

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

In the Matters of

International Comparisons and Consumer Survey Requirements in the Broadband Data Improvement Act

GN Docket No. 09-47

A National Broadband Plan for Our Future

GN Docket No. 09-51

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. 09-137

Schools and Libraries Universal Service Support Mechanism

CC Docket No. 02-6

Comprehensive Review of Universal Service Fund Management Administration and Oversight Federal-State Joint Board on Universal Service Schools and Libraries Universal Service Support Mechanism Rural Health Care Support Mechanism

WC Docket No. 05-195

**REPLY COMMENTS OF GENERAL COMMUNICATION, INC. –
NBP PUBLIC NOTICE #15**

As the leading provider of broadband services to government, commercial, and residential users in Alaska, General Communication, Inc. (“GCI”) understands the importance of the Schools and Libraries program (“SLP” or “E-rate”) to furthering “the

goal of making broadband universally available to all people of the United States.”¹ The comments submitted by the Alaska Department of Education and Early Development (“Alaska Department of Education” or “EED”), as well as the Anchorage, Cordova, and Pelican School District and the University of Alaska (collectively, the “Alaska Comments”), sound common, critical themes. First, at least existing levels of support are necessary to preserve the educational gains and technological advancements produced through E-rate support since its inception. Second, terrestrial middle-mile infrastructure must replace satellite middle-mile to deliver the broadband performance improvement sought by rural schools and libraries. Third, schools and libraries are essential partners in innovation, training, and community deployment and adoption.

“First, Do No Harm!”

The Alaska Department of Education conducted a statewide inquiry of its 54 school districts, and the responses across this diverse constituency are compelling. While the comments include suggested improvements to program administration, prioritization rules, and discount rates, it is clear that the among the highest priorities is to ensure that any changes to the program *not* lead to backsliding from the significant progress made to date with the introduction and adoption of broadband-based services throughout Alaska’s school districts.² Rural areas in Alaska have high levels of poverty (90 percent of students are eligible for free and reduced lunch), and the costs of delivering all elements of educational services are extremely high. The availability and continued federal

¹ Comment Sought on the Role of the Universal Service Fund and Intercarrier Compensation in the National Broadband Plan at 1, Public Notice, GN Docket Nos. 09-47, 09-51, and 09-137 (rel. Nov. 13, 2009) (“*USF/ICC Public Notice*”).

² See Alaska Department of Education Comments at 5, 65; Anchorage School District Comments at 23 (“Anchorage School District would strongly oppose a decrease for basic telecommunication services to increase broadband deployment. Such a change would have adverse consequences with existing contracts, technology planning, and budgetary projections.”).

financial support of bandwidth and services to these institutions is absolutely necessary to provide an adequate education. In the words of the state Department of Education, “Without the Universal Service Fund (USF) support mechanism, no single school district or public library would be able to afford broadband connectivity.”³

As the Alaska Comments demonstrate, schools throughout Alaska are experienced believers in and beneficiaries of the USF Schools and Libraries Program. Access to funding has connected via telecommunications infrastructure schools that lack many “connections” often taken for granted: roads, regular mail, and even the connection created by continuity of personnel. Often in rural Alaskan communities, all these connections are missing, as remote locations are often only accessible by plane, boat, or snowmachine; mail and deliveries can be a weekly – not daily – event; and personnel turnover is high. E-Rate support is an essential tool for bridging these gaps with telecommunications facilities, improving education, bringing cost savings, and narrowing the digital divide. GCI is a proud technology partner in this endeavor.

But the Alaska schools’ broadband successes are not achieved simply by GCI or any other carrier plugging in the connection to the school or library. Teacher and staff acceptance and adoption is critical to those facilities actually being used and useful. It takes the creativity and ingenuity of teachers and administrators to bring to life technology in the classroom – and Alaska’s educators have proven themselves as dynamic innovators. From virtual field trips to distant museums, an in-space visit with a space shuttle astronaut, to shared class instruction over videoteleconferencing, Alaska is a leader in teaching students over distance. But the Alaska comments highlight that

³ *Id.* at 14.

adoption and innovation takes time and experience. Confidence and trust in the system have to be built as teachers and administrators come to rely on the benefits of broadband. If reliance fails, though, and educators are left to scramble in response to diminished or denied services resulting from programmatic changes, it will be very tough to bring those users back. This would be a huge step backwards for the educators, their students, and National broadband goals.

As a result, it is essential the FCC hear and respond to the succinct, direct request of the Alaska Department of Education: “First, do no harm!”⁴ Broadband availability and affordability, at least to the current extent, has been transformational to education throughout the state. Rural schools rely on distance learning to satisfy No Child Left Behind standards, and with statewide videoteleconferencing capabilities, Alaska’s school districts provide opportunities for students not otherwise available. For example, the Lower Kuskowkim School District has three studios at the district office. They provide high school algebra and geometry to 28 village schools, many of which do not have a “highly qualified” teacher for these subjects, as mandated by “No Child Left Behind.” They also provide the same level of coursework and distance learning through video conferencing for science. The Kodiak Island Borough School District is teaching algebra to six rural communities in their district utilizing a blended learning approach through video conferencing and learning management systems. And the Yukon Koyukuk School District uses video conferencing to teach math, chemistry, Athabascan language and art to students in its rural villages every day.

⁴ Alaska Department of Education Comments at 5.

With distance learning, the sum of the parts is certainly greater than the whole. The loss of any school, its students, and personnel from the network creates a hole that cannot be filled. The FCC's forward-looking effort must not sacrifice the gains that have been made, or the goal of broadband everywhere will not be met.⁵

***Terrestrial Middle-Mile Infrastructure Is Essential to Building on
Prior E-Rate Successes***

The development of a National Broadband Plan has identified a common theme for Alaskans – and the education community is no exception. There is across the board agreement that the biggest impediment to providing broadband to all of Alaska is the lack of efficient, cost-effective middle-mile connectivity.⁶ GCI understands the frustration with the limits of satellite-based services, reflected in the Cordova School District

Comments:

Satellite connectivity gives Cordova a basic level of access, but it suffers from serious limits in regard to bandwidth and transmission lag times. Limits that are becoming increasingly apparent as content available on the Internet changes requiring real time feed back with data input and interpretation. As communications technology improves and common Internet applications demand ever-increasing bandwidth and speed, students and teachers in Cordova are being left behind.⁷

GCI has worked hard with and for our education partners to deliver a valuable, cost-effective service over satellite, and technology advancements with IP acceleration over satellite are improving performance for applications. But, satellite service remains expensive (even with price compression for bandwidth over time) and has limited

⁵ One way to increase the utility of bandwidth supported by and to assist in the planning of future needs would be the availability of a bandwidth planning tool for program participants. While budgets will often dictate the scope of applications, a bandwidth planning tool will allow applicant to assess what they actually need, which information could then be used in support of the application itself.

⁶ See Anchorage School District Comments at 6.

⁷ Cordova School District Comments at 3.

throughput capacity and inherent latency. It is, however, the only option for those vast areas of the state that are not served by terrestrial facilities. The challenge, therefore, is to replace satellite middle-mile transport with technologically and economically viable terrestrial middle-mile delivery, both within these remote, off-road regions and between these regions and the Internet backbone.

GCI's statewide vision, the TERRA project, would replicate the success of our regional microwave network in the Yukon-Kuskokwim Delta in four other regions up the western and northern coasts of Alaska by tying together those regional networks to each other and back to the Internet backbone in Anchorage, thus delivering for the first time middle-mile terrestrial broadband service to villages in each of those five regions.⁸

Figure 1 below depicts the potential deployment, in addition to the existing Bethel regional microwave network.

⁸ In addition to expansion in the Y-K Delta (Bethel), the TERRA project will likely include Bristol Bay (Dillingham), the North Slope (Barrow and Prudhoe Bay), Norton Sound (Nome), and the Northwest Arctic (Kotzebue) regions.

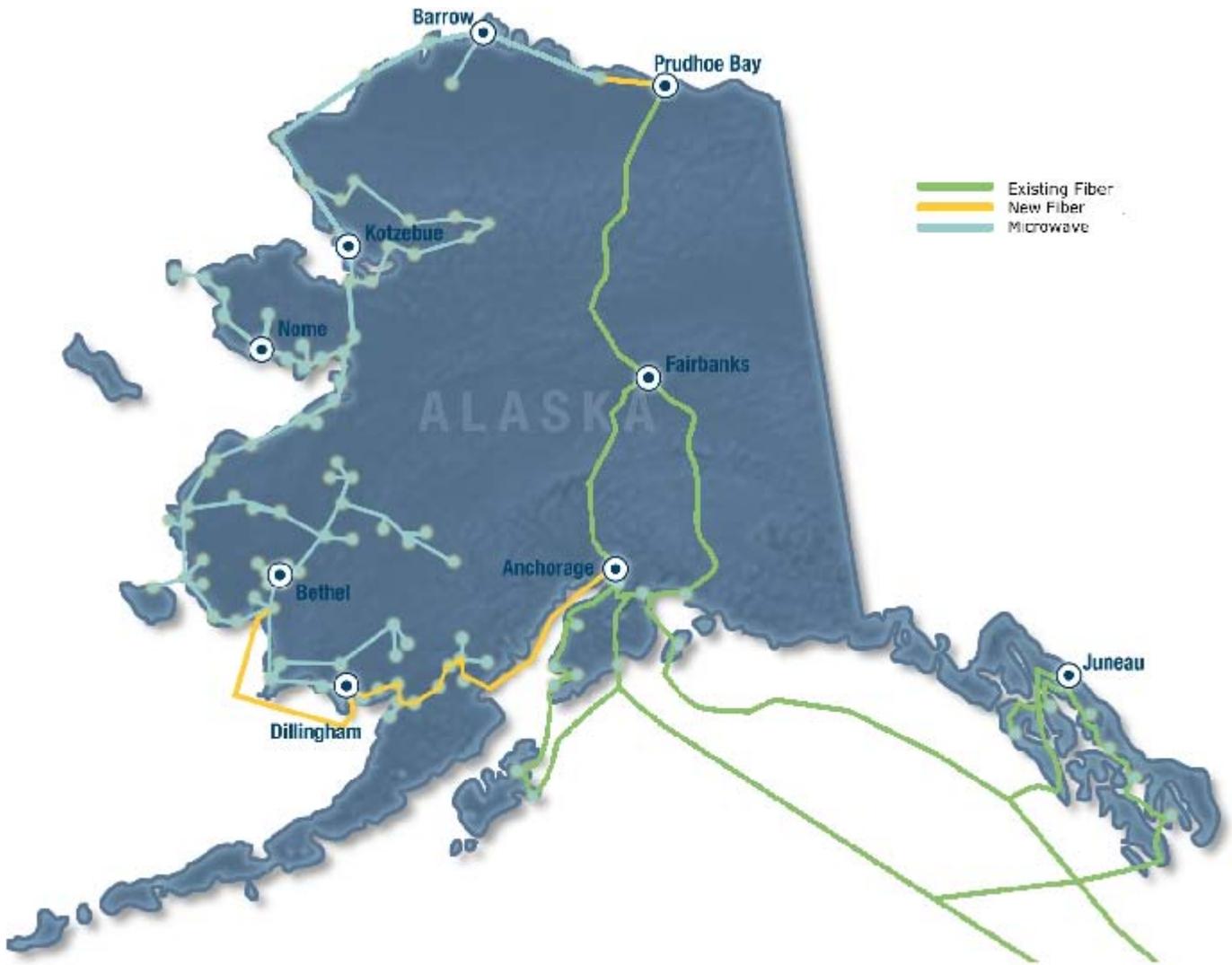


Figure 1

Anchor tenants, including educational institutions, are critical to the feasibility and sustainability of regional network infrastructure (second mile) deployment and operation in the four regions both feasible and sustainable. In turn, these anchor tenants, and the project itself, will require continued, and potentially expanded, universal service support.⁹

⁹ Even assuming the necessary support, GCI foresees a five- to ten-year timeframe for construction of a TERRA-style terrestrial middle-mile network. This is consistent with the expectation of the education community. See Alaska Department of Education at 8 (“EED foresees an inevitable 5-15 year development cycle before advanced broadband speeds at affordable prices are deployed statewide via fiber and microwave.”).

GCI is working to meet the requests and needs of Alaska's schools and libraries as quickly as possible.

***Schools and Libraries Are Essential Partners in
Reaching the Goal of Ubiquitous Broadband***

Schools and libraries are essential partners in innovation, training, and community deployment and adoption. Schools often drive initial demand for services that bring facilities into the community. The supported networks facilitate deployment to difficult-to-serve remote areas, where the cost of extending mass market or business services to the community is incremental to the initial investment. Often, the technical solutions required to meet this anchor tenant demand drives innovation that benefits communities. For example, GCI's project to deploy wireless services to rural villages for the first time depends on advancements made in satellite technology and the availability of joint-use on-the-ground-facilities.

Clearly, delivery of residential broadband is the next challenge that must be met.¹⁰ Access to the broadband services in schools drives demand for mass market access. When kids learn the benefits of technology at school, they want to have the same access at home. Putting it together, schools and libraries are critical drivers behind GCI's efforts to bring terrestrial middle mile facilities to as many communities in Alaska as possible. Finally, particularly in consideration of the unique role of schools and libraries, the FCC should establish application processing timelines to ensure that school districts are advised of funding approvals commensurate with school-year and budget cycles.

¹⁰ A number of the Alaska Commenters raised the possibility of making school-based bandwidth available to the community. GCI notes that school bandwidth is often in use day and night. Bandwidth is used at night for file transfers and media download so as not to impact the day-to-day operations. This type of usage is only going to increase.

Conclusion

The Commission must ensure that new broadband programs not disrupt successes already playing out on the ground. The key to broadband advancement in Alaska is the deployment of terrestrial middle mile facilities, and schools and libraries will be critical partners in completing that endeavor and leveraging the benefits to the communities at large.

Respectfully submitted,

/s/

Pamela Lloyd
Director, SchoolAccess
General Communication, Inc.
2550 Denali Street
Anchorage, AK 99503
(907) 868-0865

Tina Pidgeon
Vice-President –
Federal Regulatory Affairs
General Communication, Inc.
1350 I Street, N.W., Suite 1260
Washington, D.C. 20005
(202) 457-8812

December 11, 2009

Counsel for General Communication, Inc.