the supported broadband service provider in a particular area.

CONCLUSION

The Commission should ensure that the Mobility Fund Phase II, and other mechanisms, will in fact provide sufficient support to ensure that Remote Alaska will have access to mobile broadband and voice services that are reasonably comparable to the rest of the country. The best way to do this is through a set-aside for Remote Alaska, as the unique costs of providing service and deploying networks in remote Alaska, including the middle mile, are likely to render Remote Alaska uncompetitive with respect to the rest of the United States in a reverse auction. Middle-mile costs need to be taken into account in a consistent way across all carriers and technologies, as those costs are unlikely to vary by type of last-mile carrier or technology. The Remote Areas Fund, alone or in combination with the Mobility Fund, is unlikely to provide sufficient support to ensure that Remote Alaska has access to reasonably comparable mobile broadband and voice services.

Respectfully submitted,

/s/

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