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

In the Matters of	)	
	)	
International Comparison 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

COMMENTS OF ALASKA COMMUNICATIONS SYSTEMS

Alaska Communications Systems Holdings, Inc. ("ACS")[1] submits these comments in response to the NBP (National Broadband Plan) Public Notice # 11 issued by the Federal Communications Commission ("FCC") in the above referenced proceeding on October 8, 2009 (Public Notice No. 11).[2]

I. INTRODUCTION AND SUMMARY

In its comments, ACS will respond to several questions posed by the Commission in its recent Public Notice. In addition to its specific responses, ACS takes this opportunity to point out that inquiries structured around a nationwide scope do not always fit the unique geographic,

[1] Alaska Communications Systems Holdings, Inc. is a holding company for a number of wholly owned operating unit subsidiaries. Together, these operating companies provide wireline, wireless and other telecommunications and network services to consumer, business and enterprise customers in the State of Alaska and beyond using its statewide and interstate telecommunications network.

[2] Public Notice, GN Docket Nos. 09-47, 09-51, 09-137, Comment Sought on Impact of Middle and Second Mile Access on Broadband Availability and Deployment, DA 09-2186 (Oct. 8, 2009).

demographic and operating characteristics of service provisioning in Alaska. For example, many middle and 2nd mile services typically offered by incumbent local exchange companies ("ILECs") in other parts of the country are almost exclusively offered by interexchange carriers ("IXCs") or satellite service providers in Alaska. Other relevant distinctions will be pointed out in the comments which follow.

For purposes of this discussion, Alaska can be categorized into three distinct operating divisions: urban, rural and bush. Urban locations are few in number, but include a substantial concentration of population. The four largest areas in Alaska, Anchorage, Fairbanks, Juneau and the rapidly expanding Matanuska Valley, encompass approximately 72% of Alaska's population.[3] Next are the mid-sized locations. These places are clearly rural under any definition, but tend to be "on the road system" or are regional "hub" locations. Typically, population in these locations range from 1,000 to approximately 10,000 people. Finally, there are the bush locations. Bush locations are extremely rural to remote in characteristic. They are generally "off the road system" and often can only be reached by boat (at certain times of the year) and by airplane. Bush location population will range from less than 100 to approximately 1,000 people. While population concentration is small, the number of bush locations is large. It is estimated that there are about 200 bush locations in Alaska. Perhaps the major distinguishing characteristic of service provisioning in Alaska, including broadband services, is that many rural locations and nearly all bush locations rely to some degree on satellite connectivity. It is this fact that forms the basis for many of the comments which follow.

//

//

[3] Alaska's statewide population is now approximately 685,000 based on the U.S. Census Bureau's 2008 estimates.

II. COMMENTS

To the extent possible, ACS will attempt to follow the inquiry outline included in the Public Notice. ACS will offer responses to many, but not all questions included in the outline.

1. Network Components of Broadband Connectivity

   a. ACS will combine its responses to middle mile and 2nd mile inquiries both here and throughout these comments. The term "2nd mile" is one that is not typically encountered in Alaska network designs. Generally, all connectivity between the end user and the first point of switching (wireline) and the base station (wireless) is considered "last mile". All connectivity between those two points and the Internet gateway is considered to be middle mile. Middle mile connections to many rural and virtually all bush locations are provided by IXCs or satellite capacity providers. Higher density rural and most urban connections are either provided by LECs (ILECs and CLECs) via interstate special access tariffs or are self-provided. Attachment I to these comments shows an illustrative matrix used to determine rural and bush backhaul capacity requirements. Included in this matrix are assumptions regarding simultaneous usage and "oversubscription" factors. Attachment I also includes website references to locations served by the two facilities-based IXCs from which ACS purchases the preponderance of its backhaul. Attachment II is an ACS service area map which indicates those locations for which ACS self provides its backhaul. It should be noted that once Internet-bound traffic is aggregated in Alaska, it must then be transported

to an Internet peering location. This is generally a point of interconnection in Seattle, WA. Transport between Anchorage and Seattle is accomplished via undersea fiber optic facilities.

b. See (a), above. In the generic "middle mile" context, the exceptionally high cost of satellite backhaul from many rural and most bush locations continues to act as a barrier to entry for any provider that does not enjoy owner economics and the incremental cost profile that comes with self-provision.

c. With one possible exception, transport technology options within Alaska for the next 5 – 10 years are not expected to change appreciably. Currently, those options include satellite, microwave and a small component of fiber optic capacity. To the extent that financial solutions can be found for the further build-out of high-cost fiber optic infrastructure, that option could expand in the future. Given cost estimates provided by applicants for stimulus infrastructure funding, it seems highly speculative that the needed fiber capacity will be forthcoming any time soon.

d. See (c) above.

2. Availability and pricing of middle and 2nd mile connectivity – rural, unserved, underserved.

a. Given small markets and the high cost of finite transponder capacity, transport arrangements in Alaska typically consist of DS1 or fractional DS1 elements. Except between the larger mid-sized and urban locations,

it is almost unheard of for backhaul capacity within Alaska to be leased in DS3 increments or greater. Although competition is beginning to have some impact on transport pricing, it is still likely that companies like ACS will pay between $5,000 to $10,000 per month to lease a satellite DS1 between a bush location and Anchorage. Companies smaller than ACS are likely to face higher price points.

b. See (a), above.

c. The Public Notice reference to discounts off tariffed or "price list" rates assumes the non-Alaska structure where most middle and 2nd mile connectivity is provided by ILECs. As noted, in Alaska IXCs and satellite providers typically serve this market. Since these services are considered domestic interstate in jurisdiction, they are not subject to tariffs. Where "rack rates" are not available, individually negotiated agreements are the underlying vehicle for rates, terms and conditions. Term and volume discounts may be available and could range between 10% and 30% depending on the exact conditions of a particular agreement.

d. See (c), above.

e. Broadband ISPs in Alaska typically purchase their backhaul as TDM services.[4] These are generally in the DS1 level of bandwidth or less. As a result, protocol conversions are necessary. These conversions introduce an element of additional cost, but do not appear to seriously degrade service functionality.

[4] Time Division Multiplexing

f. Transport costs for companies like ACS that must purchase backhaul capacity comprise a clear majority of the cost of deploying broadband services. In some circumstances, transport constitutes as much 90% of the incremental cost of broadband service. In the case of a start-up entity, the cost profile will be different. The cost profile is also different for facilities-based IXCs and satellite providers who enjoy owner economics and the ability to spread the backhaul cost over a wider range of services (i.e. CATV, wireless, voice long distance, dedicated data circuits, etc.). Even in the case of owner economics, ACS believes the cost of backhaul remains a significant expense.

3. Pricing and availability of backbone Internet connectivity

a. There are really three cost components incurred to reach the public Internet from Alaska. In addition to in-state backhaul to a point of aggregation and backbone access costs, Alaska networks are further burdened by the need to get from the point of aggregation in Alaska to the Internet peering location. For outbound traffic, this cost is approximately $200 per Mbps to get from Anchorage to Seattle, Washington when purchased in sufficiently large volume. Once backhaul has been obtained to a carrier hotel backbone, Internet connectivity can be obtained for as little as $10 per Mbps when purchased in sufficiently large volume (200+Mbps).

b. Backhaul costs can vary widely from urban to rural to bush. In an urban setting, a sufficiently large (30+Mbps) dedicated internet connection

might cost only $200 per Mbps per month. The cost of moving similar capacity via satellite from the bush to an urban gateway will be several thousands of dollars per month per Mbps.

c. See Attachment I for illustrative oversubscription ratios.

d. Backbone connectivity constitutes less than 10% of the incremental cost of broadband Internet access in rural areas of Alaska.

4. Economics of deployment

- In various instances, provision of middle mile transport is a natural monopoly. In Alaska, there remain many bush locations that have only one IXC available to provide this service without additional investment. Legal restrictions on build-out have been lifted at both the federal and state level, however, resulting in new competitive deployments over time as multiple service providers become available even in very small locations. Nevertheless, until satellite technology advances further or the financial burdens of fiber deployment have been addressed, it is unlikely that every bush location in Alaska will have competitive backhaul options adequate to support true broadband deployment for the foreseeable future.

a. Unless integrated with IXCs or satellite providers, broadband ISPs continue to rely on leasing arrangements for transport. In a few cases, there is some limited microwave transport in remote regions, but aggregating traffic in hub locations and moving it to an Internet gateway remains a significant challenge.

b. Capital expense categories include satellite, microwave and fiber optic facilities.

c. While there are currently some small pockets of fiber capacity, the only significant links that have been constructed are along Alaska's limited highway and railroad system – connecting Anchorage and Fairbanks, Valdez, Kenai, Homer and Seward -- and connecting Anchorage and Juneau (and a few small Southeast Alaska communities) and Fairbanks to Deadhorse on the North Slope. There are only limited drop/add opportunities along these routes making this capacity relatively unavailable to most of the rural and bush communities.

d. Access to capital may be playing some role in middle mile deployments, but the real issue is lack of adequate revenue to support a sustainable business case. If a viable and sustainable business case can be advanced, it is likely that many providers could access the capital necessary to proceed with such projects. Given Alaska's sparse population and relatively few "anchor tenants" that are typically concentrated in urban places, a viable business case for rural and bush deployments continues to be elusive.

e. The relatively limited number of transport providers do not typically engage directly in consortia or other forms of collaboration. Indirectly, via negotiated arrangements and leases, these providers do cooperate in creating a certain level of end-to-end connectivity.

f. Government grants offer the best solution to support middle and 2nd mile construction in the highly remote and sparsely populated areas of bush Alaska. It must be noted, though, that contributions to capital are not the only issue. Given the lack of critical mass and the very limited number of "anchor tenants", there are insufficient revenue opportunities to support the operating expenses of terrestrial and submarine alternatives to satellite transport. In such cases, other programs such as federal and state universal service funding – expanded to cover broadband services – will be needed to make these services sustainable.

5. Nature of competition and availability of alternatives

a. Alaska is now at the early stages of satellite service competition. As previously noted, limited fiber connectivity is offered by facilities-based IXCs within Alaska primarily connecting urban locations. Microwave radio systems are deployed on some routes (i.e. connecting Yukon-Kuskokwim villages to the Bethel, Alaska hub and connecting many small Southeast Alaska communities). There are now four submarine fiber optic cable systems connecting Alaska with the continental United States (via Portland, Oregon and Seattle, Washington) – with two providers operating two cables each.

b. Although some level of downward price pressure is beginning to be seen, middle mile competition remains limited and satellite services continue to be inherently costly even where competition exists. Availability of new capital may help relieve transport to certain unserved areas where

competitive middle mile services have thus far failed to reach, but the number of such areas that can support the operating expenses for such systems is extremely limited.

c. Little if any product differentiation is found in backhaul services in and out of bush locations where traditional service offerings are limited to TDM services in the 1 mbps range. Some differentiation including IP and other packet-switched services are becoming available from alternative providers, but often require additional capital investment to function.

d. Contractual terms and conditions do not appear to be a limiting factor in expanding competitive transport services in Alaska.

e. Since services such as OCn, Fast Ethernet and GigE are not currently available in bush Alaska, ACS is not able to offer any estimates regarding revenue densities for these services.

f. ACS does not have route-specific information regarding competitive services. AT&T Alaska remains the sole existing backhaul provider to numerous bush Alaska locations, though alternative providers are becoming increasingly available. Many rural communities and all urban places in Alaska are served by at least two facilities-based backhaul providers.

g. See (f), above.

CONCLUSION

ACS appreciates the opportunity to provide comments to the Commission on the very important issue of transport/backhaul services necessary to reach the public Internet. Alaska

faces unique challenges of geography, logistics and costs as it attempts to respond to these challenges. The fact that the majority of places in Alaska still depend on satellite connectivity for backhaul clearly sets it apart from the rest of the country. As such, a more targeted and tailored response to the need for both capital contributions and operational support for these sparsely populated markets will be necessary. ACS looks forward to future phases of this inquiry as the Commission develops its national broadband strategy.

Respectfully submitted on this 4th day of November, 2009.

/s/ *Leonard Steinberg*
Leonard Steinberg
General Counsel and Corporate Secretary
Alaska Communications Systems, Inc.
600 Telephone Avenue MS65
Anchorage, Alaska 99503
Tel: (907) 297-3000
Fax: (907) 297-3153