STATE OF COLORADO

October 14, 2009

Bill Ritter, Jr.
Governor

Mr. Ian Martinez
Senior Advisor and Director of Outreach, BTOP Program
National Telecommunications and Information Administration
Department of Commerce

Dear Mr. Martinez,

Colorado is pleased to provide comments to the NTIA regarding the grant requests that were submitted and affect the Colorado territory. The role of the states is clear in this process and Colorado is appreciative for this opportunity and while we understand these comments are consultative in nature and do not factor into the scoring we feel it is necessary to provide comments on the grant requests so the NTIA understands how certain applications fit into the priorities of Colorado.

Colorado has been focused on increasing broadband deployment, access, and education since the 1990s and it continues to be an important part of the discussion within education, economic development, healthcare, energy conservation and other policies. In July of 2009, the Colorado Governor's Office of Information Technology released a document titled *Colorado's Recovery Act Broadband Framework ("Broadband Framework")* which was designed to set the broadband priorities for Colorado with respect to the Recovery Act and allow applicants to understand what was important to the state and help guide their applications. The priorities established in this document did not supersede the requirements of the Broadband Technology Opportunities Program, but rather served as an augmentation to those requirements. The priorities established in the Broadband Framework are as follows:

Infrastructure:

- Focus on providing broadband services to one or more community anchor institutions currently without access to broadband services and not already covered by a binding, legally-enforceable commitment to provide broadband by the end of 2010.
- Uses infrastructure that currently exists as opposed to overbuilding a community or service area.
- Enhances the speed or other aspects of broadband services performance to areas which currently have no service or only lower-quality service.
- Can show long-term sustainability.

Public Computer Centers:

- Maximizes accessibility through increasing the number of computers available or the number of people who can access the site.
- Uses infrastructure that currently exists as opposed to overbuilding a community or service area.
- Enhances the speed or other aspects of broadband services performance to areas which currently have no service or only lower-quality service.
- Can show long-term sustainability.

Sustainable Broadband Adoption:

- Includes a combination of rural and urban territories.
- Increases the overall penetration rate of new subscribers.
- Contains the lowest cost per new subscriber.

These priorities and the requirements of the program serve as the foundation for the comments Colorado is providing to NTIA.

The state of Colorado conducted a review of all Colorado applications with the help of three Executive Directors. The Executive Directors represented the Department of Agriculture, Department of Local Affairs and the Office of Information Technology. The Executive Directors reviewed a list of applications that were found to fit within Colorado's Broadband Priorities. After reviewing those applications and commenting on the applications that fit within the State's plan, they forwarded on their comments to Governor Ritter, who then made his final comments to NTIA.

With over 80 applications from both in state and out of state corporations affecting the Colorado territory the task of reviewing them all was both time consuming and arduous, but also worthwhile and important. Given the resource constraints—of time, staff, and funding—it was necessary for Colorado to build a process where all applications, with readily available information, were reviewed for alignment with our priorities and comments are being made for those that best fit those priorities and the overall requirements of the available funds.

The following comments are in no particular order and therefore the order does not assume a ranking or prioritization of one over another. Further, there are applications that Colorado has chosen not to comment on for various reasons, but by no means should a lack of comment indicate a lack of support for the project. We are pleased with all the applications submitted on Colorado's behalf and feel there are numerous projects with merit and we look forward to learning more about all the projects over time.

Sincerely,

Bill Ritter, Jr.
Governor

Infrastructure Applications:

Applicant: Centennial Board of Cooperative Educational Services

Project Title: Colorado Community Anchors Broadband Consortium (CCABC) – Connecting Colorado's Middle Mile

Background Information:

The CCABC Project is a public-private collaboration that seeks to provide ubiquitous high-speed broadband access to 178 School Districts, 26 Public Libraries, and 12 Board of Cooperative Education Services (BOCES) facilities. CCABC has requested grant funding for the establishment of cost effective hybrid network solution that will utilize existing core fiber-optic infrastructure, new fiber-optic construction, and carrier grade IP based Ethernet compatible licensed microwave services. This is the only grant request that has statewide infrastructure implications and could potentially redefine how broadband is provided within Colorado's borders. The CCABC Project will offer sites bandwidth starting at a minimum of 20 Mbps with the option of growing to 1 GBPS and higher.

Fit with Colorado Priorities:

With its primary focus on statewide community anchor institutions, the CCBAC grant request fits within all of the priorities set by Colorado for infrastructure projects. The initial deployment is targeted at 178 school districts, 26 public libraries and 12 Board of Cooperative Educational Services facilities. However, CCBAC intends to grow its capabilities to serve healthcare, higher-education, and public safety as well as provide middle mile support for last mile providers who seek to serve homes and businesses. The provisioning of middle mile is a differentiating factor for this grant application and fits nicely with the overall BTOP program goals as it would create an open network that will available to anchor institutions and last mile providers alike.

By modeling its project plan after other successful statewide non-profit consortiums like the Utah Education Network, NebraskaNet, and the Missouri Research and Education Network this project has a proven model for sustainability and success. The CCBAC project estimates that it would be fully sustainable by the end of year three, having connected 216 Community Anchor Institutions. Additionally, the CCBAC project is estimated to save or create up to 800 jobs per year spread across all 64 Colorado Counties.

By utilizing current public and private infrastructure such as the Colorado Multi-use Network, existing local government networks, and a technology-diverse array of private infrastructure providers, this application meets the priority of using existing infrastructure rather than overbuilding. This is a critical priority and will help ensure that Colorado is leveraging its grant dollars to the fullest extent. By employing this type of strategy, the project would not only bring more bandwidth and service to its target areas, but also would lift the broadband capabilities of the entire State of Colorado by connecting all of the networks mentioned above. This in turn should lead to more innovation and data sharing, both of which will be vital as governments and other organizations look for new ways to provide information and services.

The CCBAC project would also increase bandwidth to underserved populations throughout most of the state. The average internet bandwidth per student in Colorado is 3.57 kbps and is only 55% of the national average of 6.48 kbps as reported in America's Digital Schools 2008 Internet Bandwidth Report. At the same time, the cost to provide the service is 10 times that of the costs of states to the east and west. The project aims to increase the bandwidth to these anchor institutions with offering a minimum 20 Mbps backbone with the option to grow to 1 Gbps.

This project is important to Colorado as it would have an impact not only on our community anchor institutions, but on the entire broadband infrastructure of Colorado. By making broadband service more readily available throughout the state this project would lower the costs for everyone and should spur competition, innovation, and economic opportunity. We believe that this project is the very essence of the BTOP and meets a majority if not all of the requirements of the program. In addition to creating broadband availability and increased capacity, this project will create hundreds of jobs in Colorado's rural areas, greatly benefitting Colorado's local economies.

Applicant: Brainstorm Internet, Inc.

Project Title: Southwest Colorado Community Connection

Background Information:

This application requests funding to extend 1.5-10 MBPS of last mile broadband service to over 100 community organizations, anchor institutions and public safety entities, 2 Native American Indian Organizations. This project would also extend coverage to 26,000 households and 9,500 businesses throughout rural La Plata and Montezuma counties. The Southwest Colorado Community Connect project represents a network expansion that would provide broadband service through a wireless telecommunication network on 12 leased towers with 300 Mbps licensed microwave backhaul radios terminating to redundant existing fiber.

Fit with Colorado Priorities:

The Brainstorm Internet grant request fits within all of the priorities set by Colorado for infrastructure projects. The applicant has a history of providing broadband to community anchor institutions within its current coverage area and intends to continue those relationships as it expands its service area. The application would bring service to a portion of the state that is currently unserved thereby meeting the priority of enhancing speeds to areas with no or low quality service. Further, this project is utilizing an existing fiber connection for backhaul which allows for these limited program dollars to extend further into other projects. By leveraging this grant opportunity, Brainstorm Internet would be able to sustain their current business model while expanding their service to new, underserved areas of the state.

Demographics of area served:

Both of the counties served by this grant application are expected to grow over the next twenty years by approximately 1.5 to 2 percent. This application would also complement our economic development efforts by allowing residents and businesses in these counties to acquire the services they need to live and thrive in this part of the state.

Applicant: NE Colorado Cellular, Inc. (d.b.a. Viaero)

Project Title: Wireless Broadband Overlay and Expansion Throughout Rural Colorado and Nebraska

Background Information:

Viaero's proposed project would deploy mobile wireless broadband with initial download speeds of 21 Mbps to 545 communities in rural eastern Colorado, south central Colorado, and rural Nebraska. This territory covers 9,365 community anchor institutions, public safety entities and community organizations. The project would "overlay" its existing GSM infrastructure to offer a mobile wireless broadband product using High Speed Packet Access (HSPA) technology. Additionally, Viaero expects to provide dedicated middle mile microwave paths for school systems, public safety, and hospitals requiring high bandwidth.

Fit with Colorado Priorities:

Viaero's grant application fits within all of the priorities set by Colorado for Infrastructure. By using the company's existing GSM infrastructure, Viero would leverage its assets to expand broadband service within its existing territory and create a long-terms model for sustainability. As described above, the coverage area of this project includes 9,365 community anchor institutions that would benefit from a mobile broadband solution. Further, the project plans to deploy technology that has download speeds of 21 Mbps which meets the framework's priority on enhancing the speed or other aspects of broadband services.

Demographics of area served:

This project will deploy mobile broadband service to 24 Colorado counties, 16 of which have a population of less than 10,000 according to the most recent information available. Two of the counties have a population over 200,000, but this is driven by three large communities: Fort Collins (pop. 134,000), Loveland (pop. 64,000) and Greeley (pop. 92,000). This shows that the project focuses on the more rural parts of Colorado where mobile service is not readily available or highly reliable.

This grant request requires land plots for infrastructure placement. However, it is clear from the application that Viero already owns or plans to acquire all of the land necessary for the implementation of this project. This displays the commitment being made by this corporation and their understanding that a long-term service delivery model requires a different type of

business model. By purchasing the land plots this corporation pays taxes to Colorado, has a vested long-term stake in the success of the project, and is a business member within all of the communities it intends to serve. These factors are among several that sets this company apart from other applications across the nation.

Public Computer Center Applications:

Applicant: High Plains Library District:

Project Title: Connecting Weld to the World

Background Information:

This application requests funding for 7 public computer centers within Weld County, Colorado. These public computer centers will not only offer access to hardware for those individuals that cannot or choose not to purchase the necessary equipment, but they will also create Wi-Fi hot spots for these communities. By increasing the access to broadband services in this county, this application would fulfill two important aspects of the BTOP program: improving access and creating demand, which can in turn lead to potential adoption.

Fit with Colorado Priorities:

The High Plains Library District grant application fits within all of the priorities set by Colorado for Public Computer Centers and is based on a proven model already being utilized in other areas of this county. By utilizing existing infrastructure, space and staff resources, this project would improve access and opportunity for many vulnerable populations in Weld County, including seniors, non-English speakers, and rural families.

Demographics of area served:

The unemployment rate for Colorado is 7.3 percent as of August 2009. In Weld County, Colorado the unemployment rate is 8.6 percent and recent job growth is negative for the county. As the unemployment rate continues to rise in the short term, families will continue to cut back on their discretionary income, discontinuing a variety of services, including broadband. If funded, this grant would allow those households that are discontinuing or otherwise unable to afford service to have convenient access to broadband services at a time when it is needed most.

Recent population forecasts predict that Weld County will grow approximately 3 percent for the foreseeable future. As the population continues to grow, more people will continue to need broadband to access services, including education, healthcare, and other types of service that are vital for the average citizen. The High Plains grant request seeks to make the necessary investments now to establish a network of public computer centers that are available many years to come.

Applicant: Internet Colorado

Project Title: Public Computing Initiative for Gunnison Colorado

Background Information:

This project would provide education and end user training for individuals that utilize the Gunnison community center. The center's wireless network is in place, but the City of Gunnison lacks the necessary funds to outfit the center with the necessary computer equipment.

Fit with Colorado Priorities:

The Internet Colorado grant application fits within all of the priorities set by Colorado for Public Computer Centers. By utilizing the existing community center infrastructure, the new hardware purchased through this grant would allow this community center not only to properly facilitate its services to existing customers, but also attract new users. By partnering with the community center the project would also prove to be sustainable as the costs will be kept to a minimum. This project maximizes the accessibility of the computer center and improves upon the broadband service available through acquiring the necessary hardware to make the computer lab within the community center fully functional.

Demographics of area served:

Gunnison County has approximately 15,000 inhabitants and the City of Gunnison has 36 percent of the population with its 5,400 inhabitants. The City of Gunnison is the urban area for this region and having a computer center that provides training and access would have a high impact throughout the county. The City of Gunnison is also home to over 15 federal and state agencies which could benefit from having both the computer center operational and training available on the benefits of broadband.

Applicant: Denver Public Library

Project Title: Technology Empowerment

Background Information:

The Denver Public Library application requests BTOP funding to provide increased broadband access and education to Denver area residents. The Library will provide free computer usage and a range of classes on use of the internet and basic Microsoft Office applications.

Fit with Colorado Priorities:

The Denver Public Library application would utilize an entire floor of the existing Library and increase to 150 public access computers. The proposed education and equipment upgrade would

work in conjunction with the existing facilities at the Library and provide education and access to more users without incurring additional costs associated with construction. The demand for broadband and education associated with this technology is in high demand and the Denver Public Library would benefit by upgrading and expanding the services they currently offer and to grow to provide new training programs and opportunities to users. While we highly recommend the many of the rural applications, the Denver Public Library provides an opportunity to serve a large population in the Denver metro area during this economic downturn.

Demographics of area served:

Denver County has approximately 598,707 inhabitants and the Denver-Aurora metro area has an estimated 2,506,626 inhabitants. Denver is the federal and state hub for Colorado and much of the western United States. The Denver Public Library reported that between January and June of 2009, the number of reported computer uses was 173,900 users, totaling more than 102,000 hours of use. The Library also reports that demand will pass 350,000 uses by the end of 2009. Denver's unemployment rate is 8% as of August 2009.

Sustainable Broadband Adoption Applications:

Applicant: Governor's Office of Information Technology

Project Title: Colorado Broadband Promises

Background Information:

The Colorado Broadband Promises project would deploy a mobile vehicle that has the ability of demonstrating the capability of broadband through any technology type (fiber, satellite, and wireless). The mobile vehicle is designed to go to both urban and rural areas in order to convey the available applications of various broadband services in these areas. This would increase adoption by allowing those testing the capabilities to sign up for service immediately. The project will also design self-taught curriculum to showcase the merits of broadband to healthcare providers, local businesses, educational institutions, and other entities. By creating demand and educating the end users across the state this program will increase broadband adoption/penetration among new users.

Fit with Colorado Priorities:

The Colorado Broadband Promises project fits within all of the priorities set by Colorado for the Sustainable Broadband Adoption Category. By proposing a mobile vehicle and creating a self-taught curriculum that would be publically available this project has a statewide reach that includes remote, rural, and urban territories. This project should also increase the overall penetration rate of new subscribers by showcasing applications that are available via current broadband technologies. The project estimates that it will have a cost of approximately $83.00 per new subscriber.

Demographics of area served:

The Colorado Broadband Promises project has statewide reach and therefore the demographics of Colorado carry over to this application. However, it is important to note that this project does not place any barriers on the people it will serve. This program would be available to all ages, education levels, ethnicities, and income levels. Broadband is useful and beneficial to all segments of society and therefore this project is designed to increase the use of broadband throughout the entire population.

Applicant: National Stroke Association

Project Title: National Stroke Association Broadband-Based Telestroke Pilot Project

Background Information:

The National Stroke Association Broadband-Based Telestroke Pilot project intends to place two-way real time video and audio equipment in both stroke and non-stroke facilities to increase the available of training stroke physicians throughout Colorado, Arizona, California, and Nevada. This type of infrastructure would give patients who arrive at non-stroke facilities access to physicians who have the appropriate training and certifications to administer medications that can have profound effects on the recovery for the stroke patient.

Fit with Colorado Priorities:

The National Stroke Association Broadband-Based Telestroke Pilot Project fits within all of the priorities set by Colorado for the Sustainable Broadband Adoption category. By connecting urban physicians with rural physicians, this project would increase the overall penetration rate of these community anchor institutions and potentially increase demand and penetration rates throughout the communities where these institutions exist. It is hard to determine if this project provides for the lowest cost per new subscriber, but by acquiring the most costly part of the application—the equipment—it would appear that the intent is to keep costs to a minimum. Assuming that the costs can be kept low, this project should create a demand for this application and increase the likelihood of sustainable adoption throughout these pilot institutions.

Demographics of area served:

This project encompasses four states that all have rural areas and by applying broadband through this technology it could have tremendous affects on stroke patients that must receive care in non-urban centers within minutes of having a stroke. The pilot areas could not be identified through the executive summary and no further review of the entire application was possible given the circumstance of time. This is a project that applies existing proven technology in a different way or a market other than its current form and that is one of the most successful ways to create sustainable broadband adoption.

Applicant: Colorado Center for the Advancement of Patient Safety

Project Title: Colorado Telehealth Network

Background Information:

The Colorado Telehealth Network project would improve the quality of health care by overcoming the fragmented geography and sparse demographics of Colorado with broadband technology. Backed with support for cultural change in health care delivery, broadband adoption will result in a patient-centered, physician-supportive, and outcomes-driven health care system.

Fit with Colorado Priorities:

The Colorado Telehealth Network project fits within all of the priorities set by Colorado for the Sustainable Broadband Adoption category. This project would affect both urban and rural hospitals of all sizes by creating the ability for each of them to share data in ways that are not currently available. By making healthcare more accessible to both professionals and citizens this project has the potential to positively impact the penetration rates throughout these communities while keeping the cost per user relatively low. Overall, this is a project that Colorado supports and could be a model that will be used in other states.

Demographics of area served:

The Colorado Telehealth Network project has statewide reach and therefore the demographics of Colorado carry over to this application. This project would directly affect a total of 370 sites that include public and non-profit hospitals, clinics, and mental health centers throughout Colorado and could potentially affect 12,505 Colorado physicians. The indirect affect of this project is quite large when one considers the potential for innovation and new industries that could be born once the ability to share information safely and securely is reached.

Other comments:

There are several satellite applications being reviewed by the NTIA and while all are distinct in their request, it is difficult for a state to sort through all the particulars of this technology with only the executive summary to guide them. While efforts could have been made to receive the full application it is generally felt such review takes a certain level of expertise that is not readily available to the State. As such, we urge the NTIA to look closely at all satellite applications and make a determination of which ones are best suited given the needs of the country.

Satellite is a very useful technology and with the bandwidth projections being touted must be considered a viable pathway to broadband service in states such as those located in the Rocky Mountain West and other regions. Only through upgrading and enhancing the capabilities of satellite service will the country receive all the benefits of broadband because when considering

cost, access, and adoption it is not a one size fits all approach, but rather a variety of offerings is needed to bring broadband to locations it is currently unavailable.

Again, thank you for the opportunity to comment on BTOP applications. While the above applications are only a select representation of those submitted on behalf of Colorado, we felt that these applications best meet the needs and priorities of the state. Many of the other applications would also benefit Colorado and the lack of comments surrounding those applications should not insinuate otherwise.