



Backhaul Alaska Webinar

In preparation for
Environmental Finance
Advisory Board
February 2020 Consultation

January 30, 2020

Speakers



Gabriela Carvalho
Tribal Solid and Hazardous
Waste Program
US EPA, Region 10



Lynn Zender, PhD
Executive Director
Zender Environmental Health
and Research Group

Introduction

The Environmental Financial Advisory Board (EFAB) provides ideas and advice to EPA on ways to lower the costs of and increase investments in environmental and public health protection.

Backhaul Alaska presents a unique example for developing financial solutions to environmental challenges in communities expressing:

- Small population
- Remote
- Low income
- Otherwise lack resources or capacity or expertise

Opportunity to replicate solutions from this case study elsewhere

EFAB Backhaul Alaska Consultation

Desired Outcome

EFAB will provide financial and organizational advice to ensure the Backhaul Alaska organization is both fiscally sound and resilient to financial and other challenges.

Consultation on finance and governance in three key areas:

1. Structure
2. Organization and Administration
3. Finance and Sustainability

Product

Summary of consultation discussion

Webinar Topics

Background

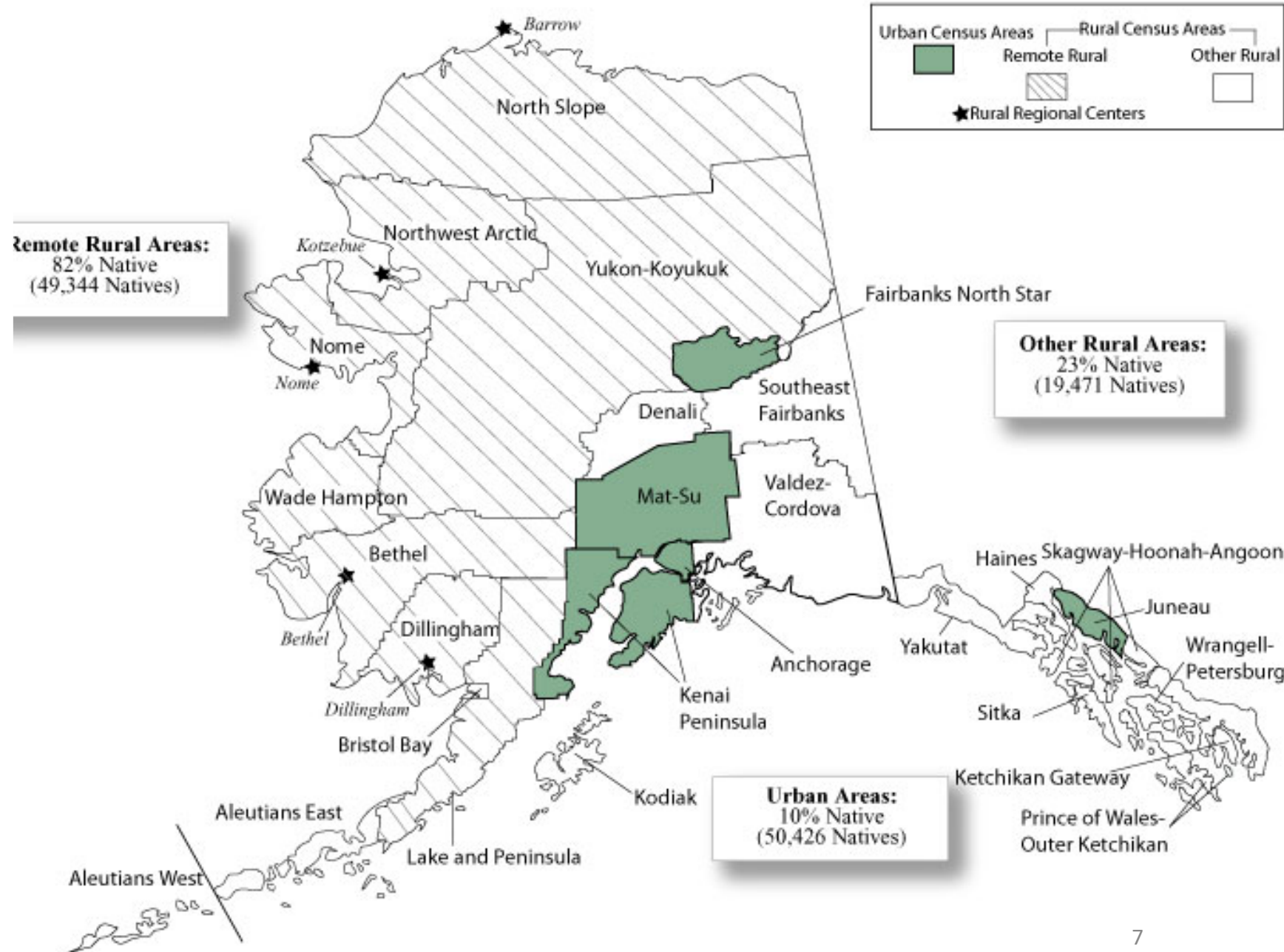
- Rural Alaska
- Government and Key Entities
- Cost of Living
- Why is Hazardous Waste Backhaul in Rural Alaska Important?

Program Information

- Alternative Options
- Backhaul Program Basics
- Potential Funding Sources

Rural Alaska

Remote Rural Alaska is off the road and marine highway system where ~10% of Alaskans live



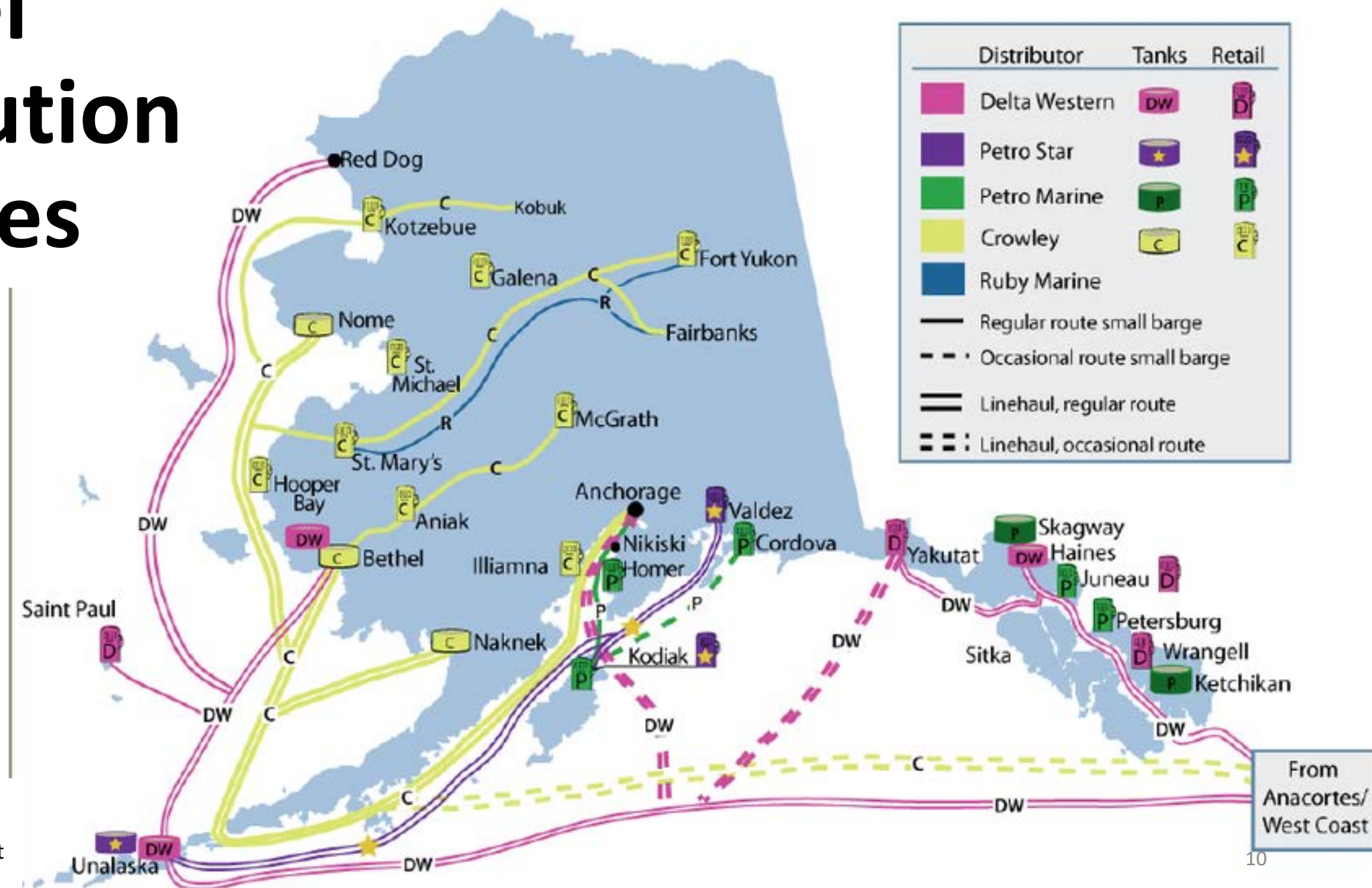
Source: Scott Goldsmith (2007) The Remote Rural Economy of Alaska

Alaska Road System

Alaska's 586,412 square miles of land and water



Fuel Distribution Routes

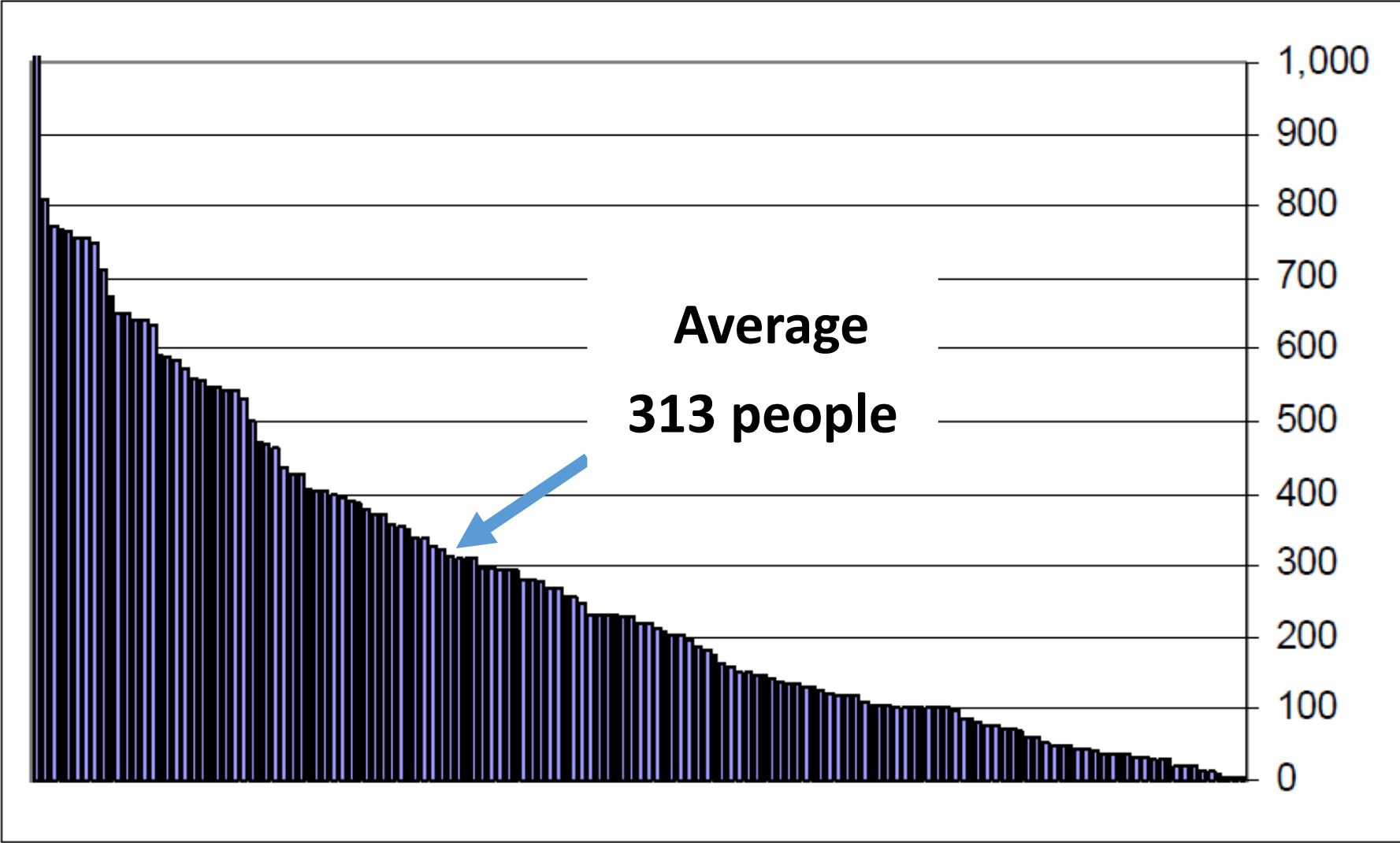


Source: Szymoniak, Fay, Villalobos-Melendez (2010) Components of Alaska Fuel Costs: An Analysis of the Market Factors and Characteristics that Influence Rural Fuel Prices

GCI Alaska Mobile Coverage



Figure 1. REMOTE RURAL COMMUNITIES RANKED IN SIZE BY POPULATION IN 2000 (EXCLUDING 5 REGIONAL CENTERS)



Source: Scott Goldsmith (2007) The Remote Rural Economy of Alaska

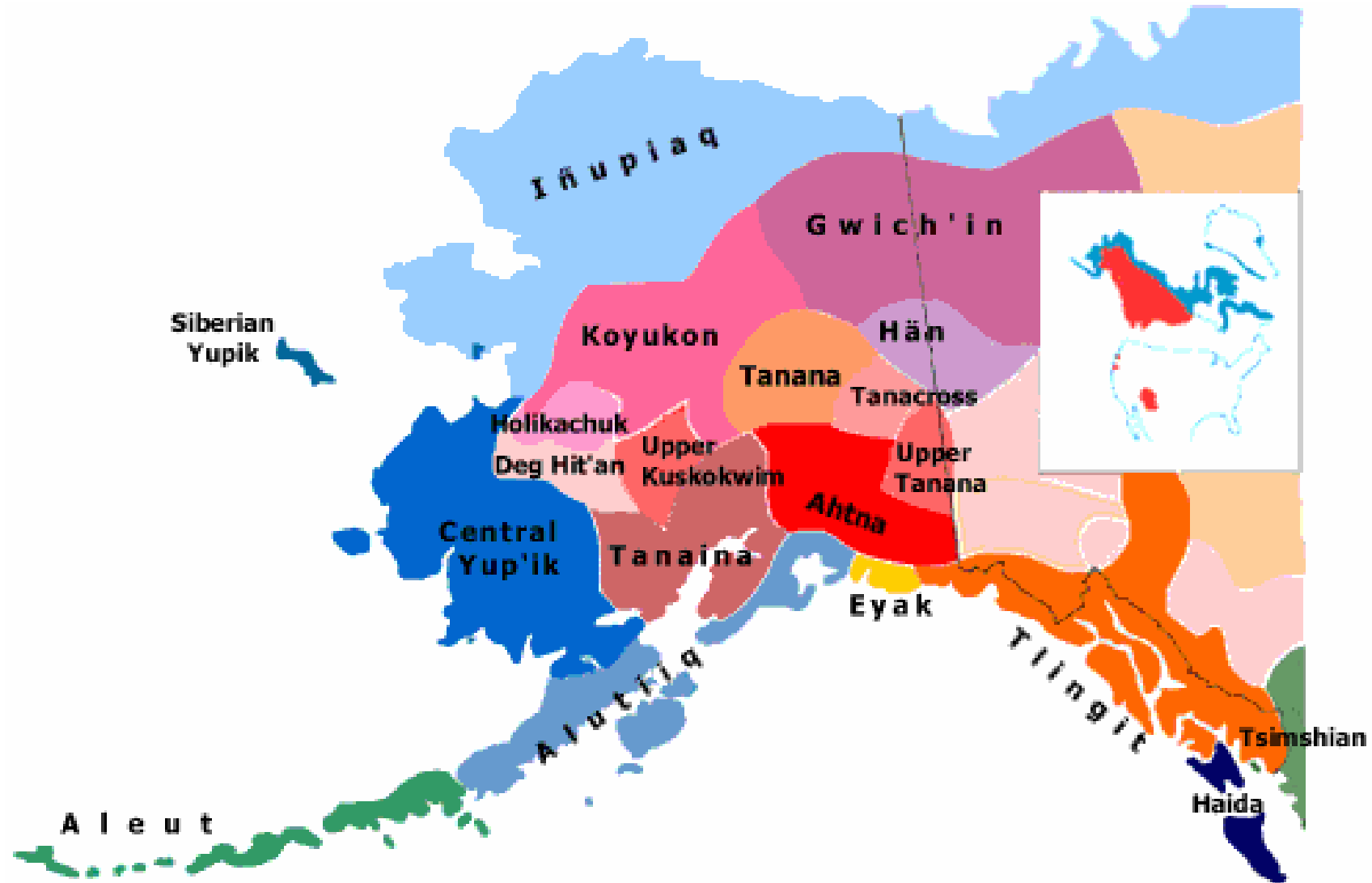
	Population to be served by Backhaul Alaska	State
Population:	Average: 313 people	739,828
Unemployment	Median: 34.2% Range: 8% - 77%	6.5%
Poverty Rate:	Over half of villages >25% Over quarter of households >33%	9.3%
Education B.S. or B.A.	< 9%	28%
Percent Minority	87%	33.7%
Percent Alaska Native	84%	14.3%
Per Capita Income	\$18,329	\$73,355

Source: Zender Environmental Health and Research Group (2017)

Alaska has 229
federally
recognized
tribes,
approximately
40% of tribes
nationwide.



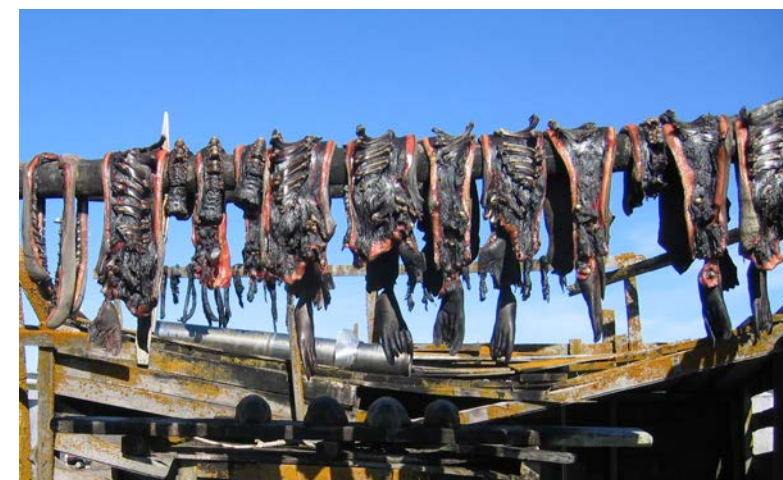
Major Native Languages Spoken in Alaska



Traditional foods



Photo courtesy Anchorage Daily News





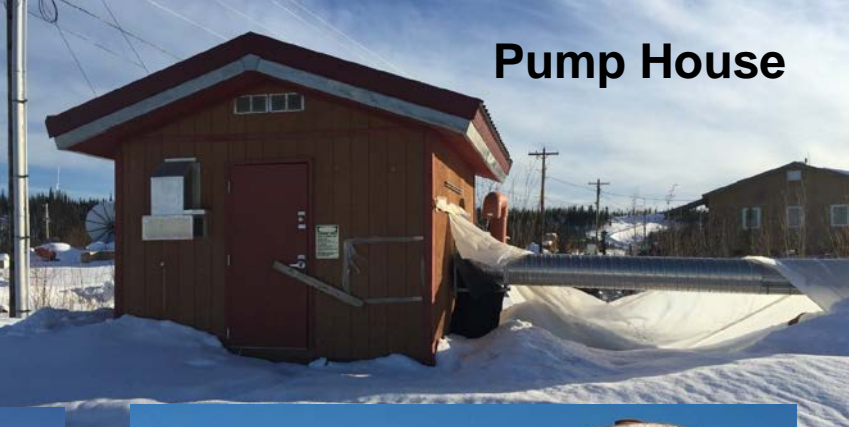
Infrastructure



Post Office



Clinic and Washeteria Building



Pump House



Airport



Power Plant



Fuel Tanks



School



Boardwalk



Water Sewer Facility

Climate Change

“No more money will be invested and all infrastructure building plans and grants for the current village have been canceled due to the eminent demise of our island. Subsequently, our village is without running water and there is no sewage system. We’ve run out of room and are unable to move homes that are in peril. Funds have been spent to build seawalls that may only postpone further erosion by fifteen years at the maximum to protect our community while plans are developed for the safe relocation of our town and its people.”

- From a letter by the students of Shishmaref High School.



Government and Key Entities

Entities in Alaska

Layer of Government

- 114 Municipal Governments
- 229 Federally Recognized Tribes
- 19 Boroughs
- State: Legislative, Judicial, and Executive Branches

Alaska Native Claims Settlement Act (ANCSA)

- 12 Alaska Native Regional Corporations
- 12 Alaska Native Regional Non-profit Organizations
- 200 Alaska Native Village Corporations



Map S-1. Alaska's Organized Boroughs, 2017

Borough 2015 Populations

Municipality of Anchorage	298,666
Aleutians East Borough	3,047
City and Borough of Juneau	33,277
Bristol Bay Borough	887
City and Borough of Sitka	8,929
City and Borough of Wrangell	2,442
City and Borough of Yakutat	613
Denali Borough	1,781
Fairbanks North Star Borough	98,645
Haines Borough	2,493
Kenai Peninsula Borough	57,763
Ketchikan Gateway Borough	13,778
Kodiak Island Borough	13,819
Lake and Peninsula Borough	1,668
Matanuska-Susitna Borough	100,178
North Slope	10,249
Northwest Arctic Borough	7,889
Petersburg	3,209
Skagway	1,031



Source: Alaska Department of Labor and Workforce Development

Source:
Guettabi (2017)
A Regional
Assessment of
Borough
Government
Finances and
Employment

What is ANCSA?

Alaska Native Claims Settlement Act of 1971

Land Claims Settlement

- 44 million acres (surface and subsurface rights)
- \$962 million in payments to ANCSA Corporations (land compensation and accrued mineral royalties)

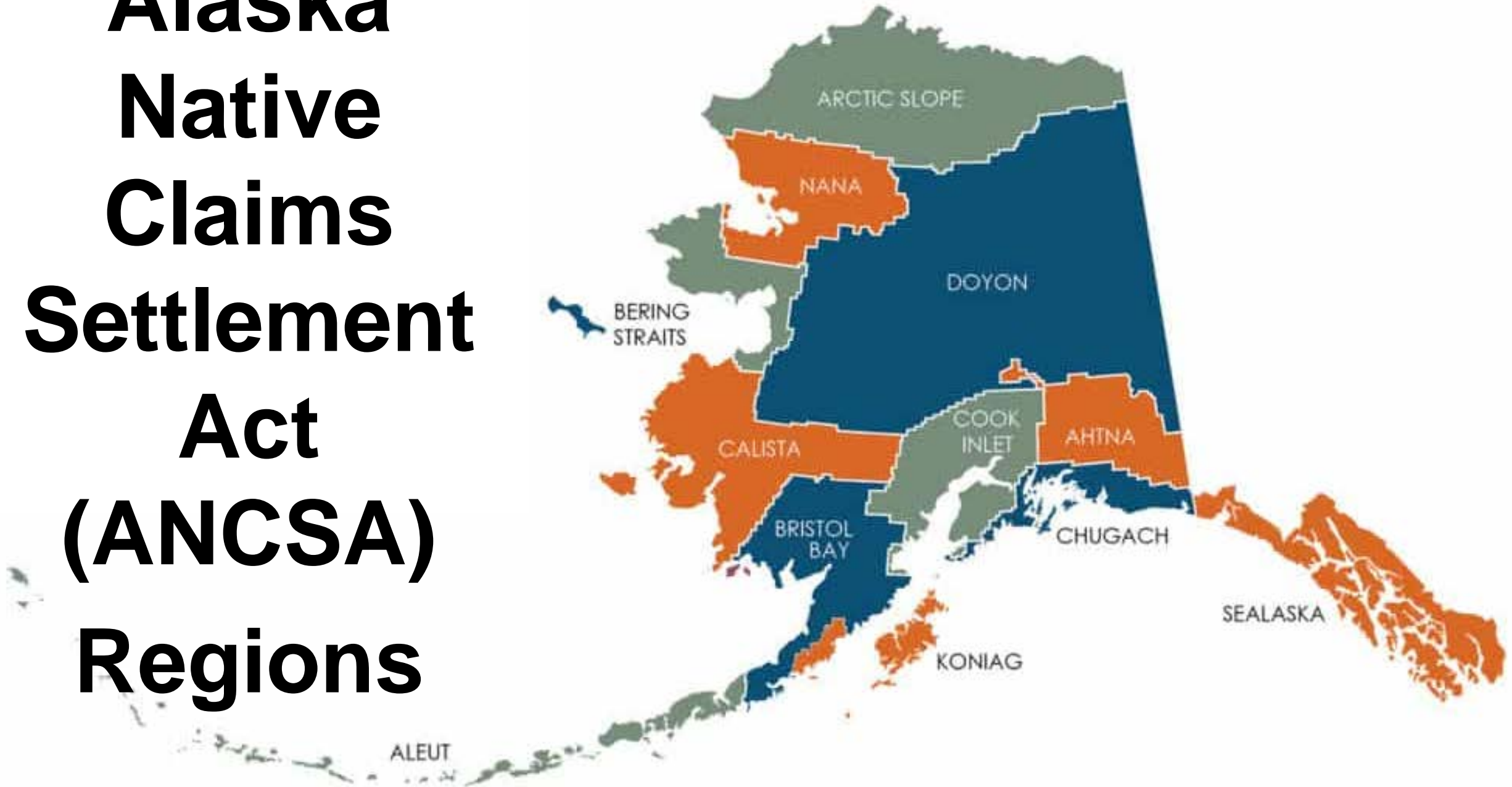
Created Corporations

- 12 Regional Corporations (+13th)
- 200 Village Corporations



For more information: <https://ancsaregional.com/>

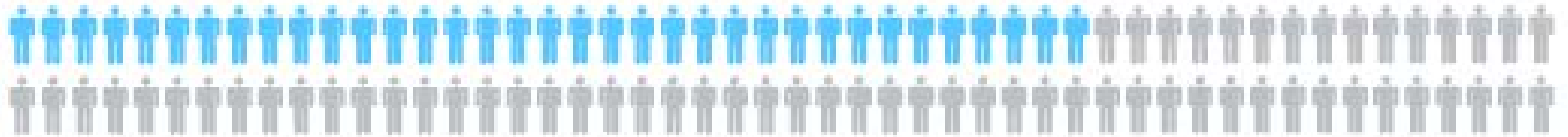
Alaska Native Claims Settlement Act (ANCSA) Regions



Cost of Living



35% of rural Alaska residents are unemployed.



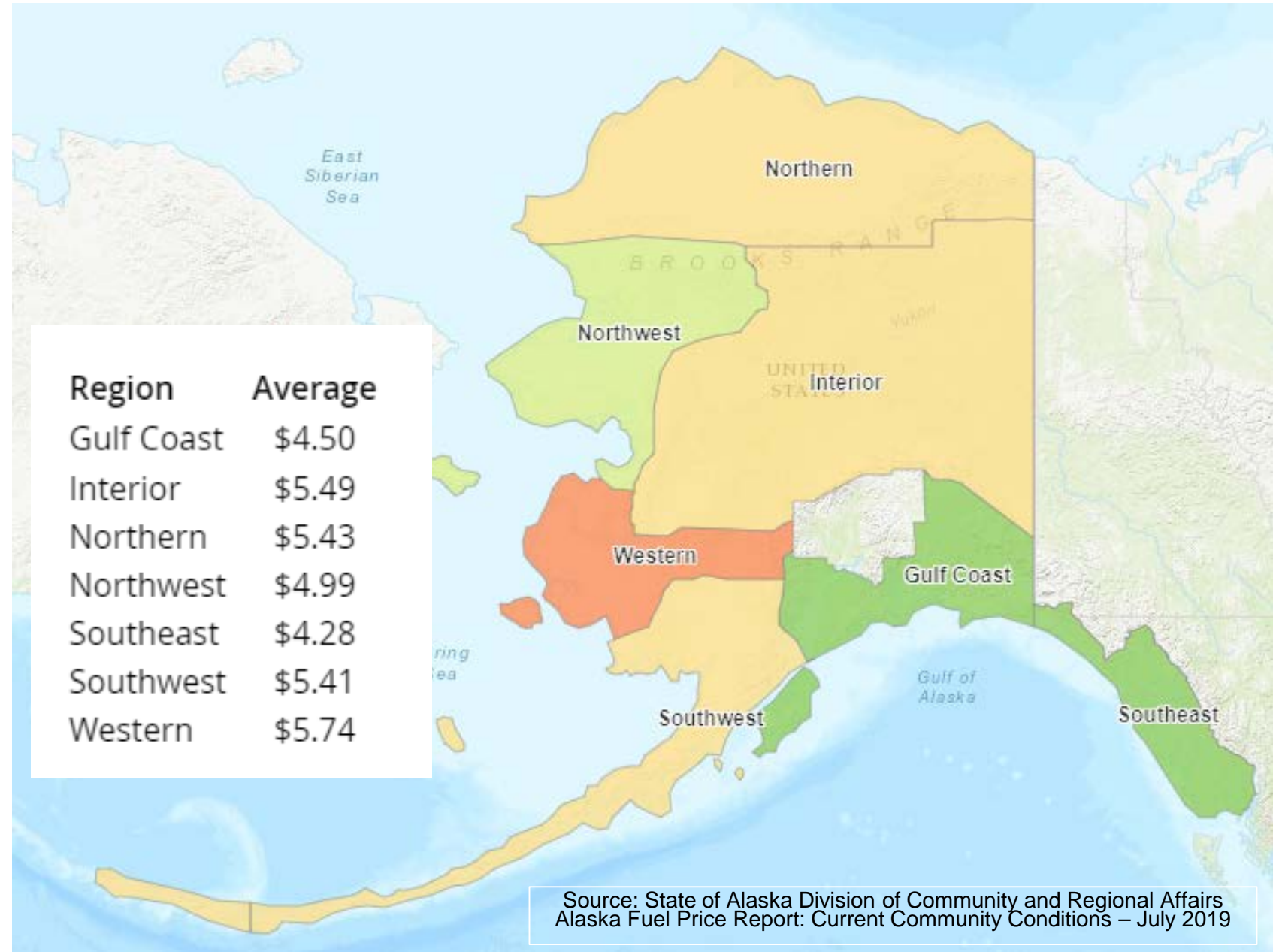
Gasoline Pricing in Alaskan Communities (July 2019)

Average retail price of unleaded gasoline in the 100 surveyed communities:

\$5.19 per gallon

The national average price for unleaded gasoline:

\$2.78 per gallon



Sample Residential Water and Sewer Rates

Residential Water and Sewer Rates

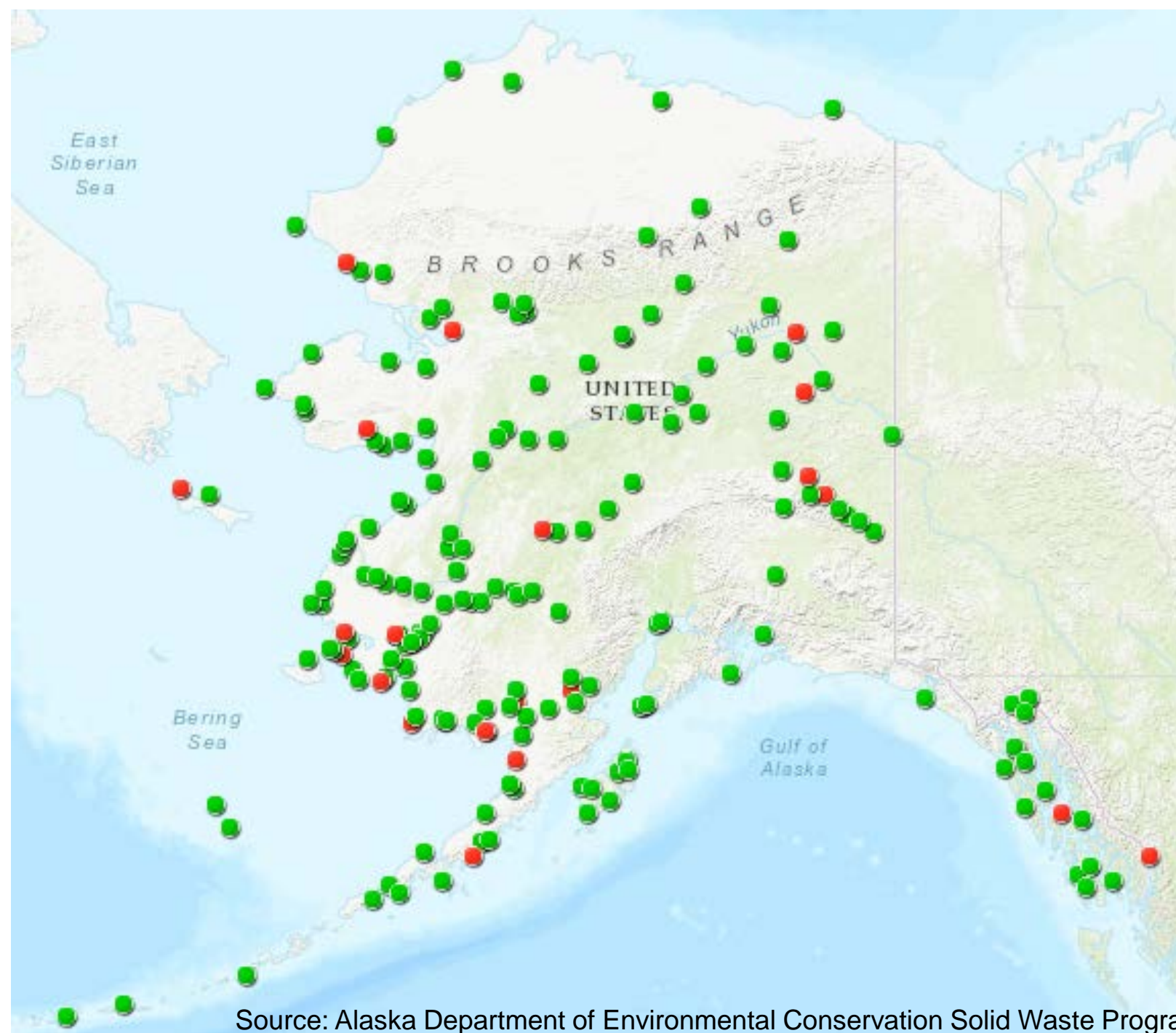
Community	Pre-CUAP Rate
Ambler	\$210 per month
Buckland	\$175 per month
Deering (Sewer only)	\$105 per month
Deering (Water only)	\$.25 per gallon
Kiana	\$140 per month
Kivalina	\$.05 per gallon
Kobuk	\$200 per month
Noatak	\$138 per month
Noorvik	\$157.50 per month
Shungnak	\$180 per month
Selawik	\$250 per month

Why is Hazardous Waste Backhaul in Rural Alaska Important?

184 Class III Landfills

★ 163 Permitted

★ 21 Unpermitted



Source: Alaska Department of Environmental Conservation Solid Waste Program

About 75% of dump sites are within one mile of the village and water sources



Landfill

Many villages lack capacity to implement waste management best practices



Photo credit: Stephen Price, Alaska Department of Environmental Conservation Solid Waste Program

Soil and Water Contamination from Landfill Leachate



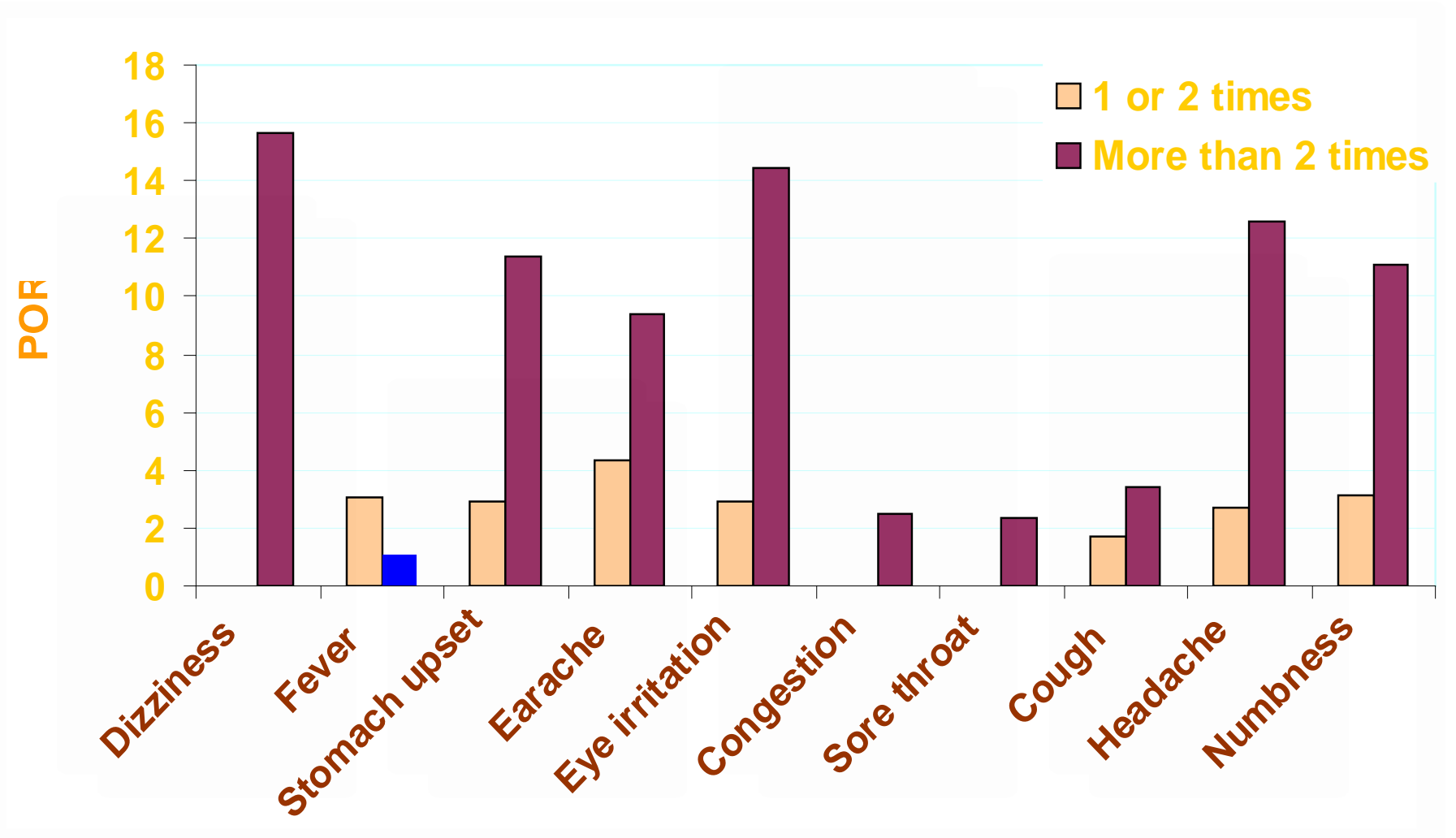
Photo credit: Stephen Price, Alaska Department of Environmental Conservation Solid Waste Program

Air Impacts from Waste Burning



Health Impacts

The more often people visited the dump, the more likely they were to experience symptoms



Land Disposal Program Flexibility Act of 1996

Authorized the Governor of the State of Alaska to certify the exemption of solid waste landfills (that dispose of 20 tons of waste daily) from federal requirements located in Alaska Native Villages when those requirements would be infeasible or not cost-effective or otherwise inappropriate because of the remote location of the landfill.

Alternative Options

Alternatives to Backhaul

- Landfill liners
- Longer roads cost \$1M-\$1.5M per mile
- Industrial hazardous waste facility
- Permanent storage facility in town
- Using less toxic products



Photo credit: Stephen Price, Alaska Department of Environmental Conservation
Solid Waste Program

Backhaul Program Basics

Why is it so challenging and expensive to get waste out?

- Limited road system
- Cargo delivered to villages by barge 3x/year and by plane few times/week
 - 5 large barge companies
 - 20 small family owned barge companies
 - 2 main passenger plane companies
 - 25 cargo plane companies
- Transportation challenges
 - High cost
 - Inadequate barge landing or airport infrastructure
 - Weather
 - Seasonal water level



Freight and recycling fees add up



\$8,500

**One connex to
Seattle by barge**



\$1,300

**Two totes of
Batteries to Anchorage
by plane**

Vision for Backhaul Alaska

Backhaul Alaska will coordinate waste backhaul efforts statewide and save costs through more efficient routing, training, communications, and price brokering.

The ultimate goal is to operate a full management service for any entity generating waste in rural Alaska and provide jobs.



Collaborative Effort

Solid Waste Alaska Taskforce

Alaska Department of Environmental Conservation

Alaska Native Tribal Health Consortium

Kawerak, Inc.

Zender Environmental Health and Research Group

Funding

BIA

EPA

US DOT PHMSA

Denali Commission

Engagement

Tribes, municipalities, regional tribal organizations

Air carriers, barge companies, recyclers, associations

University of Alaska

State and Federal agencies

Implementation Plan

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Phase	Pilot Phase (25 Villages)			Initial Implementation		Program Growth			Self-Sustaining Program		
Funding	Government DOT, BIA, EPA: IGAP, RCRA, EJ			<ul style="list-style-type: none"> • Fees from contributors to the backhaul waste stream • Recycling income • Donations from industry in-kind services in-village and regional entities • Exploring Extended Producer Responsibility program • Other - TBD 							



ELECTRONICS



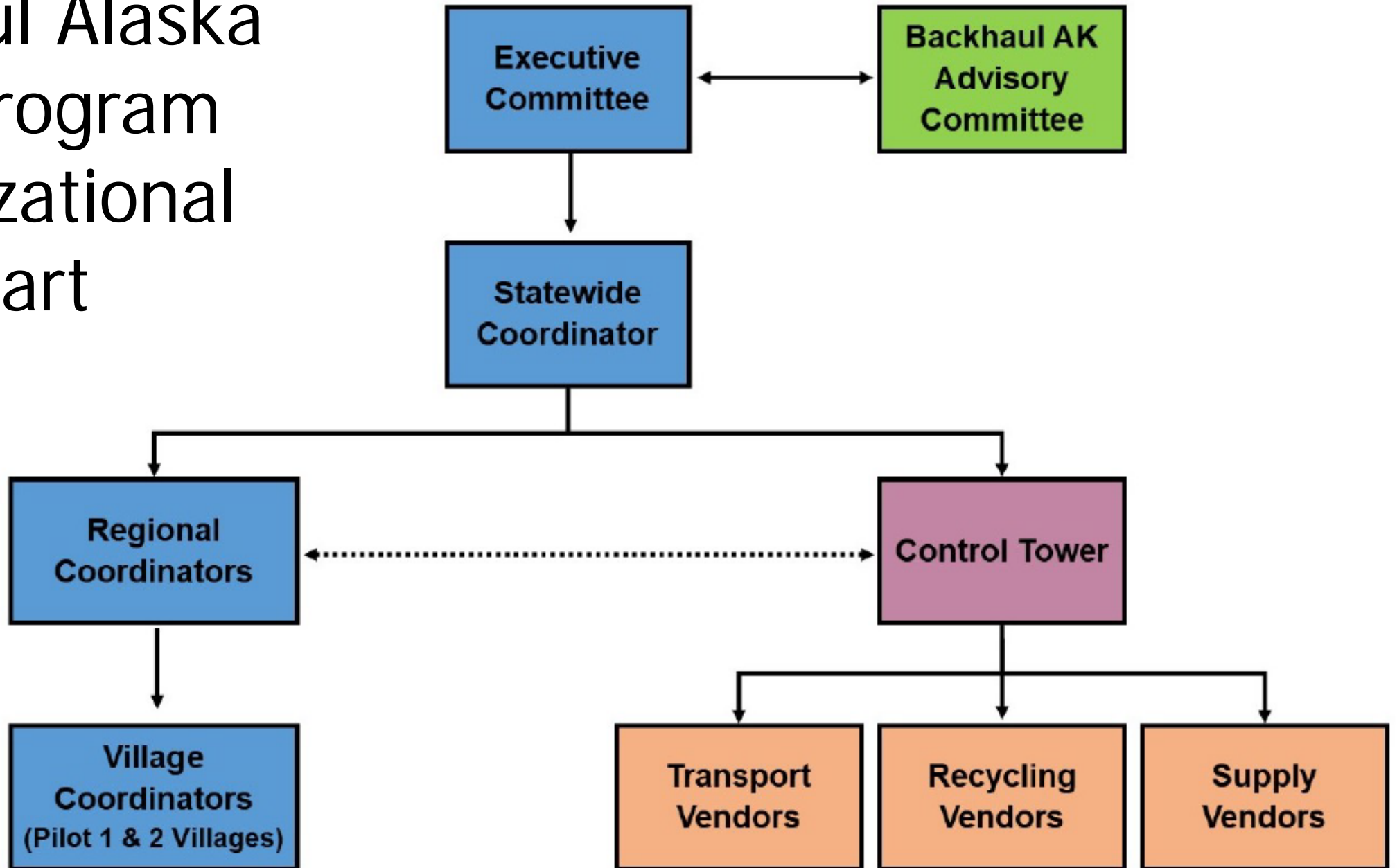
LIGHT BULBS



BATTERIES



Backhaul Alaska Pilot Program Organizational Chart



Projected Costs (preliminary estimates)

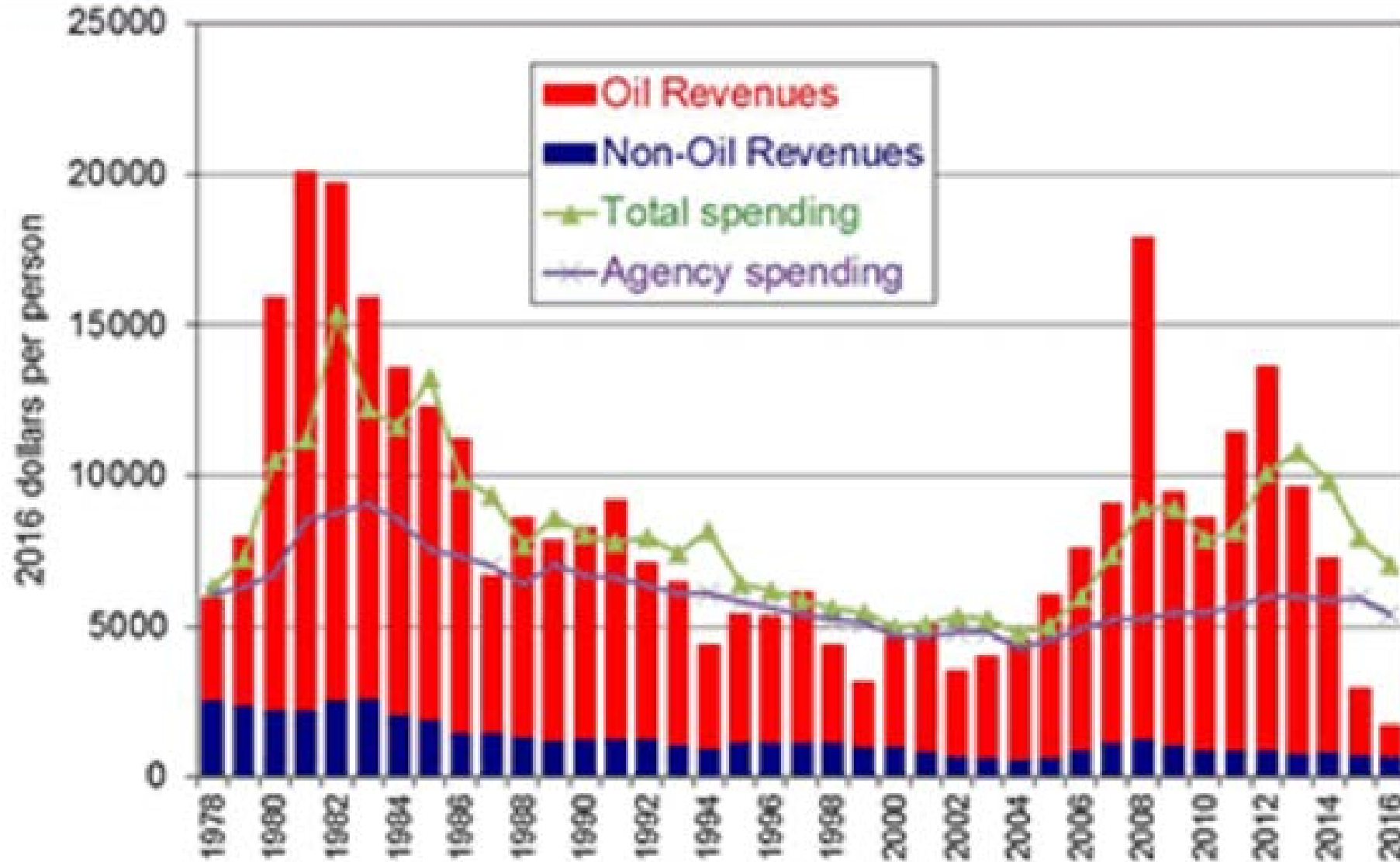
Component	2020	2030
Program Operations	\$ 785,825	\$ 1,136,169
Recycling, shipping	\$ 51,107	\$ 557,869
Direct village investment	\$ 181,752	\$ 1,673,716
Administration Indirect	\$ 101,868	\$ 336,775
Total	\$ 1,120,552	\$ 3,704,529
Number of villages	17	162
Per village backhaul costs	\$ 65,915	\$ 22,867
Per person backhaul costs	\$ 218	\$ 66

Note: Program operations include state and regional coordination, training, outreach.

Village investment includes supplies, labor, O&M

Potential Funding Sources

Alaska per-capita revenues and spending adjusted for inflation



Source: Energy Wire.
Economist explains
bleak economic
realities of oil crash
<https://www.eenews.net/stories/1060036804>

Politics

Dunleavy's office says he's opposed to new taxes, limiting options in the coming budget debate

Author: James Brooks Updated: January 2 Published December 30, 2019



FEATURED

Lawmakers' attempted budget veto override fails

Erin McGroarty, emcgroarty@newsminer.com Jan 24, 2020 Updated Jan 24, 2020

NEWS / US & CANADA

Alaska's healthcare in dire state amid Medicaid budget cuts

Alaska's governor slashed the Medicaid budget last summer and has warned more budget cuts.

30 Dec 2019



VOTE NOW NEWS WEATHER ONLY ON 11 CRIME POLITICS LIVESTREAM CON

Lawmakers: 'Urgent need' for more Alaska ferry system funding

Wednesday, January 22nd 2020, 10:43 AM AKST

By: Joe Vigil

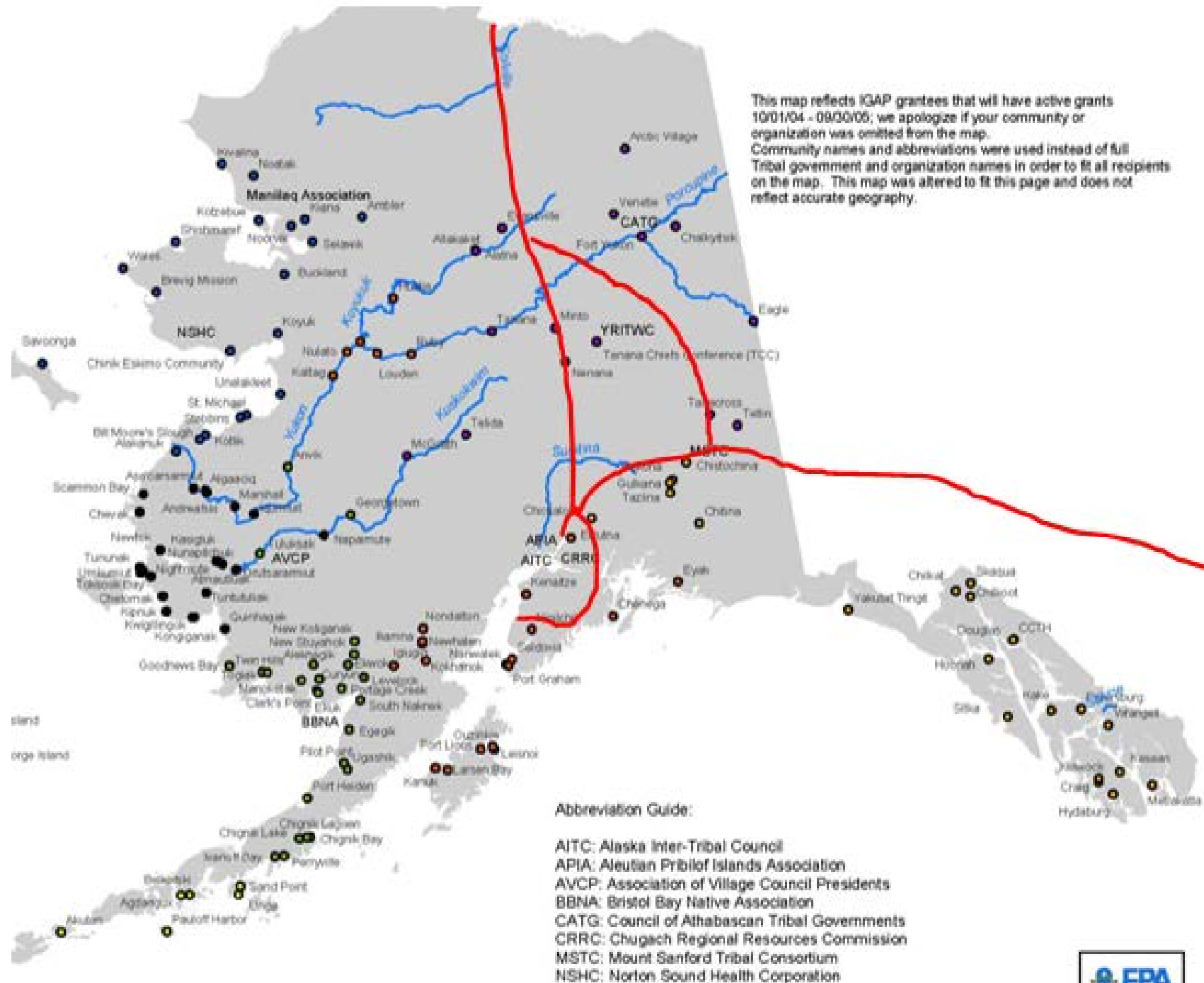


Alaska state government forecasts lower revenue for this year and next

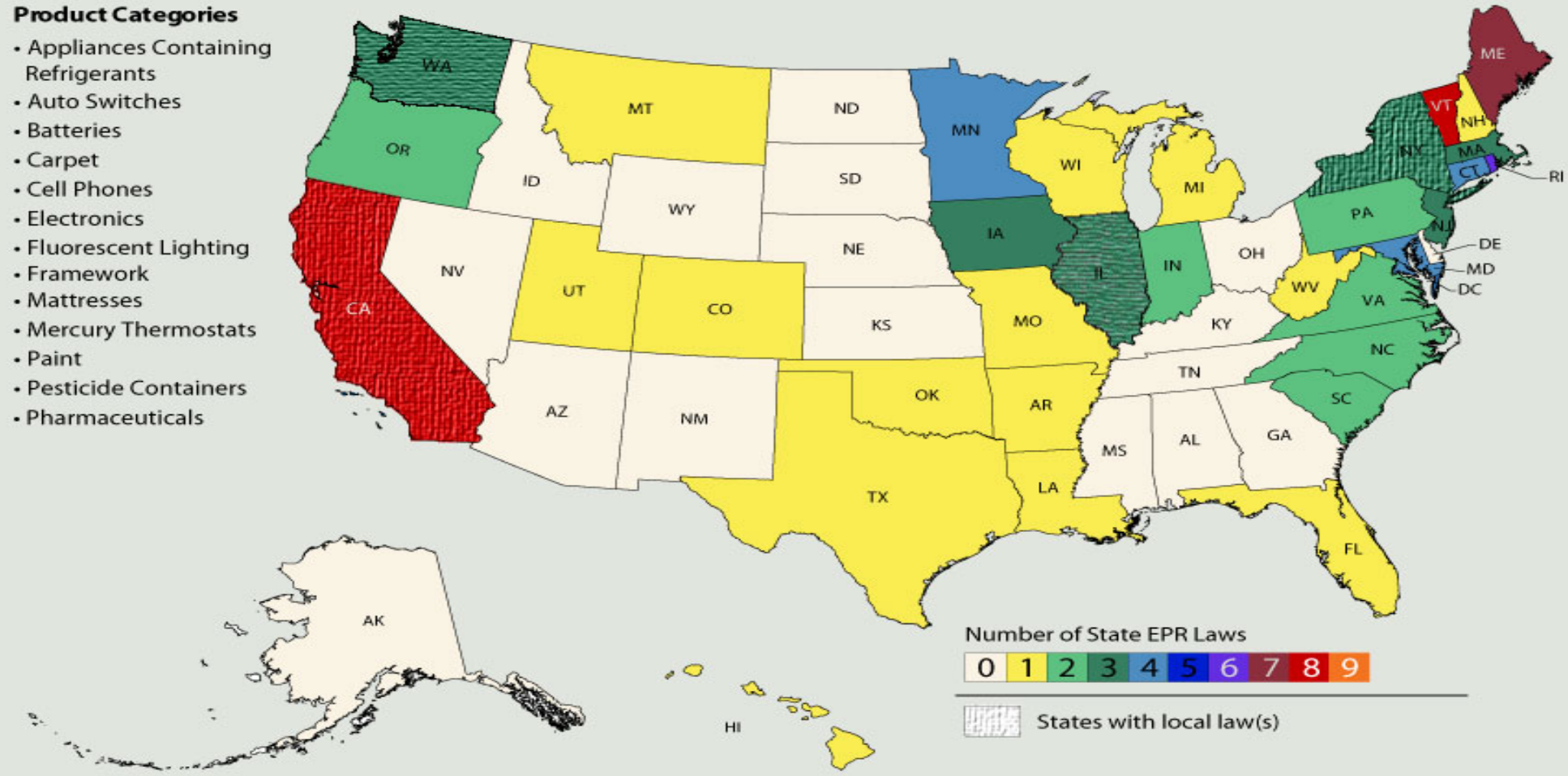
By Andrew Kitchenman, Alaska Public Media & KTOO - Juneau - December 9, 2019

Over 200 Alaskan Tribes and Tribal Consortia have funding through EPA's Indian Environmental General Assistance Program (GAP)

Funding per tribe is inadequate to cover needs



Extended Producer Responsibility Programs Across the U.S.



Source: Product Stewardship Institute, Inc. (2017)

There are currently 10 states with "Bottle Bills" (container deposit laws). These systems are highly effective at recovering beverage containers and providing high quality recovered materials to recycling markets that create jobs. Bottle Bills shift responsibility upstream to container producers but differ among states in the roles and responsibilities assigned to manufacturers, distributors, retailers, and state governments.

The map does not include other laws that contribute to the appropriate management of products, such as disposal bans and sales bans on products containing toxic materials, deposit fees that may be redeemed when the consumer recycles the product, policies requiring retailers to collect products for recycling, and policies requiring the purchase of environmentally preferable products.

Extended Producer Responsibility (EPR) in Alaska?

- Solid Waste Alaska Taskforce (SWAT) convened a workgroup to develop an Extended Producer Responsibility Program white paper
- Would likely require state legislation
- Generally EPR programs are developed product by product
- SWAT's program proposal focuses on e-waste
- Could bring in new funding for e-waste recycling not only for rural community backhaul, but also for recycling industry in urban centers



ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM



EFAB Backhaul Alaska Consultation

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Consultation on finance and governance in three key areas:

1. Structure
2. Organization and Administration
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Product

Summary of consultation discussion

EFAB Backhaul Alaska Consultation

Scenario

- Backhaul Alaska will be functional in March 2021
- \$1M/year at start up; \$3.7M/year in 10 years
- Assume \$500K for start up from grants
- First 2 years, grant funding
- Past that, ongoing funds will be a combination:
 - 40% government
 - 50% other funding
 - 10% program fees
- Unless EFAB recommends differently, organization will be set up as a non-profit
- Administration centralized with possible contracting of program functions

Questions?

What questions do you have about the presentation?

What more would you like to know in advance of the consultation on February 12th?

Thank you

