Governor's Task Force on Broadband: Overview & Recommendations

Final Report

STATE OF ALASKA
GOVERNOR'S TASK FORCE ON BROADBAND
FINAL REPORT — NOVEMBER 2021

SPECIAL THANKS TO CONNECTED NATION FOR THEIR ASSISTANCE IN THE DRAFTING OF THIS REPORT.
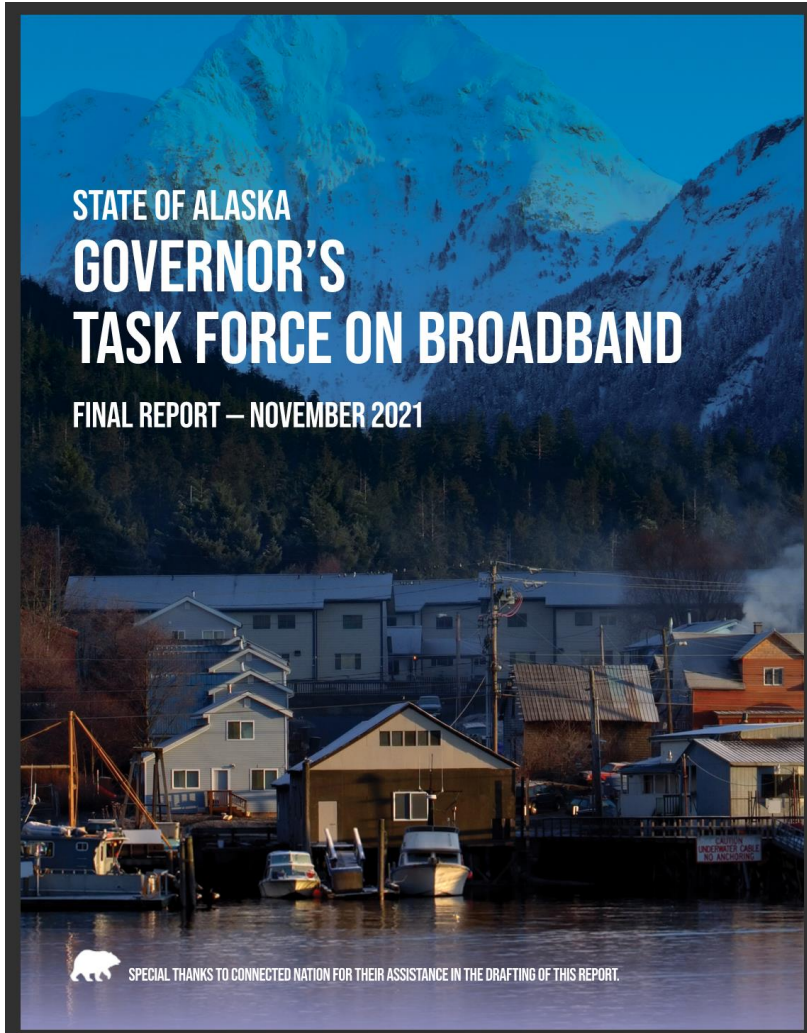
▸ Administrative Order 322

▸ 11 Voting Members

▸ 2 Ex Officio Members

▸ 8 Tasks

▸ 2 Subgroups

▸ 32 Public Meetings

▸ gov.alaska.gov/broadband

Technical Subgroup

- Stewart Ferguson – Chief Technology Officer, Alaska Native Tribal Health Consortium

- Gerad Godfrey – President, Alutiiq Professional Consulting, Director FirstNet Tribal Working Group

- Mayor John Handeland - City of Nome

- Representative Grier Hopkins - Alaska Legislature

- Commissioner Michael Johnson – Alaska Department of Education and Early Development

- Steve Noonkesser – Superintendent, Southwest Region School District

- Christine O'Connor, Chair - Executive Director, Alaska Telecom Association

- Allen Todd - General Counsel, Doyon, Limited

Tasks Assigned to Technical Subgroup

1. Identify and complete a needs assessment of the **gaps** in the current broadband network deployment. Identify communities most in need of upgraded or new infrastructure.

2. **Evaluate all technologies** that are used to provision broadband, identify and assess the pros and cons of each as they pertain to connecting all Alaskans with high-speed connectivity.

3. Assess the **hurdles** to broadband investment and deployment. Make recommendations on how the state can play a role to eliminate them.

Define Gaps

- End-user broadband service levels

  - Unserved = <25/3Mbps

  - Underserved = <100/20Mpbs

- Middle mile infrastructure

- Affordability

- Workforce development

- Evolving capability

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Define Gaps: End-User Broadband Service

- Speeds: **100/20Mbps** minimum

- Latency: less than **100 milliseconds**, sufficient for real-time applications like 2-way video

- Data usage: comparable to **urban** markets

- Reliability: **24/7 service** with minimal downtime and resistant to single points of failure

Define Gaps: Middle Mile Infrastructure

RECOMMENDATION 1.2: Identify Middle-Mile Needs

Broadband policy and program analyses should include data gathering and research to **identify where additional middle-mile capacity is needed** to meet established or potential last-mile service availability speed targets, recognizing that any established **standards will need to evolve** with the growing demands of technology and consumer usage over time.

Define Gaps: Middle Mile Infrastructure

RECOMMENDATION 1.3: Analyze High-Priority Routes & Hubs

Broadband analyses should identify routes and hub locations from which **fiber-optic backbone infrastructure** should be extended in order to support higher capacity, more resilient services across Alaska.

Define Gaps: Middle Mile Infrastructure

RECOMMENDATION 1.4: Target the Unserved & Underserved

Robust broadband services should be available to **all Alaskans**. Policymakers should expand buildout objectives to deploy infrastructure to **meet the needs of unserved and underserved locations** across Alaska.
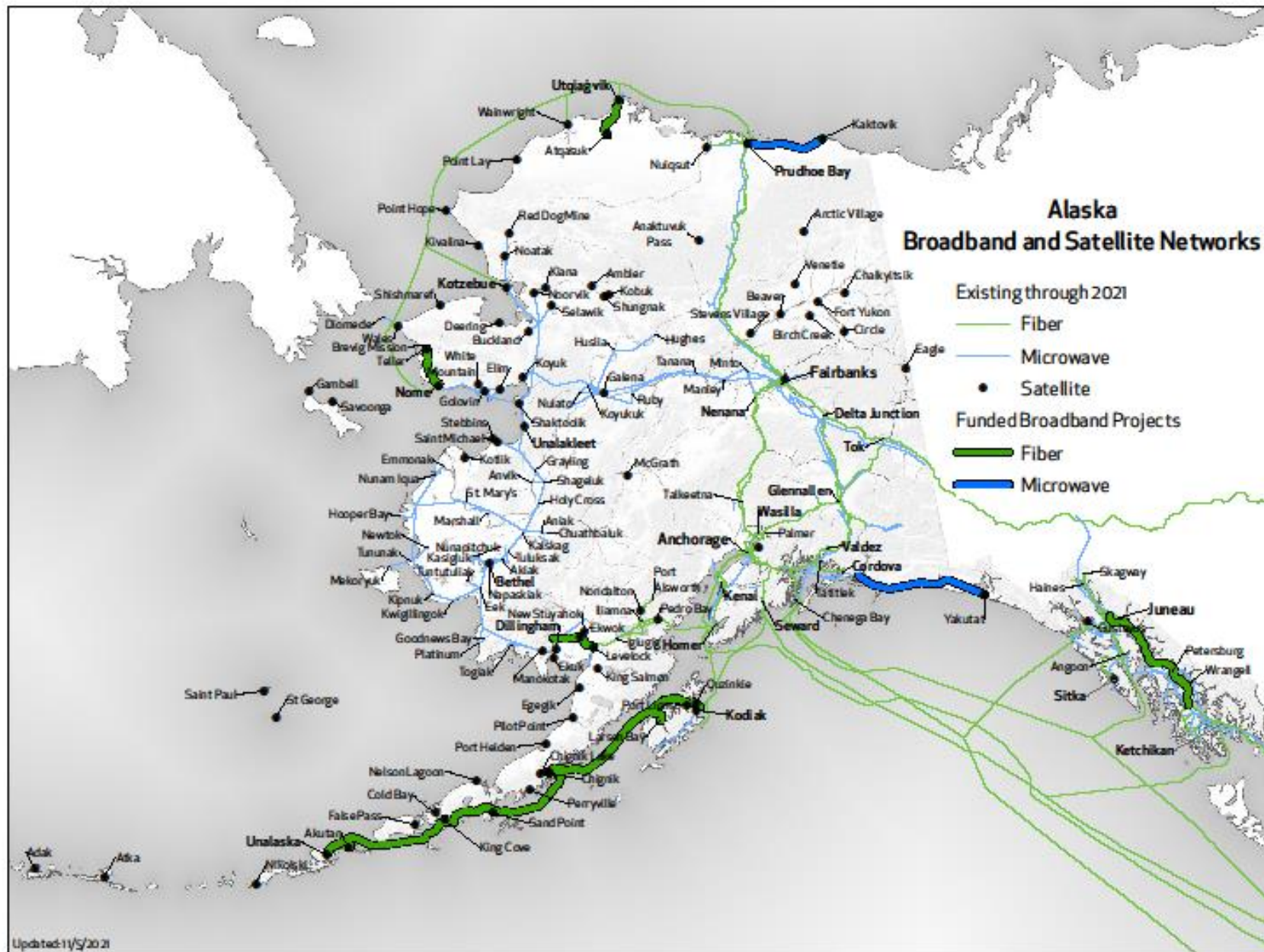
Define Gaps: Middle Mile Infrastructure

RECOMMENDATION 1.5: Ensure Accurate Maps to Locate Rural & Urban Gaps

Accurate, granular broadband availability and infrastructure **maps should define where unserved and underserved areas exist** due to gaps in broadband infrastructure, regardless of whether those areas have physical proximity to urban centers. The state's broadband deployment and program management should be data-driven to respond to all unserved and underserved areas

Alaska
Broadband and Satellite Networks

Existing through 2021
— Fiber
— Microwave
• Satellite

Funded Broadband Projects
— Fiber
— Microwave

Updated 11/5/2021

11

Define Gaps: Affordability

RECOMMENDATION 1.6: Recognize That [lack of] Affordability Creates Gaps

Policymakers should recognize that **affordability is an important element** in defining where gaps in broadband infrastructure exist. Policymakers should also recognize that **affordability is driven by underlying costs** associated with Alaska's unique operational environment and that **partnerships** between service providers and state and federal programs are important in achieving affordable service delivery to end-users.

Define Gaps: Workforce Development

RECOMMENDATION 1.7: Prioritize Local Workforce Development

Additional priority should be given to broadband infrastructure projects that include **support for local workforce development**. Beyond on the job training opportunities, the State should partner with existing workforce development programs offered through the university system, technical schools, or apprenticeships. Opportunities to partner with broadband companies to develop job-shadowing programs or other types of training should be pursued.

Define Gaps: Evolving Capability

RECOMMENDATION 1.8: Don't Let Progress Widen the Digital Divide

When developing requirements for project development, policymakers should recognize that broadband service needs will continually evolve, and bandwidth demand will continue to increase at a rapid pace.

Policymakers should also recognize the importance of **minimizing the disparity in access to broadband service** that may develop because of fast-paced technological evolution and strive to ensure that equitable development continues to occur.

Define Gaps: Evolving Capability

RECOMMENDATION 1.9: Maximize Federal Partnerships

An Alaska broadband office must work closely with state and federal agencies and other policymakers to **maximize resources** available for broadband expansion in Alaska.

Evaluate all Technologies: Middle Mile - Fiber

RECOMMENDATION 3.1: Give Preference To Fiber Middle Mile

Due to its unparalleled bandwidth, latency, upgradeability, and reliability, **fiber-optic cables** should be deployed wherever feasible and practical to facilitate middle-mile connections.

Evaluate all Technologies: Middle Mile - Microwave

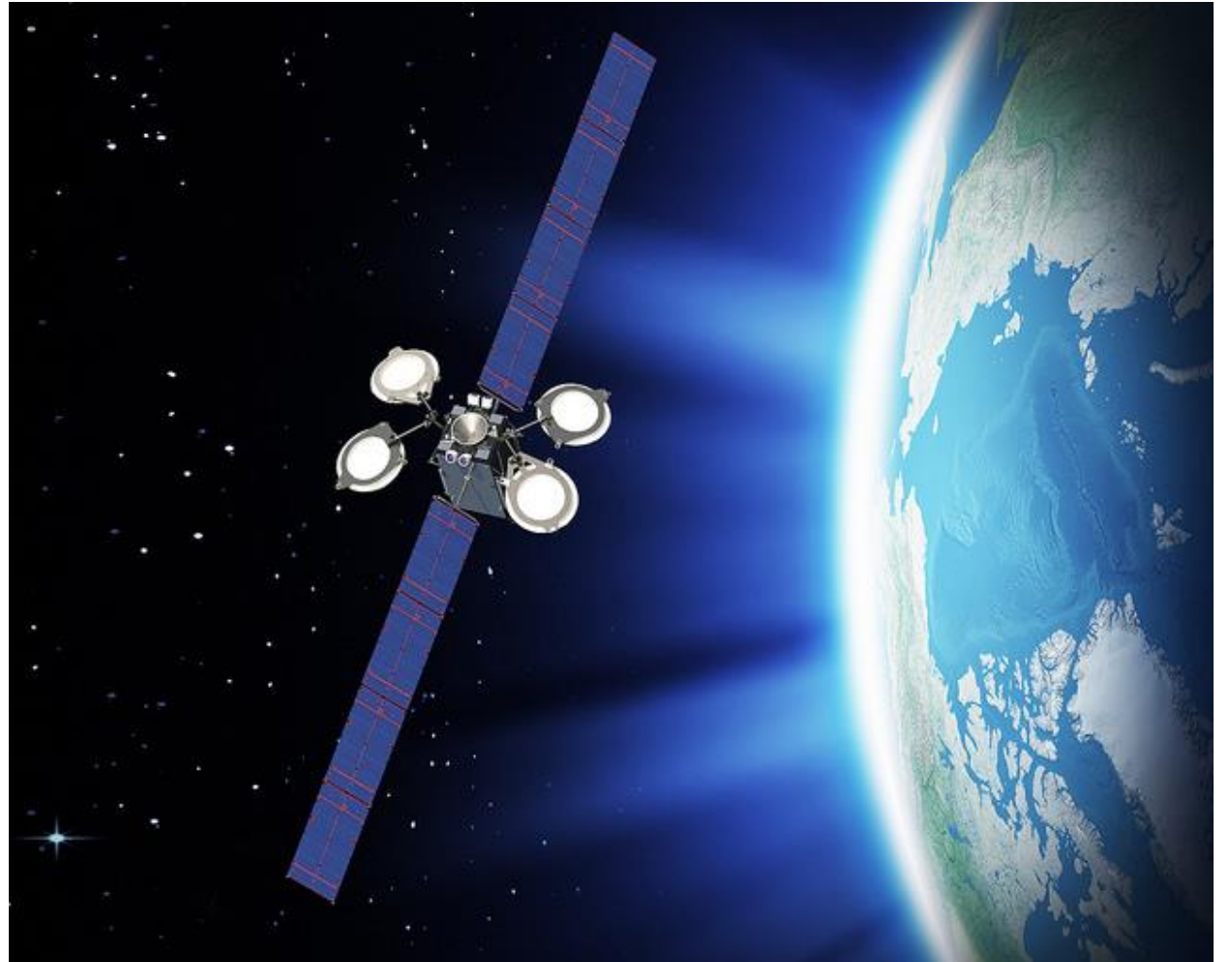Alaska Power & Telephone Microwave Tower, Turn Mountain

GCI TERRA Microwave Tower, Cape Nome

Evaluate all Technologies: Middle Mile - Satellite

- Low Earth Orbit (LEO)
- Geostationary (GEO)

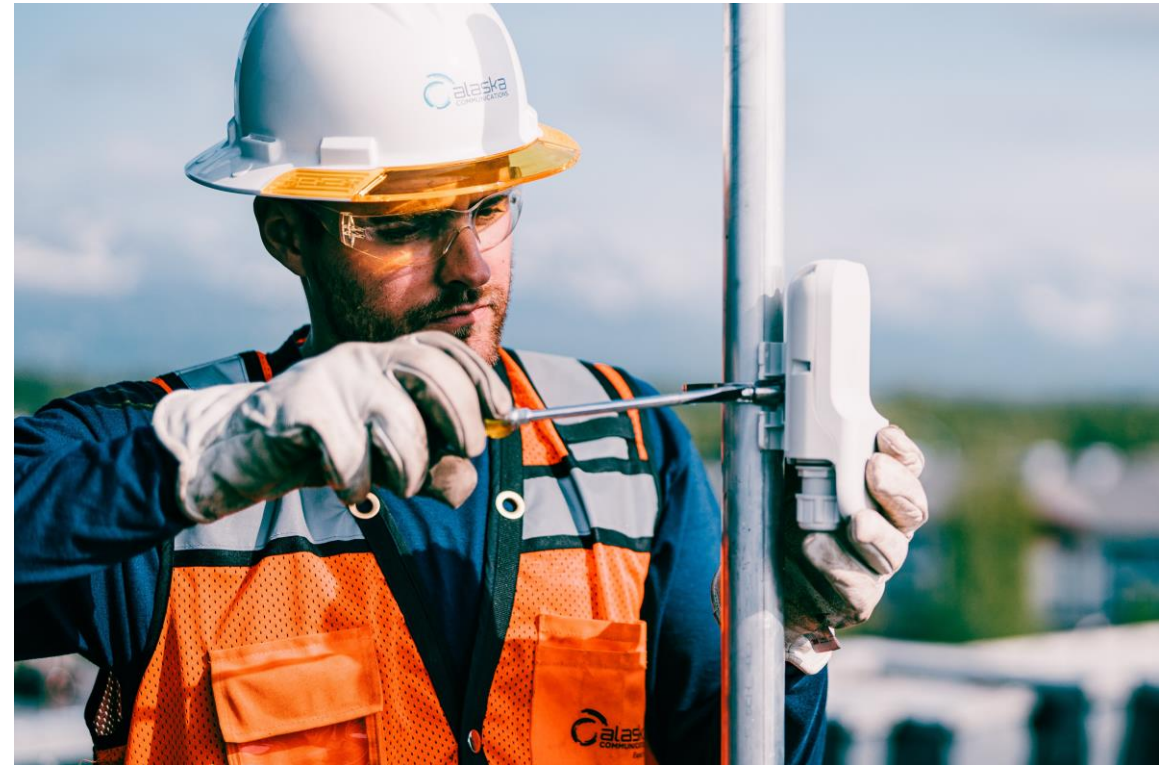# Evaluate all Technologies: Last Mile

▶ Fiber to the Premise (FTTP)

▶ DSL (Copper)

▶ Coaxial Cable

▶ Fixed Wireless

▶ Satellite - LEO

Evaluate all Technologies: Middle & Last Mile

RECOMMENDATION 3.2: Balance Last-Mile & Middle-Mile Upgrades

Policymakers should maintain a **balanced focus** on upgrading and extending last-mile AND middle-mile technologies, given rural Alaska's unique challenges and needs.

Hurdles - Cost

Capex - **Nushagak Cooperative**

Broadband for North Bristol Bay Project (total cost: $24,000,000, of which $16,783,726 is a USDA ReConnect Grant) – By April 2023, NETC will deploy a hybrid fiber and microwave network extending from Levelock to Aleknagik, enabling 100+ Mbps broadband service in the communities of Ekwok, Aleknagnik, Clark's Point, and Manokotak.

Opex – **Southeast Alaska Microwave Network**
Alaska Power & Telephone's microwave middle-mile network includes 18 mountain-top sites, each exposed to extreme weather common in southeast Alaska. In 2020, total operating costs for the SAMN network were $5.6 million.

Hurdles

RECOMMENDATION 2.1: Support the Alaska Universal Service Fund

The **long-term stability** of the Alaska Universal Service Fund is needed to ensure the sustainability of telecommunication operations in Alaska.

Alaska Universal Service Administrative Company

Hurdles

RECOMMENDATION 2.2: Establish a Federal Grant-Matching Fund

Establish a state matching fund as an option to **support applicants** who require all or a portion of matching funds in order to apply for federal broadband infrastructure grant programs such as the USDA ReConnect Grant Program
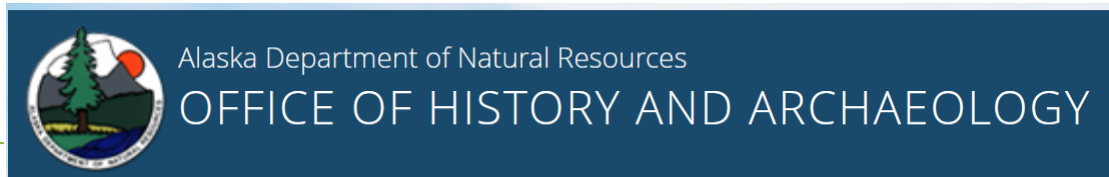
Hurdles

RECOMMENDATION 2.3: Streamline State Permitting

Policymakers should take steps to **reduce the lengthy and costly state permitting burden** on broadband projects and eliminate or reduce fees that state agencies charge for such projects. A broadband project coordinator or permitting official that can streamline or accomplish intergovernmental and interdepartmental permitting processes may be necessary.

Alaska Department of Natural Resources
OFFICE OF HISTORY AND ARCHAEOLOGY

Hurdles

RECOMMENDATION 2.4: Advocate for Improved Federal Permitting

State officials should actively support Alaska's federal congressional delegation in their efforts to **reduce federal permitting burdens** for broadband infrastructure projects

Policy Subgroup

▸ Julie Anderson - Commissioner, Alaska Department of Commerce, Community & Economic Development

▸ Nils Andreasson - Executive Director, Alaska Municipal League

▸ Hallie Bissett, Chair - Executive Director, Alaska Native Village Corporation Association

▸ Kati Capozzi - Executive Director, Alaska State Chamber of Commerce

▸ Bryce Ward - Mayor, Fairbanks Northstar Borough

▸ Senator Shelly Hughes - Alaska Legislature

Tasks Assigned to Policy Subgroup

1. Provide recommendations for a state **repository of broadband information and expertise** that does not increase the state budget.

2. Identify and lay out recommendations of **policies and guidelines for state participation** in broadband infrastructure development and ongoing operations.

Information & Expertise

▸ **RECOMMENDATION 4.1: Prioritize Accurate Data; Efficiently Obtained**

The Office of Broadband Deployment should commit to the utilization of world-class broadband **data and mapping analytics**, leveraging available data sources to avoid a duplication of efforts.
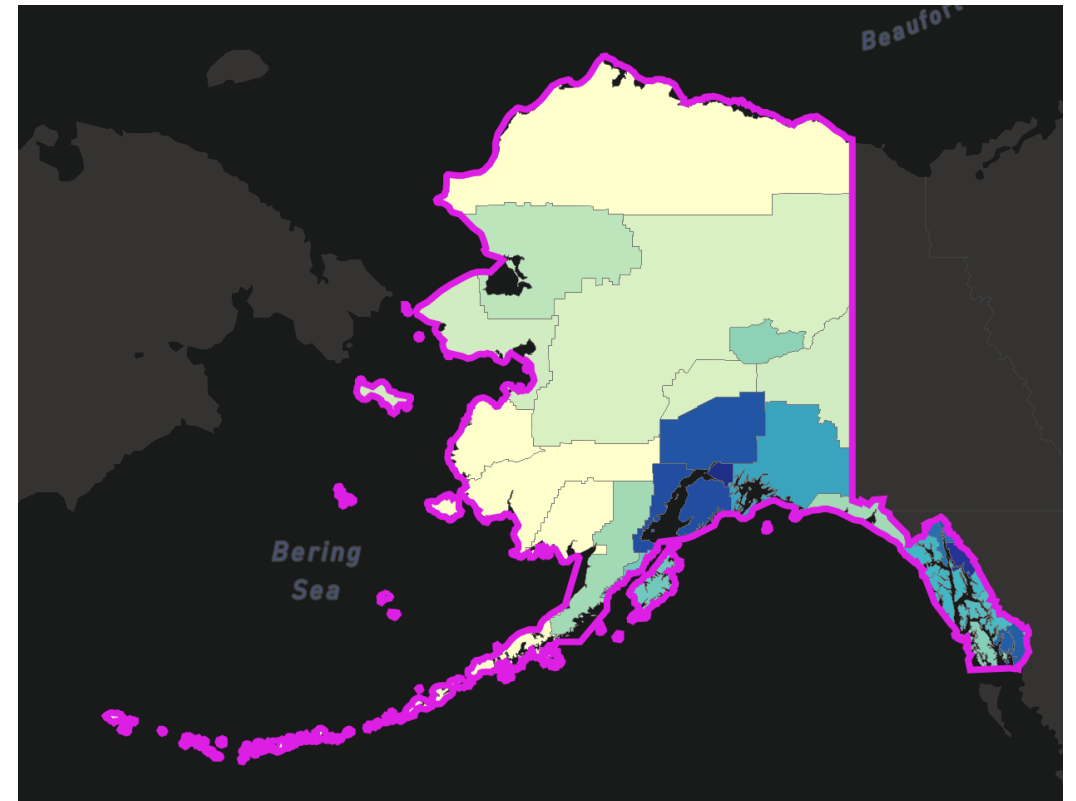
Information & Expertise

RECOMMENDATION 4.2: Establish an Office of Broadband Deployment

An Alaska Office of Broadband Deployment should be established to provide **leadership and direction** to the state's efforts to ensure the expansion of broadband access and digital equity for all Alaskans.

Information & Expertise

▸ **RECOMMENDATION 4.3: Establish a State Broadband Advisory Board**

   ▸ The State should establish a State Broadband Advisory Board (SBAB) to provide **guidance to the Office of Broadband Deployment**, representing local, Tribal, education, health, business, and the general public's interests.

Information & Expertise

▶ **RECOMMENDATION 4.4: Establish Regional Broadband Planning Committees**

  ▶ Regional Broadband Planning Committees (RBPCs) should be established as **regional planning bodies** to formalize the engagement of local government, Native leaders, and the general public in the advancement of broadband connectivity and digital equity in a given region.

  ▶ Their purpose will be to identify local broadband connectivity needs, **conduct planning efforts**, provide assistance to local government and Native leaders, and integrate into the statewide broadband planning process in collaboration with the SBAB and the Office of Broadband Deployment.

Information & Expertise

- **RECOMMENDATION 4.5: Create Broadband Development Planning Areas**

  - RBPCs should be formed in accordance with **broadband development planning areas**, the boundaries of which are to be defined by the Office of Broadband Deployment. These boundaries should be consistent with federal definitions, following established borough or census area boundaries or some combination thereof.

Information & Expertise

- **RECOMMENDATION 4.6: Ensure and Strengthen Tribal Partnerships**

  - The Office of Broadband Deployment should work closely with Tribal governments, consortia, and other Alaska Native entities to identify ways in which to **collaboratively address the gaps** that may be experienced across the state, leverage available resources, and to ensure equitable development.

Information & Expertise

▸ **RECOMMENDATION 4.7: Write an Equity Plan**

▸ The Office of Broadband Deployment should prioritize the creation of a durable **digital equity plan** that includes speed test comparisons, pricing data, and physical network gap details broken down by location. The plan should indicate locations and methods to improve broadband equity.

Information & Expertise

- **RECOMMENDATION 4.8: Partner with Alaskans**

  - **Community-level engagement** should be a priority when it comes to data collection efforts, including local speed-testing and the validation of provider-reported data.

State Participation

▸ **RECOMMENDATION 5.1: Establish a Vision for State Broadband Policy**

  ▸ The state's vision is to make it possible for **every Alaskan to participate and be competitive** in the global community by facilitating access to the full benefits of broadband with improved quality of service and lower costs.

State Participation

▸ **RECOMMENDATION 5.2: Set Long-Term Goals**

1. The immediate goal is that all Alaska homes and businesses shall have access to broadband service that provides minimum download speeds of at least **25 megabits** per second and minimum upload speeds of at least three megabits per second;

2. Within five years, all Alaska homes and businesses shall have access to broadband service that provides minimum download speeds of at least **100 megabits** per second and minimum upload speeds of at least 20 megabits per second; and

3. Rates for consumer broadband service should be transparent and offset, or otherwise adjusted, to ensure equitable **affordability** for all Alaskans.

State Participation

▸ **RECOMMENDATION 5.3: Establish a Broadband Parity Adjustment**

  ▸ In recognition of the scale of the investment necessary to bring adequate broadband infrastructure into every Alaska community, policymakers should create a Broadband Parity Adjustment that **supports equitable broadband costs** across Alaska's high-rate areas as compared with those in low-rate communities. The program could be structured similarly to Alaska's Power Cost Equalization program or the FCC's Emergency Broadband Benefit program.
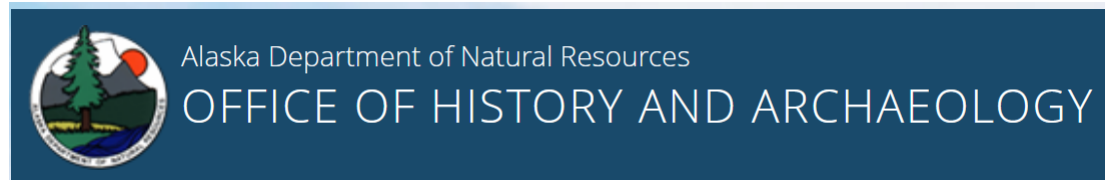
State Participation

▸ **RECOMMENDATION 5.4: Enhance Public Safety & Cybersecurity**

  ▸ The State should work to **enhance broadband services for first responders**, coordinate with the FirstNet Network Authority, develop plans for broadband infrastructure recovery in the event of a disaster, and include cybersecurity considerations during project development.

State Participation

▸ **RECOMMENDATION 5.5: Improve Infrastructure Processes**

 ▸ **Streamlined** permitting processes, smart policies like "dig once" and the designation of rights of way as public assets, and partnerships with Canadian telecom networks along Alaska's border should be pursued in order to reduce broadband deployment times.

Alaska Department of Natural Resources
OFFICE OF HISTORY AND ARCHAEOLOGY

State Participation

▸ **RECOMMENDATION 5.6: Strengthen Alaska's Broadband Capacity & Competency**

  ▸ Create or augment existing **training programs** for Alaska's students and workforce through the Department of Education and Early Development, University of Alaska, and the Alaska Department of Labor and Workforce Development that provide the skills needed to build, repair, maintain, and operate Alaska's broadband networks.

Tasks Assigned to Full Task Force

1. Recommend program-based guidelines or rules for **equitable use of state funding** in broadband infrastructure development.

2. Provide recommendations for a **buildout plan** to close remaining gaps and bring high-speed broadband to all Alaskans.

Equitable Use of State Funding

▶ **RECOMMENDATION 6.1: Prioritize the Unserved & Underserved**

▶ The State should prioritize broadband deployment that lowers costs and increases the speed and quality of broadband services in **unserved and underserved** communities, basing decisions on a variety of factors determined by the Office of Broadband Deployment with input from the State Broadband Advisory Board and Regional Broadband Planning Committees.

Equitable Use of State Funding

▸ **RECOMMENDATION 6.2: Balance Middle- & Last-Mile Investment**

▸ Broadband investment should be **balanced** between establishing a robust fiber backbone to serve all parts of Alaska and the utilization of appropriate technologies for improved last-mile service delivery.

Equitable Use of State Funding

- **RECOMMENDATION 6.3: Develop a Cohesive Investment Strategy**

- The Office of Broadband Deployment, the State Broadband Advisory Board, and the Regional Broadband Planning Committees should carefully and methodically consider eligibility rules and limitations for federal broadband funding programs to ensure that adequate funding is directed appropriately toward both middle-mile and last-mile infrastructure needs. A **focused, strategic approach** should be employed to ensure the most effective use of these funds.

Equitable Use of State Funding

► **RECOMMENDATION 6.4: Prioritize Public-Private Partnerships**

  ► Grant programs and state broadband processes in general should be structured to incentivize providers to invest private capital and to establish ways in which public investment can be leveraged alongside private sector activity with outcomes that are in the public interest.

Equitable Use of State Funding

- **RECOMMENDATION 6.5: Create a Fair Grant Application Process**

  - The Office of Broadband Deployment should establish a **grant application process** in which broadband service providers and other eligible entities may submit project proposals to expand the state's middle-mile or last-mile infrastructure in unserved and underserved areas. The Office of Deployment should work in consultation with the Regional Broadband Planning Committees and the State Broadband Advisory Board.

Equitable Use of State Funding

▸ **RECOMMENDATION 6.6: Ensure Ongoing Funding**

▸ The task force recommends that, if necessary and feasible, the Legislature should provide **adequate funding** to the Office of Broadband Deployment for its own operations, the implementation of a grant program to fund priority infrastructure projects, and for the establishment of the Broadband Parity Adjustment program.

Equitable Use of State Funding

- **RECOMMENDATION 6.7: Engage Alaskans**

  - The State should engage all Alaskans in its work to improve broadband service, quality, and affordability, from the identification of needs to the pursuit of viable projects to address them. The state's Office of Broadband Deployment should establish and maintain a website that is updated frequently and incorporates the use of social and traditional media to **seek input and communicate progress** transparently toward the goal of achieving universal, affordable access across Alaska.

Buildout Plan

Short-term Action | Intermediate Goals | Long-term Goals

- Closing the Needs Gap
- Technology Solutions
- Overcoming Hurdles
- Alaska Broadband Policy
- Equitable Funding Strategy
- Office of Broadband Deployment

Questions

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