## Education Recommendations

Alaska should:

1. Establish and fund the Alaska Center for e-learning and e-commerce (AkCee) under the Alaska Distance Education Consortium to stimulate demand for broadband through increased e-learning, e-health, e-government, and digital literacy programs:
    - Coordinate the needs for e-learning/digital learning (at all levels) and e-commerce, e-government, and e-health services with their respective stakeholders across the state to ensure alignment with the broadband Task Force goals;
    - Encourage the design, development, and promotion of web-based platforms for distance education;
    - Establish a shared communications network to give post-secondary institutions, researchers, and university innovators access to grid computing, cloud-based applications, tele-presence networks, and connections to academic research networks; and,
    - Incent Internet technology innovators to patent their innovations for funding purposes.
2. Create an incentive for organizations to provide digital literacy programs that facilitate broadband adoption.
3. Establish funding to help anchor institutions such as schools and libraries acquire the service goal for connectivity (100 Mbps) when it is available in their communities.
4. Establish priority funding for all universities in Alaska not connected to an academic network with the service goal (100 Mbps) to expand their connectivity infrastructure.

## Questions to Consider:

What recommendations do you agree with?

What changes would you make?

What recommendations did the task force miss?

# What Will It Cost?

***Grant Programs:***

- Beginning in FY 2015, include in its annual budget a matching grant program for proposed broadband infrastructure projects. These projects must:
  - ◊ Have at least a 50 percent match from other sources of funding;
  - ◊ Meet the Task Force goal of 100 Mbps (up and down) for broadband service; and,
  - ◊ Not duplicate existing broadband infrastructure.
- Explore the creation of a state broadband equalization subsidy between urban and rural rates so that both are comparable in price and service level. Rural areas with broadband service comparable to that of urban areas (price and service) would not be eligible. This program could be patterned after the Power Cost Equalization (PCE) program, which is a state-funded program.[58]
- Consider creating a competitive state grant for organizations that provide training for digital literacy, workforce development, and broadband adoption.
- Create a state grant to reduce the local contribution required from eligible schools and libraries participating in the E-Rate program.[59]
  - ◊ The grant could match the community e-Rate contribution, and/or create a state-based program to provide funding for universities and tribally-owned colleges.

***Loan Programs:***

- The State could consider ways to promote further deployment of broadly delivered broadband infrastructure:
  - ◊ Establish a broadband financing program within AIDEA to be capitalized with a one-time $250 million legislative appropriation and administered consistent with Task Force principles. This might require amending the definitional section of the agency's statutes to add the term "broadband infrastructure project." As such, the fund would be separate from AIDEA's existing revolving fund and would establish a new loan program through which AIDEA could make loans, offer loan guarantees for broadband-related middle and last-mile needs, or take an ownership position in broadband infrastructure.
    - » For example, through AIDEA, the state could consider anchor tenancy, and/or investment in a next generation satellite that could provide interim speeds of at least 100 Mbps to all regions of Alaska. If a state-supported investment was made in a satellite, management of the satellite capacity and wholesale Internet services to retail broadband providers and anchor institutions would be contracted through a competitive bid process.

***Permitting & Assessments:***

- Require that infrastructure projects such as roads, ports, railroads, pipelines, and mines financed with state appropriations include broadband build out as part of the project budget. This could be via bringing a telecommunications provider into the public-private partnership arrangement, or via a mandatory percentage for development of broadband infrastructure (similar to 1 percent for art requirements) or a budget not based on a percentage, but on actual costs. Reverse auction or otherwise incent the laying of high speed fiber and utilities at the same time these major infrastructure projects are developed.
- Streamline permitting for access across state land and work to coordinate the permitting process across federal and Native-owned land.
- Examine the Alaska Universal Service Fund to determine if revisions to the fund are necessary, including ensuring statutory authority for funding broadband services.

## Public Safety Recommendations

Alaska should:

1. Ensure public safety and emergency services receive the highest priority for state and national emergency communications access to the broadband network including the state's Emergency Operations Center.
2. Future broadband planning should be done in collaboration with FirstNet and the Public Safety Broadband Network as well as with state and local providers to ensure there are efficiencies in planning, build -out, deployment, and adoption.
    - Broadband planning must ensure interoperability, focus on appropriate technologies, and leverage funding streams;
    - System upgrades should be tied to state and regional Emergency Response Coordination Centers (local emergency planning efforts, State Trooper posts, local police departments as first response / incident command centers); and,
    - Redundancy should be established for communities on terrestrial networks via satellite, the configuration of network rings, or other options.

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## Economic & General Recommendations

Economic—Alaska should:

1. Establish policies and procedures that attract and encourage investment in "Big Data" communication industries (such as data centers) in Alaska.
2. Create training programs for knowledge workers, technicians, and web-based industries through the Alaska Department of Labor and Workforce Development that provide hands-on, long-term training to build business-level proficiency in digital media skills.

General—Alaska should:

1. Adopt a minimum service objective of access to broadband service of 100 Mbps (up and down) to households and businesses throughout Alaska by 2020, aligning with the FCC's goal for connectivity as outlined in the National Broadband Plan.[55] This objective should:
   - Recognize that speeds and deployment would be phased in over time; and,
   - Recognize that anchor institutions, (e.g. library, school, hospital, university, public safety, and governments including federal, state, municipal, tribal, and local) should be considered drivers of service to mass market end users and may demand a service objective in excess of 100 Mbps.
2. Establish an Office of Broadband Policy to manage the statewide plan, coordinate future policy, and market the importance of broadband adoption. This office would:
   - Coordinate with other agencies regarding uniform access methods and procedures for broadband infrastructure placement on state lands and facilities;
   - Educate community leaders and key stakeholders about adoption of broadband;
   - Coordinate the development of educational, economic, and health programs adaptable to e-platforms in partnership with providers and other e-organizations;
   - Pursue programs that provide training for digital literacy and broadband adoption; and,
   - Work to ensure the adequate deployment of broadband initiatives in collaboration with stakeholders.
3. Prioritize rapid deployment of broadband access that improves current service levels. This deployment should:
   - Negotiate with national satellite providers to consider deploying high-speed spot beams throughout Alaska on planned or deployed next generation satellites;
   - Reach all locations as quickly as possible using satellite and terrestrial connections to deliver service at 10 Mbps or greater per household or economic unit. Once built, terrestrial connections can be upgraded to deliver the plan's 100 Mbps service at later dates;
   - Implement middle mile connectivity for each community starting with major hub communities based on total demand (number of homes/businesses/anchor institutions), and ensuring that communities can support the speeds offered by any initial middle mile deployment of at least 10 Mbps using all available technologies;
   - Support hub community last-mile implementation through grants and loans where new middle mile access is being deployed, such as high bandwidth fiber;
   - Encourage each community to develop and implement its own last-mile solution, compatible with the Task Force goal of 100 Mbps to every household and business so that a uniform system is developed;
   - Promote/encourage innovations and new wired and wireless technologies in the deployments; and,
   - Explore ways to incent 24-hour Internet access at community centers/meeting places and existing anchor institutions.
4. Establish technical standards to be used for the qualification of proposed construction projects wishing to gain financial support pursuant to the Task Force's recommendations.
5. Establish public-private partnerships with industry innovators and entrepreneurs to rapidly accelerate broadband development and deployment within Alaska.
   - Consider public-private partnership models for technology training, production, and adoption in communities at the margins of technology (i.e., rural, low-income, immigrant, senior populations).

6. Encourage public and private advocacy efforts to maximize federal Universal Service Fund (USF) support for Alaska.
    - Recognize and document the impacts to Alaska of Universal Service Fund reform;
    - Ensure the Alaska Universal Service Fund is targeted to support infrastructure and broadband utilization, furthering all of the Task Force goals; and,
    - Examine the Alaska Universal Service Fund (AUSF) to determine if revisions to the fund are necessary.
7. Ensure network diversity through terrestrial (overland) means on the key Alaskan high density backhaul fiber routes. For example, interconnecting with Canadian Telecom networks at key cross border points could provide fiber-ring architecture between Canada and Southeast Alaska.
8. Streamline current state e-government systems and foster improved user access, ease of use, application development, and deployment through MyAlaska.
9. Streamline the permitting process for broadband deployment projects through the Office of Project Management and Permitting (OPMP) within the Department of Natural Resources to improve financial viability and shorten broadband deployment timelines.
    - The OPMP would facilitate state, local, tribal, and private permitting/access; champion and aggressively pursue support of accelerated regulatory permitting at the federal level; conduct a broadband review as part of any state-funded project, to associate broadband infrastructure advancement complementary to the primary project; facilitate the laying of fiber in connection with roads, oil or gas pipelines, and other applicable infrastructure projects; and,
    - The OPMP would establish an online clearinghouse with links to state, federal, and local agencies involved in the project, along with links to relevant forms for permits to construct infrastructure. Other agencies involved would be asked to continually monitor the site to ensure accurate and complete information.

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