

ALASKA MOVES 2050



Statewide Freight Plan

December 2022



ALASKA STATEWIDE LRTP
FREIGHT PLAN



Alaska Department
of Transportation
& Public Facilities
<http://dot.alaska.gov>

South Harbor Road, Valdez, source DOT&PF

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THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

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Fellow Alaskans:

The Department of Transportation & Public Facilities (DOT&PF) welcomes your participation in the review of this draft of the latest update to Alaska’s Statewide Freight Plan, *Alaska Moves 2050*. Similar to its predecessor completed in 2017, this plan was developed with a rigorous multi-modal analysis of Alaska’s Multimodal Freight Network, along with a commodity flow analysis. In this effort we wish to thank the members of the Statewide Transportation Plan Advisory Committee (STAC) and Statewide Freight Advisory Committee (FAC) for their investment of time and effort in this process, as well as the many members of the public who have visited our website, reviewed the planning documents and responded to surveys.

Among the 50 states, Alaska’s transportation network is uniquely multimodal, and particularly so when it comes to freight. While global patterns of supply and demand fluctuate in response to health crises, market drivers and political events, Alaska remains in a critical geographical position astride Polar and Trans-Pacific air and sea routes, its energy, mineral and fishing resources always in demand, needing transport to national and international markets. Meanwhile Alaska’s communities remain in need of finished goods, refined fuels and food products imported through Alaska’s principal ports and airports, and delivered by truck, aircraft, barge, or some combination thereof.

This is a pivotal time for freight development in Alaska. National and global industry drivers are bringing technological change and innovative solutions to the delivery of goods and services. DOT&PF’s airport, highway and marine highway infrastructure provides much of the capacity. The system lacks redundancy, and designing for resiliency is a key objective in the years ahead. DOT&PF leadership is preparing to help facilitate and support community and region-led efforts to build capacity using opportunities available through the Infrastructure Investment and Jobs Act passed in 2021.

We look forward to your feedback.

Ryan Anderson, P.E.
Commissioner

“Keep Alaska Moving through service and infrastructure.”



Acknowledgments

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*Denotes dual membership on the FAC and the STAC

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About This Document – Federal Planning Requirements

In September 2020, the U.S. Department of Transportation (USDOT) finalized the National Freight Strategic Plan, which outlined the vision and goals of the Department. The USDOT’s vision is “The freight transportation system of the United States will strengthen our economic competitiveness with safe and reliable supply chains that efficiently and seamlessly connect producers, shippers, and consumers in domestic and foreign markets.”

The goals include:



Safety

Improve the safety, security, and resilience of the national freight system.



Infrastructure

Modernize freight infrastructure and operations to grow the economy, increase competitiveness, and improve quality of life.



Innovation

Prepare for the future by supporting the development of data, technologies, and workforce capabilities that improve freight system performance.

FAST Act (2015)

The passage of the Fixing America's Surface Transportation Act (FAST Act) in December 2015 instituted new requirements for state departments of transportation. States must now maintain a freight plan in order to be eligible for funding available through the NHFP. Alaska has historically received \$19 million on average a year as part of this program.

FAST Act requirements for state freight plans were established under 49 U.S.C. § 70202 and must include the following elements:

- An identification of significant freight system trends, needs, and issues.
- A description of the freight policies, strategies, and performance measures that will guide freight-related transportation investment decisions.
- A listing of critical urban and rural freight facilities and corridors.
- A description of how the plan will improve the state's ability to meet national multimodal freight policy goals.
- A description of innovative technologies and operational strategies being considered—including freight intelligent transportation systems—that improve the safety and efficiency of freight movement.
- A description of improvements that may be required to reduce or impede the deterioration of roadways impacted by oversized/overweight vehicles.
- An inventory of facilities with freight mobility issues, such as bottlenecks, and a description of the strategies the state employs to address freight mobility issues.
- Consideration of any significant congestion or delay caused by freight movements and any strategies to mitigate that congestion or delay.
- A freight investment plan that includes a list of priority projects and describes how funds would be invested and matched.
- Consultation with the state freight advisory committee, if applicable.

The FAST Act requirements included additional provisions related to the planning horizon, update intervals, the relationship of the Freight Plan to the Long-Range Transportation Plan (LRTP), and fiscal constraints for the freight investment plan.

Infrastructure Investment and Jobs Act (2021)

The passage of the Infrastructure Investment and Jobs Act (IIJA) in November 2021 further augmented freight plan requirements, under Section 13003—Improving State Freight Plans, which revises Section 70202(b) of Title 49 USC. The following elements are now also required:

- A commercial motor vehicle parking facilities assessment, including an assessment of the state’s capability, with the private sector, to provide adequate parking facilities and rest facilities for freight vehicles engaged in interstate transportation; the volume of commercial freight traffic in the state; and parking shortage analysis.
- The most recent supply chain cargo flows, by transportation mode.
- An inventory of commercial ports.
- If applicable, consideration of findings or recommendations made by any multistate freight compact to which the state is a party.
- The impacts of e-commerce on freight infrastructure.

- Considerations of military freight.
- Strategies and goals to decrease severity of extreme weather and natural disaster impacts on freight mobility, impacts of freight movement on local air pollution, impacts of freight movement on flooding and stormwater runoff and impacts of freight movement on wildlife habitat loss.

Freight plans must state activities that endeavor toward:

- Enhancing the reliability or redundancy of freight transportation.
- Incorporating the ability to rapidly restore access and reliability with respect to freight transportation.

State freight plans must have an eight-year horizon and are required to be updated on a four-year cycle.

Goals of the NHFP

The FAST Act requires the establishment of a National Highway Freight Network, which will consist of the following components:

The Primary Highway Freight System (PHFS);
Critical Rural Freight Corridors;
Critical Urban Freight Corridors; and

Those portions of the Interstate System that are not part of the PHFS. [23 U.S.C. 167(c)]

The goals of the NHFP are as follows.

(1) To invest in infrastructure improvements and to implement operational improvements on the highways of the United States that:

(A) strengthen the contribution of the National Highway Freight Network to the economic competitiveness of the United States;

(B) reduce congestion and bottlenecks on the National Highway Freight Network;

(C) reduce the cost of freight transportation;

(D) improve the year-round reliability of freight transportation; and

(E) increase productivity, particularly for domestic industries and businesses that create high-value jobs.

(2) To improve the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas.

(3) To improve the state of good repair of the National Highway Freight Network.

(4) To use innovation and advanced technology to improve the safety, efficiency, and reliability of the National Highway Freight Network.

(5) To improve the efficiency and productivity of the National Highway Freight Network.

(6) To improve the flexibility of states to support multi-state corridor planning and the creation of multi-state organizations to increase the ability of states to address highway freight connectivity; and

(7) To reduce the environmental impacts of freight movement on the National Highway Freight Network.

23 USC Chapter 1 §167. National Highway Freight Program ([https://uscode.house.gov/view.xhtml?req=\(title:23%20section:167%20edition:prelim\)](https://uscode.house.gov/view.xhtml?req=(title:23%20section:167%20edition:prelim)))

What is a Freight Plan?

A freight plan focuses on the statewide network of ports, highways, airports, rail, ferries, and pipelines that keeps goods moving statewide, nationwide, and around the world. Its plans, programs, and key projects promote safe, efficient, economical freight movement, making the most of the opportunities expected to define the coming years and helping the freight system roll with the challenges—weather extremes, declining workforce, and food security among them.

The plan calls out opportunities for partnerships between the state, local agencies, tribes, privately-owned businesses, and other stakeholders to work together to improve the system's safety, resiliency, and redundancy for all users.

Last but not least, the freight plan strategizes how to make the most of federal funding opportunities. Federal funds are the primary source for meeting Alaska's transportation infrastructure needs.

This document summarizes an extensive planning process that is fully documented in the appendices. It is being released in tandem with the Statewide LRTP, which provides greater context.

What Makes Alaska's Freight System Different?

It's big

Alaska is vast—bigger than California and Texas combined—but it has the fifth lowest road mileage in the nation and the fourth smallest state population, with an estimated 734,000 residents in 2021.

That population is spread out and wide-ranging in its needs, from the urbanized Anchorage/Mat-Su economic region with a population of 398,500 people served by ports, rail, and trucks, to the 82-percent majority of remote and roadless communities that depend solely on air and marine freight.

Supply chains here are unusually long, extending not just statewide and nationwide, but worldwide. In addition to varied local communities and the lower 48, Alaska's freight system must meet the needs of air freighters stopping for fuel on their way from airports in Asia to destinations around the world.

Highways, bridges, airports, rail, and harbors have to be maintained to keep them in good condition and safe for the traveling public. Good condition is vital for efficient response to emergency and weather-related situations. Snow and ice, fallen trees, mud, and landslides need to be cleared, and roadway/airport flooding mitigated to keep goods flowing. Over time, even the best-maintained infrastructure needs to be reconstructed or replaced.

It's connected, but independent

Because the freight system is made up of transportation facilities owned and operated by the state, boroughs and cities, transit agencies, ports, shippers, the Alaska Railroad Corporation, and many other private operators, understanding how the system is performing is challenging—but it's also vitally important.

Alaska's freight transportation system is unique

- A 3,500-mile ferry system stretching from Bellingham, WA to Unalaska, depended upon by 35 Alaska communities
- The nation's largest inland waterway system.
- The second-largest airport in terms of total freight tonnage nationally (ANC).
- A railroad that does not connect to other states or to another railroad.
- A single port that receives the majority of all goods entering the state (Port of Alaska in Anchorage).
- The 35 miles of the Glenn Highway between Mat-Su Valley and Anchorage sees 33,000+ vehicles daily with 2,000 trucks. There is no viable alternate route.

DOT&PF Fast Facts

5,635
center line miles

2
international
system airports

11,894
lane miles of
roads/highways

35
ports of call

839
DOT&PF owned
bridges

74
maintenance
stations

9
weigh stations for
freight movement

**Anton Anderson
Memorial Tunnel is
the longest highway
tunnel in North
America at**

10
ferries

2.5 Miles

235
state airports

17
harbors

Alaska's Freight System Goals

The next 25 years will be as different as Alaska is

Growth, funding challenges, evolving technology, and the effects of climate change will demand flexibility and resilience in the coming decades.

Through it all, connecting people and goods, from the remote north to the big city, is the guiding ethos of the Alaska Moves 2050 LRTP and Freight Plan.

The plan outlines goals, actions, and project priorities that will position the Alaska Department of Transportation and Public Facilities (DOT&PF), its planning partners, multimodal freight stakeholders, and policymakers toward one vision—to keep Alaska's freight moving efficiently and safely.

GOALS

Safety

Increase safety for all modes during the movement of freight

Mobility and Access

Move goods safely, reliably, and cost-effectively across Alaska

Economic Vitality

Facilitate economic growth and lower the cost of goods and services

State of Good Repair

Keep what we have in a state of good repair



Resiliency

Have a freight network that can recover quickly from disruptions

Sustainability

Promote a sustainable, clean, equitable freight system

Strategic Partners

Collaborate with other levels of government, industry partners, and the public

Stewardship of the Transportation System

Find the best, most affordable ways to improve the freight network

Performance-Based Management

Have stable, flexible, and long-term funding sources

Transportation Innovation

Leverage innovations that benefit safety, efficient freight movement, and work force needs

Who Helped Create this Plan?

To achieve the goals of the *Alaska Moves 2050* Freight Plan, it was essential to connect with those who have a considerable investment in freight issues and could offer valuable input and feedback in the planning process. A Freight Advisory Committee (FAC), appointed by the Commissioner, provided specific guidance regarding freight and good movement issues and will continue to play a role in the Freight Plan's implementation.



Who participated

State and Federal

Alaska Department of Transportation & Public Facilities

Federal Highway Administration

Western Federal Lands Highway Division

Maritime Administration

Tribal Transportation

Governor's Tribal Advisory Council

Interior Tribal Advisory Council

Association of Village Council Presidents

Metropolitan Planning Organizations

Anchorage Metropolitan Area Transportation Solutions

Fairbanks Area Surface Transportation Planning

Mat-Su Metropolitan Planning Organization (still in formation)

Local Government/ Agency

North Slope Borough

Kenai Peninsula Borough

City and Borough of Juneau

Alaska Municipal League

Denali Commission

Military

Joint Base Elmendorf Richardson

United States Coast Guard

Defense Logistics Agency



Highway Freight Interests

- Alaska Trucking Association
- Carlile Trucking
- Roads and Highways Advisory Board
- Weaver Brothers

Marine

- Marine Transportation Advisory Board
- Port of Alaska
- Totem Ocean Trailer Express

Rail

- Alaska Railroad Corporation

Tourism/Cruise Industry

- Holland America—Princess

Air Freight Interests

- Alaska International Airport System
- Aviation Advisory Board
- United Parcel Service

Others

- Alaska Industrial Economic Development and Export Authority
- University of Alaska
- Alaska Energy Authority
- Over 2,400 Alaskans

For Alaska's Freight System, Performance is Destiny

Planning based on performance

DOT&PF is committed to a data-driven, systemic approach to investing transportation dollars—one that involves close collaboration with planning partners and freight stakeholders.

The framework of this approach is performance-based planning.¹ Tracking performance metrics, setting data-driven targets, and selecting projects to meet those targets makes it easier to see over time what's working and what isn't, leading to more informed decision-making.

By monitoring system performance over the life of the Freight Plan, DOT&PF can measure its progress toward meeting its goals and the varied needs of Alaska's communities.

Making the most of available funds

The National Multimodal Freight Network (NMFN)

In 2015, the USDOT developed a NMFN as part of its National Freight Strategic Plan. This expansive network of highways, railways, ports, waterways, airports, pipelines, and other important freight facilities was established to support economic growth and competitiveness and to enhance commerce through lower business and consumer costs.

The NMFN carries most of the freight that moves throughout the state. By designating this system, DOT&PF is able to leverage federal funds and to focus its limited resources on the portions of the system that have the greatest impact on freight movement.

The NMFN and associated policies were designed to inform freight planning processes, prioritize investments, and assist in resource allocation to improve system performance and support freight efficiency at both the state and national levels.

¹ Performance-based planning has been an area of special emphasis in the past three federal surface transportation packages, including Moving Ahead for Progress in the 21st Century (MAP-21) in 2012, the Fixing America's Surface Transportation (FAST) Act, 2015, and the recent Infrastructure Investment and Jobs Act (IIJA) of 2021.



ALASKA MARINE LINES

AML 53

VP STAR SITE
LFOAM

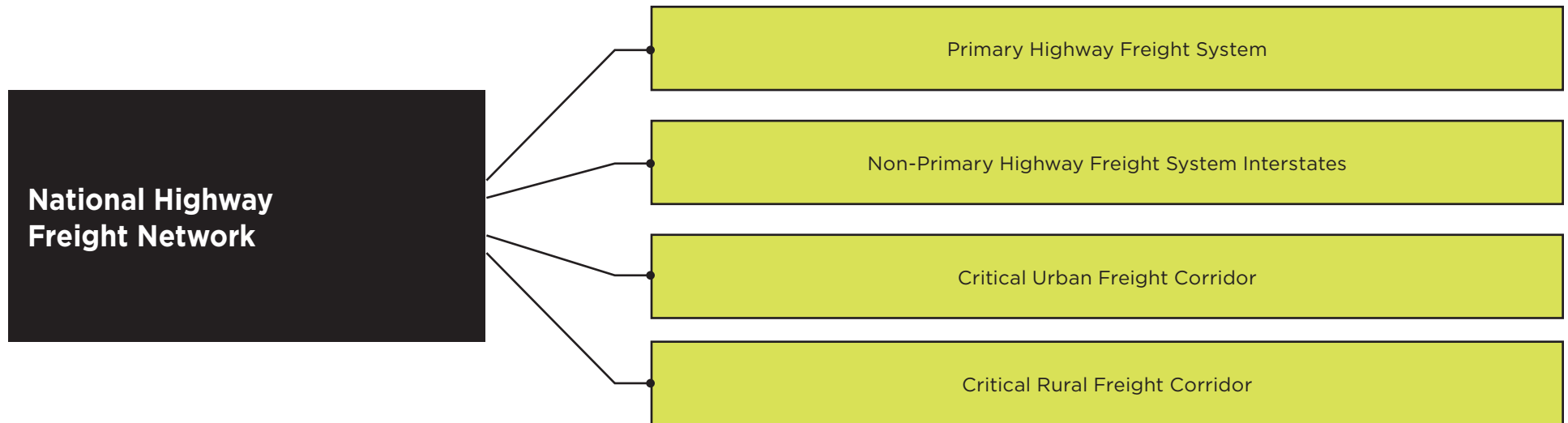
BUILDERS CHOICE

DEERE

GATX 207524

Port of Alaska, source Lee Rodegerdts

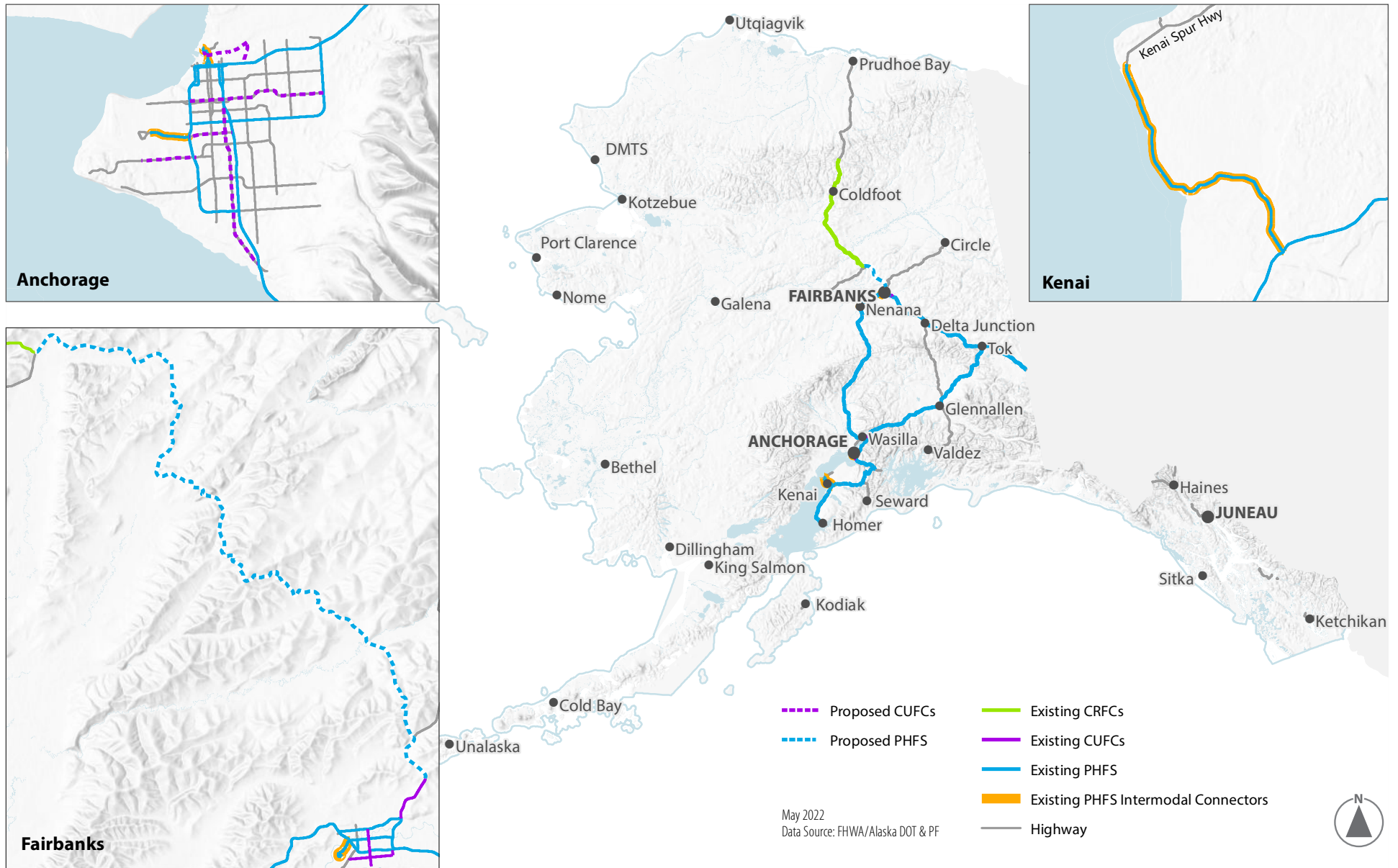
Figure 1: National Highway Freight Network Components



The NMFN includes the National Highway Freight Network, which includes the highway portion of the NMFN. System elements that are designated as part of the NMFN are eligible for freight-specific federal funding. The federally-designated freight network components include the Primary Highway Freight System (PHFS), Critical Urban Freight Corridor (CUFC), and Critical Rural Freight Corridor (CRFC) routes, as shown in Figure 1. Federal Highway Administration (FHWA) allocates specific mileage allotments of each type of route designation to each state. Existing routes are currently certified by FHWA and proposed routes are those identified through this Freight Plan development process as priorities for DOT&PF to pursue federal designation.

Maps and tables further describing the federally-designated freight network components can be found in Appendix I.

Figure 2: National Highway Freight Network



The Statewide Multimodal Freight Network

The Statewide Multimodal Freight Network serves a complementary but separate purpose to the National Multimodal Freight Network. It is a dynamic planning and programming tool with the network designated by the state, with the FAC's input, rather than the federal government and easily added to or modified.

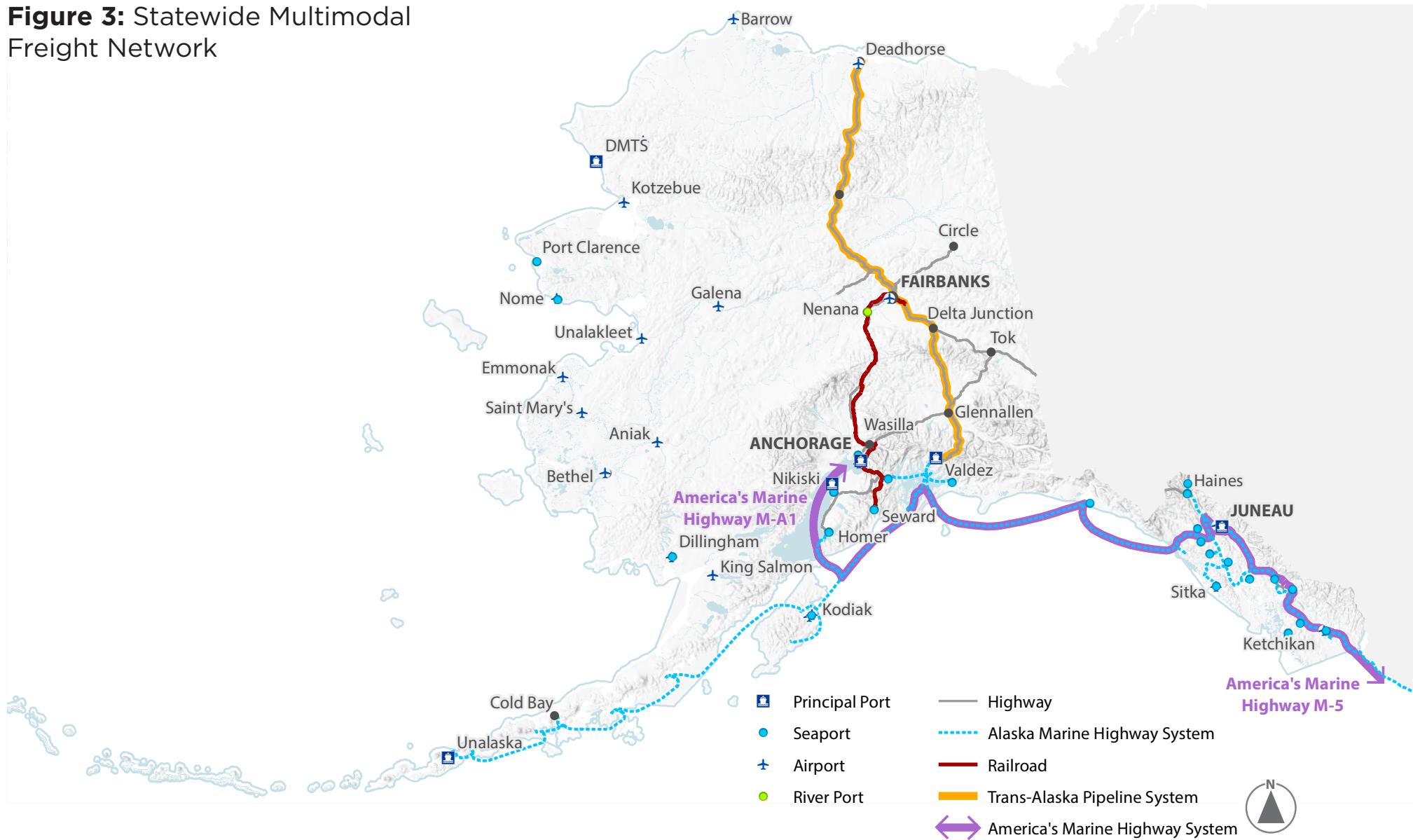
Alaska's Statewide Multimodal Freight Network was designed to place emphasis on multimodal infrastructure and facilities that play a critical role in supporting the state's economy, exporting natural resources, and importing essential consumer products that improve quality of life.

Like the freight network at the federal level, the statewide network provides benefit to Alaska's transportation system by offering a foundation to focus limited funding resources on the portions of the system that have the greatest impact to freight movement. DOT&PF, the State Freight Advisory Committee (FAC), and other freight stakeholders reexamined the Statewide Multimodal Freight Network originally developed in the 2016 LRTP and identified new additions as part of the 2050 plan update, including:

- Port of Haines
- Port of Nenana
- Port Clarence
- Whittier Tunnel
- Haines Highway
- Klondike Highway
- Front Street (Nenana)
- A Street (Nenana)

Maps and tables further describing the components of the Statewide Multimodal Freight Network can be found in Appendix I.

Figure 3: Statewide Multimodal Freight Network



July 2022
 Data Source: FHWA/Alaska DOT & PF
 U.S. Army Corps of Engineers (Principal Port: 2020 top ports based on annual tonnage)

Potential Game-Changers

Understanding context is critical to developing a plan that works. DOT&PF considered the impacts of a multitude of demographic, technological, economic, geographic, geopolitical, and other factors, many of which have shifted dramatically since the previous LRTP update. Below are some of these major potential game-changers and how they could interact with Alaska's freight system.



Global Trade. While Alaska is a net exporter of goods, it is highly dependent on imported goods from other states and countries. Its strategic position between the continental United States and other Pacific Rim countries ensures its place as an air cargo freight hub in the facilitation of global trade. This could expand to an air to sea hub in the future.



Emerging Technologies. New technologies across several modes of freight transportation will change the way Alaska needs to think about freight movement.



Climate Change. As less ice forms over the Arctic and forms later each year, shipping over the Northwest Passage creates opportunities for reduced shipping time between Asia and Europe. Growing traffic through the area will cause U.S. Coast Guard and Navy missions to orient toward the Arctic, offering opportunities for the Ports of Alaska, Nome, and Unalaska as the U.S. Departments of Defense and Homeland Security look for ports to support their ships and crews. The U.S. Army Corps of Engineers (USACE) has identified Nome as the most practical northern location for harboring large vessels in Western Alaska.



E-commerce and same-day delivery. Growth in e-commerce has changed American shopping habits. This trend has accelerated through the COVID-19 pandemic. Adobe Analytics (which tracks activity on thousands of websites) reports that e-commerce sales in the United States overall rose to \$813 billion in 2020. This trend has driven growth in distribution operations and triggered millions of dollars of investments in supply chains and businesses to meet online shopping demand. This ongoing trend will have implications on first- and last-mile freight connections.



Broadband and internet connectivity. Connections to broadband and internet are critical for streamlined operations and data collection, analysis, and system monitoring.



Smart supply chains. Private companies, such as Amazon, United Parcel Service (UPS), and FedEx, are continuing to innovate and modernize through the deployment of smart supply chain technologies. Alaska's position as an economic gateway for domestic and international trade makes monitoring developments in the supply chain critical to freight movement planning.



Connected and automated vehicle technology. Freight modes continue to be a leader in the deployment of connected and automated vehicle technology nationwide (for example, truck platoons in the Lower 48 that use connectivity technology and automated driving support systems to enable vehicles to drive very close together). Features that promise to improve the safety and efficiency of freight movement are already being introduced.



Freight vehicle electrification. Electrification of freight vehicles such as aircraft, trucks, and ferries would improve environmental sustainability; but require additional infrastructure and costs such as charging stations, backup batteries, and maintenance and repair facilities.



Unmanned aerial systems. Unmanned aerial systems are breaking ground and Alaska is a leader in their research, testing, and evaluation for freight delivery.



Resiliency. The lack of redundancy in Alaska's transportation system makes resiliency a top priority. Major events (e.g., landslides, avalanches, earthquakes), climate change and environmental impacts (e.g., melting permafrost, subsidence, erosion, flooding), or infrastructure damage could lead to downtime and closures. These delay the movement of essential goods and services to communities or essential intermodal connections.



Natural resource development. Natural resource development and mining extraction are expected to grow by over 15 percent over the next decade. With growth in the freight-dependent sector, Alaska's freight transportation system must be prepared to accommodate large, heavy loads of metallic and mineral ores for use in manufacturing and processing in the state and for export to other states and nations. Reductions in oil production also impact Alaska's economy, as it is strongly dependent on the industry. This could lead to shortfalls in funding needed to improve freight transportation efficiency and connectivity.



Available workforce. Much of Alaska's workforce and wages are directly linked to freight-dependent industries; however, these industries are forecasting employment declines. Specifically, retail employment in Alaska is experiencing declines due to e-commerce growth, which was amplified by the COVID-19 pandemic. Additionally, workforce shortages ranging from engineers, to drivers, to maintenance personnel are hindering opportunities for freight facilities to accommodate growing freight demand and new innovative technologies.

Commodity Flows and Trade

Freight transportation has often been described as “the economy in motion.”

Alaska’s freight system connects the state’s shippers and receivers to the global supply chain. Moving goods safely and efficiently is important to the growth of Alaska’s economy. The state is in a unique position in that it exports raw materials and commodities to other states and countries but must import most of the consumer goods its workforce and population require.

Top Commodities

International Trade

Alaska conducts trade frequently with several Asian countries, including South Korea and China. Top import commodities from international trading partners include petroleum products and machinery, while top exports include metallic ores, fish products, and wood products. Total import value from international trade increased by nearly 39 percent between 2017 and 2020, while export values declined by 7 percent over the same time frame.

Domestic Trade

Crude petroleum, metallic ores, and meat/seafood products continue to be top commodities that are both exported and domestically transported. Top inbound commodities by weight include mixed freight, gasoline, fuel, and foodstuffs. Within Alaska, top commodities transported by weight include gasoline, metallic ores, and gravel, aligning with the strong presence of natural resource extraction in the state; however, live animals and fish are forecasted to become the leading commodity transported within Alaska by 2050.

Alaska’s trade patterns rely on all modes of freight transportation.

The highest *total trade value of commodities, both imported and exported, travels by air or multiple modes.*

By weight, 46% travels by marine/riverine² and 27% by truck.

² “Marine/Riverine” (or “water”) includes shallow draft shipments (barges) as well as deep-draft and intra-port shipments; however, the data cannot be separated out by shipment type. Alaska’s strategic position between the continental U.S. and other Pacific Rim countries ensures its place as a freight hub for global trade. This can be seen in ANC’s status as the number 2 airport in the U.S. in total landed freight and number 5 in the world for cargo throughput.

Total freight movement within, into, and out of Alaska is expected to grow through the plan horizon year, 2050.

Total tonnages carried by air and by truck are expected to increase by approximately

83 percent
and

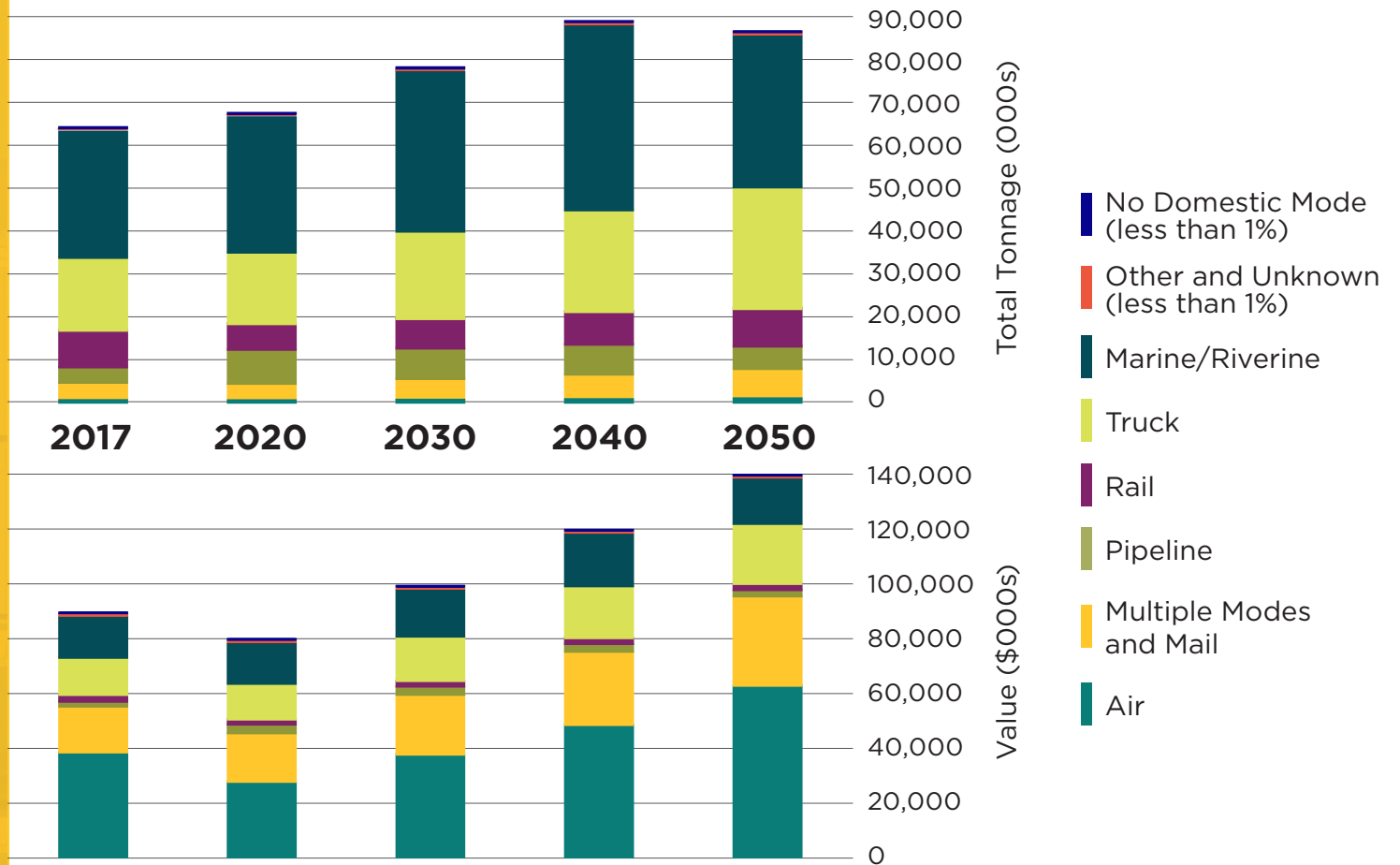
66 percent
respectively.

Freight moved by multiple modes is expected to grow by

over 95 percent,

when considering total value, followed by trucking (61 percent) and air (64 percent).

Figure 4: Freight Moved by Mode (Within, Into, and Out of Alaska)

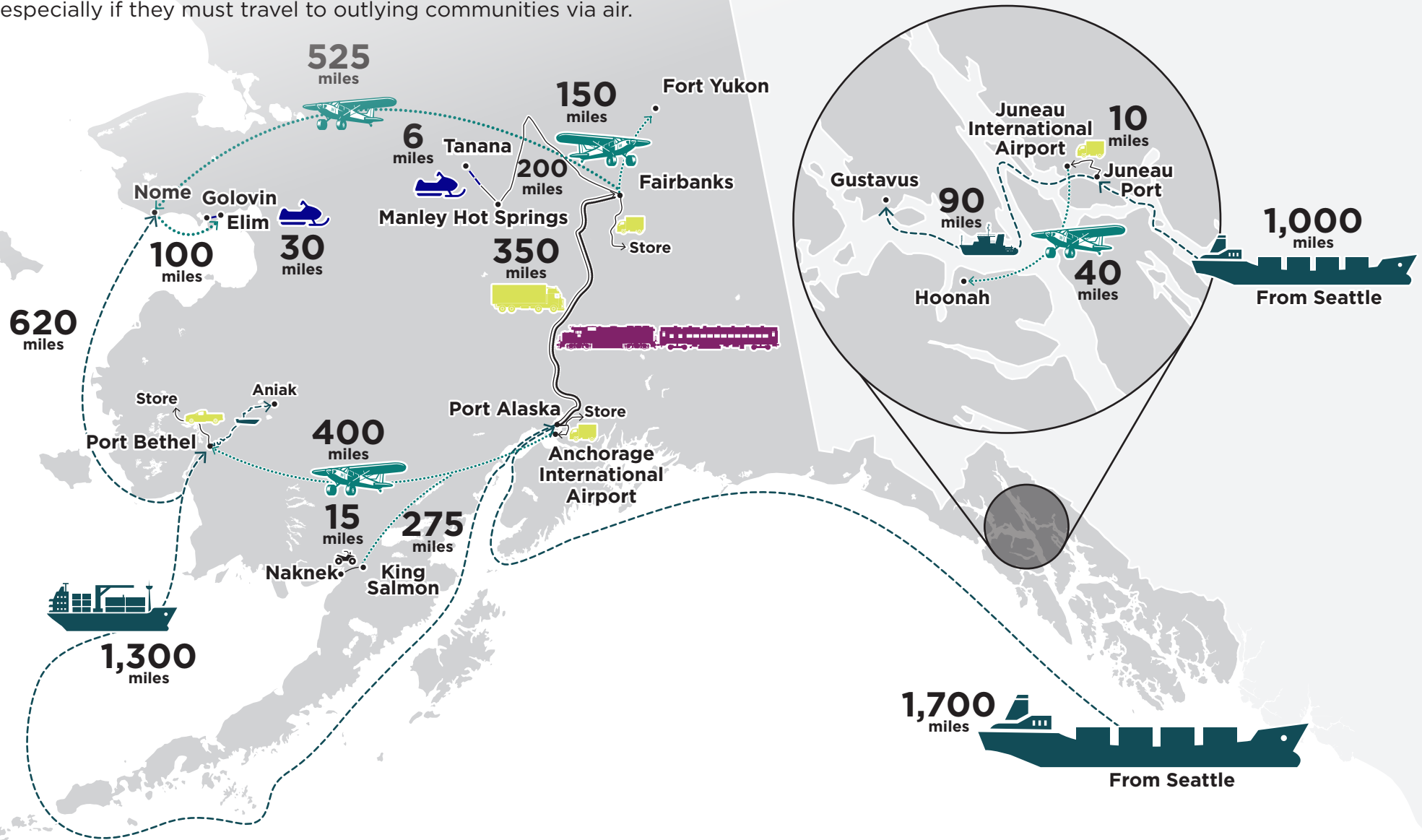


Source: FAF5

More detailed commodity flow tables and further information by mode from the Freight Analysis Framework, Version 5 (FAF5) can be found in Appendix D.³

³ The freight data used throughout the “Commodity Flows and Trade” section is based on the FHWA Freight Analysis Framework, Version 5 (FAF5), which has a base year of 2017. This was the latest and most reliable set of national freight data available during the development of this plan. FAF5 integrates data from multiple sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all transportation modes. It provides estimates for tonnage and value by region/state of origin and destination, commodity type, and mode. Freight movements often cross political borders. FAF quantifies these movements by sorting value and weight either originating or terminating within or outside a state or passing through the state.

Alaska depends on a resilient hub-and-spoke network for delivering goods and people to communities around the state. Any break in the chain puts Alaskans at risk. The graphic illustrates eggs on a common journey to Interior, Western and Southeast Alaska, but other products like heating fuel and construction materials travel in much the same way at significantly higher costs, especially if they must travel to outlying communities via air.



The Freight System

All the components of Alaska's multimodal freight transportation system work together to allow the state's shippers and receivers to transport goods cost-effectively to the people and businesses that depend on them. Each transportation mode has its own set of freight carriers using a variety of unique infrastructure assets. Some of these assets, such as ports, airports, and rail terminals, are known as intermodal facilities and are designed to bring together different modes. Different networks, fleets, and facilities have different owners, which may be public or private.

Did you know?

Alaska is the biggest state in the U.S. and also larger than the combined area of the 22 smallest states. Alaska boasts the northernmost (Point Barrow) and the westernmost (Amatignak Island in the Aleutians) points in the United States.



Port of Alaska, source Erik Hill

Marine/Riverine

Alaska's ports and waterways provide transportation for essential services, recreation, tourism, and economic development. They provide critical connections to many of the state's more remote communities. While the vast majority of waterborne freight tonnage is associated with deepwater coastal ports, Alaska also has the most inland waterway mileage of any state, with ports on the Yukon, Kuskokwim, Tanana, and other rivers. These smaller inland ports are vital links for many local communities.

Alaskan Port System

As a maritime state, Alaska's ports are intermodal facilities that interact with DOT&PF facilities and support the flow of goods across various transportation modes. In a supply chain context, the state's ports are waypoints or nodes, not destinations in and of themselves. They represent one mode of transportation facilitating the movement of freight across others. The ports' relationship with other modes is dynamic under differing

business circumstances—sometimes the facilities work together as business partners, sometimes they compete with one another, and sometimes they are customers of each other. The importance of the state's ports—particularly the Port of Alaska—cannot be overstated. The Port of Alaska is a true multimodal port, connecting to the Alaska Railroad, the Alaska Highway System via the Glenn and Seward highways and ANC. The route between Alaska, Hawaii, and Washington recently received a Marine Highway Project Designation by the U.S. Department of Transportation's Maritime Administration (MARAD) as part of the America's Marine Highway Program. This designation emphasizes the importance of this route as a cost-effective and environmentally sustainable way to transport goods. The America's Marine Highway Program supports the increased use of waterways to complement the surface transportation system.

Did you know?

For the six-year period ending in 2020, overall freight tonnage at the Port of Alaska has increased by nearly 25 percent. The Port of Alaska handles half of inbound freight movement, which is then consumed by nearly 90 percent of the population. Between 70 and 75 percent of this freight stays in the Anchorage/Mat-Su region. Once freight leaves the Port, it is distributed throughout the state via truck, airplane, barges, or rail.

DOT&PF Fast Facts

476 ports and harbors

58 used for commercial purposes

5 ports are among the nation's busiest ports by volume⁴

0 port facilities are owned by DOT&PF

Nearly all Alaska's ports are privately owned or owned and operated by local municipalities, but interact with DOT&PF-owned infrastructure.

MARAD

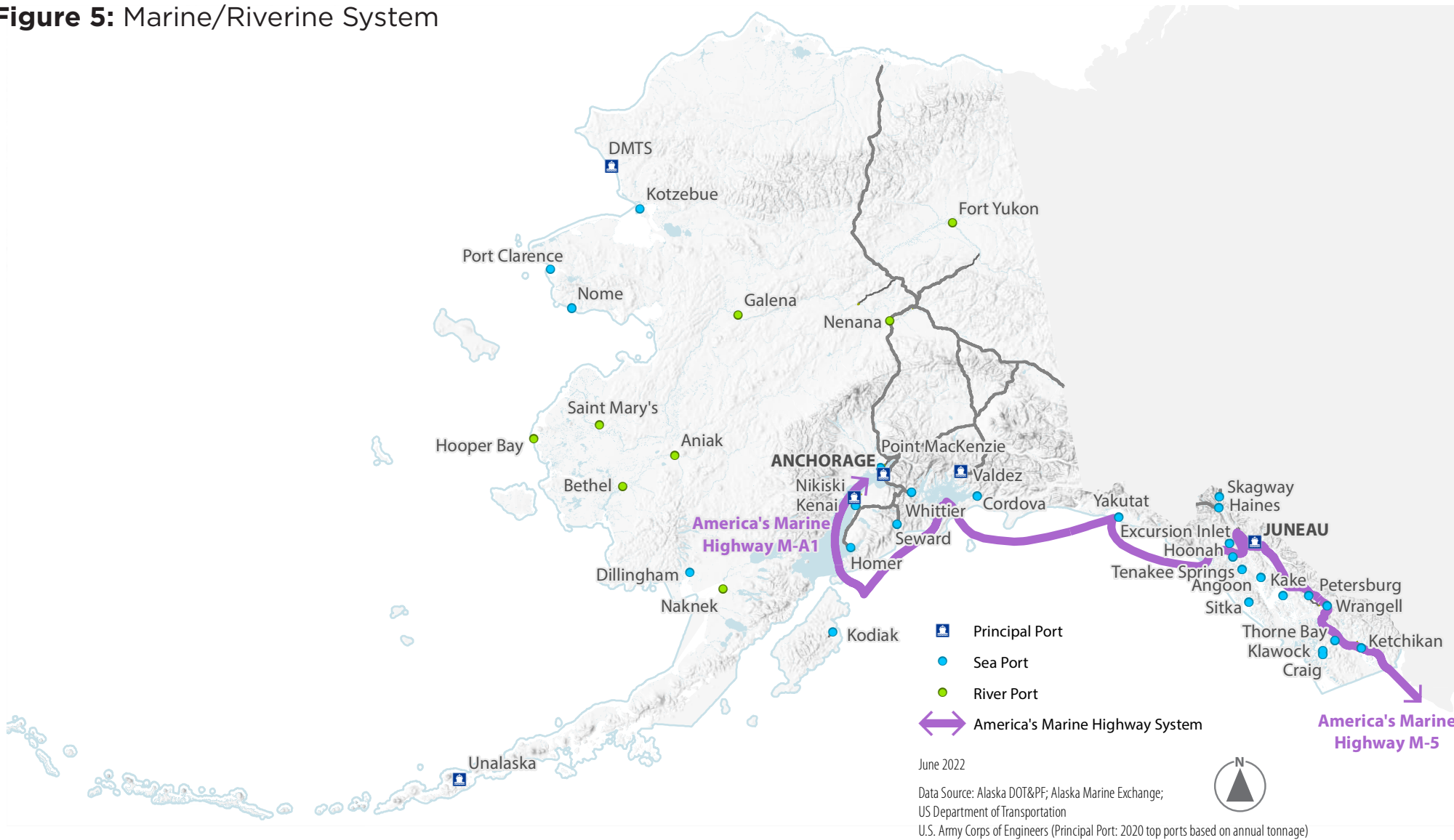
The United States Maritime Administration (MARAD) is an agency of the U.S. Department of Transportation (USDOT). MARAD supports the technical aspects of America's maritime transportation infrastructure—things like ships and shipping, port and vessel operations, national security, environment, and safety. As DOT&PF launched the update of its freight plan, it convened a meeting with MARAD representatives to promote the use of waterborne transportation and integrate it seamlessly with other methods of transportation.

Top commodities by weight carried by waterborne modes in Alaska include gasoline, crude petroleum, coal, and fuel. *By value*, gasoline remains a leading commodity; however, it is second behind meat and seafood products.

Alaska also has the most inland waterway mileage of any state, with ports on the Yukon, Kuskokwim, Tanana, and other rivers.

⁴ The Ports of Alaska, Valdez, Unalaska, Nikiski, and Delong Mountain Transportation System (DMTS). United States Department of Transportation—Bureau of Transportation Statistics. Principal Ports. 2020. <https://www.bts.gov/principal-ports>.

Figure 5: Marine/Riverine System



The Alaska Marine Highway System (AMHS) also provides an important freight component for communities that are not connected to the roadway network. The AMHS supports businesses that ship heavy and bulk goods that are perishable and time-constrained, such as produce, seafood, frozen foods, and construction supplies.

Busiest Inland Ports

Port of Nenana

The Port of Nenana is developed on both sides of the Tanana River. The south side is owned by the Alaska Railroad and is operated by the City of Nenana. The north side is a privately-owned riverine port. Supplies and fuel are delivered to the port by road and transferred to barges for delivery to communities along the Yukon River in the spring and summer months.

Port of Bethel

The Port of Bethel is the critical receiving and transshipment center for petroleum products and barged freight for the Yukon-Kuskokwim Delta, as it is not connected to any other community by road or rail. The port manages approximately 95,000 tons of cargo annually, handling commodities such as construction equipment and materials, fuel, boats and vehicles, and fishing supplies, among others.

Port of Dillingham

The Port of Dillingham is a subregional hub for intermodal freight movement, collecting regional cargo for the Port of Unalaska/Dutch Harbor. It is located two miles from Dillingham Airport. A major exporter of seafood products, the port handled 25 million tons of freight in 2019.

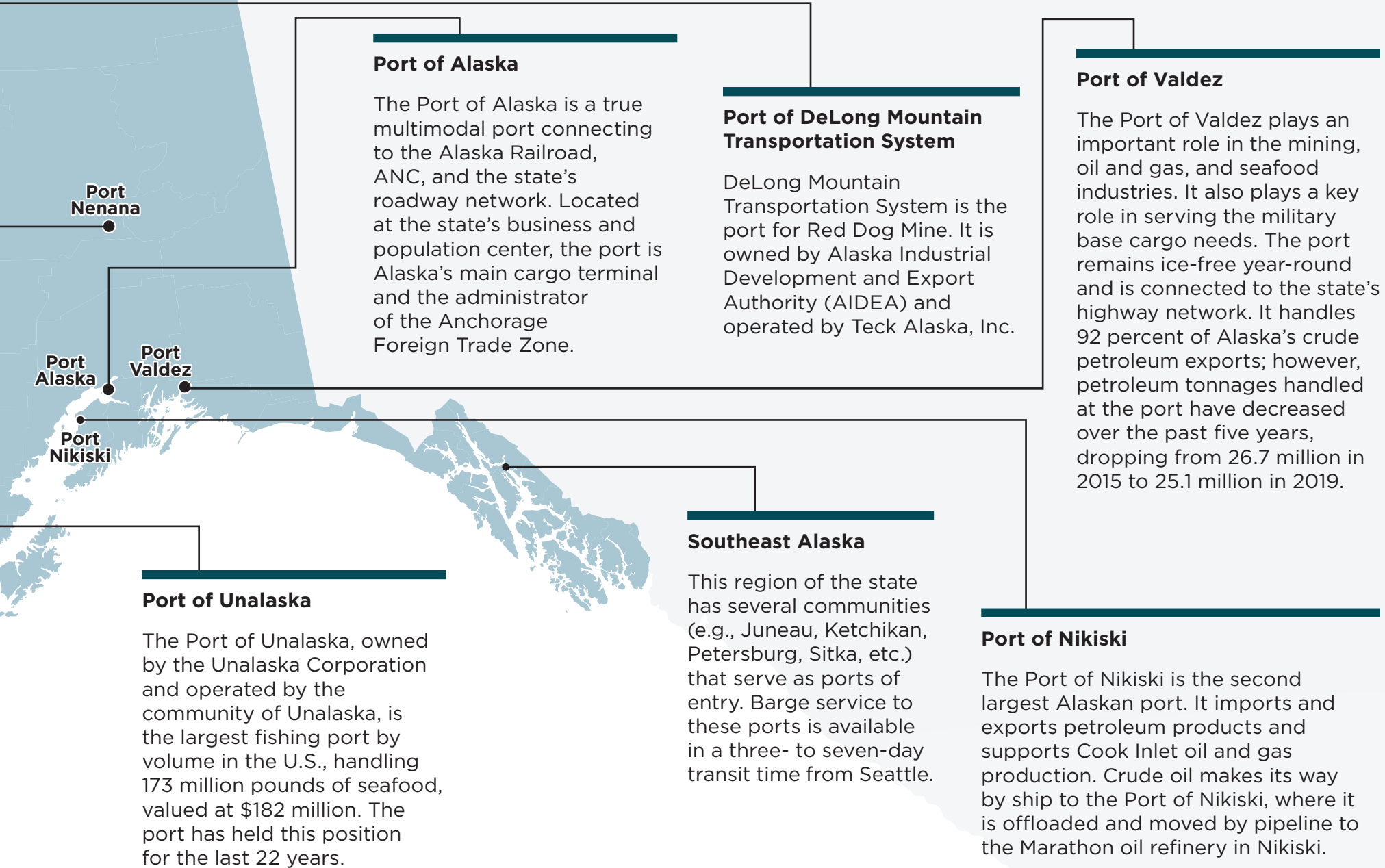
Port Unalaska

Port DMTS

Port Bethel

Port Dillingham

Busiest Sea Ports



Port of Alaska

The Port of Alaska is a true multimodal port connecting to the Alaska Railroad, ANC, and the state's roadway network. Located at the state's business and population center, the port is Alaska's main cargo terminal and the administrator of the Anchorage Foreign Trade Zone.

Port of DeLong Mountain Transportation System

DeLong Mountain Transportation System is the port for Red Dog Mine. It is owned by Alaska Industrial Development and Export Authority (AIDEA) and operated by Teck Alaska, Inc.

Port of Valdez

The Port of Valdez plays an important role in the mining, oil and gas, and seafood industries. It also plays a key role in serving the military base cargo needs. The port remains ice-free year-round and is connected to the state's highway network. It handles 92 percent of Alaska's crude petroleum exports; however, petroleum tonnages handled at the port have decreased over the past five years, dropping from 26.7 million in 2015 to 25.1 million in 2019.

Port of Unalaska

The Port of Unalaska, owned by the Unalaska Corporation and operated by the community of Unalaska, is the largest fishing port by volume in the U.S., handling 173 million pounds of seafood, valued at \$182 million. The port has held this position for the last 22 years.

Southeast Alaska

This region of the state has several communities (e.g., Juneau, Ketchikan, Petersburg, Sitka, etc.) that serve as ports of entry. Barge service to these ports is available in a three- to seven-day transit time from Seattle.

Port of Nikiski

The Port of Nikiski is the second largest Alaskan port. It imports and exports petroleum products and supports Cook Inlet oil and gas production. Crude oil makes its way by ship to the Port of Nikiski, where it is offloaded and moved by pipeline to the Marathon oil refinery in Nikiski.

Marine/Riverine System Challenges and Opportunities



Challenges

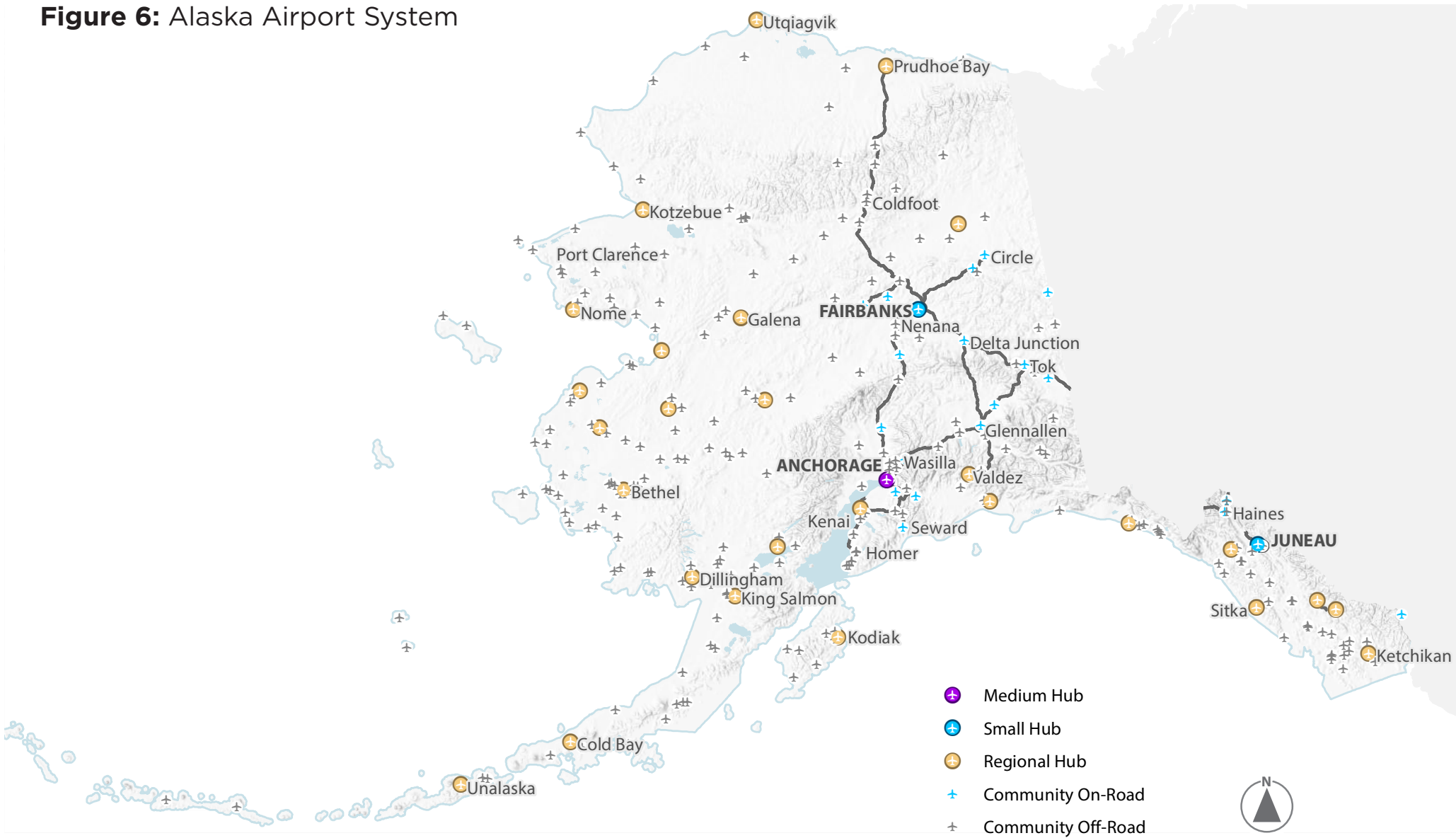
- **Decreasing shipping volumes.** A key reason for this decrease is the reduction in oil production on the North Slope and in the petroleum products shipped from ports such as Valdez and Nikiski.
- **Aging infrastructure.** The infrastructure at many of the state's ports is reaching the end of its useful design life and maintenance activities are not enough to sustain it for the foreseeable future. Additionally, ports experience challenges with accommodating new, more efficient shipping methods—including the handling of oversize cargo (e.g., modules from North Slope operations). This places a priority on infrastructure replacement and modernization to accommodate increasing levels of freight, particularly at Port of Alaska, which handles 90 percent of Alaska's waterborne freight.
- **Private sector operations depend on functional public infrastructure.** While commerce at the ports is commonly conducted by the private sector, these businesses rely on the public sector to provide and maintain the infrastructure they rely on to operate.
- **Few funding programs specific to ports.** With few port-specific federal or state funding programs (e.g., grants, formularies, subsidies), ports usually resort to raising their rates to acquire the necessary revenue to operate. Port-specific infrastructure improvements (e.g., marine terminal rehabilitation) usually do not compete well for federal discretionary programs unless they are creating intermodal connections with roadway or rail.
- **Ports prioritize resiliency over redundancy—a closure could severely impact the whole system.** From a network perspective, ports are considered nodes. Unlike the highway system, ports prioritize resiliency over redundancy. There are concerns surrounding climate change and natural disasters that may affect ports and their infrastructure. Port users commonly have a disaster response plan in the event a major port goes offline; however, an unexpected closure of a major port like Port of Alaska could greatly impact other system components, including road and rail. Port of Seward has been historically viewed as the relief/backup port for Port of Alaska.



Opportunities

- **Leverage planned upgrades to the AMHS to boost freight service to coastal communities.** While ferries commonly transport passengers and vehicles, they also carry small amounts of freight. The five-year improvement plan for the AMHS includes upgrades to and replacement of the system's ferry vessels, creating additional capacity and resiliency for not only passenger movement but freight movement serving the needs of coastal communities.
- **Help ports and barge terminals pursue targeted federal funding through the U.S. Maritime Administration (MARAD).** The discretionary Port Infrastructure Development Program managed by the MARAD offers funding specific to ports. The IIJA includes \$455M per year for five years for this program. By documenting the needs and challenges faced by Alaskan ports in transportation plans and programs, DOT&PF will be able to help ports and barge terminals pursue discretionary funding for upgrades and improvements that will maintain these critical statewide transportation assets.
- **Be aware of privately-funded initiatives, such as the planned flat-car loading operations that could improve efficiency at Port of Alaska.** The Port of Alaska and the Alaska Railroad have discussed the possibility of establishing flat-car loading operations to improve the efficiency of cargo movement between ships and the railhead. If the improvements are developed, this collaboration on infrastructure and operational needs could lead to overall cost savings by reducing drayage movements between the Port and rail loading facilities off Whitney Road.
- **Partner with ports and barge terminals to track system performance.** Maritime performance measures such as vessel dwell times, port capacity, and throughput are being examined by a few other states. Given the critical role of waterborne freight movement in Alaska, DOT&PF has the opportunity to partner with ports and barge terminals to track overall performance.

Figure 6: Alaska Airport System



Data Source: DOT & PF Alaska Aviation system Plan May 2022

Aviation

The Alaskan aviation system is unlike any other in the United States, with 765 registered private- and public-use airports. Airports play a crucial role in connecting all of Alaska's communities, since approximately 82 percent of communities have no connection to the contiguous road system. Some communities off the roadway network also do not have access to waterborne transportation (e.g., Noatak and Chalkitsyk). These limitations make aviation a critical lifeline for many Alaskans, meeting basic transportation needs and delivering essential services and goods such as pharmaceuticals and temperature-sensitive medical goods to rural and remote locations.

DOT&PF Fast Facts

- **The Alaska aviation system is the largest aviation system in North America with 2,427,971 square miles of airspace.**
- **DOT&PF owns and operates 237 airports including two international airports (in Anchorage and Fairbanks). While the airport in Juneau serves international flights, it is owned by the City and Borough of Juneau, not DOT&PF.**
- **In April 2020, rural air service within Alaska was impacted severely with a 90 percent service reduction resulting from the bankruptcy of the state's largest regional air carrier.**
- **ANC was at times the busiest airport in the U.S. during the months of May and April 2020 due to increased shipping demands and air freighters stopping for fuel.**

Did you know?

New technologies and innovations in aviation continue to evolve and be used in cargo operations. Alaska is at the forefront of unmanned aerial system development. University of Alaska Fairbanks is partnering with the Federal Aviation Administration (FAA) to develop unmanned aerial system integration into the National Airspace System. Logistics companies are also exploring the use of heavy-lift dirigibles to move cargo from South Central manufacturing plants to the North Slope oil fields.



Ted Stevens Anchorage International Airport, source DOT&PF

Alaska International Airport System

The AIAS comprises two international airports – ANC and FAI. These airports, operating as a system, are the primary transportation corridors for intra- and out-of-state travelers and freight. The world’s largest aircraft can land at both airports.

ANC and FAI have a unique position globally. In the 1990s, the USDOT began to allow airlines and carriers from other countries unique cargo rights in Anchorage and Fairbanks. The policy allows for the movement of cargo from one foreign carrier to any of its other aircraft, or to transfer from a foreign carrier to a U.S.-based carrier. When a foreign carrier lands in either Anchorage or Fairbanks, it is treated almost as if it were a domestic carrier.

Did you know?

- **ANC is the fourth busiest airport in the world for cargo throughput and the second busiest in the United States for landed weight.⁵**
- **In Anchorage, 1 in 10 jobs is tied to ANC, for a total of 26,000 jobs.**
- **In the Fairbanks North Star Borough, 1 in 9 jobs is tied to FAI for a total of 4,300 jobs.⁶**
- **ANC and FAI do not require state funds for their projects, operation, or maintenance activities.**
- **JNU is owned by the City and Borough of Juneau, not DOT&PF.**

5 Federal Aviation Administration, CY2020 All-Cargo Landed Weight Percentage Change from CY19 (8/12/2021), https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/media/cy20-cargo-airports.pdf.

6 Alaska Aviation System Plan, 2019. https://www.alaskaasp.com/media/3196/economic_con_exec_sum_final.pdf.



Air freight delivery in Chevak, source [https://commons.wikimedia.org/wiki/File:Air_Freight_in_Chevak,_Alaska_\(1289426989\).jpg](https://commons.wikimedia.org/wiki/File:Air_Freight_in_Chevak,_Alaska_(1289426989).jpg)

Rural Airport System

The rural airport system includes commercial and general aviation airports owned by the DOT&PF (outside of the AIAS), as well as public, military, and private aviation facilities. The rural airport system provides year-round access to rural communities. Tens of thousands of pounds of freight are flown to remote villages from major hubs in Anchorage and Fairbanks through regional hub airports like Aniak, Bethel, Kotzebue, and Nome. 142 communities receive state-provided air transportation infrastructure as air travel is their only transportation access.

DOT&PF Fast Facts

Alaska Bypass Mail Program

- **Critical in transporting palletized goods (e.g., fresh food and basic supplies) to reach rural communities by air.**
- **Eligible communities have high transportation costs and limited cash economies.**

Essential Air Service (EAS) Program

- **Federal program resulting from the deregulation of the airline industry in 1978.**
- **Ensures minimum level of commercial air service to rural and remote areas across the country.**
- **Serves 61 Alaska communities.**

While *aviation* accounts for only a small share of freight moved by weight, it comprises over half the state's inbound freight movement by value.

235 commercial and general aviation rural airports owned by DOT&PF⁷

146 out of 164 community airports are inaccessible to the interstate road system

Air freight brings temperature-sensitive medical goods and pharmaceuticals to rural and remote locations

313 certified air carriers provide commercial and on-demand services to Alaska's rural airports

25% of jobs are connected to the rural airport system

⁷ Alaska Division of Statewide Aviation, Airports and Aviation Annual Report, 2021, [Alaska Airports and Aviation Annual Report 2021](#)

Freight and mail destined for outlying communities are transported to regional hubs from Anchorage, Fairbanks, and Juneau on larger jet aircraft and then transferred to smaller commuter aircraft for distribution. The top cargo airports are highlighted here.

Barrow (BRW)

Barrow is the most northern airport in the nation. In 2020, over 13,000 tons of cargo and mail were distributed to North Slope communities through Utquiagvik. It supports the oil and gas exploration efforts and the Alaska Air National Guard and United States Coast Guard.

Nome (OME)

With the adjacent Port of Nome and seasonal road connections to Teller and Council, Nome Airport is an important intermodal facility. Nome Airport also serves communities across the Seward Peninsula, Norton Sound, and Saint Lawrence Island. In 2020, over 18,500 tons of freight passed through Nome.

Kotzebue (OTZ)

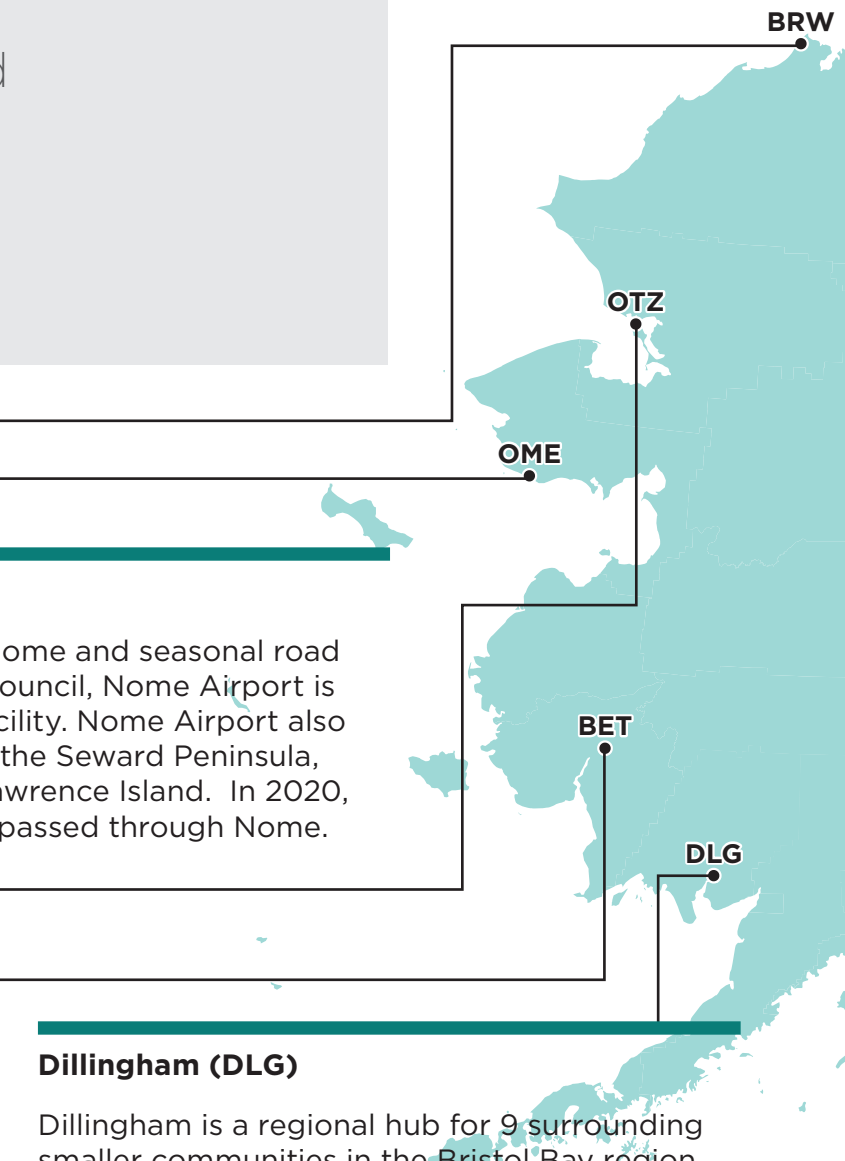
Kotzebue's serves as a primary transportation hub for the Northwest Arctic Borough. Over 21,000 tons of supplies passed through OTZ in 2020.

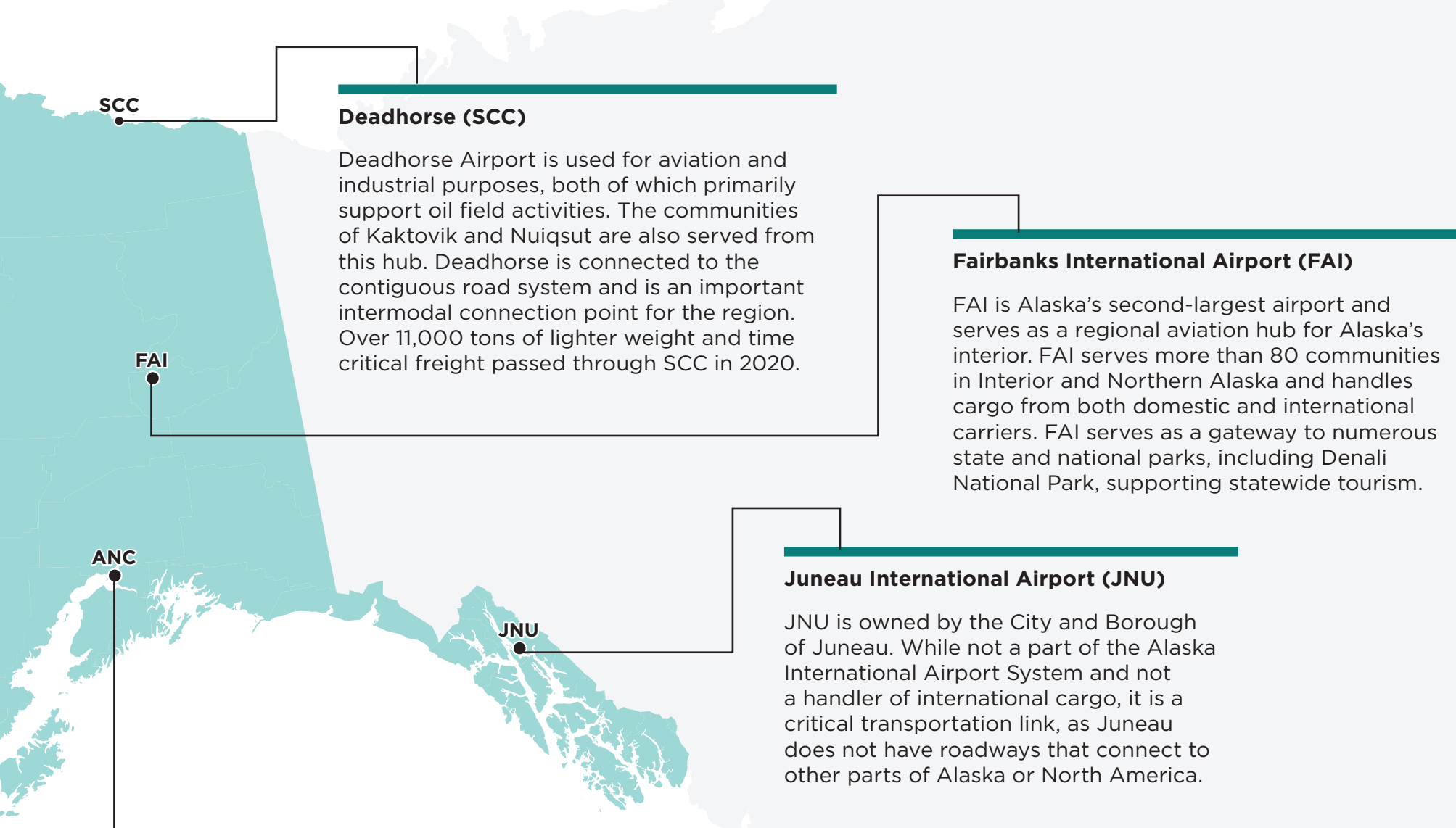
Bethel (BET)

Bethel is the second busiest cargo airport in the state. It serves as a regional hub for 55 communities in the Yukon - Kuskokwim River Delta. Almost 40,000 tons of freight and mail passed through Bethel in 2020.

Dillingham (DLG)

Dillingham is a regional hub for 9 surrounding smaller communities in the Bristol Bay region and supports the Bristol Bay fishing industry. Most of the smaller communities have airports with gravel runways less than 3,000 feet long that can only be used in clear weather conditions. Over 10,000 tons of freight and mail passed through Dillingham in 2020.





Deadhorse (SCC)

Deadhorse Airport is used for aviation and industrial purposes, both of which primarily support oil field activities. The communities of Kaktovik and Nuiqsut are also served from this hub. Deadhorse is connected to the contiguous road system and is an important intermodal connection point for the region. Over 11,000 tons of lighter weight and time critical freight passed through SCC in 2020.

Fairbanks International Airport (FAI)

FAI is Alaska’s second-largest airport and serves as a regional aviation hub for Alaska’s interior. FAI serves more than 80 communities in Interior and Northern Alaska and handles cargo from both domestic and international carriers. FAI serves as a gateway to numerous state and national parks, including Denali National Park, supporting statewide tourism.

Juneau International Airport (JNU)

JNU is owned by the City and Borough of Juneau. While not a part of the Alaska International Airport System and not a handler of international cargo, it is a critical transportation link, as Juneau does not have roadways that connect to other parts of Alaska or North America.

Ted Stevens Anchorage International Airport (ANC)

ANC, the state’s largest airport, is owned and operated by DOT&PF and serves as a regional hub for western Alaska. Nearly 73 percent of international cargo is pass-through, associated with the international shipments that stop in Alaska only to refuel, change crews, and sometimes transfer cargo. ANC’s strategic position along air routes from Asia to North America makes it a prime location for technical fuel stops between Asian manufacturing nations and North American consumers. Approximately 90 percent of the industrialized northern hemisphere is within a 9.5-hour flight from Anchorage. The COVID-19 pandemic led to the airport’s position as the fourth busiest in the world for landed cargo weight in 2021 (3.6 million tons). ANC experienced a 15 percent increase in total air cargo tonnage between 2019 and 2020.

Aviation System Challenges and Opportunities



Challenges

Maintaining the rural system. To maintain the 235 airports within the rural system, DOT&PF must constantly prioritize where limited federal Airport Improvement Program funds will be spent to meet federal requirements, maintain aviation facilities, promote safe infrastructure and address growth in operations. Often new capital projects are required at a significant cost to address runway, taxiway, and safety improvements.

Staying resilient. Coupled with Alaska's already harsh environment and a rapidly changing climate, rural airport facilities age more rapidly and require repair more frequently than typical rural airports in the lower 48. Rural community airports must be moved or undergo extensive and frequent repair as their runways are disintegrating, being washed away by river flooding or greater intensity coastal storms. Both ANC and FAI are being impacted by changing weather patterns which impact approach patterns and create additional maintenance challenges to keep runways and taxiways open.

Finding a qualified workforce. DOT&PF does not have the staff or budget to operate and maintain all runways. For example, the AIAS airports have a 20% vacancy rate in their maintenance positions. As a result, more than half of rural runways are maintained by contractors, but contractors are also having difficulty finding staff.

Upgrading to evolve with new technologies. Data connectivity, bandwidth, and broadband are ongoing, statewide issues and have been noted as challenges for aviation as airports look to pursue streamlined operations and evolve with new technologies. Several carriers are also retrofitting and testing electric aircraft. While this could lead to a potential decrease in greenhouse gases, airplane electrification may spur a need for airports to invest in electric charging infrastructure, backup batteries, and maintenance and repair training for newly-electrified aircraft.



Opportunities

Promote data connectivity across the system to increase safety and efficiency. Inadequate data connectivity and limited FAA funding restrict many rural community airports to visual flight rules. Alaska's weather and mountainous terrain can lead to canceled flights or pilots needing to turn around due to visual flight rules. These situations can make freight movement by air more costly due to wasted fuel and labor as well as delivery delays. Greater bandwidth will allow for more community involvement and add to services and features available. It will allow for the implementation of newer technologies and streamlined operations, such as tablets to do cargo checks.

Continue to leverage Alaska's ideal geolocation within the worldwide aviation system. ANC continues to be a leading cargo airport in the nation and can continue to encourage private sector growth. New facility developments by UPS, FedEx, Alaska Cargo & Cold Storage, and IC Alaska pose the potential for additional cargo growth at the airport, which would boost the statewide economy. FAI also has development opportunities for emergency management and research and development. For example, Amazon began operations at its new air gateway there in March 2021.

Continue to support installation of automated weather stations and certified instrument approach procedures to provide access to rural airports during poor weather conditions. Adding automatic weather reporting and certified instrument approaches are major opportunities the FAA and Alaska's aviation system are pursuing. Combined, these two efforts will increase the safe and efficient movement of goods and people in rural communities.

Leverage Unmanned Aerial Systems technology to lower the cost of freight delivery to rural/remote airports. Alaska continues to be a leader in the testing and evaluation of unmanned aerial systems. University of Alaska Fairbanks represents the state with its membership on the FAA's Alliance for System Safety of Unmanned Aerial Systems through Research and Excellence. It also founded the Alaska Center for Unmanned Aircraft Systems Integration, the largest and most operationally-focused university program in North America.

Continue to advocate for intermodal collaboration. DOT&PF can foster opportunities for collaboration between airports and other modes to maximize efficient freight movement.



Seward Highway along Turnagain Arm, source DOT&PF

Truck Transportation

In the lower 48 states, trucks carry far more tonnage and value than other modes. In Alaska, air and water modes are used more extensively than in the lower 48. Though trucking fills a smaller statistical role than in other states, it is an irreplaceable part of the freight transportation system.

Trucks are critical for moving goods from seaports and airports to industrial customers and consumers, and for distributing goods. Truck travel time reliability affects Alaska's economy by increasing transportation costs and creating variance in freight delivery schedules when there is unreliability in the system. There are several sources of unreliability, including congestion, collisions, weather, and roadway conditions.

One of the components of the National Multimodal Freight Network is the National Highway Freight Network, a roadway system that serves as the nation's backbone for freight movement by truck. It is composed of several essential subsystems, each with its own important role. This includes the PHFS, CUFCs, and CRFCs.

- **The PHFS** is defined by FHWA as the most critical highway portions of the U.S. freight transportation system, as determined by measurable and objective national data. In August 2021, FHWA published a notice of request for information for states to provide their input on the redesignation of the PHFS. DOT&PF collaborated with the FAC to select the Steese Highway/Elliott Highway from Hagelbarger Avenue to the Dalton Highway (MP 0). The corridor closes the gap between existing PHFS corridors in Fairbanks and the Dalton Highway. It improves overall connectivity for freight traveling by truck to access natural resource, mining, and other freight intensive sites in the North Slope.
- **CUFCs** and **CRFCs** are first- or last-mile connector routes from high-volume freight corridors to freight-intensive land uses and freight facilities. Every state has a limit as to how many miles of critical freight corridor it can designate. In Alaska, the urban cap is 150 miles and the rural cap is 600 miles. To date, only 15 miles of urban corridors and 235 miles of rural corridors have been designated. DOT&PF and the FAC identified additional corridors for designation as CUFCs to leverage National Highway Freight Program funds.

Did you know?

- In 2017, 46.4 percent of domestic in-state freight was moved by truck (by tonnage).
- Central Region roadways carry the highest truck volumes in the state to serve the most populated areas, including Anchorage, the Mat-Su Borough, and the Kenai Peninsula.

Figure 7: Existing National Highway Freight Network

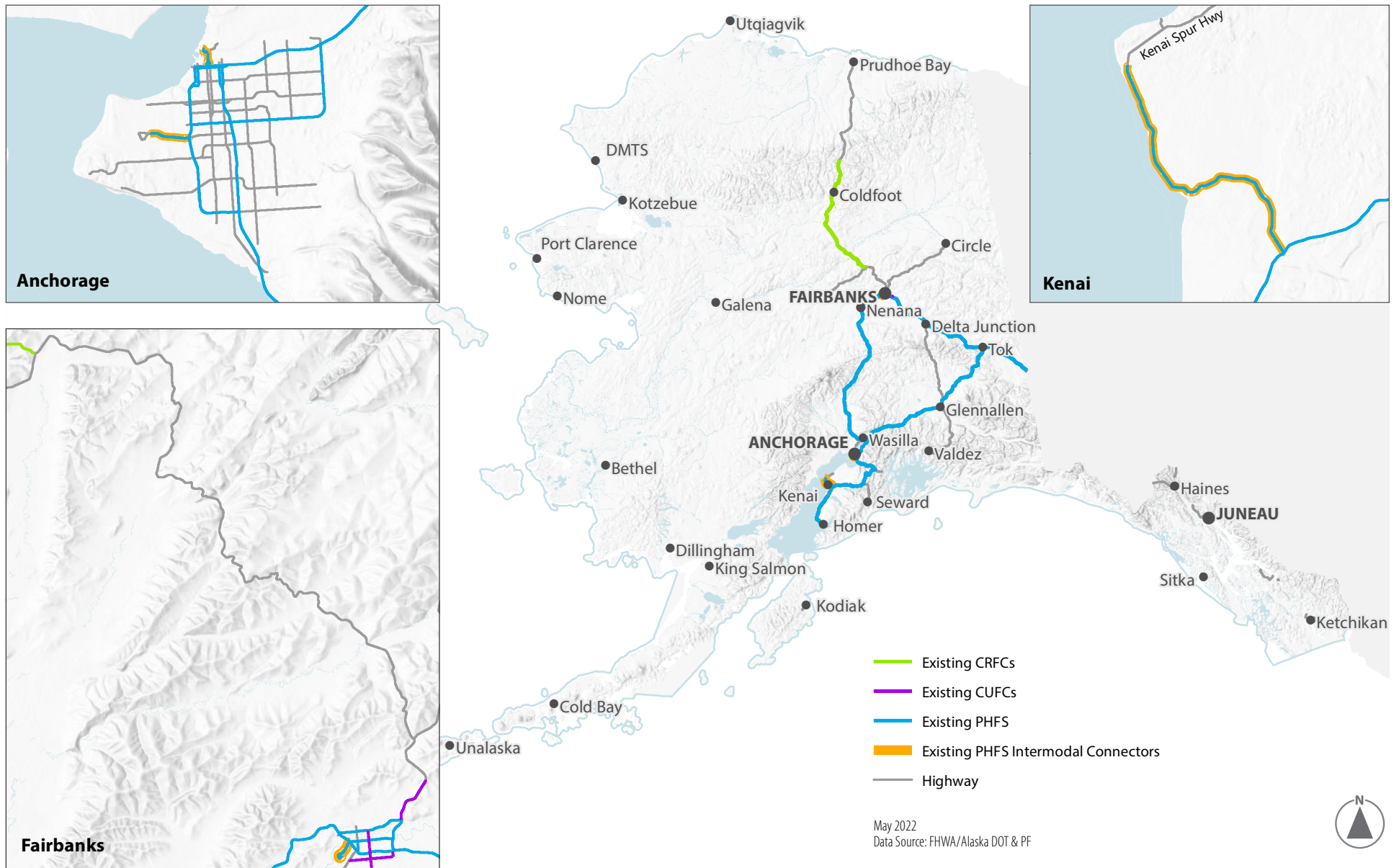
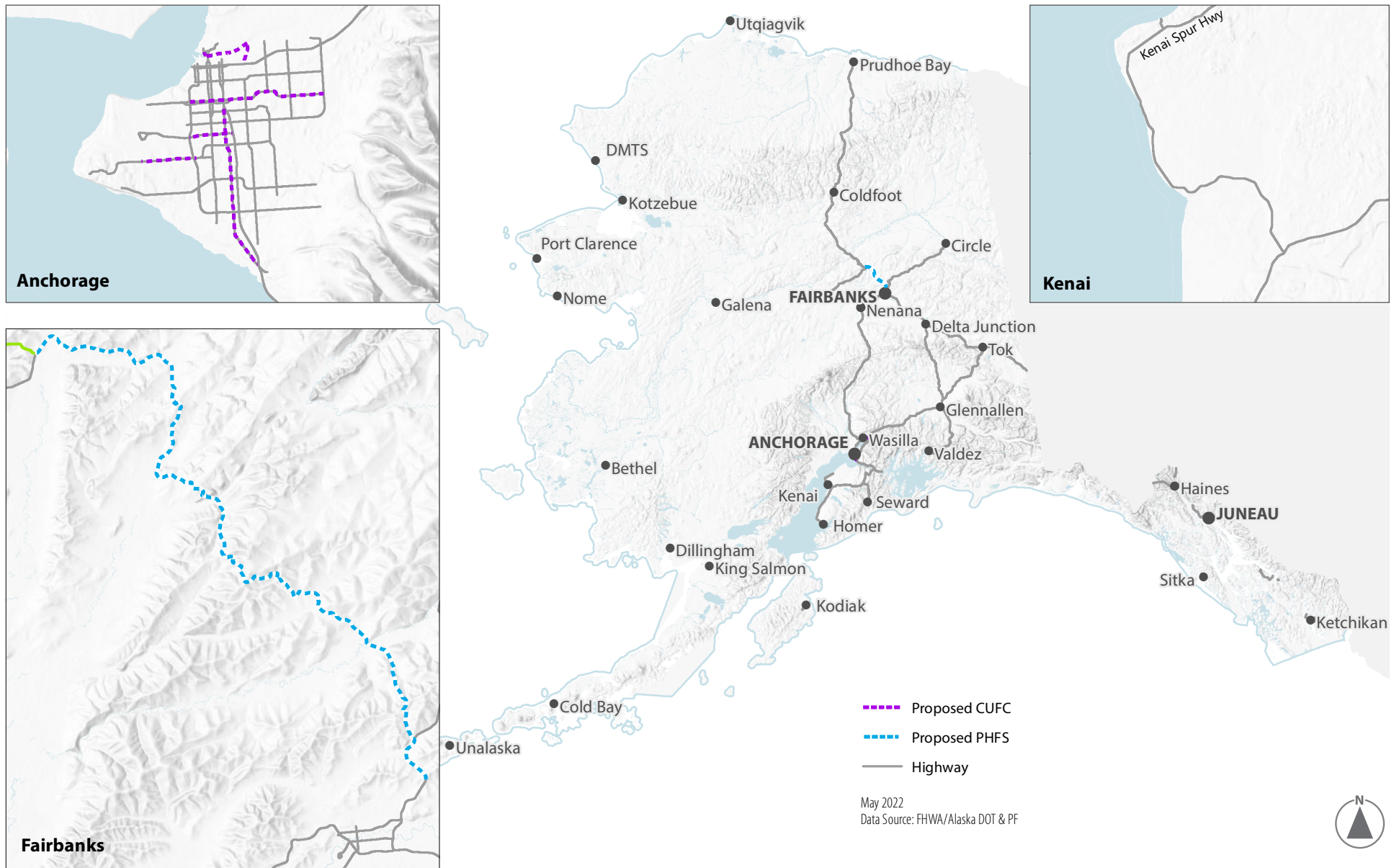


Figure 8: Proposed National Highway Freight Network



National Highway
Freight Network—

The nation's backbone

for freight movement by truck

Primary Highway
Freight System (PHFS)—

The most critical highways

in the National Highway
Freight Network⁸

1,192 miles
in Alaska

29.65 miles
of intermodal connectors

Existing National Highway Freight Network

- Up to 30 percent of National Highway Freight Program (NHFP) funds can be used toward intermodal or freight rail projects.
- Urban roadways carry more single-unit and combination trucks than rural roads, up to an average of 900 daily on interstates and principal arterials. However, trucks make up a higher proportion of traffic on rural roads, with an average of up to 18 percent on rural Interstates and principal arterials.
- Truck volumes have increased on Central and Northern Region roadways since 2012, but have declined in the Southcoast Region. Truck volumes vary widely across the state's highway network, with heavier volumes in Anchorage, Fairbanks, Juneau, and Wasilla.
- Nearly 34 percent of DOT&PF's centerline mileage is unpaved, notably significant sections of the 414-mile Dalton Highway.

Safety

- In 2020, the Division of Measurement Standards and Commercial Vehicle Compliance (MSCVC) reported seven commercial motor vehicle crashes, with five considered “federally reportable.”⁹
- Overall, commercial vehicle crashes have significantly declined since 2016. Fatal crashes involving trucks have remained low and stable.

⁸ For details, see Appendix I

⁹ A federally-reportable crash is “one that results in any vehicle being disabled as a result of the crash and requiring a tow; an injury as a result of the crash, requiring immediate transportation for treatment away from the scene; or a fatality. Alaska DOT&PFs. (2020). 2020 MSCVC Annual Report. <https://dot.alaska.gov/mscvc/webdocs/2020-MSCVC-Annual-Report.pdf>.

Delay and Reliability

- Truck travel time reliability (TTTR) is a measure of travel time reliability, consistency, or dependability on a roadway segment. Truck delay is a measure of total delay on a given segment. Freight bottlenecks occur primarily in Anchorage, Wasilla, and Fairbanks and include segments of the Glenn, Parks, and Johansen Express/Steese Highways and other arterial roadways. DOT&PF and its planning partners improved performance at previously identified freight bottlenecks between 2017 and 2021. The Tudor Road and Minnesota Drive intersection (westbound) in Anchorage is the only segment that became less reliable. DOT&PF will continue to monitor and address freight bottlenecks through strategies and investments. A full listing of freight bottlenecks can be found in Appendix D.

Parking

- DOT&PF does not own or maintain parking facilities for commercial motor vehicles. The lack of truck parking on rural stretches of interstates has led large trucks to park along the sides of highways, which can create safety hazards. The likely need for truck parking is highest in remote areas where there are low truck volumes, like the Dalton and Richardson Highways and midway between Anchorage and Fairbanks, where there is often no supporting infrastructure, challenging terrain, and extreme weather conditions. These conditions make construction, operation, and maintenance of the sites costly for both the public and private sector. A statewide truck parking study is needed to understand commercial and military truck parking needs.

Commercial Vehicle Size and Weight Restrictions

Over 16,000
oversize and overweight permits issued
in 2020 (down from 17,500 in 2016)¹⁰

98.3 percent
compliance rate for overweight
vehicles in state fiscal year 2020.

58 days of seasonal weight
restrictions on major highways on
average between 2010 and 2020.

¹⁰ See Appendix D for state-enacted legal limitations on vehicle size and weight dimensions.

Freight must be moved long distances in Alaska and distributed directly to consumers or between ports, railroad yards, and airports across the state. Trucking plays a critical role in this distribution yet, for much of the system, there is **only one roadway** between important origins and destinations.

Parks Highway

The Parks Highway is a 320-mile PHFS route. It serves as the primary north-south roadway link connecting Southcentral Alaska to Interior Alaska. Commercial trucks use this highway route year-round to deliver supplies and freight from Anchorage to Fairbanks and other surrounding communities. There is also a notable amount of cargo transported for the Trans-Alaska Pipeline and other North Slope/Prudhoe Bay developments. This highway route serves over 200 trucks a day and is a designated safety corridor from Wasilla to Houston.

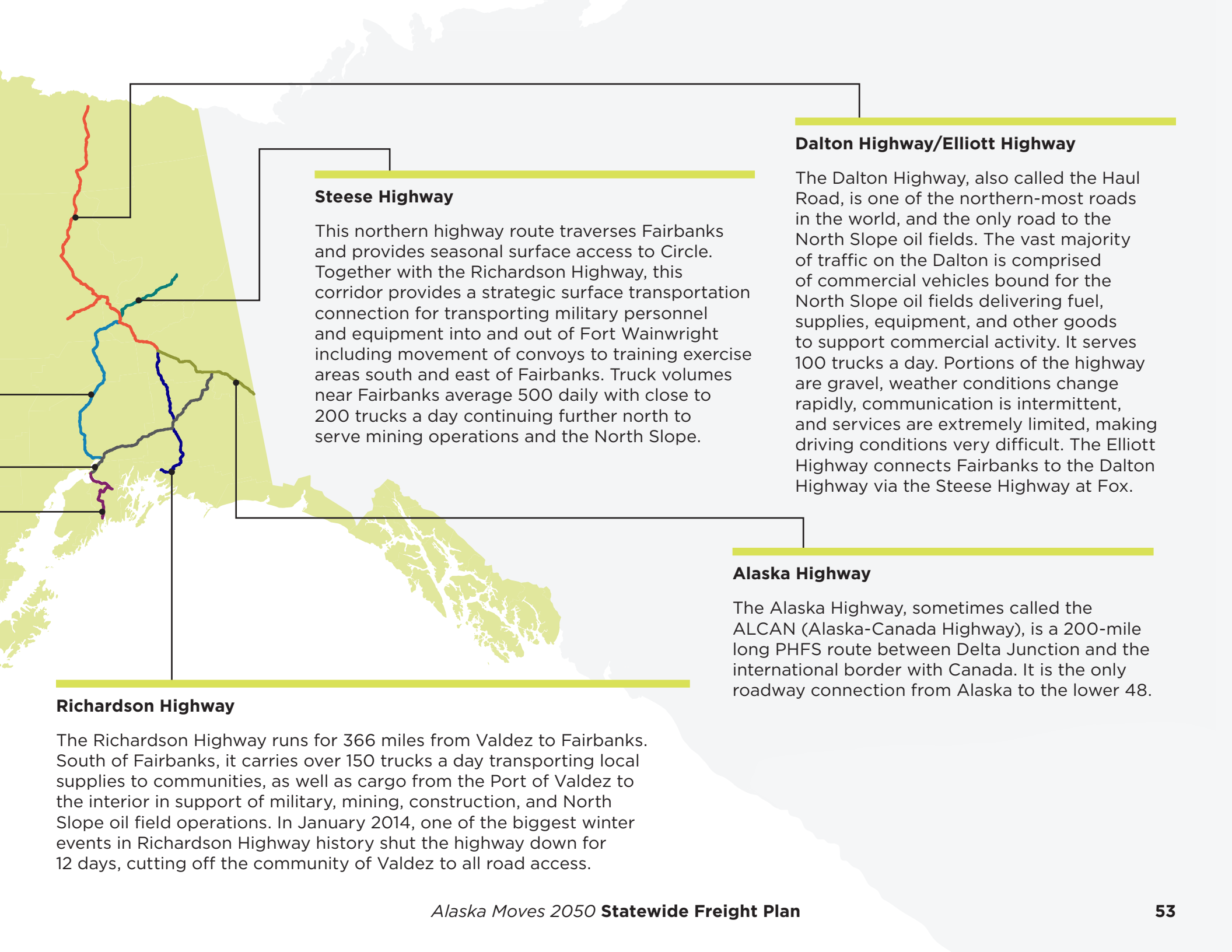
Glenn Highway

The Glenn Highway is a PHFS route that links the Anchorage Bowl with Chugiak-Eagle River and the Matanuska-Susitna Borough, the most populous areas of the state. It is the only connection from Anchorage to the Parks Highway and Richardson Highway. The highway averages up to 2,000 trucks a day near Anchorage. Any disruption to travel, like occurred during the 2018 earthquake and five day closure due to a bridge strike in 2018, severely impacts surface freight travel to the north.

Seward Highway

This 125 mile route is the only roadway between Anchorage and Seward. The first 9 miles are referred to as the “New” Seward Highway, a major Anchorage thoroughfare connecting South Anchorage with Midtown and the Glenn Highway. South of Anchorage, the two-lane highway is the only roadway to the Kenai Peninsula and Port of Seward. It registers some of the highest truck volumes in the state, serving over 2,000 trucks a day in Anchorage and over 200 trucks a day near Seward. It is also a designated safety corridor from Potter Marsh to Girdwood.





Steese Highway

This northern highway route traverses Fairbanks and provides seasonal surface access to Circle. Together with the Richardson Highway, this corridor provides a strategic surface transportation connection for transporting military personnel and equipment into and out of Fort Wainwright including movement of convoys to training exercise areas south and east of Fairbanks. Truck volumes near Fairbanks average 500 daily with close to 200 trucks a day continuing further north to serve mining operations and the North Slope.

Dalton Highway/Elliott Highway

The Dalton Highway, also called the Haul Road, is one of the northern-most roads in the world, and the only road to the North Slope oil fields. The vast majority of traffic on the Dalton is comprised of commercial vehicles bound for the North Slope oil fields delivering fuel, supplies, equipment, and other goods to support commercial activity. It serves 100 trucks a day. Portions of the highway are gravel, weather conditions change rapidly, communication is intermittent, and services are extremely limited, making driving conditions very difficult. The Elliott Highway connects Fairbanks to the Dalton Highway via the Steese Highway at Fox.

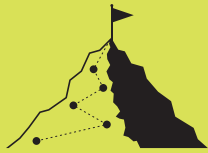
Alaska Highway

The Alaska Highway, sometimes called the ALCAN (Alaska-Canada Highway), is a 200-mile long PHFS route between Delta Junction and the international border with Canada. It is the only roadway connection from Alaska to the lower 48.

Richardson Highway

The Richardson Highway runs for 366 miles from Valdez to Fairbanks. South of Fairbanks, it carries over 150 trucks a day transporting local supplies to communities, as well as cargo from the Port of Valdez to the interior in support of military, mining, construction, and North Slope oil field operations. In January 2014, one of the biggest winter events in Richardson Highway history shut the highway down for 12 days, cutting off the community of Valdez to all road access.

Truck Transportation Challenges and Opportunities



Challenges

- **New mining and natural resource extraction sites, such as Ambler Mine and Peak Gold Deposit in Tok, will increase truck traffic on existing facilities.** Increased heavy truck traffic can accelerate roadway deterioration.
- **Load and height restrictions on bridges have posed limitations on freight movement.** Bridge limitations prevent the transport of super loads from the Port of Alaska north to meet industry needs.
- **Freight bottlenecks create delay and unreliability.** Delays result in increased costs to the freight industry which are then passed onto the consumer.
- **Increasing frequency and severity of climate and weather events increases the risk of roadway incidents.** Damaged or blocked highways delay the movement of freight.
- **There are 237 at-grade rail crossings;** 162 are across public facilities, which can cause freight delays.
- **Seasonal weight restrictions can temporarily reduce loads to as low as 50 percent of the legal maximum allowable weight.** These restrictions impact both freight and construction contractors. Construction equipment begins moving on the state's highway network in March in preparation for the construction season, which typically lasts from April through October. Seasonal weight restrictions often hinder contractors' ability to move major spreads of equipment, shortening construction windows if equipment is unavailable due to long-lasting weight restrictions.
- **The lack of parking has led to large trucks parking along major highways, which can pose safety hazards.** While truck parking is not as significant an issue in Alaska as in other states, truck stop services and rest areas are still needed.



Opportunities

- **Evaluate key roadway segments for designation as industrial-use highways.** DOT&PF can evaluate roadway segments on the Alaska, Richardson, and Steese Highways for designation as industrial use highways, which are routes with design features that allow them to accommodate long and/or heavy loads. This would help defray the cost of wear on lower-tier roadways from trucks carrying various ores. Currently, the Klondike Highway is the only route designated as an industrial-use highway.
- **Continue coordinating with the trucking industry.** Maintaining corridors in urbanized areas such as Anchorage, Wasilla, and Fairbanks is critical to freight movement by truck. DOT&PF can continue ongoing coordination with the trucking industry to address delay and upgrade bridges and pavement.
- **Collaborate with freight stakeholders, MPOs, and local communities to separate non-motorized and freight traffic.** As roadways and bridges are improved, there is opportunity for DOT&PF to collaborate with freight stakeholders, MPOs, and local communities to establish separation between non-motorized traffic and freight movement. This leads to higher levels of safety and comfort for pedestrians and bicyclists.
- **Partner with the private sector to improve truck parking.** Rest areas are an identified need for the Dalton and Richardson Highways due to their weather conditions, remoteness, and length. DOT&PF has an opportunity to collaborate with the private sector to work toward solutions to truck parking.
- **Explore funding mechanisms to allow weigh stations to operate 24 hours a day.** Legislative changes and high staff turnover have led to increased wait times and reduced hours of operation at weigh stations on Alaska's highways. This presents an opportunity for DOT&PF to explore different funding mechanisms that allow for weigh stations to operate 24 hours a day or other means of commercial vehicle size and weight enforcement.



Alaska Railroad Anchorage, source Lee Rodegerdts

Rail Freight

The Alaska Railroad Corporation (ARRC) provides freight service between South Central and Interior Alaska. Containers (about 150 to 200 per week) arrive and depart Alaska via the Rail Marine (ARM) service rail-barge connection between Whittier and Seattle. They move from Whittier to Anchorage and onto other railbelt communities including Fairbanks and Eielson Air Force Base. Intermodal facilities in Seward, Whittier, Anchorage, and Fairbanks serve as distribution hubs providing critical connections to trucks and barges for local deliveries. The railroad does not provide any land-based connections to other North American railroads, but connects directly to the Union Pacific and BNSF railroads via barge service in Seattle. In 2021, ARRC carried 2.5 million tons, primarily gravel, coal, and bulk petroleum. Like other railroads, ARRC specializes in carrying low-value, high-bulk commodities that are not time sensitive over long distances. Additionally, ARRC provides five-day-per-week intermodal service between Anchorage and Fairbanks, which is generally higher-value, time-sensitive traffic, accounting for approximately half the freight volume on this corridor.

DOT&PF Fast Facts

656 total miles of track
with over 735 freight railcars

2.8 million tons
carried in 2020, primarily coal,
gravel, and petroleum products

184 Bridges

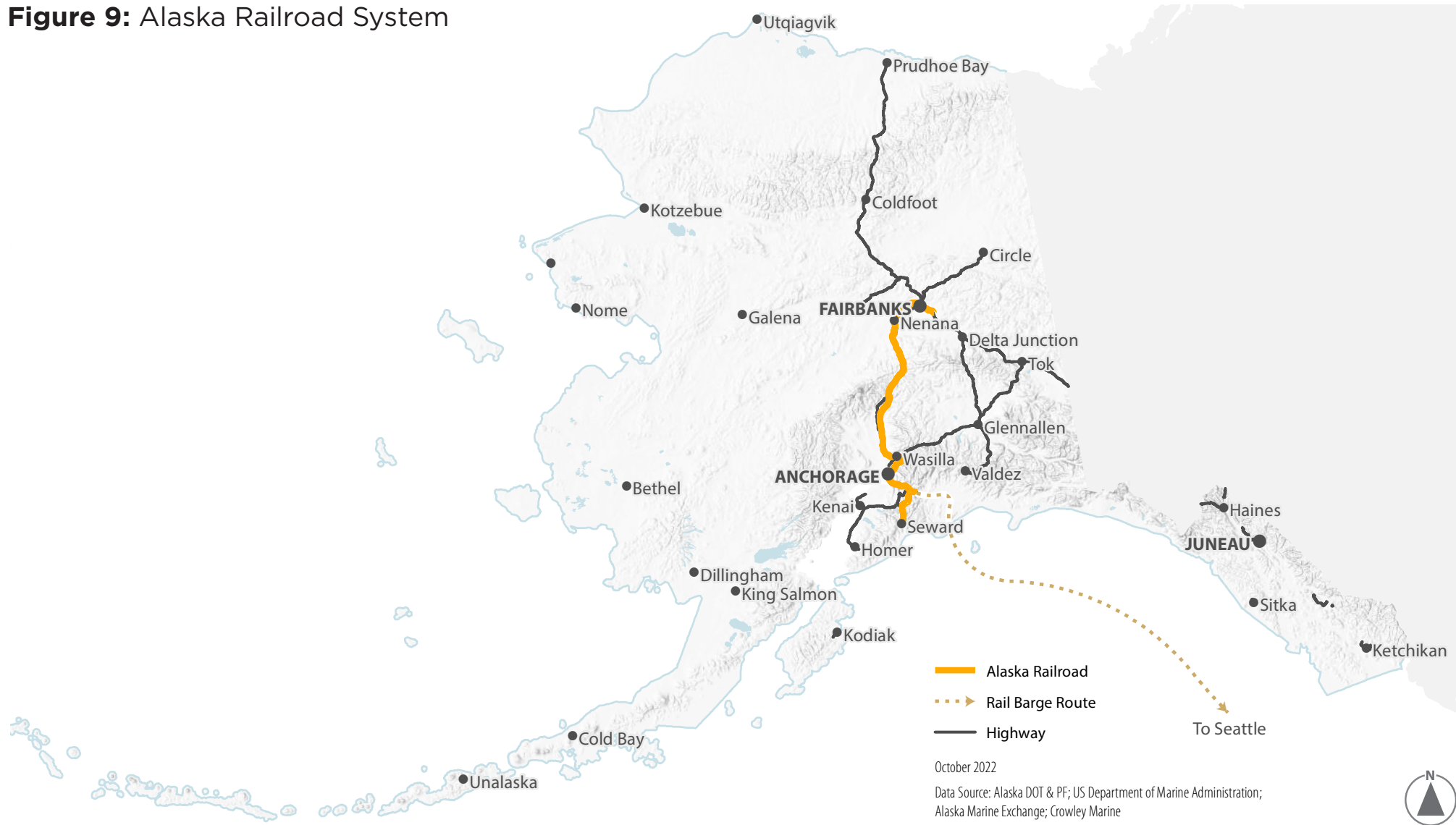
ARRC operates on the oldest commercial infrastructure in the state, with 42 pre-World War II bridges (23%). ARRC continues to reinvest profits from railroad operations back into infrastructure.

On average, railroads can ship a ton of freight about 457 miles on a single gallon of fuel, approximately 3 to 4 times as far as trucking.

Did you know?

The Alaska Railroad is a state-owned corporation but it is not part of DOT&PF. It is operated like a private business and generates revenue to cover workforce, operations, and infrastructure maintenance expenses.

Figure 9: Alaska Railroad System



Rail System Challenges and Opportunities



Challenges

- **Bridges.** Aging bridges impact service reliability and cost more to keep in safe and serviceable condition. ARRC must restrict weight loads and occasionally slow train speeds across the aging infrastructure.
- **Positive Train Control (PTC).** Segments north of Healy and south of Portage require PTC upgrades (communications and switch monitoring) before passenger rail service frequency to these areas can be increased.
- **Service Continuity.** The railroad is experiencing an increase in rockslides, avalanches, wildfires, and flooding. When a track is out of service, there are no alternative routes and the supply chain is disrupted until the hazard is mitigated.
- **Intermodal Facilities.** The facilities in Anchorage, Whittier, and Fairbanks are undersized, limiting the ability to expand and upgrade them to meet increased demand and add new equipment and technologies for more efficient operations.
- **Funding.** Terminals, wayside facilities, equipment, freight and passenger cars, and railway infrastructure require significant capital investment annually to remain in good working order.
- **State Rail Plan.** The plan is outdated and misaligned with DOT&PF and ARRC goals, making statewide planning and investment inefficient and limiting competitive grant opportunities.



Opportunities

- **Pursue Joint Grant/Funding Opportunities.** Continue to work collaboratively with ARRC to safeguard railroad infrastructure. This includes upgrading bridges and at-grade crossings, and mitigating hazards through joint grant programs. For example, the Federal Railroad Administration Special Transportation Circumstances program recently awarded a grant to replace a howitzer-based avalanche control method with a Remote Avalanche Control System.
- **Advance opportunities in increase the amount of freight moved by rail,** including new rail extensions to access resource and economic development opportunities. Transporting bulk freight and resources by rail is typically lower cost on a per-ton mile basis than transporting by road, reduces roadway congestion, and has less environmental impact.
- **Collaborate on Intermodal Facility Upgrades.** Partner with ARRC and the ports to secure funding for port to rail to truck facilities for more resilient, efficient, and reliable multimodal freight movement.
- **Update the State Rail Plan.** Working with ARRC, update the State Rail Plan for improved alignment with current organizational goals and needs.



Pipeline at South Fork Koyukuk River, source Lee Rodegerdts

Pipelines

Pipelines are governed by and regulated under USDOT's Pipeline & Hazardous Materials Safety Administration. Alaska's most significant pipeline infrastructure is the Trans Alaska Pipeline System (TAPS), which operates year-round. The TAPS transports crude oil from the North Slope across 800 miles of varied terrain to Valdez.

DOT&PF Fast Facts

The Trans Alaska Pipeline System (TAPS) is *Alaska's most significant pipeline*

800 miles long, 48-inch diameter

Due largely to permafrost, *more than half the line was constructed above ground.*

Operates 24 hours a day, 365 days a year.

Did you know?

After peaking at 2.1 million barrels a day in 1988, oil volumes through the TAPS have steadily declined, reaching a low of 477,800 barrels in 2021.

Pipeline System Challenges and Opportunities



Challenges

- **Reduced oil output.** Reduced oil output poses a substantial economic issue for the state, as Alaska's economy is still heavily reliant on oil revenues and royalties. Additionally, Alyeska Pipeline Company reports roughly 20 tankers are berthed and filled from the Valdez Marine Terminal each month, but the number of tons moved continues to ebb.
- **Aging infrastructure poses risks due to an increased likelihood of spills or damage.** These risks require continued and/or increased maintenance efforts to mitigate.
- **Climate and weather-related events pose risk to pipeline infrastructure.** The thawing of permafrost is causing subsidence, which can damage and move pipelines.



Opportunities

- **Continue planning efforts to support ongoing upgrades to transportation infrastructure to prepare for the Alaska Gasline Development Corporation (AGDC) natural gas pipeline.** The construction of the new AGDC natural gas pipeline and gas treatment plant will impact all components of Alaska's transportation system. Liquid natural gas shipments will be loaded onto ships for delivery to international destinations and will also be shipped within Alaska to provide an alternative power source. Construction materials and personnel will likely utilize multiple modes to reach construction sites. DOT&PF will need to continue its significant and necessary planning efforts and ongoing upgrades to transportation infrastructure to prepare for the 800-mile pipeline.

Overall Freight System Needs and Opportunities

Needs

Keep the focus on interoperability and intermodal connections. Commodity flow data highlight the multimodal nature of Alaska's freight network and the need for DOT&PF to plan for it as a system. Systemic approaches toward interoperability and intermodal connections should be maintained through freight planning, program development, and performance reporting.

Keep heavy and oversized loads moving across the network. Along with the natural resource industries, Alaska's four military installations pose unique freight situations and challenges. Moving heavy and oversized loads as efficiently as possible across the network will continue to be a priority. Roads and bridges along key freight corridors will need to be designed to accommodate these movements, which can accelerate pavement rutting and deterioration.

Improve decision-making with reliable, timely data collection, sourcing, and analysis. There is a need and opportunity to explore additional sources of reliable and timely data collection, sourcing, and analysis to improve decision-making. DOT&PF collects data related to truck size, weight, and volume through its weigh-in motion stations and other data collection programs; however, funding challenges may make this data less accessible. Other freight modes, particularly aviation, would also benefit from data connectivity and storage capabilities to streamline operations and improve freight efficiency and cost effectiveness.

Enhance existing data with private sources. Private data sources, such as vehicle probe data, may be used to enhance existing data. They depend, however, on cell phone service or internet connectivity to collect commercial vehicle information, including truck travel time reliability and truck delay/demand. Due to the remote and rural nature of some of the transportation network, cell phone and internet-based data sources are less reliable than they could be, bringing the data's completeness and usefulness into question.

Plan and program for both funded and unfunded needs. Agencies such as MARAD look to state freight plans for information about freight infrastructure needs when they are queried by members of Congress. Planning and programming should maintain a focus on both funded and unfunded needs for all modes.

Opportunities

Develop and use maritime performance measures. The development and use of maritime performance measures, including safety measures (e.g., fatalities, injuries, collisions, grounding rates, etc.) could assist in understanding port performance and in pursuing federal discretionary funds for terminal improvements and modernization. Performance can be tracked and measured using Coast Guard data and through collaboration with the state's ports. This is a best practice to show trends over time.

Use the Freight Plan to inform community officials about how to apply for available assistance. Through the freight planning process, freight funding opportunities and available state and federal assistance (such as the Marine Highway Program) will be identified so community officials have a greater understanding of available assistance, and how to apply for it. The IJA is expected to add \$664 million per year for investment in Alaska's transportation system over the five-year life of the program. IJA also adds \$182.4 million a year in competitive grants for ferry boats and terminal construction over the same period.

Continue toward deepwater port development to strengthen international freight opportunities. DOT&PF and USACE have co-sponsored the Alaska Deep Draft Arctic Ports Study to evaluate potential deepwater port locations, as the Arctic coast is experiencing increased vessel traffic. The study findings indicate Nome would be the preferred site for a deepwater port. This port would serve as a major infrastructure asset and the northernmost port for the U.S. Coast Guard, the U.S. Navy, and the National Oceanic and Atmospheric Administration (NOAA). The Port of Nome recently received \$250 million through the USACE to begin port expansion.

Leverage existing efforts to improve freight movement efficiency and cost effectiveness. There is an opportunity to address the role of maritime technology and the implementation strategies needed to reduce truck wait times, improve general terminal efficiencies, and mitigate any negative environmental effects of freight movement. Additionally, aviation technologies such as automated weather observation systems offer an opportunity to improve the efficiency and cost effectiveness of freight movement by air. DOT&PF should continue to encourage FAA to install weather equipment at all airports.

Designate additional Critical Urban Freight Corridors (CUFCs) to leverage National Highway Freight Program Funds: While the state has already identified several corridors as part of its network of CUFCs and Critical Rural Freight Corridors (CRFCs), it is well below the cap on CUFCs. DOT&PF has the opportunity to certify additional mileage as CUFCs and sub-allocate funding in support of these priority corridors. DOT&PF and the FAC identified additional corridors as part of this planning effort that DOT&PF should pursue certification of with FHWA.

Continue to monitor emerging technologies. DOT&PF should continue to monitor emerging technologies that may enhance data collection efforts, freight movement, and transfers between modes. This is particularly notable in aviation as Alaska is a leader in the testing and evaluation of unmanned aerial systems, which can be leveraged to lower the cost of freight delivery to rural/remote airports.

Enhance the capacity and resiliency of the Port of Alaska. The Port of Alaska is a true multimodal port, connecting to the Alaska Railroad, ANC, and the roadway network. The Port handles half the state's inbound freight, which is then consumed by 90 percent of the state's population. Freight tonnage continues to increase, underscoring the need for a port that is resilient in the face of unplanned interruptions.

Taking Action

The goals, policies, and actions are aimed at making the best use of existing infrastructure, services, and resources. They support the top priorities of increasing safety and efficiency, keeping life cycle costs as low as possible, and increasing travel choices and system resiliency.

Goals, Policies & Actions

- **Goals** lay out where DOT&PF wants to go.
- **Policies** are broad initiatives.
- **Actions** are specific directions—things DOT&PF can do to carry out the policies and support the goals—and performance measures help DOT&PF monitor progress.

Safety

Increase safety for all modes during the movement of freight

Policy	Action	Performance Measure
Vulnerable Road Users	Construct separated active transportation facilities along freight corridors that also serve as essential connections to jobs and necessary services to provide safe, accessible mobility options for those without access to private automobiles.	<i>Increased number of active transportation facilities as part of freight route construction projects</i>
Safe Infrastructure	Inventory truck parking/rest areas and prepare a Truck Parking Plan that outlines needs.	<i>Truck Parking Plan completed</i>
	Acquire equipment for improved navigation and communications.	<i>Increased number of airports with new navigation/communication equipment</i>
	Implement the recommendations of the FAA Alaska Aviation Safety Initiative (FAASI) Report.	<i>Increased number of FAASI recommendations implemented</i>
	Implement the strategies established in the Alaska Strategic Highway Safety Plan (SHSP) and subordinate safety plans.	<i>Increased number of SHSP strategies implemented</i>
	Evaluate at-grade rail crossings of state-owned assets and develop a prioritized list for their improvement either through new technologies or grade separation.	<i>At-grade crossing plan completed</i>

Mobility & Access

Move goods safely, reliably, and cost-effectively across Alaska

Policy	Action	Performance Measure
Increase safety awareness and education for all modes.	Prioritize projects that connect modes.	<i>New project prioritization criteria implemented</i>
	Designate and prioritize critical connections, such as first- and last-mile connections and key military routes.	
	Address prioritized truck bottlenecks through planning and programming.	<i>Reduced number of bottlenecks</i>



Economic Vitality

Facilitate economic growth and lower the cost of goods and services

Policy	Action	Performance Measure
Ports Focus	Annually update DOT&PF leadership on U.S. Army Corps of Engineers (USACE) ports planning.	<i>2 updates per year on Arctic maritime planning</i>
Community and Resource Access	Leverage community partnerships and innovative financing to provide access to new resource development areas, new intermodal infrastructure, and other major freight-generating projects.	<i>Increased access supported by communities to facilitate economic growth</i>
	Monitor and ensure continuation of Alaska Bypass Mail Program.	<i>Alaska Bypass Mail Program remains in place</i>
	Raise awareness of critical statewide strategic freight assets, such as the Port of Alaska, ANC, and ARRC.	<i>Improved communication about the freight system</i>



State of Good Repair

Keep what we have in a state of good repair

Policy	Action	Performance Measure
Asset Management	Establish a lowest life cycle cost approach for managing freight assets using the Transportation Asset Management Plan.	<i>Life cycle costs for critical freight assets established</i>
	Work collaboratively with the ports and other stakeholders to inventory issues related to transporting super loads from the ports and prioritize projects that remove barriers.	<i>Inventory of barriers identified and considered in programming</i>
	Address prioritized truck bottlenecks through planning and programming.	<i>Reduced number of bottlenecks</i>

Resiliency

Have a freight network that can recover quickly from disruptions

Policy	Action	Performance Measure
Resilient Infrastructure	Inventory the freight facilities most lacking in redundancy and develop risk response strategies in a Freight Resiliency Plan.	<i>Freight Resiliency Plan completed</i>
	Complete a vulnerability and risk assessment related to key freight infrastructure and develop adaptation and mitigation strategies to address right-sizing drainage and stormwater infrastructure to accommodate increasing flow patterns, considerations for wildlife passage in sensitive areas, hardening or stabilizing slopes, elevating structures and equipment to minimize risk of inundation, and altering maintenance regimes to target most vulnerable sections of transport systems.	<i>Adaption and mitigation strategies identified</i>
Responsive System	Leverage real-time information from users and operators on system conditions to support advanced decision-making, incident avoidance, and faster response times.	<i>Increased use of real-time information to track system conditions</i>

Sustainability

Promote a sustainable, clean, equitable freight system

Policy	Action	Performance Measure
Clean Transportation	Support strategies that reduce fuel consumption and emissions from freight movement through a combination of improved logistics, higher-efficiency, lower-emission fleet vehicles, and/or alternative fuels.	<i>Increased percentage of fleet changed to lower emission solutions</i>
	Statewide Plan. As part of the Statewide Zero-Emission Vehicle and Clean Transportation Roadmap identified in the LRTP, include technologies and strategies to expand alternative fuel use for all freight modes, shift freight to cleaner modes, and improve trucking fleet fuel efficiency.	<i>Statewide Zero-Emission Vehicle & Clean Transportation Roadmap adopted</i>
	Carbon Reduction Strategy. As part of the Carbon Reduction Strategy included in the LRTP, identify baseline freight-related emissions reduction targets to promote a healthy environment by reducing air pollution and greenhouse gas emissions.	<i>Carbon Reduction Strategy developed with greenhouse gas emission reduction targets established</i>
Sustainable Plans, Policies, and Projects	Sustainable Freight Transportation Plan. Draft and implement a Sustainable Freight Transportation Plan that identifies strategies to support a more efficient, more economically competitive, more resilient, and less polluting freight transport system.	<i>Policies, incentives, and awareness campaigns supporting transition to sustainable freight transport implemented</i>
	Sustainable Transportation Team. As identified in the LRTP, include private and public freight representatives who focus on the expansion of sustainable freight transportation initiatives on this team.	<i>Sustainable Transportation Team meets twice a year</i>
Climate Justice	Prioritize sustainable freight projects in disadvantaged and overburdened communities that reduce freight emissions and improve sustainability.	<i>More sustainability-focused freight projects in disadvantaged communities.</i>
Wildlife and Habitat protection	Collaborate with state partners to support priorities identified in Alaska's Wildlife Action Plan and related plans, including initiatives to mitigate wildlife habitat loss, maintain wildlife migration corridors, and reduce the spread of invasive species.	<i>Wildlife mitigation strategies incorporated into projects</i>

Strategic Partners

Collaborate with other levels of government, industry partners, and the public

Policy	Action	Performance Measure
Coordination and Collaboration	Maintain the Statewide Freight Advisory Committee.	<i>Statewide Freight Advisory Committee meets at least semi-annually</i>
	Create new multimodal DOT&PF freight team to facilitate statewide freight planning, leverage funding, and assist Alaska communities with freight planning.	<i>Multimodal Freight Team meets quarterly</i>
	Assist the state's MPOs in maintaining their respective regional freight plans and aligning them with statewide goals.	<i>Participate in regional freight plan updates</i>

Stewardship

Address prevailing freight transportation challenges using the best and most cost-effective solutions to improve operational efficiencies and safety

Policy	Action	Performance Measure
Sustainable Maintenance and Operations	Create new, high-priority designation for critical connections, such as first- and last-mile connections and key military routes.	<i>Critical connections prioritized</i>
	Create additional marine route designation(s) to cover the Western and Northwestern Alaska ports on the Statewide Multimodal Freight Network.	<i>New marine routes designated by MARAD</i>
	Continue to track and identify new critical freight corridors for possible addition to the system and coordinate with FHWA to pursue certification of additional mileage on an annual basis.	<i>Maximum allowance of critical freight corridors designated</i>
	Continue engagement with MARAD on designated marine highway routes and funding opportunities.	<i>Quarterly meetings with MARAD held</i>
Efficient Freight Movement	Research benefits and tradeoffs of drone deliveries, bike delivery services, staging areas, loading zones, and pick-up centers.	<i>Strategies implemented</i>
Airspace Protection and Management	Update state regulations and statutes and coordinate with local jurisdictions on land use regulations to continue to protect airspace around airports.	<i>State regulations and statues updated</i>

Performance-Based Management

Have stable, flexible, and long-term funding sources

Monitor and measure progress of decisions and investments using objective data

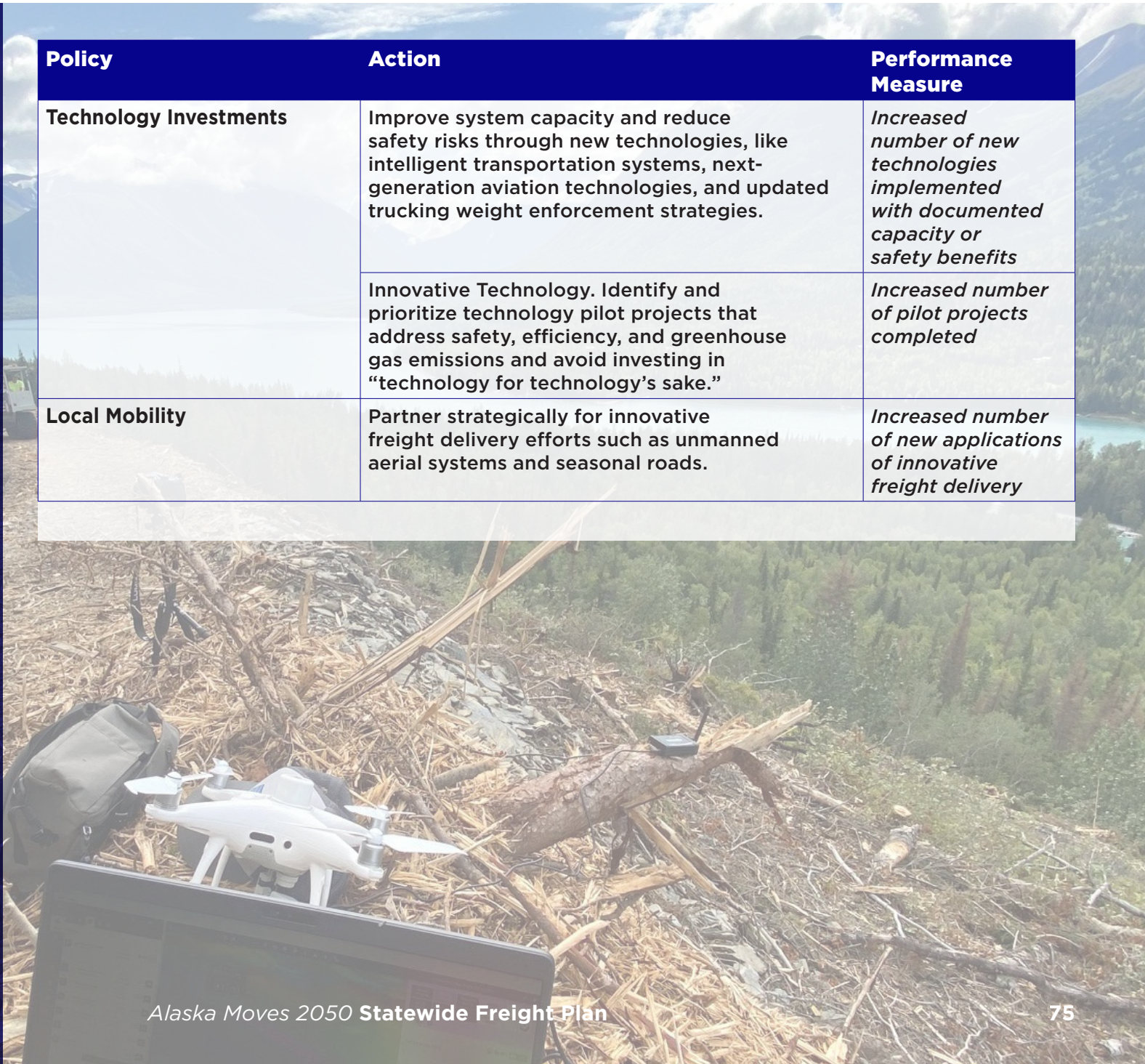
Policy	Action	Performance Measure
Funding and Finance	Communicate current and forecast funding levels available by mode and pursue increased transportation revenue and innovative financing.	<i>Transportation needs versus available funding communicated by mode</i>
Strategic Investments	Implement a “single source of truth” to be used for statewide freight data.	<i>Statewide database established and used by all regions/ departments</i>
	Improve data collection related to freight carried by the AMHS and rural aviation.	<i>Increased amount of cargo data collected</i>



Transportation Innovation

Leverage innovations that benefit safety, efficient freight movement, and work force needs

Policy	Action	Performance Measure
Technology Investments	Improve system capacity and reduce safety risks through new technologies, like intelligent transportation systems, next-generation aviation technologies, and updated trucking weight enforcement strategies.	<i>Increased number of new technologies implemented with documented capacity or safety benefits</i>
	Innovative Technology. Identify and prioritize technology pilot projects that address safety, efficiency, and greenhouse gas emissions and avoid investing in “technology for technology’s sake.”	<i>Increased number of pilot projects completed</i>
Local Mobility	Partner strategically for innovative freight delivery efforts such as unmanned aerial systems and seasonal roads.	<i>Increased number of new applications of innovative freight delivery</i>





Glenn Highway, source DOT&PF

Potential Freight Plan Performance Measures

The FAST Act and Moving Ahead for Progress in the 21st Century (MAP-21) Act require performance measures and targets to be established and monitored that relate to safety, bridge and pavement conditions, air quality, freight movement, and the performance of the National Highway System (NHS). The IJA amends FAST Act Section 6028(c) to extend the performance management program through 2026. Required freight performance measures and the targets set by DOT&PF are shown below.

Federally Required Performance Measures & Targets

Category	Performance Area	Measurement	FHWA Target	Planned DOT&PF 2022 Target
Travel Time Reliability	Freight Travel Time Reliability	Truck Travel Time Reliability (TTTR) Index	2.0	2.0

TTTR is an index that measures the reliability of a system. It is measured as the ratio of 95th percentile travel times to 50th percentile travel times. Lower numbers indicate that travel times are more regular, while higher numbers indicate more disruptions that lead to long travel times.

One of the challenges Alaska and other states face when monitoring these performance measures is the availability of data. In particular for Alaska, data is sparse in rural areas. Federally-required performance measures do not adequately capture the rural nature of the majority of the state and the limited roadway system network.

The LRTP includes other performance measures that may prove more insightful and could be considered once a statewide database is established. These are shown in the following table.

Potential Freight Plan Performance Measures

Goal	Measure
Mobility and Access	Average annual delay vs. scheduled departure time (for transit & intercity rail, ferries, aviation, etc.)
Resiliency	Access to destinations by mode and travel costs (by income quintile and race)
Strategic Partners	Number of system improvements addressing climate vulnerability
Stewardship of the Transportation System	Average time to restore normal operations after weather event
Performance-Based Management	Number of communities and community-based organizations meaningfully engaged in plan and project development
Transportation Innovation	Percentage of maintenance work completed vs. work planned
Performance-Based Management	Percentage of projects (all modes) delivered on time/within budget (by original contract date)
Transportation Innovation	Annual savings through modernization

Freight Investment Plan and Project Screening

Freight Investment Plan

Similar to the State Transportation Improvement Program (STIP), the Freight Investment Plan is fiscally constrained, includes a list of priority projects, and describes how funds made available would be invested and matched. Because of that, the Freight Investment Plan needs to be carefully aligned with the STIP.

The Freight Plan also includes a list of eligible but unfunded projects to be considered as part of future program updates. The fiscally-constrained freight investment plan and illustrative listing of future projects can be found in Appendix J.



Project Screening Criteria

The state’s Freight Plan includes recommendations for prioritizing freight transportation infrastructure projects as a component of the Freight Investment Plan. This entails evaluating a candidate freight project’s merits against similar projects, given the restrictions on spending federal dollars by project type.

As a performance-based plan, the updated Freight Plan includes a specific recommendation for the state to establish a formal methodology to evaluate freight projects.

As part of the freight planning process, the state’s Freight Advisory Committee identified several elements to serve as screening criteria when assessing future freight projects. Recognizing that not all evaluation criteria are equal in value, DOT&PF, in coordination with the Freight Advisory Committee, could undertake future studies or initiatives to determine the appropriate weighting of the evaluation criteria. Future efforts could also be taken to expand the proposed guidelines to determine the rating or scoring of a candidate freight project, recommended radii for refining buffer areas, or fine-tuning of data sets.

It should be understood that any project selection process should be considered a planning tool, and not a black box that would replace human judgment or decision-making by DOT&PF, MPOs and/or the Freight Advisory Committee.

The following table depicts the proposed criteria and the associated guidelines.

Proposed Freight Project Screening Criteria and Guidelines

Criteria	Guidelines
Safety	Project effectively addresses freight safety issues within the project area.
Network	Consider project’s designation on federal and state priority freight networks, e.g., PHFS, CUFCs, CRFCs, State Priority Freight Corridors, MPO-identified freight networks, maritime routes, etc.
Funding Diversity	Percentage of funds from non-state sources—is the project economically feasible in the near and long term? Percentage of funds from stakeholders/ investors contributing non-state, non-federal resources.
Intermodal Connectivity	Project improves connections to other freight transportation services, e.g., rail, airports, ferries.
Land Use	Project is supported by statewide or MPO LRTPs, regional plans, and/or local comprehensive plan/future land use maps.
Freight Delay and/or Reliability	Project reduces delay within subarea network, or project improves freight travel time reliability or reduces bottlenecks.

Implementing and Updating the Plan

The freight planning actions we take today will shape the future of our economy, communities, and environment over the next few decades. DOT&PF does not have the resources or capacity to act on all opportunities or make significant progress on every strategy. To implement this Freight Plan, people, businesses, organizations, and DOT&PF must work together. Success will require partnerships with communities, economic developers, businesses, the military, and other freight stakeholders willing to tackle real assignments and be responsible and accountable.

- DOT&PF will continue to expand its relationship with external stakeholders through planning activities, regional freight forums, presentations at economic development conferences, and participation in business roundtables to share goals, policies and actions. Agencies that coordinate benefit from increased effectiveness, resource availability, and decision-making capabilities for all parties involved.
- Planning strategies identified in the Freight Plan and LRTP will provide the tools for DOT&PF and the Alaska Freight Advisory Committee (FAC) to further study and understand multimodal freight issues and track progress toward the plan implementation. These strategies also provide MPOs and other interested local governments data and guidance to broaden their understanding of freight systems within their own borders and consider the Freight Plan goals, policies, and actions when updating regional and local plans.
- DOT&PF will engage the FAC approximately three times a year to assess progress on each of the identified actions.

The Freight Advisory Committee's Role

The FAC will continue to advise DOT&PF in the advancement of statewide freight movement and play an essential role in implementation of the Freight Plan. The FAC consists of both public and private freight stakeholders representing all modes, who offer counsel and a forum for discussion on statewide freight issues, priorities, projects, and funding needs. DOT&PF will also need to ensure the membership represents the stakeholders required under the IIJA, including:

- Ports
- Freight railroads
- Shippers and carriers
- Freight-related associations
- Third-party logistics providers
- Freight industry workforce
- State DOT&PF representatives
- MPOs/regional planning organizations
- Local governments
- State Department of Environmental Protection
- State Air Resources Board (if applicable)
- Economic development agencies
- Non-profit or community organizations

In addition to new membership requirements, IIJA also requires that members sufficiently meet a series of qualifications to serve on the committee.

Monitoring Progress

To remain accountable and transparent, DOT&PF will continue to report progress to its divisions, planning partners, stakeholders, and the public on how freight investment projects are addressing the goals, actions and performance measures outlined in the Freight Plan and LRTP.

Updating The Plan

The freight system must continue to meet the transportation needs of a rapidly changing economic environment, integrating each of the freight modes with connections to a growing array of origins and destinations. Updates to the Freight Plan must be undertaken every four years. This is required under IIJA and will ensure the plan reflects the most current conditions and the evolving needs for freight services.



Dalton Highway, source DOT&PF [cover image]

Appendices

Appendix A - Glossary of Terms

Appendix B - List of Acronyms

Appendix C - Compliance Checklist

Under Separate Cover:

Appendix D - Transportation and Freight Technical Memorandum

Appendix E - Scenario Planning & Performance Measurement

Appendix F - Infrastructure Investment & Jobs Act (IIJA) Funding Summary

Appendix G - Financial Assessment

Appendix H - Public & Stakeholder Involvement

Appendix I - Existing and Proposed Freight Network Maps

Appendix J - Freight Investment Plan Illustrative Listing of Projects

Appendix A - Glossary of Terms

Alaska Department of Transportation & Public Facilities –

Alaska Department of Transportation & Public Facilities, constructs, operates and maintains the state’s transportation infrastructure systems, buildings, and other facilities, which include more than 5,600 miles of paved and gravel highways; more than 300 aviation facilities, including 235 rural airports and two international airports.

Alaska Marine Highway System – A ferry service operated by the U.S. state of Alaska which serves as the only method of transportation of vehicles between the state and the contiguous United States.

Barge – The cargo-carrying vehicle that inland water carriers primarily use. Basic barges have open tops, but there are covered barges for both dry and liquid cargoes.

Alaska Bypass Mail Program – A program that subsidized cargo shipments to rural Alaska, allowing for the delivery of consumer goods and groceries to small communities at parcel-post rates. The palletized shipments bypass all postal facilities and go directly to the air carriers.

Commodity – An Item that is traded in commerce. The term usually implies an undifferentiated product competing primarily on price and availability.

Critical Rural Freight Corridor – Public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.

Critical Urban Freight Corridors – Public roads in an urbanized area which provide access and connection to the PHFS and

the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.

Dirigible – An airship, also known as a dirigible, is a self-propelled lighter-than-air aircraft with directional control surfaces. Unlike an airplane, the lift for an airship is generated aerostatically by the buoyancy of a lifting gas.

E-commerce – The activity of electronically buying or selling products on online services or over the internet.

Essential Air Service Program – A U.S. government program enacted to guarantee that small communities in the United States, which had been served by certificated airlines prior to deregulation in 1978, maintained commercial service.

Federal Aviation Administration – A transportation agency of the U.S. government that regulates all aspects of civil aviation in the country as well as over surrounding international waters.

First- and last-mile – The beginning or end of an individual trip.

Foreign Trade Zone – Secured, designated locations around the United States in or near a U.S. Customs Port of Entry where foreign and domestic merchandise is generally considered to be in international commerce and outside of U.S. Customs territory.

Freight – Cargo or goods transported by truck or other means of transportation.

Hub – A common connection point for devices in a network. Referenced for a transportation network as in “hub and spoke,” which is common in the airline and trucking industry.

Long-Range Transportation Plan – A traditional Long-Range Transportation Plan is a 20-year planning horizon vision document that reflects the application of programmatic transportation goals to project prioritization. Transportation plans are conducted at the national, regional, and unit level for Federal Land Management Agencies. Long-Range Transportation Plans include financial components that demonstrate how the recommended transportation plan can be implemented, identify the public and private resources expected to be available to carry out the plan, and recommend any additional financing strategies for needed projects and programs.

Maritime Administration – The Maritime Administration is the agency within the U.S. Department of Transportation dealing with waterborne transportation. Its programs promote the use of waterborne transportation and its seamless integration with other segments of the transportation system, and the viability of the U.S. merchant marine. The Maritime Administration works in many areas involving ships and shipping, shipbuilding, port operations, vessel operations, national security, environment, and safety. The Maritime Administration is also charged with maintaining the health of the merchant marine, since commercial mariners, vessels, and intermodal facilities are vital for supporting national security, and so the agency provides support and information for current mariners.

Marine Highway Program – A program that seeks to develop and expand marine highway service options and facilitate their further integration into the current U.S. surface transportation system, especially where water-based transport is the most efficient, effective, and sustainable option and highlight the benefits, increase public awareness, and promote waterways as a viable to land shipping and other transportation options.

Maritime Technology – Technologies for the safe use, exploitation, protection of, and intervention in, the marine environment.

Median Operating Speeds – The speed at which drivers are observed operating their vehicles during free-flow conditions.

Metropolitan Planning Organizations – The policy board of an organization created and designated to carry out the metropolitan transportation planning process. Metropolitan Planning Organizations are required to represent localities in all urbanized areas with populations over 50,000, as determined by the U.S. Census.

Multimodal – Having or involving different types of transportation, including airplane, motor vehicle, motorcycle, train, waterborne, bicycle, pedestrian, and non-traditional.

Municipality – A city or town with its own local government, or the local government itself.

National Highway Freight Network – A network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data established to strategically direct federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system.

National Highway Freight Program – A five-year, formula-based fund for projects that contribute to the efficient movement of freight on the newly established National Highway Freight Network.

North Slope – The region of the U.S. state of Alaska located on the northern slope of the Brooks Range along the coast of two marginal seas of the Arctic Ocean, the Chukchi Sea being on the western side of Point Barrow, and the Beaufort Sea on the eastern.

Northwest Passage – The sea route between the Atlantic and Pacific oceans through the Arctic Ocean, along the northern coast of North America via waterways through the Canadian Arctic Archipelago.

Pacific Rim – The land masses around the rim of the Pacific Ocean.

Resiliency – The ability to adapt to, recover from, respond to, and bounce back quickly from threats to physical infrastructure and operations, and threats of cybersecurity, terrorism, and all hazards.

Riverine – Relating to or found on a river or rivers, or the banks of a river.

Systemic Approaches – An analysis method that creates a way to handle a complex system with a global point of view without focalizing on details.

Tonnage – A measure of the cargo-carrying capacity of a ship, commonly used to assess fees on commercial shipping.

Trans Alaska Pipeline System – An oil transportation system spanning Alaska, including the trans-Alaska crude-oil pipeline, 11 pump stations, several hundred miles of feeder pipelines, and the Valdez Marine Terminal. It is commonly called the Alaska pipeline, trans-Alaska pipeline, or Alyeska pipeline.

Unmanned Aerial Systems – Air vehicles and associated equipment that do not carry a human operator, but instead are remotely piloted or fly autonomously.

Vehicle Probe Data – Data that is generated by monitoring the position of individual vehicles (i.e., probes) over space and time rather than measuring characteristics of vehicles or groups of vehicles at a specific place and time.

Weigh-In-Motion Stations – WIM systems measure time and date, speed, vehicle axle counts, axle spacing, axle weight, gross vehicle weight, weight violations, vehicle classification, and overall length of commercial trucks while the vehicle is moving at either highway speeds or slow speeds using an array of sensors.

Appendix B - List of Acronyms

AGDC	Alaska Gasline Development Corporation	IGU	Interior Gas Utility
AIAS	Alaska International Airport System	IJA	Infrastructure Investment and Jobs Act
AIDEA	Alaska Industrial Development and Export Authority	JNU	Juneau International Airport
AMATS	Anchorage MPO, Anchorage Metropolitan Area Transportation Solutions	LCVs	Long Combination Vehicles
AMHS	Alaska Marine Highway System	LNG	Liquefied Natural Gas
ANC	Ted Stevens Anchorage International Airport	LRTP	Long-Range Transportation Plan
ARRC	Alaska Railroad Corporation	MARAD	Maritime Administration
CRFC	Critical Rural Freight Corridor	MPOs	Metropolitan Planning Organizations
CUFC	Critical Urban Freight Corridors	NAFTZ	National Association of Foreign-Trade Zones
DMTS	DeLong Mountain Transportation System	NHFP	National Highway Freight Program
DOT&PF	Alaska Department of Transportation & Public Facilities	NHS	National Highway System
EAS	Essential Air Service Program	NOAA	National Oceanic and Atmospheric Administration
FAA	Federal Aviation Administration	NM	Nautical Miles
FAASI	FAA Alaska Aviation Safety Initiative	PHFS	Primary Highway Freight System
FAC	Freight Advisory Committee	SHSP	Strategic Highway Safety Plan
FAF5	Freight Analysis Framework Version 5	STIP	State Transportation Improvement Program
FAI	Fairbanks International Airport	STRAHNET	Strategic Highway Network
FAST Act	Fixing America's Surface Transportation Act	TAPS	Trans Alaska Pipeline System
FAST Planning	Fairbanks MPO, Fairbanks Area Surface Transportation Planning	TEUs	Foot-Equivalent Units
FHWA	Federal Highway Administration	TTTR	Truck Travel Time Reliability
FTZ	Foreign Trade Zone	UPS	United Parcel Service
GVW	Gross Vehicle Weight	USACE	U.S. Army Corps of Engineers
		USDOT	U.S. Department of Transportation
		WHO	World Health Organization
		Y-K	Yukon-Kuskowkwim River Delta

Appendix C - Compliance Checklist

This appendix details the freight planning requirements outlined by the federal government. This compliance checklist indicates where in the freight plan that the requirement was fulfilled.

Table 1: Freight Plan Federal Compliance Checklist

Requirement Factors	Plan Response	Location
[New Requirement] In accordance with the IIJA, the Freight Plan utilizes an 8-year forecast period. [49 USC Section 70202(d)]	Alaska Moves 2050 Freight Plan utilizes a planning horizon of 2050, which exceeds the 8-year requirement.	<i>What is a Freight Plan</i>
[New Requirement] In accordance with the IIJA, the Freight Plan must be updated every 4 years. [49 USC Section 70202(e)]	Alaska Moves 2050 Freight Plan builds from the 2016 Let's Keep Moving 2036 Freight Plan. The subsequent Freight Plan must be updated in 2026.	<i>Implementing and Updating the Plan</i>
The Freight Plan includes a description of the federal performance measures and targets used in assessing the performance of the transportation system, and a system performance report. [23 CFR 450.216 (f) and 23 USC 135 (f)(7)]	The Freight Plan includes a description of federal performance measures, as well as an update on Alaskan progress.	<i>Performance Measures Appendix D - Transportation and Freight Assessment Technical Memorandum</i>
[New Requirement] In accordance with the IIJA, Alaska's transportation planning process continues to report the federal performance measures.		
The Freight Plan includes elements and connections between various modes and addresses intercity travel. [23 CFR 450.216 (2)]	The Freight Plan details the existing conditions, challenges, and opportunities of roadway infrastructure, aviation infrastructure, marine infrastructure, and rail infrastructure, in addition to the unique conditions of remote, rural, and tribal communities that use Alaska's multimodal freight transportation system.	<i>For Alaska's Freight System, Performance is Destiny The Freight System</i>

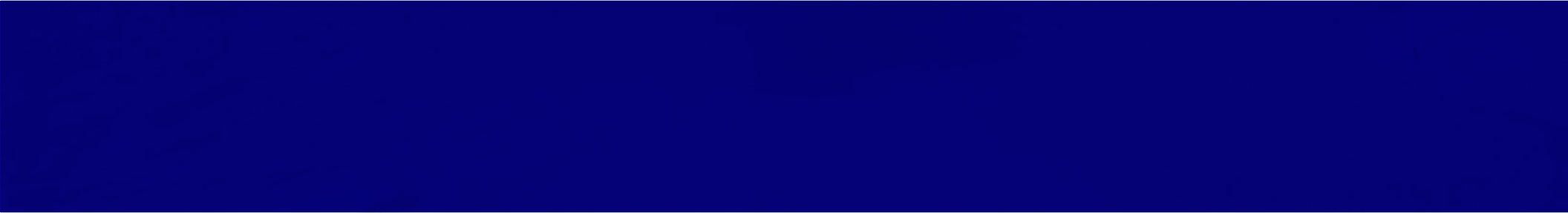
Requirement Factors	Plan Response	Location
<p>The Freight Plan identifies significant freight system trends, needs, and issues.</p>	<p>Freight system trends, needs, and issues are identified and described at a high level, and mode-specific trends, needs, and issues are further described in the Plan.</p>	<p><i>Overall Freight System Needs and Opportunities</i></p> <p><i>Appendix D - Transportation and Freight Technical Memorandum</i></p>
<p>The Freight Plan includes a description of freight policies, strategies, and performance measures that will guide freight-related transportation investment decisions.</p>	<p>Freight policies and action strategies are described and categorized by Goal Area. Performance measures include both the federally-required performance measures for freight as well as other possible measures that would help DOT&PF monitor and track the state of the freight system.</p>	<p><i>Overall Freight System Needs and Opportunities</i></p> <p><i>Performance Measures</i></p>
<p>The Freight Plan lists multimodal critical rural freight facilities and corridors designated within the State. [49 USC Section 70103]</p>	<p>A listing of multimodal CRFCs designated by the State is included in the Plan. In addition to these highway corridors, other non-highway rural freight facilities are highlighted as part of the 2022 Statewide Multimodal Priority Freight Network, which was developed in consultation with the Freight Advisory Committee.</p>	<p><i>The Freight System</i></p> <p><i>Appendix I - Existing and Proposed Freight Network Maps</i></p>
<p>The Freight Plan lists critical urban freight facilities and corridors designated within the State. [23 CFR 167]</p>	<p>CUFCs are discussed within the Plan. The Freight Plan not only lists and accounts for existing/certified Critical Freight Corridors, but also provides a listing of candidate critical corridors for DOT&PF to consider for submission to FHWA. These candidate corridors were selected in consultation with the Freight Advisory Committee.</p>	<p><i>For Alaska's Freight System, Performance is Destiny</i></p> <p><i>The Freight System</i></p> <p><i>Appendix I - Existing and Proposed Freight Network Maps</i></p>

Requirement Factors	Plan Response	Location
<p>The Freight Plan describes how the Plan will improve the ability of the State to meet national multimodal freight policy goals and National Highway Freight Program goals. [49 USC Section 70101(b) and 23 CFR 167]</p>	<p>The Freight Plan introduces the goals and vision outlined in the National Multimodal Freight Policy Plan, as well as the goals of the National Highway Freight Program (as established in Section 167 of Chapter 1 of Title 23, United States Code), and relates the strategic federal direction to the body of the Plan.</p>	<p><i>Overall Freight System Needs and Opportunities</i></p> <p><i>Performance Measures</i></p>
<p>The Freight Plan describes innovative technologies and operational strategies, including freight ITS, that improve the safety and efficiency of freight movement.</p>	<p>Innovative technologies and operational strategies are discussed broadly in the Plan and are detailed for each mode in the “Freight System” sections. Additionally, the Plan includes goals and action strategies that support technological innovation and operational efficiency of the system.</p>	<p><i>The Freight System</i></p>
<p>The Freight Plan describes improvements that reduce or impede roadway deterioration due to heavy vehicle traffic.</p>	<p>Roadway deterioration is addressed in the Freight Assessment, as well as in the implementation section of the Plan, through increased maintenance and reporting.</p>	<p><i>The Freight System</i></p> <p><i>Performance Measures</i></p> <p><i>Appendix D - Transportation and Freight Technical Memorandum</i></p>
<p>The Freight Plan may include consideration of congestion mitigation projects and strategies. [23 CFR 450.216 (4)]</p>	<p>Facilities/areas of freight mobility concern are described broadly, and the “Truck Transportation” subsection includes mapping and listing of truck bottlenecks and other challenges faced by both highway and non-highway modes are documented under each mode’s respective subsection.</p>	<p><i>The Freight System</i></p> <p><i>Performance Measures</i></p> <p><i>Appendix J - Freight Investment Plan and Illustrative Listing of Projects</i></p>

Requirement Factors	Plan Response	Location
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes a commercial motor vehicle parking facilities assessment including:</p> <p>(1) the capability of the State, together with the private sector in the state, to provide adequate parking facilities and rest facilities for commercial motor vehicles engaged in interstate transportation;</p> <p>(2) the volume of commercial motor vehicle traffic in the state; and</p> <p>(3) whether there exist any areas within the state with a shortage of adequate commercial motor vehicle parking facilities, including an analysis (economic or otherwise, as the State determines to be appropriate) of the underlying causes of such a shortage.</p> <p>[49 USC Section 70202(b) and (f)]</p>	<p>DOT&PF does not own or maintain parking. The likely need for truck parking is highest in remote areas where there is often no supporting infrastructure, challenging terrain, and extreme weather conditions. These conditions make construction, operation, and maintenance of the sites costly for both the public and private sector. A statewide truck parking study is needed to understand truck parking needs and identify cost-effective strategies to meet the needs.</p>	<p><i>The Freight System, page 49</i></p> <p><i>Appendix D - Transportation and Freight Technical Memorandum</i></p>
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes an analysis of the most recent supply chain cargo flows by mode. [49 USC Section 70202(b)]</p>	<p>Freight flows by tonnage and value are discussed at a high-level under each mode within the Plan. Further detail on cargo/commodity flows (outbound and inbound by tonnage and value) and trading partners are provided in the Freight Assessment. Data was gathered from Freight Analysis Framework version 5.0.</p>	<p><i>Commodity Flows and Trade</i></p> <p><i>The Freight System</i></p> <p><i>Appendix D- Transportation and Freight Technical Memorandum</i></p>
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes an inventory of commercial ports. [49 USC Section 70202(b)]</p>	<p>The “Ferries, Ports and Waterways” subsection (“Freight System”) of the Plan provides a map of all commercial ports within Alaska and includes tonnages at some of these facilities.</p>	<p><i>The Freight System</i></p>

Requirement Factors	Plan Response	Location
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes an analysis of e-commerce impacts on freight infrastructure. [49 USC Section 70202(b)]</p>	<p>The Freight Plan acknowledges the general trend of e-commerce growth in a national/worldwide context and its implications for freight planning, specifically regarding the increased traffic circulating through the AIAS in the past few years.</p>	<p><i>What Makes Alaska's Freight System Different</i></p> <p><i>The Freight System</i></p> <p><i>Appendix D - Transportation and Freight Technical Memorandum</i></p>
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes a summary of military freight considerations. [49 USC Section 70202(b)]</p>	<p>The Freight Plan considers military freight within the plan as Alaska's four military installations are part of the state's freight movement story.</p>	<p><i>The Freight System</i></p> <p><i>Overall Freight System Needs and Opportunities</i></p>
<p>[New Requirement] In accordance with the IIJA, the Freight Plan endeavors towards enhancing the reliability or redundancy of freight transportation and prioritizes the ability to rapidly restore reliability and access to freight transportation following disruptive events. [49 USC Section 70202(g)]</p>	<p>The Freight Plan is guided by the goals established in the LRTP, which includes resiliency and sustainability. These goals are related to strategies in the Freight Plan that address climate change resiliency and risk response along corridors that may be impacted by climate changes/natural disasters/flooding, as well as strategies that encourage the use of context sensitive solutions to reduce freight impacts on local air pollution and wildlife.</p>	<p><i>What Make's Alaska's Freight System Different</i></p> <p><i>The Freight System</i></p> <p><i>Taking Action</i></p> <p><i>Appendix D - Transportation and Freight Technical Memorandum</i></p>
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes strategies and goals to decrease:</p> <p>(A) The severity and impacts of extreme weather and natural disasters on freight mobility</p> <p>(B) The impacts of freight movement on local air pollution</p> <p>(C) The impacts of freight movement on flooding and stormwater runoff</p> <p>(D) The impacts of freight movement on wildlife habitat loss. [49 USC Section 70202(b)]</p>		

Requirement Factors	Plan Response	Location
<p>The Freight Plan may include freight investment plan that includes a list of priority projects and describes how funds made available for freight projects would be invested and matched. [23 CFR 167(c)(2)]</p>	<p>It includes a Freight Investment Plan and a list of illustrative projects for future planning.</p>	<p><i>Freight Investment Plan, page 76; Appendix J - Freight Investment Plan Illustrative Listing of Projects</i></p>
<p>[New Requirement] In accordance with the IIJA, the Freight Plan includes recommendations for multi-state freight compacts and forming a permanent Freight Advisory Committee. [49 USC Section 70201 and 49 USC Sections 70204 and 70202 (b)]</p>	<p>The Statewide Freight Advisory Committee was consulted several times at critical milestones throughout the planning process.</p> <p>The Freight Plan does not currently discuss any efforts conducted by any multi-state freight coalitions or compacts in which Alaska is a member.</p>	<p><i>Who Helped Create This Plan</i></p> <p><i>Taking Action</i></p> <p><i>Appendix H - Public & Stakeholder Involvement</i></p>



ALASKA STATEWIDE LRTP
FREIGHT PLAN