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

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996 as Amended by the Broadband Data Improvement Act	)	GN Docket No. 12-228

COMMENTS OF THE ALASKA RURAL COALITION

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I. **Introduction.**

The Alaska Rural Coalition[1] ("ARC") files its Comments in this proceeding pursuant to the August 21, 2012 *Public Ninth Broadband Progress Notice of Inquiry* ("NOI") issued by the Federal Communications Commission ("Commission") seeking comments regarding the development of broadband standards.[2] It has been approximately a year since the Commission reformed the high cost support system and refocused its priority from voice service to broadband service.[3] Many questions remain, including how the Commission ought to measure progress toward its stated goals.

The ARC continues to be concerned that any action taken by the Commission reflect the significant needs that remain in Alaska. All Alaska carriers concur that access to terrestrial middle mile represents the largest obstacle to meeting the Commission's

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[1] The ARC is composed of Arctic Slope Telephone Association Cooperative, Inc., Bettles Telephone, Inc., Bristol Bay Telephone Cooperative, Inc., Bush-Tell, Inc., Circle Telephone & Electric, LLC, Cordova Telephone Cooperative, Inc., Copper Valley Telephone Cooperative, Inc., City of Ketchikan, Ketchikan Public Utilities, Matanuska Telephone Association, Inc., OTZ Telephone Cooperative, Inc., Interior Telephone Company, Mukluk Telephone Company, Inc., Alaska Telephone Company, North Country Telephone Inc., Nushagak Electric and Telephone Company, Inc., The Summit Telephone and Telegraph Company, Inc., and Yukon Telephone Company, Inc.

[2] Federal Communications Commission, *Wireline Competition Bureau Seeks Comment on Model Design and Data Inputs for Phase II of the Connect America Fund*, Public Notice, DA 12-911 (June 8, 2012) ("*Model Design/Data Inputs Public Notice*" or "*NOI*").

[3] *See Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for our Future*, 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, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (rel. Nov. 18, 2011) ("*Transformation Order*").

broadband benchmarks. As discussed in more detail below, the Commission's measurements of broadband availability and its progress toward Section 706 goals have long ranging implications for future support and deployment of broadband infrastructure.

II. Definition of Advanced Telecommunications Capability Must Not Leave Remote Areas Behind.

The Commission seeks comment regarding the appropriate definition of advanced telecommunications for use in its *Ninth Broadband Progress Report*.[4] The ARC concurs that these are important issues with far ranging consequences for the development of broadband across America, but the ARC also believes that the improvement to 100 Mbps service should be tempered with the need to get the most rural and remote areas of the country up to the 4 Mbps by 1 Mbps benchmark. The market will push progress in populated urban areas, but high cost support remains critical in rural and remote areas like Alaska, where a business case cannot be made for rapid deployment.

Under the Telecommunications Act of 1996, the Commission must respond to the absence of advanced telecommunications capability by "tak[ing] immediate action to accelerate deployment of [advanced telecommunications] capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market."[5] Although Section 706 embraces competition, the Commission appears to have turned away from competition and towards prudent investment in a ubiquitous network. Federal law requires Commission inquiry into demographic information for areas

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[4] *NOI* at para. 7.

[5] 47 U.S.C. § 1302.

currently unserved by advanced telecommunications, suggesting that the focus of the Commission's advanced telecommunications support should be areas like rural Alaska where robust broadband remains largely unavailable.[6]

The remote nature of these unserved locations in Alaska means that their residents have the greatest need for advanced telecommunications, especially regarding vital services like emergency response, telemedicine and distance learning.[7] Geographic and climate barriers to individual mobility make the stakes of telecommunications access significantly higher for these telecommunications consumers. Access to video streaming, videoconferencing and VoIP is especially critical for education, healthcare, civic participation[8] and employment advancement.[9]

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[6] *Id.*

[7] *See, e.g.*, Kim Severson, *Digital Age is Slow To Arrive in Rural America*, N.Y. Times, (February 17, 2011), *available at* http://www.nytimes.com/2011/02/18/us/18broadband.html?pagewanted=all&_moc.semityn.www ("In rural America, only 60 percent of households use broadband Internet service."); *see also Alaska Rural Telehealth Network*, http://www.nrtrc.org/about/network-profiles/artn/ (last visited Sept. 13, 2012) "In Alaska, the healthcare workers practicing in hospitals, clinics, and community health centers are essential to the delivery of acute and primary care services to small, rural, and remote communities. Although the majority of Alaska's population is located outside the greater Anchorage area, the majority of healthcare providers in Alaska (e.g., physicians, PAs, RNs, physical therapists) are located in its three largest cities. As a result, rural clinicians practice in a generalist's environment, but where they often need to have specialty knowledge and expertise. This dichotomy is further complicated when you consider the limited opportunities for continuing education and access to specialty consultations available because of travel costs, geographical and weather restrictions, and a general lack of or inability to arrange for clinical coverage during absences." *Id.*

[8] For example, watching national political conventions.

[9] For example, engaging in job skills training or job interviews.

A. Fixed Services Remain Critical in Remote Alaska.

The Commission touts the advancements in broadband speeds in the months since it created the 4 Mbps by 1 Mbps speed benchmark.[10] Although evidence supports consumers' use of increasing speeds in urban areas, the results are not consistent in rural and remote areas.[11] Consumers in Remote Alaska remain without robust broadband due to the lack of critical middle mile infrastructure. The ARC supports increasing the benchmark, but continues to advocate that the benchmark must come with sustainable support to promote the deployment of terrestrial middle mile.[12] Many ARC members' first mile and most second mile networks are currently able to provide 4 Mbps by 1 Mbps high speed broadband service, but adequate terrestrial middle mile networks that are a critical link between that legacy infrastructure and the internet backbone are rare in rural Alaska.[13]

The Commission seeks comment regarding whether latency should be considered as an "additional threshold" in the Commission's next report.[14] The ARC believes this

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[10] *NOI* at para. 8.

[11] *NOI* at para. 8.

[12] *See Comments of the Alaska Rural Coalition in the matter of Connect America Fund*, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18, 2012) *("ARC USF Comments")* at 5.

[13] *See Transformation Order* at para. 101, n. 158 ("Even if the modest speeds of 4 Mbps down/1 Mbps up are adopted by the FCC as target throughput speeds, substantial construction of terrestrial facilities and expansion of satellite capacity will be needed to create the backhaul capability that will be necessary to deliver broadband at those speeds in Alaska.").

[14] *NOI* at para. 15.

inquiry sharply underscores the problem with relying on satellite middle mile facilities in Remote Alaska.[15] Satellite service remains unreliable in Alaska for many reasons including inclement weather and geographic limitations based on latitude and line of sight.[16] Ironically enough, these difficult physical conditions are the primary reason why Alaskans are more dependant than average Americans on access to high-quality, video-capable broadband in their homes. Providing the speed, latency or capacity required by the Commission for CAF support for satellite service is not yet possible in most areas of Alaska, and would be both extremely impracticable and exponentially more expensive than building middle mile in these areas. As General Communication, Inc. ("GCI") has explained, "[i]n rural Alaska, the most significant barrier to higher speed broadband services of any type - wireline or wireless - is the lack of sufficient broadband middle

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[15] *ARC USF Comments* at 5 ("Satellite is not a sufficient solution."); *Comments of General Communication, Inc. in the matter of Connect America Fund,* CC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18,2012) *("GCI USF Comments")* at 5 ("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."); *Comments of Alaska Communication Systems, Inc. in the matter of Connect America Fund,* WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05- 337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18, 2012) ("*ACS USF Comments*") at 6.

[16] *ARC USF Comments* at 25; *Comments of the Regulatory Commission of Alaska in the matter of Connect America Fund,* WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18, 2012) ("*RCA USF Comments*") at 2-3 ("The FCC has heard it many times: Alaska is different. Our vast size, small population, extreme weather and landscapes, and high costs have been described in numerous filings."); at 3, n. 4 ("Almost everything about providing communications services in Alaska is unique and sets its service providers apart from what other carriers across the country experience.").

mile that has the capability to expand with demand. Satellite capacity is limited and will not grow cost-effectively as demand expands."[17]

The Commission seeks comment on how to address deployment of satellite services.[18] The ARC supports latency benchmarks for satellite service, including satellite middle mile services purchased by carriers in Remote Alaska. Unfortunately, the ARC is unaware of an availability of lower latency at an affordable price. TelAlaska, Inc. commissioned a report by Martin & Baugh Consulting Group that investigated the availability of satellite services in its area. The report concluded that the satellite services requested are "not readily available."[19] The quoted satellite cost per subscriber would be upward of $4000 per subscriber per month -- just for the cost of the service.[20] Overhead support and management, ongoing customer care, billing and other costs would increase this rate by at least $500 per month per subscriber.[21]

The Commission must recognize that consumer satellite broadband is very limited in Remote Alaska.[22] The Commission claims that satellite provides the benefit of

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[17] *See GCI's Comments Regarding the FCC's Notice of Proposed Rulemaking in the matter of Investigation into the Impact on Alaska Consumers and Carriers of Universal Service Reform by the Federal Communications Commission*, Docket No. R-lO-03, before the Regulatory Commission of Alaska (Dec. 30, 2011) ("*GCI RCA Comments*") at 8.

[18] *NOI* at 17.

[19] Martin & Baugh Consulting Group, *Satellite Internet Review* (Jan. 30, 2012), attachment to Shannon M. Heim, *Ex Parte Notice*, before the FCC (June 12, 2012) at 5.

[20] *Id.* at 8.

[21] *Id.*

[22] *See ACS USF Comments* at 17; *GCI USF Comments* at 5 ("Advanced telemedicine, distance learning, and other many enterprise broadband services will require the

"ubiquity." That has not been the experience of Alaska carriers and consumers.[23] Satellite capacity is extremely expensive and non-scalable, and as capacity needs rise, satellite costs rise while satellite speed falls. Therefore, unless terrestrial middle-mile networks can be built, the cost to the Universal Service Fund ("USF") will continue to rise as consumers' demand for broadband 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.[24]

The issue of satellite latency benchmarks raises an important issue related to Section 706. The potential danger in creating separate standards for latency benchmarks for those areas dependent upon satellite is that the technological "have nots" will fall further and further behind their urban contemporaries. The reliance upon satellite service, both residential service and middle mile service, leaves Remote Alaska behind

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deployment of terrestrial middle-mile facilities: satellite services cannot support applications that tolerate only very low latency."); *Martin & Baugh Satellite Internet Review*.

[23] *See Comments of the Regulatory Commission of Alaska in the matter of Connect America Fund*, WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18, 2012) ("*RCA USF Comments*") at 6 ("Many Alaska communities will be denied access to universal service comparable to what is enjoyed elsewhere in the nation if they are required to rely on satellite communications only."); *ARC USF Comments* at 25 ("Satellite service is notoriously unreliable in Alaska for many reasons including inclement weather and geographic limitations based on line of sight.") and at 32 ("Unfortunately, providing the speed, latency or capacity required by the Commission for CAF support for satellite service is not yet capable in most areas of Alaska."); *ACS USF Comments* at 8; *GCI USF Comments* at 26.

[24] *GCI USF Comments* at 28.

the rest of the country.[25] In the age when Americans daily depend on the availability of large file downloads, videochat, and video streaming in real-time, satellite is simply not a viable replacement for terrestrial middle mile networks. The Commission should be careful not to create second class telecommunications citizens.

B. Mobile Services Play a Key Role in Alaska, But Remain Dependent on a Robust Middle Mile.

1. Mobile Services Cannot Replace Fixed Broadband.

The ARC supports the Commission's conclusion that all Americans should "have access to *both* fixed and mobile broadband services."[26] It is important to note that contrary to recent assertions, consumers in Remote Alaska require access to fixed broadband to compete in a global marketplace and fulfill the same aspirations of their

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[25] *See Tanana Chiefs Conference Comments, Report and Order and Further Notice of Proposed Rule Making: Connect America Fund*, WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 17, 2012) *("Tanana Chiefs Conference Comments")* at 1-2. "None of the rural TCC communities have access to acceptable broadband services delivered by robust terrestrial middle mile infrastructure, a fact that impacts the economic, physical and educational well-being of these rural communities." *Id. See also Comments of General Communication, Inc. in the matter of Connect America Fund*, WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Aug. 24, 2011) ("*GCI Aug. 24 Comments*") at 11 "In addition, current direct-to-home satellite Internet offerings are limited in rural Alaska, require expensive equipment, and are hampered by line of sight issues, due in part to Alaska's often mountainous terrain and the effect of the Earth's curvature at extreme northern latitudes. Moreover, it is GCI's understanding that planned new high-capacity satellites will cover only Alaska's "most populated" areas around Anchorage and Juneau, which are already largely served by fiber middle-mile facilities." *Id.*

[26] *NOI* at para. 22 (emphasis in original).

urban counterparts.[27] The Commission must not abandon its commitment to bringing both fixed and mobile broadband to rural and remote areas of the nation.[28]

The Commission seeks comment about "whether mobile services should be evaluated separately from fixed services" in relation to Section 706 obligations.[29] A policy position that accepted mobile broadband as the sole broadband solution would leave Alaska stuck with inadequate broadband telecommunications to meet the demands of consumers.[30] The record clearly demonstrates that mobile broadband cannot and should not displace the robust nature of fixed broadband.[31] The technological

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[27] *See* Letter from John T. Nakahata, Counsel, General Communication, Inc., to Marlene H. Dortch, *Notice of Ex Parte*, WC Docket 10-90, *et. al.*, filed September 11, 2012 ("*GCI September 11 Ex Parte*").

[28] *See Transformation Order* at para. 3 ("Fixed and mobile broadband have become crucial to our nation's economic growth, global competitiveness, and civic life. Businesses need broadband to attract customers and employees, job-seekers need broadband to find jobs and training, and children need broadband to get a world-class education. Broadband also helps lower the costs and improve the quality of health care, and enables people with disabilities and Americans of all income levels to participate more fully in society. Community anchor institutions, including schools and libraries, cannot achieve their critical purposes without access to robust broadband. Broadband-enabled jobs are critical to our nation's economic recovery and long-term economic health, particularly in small towns, rural and insular areas, and Tribal lands.") and at fn. 134 ("[W]e are intending to ensure that fixed broadband services in rural areas are compared with fixed broadband services in urban areas, and similarly that mobile broadband services in rural areas are compared with mobile broadband services in urban areas. Because fixed and mobile broadband technologies may differ in some of their capabilities…").

[29] *NOI* at para. 23.

[30] *Id.*

[31] *GCI USF Comments* at 5 ("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."); *see also* Abhishek Shukla, 7 *Reasons Why Tablets or Smart phones Can't*

requirements needed for distance learning and telemedicine must be provided over a terrestrial network. The ARC agrees with other Alaska carriers that the deployment of mobile technology in Remote Alaska will be a very expensive proposition.[32] The ARC believes that the extension of mobile technology should not displace essential support for construction of terrestrial middle mile. Both fixed and mobile broadband depend on the construction and cost-based access to extensive middle mile facilities. Even the wireless technology that GCI wants to build requires a terrestrial middle mile for adequate backhaul facilities.

To be clear, the ARC does not believe that mobile broadband will ever be sufficient to fulfill the obligations of "advanced telecommunications capability" as required by Section 706. "Advanced telecommunications capability" refers to networks that can provide "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[33] To the extent the Commission would consider mobile broadband to satisfy Section 706 definitions in lieu of fixed service, the same speed and latency benchmarks should be applied to mobile service. However, the ARC believes that, given the current capabilities of mobile service, it is unrealistic to expect mobile to reach these benchmarks in any cost-effective way.

Replace Laptops, TECHiFire (Jan. 16, 2012) http://www.techifire.com/gadgets/phonesl7-reasons-why-tablets-orsmartphones-cant-replace-laptops/.

[32] *See, e.g., GCI USF Comments* at 7-9.

[33] 47 U.S.C. § 1302 (d)(1).

2. Alaska Broadband Access Depends on Adequate High-Cost Support.

The Commission's policy goal of providing access to both fixed and mobile services depends on adequate high cost support. The ARC members currently have last mile networks in place to bring broadband services to Alaska's rural and "extreme rural"customers, and can only do so if given access to affordable middle mile facilities.[34] Lack of access to affordable middle mile facilities represents the most significant barrier facing ARC members, making it more difficult or in many cases impossible to provide broadband services throughout our service areas.[35] Without the funds necessary to construct middle mile, broadband service comparable to that available to the rest of the nation will remain a pipe dream for Alaskans.

The Commission seeks comment on the use of Wi-Fi hotspots in assessing mobile broadband deployment and availability.[36] The Commission presumes that Wi-Fi plays a central role in the broadband connectivity of mobile devices, including smart phones and

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[34] *See* Rhonda McBride, "FCC Chairman Sees Rural Realities in Southwest Alaska" KTUU TV, *reprinted at* msnbc.com (Aug. 30, 2011), *available* at http://www.ktuu.com/news/ktuu-fccchairman-sees-rural-realities-in-southwest-alaska-2011 0829,0,5023053.story. "[T]here needs to be a new definition of rural for communities that are off the road system. [Senator] Begich says he calls it 'extreme rural.'" *Id. See Transformation Order* at para. 1035. *See also Comments of the Alaska Rural Coalition, In re Connect America Fund,* WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 96-45, WC Docket No. 03-10, before the FCC (Aug. 24, 2011) and *Reply Comments of the Regulatory Commission of Alaska in re Connect America Fund,* WC Docket No. 10-90, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service,* CC Docket No. 96-45, WC Docket No. 03-10, (Sept. 6, 2011).

[35] *See ARC USF Comments* at 4-5 ("Access to Affordable Middle Mile is Critical to Extend Broadband into Remote Areas of Alaska.").

[36] *NOI* at para. 30.

tablets, and should accordingly be considered in the availability of mobile broadband.[37] The fundamental flaw with this argument is that Wi-Fi relies upon a fixed broadband service. The vast majority of Wi-Fi products rely upon the robust capacity, speed and latency of a fixed broadband service. Since mobile networks and Wi-Fi hotspots depend on terrestrial middle mile and wireline broadband, the Commission's first priority must be building middle mile throughout Alaska that would enable these services.

III. Measurement of Broadband Deployment Must Accurately Capture Rural and Remote Areas.

Measurement of broadband deployment remains an important tool to determine the success of the Commission's initiatives and regulations.[38] To provide useful feedback the measurement must be accurate and designed to capture data from all parts of the market. The ARC remains concerned about the overstatement of deployment inherent in the National Broadband Map.[39]

The Commission seeks comment on the inclusion of satellite broadband deployment estimates.[40] As a general matter, to the extent the Commission considers retail satellite broadband an option for the contiguous United States, it ought to be measured using the same benchmarks as other fixed and mobile broadband services. However, the ARC remains skeptical that satellite service can function as an adequate alternative to fixed broadband. In Alaska, satellite coverage for retail service is virtually

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[37] *Id.*

[38] *NOI* at para. 31.

[39] Cite concerns about Map.

[40] *NOI* at para. 36.

nonexistent outside of Anchorage and the surrounding population density.[41] Consumers in Remote Alaska have no access at all to these services. The accuracy of measuring satellite deployment is critical to maintaining an accurate understanding of what is required for connecting the truly remote areas.

The Commission asks if it would be "appropriate for the Commission to conclude that there are no unserved areas in America for purposes of section 706."[42] Section 706 requires the deployment of "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology." The ARC vehemently disputes that retail satellite service could fulfill the Section 706 deployment requirements. The quality of service provided via satellite will never meet the robust character of a fixed broadband service. Relegating rural and remote areas to a "good enough" standard of

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[41] *See RCA USF Comments* at 6 ("An Anchorage satellite communication systems company, states that only one advanced generation Ka band satellite will be offering service in Alaska (ViaSat-1) in the foreseeable future and it will be covering only about 1/5 of the state. The RCA urges the FCC to verify that satellite-based service is, indeed, available at affordable rates before relying on a technology that is not available to 4/5 of the state – particularly the far North."); *GCI Aug. 24 Comments* at 11 ("In addition, current direct-to-home satellite Internet offerings are limited in rural Alaska, require expensive equipment, and are hampered by line of sight issues, due in part to Alaska's often mountainous terrain and the effect of the Earth's curvature at extreme northern latitudes. Moreover, it is GCI's understanding that planned new high-capacity satellites will cover only Alaska's "most populated" areas around Anchorage and Juneau, which are already largely served by fiber middle-mile facilities."); *ARC USF Comments* at 32 ("Unfortunately, providing the speed, latency or capacity required by the Commission for CAF support for satellite service is not yet capable in most areas of Alaska.").

[42] *NOI* at para. 36.

satellite service will irrevocably relegate those Americans to a weaker opportunity to participate in the global economy.[43]

IV. **The Broadband Deployment Gap Remains Significant in Alaska.**

The ARC concurs with the Commission that the "broadband deployment gap remains significant and is particularly pronounced for Americans living in rural areas and on Tribal lands."[44] The Commission seeks comment on the deployment of broadband to Tribal lands.[45] Broadband access in rural and remote Alaska remains extremely limited, and Alaskans do not enjoy the same high speeds and reliable connections as do consumers in the Lower 48. The ARC believes that affordable and equal access to terrestrial middle mile represents the linchpin to providing Alaska with the broadband service required by the Commission. Whether supporting fixed or mobile broadband, 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."[46]

The developers of the new TERRA-SW Project constructed with $88 million in BTOP grant and loan funds by United Utilities, Inc. ("UUI"), GCI's wholly-owned

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[43] Both the RCA and Alaska Carriers have expressed alarm that the Commission would rely on satellite as a safety net in Alaska. *See, e.g.*, *RCA Comments* at 6. "Many Alaska communities will be denied access to universal service comparable to what is enjoyed elsewhere in the nation if they are required to rely on satellite communications only." *Id.*

[44] *NOI* at para. 37.

[45] *NOI* at para. 41. Remote Alaska is considered Tribal lands. *See ARC USF Comments* at 24.

[46] *GCI USF Comments* at 28.

subsidiary, have touted the project as delivering broadband to areas of Alaska in desperate need of high speed connection to the internet.[47] While Remote Alaska's need for this middle mile is unquestionable, UUI/GCI have not provided other Alaska carriers open access to TERRA-SW's capacity. The ARC encourages the Commission to regulate access and pricing to non-competitive middle mile facilities, and to invest in further middle mile infrastructure in Alaska where it is lacking.

The Commission seeks comment on whether "mobile service meets the benchmark for fixed broadband service."[48] The ARC strongly disputes the idea that mobile service can serve as a substitute or replacement for fixed broadband capabilities. Section 706 establishes a mandate to provide advanced telecommunications to all Americans, not to relegate rural Americans to second rate service.[49] Mobile service is slower than broadband, is not equipped to handle large files, and depends entirely on

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[47] GCI, *TERRA-SW: Project Overview* (Jan. 12, 2012), http://terra.gci.com/project-overview ("TERRA-SW is a historic investment that will provide the first ever high speed fiber optic and microwave connection to Southwest Alaska. The project will extend terrestrial broadband services to 65 communities and 9000+ households in the Bristol Bay and Yukon Kuskokwim Delta regions.").

[48] *NOI* at para. 42.

[49] Matt Hamblen, *FCC Says 93M in US lack broadband, digital divide grows*, Computerworld (Feb. 10,2010), *http://www.computerworld.com/s/article/9160738/FCC_says_93M_in_U.S._lack_broadband_digital_divide_grows* ("In the 21st century, a digital divide is an opportunity divide ... job creation and American competitiveness abroad require that 'all Americans have the skills and means to fully participate in the digital economy. '"); *see also* Songphan Choemprayong, *Closing Digital Divides: The United States' Policies*, 56 Libri 201 (2006) ("Since the emergence of information technology, the gap between information 'haves' and 'have-nots' has been broadening: the information rich become richer, while the information poor are poorer.").

reliable mobile coverage.[50] Without terrestrial networks to support mobile devices, mobile capabilities are seriously limited. Without question, wireline facilities will provide the most robust, reliable access to broadband for Remote Alaska.[51]

The ARC companies have already invested substantial resources, both public and private, into building and maintaining their last mile and second mile legacy networks. Many of these networks can already meet the FCC's new standards for broadband service. The ARC believes that investment in middle mile to connect these networks to the larger internet backbone will provide all of Alaska with a reliable, permanent infrastructure for broadband comparable to that available in the rest of the nation.[52] The

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[50] Anthony Hill, *Mobile Broadband vs. Fixed Line Broadband: Help me choose which is best!* (May 28, 2012), *available at* http://www.broadbandchoices.co.uk/mobile-broadband/mobile-broadband-vs-fixed-line-broadband.html.

[51] Reply Comments of the Alaska Rural Coalition, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Feb. 17, 2012) ("*ARC USF Reply Comments*") at 12. "Both fixed and mobile broadband depend on the construction and cost-based access to expensive middle mile facilities. Wireline facilities provide the most robust, reliable access to broadband for Remote Alaska and merely need access to sufficient and affordable middle mile capacity to begin offering broadband service." *Id.*

[52] *See, e.g., Initial Comments of the National Exchange Carrier Association, Inc.,* ("NECA") *et. a!. in the matter of Connect America Fund,* WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18, 2012) *("NECA Comments")* at 3-4 ("Without exception, the Commission's actions with respect to RLECs are negative - and clearly and unmistakably presented as such."); *Comments of Calaveras Telephone Company in the matter of Connect America Fund,* WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18,2011) *("Calaveras Comments")* at 11 ("Calaveras Telephone Company is very concerned for the ongoing ability to meet customer demands and maintain its present level of service quality in light of the significant changes outlined in proposed new FCC rules."); *Comments of the Public Service Commission of Wisconsin in the matter of*

ARC encourages the Commission to provide as many different incentives and mechanisms to encourage construction and recover the costs of building middle mile as possible.[53]

V. **Broadband Deployment Slow in Alaska.**

The Commission has determined that broadband deployment must meet a minimum threshold to comply with Section 706 goals.[54] Unless broadband service is "of a quality sufficient to enable high-quality voice, data, image, graphics, and video telecommunications services" it falls short of Congress's intention in enacting Section 706.[55] The ARC supports this position and believes it has significant implications for Alaska.

Connect America Fund, WC Docket No.1 0-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 13,2012) *("Wisconsin Comments")* at 10 ("The PSCW has heard from some Wisconsin providers that this amount of support [$2.05b allocated to rural support] may be insufficient to both maintain existing networks and build out new networks to un-served customers."); *Comments in Response to Further Notice of Proposed Rulemaking by the Washington Independent Telecommunications Association, et at. in the matter of Connect America Fund,* WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 18,2012) *("Washington Comments")* at 1 ("The unintended outcome will mean that rural customers will not be able to access broadband services as envisioned by the Commission in Rural America.").

[53] *ARC USF Reply Comments* at 16.

[54] *NOI* at para. 44 (citing 2012 Eighth Broadband Progress Report, Section IV.G.).

[55] *NOI* at fn 111 (citing 2011 Seventh Broadband Progress Report at para. 19). The Commission notes that mere physical deployment of equipment cannot fulfil section 706 goals.

A. Reasonable and Timely Deployment of Broadband.

The Commission seeks comment on what factors it should consider in determining whether broadband "is being deployed to all Americans in a reasonable and timely fashion."[56] As previously discussed, the key impediment to additional broadband deployment in Alaska is access to a robust middle mile solution. A combination of inadequate facilities and the cost associated with accessing existing facilities have depressed the rate of deployment of broadband.[57] Affordable access to broadband should be one of the factors considered by the commission.

The Commission also seeks comment regarding whether a separate evaluation of the deployment of fixed terrestrial, mobile, and satellite broadband services would affect the Commission's interpretation of section 706.[58] The ARC agrees that there is value in measuring each type of deployment, but it is important to note that in Alaska meeting the section 706 goals cannot be achieved by satellite or mobile deployment alone.[59]

B. Other Mechanisms For Measuring Deployment.

The Commission seeks comment on alternative methods of assessing the reasonableness and timeliness of broadband deployment.[60] The ARC continues to believe

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[56] *NOI* at para. 44.

[57] A robust middle mile solution is integral for both fixed and mobile broadband, since all broadband requires bandwidth dependent on a terrestrial solution.

[58] *NOI* at para. 44.

[59] *See ARC USF Comments* at 5; *ACS USF Comments* at 6; *RCA USF Comments* at 19 ("Funding for middle mile infrastructure is essential to deployment of broadband in Alaska.").

[60] *NOI* at para. 45.

that the key component of broadband deployment in Alaska is the availability and accessibility of middle mile facilities.[61] Without access to adequate middle mile facilities, Remote Alaska will never experience reasonable and timely deployment of broadband, and it will be impossible to assess the reasonableness and timeliness of broadband deployment without that infrastructure in place.

The Commission directed all recipients of high cost support to invest in network infrastructure sufficient to deliver 4 mbps upload and 1 mbps download to all customers. The Commission provided an exemption for those carriers reliant upon satellite middle mile. Unfortunately, the Commission failed to establish a plan to address the underlying problem of insufficient terrestrial middle mile or a funding mechanism to facilitate access to existing, but cost prohibitive, facilities.

All Alaska carriers agree that Alaska lacks sufficient terrestrial middle mile to fulfill the Commission's broadband mandate.[62] Access to middle mile facilities on a non-discriminatory basis, at a price grounded in actual costs, will determine whether or not

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[61] *ARC USF Comments* at 7 ("The ARC notes that GCI argues that TERRA-SW is a completely nonregulated project, which would leave no regulatory oversight or requirements for pricing or nondiscriminatory access.").

[62] *ACS USF Comments* at 8; *GCI USF Comments* at 28 ("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…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."); *RCA USF Comments* at 19 ("Funding for middle mile infrastructure is essential to deployment of broadband in Alaska."); and *ARC USF Comments* at 4-5 ("Access to Affordable Middle Mile is Critical to Extend Broadband into Remote Areas of Alaska.").

Remote Alaska will participate in the digital revolution.[63] Many villages in Remote Alaska are served by an ILEC whose local network is ready to provide robust broadband service. The Rural Coalition agrees with the Tanana Chiefs Conference[64] that the largest barrier to providing broadband is the lack of accessible, affordable terrestrial middle mile facilities.[65]

The Rural Coalition is increasingly concerned that none of the new funding mechanisms, including the Remote Areas Fund, will bring any meaningful benefit to Alaska. Despite the Commission's initial intent to protect critical funding to the most remote areas of the nation, the Bureau's recent *Order Seeking Comment on Model Design and Data Inputs for Phase II of the Connect America Fund* suggests that the Bureau may expand the areas eligible for the Remote Areas Fund beyond its original scope, leaving

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[63] *See generally ACS Comments* at 6.

[64] *See Tanana Chiefs Conference Comments, Report and Order and Further Notice of Proposed Rule Making: Connect America Fund*, WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Jan. 17, 2012) ("*Tanana Chiefs Conference Comments*") at 1-2. "None of the rural TCC communities have access to acceptable broadband services delivered by robust terrestrial middle mile infrastructure, a fact that impacts the economic, physical and educational well-being of these rural communities." *Id*.

[65] The TERRA-SW Project promises robust broadband, but unfortunately the cost of access to the Project is beyond what ILECs can afford. The lack of a cost-based price precludes rural carriers from accessing the middle mile facility. *See Opposition of Alaska Communications Systems Group, Inc., in the matter of Connect America Fund*, WC Docket No. 10-90, Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, before the FCC (Feb. 9, 2012) ("*ACS Opposition*") at 5, n. 8.

the Remote Areas Fund inadequate for funding broadband in high cost areas.[66] The Rural Coalition believes this direction would be catastrophic for all Alaska carriers.[67]

C. Deployment of Broadband on Tribal Lands Presents Unique Challenges.

The Commission acknowledges the "unique difficulties in deploying broadband to rural areas and Tribal lands."[68] Congress allocated $7 billion in grants and loans to increase broadband deployment in unserved and underserved areas.[69] Alaska received an $88 million project, TERRA-SW, to bring middle mile connectivity to the southwest portion of the state.[70]

The Commission seeks comment on the impact of these projects on broadband deployment.[71] The Commission further requests comment regarding whether any projects have helped deploy fixed or mobile broadband.[72] The TERRA-SW project certainly expands the footprint for fixed and mobile broadband for UUI, the ILEC who applied for the grant/loan and GCI, its parent company. No other carrier has been able to

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[66] *See Reply Comments of the Alaska Rural Coalition, in the matter of Connect America Fund*, before the FCC, WC Docket No. 10-90, WC Docket No. 05-337 (July 23, 2012).

[67] For the reasons discussed above, focusing Remote Areas Fund support on satellite alone does not benefit Alaska.

[68] *NOI* at para. 46.

[69] *NOI* at para. 46.

[70] GCI, *TERRA-SW: Project Overview* (Jan. 12,2012), http://terra.gci.com/project-overview ("TERRA-SW is a historic investment that will provide the first ever high speed fiber optic and microwave connection to Southwest Alaska. The project will extend terrestrial broadband services to 65 communities and 9000+ households in the Bristol Bay and Yukon Kuskokwim Delta regions.").

[71] *NOI* at para. 46.

[72] *NOI* at para. 46.

purchase access to the middle mile facility, which significantly diminishes its impact for Alaska. Negotiations continue, but it is difficult to gain affordable access to a potentially unregulated, monopoly facility.[73]

VI. Conclusion.

Both Congress and the Commission have prioritized the deployment of broadband to all Americans. A discussion of how to measure progress requires a hard look at what roadblocks present deployment. The lack of terrestrial middle mile in vast portion of Alaska coupled with the incredible expense of accessing what middle mile there is prevents huge portions of Alaska from realizing the broadband deployment goals articulated in Section 206. The ARC supports the accurate measurement of broadband penetration, but respectfully requests that the Commission continue be mindful of the long term implications that its measurement metrics may have for those current not served by broadband.

[73] *See GCI Aug. 24 Comments* at 11 ("The TERRA-SW project will result in a vast improvement, but even this terrestrial network is more limited in capacity than fiber-only facilities. And while GCI is always looking for ways to expand its terrestrial middle-mile facilities through both private and public funding, the remainder of the roadless areas in the state are still reachable only via satellite.") *See also* Richard R. Cameron, *Ex Parte Notice*, before the FCC (September 7, 2012).

Respectfully submitted on this 20th day, September, 2012.

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