

I. GCI's Existing Broadband Successes Demonstrate the Life-Changing Power of Rural Bringing and the Need to Ensure Widespread Deployment

GCI already provides broadband service to health care and education institutions in several rural communities in Alaska. And the benefits are undeniable. GCI ConnectMD, for instance, is a dedicated medical network, over which clinics and hospitals in rural and urban areas can securely and reliably exchange critical health information. Through established broadband connections, a health practitioner at a small health clinic in rural Kotzebue, Alaska was able to perform emergency, life-saving surgery on a woman with the aid and guidance of an expert surgeon in Anchorage, who participates through a videoconference.³ Before broadband, the alternative – if any – would have been a long plane ride to Anchorage. But rural broadband is not just for emergency situations. Patients in rural communities can use broadband services to get basic medical treatment that many of us take for granted, such as access to psychiatric services and the ability to receive post-operative, out-patient care in our hometown, even for a surgery performed hundreds of miles away.

GCI's rural broadband deployment has also provided educational opportunities, allowing students in rural areas to access³ resources and experts in ways that were previously unavailable. Through the Alaska Distance Learning Partnership, for instance, rural students learn algebra even when there is no qualified instructor locally. They can videoconference with professionals throughout Alaska who elaborate on their careers and inspire students to pursue a diverse range of career paths. Similarly, rural students are

³ *Telehealth in the Tundra: Remote Northwest Alaskan Villages Encounter Faster Access to More Sophisticated Medical Care*, Health Management Technology, March 2004, at 2.

able to participate in videoconferencing with a variety of authors, meet with Alaska's delegation in Washington, D.C., and attend virtual field trips. These mark just the beginning of the opportunities that widespread rural broadband will provide.

But for many rural communities, GCI relies on satellite technology for middle-mile transport, which is costly, has limited throughput capacity and, thus, is not ideal for widespread, intensely-used broadband services. Current Internet growth projections indicate that satellite links alone will not be able to deliver urban-quality, universal broadband Internet access and other state of the art technologies to Alaska's rural communities. Thus, the challenge for rural areas is to replace satellite middle-mile transport with viable terrestrial middle-mile delivery, both within the remote regions and between regions and the backbone. Without cost-effective middle-mile transport, the benefits that GCI has provided through its current rural broadband service offerings to institutional end users will not become available to all of rural Alaska.

II. Rural Wireless is Critical to the Success of Any Comprehensive Rural Broadband Strategy

Wireless last-mile technology will be key to the success of rural broadband deployment. In remote areas that lack roads, like much of rural Alaska, wireless technology will be the most cost effective means of providing the local service platform, especially once these communities can be connected to the Internet backbone through terrestrial facilities rather than over satellite. But rural Alaska also remains by far the largest unserved wireless area in the United States.⁴ GCI is changing this situation by

⁴ *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to*

rolling out a statewide wireless local service platform capable of delivering fixed and mobile wireless voice and data services.⁵ This allows GCI to use the technology best adapted to a particular environment. In the urban areas (Anchorage, Fairbanks, Juneau, and their suburbs, such as the Matanuska Valley) and in many of the regional centers, GCI is upgrading its cable plant and will provide telephone service predominantly over its own cable facilities, supplemented by resold services when necessary. In the small rural communities outside the regional centers, GCI is employing primarily wireless technology as its last-mile distribution network.⁶ When these efforts are fully deployed, GCI hopes to provide local, long distance, and high speed broadband of at least 1 Mbps to the majority of households throughout all of Alaska, not just to urban areas and regional centers. The key to achieving high data throughput speeds in the regional centers and small rural communities, however, is more robust middle-mile transport – which realistically will have to be achieved terrestrially.

Yet we can already see some of the benefits that come from extending modern telecommunications to these small Alaska communities. The response to GCI's rural wireless services has been overwhelming. In some villages, GCI has signed up as many as 30% of residents. For the first time, public safety and law enforcement officials in regional centers have cell phones that will continue to operate when they travel to

Commercial Mobile Services, Thirteenth Report, WT Docket No. 08-27 at 4 (rel. Jan. 16, 2009).

⁵ GCI has been certificated to provide local service in the vast majority of Alaska, with the requirement that they provide service not just in the regional centers, but also in all villages within a given ILEC study area.

⁶ GCI will also offer wireline local service, via resale, for rural customers that request such service. GCI cannot, however, provide advanced broadband capability or the benefits of a diverse facilities-based network via resale.

neighboring communities. Communities will leapfrog from 1970s-level telecommunications to twenty-first century telecommunications through deployment of rural voice networks and, when available, broadband. Plus, rural voice and broadband over wireless networks are more sustainable for areas that attract seasonal employment or seasonal migration, which have vastly different communications needs depending on the time of year.

One potential solution to the middle-mile backhaul problem is to employ broadband microwave wireless technology. GCI's affiliate, Unicom Inc., operates DeltaNet, a long-haul broadband microwave network ringing the Yukon-Kuskokwim Delta, a region of approximately 30,000 square miles in western Alaska. DeltaNet was initially financed by a loan from the RUS Distance Learning and Telemedicine Program. By this summer, DeltaNet, which has already commenced operations where completed, will link more than 40 villages to Bethel, the region's hub. With this technology employed here and in other regions over time, the reliance on satellite for backhaul will be reduced, providing a regional broadband service and a critical piece of the middle-mile solution. GCI envisions expansion of this technology throughout rural Alaska, but will need support to undertake such an aggressive project quickly. The economic and technical viability of such a large-scale project is somewhat speculative – total costs and potential returns are unknown, and new technological innovation may be required. Such a project will require the continuation of certain existing support mechanisms in rural Alaska, as well as the creation of new sources of support to provide remote communities with all the benefits that rural broadband can offer.

II. A Rural Broadband Strategy Should Facilitate – Rather Than Impede – the Most Cost-Effective Means of Providing Rural Broadband Service

A. Universal Service Funding Must Not Discriminate Against Rural Wireless Service in Unserved and Underserved Areas

As mentioned above, the same last-mile wireless platform that GCI is deploying in rural Alaska not only provides voice service, but can be easily upgraded to provide advanced broadband services once the middle mile has sufficient capacity to make the added data speeds usable. Therefore, in directly supporting this network for the provision of voice services, the universal service fund (“USF”) also is of critical importance to GCI’s deployment of broadband services, given the dual use of the last-mile platform for broadband delivery. Indeed, the Commission recognized the important role that universal service plays in bridging the last mile in unserved and underserved areas by exempting some of the nation’s most remote areas (Alaska Native regions and tribal lands) from the recent interim cap placed on CETCs.⁷ The Commission must continue to recognize the importance of rural wireless networks in delivering advanced broadband services to rural America. Accordingly, any comprehensive rural broadband strategy must not favor wired last-mile connections over wireless local platforms technology, especially in light Congress’s direction to distribute Recovery Act funds on a technologically neutral basis.⁸

⁷ See *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service*, Order, WC Docket No. 05-337 and CC Docket No. 96-45, 23 FCC Rcd 8834, 8848-49 ¶¶ 32-33 (2008).

⁸ See The Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-246, § 6110, 122 Stat. 1651, 1962-63 (2008) (“For purposes of determining whether to make a loan or loan guarantee for a project under this section, the Secretary shall use criteria that are technologically neutral.”). See also American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(e)(1)(C), 123 Stat. 115 (2009) (stating that

B. The Commission Must Preserve Existing Access to Unused Rural Cellular Spectrum

As discussed in response to the recent CTIA petition to convert the nation’s site-based cellular license system into a geographic market-area system,⁹ GCI relies heavily on unserved area-licenses to deploy facilities in rural Alaska.¹⁰ These licenses are central to GCI’s ability to roll out new service in the future. CTIA’s petition would eliminate unserved-area licenses, removing an important tool for bringing new wireless service to rural America. The unserved-area license allows non-incumbent carriers to deliver wireless services to communities left completely unserved by incumbents using frequencies that have propagation and power consumption characteristics that are far better suited to rural application than alternative frequencies. GCI serves more than 30 communities today through unserved-area licenses. And over the next three years the company plans to serve more than 70 currently unserved communities using the unserved-area application mechanism. An effective rural broadband strategy cannot proscribe the use of current regulatory programs, like unserved-area licenses, on which carriers already rely in deploying rural broadband services.

C. The Commission Must Take Care to Implement General Regulatory Requirements, Including E911, in a Manner That Does Not Preclude Rural Wireless Networks

E911 is important, but the Commission should not impose E911 or other regulatory obligations at the expense of deploying rural wireless networks.

“the Assistant Secretary shall to the extent practicable promote the purposes of this section in a technologically neutral manner”).

⁹ Petition for Rulemaking of CTIA – The Wireless Association at 2-4, RM Docket No. 11510 (filed Oct. 8, 2008).

¹⁰ Comments of GCI at 2, RM Docket No. 11510 (filed Feb. 23, 2009).

Unfortunately, the E911 accuracy proposal that the Commission is considering for GSM networks¹¹ would be technically infeasible for rural areas such as the Alaska Bush (where there are generally no PSAPs). Most of these tiny villages are served by only one or at most two cell sites. Terrestrial triangulation is thus impossible in these environments, and GPS-based handsets are not yet available for small GSM carriers.

Nonetheless, GCI's rural wireless program shows that there is a tremendous public safety benefit just from launching modern regional wireless voice in these areas, such that the public safety officer in a regional center can travel to outlying villages and have a working mobile phone. Indeed, residents can, for the first time, summon help when they need it, even if they are away from home. This is very significant in areas with severe winters, shifting ice, and other extreme conditions. Imposing E911 regulations that would threaten the ability to offer wireless service in the first place would be a significant step backwards for public safety, as users would lose this new emergency service capability that they just received. Moreover, this same infrastructure provides the platform necessary to bring mobile broadband to these communities. Foreclosing this wireless and broadband network because of the inability to meet a technically impossible and operationally impractical regulatory obligation would be contrary to the public interest of those living in remote Alaska.

¹¹ Letter from Brian Fontes, Chief Executive Officer, National Emergency Number Association, Robert M. Gurss, Director, Legal & Government Affairs, The Association of Public-Safety Communications Officials, and Robert W. Quinn, Jr., Senior Vice President, Federal Regulatory, AT&T, to Kevin Martin, Chairman, Federal Communications Commission, PS Docket 07-114 (filed Aug. 25, 2008).

