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

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

COMMENTS OF GENERAL COMMUNICATION, INC.

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SUMMARY

General Communication, Inc. ("GCI") supports the Commission's overall project to update and refocus universal service support for high-cost areas explicitly to assure universal broadband deployment. But any reform must be undertaken carefully, and sequenced correctly so as not to disrupt both the deployment of voice services and broadband in Alaska's Tribal Lands. Specifically, the Commission should continue the policies adopted in the tribal lands exception to the CETC cap, and treat CETCs on tribal lands in the same manner as ILECs during the full ILEC transition from legacy high-cost support mechanisms to the proposed new Connect America and Mobility Funds.

Alaska's unique geographic and demographic environment makes it particularly challenging and costly to deploy modern communications infrastructure. Alaska has a small population spread over enormous distances, has an extremely harsh climate and short construction season, and lacks the basic infrastructure in rural areas that are present in the lower 48, such as an intertied electrical grid. These factors have slowed the deployment of basic voice services, such as 2G digital wireless. GCI is in the midst of bringing these services to remote, rural Alaska villages for the first time – with substantial assistance from high-cost support. For these reasons, implementing some of the Commission's transitional proposals in Alaska, particularly sunsetting Competitive Eligible Telecommunications Carrier ("CETC") support within five years, would have a devastating impact on the emergence and deployment of basic voice services in Alaska. Without high-cost universal service support, GCI would be unable to deploy services, and might eventually have to cease services in parts of rural Alaska without the high-cost support it receives. It makes no sense to constrain legacy mechanisms in these areas where carriers still struggle to deliver services that the rest of the nation takes for granted.

With the assistance of high-cost support, GCI has been and will continue to leverage economies of scale that are critical to overcoming the unique challenges that rural Alaska presents to introduce new services and service innovations in Alaska. Continued high-cost support will help GCI to meet the Alaska universal broadband challenge of replacing satellite middle-mile transport with technologically and economically viable terrestrial middle-mile delivery, both within remote, off-road regions and between these regions and the Internet backbone.

Accordingly, for Tribal Lands, CETCs should continue on the path set by the CETC Cap Order, and should transition to the new Connect America Fund – and, where appropriate, the Mobility Fund – along the same timetable that the Commission establishes for the Incumbent Local Exchange Carriers ("ILECs"). This approach will ensure that new infrastructure and services continue to be deployed in Tribal Lands, while the Commission develops its reformed, broadband-oriented USF framework.

In addition, if the Commission chooses to implement a cap on the current high-cost payments, it should cap support on a per-line basis, rather than on a statewide basis, which would inhibit new service roll-outs, especially in locations like Alaska where basic services have been underdeployed and remain immature. The Commission must also ensure that any reverse auctions are competitively and technologically neutral and allow bidders to present bids over flexible areas so as to reflect and leverage economies of scale. Finally, any broadband investment gap model must reflect Alaska's unique geography and demographics before being applied to Alaska.

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I. Introduction

General Communication, Inc. ("GCI") supports the Commission's overall project to update and refocus universal service support for high-cost areas explicitly to assure universal broadband deployment. The legacy high-cost mechanisms have provided implicit support for broadband, but making broadband deployment an explicit objective will help to ensure that the goal of universal broadband deployment is pursued in a cost-effective and competitively and technologically neutral manner. The National Broadband Plan's ("NBP") proposed definition of an express universal broadband service objective – actual speeds of 4 Mbps download and 1 Mbps upload capability – would be the first time the Commission has defined "universal service" more specifically than "voice grade access to the public switched telephone network." As GCI has long argued, defining specifically the universal service that is sought to be achieved is a necessary first step in reforming and rationalizing high-cost universal service support. However,

as the Commission moves forward with universal service reform overall, it must better define not only the broadband services that it expects to be universally delivered, but also the voice services. In Alaska, for example, the legacy high-cost support mechanisms are only now beginning to deliver the second generation digital mobile wireless services that the rest of the United States has enjoyed for more than a decade.

The pending Notice of Proposed Rulemaking ("NPRM") proposes several changes to begin the transition from legacy high-cost support mechanisms. It is difficult to evaluate these transition measures fully without a clear understanding of to where the Commission seeks to transition, and on what timetable – issues that will presumably be addressed in, *inter alia*, the Universal Service Fund ("USF") Transformation NPRM and Mobility Fund NPRM scheduled for release in the Fourth Quarter 2010.

It is clear, however, that implementing some of these transitional proposals in Alaska, particularly sunsetting Competitive Eligible Telecommunications Carrier ("CETC") support within five years, would have a devastating impact on the emergence and deployment of not just broadband, but also basic voice services in Alaska. As the Commission recognized when it adopted the Tribal Lands exception to the CETC high-cost support caps, Tribal Lands – including Alaska – have been underdeployed, and universal service support to CETCs is a critical part of bringing the communications infrastructure in Tribal Lands closer to what is available in rural areas more generally.[1] Access to high-cost support makes possible expansion and operation of services in rural Alaska. It makes no sense to constrain legacy mechanisms in these areas where carriers still struggle to deliver services that the rest of the nation takes for

[1] *High-Cost Universal Support; Federal-State Joint Board on Universal Service; Alltel Communications, Inc., et al. Petitions for Designation as Eligible Telecommunications Carriers; RCC Minnesota, Inc., and RCC Atlantic, Inc. New Hampshire ETC Designation Amendment*, Order, 23 FCC Rcd 8834, 8848 ¶ 32 (2008).

granted.[2] Alaska has a unique geographic and demographic environment that makes it particularly challenging and costly to deploy modern communications infrastructure.

Instead, for Tribal Lands, CETCs should continue on the path set by the CETC Cap Order, and should transition to the new Connect America Fund – and, where appropriate, the Mobility Fund – along the same timetable that the Commission establishes for the Incumbent Local Exchange Carriers ("ILECs"). This approach will ensure that new infrastructure and services continue to be deployed in Tribal Lands, while the Commission develops its reformed, broadband-oriented USF framework. This approach would particularly make sense for Alaska, which the Commission has projected has a broadband investment gap of nearly $1.5 billion, a figure that surely underestimates the gap.

II. Under Legacy High-Cost Mechanisms, GCI Is Utilizing Economies of Scale and High-Cost Support to Overcome Alaska's Unique Universal Service Challenges for Both Voice and Broadband Deployment

A. Alaska is Uniquely Large, Sparsely Populated, and Lacking in Physical Infrastructure

Alaska is geographically and demographically unique, presenting unparalleled challenges in deploying, maintaining, and operating modern telecommunications networks. Covering 570,627 square miles, Alaska is by far the largest state in the Union – twice as large as Texas and four times the size of California.[3] But with a population of only 698,473, Alaska has the lowest population density in the nation, at only approximately 1.2 people per square mile.[4] Even its

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2 *Id*. ("Because many tribal lands have low penetration rates for basic telephone service, we do not believe that competitive ETCs are merely providing complementary services in most tribal lands, as they do generally.")

3 U.S. Census Bureau Population Estimates, *available at* http://www.census.gov/popest/gallery/maps/popdens-2009.html.

4 *Cumulative Estimates of Resident Population Change for the United States, States and Puerto Rico: April 1, 2000 to July 1, 2009*, U.S. Census Bureau Population Estimates, http://www.census.gov/popest/gallery/maps/popdens-2009.html.

three largest communities remain small by national standards. Anchorage has only approximately 375,000 people, ranking 135th nationally. Fairbanks has only approximately 98,000 people, ranking 345th. Juneau has only approximately 30,000 people, ranking it 818th out of the 940 metropolitan and micropolitan statistical areas.[5] Outside of Anchorage (including its neighboring areas the Matanuska-Susuitna Valley and the Kenai Peninsula), Fairbanks (and its suburbs) and Juneau, Alaska's population is generally located in regional centers that are surrounded by small villages.

Further adding difficulty to delivering telecommunications services in Alaska, the highway and rail systems are extremely limited. Most of Alaska's geographic area is not connected by roads, making it impossible to use road rights-of-way to lay fiber and provision broadband services, as is commonly done in the lower 48. Similarly, rail and pipelines are also limited, both running only up the center of the state south to north.

[5] *Cumulative Metropolitan and Micropolitan Statistical Area Estimates*, U.S. Census Bureau, http://www.census.gov/popest/metro/CBSA-est2009-pop-chg.html.

As a result, many rural communities are hundreds of miles from the nearest road and accessible only by airplane, boat, or snowmachine. Population centers in these off-road communities are particularly tiny, with larger regional hubs like Barrow and Nome boasting populations of only about 4,000 and 3,500, respectively. Approximately 120 Alaskan villages have fewer than 1,000 residents, and many have fewer than 100 residents,[6] with many isolated villages, such as Kupreanof, Kasaan, Bettles, and False Pass, having fewer than 50 residents. In total, 32 percent of Alaskans live in rural communities that are highly dispersed, not connected to

[6] *See* State of Alaska, Alaska Community Database Custom Data Queries, http://www.commerce.state.ak.us/dca/commdb/CF_CUSTM.htm (aggregating population figures for each Alaskan city).

any road system, and with ingress and egress limited to air and, depending on the season, waterways or ice transportation.[7] Moreover, populations in rural Alaska fluctuate seasonally. In rural communities with fish processing facilities, such as Dillingham, King Salmon, and St. Paul, the population can increase dramatically during the summer fishing season, as fishing boats dock to unload their catch and as workers migrate for temporary work in the factories.

The lack of roads is mirrored in other infrastructure. 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.[8] Rather, each community generates its own power, primarily through the use of diesel generators that burn fuel often costing rural power companies $5, $6, or even $7 per gallon.[9] Recently, utilities have begun adding wind turbines to the diesel generation systems, more as a way of slowing price increases rather than providing price reductions. There are a small number of communities in rural Alaska that use hydroelectric or other renewable resource, 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,[10] while the national average for commercial retail electricity is about $0.10 per kWh.[11]

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7 *See State Fact Sheets: Alaska,* United States Department of Agriculture, Economic Research Service, http://www.ers.usda.gov/statefacts/ak.htm (last visited July 12, 2010).

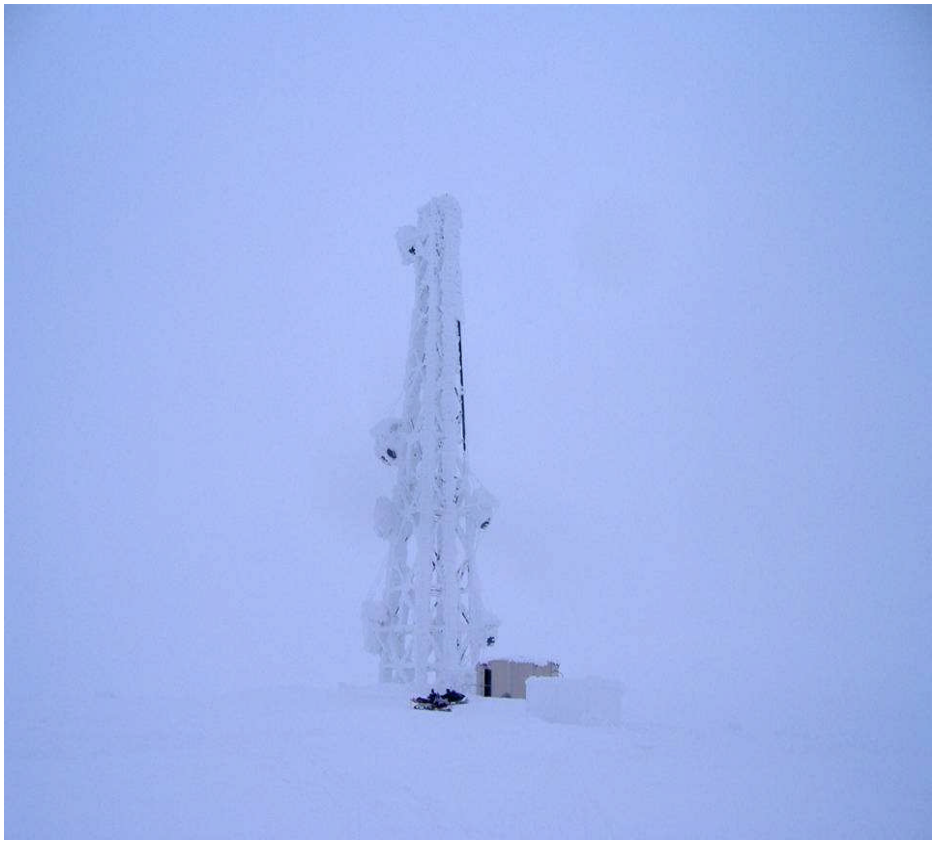
8 *New Energy for Alaska,* Alaska Power Association (March 2004), http://www.alaskapower.org/docs/New-Energy-For-Alaska.pdf.

9 S*ee Statistical Cost of the Power Equalization Program: Fiscal Year 2009,* Alaska Energy Authority, Executive Director's Statement (March 2010) http://www.akenergyauthority.org/PDF%20files/FY09%20PCE%20Statistical%20Report.pdf

10 *See Table of Small Commercial Rates,* Alaska Village Electric Cooperative (April 1, 2010), http://www.avec.org/downloads/Small%20Commercial%20Rates.pdf.

11 *See Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State,* U.S. Energy Information Administration (June 16, 2010), http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_a.html.

And, of course, Alaska is far north of any other part of the United States, with much harsher and longer winters. In most parts of Alaska, construction is not possible or permitted between approximately October and April. Telecommunications infrastructure, such as microwave towers, must be built to withstand extreme conditions.



And without roads (or in the ocean, year-round ice-free access to facilities), maintenance is particularly challenging.

B. GCI is Alaska's Only Provider Focused on Providing Statewide Universal Service

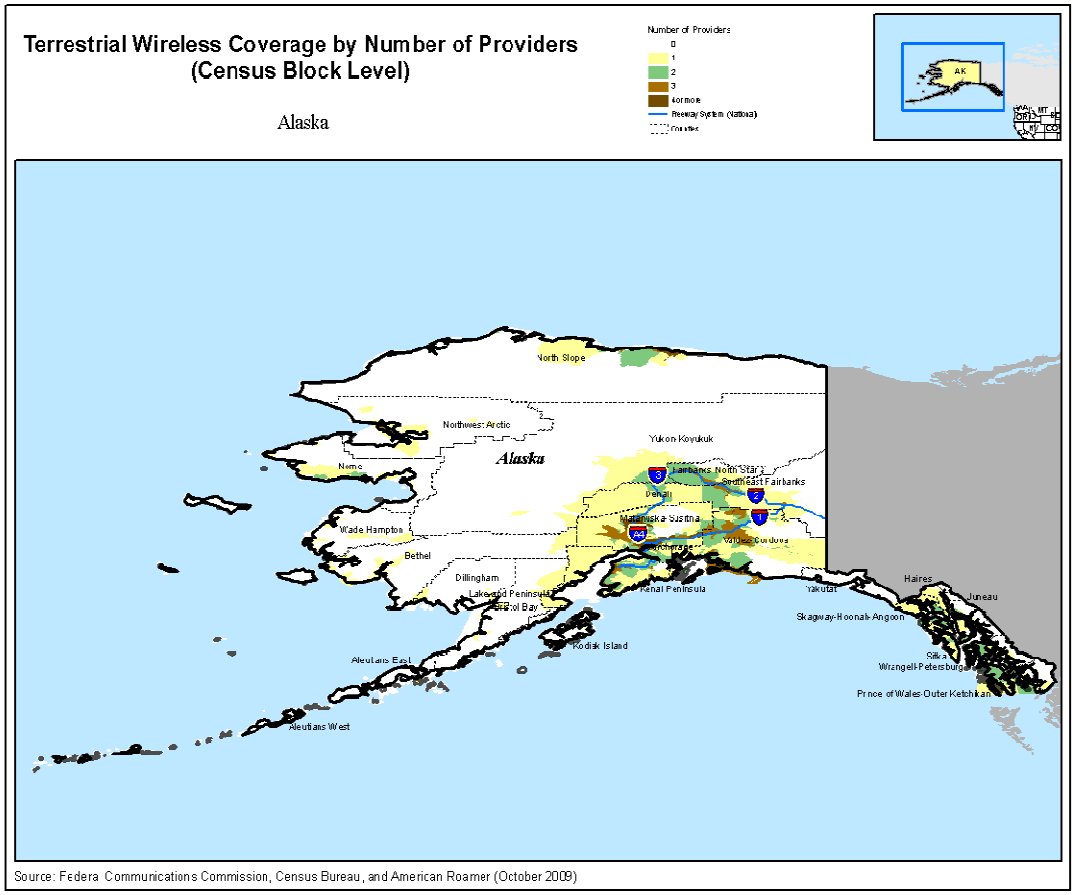
In addition to its unique geographic and demographic environment, Alaska has a distinctive telecommunications market structure in which GCI is emerging as the statewide anchor of universal service. Alaska was never part of the Bell System and is not served by any Bell Operating Company. Wireline service delivery historically has been fragmented. Alaska has 25 ILEC study areas, of which five are operated by Alaska Communications Systems ("ACS"). Aside from the ACS study areas (Anchorage, Fairbanks, Juneau, Glacier State, Greatland, Sitka), the Matanuska Telephone Association, Inc. ("MTA") in the Matanuska-Susuitna Valley bordering Anchorage, and GCI's affiliate United Utilities, Inc. ("UUI") in the

Yukon-Kuskokwim Delta ("Y-K Delta"), all other ILECs serve fewer than 10,000 access lines, with five serving fewer than 300 lines.[12] As a CLEC, the operator of many of Alaska's cable systems, and the owner of its UUI ILEC affiliate via a 2008 acquisition, GCI now provides wireline voice services in Anchorage, Fairbanks, Juneau, as well as some of Alaska's rural regional centers, including Nome and Bethel.

For wireless services, as the FCC has found in its CMRS competition reports, very little wireless service of any kind had previously been available in much of Alaska, particularly outside of the road network.:[13]

[12] *Federal Universal Service Support Mechanisms Fund Size: Projections for Third Quarter 2010*, Universal Service Administrative Company (April 30, 2010) http://www.usac.org/about/governance/fcc-filings/2010/Q3/3Q2010%20Quarterly%20Demand%20Filing.pdf. (*"USF Projections")*.

[13] *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Fourteenth Report, 2010 FCC LEXIS 3186 (2010) ("Fourteenth Mobile Wireless Competition Report").



For rural Alaska, wireless service had existed, if at all, only in a few regional centers.[14] And even then, the service tended to be limited in scope by the absence of roaming arrangements, or high roaming rates outside of the home location. Outside of such regional centers, wireless service has been virtually non-existent. As discussed further below, that has only recently begun

[14] *Id.*

to change, as GCI has introduced modern digital wireless services to these areas for the first time, and some incumbents have elected to follow.

Transport and backhaul between villages, regional centers, and urban Alaska is carried by interexchange carriers. The Regulatory Commission of Alaska ("RCA") has long maintained a policy against tandem switching, which could otherwise have allowed ILECs to monopolize a portion of the competitive transport market. Given the lack of roads, transport even between villages and regional centers in rural Alaska must generally occur over satellite. GCI and AT&T (which is an Eligible Telecommunications Carrier in far fewer areas of roadless, rural Alaska) are the primary facilities-based providers of middle-mile backhaul from roadless, rural Alaska to the fiber terminals, utilizing both microwave and satellite facilities.

As the largest provider of telecommunications and information services in Alaska, and one that provides local wireline, wireless, and interexchange communications, GCI is the only carrier that delivers Internet and voice services nearly statewide to Alaska's governmental, commercial, and residential users. Unlike rural incumbents who historically serve small territories, GCI does and will continue 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.

GCI is certificated as an ETC throughout nearly all of the state.[15] GCI is the largest provider of connectivity to anchor tenants such as schools, libraries, rural health care institutions, and federal and state governments – and it can deliver those services to locations outside the road network today using its satellite facilities and will increasingly be able to do so using terrestrial facilities. GCI provides cable modem service in the regional centers where it has cable facilities,

[15] The exceptions currently are in Sitka and the area served the Alaska Telephone Company.

and provides basic wireless Internet service of approximately 200 Kbps (local connectivity) to approximately 125 rural Alaska communities. As discussed further below, GCI is also in the middle of rolling out modern digital wireless services to more than 170 rural Alaska communities statewide – establishing the basic platform for future mobile wireless broadband. In most of these communities GCI is deploying 2G wireless voice and data service for the first time, through a local mobile switching center that allows local (and emergency) calls to continue uninterrupted should the satellite service fail.

Moreover, GCI supplies backhaul between rural villages and "urban" Alaska (to date exclusively over satellite), and it also connects Alaska to the Tier 1 Internet backbone in the lower 48. GCI has achieved this coverage despite the fact that it is not an ILEC, except in the Y-K Delta through its acquisition of UUI, and has otherwise been an entrant challenging an established incumbent in offering either long distance or local service.

Without high-cost universal service support, GCI would not be able to deploy services statewide. GCI has stitched together many different revenue streams to support its statewide services – establishing a basic platform that may deliver future mobile wireless broadband. But even with a diversified business base, GCI could not continue to deploy and might eventually have to cease services in parts of rural Alaska without the high-cost support it receives.

C. Throughout Alaska, Competition Has Driven Service Improvements and the Extension of New Services, Including Wireless.

As a non-incumbent competitor, GCI has led the introduction of new services and service innovations in Alaska. Among other things, GCI was the first company to offer digital subscriber services for businesses, as well as ISDN PRI service, in Fairbanks and Juneau. GCI led the way in introducing fractional T-1s, and pioneered night installations for businesses, which the incumbent had previously refused to perform. GCI also introduced customer-friendly

packages of local service plus custom calling features and prices that were substantially below the ILEC's price before competition. As demonstrated by these examples, GCI has, by any measure fulfilled the Commission's assessment that "designation of qualified ETCs promotes competition and benefits consumers by increasing customer choice, innovative services, and new technologies."[16]

GCI's rural wireless deployments further demonstrate enhancing universal service through competition. As mentioned above, GCI is creating a true statewide wireless network – which has not heretofore existed. Receiving no more support per eligible subscriber than ILECs in the same area, GCI's plan is revolutionizing wireless communications services throughout the state, bringing mobile wireless service to 90,000 Alaskans, most of whom live in villages that previously lacked any mobile wireless service, and upgraded wireless capability to an additional 50,000 Alaskans in regional centers and other locations that had previously enjoyed only limited wireless capability.

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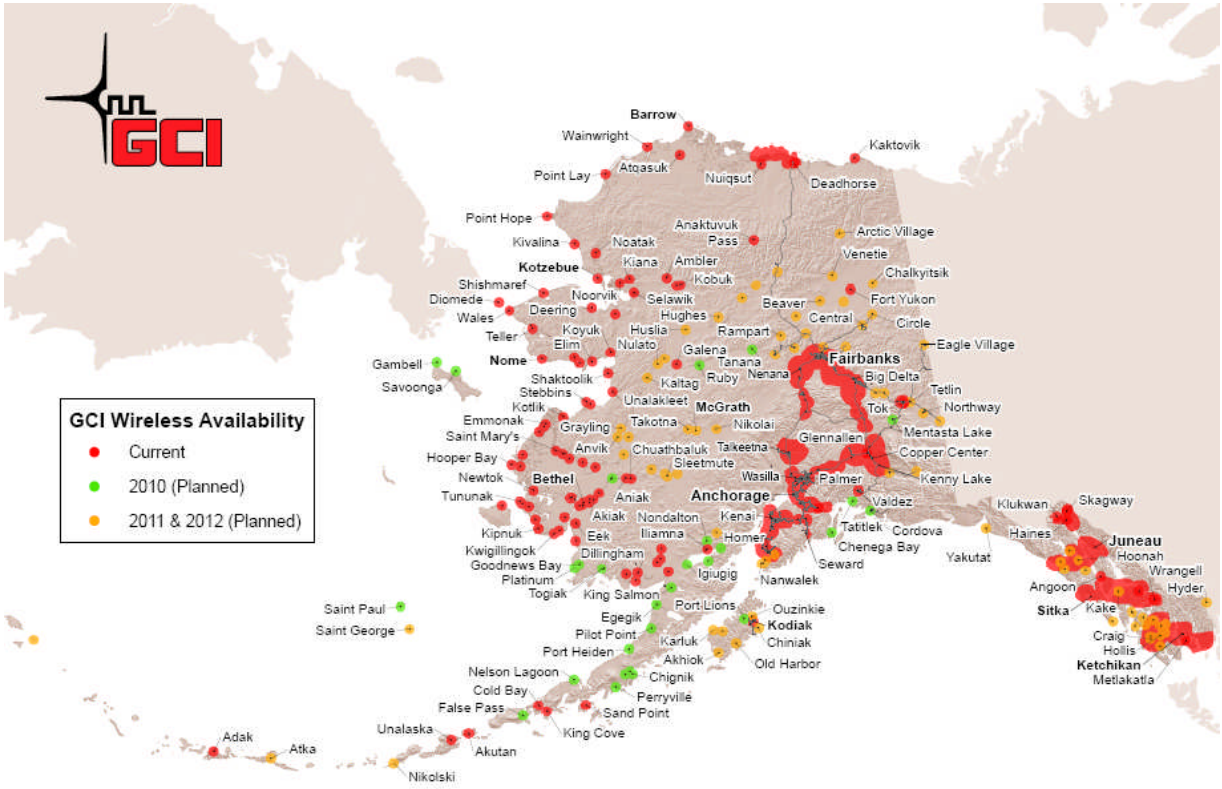
[16] *Federal State Joint Board on Universal Service; RCC Holdings, Inc. Petition for Designation as an Eligible Telecommunications Carrier Throughout its Licensed Service Area In the State of Alabama*, Memorandum Opinion and Order, 17 FCC Rcd 23532, 23540-41 (¶ 23) (2002); *see also Federal-State Joint Board on Universal Service; Western Wireless Corporation Petition for Designation as an Eligible Telecommunications Carrier for the Pine Ridge Reservation in South Dakota*, Memorandum Opinion and Order, 16 FCC Rcd 18133, 18137 (¶ 12)(2001).

GCI Wireless Network Deployment
(current and planned through 2012)



Such ubiquitous modern wireless networks in Alaska's rural areas can be provided only through a statewide network that takes advantage of economies of scale from urban population centers in a way that incumbent carriers cannot. GCI was able to build out wireless networks to serve these rural communities only when it could share substantial resources and infrastructure, including backhaul facilities and core network equipment in Anchorage, not just with the regional centers, but also with urban centers. Among other things, the core facilities in Anchorage provide the Home Location Router functions, SS7 signaling, and support for 2G data services such as GPRS and EDGE, and network monitoring. As a result, where Rural Local Exchange Carriers ("RLECs") have entered the wireless market, GCI is typically launching

wireless service in more locations within the ILEC service area than the ILEC itself serves using their own wireless affiliates.[17] The difficulty of supporting a business case to provide service to the mass market in rural areas has held true even though GCI is the predominant provider of broadband services to anchor tenant institutions across Alaska, including schools, libraries, regional health corporations, and federal and state governments. In other words, just because GCI serves the anchor tenants does not mean that there is a sufficient standalone business case to extend that network to wireless facilities to mass market end users, even at existing support levels per eligible subscriber, without the cost efficiencies available from a statewide operation.

Wireless service is even more critical to universal service in rural Alaska than in many other parts of the United States. In the first instance, wireless is critical to public safety in these areas in which a snow machine rider with a breakdown cannot simply wait for the next traveler to summon assistance. For instance, a GCI Field Maintenance Group technician late last year shared a story about the significance of GCI's rural wireless service:

> I thought you would enjoy the picture attached, taken yesterday, December 1, as I made a 60-mile swing on the snowmobile machine trail checking out RW (rural wireless) equipment issues in "The Tundra Villages," i.e., Atmautlauk, Nunapitchuk and Kasigluk. About five miles out of Atmautlauk heading back to Bethel I stopped when I came across these young GCI customers who had a broken chain drive in the middle of a frozen lake. In the old days this would have been a real emergency, but the young man told me, "No problem." He had just used his GCI cell phone to call his dad to come give them a tow back to their house. When I snapped the picture he was on the line with his parts supplier, ordering a new drive chain so he could pick up parts in Kasigluk and hopefully fix the machine same day. The terrain in the middle of the frozen lake was flate enough that standing on the seat gave him the height he needed to complete a call. (The bushes in the picture are actually trail markers planted by Atmautlauk Search and Rescue). These young people acted like it was no big deal at all. It seems that all of us in the GCI Rural Wireless projects have ushered in a paradigm shift for Bush Alaska. I stayed until their tow arrived; their dad was also a GCI Rural Wireless believer, of course.

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[17] *Compare* GCI wireless map with http://www.telalaska.com/cellular/cellular.aspx (TelAlaska cellular coverage map).

In addition, GCI has received anecdotal reports of law enforcement officials who now can stay in contact with their agencies and the public more easily when they travel to a village outside the regional center – which before had no wireless service. Moreover, many rural areas lack Public Safety Answering Points ("PSAPs") have not had dedicated local public safety officials. Thus, there has been limited active use of 911 services. With the presence of GCI's statewide network, not only have anecdotal accounts surfaced of the benefits of wireless service to public safety providers, but it has also triggered a more formal dialogue about the potential for increased and expanded 911 usage in the future.

Furthermore, 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. By expanding wireless service in rural Alaska, these individuals have better access to

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

D. Upgrading Rural Alaska's Inadequate Backhaul for Broadband Is Necessary to Provide Universal Broadband, and Will Require Significant Investment

Capturing economies of scale will be critical to delivering broadband to rural Alaska as it has been to delivering rural wireless voice services. As GCI explained in great detail in response to the Commission's inquiries in the NBP proceeding, due to the vast distances, severe climate, difficult terrain, and widely dispersed population, the largest impediment to providing broadband to all of Alaska, particularly rural Alaska, is the lack of cost-effective middle-mile connectivity.[18] Individual broadband service to the vast rural areas of Alaska is constrained by middle-mile capacity to a much greater degree than by the last-mile technology that may be deployed. Indeed, at least for Alaska, middle-mile capacity issues demonstrate that the universal broadband speeds to be achieved and supported must be measured not just over the last mile, but to the Tier 1 POP. [19] Accordingly, the NBP broadband availability map substantially overstates the availability in Alaska of actual 4 Mbps service.[20]

Satellite middle-mile transport – which is what exists today for rural Alaska – is expensive and has limited throughput capacity and inherent latency, and thus, is not well-suited for widespread, intensely used broadband services for the mass market. For this reason, outside

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[18] *See generally*, Comments of General Communication, Inc. – NBP Public Notice #11, GN Docket Nos 09-47, 09-51, 09-137, 1-2 (filed November 4, 2009).

[19] In focusing on 4 Mbps download and 1 Mbps upload speeds in the last mile as the measure of universal broadband, the NBP assumed that higher capacity backhaul would be available to support those last mile speeds. *See* Federal Communications Commission, *Connecting America: The National Broadband Plan* at 156, n.2 (2010) ("National Broadband Plan") ("For purposes of the plan, 'actual speed' refers to the data throughput delivered between the network interface unit (NIU) located at the end-user's premises and the service provider Internet gateway that is the shortest administrative distance from that NIU.")

[20] *See*, National Broadband Plan at 19, Exhibit 3-D.

of the road network areas and areas adjacent to pipeline and undersea cable routes to the Lower 48, Internet speeds remain extremely slow. Satellite service's limited throughput capacity means that such service does not provide a cost-effective method to keep up with ever-increasing bandwidth needs at projected rates for growth for the mass market. As part of its general operations, GCI vigorously watches for capacity saturation and service congestion, and periodically increases its estimates for capacity needs. Based on past growth and current usage, GCI operates under the assumption that the demand for Internet bandwidth capacity will increase by three percent per month for the foreseeable future (*i.e.*, 43 percent per year), and attempts to stay ahead of bandwidth demand. It is not feasible to augment satellite capacity to keep up with such increases in demand. In addition, satellites themselves need to be replaced approximately every 15 years, at a cost of hundreds of millions of dollars per satellite. The Alaska universal broadband challenge, therefore, is to replace satellite middle-mile transport with technologically and economically viable terrestrial middle-mile delivery, both within remote, off-road regions and between these regions and the Internet backbone.

Rural ILECs do not have the scale to build the terrestrial transport capacity needed to support broadband deployment at the NBP's universalization minimum speeds. As noted above, of the 17 Alaskan ILECs other than MTA, affiliates of ACS and affiliates of GCI, the largest, Alaska Telephone Company, serves fewer than 10,000 access lines, and 7 other companies serve fewer than 1,000 access lines.[21] Furthermore, in Alaska, rural ILECs handle service within villages in their territories, but rarely between villages. Outside the road network, intra-region second-mile terrestrial networks are costly, and can themselves only be sustained with substantial subsidy support. For example, a combination grant and loan from the Rural Utilities

[21] *USF Projections*.

Service ("RUS") Distance Learning and Telemedicine Program funded initial construction of GCI-subsidiary UUI's DeltaNet, a terrestrial microwave second-mile network in the remote Y-K Delta. DeltaNet connects approximately 40 rural villages, including Eek (pop. 282), Tuntutuliak (pop. 384), and Quinhagak (pop. 680), to Bethel (pop. 5,803), the regional hub, via terrestrial microwave facilities.[22] Bethel, in turn, links to the fiber network in Anchorage via two satellite networks, which in turn, connects to the Internet backbone by fiber. But even with that grant/loan, universal service revenues supporting end user services remain critical to the operation and debt repayment of that second mile network.

Moreover, GCI and its affiliates are building some of the terrestrial middle-mile transport networks. Under a grant/loan from the RUS Broadband Initiatives Program ("BIP"), GCI's affiliate UUI is constructing TERRA-SW, an upgrade of DeltaNet in the Y-K Delta, a similar regional network in the Bristol Bay region, and a fiber network connecting the Y-K Delta and Bristol Bay with Anchorage. In addition, UUI has also applied for second-round BIP funding, which, if awarded, would support construction of TERRA-NW, deploying similar network architecture to TERRA-SW that would connect TERRA-SW with Nome and then back to the Alaska pipeline fiber. TERRA-SW will cover all or part of seven ILEC service areas, and TERRA-NW, if awarded, will cover an additional three ILEC service areas. These deployments are or will be, if awarded, major steps forward toward addressing middle-mile issues in Alaska, but they address only a part of the state.

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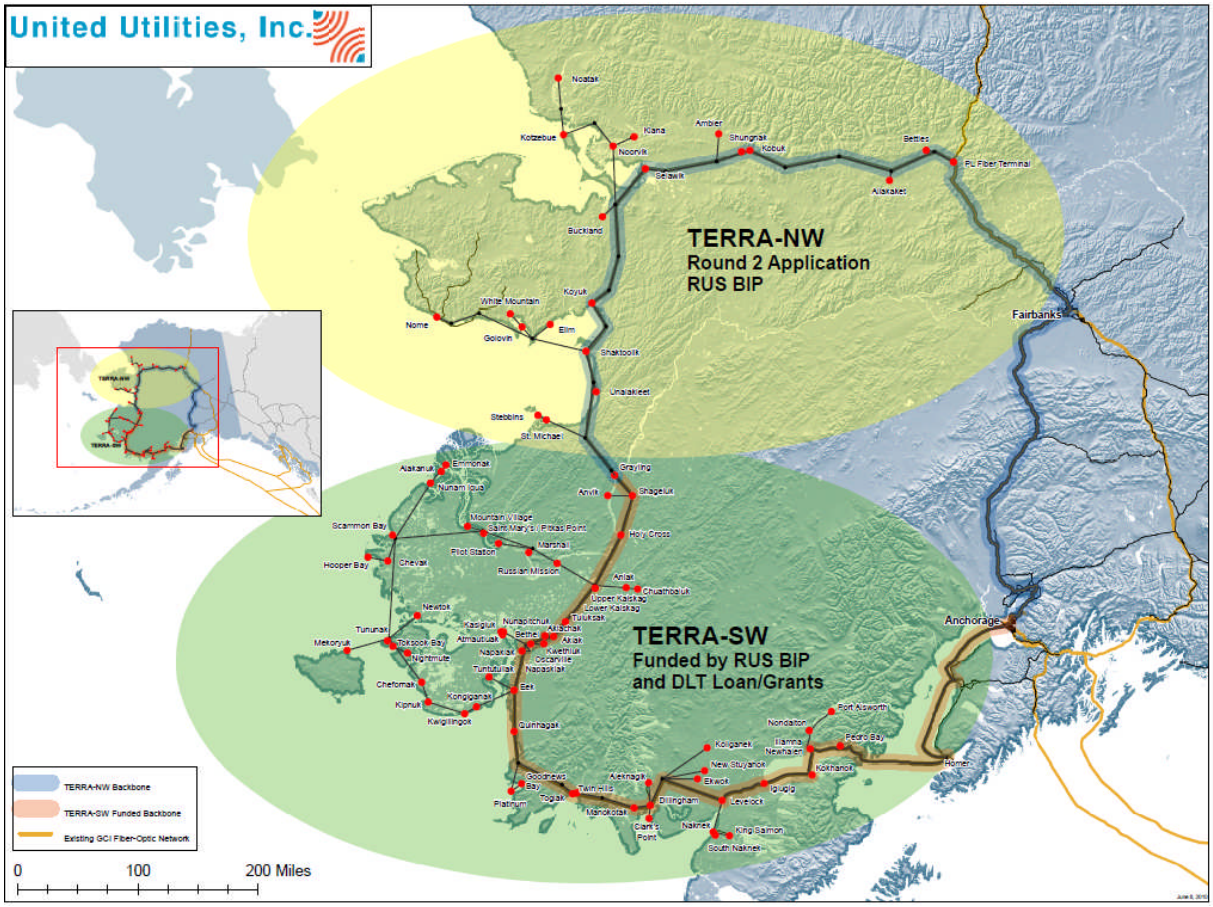
[22] Alaska Div. of Community and Regional Affairs, Alaska Dept. of Commerce, Community, and Economic Development, Alaska Community Database Community Information Summaries, http://www.commerce.state.ak.us/dca/commdb/CIS.cfm.



But, again, current universal service support remains necessary. As an initial matter, if GCI knew at the front end that high-cost support to CETCs would disappear, it likely would not have made the TERRA-SW investment. Even now, a threat to CETC high-cost support creates jeopardy to the TERRA-SW business model. GCI does not run stand-alone, discrete platforms in rural Alaska. Everything is connected. Mobile wireless depends on the satellite and terrestrial microwave second and middle-mile networks, not only for long distance service, but also for centralized management of the various local networks, the costs of which are spread over several revenues streams, including mobile wireless, mobile broadband, and private line service. Any change to the universal service program that reduces the overall revenue base will also reduce

GCI's ability to keep the entire operation afloat and hinder its ability to invest the dollars necessary to upgrade the operation over time.

A statewide carrier such as GCI which receives funding under all of the universal service programs – High Cost, Rural Healthcare, E-Rate, and Lifeline – is uniquely positioned to efficiently leverage universal service support to bring service to rural areas and to justify infrastructure deployment benefiting rural residents in manner that would be impossible for regional providers. As long as it can continue to receive the universal service – and other subsidies – necessary to help cover the high initial construction and operating costs of the rural networks, GCI is committed to investing in middle-mile infrastructure, providing modern broadband service over time to as many of the sparsely-inhabited, off-road regions as it can on an economically feasible and sustainable basis. To that end, GCI has already invested hundreds of millions of dollars to bring telecommunications service to its customers, not only in Alaska's cities and towns, but also in its most remote villages.

III. The FCC Should Continue to Recognize the Uniqueness of Alaska's Universal Service Challenges and Tailor The Transition Path for Alaska and Other Tribal Lands Accordingly By Aligning It with the ILEC Timeline.

CETCs have played a critical role in the evolution of universal service in Tribal Lands, including Alaska. In fact, rural Alaska exemplifies the type of geography and economy that the Universal Service Fund was intended to address. While USF support of voice service may not still be necessary in some regions in the lower 48, such support remains critical in rural Alaska for existing voice services – let alone future broadband services. The Commission recognized the unique role of CETCs in Alaska and other Tribal Lands in 2008 when it adopted an exception to the interim cap on high-cost universal service support for CETCs that serve Tribal Lands, stating, "[b]ecause many tribal lands have low penetration rates for basic telephone service," the

Commission did "not believe that competitive ETCs are merely providing complementary service in most tribal lands, as they do generally."[23]

The Commission should similarly extend this recognition as it seeks to repurpose the universal service fund to support broadband in addition to voice service through the proposed Connect America Fund ("CAF"). A first step would be to apply the same timeframes it established for ILECs on tribal lands to CETCs serving tribal lands migrating from current high-cost mechanisms to the CAF.

A Commission decision to reduce support for Tribal Land CETCs before the CAF is implemented, and before the ILECs must migrate off of current support mechanisms, risks disrupting services that are critical to highly rural residents' livelihoods, safety, and abilities to communicate with their families. GCI is still building out its rural wireless networks, and a reduction in high-cost support at this time – or an announcement that the Commission intends to do so – would reduce GCI's ability to raise the capital necessary to complete its rural wireless buildout. This is the public interest harm that the Tribal Lands exception sought to avoid.[24] In addition, in the areas within GCI's network footprint where GCI is not building terrestrial backhaul networks with BIP funds, reduction of legacy universal service support prior to a potential replacement through the CAF would severely restrict GCI's ability to raise capital to support any future investment in the terrestrial second and middle-mile networks that will be necessary to support both universal broadband at the NBP's proposed minimum speeds and to accommodate projected traffic growth. Moreover, the business models underlying the approved

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[23] *High-Cost Universal Support; Federal-State Joint Board on Universal Service; Alltel Communications, Inc., et al. Petitions for Designation as Eligible Telecommunications Carriers; RCC Minnesota, Inc., and RCC Atlantic, Inc. New Hampshire ETC Designation Amendment,* Order, 23 FCC Rcd 8834, 8848 ¶ 32 (2008) (citation omitted).

[24] *See generally,* Comments of General Communication, Inc. – NBP Public Notice #5, GN Docket Nos 09-47, 09-51, 09-137 at 2 (filed November 9, 2009).

BIP award assume continuing high cost revenue streams and subscribers on the network, threatening to undermine a critical broadband expansion project.

Furthermore, eliminating CETC support before other support is available could result not just in halting further rural wireless deployment, but also eliminating existing rural wireless service in some areas because operational costs will exceed local revenues for many villages. Many rural villages have both very low population levels as well as very low per capita income levels. With the help of high-cost USF support, currently GCI is able to offer a statewide comparable rate to such communities. If the Commission were to end such support, GCI's rates would increase, thus forcing many low-income customers to terminate their services, which would in turn lead to increased rates for the remaining customers who then may similarly have to terminate their services. This spiral likely would eventually lead to an unsustainable business plan and the elimination of service for rural communities that are in desperate need of wireless service.

A Commission decision to reduce support for Tribal Land CETCs before the CAF is in place and operational for those regions also risks shifting support from states such as Alaska even though significant support is clearly necessary to achieve broadband at 4 Mbps of actual download speed and 1 Mbps of actual upload speed throughout Alaska. The NBP model projects a broadband investment gap of nearly $1.5 billion – and, as described further in Section V below, that projected gap is likely substantially understated. However, because a majority of Alaska's USF support flows to CETCs, Alaska would see a greater proportionate reduction than most other states from the elimination of CETC support – particularly if this support is removed

before replacement CAF support is implemented – even though Alaska's per capita investment gap is probably the highest in the country.[25]

Such a reduction in support would also deprive CETCs serving Tribal Lands of the support those CETCs use to maintain their entire networks before those CETCs could bid for CAF support – essentially removing them from the competition to be CAF providers, even if they would ultimately be the most cost-effective broadband providers. Because the ETCs with the greatest scale to serve rural Alaska to date are CETCs, reducing support for Tribal Land CETCs before the CAF is in place and operational, and before the ILECs must migrate off of current support mechanisms would eliminate the only entities with the demonstrated scale to cost-effectively provide and end-to-end broadband service – solving the critical middle mile barrier – to unserved areas before bidding occurs. Thus, the Commission would be forced to pay more to support rural broadband than it would otherwise have to do. Instead, it would be left to rely on the remaining regional players, which, as discussed above, are not able to leverage economies of scale in their operations or provision of services.

The best way to allay these concerns is for the Commission to continue the path begun with the Tribal Lands exemption to the CETC cap and treat CETCs on Tribal Lands in the same manner that it treats ILECs on Tribal Lands, including subjecting CETCs to the same transition periods for migrating from existing support to the CAF. This approach is consistent with the approach the Commission took in creating the Tribal Lands exception to the interim cap on high-cost universal service support, which ensured that CETCs on Tribal Lands would continue to receive the same per-line support as the ILEC ETC. It will also further ensure that all ETCs will make the transition to the CAF at the same time, and thus be able to participate in the CAF

[25] *See Broadband Availability Gap* at 8.

selection process, *e.g.*, competitive bidding, and take advantage of economies of scale, rather than perpetuating scale diseconomies.

IV. If It Chooses To Cap Support, the FCC Should Implement That Cap on a Per-Line Basis.

The Commission indicated in the Notice of Inquiry ("NOI") that it is considering implementing a cap on current high-cost support as it continues to assess comprehensive USF reform. If the Commission chooses to implement such a cap, it should cap support on a per-line basis, rather than on a statewide basis, which would inhibit new service roll-outs, especially in locations like Alaska where basic services have been underdeployed and are not mature.

Capping support on a per-line basis would help to control the growth of the fund, allow consumers to chose their own providers, and is the most competitively and technologically neutral method of providing support to the most efficient carrier. It is also consistent with the principle of success-based, portable support. Additionally, such a cap could supplant the need for the national cap in High-Cost Loop Support ("HCLS"), and would also cap growth in Interstate Common Line Support ("ICLS"), given that the number of ILEC lines generally has been decreasing.

Transitioning to per-line support would not be unprecedented, and the Commission has already granted Alaska Communications Systems Group, Inc.'s ("ACS") petition for waiver seeking to convert its rate-of-return Local Exchange Carriers ("LECs") to price cap regulation for both its rural and non-rural properties.[26]

Additionally, capping ILEC support on a per-line basis would not necessitate conversion of traffic-sensitive rates from rate-of-return pooled rates to price caps, although it may desirable

[26] *ACS of Alaska, Inc., ACS of Anchorage, Inc., ACS of Fairbanks, Inc., and ACS of the Northland, Inc., Petition for Conversion to Price Cap Regulation and Limited Waiver Relief*, WC Docket No. 08-220, Order, 24 FCC Rcd 4664 (2009).

to do so to prevent cost-shifting. Under 47 C.F.R. § 69.4(b)(2) and 47 C.F.R. § 69.105, the carrier common line charge was terminated for all non-price cap carriers, effective June 30, 2003. There is no provision for resurrection of the Carrier Common Line charge ("CCL") in the event of the imposition of a per line cap on the ICLS.

Finally, capping ICLS on a per line basis also would not mean that companies would be precluded in participating in NECA's joint common line tariffs. In fact, that mechanism would be even simpler for carriers whose Subscriber Line Charges ("SLCs") reached the SLC caps, as their maximum common line revenues would be the maximum SLCs plus their capped USF support per line.

V. Reverse Auctions May Be a Reasonable Method of Determining CAF Support, Provided That They Are Competitively Neutral, and Allow Bidders To Present Bids Over Flexible Areas So As To Reflect Economies of Scale.

The NOI seeks comment on whether "some form of competitive procurement auction could be an efficient mechanism to determine subsidies for the extension of new broadband-capable infrastructure."[27] While reverse auctions could be a reasonable method of determining CAF support, as GCI has previously outlined, reverse auctions require the FCC to specify with particularity the service that is to be provided, as well as the maximum price at which it is to be provided and other key terms and conditions that affect the bidder's revenue and costs.[28] To obtain the best results, the Commission must ensure that reverse auctions are competitively and technologically neutral and allow bidders to present bids over flexible areas so as to reflect and

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[27] *Connect America Fund; A National Broadband Plan for Our Future; High-Cost Universal Service Support*, Notice of Inquiry and Notice of Proposed Rulemaking, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337 ¶ 47 (2010).

[28] *See, generally*, Comments of General Communication, Inc. in *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45 at 84-89 (filed April 17, 2008). ("*GCI High-Cost Comments*")

leverage economies of scale. This means that the auctions must contemplate the possibility that an incumbent may not be the winning bidder, and should not be skewed toward that result. Reverse auctions must also allow for combinatorial bidding, so that carriers' bids can adequately reflect economies of scale.

Among the biggest questions to be answered by any high-cost reform that posits only a single supported ETC, including reverse auctions, is how the Commission will ensure that the selected provider continues to upgrade services and to innovate during the term of its exclusive franchise. If there is no means to ensure innovation, then the predictable result is that these rural areas will fall further behind urban areas, contrary to Section 254's goal of reasonable comparability of services and rates between rural and urban areas.[29] Reverse auctions are not a solution to this problem, particularly if they are only held at long enough intervals to allow for a stable investment environment. In any event, for a reverse auction to discipline service quality, there would have to be a realistic possibility that the single USF recipient could be displaced following a future auction.[30] As an alternative, GCI urges the Commission to consider the use of reverse auctions to establish the per line support amount, but issuing that amount to any eligible provider that serves a customer. The per line amount would only be awarded for customers actually won, significantly reducing the payment of overlapping support, while at the same time preserving competition. Over time, the market will determine whether this is an area that can sustain only a single provider, and the Commission can adjust support levels in light of the market results.

VI. Any Model Must Reflect Alaska's Unique Geography and Demographics Before Being Applied to Alaska.

[29] 47 U.S.C. § 254(b)(3); *see also GCI High-Cost Comments*

[30] *See GCI High-Cost Comments*

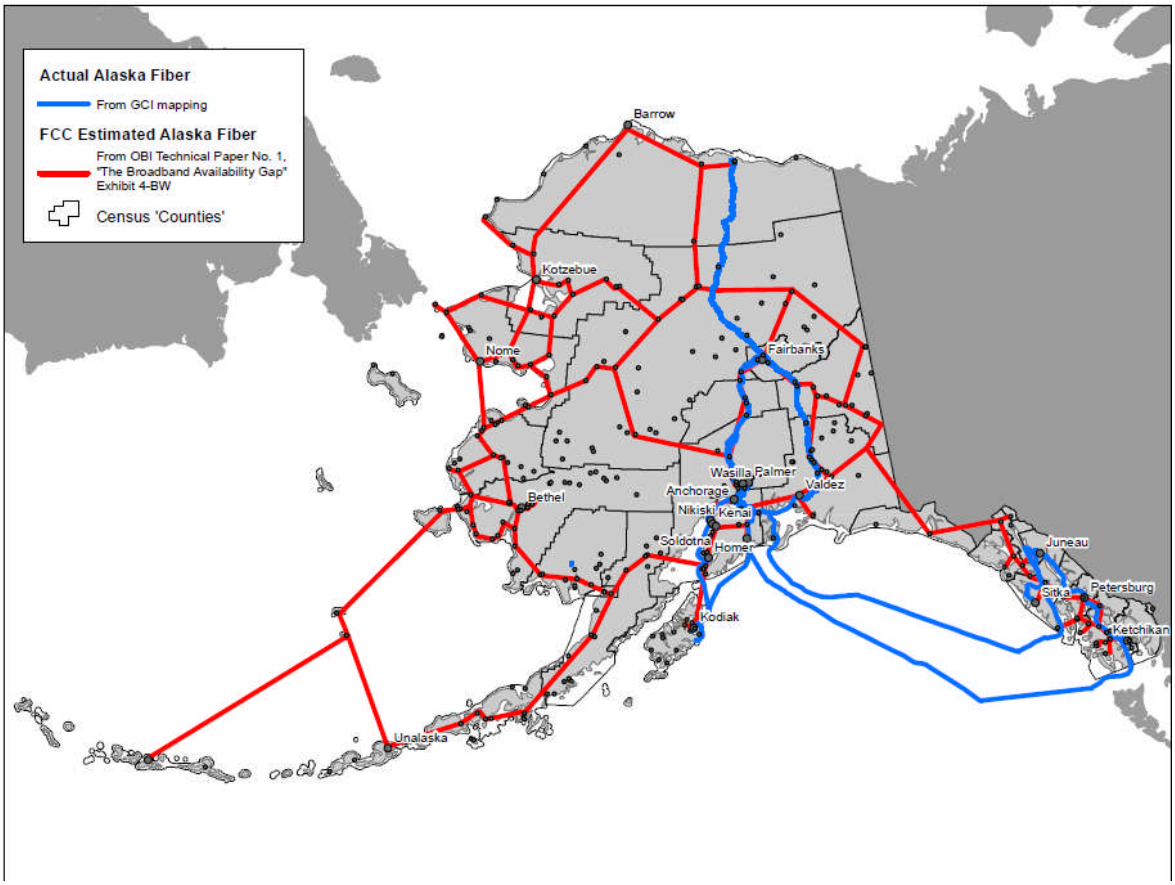
Although the NOI and NPRM do not make clear the uses to which the proposed broadband investment gap model will be put, it is clear that the model's assumptions need substantial review and revision before being applied to Alaska. Using a combination of data and statistical modeling, the NBP estimated that, in Alaska, there are 48,878 unserved households with a corresponding broadband investment gap of $1,473,425,808. The NBP Technical Paper, "The Broadband Availability Gap" acknowledges that the data available for Alaska in particular was incomplete and yielded questionable result.[31] But even beyond data problems, the model's approach appears to have substantially overstated the availability of broadband meeting the proposed universal broadband definition, and understated both the initial capital and ongoing operations costs. Yet even with these flaws, the model highlights that Alaska faces a substantial broadband investment gap, including for ongoing operations in addition to initial capital investment.

The model's assessment of areas served by networks capable of delivering 4 Mbps download /1 Mbps upload broadband appears to be based solely on engineering predictions from the types of last mile networks present combined with faulty assumptions with respect to the existence of interoffice fiber networks. For Alaska, this yields misleading results. Consider, for example, Nome, Alaska, where the NBP predicts 100 percent of the homes have access to 4 Mbps broadband today but where no homes actually have access to broadband at those speeds. A home in Nome may have access both to GCI cable modem service and the ILEC's DSL service, but neither of these networks deliver 4 Mbps residential broadband because of the lack

[31] Federal Communications Commission, *The Broadband Availability Gap, OBI Technical Paper No. 1* at 17 (2010) ("*Broadband Availability Gap*").

of adequate middle-mile infrastructure between Nome and Anchorage to support such service.[32] For wireless broadband services, not only do they face the same backhaul problems, but the cellular networks are not upgraded to 3G – nor would it make sense to do so without solving the backhaul capacity issues. The model projects the existence of far more fiber than actually exists in Alaska.

The map below compares the FCC model's projection of middle-mile fiber in Alaska with actual deployment of middle-mile fiber in Alaska. The map also includes a census overlay, which shows a number of counties with no access to fiber.



[32] GCI's advertised cable modem speed in Nome is 1.5 mbps. The highest speed DSL service offered by the ILEC is 512 kbps. *Nome Internet Services*, TelAlaska, http://www.telalaska.com/residential/internet/nome_internet.aspx.

In the FCC map there are no counties without at least some access to middle-mile fiber, which might explain why the FCC's analysis shows no counties without at least some customers with access to broadband at the FCC's target bandwidth. Even if GCI's pending and proposed microwave networks in Western and North Western Alaska are included, the amount of fiber (and therefore broadband availability) still falls well short of the FCC's projections.

The actual deployment of middle-mile fiber in Alaska thus contrasts sharply with the FCC's conclusions about the availability of middle-mile fiber through the nation:

> While there may be a significant affordability problem with regard to middle-mile access, it is not clear that there is a middle-mile deployment gap. The majority of telecom central offices (approximately 95%) and nearly all cable nodes (by definition, in a true HFC network) are fed by fiber.[33]

At least part of the reason why the FCC's model over-projects fiber in Alaska, even if it reasonably predicts middle-mile fiber networks elsewhere, may be its assumption that Alaska has the same Local Access and Transport Area ("LATA") network typology found almost everywhere else in the United States. However, as explained above, Alaska has no LATAs or tandems. In the typical rural Alaska local exchange, there are no remote terminals or fiber transport connecting a central office to a regional tandem and other central offices; there is simply a small central office with a line side loop to the end user and a trunk side connection to an interexchange carrier providing service over satellite or a combination of microwave and satellite.

When these factors are taken into account, the amount of Alaska with access to broadband meeting the NBP's proposed universalization standard changes dramatically:

[33] *Broadband Availability Gap* at 114.

County	FCC Model Projection of % Served	GCI Estimate of Counties with 0% Served
Aleutians East Borough	9%	x
Aleutians West Census Area	100%	x
Anchorage Municipality	100%	
Bethel Census Area	49%	x
Bristol Bay Borough	30%	x
Denali Borough	0%	
Dillingham Census Area	39%	x
Fairbanks North Star Borough	78%	
Haines Borough	72%	
Juneau City and Borough	100%	
Kenai Peninsula Borough	62%	
Ketchikan Gateway Borough	100%	
Kodiak Island Borough	86%	
Lake and Peninsula Borough	21%	x
Matanuska-Susitna Borough	68%	
Nome Census Area	100%	x
North Slope Borough	73%	
Northwest Arctic Borough	60%	x
Prince of Wales-Outer Ketchikan Census Area	60%	
Sitka City and Borough	100%	
Southeast Fairbanks Census Area	40%	
Valdez-Cordova Census Area	62%	
Wade Hampton Census Area	35%	x
Wrangell-Petersburg Census Area	93%	
Yakutat City and Borough	53%	x
Yukon-Koyukuk Census Area	31%	

One other way that the model understates Alaska's broadband investment gap is that the model assumes that "large service providers' current operating expenses provide a proxy for the

operating expenses associated with providing broadband service in currently unserved areas."[34] While this is a gross simplification even in the lower 48, it is simply wrong in the case of Alaska. First, no Alaska carrier is going to approach the scale of the large lower 48 carriers, even ignoring all other differences. As the NBP noted, simply shifting from using the large telco/wireless operating costs to small telco/wireless operating costs as the proxy increased the projected nationwide investment gap by nearly 13 percent ($2.9 billion). Second, the cost of power, lack of roads, need for helicopter or plane transport between villages and to remote points on the rights of way, the short construction season, severity of the winters, and Alaska's high cost of living[35] all suggest that even the most efficient Alaska broadband provider will have operating expenses that far exceed those of even small lower 48 companies. Yet even though it did not take these factors into account, the NBP still recognized that Alaska will need substantial ongoing support for broadband operations, beyond initial capital expenditures.

This recitation of ways in which the model does not accurately reflect the reality of Alaska is not exhaustive, but merely illustrative. The important point is that before the model can be used with respect to Alaska for any purpose other than to highlight that Alaska has a substantial investment gap, it needs substantial refinement and testing against the actual on-the-ground realities.

CONCLUSION

As the Commission proceeds to update and refocus universal service support for high-cost areas explicitly to assure universal broadband deployment, it must undertake any reform carefully, and sequenced correctly. High-cost universal service support has been critical to

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[34] *Broadband Availability Gap* at 55.

[35] As an example, the Federal Poverty Guidelines have higher poverty thresholds for Alaska than for the Lower 48; *see 2009 Federal Poverty Guidelines*, U.S. Department of Health & Human Services, http://aspe.hhs.gov/poverty/09poverty.shtml.

GCI's ability to continue to deploy services throughout Alaska, and it makes no sense to constrain legacy mechanisms in these areas where carriers still struggle to deliver services that the rest of the nation takes for granted. Continued high-cost support will help GCI to meet the Alaska universal broadband challenge of bringing true broadband service to both urban and rural Alaska.

Respectfully submitted,

_____/s/_____

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