

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matters of	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
International Comparison and Consumer	)	
Survey Requirements in the Broadband	)	GN Docket No. 09-47
Data Improvement Act	)	
	)	
Inquiry Concerning the Deployment of	)	
Advanced Telecommunications Capability	)	
to All Americans in a Reasonable and	)	
Timely Fashion, and Possible Steps to	)	GN Docket No. 09-137
Accelerate Such Deployment Pursuant to	)	
Section 706 of the Telecommunications Act	)	
of 1996, as Amended by the Broadband	)	
Data Improvement Act	)	

**REPLY COMMENTS OF GENERAL COMMUNICATION, INC.**

General Communication, Inc. (“GCI”) supports comments submitted pursuant to the Commission’s recent Public Notice in the above-referenced dockets<sup>1</sup> that urge the Commission to adopt a flexible broadband definition that recognizes the particular challenges of providing advanced services to extremely remote communities.<sup>2</sup> Some of

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<sup>1</sup> *A National Broadband Plan for Our Future; International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act; 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*, Public Notice, GN Docket Nos. 09-51, 09-47, and 09-137 (rel. Aug. 20, 2009).

<sup>2</sup> *See, e.g.*, Comments of AT&T Inc. at 4, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (arguing that “setting an excessively high throughput requirement would make deployment of broadband extremely expensive and render it impossible for providers to roll out broadband services in high-cost areas”);

the comments submitted in this proceeding call for rigid minimum throughput thresholds that are simply not feasible in some of the nation's most isolated areas.<sup>3</sup> Thus, while ubiquitous high-throughput service should be the ultimate goal, strict minimum thresholds should not foreclose benefits to extremely remote communities that cannot meet the thresholds because they are served via a satellite middle mile and/or a wireless last mile. Such a definition would harm the nation's most rural and most broadband-deprived populations.

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Comments of the MSS ATC Coalition at 5, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (arguing for a flexible definition as “[s]atellite is the most cost-effective technology for providing service to remote areas, while speed is not as valuable as other factors in these areas because it is cost prohibitive”); Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies at 19, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (stating that “exceptional instances where providing extremely isolated customers with robust fixed broadband services will simply not be practical. In these extreme cases, an alternate technology, such as satellite, may be the only viable service option”).

<sup>3</sup> See, e.g., Comments of the Covad Communications Company at 6, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (stating that the Commission “must define ‘broadband’ in a manner that results in support for service speeds . . . that are an order of magnitude higher than those currently available to most Americans”); Comments of Internet2 at 7, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (arguing that the definition “should reflect a bandwidth that can, for five years or more, (i) support all applications, including all video application, currently being used by significant numbers of users; (ii) enable multiple users at the same time; and (iii) provide enough uncongested ‘headroom’ to enable both growth and new applications/users to be accommodated”); Comments of the National Association of Telecommunications Officers and Advisors at 4, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (stating that the “threshold for a service to be classified as broadband should be set at a minimum of 10 mbps, symmetric, for residential and small business users, and at 1Gbps for enterprise uses”) (“NATOA Comments”); Comments of the Utopian Wireless Corporation at 4, GN Docket Nos. 09-51, 09-47, and 09-137 (filed Aug. 31, 2009) (recommending the Commission to define broadband at “a minimum actual download speed of 1.54 Mbps and a minimum upload speed of 256 kbps, where end users do not experience greater than 200 ms of latency”).

**I. The Commission Should Adopt a Flexible Definition of “Broadband” that Recognizes the Challenges Inherent in Serving Remote Communities.**

A rigid, unrealistic throughput minimum cannot be used to exclude the nation’s most remote communities from the National Broadband Plan. Alaska, GCI’s home State, is a case in point. Alaska’s vast distances, widely dispersed population, and difficult terrain make broadband communications a lifeline for families, students, health care professionals, first responders, and employers. These same elements also make it cost-prohibitive to provide high-throughput services in certain – especially interior – areas. For this reason, many parts of rural Alaska currently rely on satellite middle-mile transport and wireless last-mile connections, which, using current technology, cannot provide consistent mass market residential service at anything close to the symmetrical 10 mpbs threshold suggested by some comments.<sup>4</sup>

The Commission should not adopt a strict threshold throughput requirement that penalizes the most challenging environments to the extent that they cannot be feasibly served by terrestrial means. A community that must reach the national backbone by satellite link or that relies on a wireless last-mile network will have lower throughput and higher latency than one that relies on terrestrial technology. If the national broadband plan sets a throughput threshold that excludes participation by those satellite-fed and wireless-reliant remote communities, then it would deny these consumers participation in important programs designed to reach exactly these rural Americans.

GCI recognizes that satellite service is costly, has limited throughput capacity, and simply cannot keep up with bandwidth demands at an affordable price point.

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<sup>4</sup> See NATOA Comments at 4.

Moreover, even if affordable satellite middle-mile capacity emerged, many applications (e.g, video teleconference) are latency sensitive, and the only way to eliminate inherent satellite latency is to switch to terrestrial middle-mile service.<sup>5</sup> Where terrestrial options are not immediately technically or economically feasible, however, communities must continue to rely on satellite and, thus, will not be able to meet throughput thresholds that require full motion video, for instance, to all residential customers in such remote areas.

Similarly, wireless last-mile technologies will, at least initially, power broadband delivery in much of remote America. The Commission must not, therefore, discriminate against wireless technologies by adopting a strict throughput threshold broadband definition that would exclude the use of such technologies in developing broadband service to remote populations. A number of GCI's customers live in remote villages with extremely challenging terrain, many of which are not served by roads. Stringing wireline last-mile facilities is often impractical and uneconomic. Although wireless technologies have made great advances and can now deliver broadband services to even the most isolated Alaskan villages, these technologies have not reached the level where they can provide consistent symmetrical 10 mbps service to all residences.

GCI envisions continuing expansion of terrestrial microwave and fiber middle-mile networks, as well as faster last-mile networks, throughout rural Alaska over time, under a deployment schedule that is paced with what technology can deliver, business can sustain, and financial markets can support. Government commitments will be required to speed the pace and, in some cases, ensure that the middle-mile facilities

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<sup>5</sup> These challenges are unique to the delivery of broadband services. Satellite continues to be an effective transport medium for voice services.

needed to bring broadband to rural Alaska can be put in place. But until that time, any definition of broadband that forecloses government support to remote communities, will only undermine the ultimate goal of providing all Americans with the benefits of broadband, however defined.

## **II. The Commission Should Define Broadband According to Product Market and Service Goals.**

Should the Commission determine that threshold transmission throughput requirements are necessary, it should identify customized requirements for each product market. GCI again disagrees with those comments that urge the Commission to adopt a one-size-fits-all minimum threshold. The Commission should focus on the service goals and customer demand for different services, rather than defining broadband in a way that treats throughput as an end in itself.

Strategic community institutions such as hospitals, schools, and governments may require very high throughput levels. If so, they will need enterprise-level capability delivered to a very limited number of locations, making dedicated transmission facilities economically feasible. Alternatively, consumers of fixed mass market broadband service may require lower bandwidth than these enterprise services. But serving these consumers means delivering this capability to millions of homes across the nation, making dedicated facilities economically infeasible. Mobile broadband service presents a different case. Current mobile consumers do not require as much bandwidth as fixed enterprise customers, and mobility creates unique technical challenges. A single definition of broadband with a single mbps-based threshold that applies to enterprise, mass market fixed, and mobile customers would be a mistake.

