



Alaska Department of Transportation & Public Facilities

Clean Transportation Roundtable; Launch Alaska

Katherine Keith, PMI, PMI-ACP
Deputy Commissioner
September 12th, 2023

DOT&PF impacts nearly every Alaskan, every day through roads, airports, ferries, and more.

5,638 center line miles / **11,756** lane miles of roads/highways

74 DOT&PF staffed Maintenance Stations*

237 Rural Airports, **2** International Airports

9 Active Ferries, **35** Ports of Call

16 Harbors, **1** set of Breakwaters

839 DOT&PF owned bridges
3 DOT&PF owned tunnels

7,371 pieces of state equipment & vehicles

839 Public Facilities maintained, inclusive of **731** DOT&PF owned

9 Weigh Stations

2.5 mile Anton Anderson Memorial Tunnel

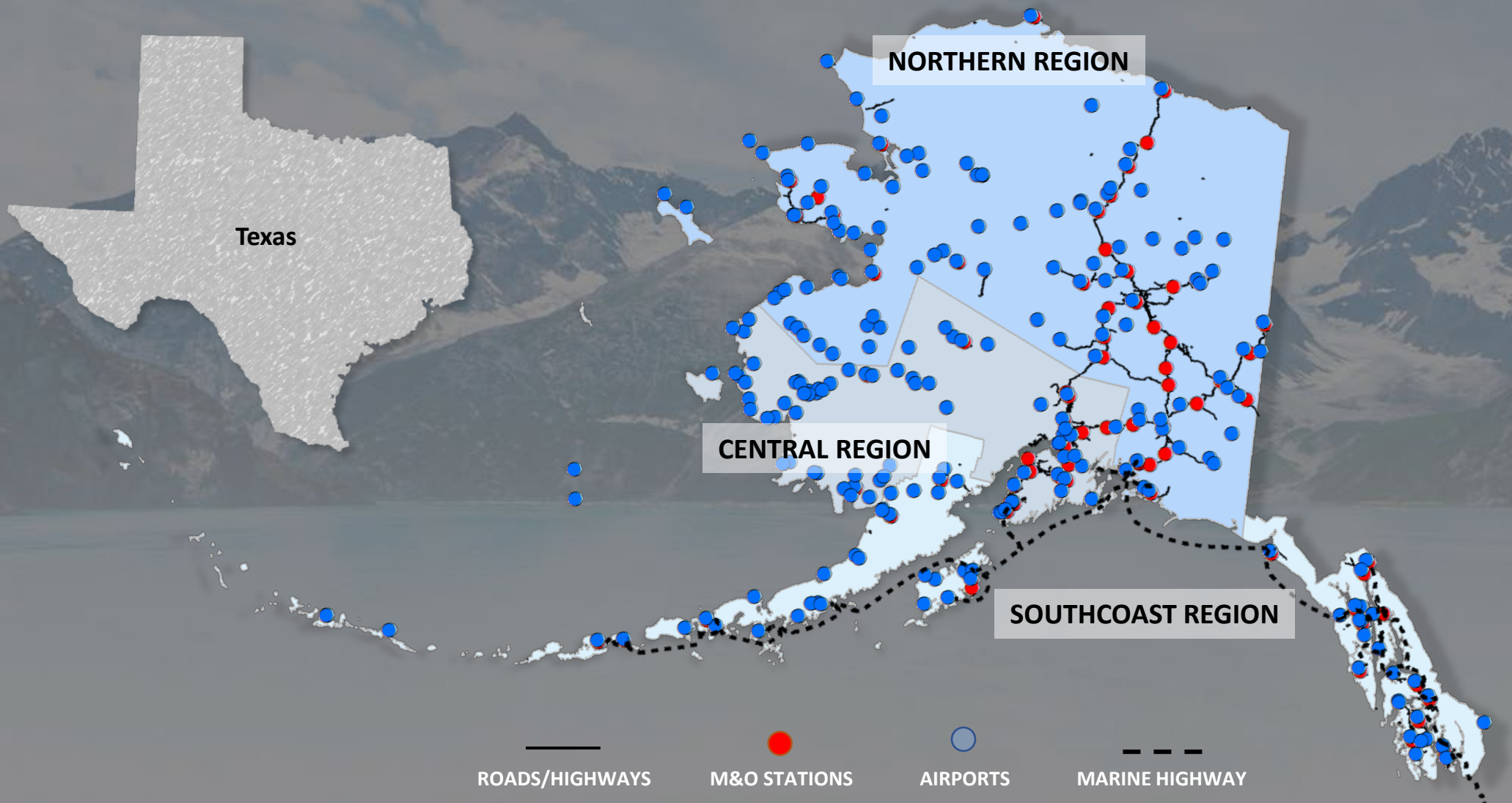
Approximately **\$12.6B** in transportation assets*

3,386* permanent full-time, part-time and non-permanent employees in 8 labor unions in 83 locations*

*2021 Information



Infrastructure in Alaska



SAFETY
FIXING EXISTING INFRASTRUCTURE
ECONOMIC VITALITY
RESILIENCY
SUSTAINABILITY



Investment Area: Sustainable Transportation

Help communities thrive through transportation investments that promote independence, efficiency, low-cost transportation, and a healthy & quality of life.



Wales at Sunset. Photo by Katherine Keith, Alaska DOT&PF

Teaming for Success

DOT&PF

Multi-modal transportation operations and management

Alaska Energy Authority

Reducing the cost of energy in Alaska

ACEP & Universities

Providing applied research and testing for lowering energy costs in Alaska



National Labs

Research, development, commercialization and deployment of energy technologies

Utilities

Providing safe, reliable, and affordable power

Industry Innovators

Organizations, companies, and people introducing new products and services

Alaska Carbon Reduction Strategy



DRAFT SEPTEMBER 2023



PHOTO: Governor Dunleavy, Commissioner Anderson, stakeholders, local leaders, and community members at a ribbon cutting

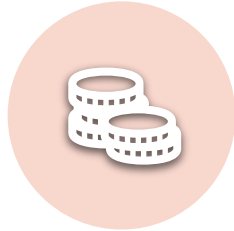


STEP Guiding Principles

Viabile

Equitable

Bearable



ECONOMIC
DEVELOPMENT

SOCIAL EQUITY

ENVIRONMENTAL
QUALITY

1

Offer choices of affordable transportation and support a competitive economy.

2

Promote equity within and between successive generations.

3

Limit air, water, and noise emissions, waste, and resource use.

Sustainability in the Statewide Transportation Improvement Program (STIP)

Count of Projects

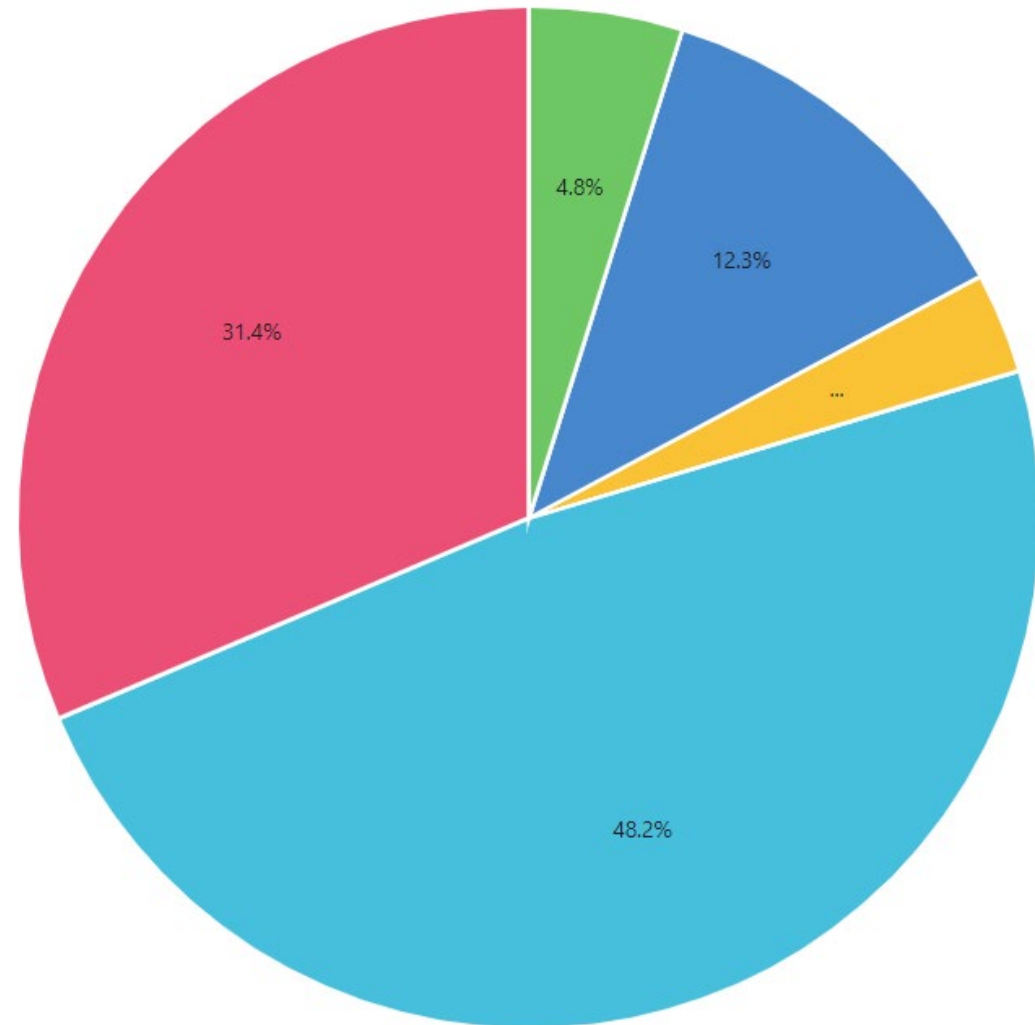
35

Fund Source

- Urban
- Corridor
- Alaska-wide
- Waterways
- Rural

Sum

\$627,515,318



Source: Energy Information Administration, Electricity Net Generation



Funding

Carbon Reduction Program

National Electric Vehicle Infrastructure (NEVI) Formula Program

Low-No Emission Vehicle Program

Ferry Boat Formula Funds; Low-Emission Electric Ferry

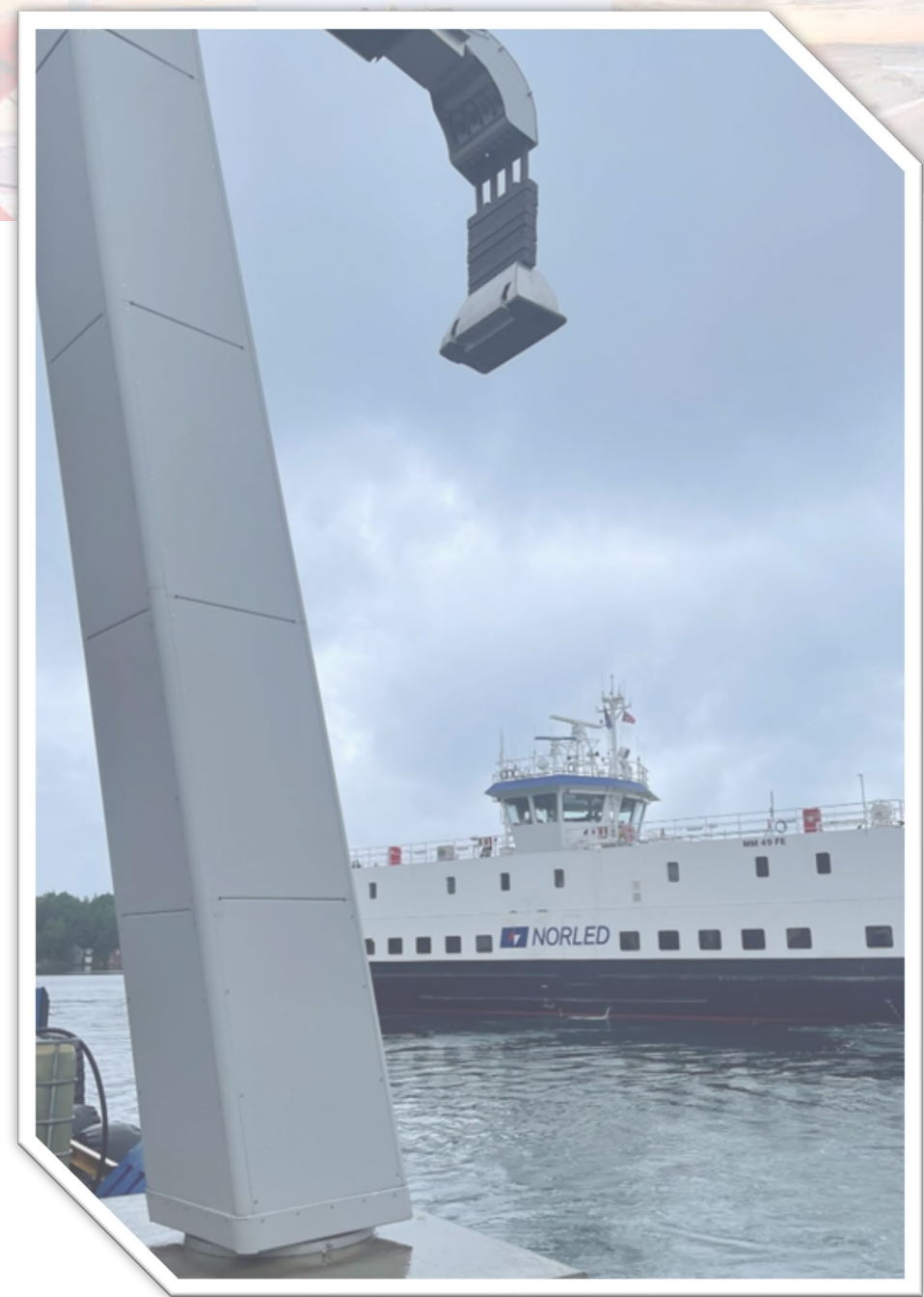
Reduction of Truck emissions at Port Facilities

CMAQ: Congestion Mitigation and Air Quality Improvement

EPA Clean School Buses

Charging and Fueling Infrastructure Grants

Other discretionary grant programs



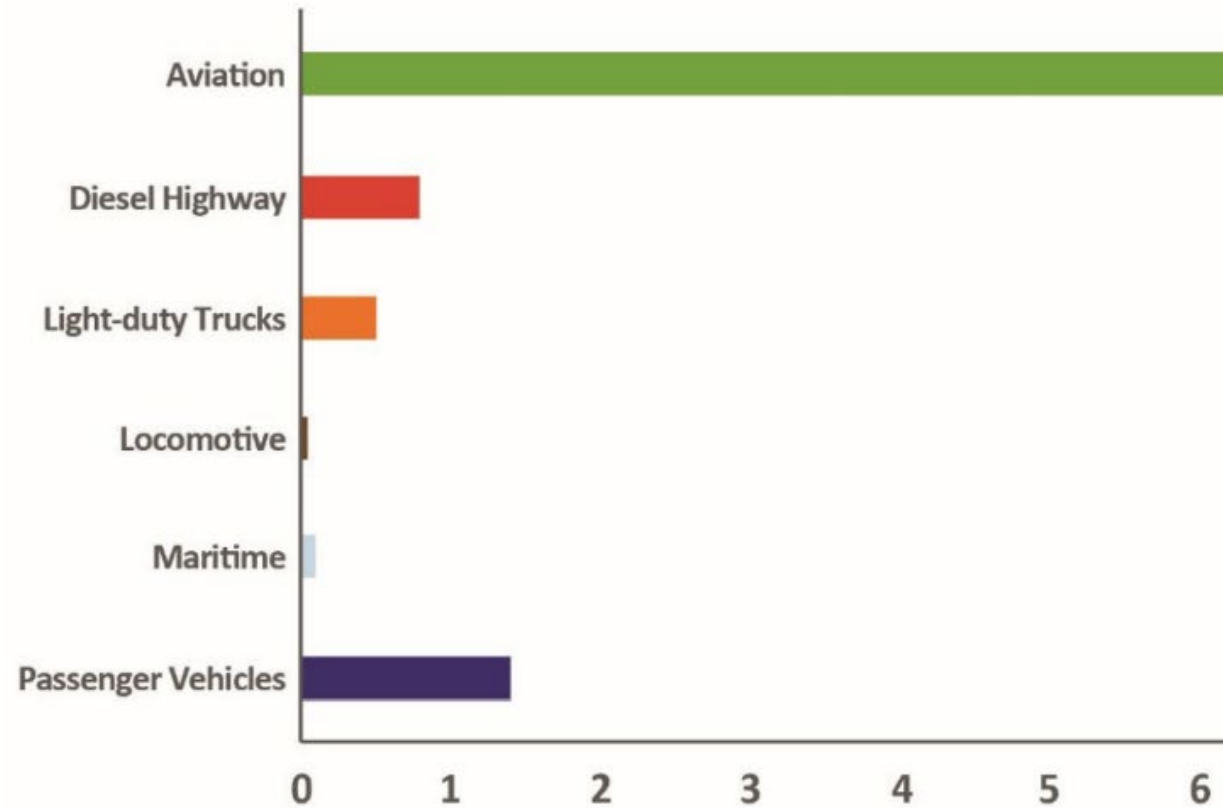
Zinus shoreside charger & Norled electric ferry in Norway

Project Name (Draft 2024-2027 STIP)	\$ '24-'27 All
Congestion Mitigation and Air Quality Improvements: Statewide	\$14,120,000
Congestion Mitigation Air Quality Improvements: AMATS	\$10,285,850
International Airport Charging Stations	\$10,000,000
Air Quality Mobile Source Modeling	\$800,000
Air Quality Public Education	\$800,000
State Implementation Plan Committed Measures	\$8,527,548
Congestion Mitigation and Air Quality Improvements: non-AMATS MPOs	\$6,400,000
Air Quality Planning Project: Fairbanks	\$320,000
Carbon Reduction Program: Rural	\$18,000,000
Carbon Reduction Program: AMATS	\$15,737,321
Southeast Alaska Port Electrification	\$14,500,000
Carbon Reduction Program: non-AMATS MPOs	\$3,777,068
Sustainable Transportation and Energy Program	\$48,000,000
Light up the Highways	\$20,000,000

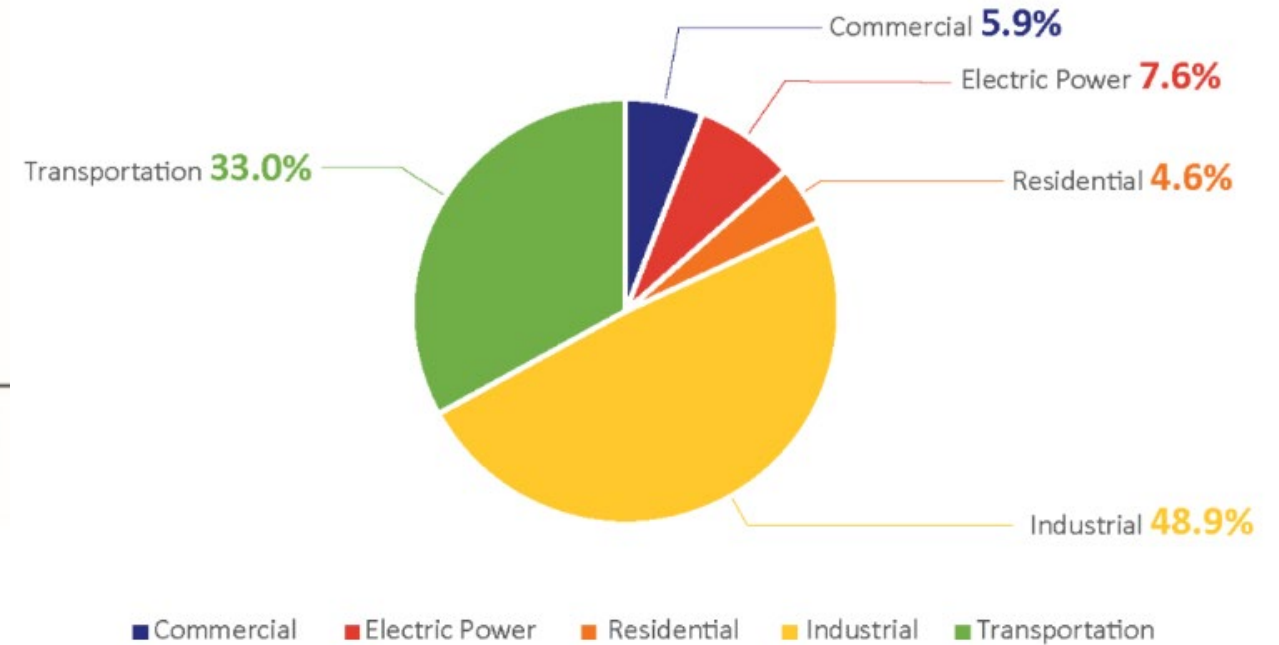
Project Name (Draft 2024-2027 STIP)	\$ '24-'27 All
Low No Emission Shuttle Ferry	\$45,000,000
Low No Emission Electric Buses and Charging Stations	\$30,636,421
M/V Kennicott Emissions and Exhaust	\$13,881,118
National Electric Vehicle Infrastructure Program	\$51,000,000
Recreational Trails Program	\$7,000,000
Whitshed Road and Pedestrian Improvements	\$26,000,000
Data Modernization and Innovation	\$64,000,000
Transportation Alternatives Program: Alaskawide	\$22,500,000
Bus and Bus Facilities	\$42,000,000
Rural and Small Urban Public Transit Systems	\$24,000,000
Transit Asset Management	\$8,875,000
Transit Radio and Communication System	\$2,000,000
Non-Urban Transit Planning: Statewide	\$2,000,000
Rural Transit and Rural Transit Assistance Program	\$65,736,112

Establish Baseline

Alaska CO₂e Emissions per Mode of Travel (MMTs)



Alaska CO₂ Emissions by Economic Sector in 2020



Source: ADEC



Understanding Trends

Alaska Historical and Reference Case GHG Emissions, by Sector (MMtCO₂e) ADEC

	1990	2000	2005	2010	2020	2025
Aviation	7.15	10.6	12.9	13.1	13.4	13.7
Marine Vessels	0.83	0.48	0.61	0.72	1	1.17
On-road Vehicles	3.41	3.71	4.19	4.55	5.57	6.2
Rail and Other	0.082	0.075	0.056	0.057	0.062	0.063
Transportation TOTAL	11.5	14.9	17.8	18.5	20.1	21.1

What do Carbon Emissions look like?

	Current Emissions (MMT/year)	Emissions After 15% Reduction (MMT/year)	Emissions After 30% Reduction (MMT/year)
Passenger vehicles	1.4	1.19	0.98
Diesel highways	0.8	0.68	0.56
Light-duty trucks	0.5	0.43	0.35
Maritime operations	0.1	0.085	0.07
Locomotives	0.03	0.025	0.02
Total	2.83	2.41	1.98
Reduction from Baseline	0	0.42	.085

Identify Pathways Forward

Program Focus Areas



Autonomous ferry in Trondheim, Norway

Sustainable Transportation & Energy Research

Energy Independence Investments

AMHS Fleet Modernization

Statewide Equipment Fleet Modernization

Sustainable Transit

Low-Cost Transportation

Energy Efficiency

Healthy Environment

Equitable Transportation

Sustainable Freight

Pilot Pathways

- Solar Power Farms on Airport Property and in ROW
- Compressed Natural Gas Buses and Charging Infrastructure
- Pilot Low-No Emission Shuttle Ferry
- Implement intelligent transportation systems (ITS)/efficient traffic operations
- E-navigation and Smart Control
- 'Green' Procurement Incentives



Efficiency, Modernization, & Emerging

- LED Streetlight Conversions
- Airport EV Charging Infrastructure
- Lights up the Highways!

Project Name	Strategy	Project Location	CO ² Emission Reductions / lbs per year
UAF EV Shuttle Buses and EV Bus Charging Station Infrastructure	Electrification / Mass Transit	Fairbanks	116,615
LED Street Lighting Replacement – Kenai Spur Highway	LED Lighting	Kenai	70,927
Chena Lake Recreation Area Bike & Pedestrian Infrastructure	Active Transportation	Fairbanks	41,103
UAF CNG Shuttle Buses and CNG Bus Fueling Station Infrastructure	Alternative Fuels / Mass Transit	Fairbanks	15,029

Efficiency, Modernization, & Emerging



Alaska Marine Highway System routes



Tustumena Replacement Vessel (TRV) Construction



Low-No Emission Shuttle Ferry Construction



Cruise Line and Port Facilities Electrification



Ferry Retrofits



Legacy of the Fjords-carbon fiber EV ferry Oslo, Norway

Please be a part of the discussion!

Subscribing to updates will allow DOT&PF to inform you of key programmatic milestones and new developments.

There are many ways to leave a comment.

Email us at STEPAK@PublicInput.com

Call us at 855-925-2801 and use the code 3660 to leave a message

Text the letters STEP to 73224

Go online to <http://publicinput.com/STEPAK>

Scan the QR code with your phone.



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