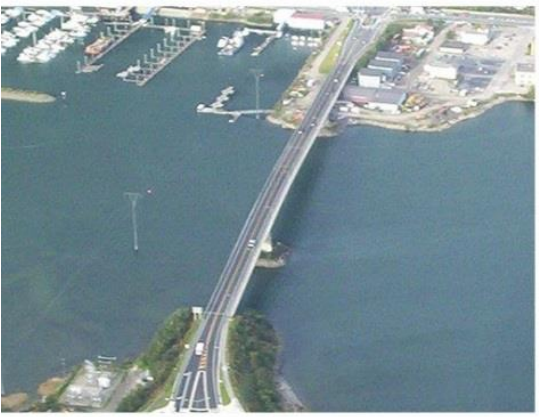
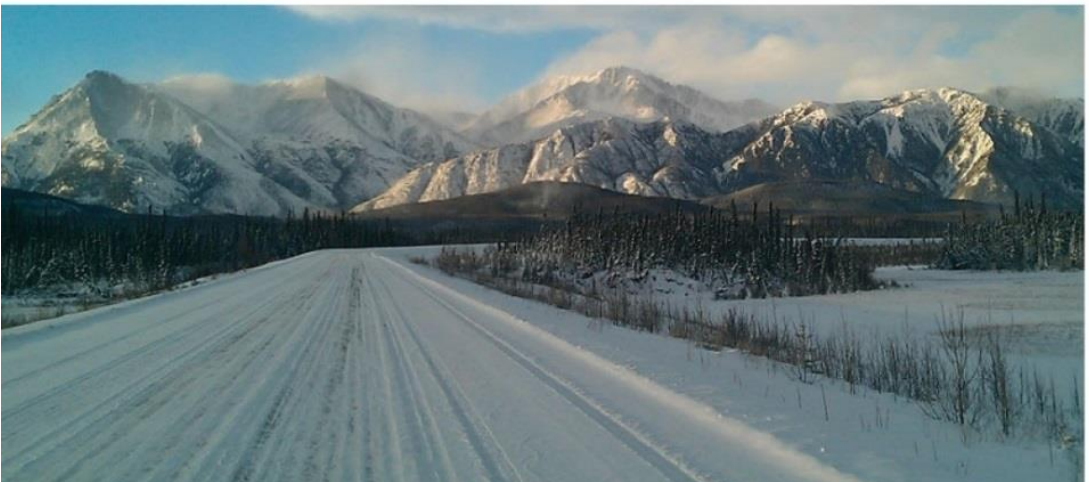
Alaska Statewide Long-Range Transportation Plan

LET'S KEEP MOVING 2036:

Policy Plan

September 2016





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A MESSAGE FROM THE COMMISSIONER

To All Alaskans:

The Alaska Department of Transportation and Public Facilities and the citizens of our state undertook an effort to update the statewide long-range transportation plan to provide future direction for our highways, aviation, transit, rail, marine, bicycle, and pedestrian transportation priorities. This Plan – *Let's Keep Moving 2036* – is based on technical analyses that assess the performance of the transportation system today and analyze trends affecting future performance. These analyses have informed the development of a Plan Vision and supporting policy goals and actions to guide future transportation investment to meet the needs of the Nation and the State. This Plan is not intended to list specific projects or to identify costs associated with those projects. Instead, this Plan aligns with federal mandates and establishes the State's policy direction to provide guidance for balancing the State's competing needs—between developing a performance-based transportation system, preservation, operations, and maintenance; between different modes; and between urban and rural communities.

The Vision of this Plan, which is to provide a network that enables a robust and growing economy to meet the mobility needs of the Nation and the State's residents, is consistent with the DOT&PF's mission to keep Alaska moving through service and infrastructure. Given the unique characteristic of Alaska as a large state with a relatively small population, the State's economy and the welfare of all Alaskans will continue to be dependent on a safe, efficient, and reliable transportation system. This Plan will be used as a framework to identify investment priorities and guide our work to ensure that Alaskans continue to enjoy the benefits of mobility safely. The continued engagement of the public in development of this Plan, along with our focus in implementing the actions outlined in this Plan, will help us maximize available resources to meet both our federal obligations and the mobility and economic needs of Alaskans in a fiscally responsible and environmentally sustainable manner.

Mark Luiken, C.M.
Commissioner

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INTRODUCTION

Plan Purpose

This Statewide Long-Range Transportation Plan (*Let's Keep Moving 2036)* establishes transportation policies, goals, and implementing actions for the Alaska Department of Transportation and Public Facilities (DOT&PF) through 2036. This Plan sets overall policy and investment priorities and is an update of the previous plan *(Let's Get Moving 2030)* published in 2008.

What this Plan Accomplishes

Let's Keep Moving 2036 provides state officials with goals, policies, and actions to guide transportation programs and investments through 2036. It conforms to federal mandates for performance-based planning and meets the requirements of MAP-21 and the FAST Act. While this Plan does not include specific projects, the principles outlined will guide planning initiatives in area plans and Metropolitan Planning Organization (MPO) plans tailored to the unique needs of Alaska's localities. This Plan charts the path forward for DOT&PF, demonstrating our commitment to responding to transportation needs through fiscally responsible and environmentally sound decision making. It provides a framework for making difficult choices that balance Alaska's competing needs between developing the system, preservation, operations, and maintenance; between different modes; and between urban and rural communities.

This Plan addresses Alaska's immediate needs through policies and actions, and acts as a guide for the long-term vision that DOT&PF has for the transportation system. Our plan is to provide transportation infrastructure that is safe, reliable, and cost-effectively maintained, despite the challenging financial environment and growing user needs and expectations. DOT&PF continues to plan for the future to keep Alaska moving.

Federal Mandate

The long-range transportation plan, which is required by federal regulation (23 CFR 450.214), is one element of a federally required continuing, cooperative, and comprehensive statewide transportation planning process. The mandate is to provide a clear link between policy, planning, evaluation, and the investments that are made. The intent is for careful planning and sound evaluation to guide decision making. To do this, Alaska is required to prepare a statewide, twenty-year long-range plan that addresses all modes of transportation.

State Mandate

This long-range transportation plan draws its authority from Alaska Statute (AS 44.42.050.). This statute directs the Commissioner of DOT&PF to develop a comprehensive, intermodal, long-range transportation plan for the State. Intermodal planning considers all modes of transportation and the connections between the modes.

This Plan is a living document; it will be updated as transportation needs and resources change over time.

Exhibit 1 establishes what this Plan will and will not accomplish.

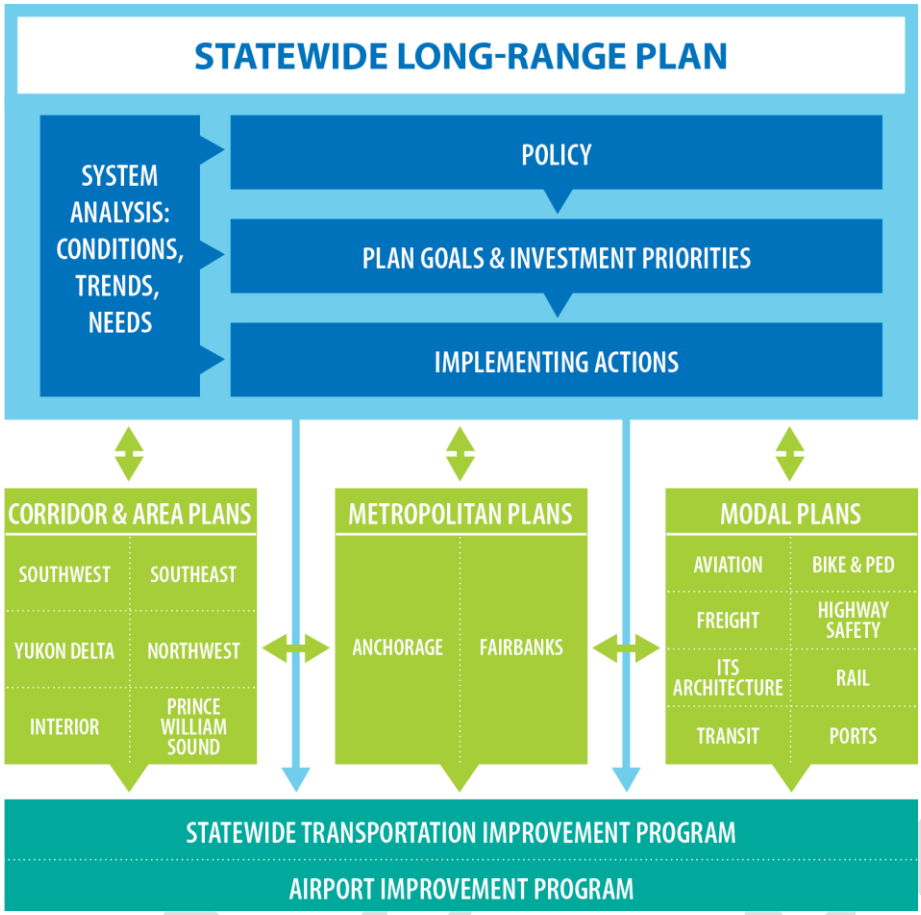
Exhibit 1: What this Plan Accomplishes

This Plan will	This Plan will not
• Align with new Federal mandates • Conform with the State's policy direction • Be system level and address all modes • Address DOT&PF responsibilities as the owner • Identify priorities • Identify performance measures • Meet state and federal requirements	• List projects • Be unrealistic • Be too general • Identify specific costs • Identify local transportation priorities

Statewide Planning Process

The statewide planning process (shown in Exhibit 2) produces the Long-Range Transportation Plan, area plans, modal plans, and lower-tier plans and the Statewide Transportation Improvement Program.

Exhibit 2: Statewide Planning Process



These plans/programs that comprise the statewide planning process are described in more detail below:

- The **Statewide Long-Range Transportation Plan** is the overall policy guiding document that will provide future direction for our highways, aviation, transit, rail, marine, bicycle, and pedestrian transportation. It will inform the area, modal, and metropolitan plans, which then inform the Statewide Transportation Improvement Program (STIP), the Airport Improvement Program, and capital and operating budgets.

- **Area plans** are developed for specific areas of the state that are designed to address movement between communities in the region and from the region to points beyond. Each of these plans incorporates economic modeling to evaluate potential projects and prioritize them to best meet state and regional goals.

- **Metropolitan plans** are fiscally constrained plans that are unique to the state's metropolitan planning areas and required by federal regulation (23 CFR 450.322). They include both long- and short-range strategies and actions that lead to an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demands.

- **Modal plans** are applicable statewide and address system needs and structure of a mode or subset of the overall transportation system.
- **Corridor Plans** are focused on the Interstate and National Highway System and provide a methodical approach for analysis of transportation issues including linkages between land use development and transportation.
- **System plans** help identify system-wide issues, goals, objectives, standards, and processes.
- The **STIP** is the state's four-year program for transportation system preservation and development. It includes interstate, state, and some local highways, bridges, ferries, and public transportation needs, but does not include airports or non-ferry-related ports and harbors. It covers all system improvements for which partial or full federal funding is approved and that are expected to occur during the four-year duration of the STIP.
- The **Airport Improvement Program (AIP)** is used to fund the planning and development of public-use airports that are included in the National Plan of Integrated Airport System. Eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns.

Together, these plans comprise the overall statewide transportation planning process through which federal and state law are addressed.

Plan Structure

This Plan is organized into three documents:

- **This document, the Policy Plan** introduces the State's transportation system and identifies the trends affecting travel demand and the provision of safe, reliable, and cost-effective transportation infrastructure that requires planning by the State. It includes the policies and actions that guide the long-range preservation and development of the Alaska transportation system.
- **Trends and System Analysis** describes the extent and condition of the transportation system in more detail and the trends affecting its performance, and includes a detailed needs assessment and an overview of the financial situation.
- **Freight Plan Element** assesses freight transportation in Alaska and the risks to freight mobility through 2036.

Plan Overview

Let's Keep Moving 2036 is guided by the 2036 Plan Vision to provide a transportation system that enables a robust and growing economy and meets the mobility needs of the State's residents**.** The Plan Vision, along with an assessment of the opportunities and risks that key trends pose to achieving this vision, were used to inform the development of policies and implementing actions to guide investments in and management of the transportation system. Exhibit 3 provides an overview of what the Plan includes.

Exhibit 3: The Plan Overview

Plan Goals

The goals of Alaska's Long-Range Statewide Transportation Plan are as follows:

1. Manage the Alaska Transportation System using a performance based measurement approach for federally funded surface transportation assets (based on federally required performance measures once the requirements for these measures are formalized through federal rule making), focusing on safety and the condition of pavements and bridges
2. Prioritize investments in system preservation, modernization, and new construction based on their impact on our transportation system performance goals
3. Proactively monitor trends and manage risks to transportation system performance
4. Monitor economic development activities and projects so that the resulting demands for transportation infrastructure investments can be addressed
5. Address increases in travel demand in urban areas through MPO, corridor and area plans
6. Improve transportation system resiliency and add redundancy to address safety and security risks
7. Manage and operate the system to improve operational efficiency and reduce safety risk
8. Incorporate livability, community, and environmental concerns in our decisions
9. Provide transparency for the allocation of scarce resources and accountability for the performance of the transportation system through performance measurement and reporting

Plan Priorities

Programs and projects are aligned to accomplish the goals and targets set for safety, pavement and bridge condition, congestion reduction, freight movement, economic vitality and reliability. This means that investment prioritizes:

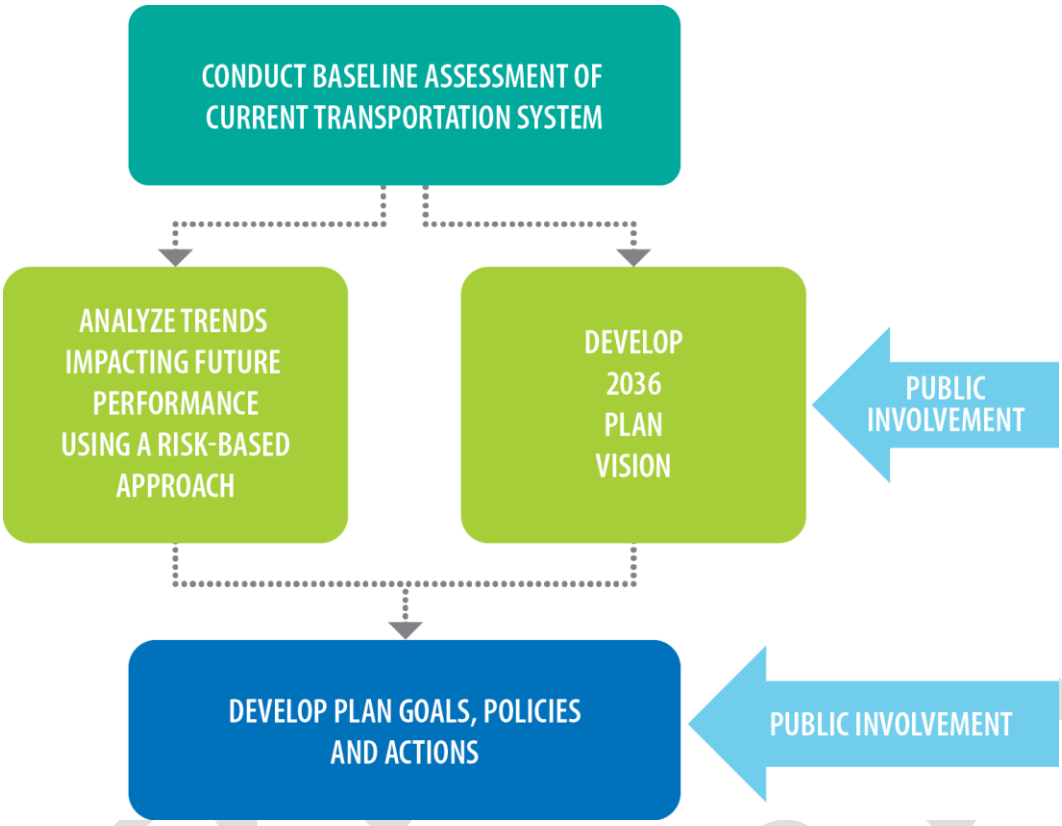
- Bridge and pavement projects that preserve the current road system with an emphasis on the Interstate and National Highway System
- Modernizing the system to reduce risks to safety and reliability
- Infrastructure improvements that enhance economic vitality

The Plan prioritizes new construction where there are clearly documented, cost-effective benefits to the traveling public. The Plan analysis expects such projects to be in the fastest growing parts of the State and requires collaboration between the State and local entities to plan and finance them. Furthermore, actions are grouped into two categories: Priority 1 or Priority 2. Priority 1 actions will be addressed in the near-term, while Priority 2 actions will be addressed in the mid- to long-term, as resources become available.

LET'S KEEP MOVING 2036 PLAN APPROACH

This Plan is based on technical analyses and stakeholder input to assess the performance of the transportation system today and analyze trends affecting future performance. Statewide goals, policies, and actions address these trends and performance risk. The Plan approach is illustrated in Exhibit 4.

Exhibit 4: Plan Approach



Baseline assessment of the condition and performance of the transportation system. A series of technical analyses were conducted to provide an understanding of current and future transportation conditions and performance at the system level. These technical analyses included the following:

- **Baseline assessment of the State-owned transportation system.** This analysis addresses the surface, marine, and air transportation facilities for which DOT&PF is responsible. It assesses the current use, condition, and performance of the different elements of the statewide system. Investment needs are addressed in the following broad categories: system development, lifecycle management, and routine maintenance and operations.

- **Evaluation of ability to fund the Plan.** The Plan describes the revenue sources and the financing available to maintain, operate, and develop the Alaska Transportation System based on historical analysis of expenditures and forecasts of future revenue available.

The technical analyses focus consideration of policy and plan actions on the most pressing challenges and risks to the performance of the Alaska Transportation System. The information provided for a balanced and considered assessment of maintenance, operations, and system preservation needs, which can be overlooked in the desire to move forward with new construction.

Risk-based analysis of trends affecting transportation system performance. The trends affecting the physical condition or state of good repair of the transportation system and its operational performance (which includes safety, reliability, and congestion) were analyzed. Four broad categories of trends were considered:

- **Travel Demand:** Trends that affect the amount and type of transportation demand in Alaska through 2036, including economic and population growth, resource development, and changing customer expectations and priorities. These trends all directly affect future travel demands.
- **Delivery/Supply:** Trends affecting the provision of transportation infrastructure and services, such as the backlog of deferred maintenance, unforeseen project delays, declining state transportation funds, and unstable or declining revenues from a stable/declining federal program.
- **Public Policy and Financial Capacity:** Trends in policy and priorities at the federal and state levels that will affect the State's ability to maintain the performance of Alaska's transportation system.
- **Climate Change and Extreme Weather Events:** Trends that will have a high likelihood of adversely affecting the condition of transportation infrastructure and increase the costs to operate and maintain the system over time.

These trends are analyzed to evaluate the risks to the future performance of the transportation system and determine which risks require planning. In this way, the statewide plan incorporates a risk-based planning approach that addresses future travel demand, preservation and maintenance, and anticipated customer expectations and funding availability over the next 20 years.

The risk-based approach avoids planning that looks in the rear view mirror. It considers risks to future performance. Risk is an uncertain event or condition that may have a positive or negative effect; and the level of risk is a product of the event's probability and its potential impact. A high risk has a high likelihood of certainty and a large impact, while a low risk has a low probability with an insignificant or minor impact.

Plan Vision. In conjunction with the risk-based trends analysis, the Vision provides direction for *Let's Keep Moving 2036.*

Policy Goals and Actions. Policy Goals are established for the transportation system and implementing Actions specify how the State's transportation investment decisions, policy, and management actions address the Policy Goals. The policies and actions from *Let's Get Moving 2030* were assessed and

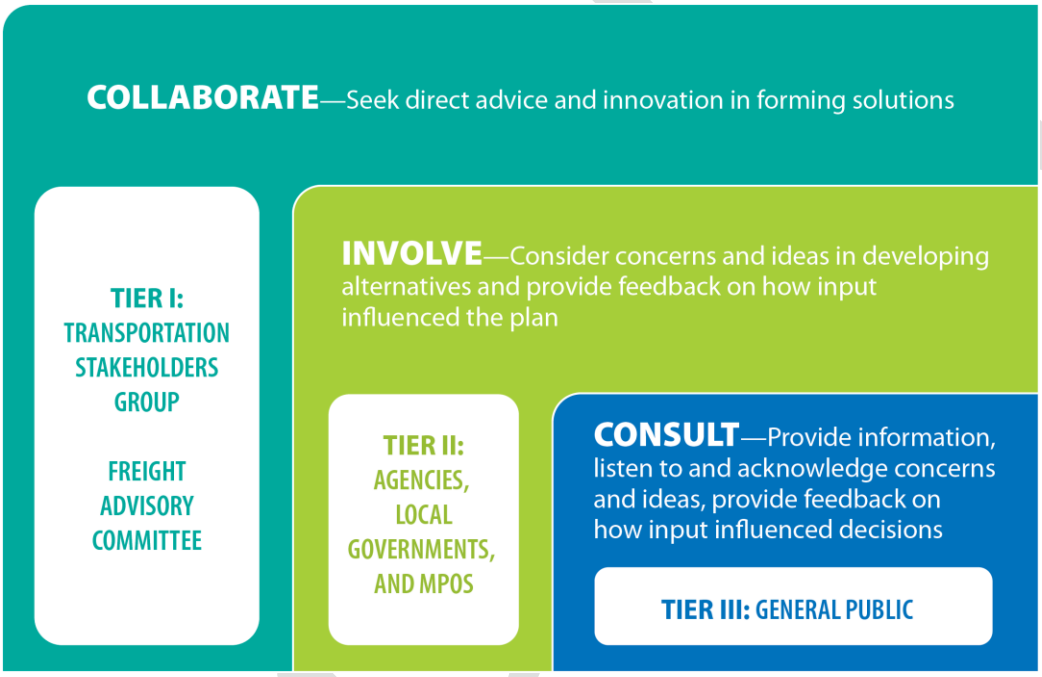
updated as appropriate. Additional policies and actions were added based on the technical and trends analyses and outreach.

Let's Keep Moving 2036 Public Involvement

Alaska's overall statewide transportation planning process is shaped by early and ongoing opportunities for all Alaskans to participate proactively and continuously in the entire transportation planning, design, construction, and maintenance process. The DOT&PF looks to meet and improve upon all federal and state public involvement requirements. The DOT&PF recently developed the *Public Involvement Guidelines for Transportation Planning* to showcase its commitment to outreach that is innovative, cost-effective, and results-oriented.

To develop the Long-Range Transportation Plan, DOT&PF provided three tiers of stakeholders with opportunities to participate early and continuously in plan development, as illustrated in Exhibit 5. Tier 1 consists of the Transportation Stakeholders Group and the Freight Advisory Committee; Tier 2 consists of affected public agencies, local and Tribal governments, and MPOs; and Tier 3 includes the general public—citizens, freight shippers, private providers of transportation, representatives of users of public transit, providers of freight transportation services, representatives of users of non-motorized transportation, and other interested parties.

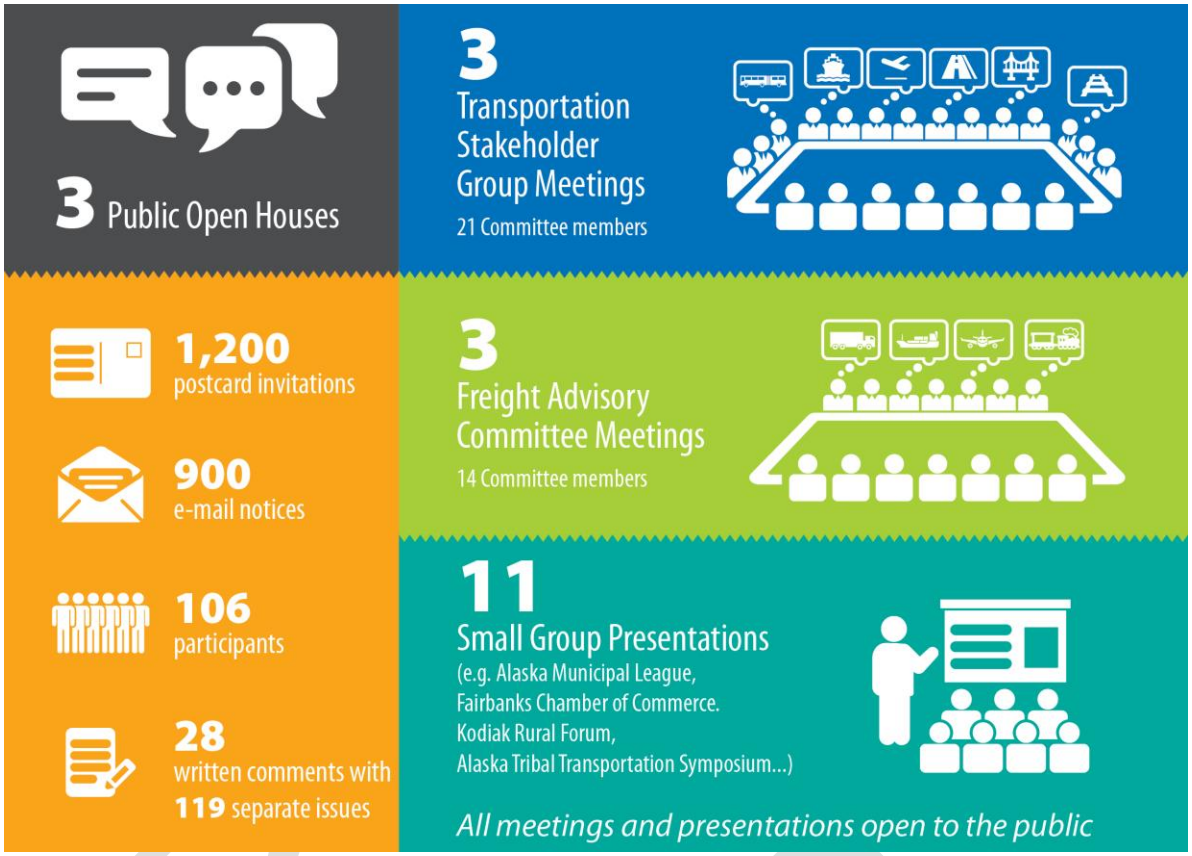
Exhibit 5: Public Involvement Stakeholders



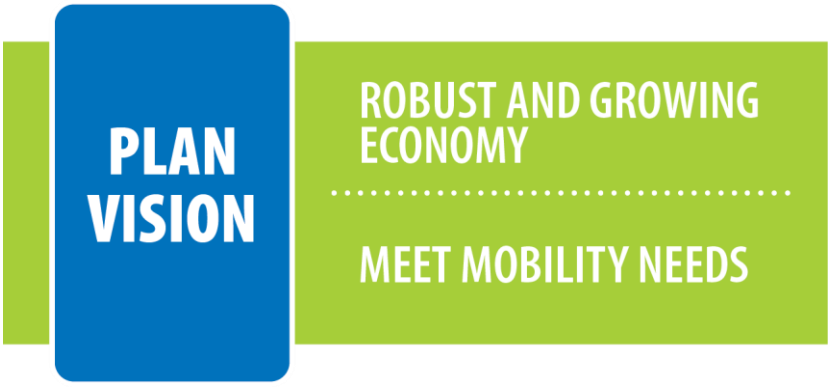
At the start of the process, a series of open houses were held to provide the public with information about the Plan update and solicit input about current and future transportation infrastructure needs and policies, as well as how to prioritize transportation system expenditures to balance wants and needs statewide. A series of small group presentations were also made to various groups, agencies, and organizations to provide more information about the Plan update. Meetings of the Transportation

Stakeholders Group and the Freight Advisory Committee were held during plan development to obtain input on specific technical elements of the Statewide Long-Range Transportation Plan. Exhibit 6 summarizes the public involvement activities.

Exhibit 6: Public Involvement Activities



2036 Plan Vision



Our vision is that we optimize Alaska's transportation system for continued strong performance by making the right investments at the right time and that we maintain our transportation infrastructure as the basic lifeline for commerce and everyday life across the State. Our desire to develop and modernize Alaska's transportation system is balanced by the importance of maintaining our current network, making it resilient to disasters of all types, and ensuring a basic level of accessibility to our remote and rural communities.

The 2036 vision for the transportation system is to provide a network that enables a robust and growing economy and meets the mobility needs of the State's residents. This system provides multimodal connectivity within and between rural and remote regions and the State's urban centers, and to national and international destinations. The vision of this Plan is consistent with DOT&PF's mission to keep Alaska moving through service and infrastructure.

At the state level, we will continue to have a collaborative and transparent planning process through which area and community plans are developed for the future modernization and development of the system. This planning process will be used to inform difficult decisions that balance the competing needs between developing the system, preservation, operations, and maintenance; between different modes; and between urban and rural communities. We will provide our governmental partners and the public with ongoing opportunities for input to DOT&PF decision-making and provide communication on our progress along the way.

POLICY GOALS AND ACTIONS

The policies and actions presented in this section have been developed to anticipate risks to the Plan's vision to respond appropriately to them. The policies and actions will guide the State's transportation investment decisions. The policies and actions are categorized into the eight policy areas, as shown in Exhibit 7. The policies and actions follow the exhibit.

Exhibit 7: Policy Goals

Policy Area	Goal Description
New Facilities	Develop new capacity and connections that cost-effectively address transportation system performance
Modernization	Make the existing transportation system better and safer through transportation system improvements that support productivity, improve reliability, and reduce safety risks to improve performance of the system
System Preservation	Manage the Alaska Transportation System to meet infrastructure condition performance targets and acceptable levels of service for all modes of transportation
System Management and Operations	Manage and operate the system to improve operational efficiency and safety
Economic Development	Promote and support economic development by ensuring safe, efficient, and reliable access to local, national, and international markets for Alaska's people, goods, and resources, and for freight-related activity critical to the State's economy
Safety and Security	Improve transportation system safety and security
Livability, Community, and the Environment	Incorporate livability, community, and environmental considerations in planning, delivering, operating, and maintaining the Alaska Transportation System
Results–Based Alignment for Transportation System Performance	Ensure broad understanding of the level, source, and use of transportation funds available to DOT&PF; provide and communicate the linkages between this document, area transportation plans, asset management, other plans, program development, and transportation system performance

1 New Facilities

Develop new capacity and connections that cost-effectively address transportation system performance.

Modernization

Make the existing transportation system better and safer by applying state-of-the-art technologies and techniques that support productivity, improve reliability, and reduce safety risks to improve performance of the system.

New Facilities includes new construction that develops the Alaska Transportation System. Projects that fall into this category include a new road, new airport, or a large-scale project that will either provide new capacity or whose primary purpose is to increase the capacity of an existing facility. These types of costly improvements take many years to complete and they require careful planning and evaluation.

Modernization is defined as improvements to the existing transportation system that make it safer and more productive. The Alaska Transportation System is one of the most valuable public assets in the State in terms of its impact on the Alaskan economy and on quality of life for individuals and communities. Through modernization, we look to maximize the productivity of this asset by making it work better.

The policies and actions that apply to new facilities also apply to the modernization goal, and are as follows:

Policies

Policy 1.A: Develop the multimodal transportation system to provide safe, cost-effective, and reliable accessibility for people and freight.

- We will identify multimodal solutions and regional priorities for the development of the transportation system through area, corridor and modal plans that appropriately and realistically address the values of communities and stakeholders.
- We will address efficient intermodal connections between roads, airports, rail, harbors, transit terminals, and bicycle and pedestrian facilities through area, corridor and modal plans to improve asset utilization, safety, reliability, and the cost-effective movement of people and freight.
- We will evaluate projects for funding by considering the overall benefits and costs to the State in meeting Long-Range Transportation Plan New Facilities and Modernization goals.
- We will ensure modernization investments for rural and non-rural Alaska are evaluated through a decision-making methodology applicable to their circumstances.

Policy 1.B: Prioritize new construction projects by considering overall benefits and costs over time to the State as the key consideration.

- We will continue to add new strategic links to the system based on their benefits and costs in improving access, connectivity, and efficiency, as well as their resulting economic benefit.
- We will reduce the vulnerability of the Alaska Transportation System to safety and security risks from seismic events, climate change, and man-made disasters by incorporating those considerations in project development.

Policy 1.C: Upgrade and modernize passenger and freight transportation systems to increase productivity and reliability, and to reduce safety risks.

- We will invest in modernizing and upgrading facilities based on the expected impact of these projects on asset condition, reliability, and safety.
- We will continue to consider all approaches: use of new technologies, travel demand management, coordination with land use and development control, and nontraditional approaches to modernizing the Alaska Transportation System.
- We will continue to support the modernization and improvement of transit systems in Alaska.

Actions

1.1 Focus State surface transportation finance responsibilities on the Interstate, Non-Interstate National Highway System, Alaska Highway System, and other high-functional class routes. (Priority 1)

This action targets the limited funds available for new construction and modernization in a way that maximizes the benefits to Alaskans from network improvements. Across the nation, the traditional approach to jurisdictional responsibility for meeting needs has been tied to the importance and function or use of the roadway, which is referred to as its functional classification. In this way, the federal government identifies the Interstate and Non-Interstate National Highway System as a national function and for which it has a financial interest. In Alaska, this is mirrored by the Alaska Highway System. Together, they comprise the system that connects communities to service centers, airports, ports, and international borders. This action targets resources on these facilities.

1.2 Establish an approach to better align needs analyses in area plans and other transportation plans with goals for surface transportation using a performance based approach to planning-level project evaluation. (Priority 1)

This action ensures that when projects are evaluated for inclusion in area plans and the Statewide Transportation Improvement Program, they are evaluated based on the impact the project will have on meeting modernization, new construction, and other plan goals and objectives. Under this performance management approach, area plans and other transportation plans will evaluate need based on the gap between the performance of the transportation system and the policy goals set for new construction, modernization, and preservation in the

long-range transportation plan. This approach will ensure that project funding implements the plans effectively.

1.3 Continue to participate in U.S. Army Corps of Engineers ports planning and federal efforts to monitor and plan for increased Arctic maritime traffic and the transportation infrastructure needs that it may generate for Alaska. (Priority 1)

DOT&PF currently partners with local communities and the U.S. Army Corps of Engineers for the planning, design, and construction of port and harbor facilities and channel navigation improvements. This allows for the construction of navigation-improvement projects that have local investment, are economically justified, and are environmentally acceptable.

DOT&PF and the U.S. Army Corps of Engineers jointly conducted the Alaska Deep-Draft Arctic Port System Study that identified the challenges and opportunities associated with increased vessel traffic and access to the Arctic arising from climate change. These include: capturing the long-term economic benefits for Alaska, maintaining federal sovereignty, supporting community resupply, providing search and rescue, and protecting the environment. Investment and development of existing and potential Arctic ports would provide the infrastructure to encourage and support diversification of the state's economy and the nation's energy independence, and provide broader benefits for Alaska residents.[1]

1.4 Support improvement of local transit systems across the state, including improvement of mobility of the transit-dependent and residents with disabilities. (Priority 1)

Alaska's demographic trends will increase the demand for transit and the transit-dependent population. Most notably, the aging population will create special transit needs. For many of these Alaskans, transit provides the only viable mode to reach employment, healthcare, education, and housing. Over the plan horizon, transit will play a growing role in providing for basic mobility.

As Alaska's population continues to concentrate in major cities, transit demand will grow—and improving transit systems will be an integral part of providing basic mobility. Providing transit in the State, however, is challenging due to the limited availability of funding for system operations. In areas of high growth there is increased discussion of establishing Regional Transit Authorities to expand transit funding options. As a whole, local governments are underinvested in transit, partnering with nonprofits and relying on federal funding to provide transit service. Federal sources of funding are restricted to capital expenditures, and state support has been limited to grant coordination and technical assistance. In recent years, the Alaska Legislature has provided some general fund support that is used for the local match that transit agencies must provide for federally funded capital projects and also, to a limited extent, operating support.

[1] DOT&PF and U.S. Army Corps of Engineers, *Alaska Deep-Draft Arctic Port System Study,* Available at: http://www.dot.alaska.gov/stwddes/desports/assets/pdf/port_study.pdf

1.5 Address increasing pedestrian, bicycle, and transit travel demands in urban areas through the MPO, corridor and local planning process. (Priority 1)

There is strong stakeholder support for improving pedestrian and bicycle facilities in Alaska. In urban areas, the demand for pedestrian, bicycle, and transit travel is increasing and this is expected to continue as the State's population becomes more concentrated in urban areas. MPO and local plans will evaluate the need and plan for pedestrian and bicycle facilities. DOT&PF recognizes that some of these needs may be localized and will be addressed in project development. MPO, corridor and local planning will identify improvements to be planned for so that the roadway system can better accommodate bicycle and pedestrian needs and increased transit where that is planned.

1.6 Incorporate demand management and multimodal solutions into transportation plans at all levels. (Priority 1)

Over the 20-year plan horizon, travel demand volumes, the anticipated patterns of land use, and the concentration of population in existing and emerging MPO areas will increase opportunities for multimodal solutions and demand management. Increased ridesharing, the use of transit, the growth of private-sector ridesharing companies such as Lyft and Uber, and demand-side measures that reduce travel demand are likely to provide a portfolio of mobility solutions that make the roadway system more productive and reduce highway infrastructure needs. Such approaches can provide a cost-effective mechanism for addressing some of the future growth in travel demand. They will be most effectively considered through metropolitan planning; however, there are a large and growing numbers of trips from outside the Anchorage metropolitan area. This will require DOT&PF coordinating and jointly planning with the existing and emerging MPOs.

1.7 Establish a general transparent methodology, applicable to rural and non-rural Alaska, to evaluate new construction and modernization projects based on their cost-effectiveness in meeting policy area goals. (Priority 2)

Let's Keep Moving 2036 prioritizes preservation and modernization of the existing transportation system. However, area plans and other studies have identified large needs for new construction to develop the system. New construction projects result in new roads and/or increased capacity, while modernization projects are improvements that make the existing roadway system more productive and safely increase vehicle throughput, which reduces delay. A left-turn lane, a short passing lane, and integrated traffic signals are all examples of modernization improvements.

New construction is costly and much of the needs identified in various plans and studies are not affordable under Alaska's current transportation funding environment. This action addresses the policy intent of this long-range transportation plan which is that in Alaska's highly constrained funding environment, new construction should occur to support economic development and only where the level of benefits support it. This action is to establish a methodology that will be

applied to all new construction projects. The economic value generated by the project would be estimated and used to determine whether the benefit-to-cost ratio is high enough to justify funding the project. This methodology will include cost-effectiveness criteria, which may differ for rural and non-rural Alaska, since rural transportation investments, although typically less cost-effective, may have uniquely important benefits to remote communities and the state.

1.8 Monitor and regularly evaluate performance of the Alaska Transportation System in meeting freight demand as part of the statewide transportation planning process on an ongoing basis (this Statewide Long-Range Transportation Plan establishes a Statewide Freight Vision and identifies a framework for the Alaska Freight Transportation Network). (Priority 2)

Freight transportation performance is important to all Alaskans because the efficiency of freight transportation affects both the costs of goods and services and the economy's ability to export its products to national and international markets. While Alaska's freight transportation system is performing reasonably well today, there are observable performance risks—including congested truck routes and intermodal connectors, limited route and modal service choices (especially for rural communities), and reliability risks due to seasonal effects or other disruptions.

The Long-Range Transportation Plan Freight Element establishes the basis for an Alaska Multimodal Freight Network over which performance would be tracked, in collaboration with Alaska MPOs and other freight stakeholders. The Alaska Multimodal Freight Network reflects routes and facilities that have been designated in Fixing America's Surface Transportation (FAST) Act as part of the national Highway Primary Freight Network and National Multimodal Freight Network, as well as other significant routes and facilities.

1.9 Establish a formal methodology to evaluate freight projects using cost-effectiveness as a key criterion and provide for consistent application in area and modal plans. (Priority 2)

The FAST Act**,** enacted in December 2015**,** creates the new Nationally Significant Freight and Highway Projects discretionary program to provide federal financial assistance for projects of national or regional significance. The intent of this action is to establish a methodology that can be applied to identify the "best projects" from Alaska for which to seek federal funding. Freight projects often involve multiple modes, address both transportation and economic considerations, and can produce very different types of benefits depending on their location, type, and extent. The Freight Element of this Plan provides a starting point for an approach to developing a freight prioritization tool that Alaska can customize to its specific needs.

1.10 Implement and adapt to new technologies applicable to Alaska, such as Intelligent Transportation Systems, NextGen aviation technologies, and others, to improve asset utilization, system productivity, and reduce safety risks. (Priority 2)

Implementation of new technologies can make the transportation system more productive and many of DOT&PF's programs more effective. DOT&PF is active in the application of Intelligent

Transportation Systems (ITS) and other technologies that use advanced communication, control, and information processing technologies to improve the productivity, safety, and reliability of Alaska's transportation system. The Alaska Iways Architecture (AKIA) is the long-range plan for ITS development in Alaska. The AKIA will serve to coordinate and integrate existing and future Iways projects so that they function as a technologically compatible, complementary system.[2]

DOT&PF constantly researches and evaluates opportunities to use technology innovations to more efficiently manage assets and develop the transportation system. Through this action, DOT&PF will continue to use new technologies to improve efficiency and effectiveness. Examples of the use of such technologies include the following:

- Use of vehicles equipped with GPS, distance measuring instrument, laser profilers, pavement imaging cameras, and mobile LIDAR to collect roadway features and attributes along specified public roads in Alaska. The data collected is used as the primary data source for many layers of the DOT&PF's GIS and Pavement Management System, which provide numerous key data elements for the annual Highway Performance Monitoring submittal to the Federal Highway Administration. Use of a web-based interface to process electronic crash data, and TraCS software to generate electronic crash data in the field, to encourage quicker action on roadway safety issues through faster collection of crash information.
- Use of the Federal Aviation Administration's (FAA) NextGen systems to increase safety, access, and capacity of the national air transportation system. NextGen is replacing radar and utilizes Automatic Dependent Surveillance-Broadcast (ADS-B), which is a satellite based GPS technology that manages air traffic with a high degree of precision. The Alaskan Capstone Program, which used ADS-B in a non-radar environment, resulted in a 50 percent drop in general aviation accidents."
- Capital Improvement and Maintenance Program (CIMP): The integration of the CIMP program under the Alaska Aviation System Plan captures existing needs across Alaska's aviation system and better categorizes its state in its entirety. The tablet application is taken into the field and extensively catalogs every detail of an airport, to be done annually once the program is fully implemented.

1.11 Maintain and report core freight-related multimodal performance measures to inform system expansion and upgrading decisions. Through the Freight Element, establish FAST-compliant highway metrics reflecting system performance, user experience, and other factors based on readily available information. Identify metrics for other freight modes that are available today or that could be developed in the future. (Priority 2)

This action is to establish a core set of performance targets in collaboration with the MPOs. In practice, the action may be implemented through the planning work performed by the MPOs.

[2] http://dot.alaska.gov/iways/architecture.shtml

The FAST Act retains the guidance in the Moving Ahead for Progress in the 21st Century Act (MAP-21) for performance measure target setting by each state, in coordination with local MPOs and other relevant stakeholders. These targets should be set realistically, albeit supporting statewide transportation planning goals. Monitoring systems should be created in the state to track these performance measures and report progress to the U.S. Department of Transportation (USDOT). In addition, states will be required to report progress toward mitigating bottlenecks identified in the National Freight Plan, independent of progress achieved in the state's own performance measures. At the local level, MPOs will be required to prepare Metropolitan System Performance Reports every four to five years that provide a more detailed accounting of progress at the urban level.

The Freight Element of this Plan proposes a user-based framework to quantify, measure, and monitor key freight performance metrics. The user-based framework focuses on what freight users typically value—reliability, price, speed, safety and security, in that order. These measures can be enacted in the near-term while Alaska and other states await final guidance from USDOT regarding performance measures.

2 System Preservation

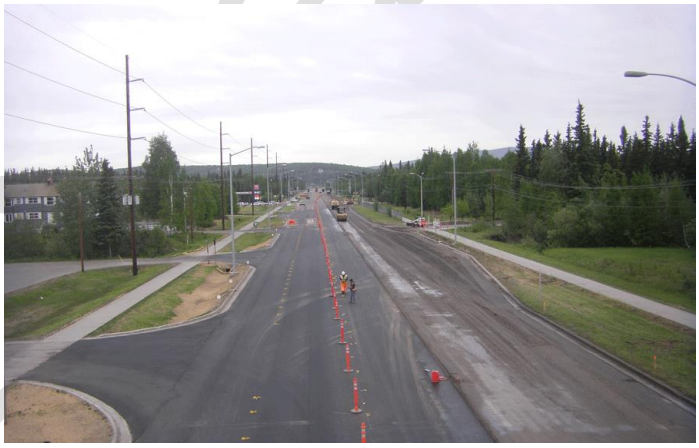
Manage the Alaska Transportation System to meet preservation performance targets and acceptable levels of service for all modes of transportation.

Preservation involves scheduled (and unscheduled) maintenance, rehabilitation, and reconstruction projects performed to ensure the transportation system is safe and available for use today and in the future. Transportation assets are intended to last, and preservation work is performed to maximize their service life and reduce their lifecycle cost.

Policies

Policy 2.A: Apply asset management best practices to preserve the existing transportation system.

- We will strengthen our asset management systems and practices, including those for highway and airport pavements, and bridges. We will add culverts and other assets when it is cost effective.
- We will reduce the risks due to the limited redundancy in the Alaska Transportation System from natural disasters, climate change, and other events through corridor planning and our asset management plan.



- We will work toward optimal life-cycle management practices for all assets and capital equipment.
- We will coordinate with MPOs when establishing performance targets for asset management of the federally funded surface transportation system.
- We will improve and use our management systems to support our asset management plan.
- We will address failed and failing assets using a risk-based approach, recognizing that we cannot afford full reconstruction or replacement of the growing backlog of such assets.
- We will support local governments in Alaska in meeting federal transit asset management requirements.
- We will monitor and report annually via Federal Highway Administration (FHWA) Highway Performance Monitoring System (HPMS) reporting, the condition of our bridge and pavement assets.

Policy 2.B: Increase understanding of, and communicate DOT&PF's responsibilities for, system preservation as the owner of highways, airports, harbors, marine terminals, and vessels.

- We will monitor and report annually, to the extent practicable, the condition of our assets.
- We will adhere to the reporting timeframes established in the Final Rule for National Performance Management Measures.
- We will communicate the anticipated level of service and predict future system conditions based on the planned allocation of funds for preservation and maintenance treatments.
- We will address bicycle and pedestrian needs as a part of system preservation and modernization.
- We will establish and communicate our performance metrics and targets, planned funding levels, and prioritization framework for asset preservation to the general public.
- We will consider the performance of passenger and freight movement in system preservation decisions.

Actions

2.1 Establish Asset Management Plans for DOT&PF bridges and pavements. (Priority 1)

- **Support consistency in area plans to address overarching asset management plans.**

DOT&PF is required to prepare a Transportation Asset Management Plan to address federal requirements for Interstate and non-Interstate NHS pavement and bridges. Following initial implementation to meet these new requirements, DOT&PF will address other assets and asset

classes. The intent of this action is for DOT&PF to have a consistent approach for lifecycle management across asset classes and for this information to be used in future area plan updates. For each asset class, DOT&PF will establish an overall strategy for managing that asset within the funding constraints. Then for each asset class, a plan will be prepared outlining the programmatic work to be performed and all the specific projects that will be funded within the capital improvement program to implement the plan. These plans will identify the type of work to be performed and when to accomplish the strategy established for the asset class.

2.2 Implement a formal and consistent process for linking the asset management plans for pavement, structures, vessels, airports, and where applicable, ancillary assets to capital project selection and scope. (Priority 1)

The intent of this action is for DOT&PF to establish business rules that specify the type of work that can be performed within the scope of projects that are included in the capital improvement program to accomplish preservation asset management goals. In this way, proposed preservation projects can only include the type of work that is considered "the right treatment at the right time" consistent with the strategy established for that class of asset in the asset management plan. This will more closely target resources on the accomplishment of plan goals.

2.3 Implement a formal and consistent process for linking asset management plans to DOT&PF's capital improvement program and Statewide Transportation Improvement and Airport Improvement Program(s) development. (Priority 1)

The intent of this action is to establish at the planning level the amount of DOT&PF's capital program resources – over a 5-year, 10-year, and 20-year horizon to be allocated for accomplishing preservation goals. The action then establishes a program structure and a process for allocating resources within that program structure. For example, the program structure might align by asset class and broad treatment type within that asset class. The procedure established in Action 2.2 would identify projects for prioritization within each programmatic category set through this action.

2.4 Strengthen analytical and reporting capabilities, including supporting data reliability and accessibility, to support asset management planning and federal reporting. (Priority 2)

DOT&PF will continue to improve its asset management information systems to provide better information to enable data-driven decisions. This will support the consistent reporting of the performance of the state's transportation system and compliance with federal reporting requirements. The action will address information needed to better evaluate proposed projects and their expected impact on performance.

2.5 Work toward coordination of maintenance activities and the timing of work performed through DOT&PF's Capital Improvement Program process through incorporation of maintenance considerations in asset management plans. (Priority 2)

Coordination of maintenance work and other asset management projects, especially the timing of work, will result in efficiencies. The intent of this action is to use asset management plans for specific asset classes to coordinate maintenance and capital work to increase efficiency. Coordination would address the timing and packaging of capital work and the coordination, where applicable, of maintenance practices and capital work.

2.6 Work with the U.S. Army Corps of Engineers and other agencies to ensure that federal responsibilities for maintaining navigation channels are met in an adequate and timely manner. (Priority 2)

DOT&PF has an ongoing partnership with the U.S. Army Corps of Engineers in examining the potential and opportunity of port facility development in the Arctic and have collaborated on the *Alaska Deep-Draft Arctic Port System Study*. DOT&PF will continue this partnership and others to maintain current navigation channels and explore potential new ones.

2.7 Support local transit agencies/systems in the application of new technologies and transit asset management plans to improve the efficiency and effectiveness of transit operations. (Priority 2)

Transit management strategies, such as transit signal priority, express bus service, or high-occupancy vehicle lanes, will help transit agencies create a more reliable and connected transit network. A more efficient transit system has the potential to boost ridership and improve overall operating efficiency. Through this action, DOT&PF will monitor and identify opportunities for the application among the transit-dependent populations of private-sector ride-sharing technologies applicable to Alaska's operating environment.

3 System Management and Operations

Manage and operate the system to improve operational efficiency and safety.

System management and operations includes programmatic, non-capital project work performed to increase system efficiency and reduce safety risks.

Policies

Policy 3.A: Ensure the efficient management and operation of the passenger and freight transportation system.

- We will preserve transportation corridors and pursue corridor management.
- We will increase understanding of, and communicate DOT&PF's operational responsibilities for, highways, bridges, airports, and vessels.
- We will support cost-effective and sustainable efforts by the Alaska Railroad, local public transit providers, and regional entities that improve the department's ability to manage and operate its facilities.

Policy 3.B: Use technology and Intelligent Transportation Systems where cost-effective.

- We will deploy Intelligent Transportation Systems that increase asset utilization and transportation system capacity, and reduce safety and security risks.
- We will follow national developments in intelligent infrastructure and connected and autonomous vehicles, and seek opportunities to cost-effectively and sustainably apply changing technology in Alaska.
- We will follow commercial development in unmanned aerial technologies and evaluate their application for use in Alaska's rural and remote areas.
- We will apply research results and technology transfer to our design, construction, and maintenance practices to reduce costs and improve efficiency and safety.

Actions

3.1 Address corridor preservation and access management in area, corridor and local plans to preserve the transportation system. (Priority 1)

Right-of-way acquisition in developed and developing corridors is a costly element of system development. Further, effective corridor management can also preserve the capacity of existing highways, increase safety, and reduce the need for future development. This action involves DOT&PF pursuing active corridor management and corridor preservation in high growth areas. The types of planning include coordinating with local jurisdictions so that they enact a setback ordinance, manage direct access onto the highway, and design local circulation using collector roads, frontage roads, or other methods. Another related strategy would be to very selectively purchase the right-of-way needed in these corridors when property comes onto the market.

3.2 Preserve air space through land use management by coordinating with local governments to ensure protective zoning requirements. (Priority 1)

A persistent problem confronting airports is development in close proximity to airports. This action protects airports and preserves airspace by coordinating with local governments to ensure that local zoning and development permitting does not adversely impact the airports and their approach procedures. DOT&PF will coordinate with local governments to ensure the appropriate protective measures are in place.

3.3 Monitor and pursue opportunities of paperless project delivery and other technologies to reduce cost and improve speed of project delivery. (Priority 2)

The infrastructure industry is transitioning toward an environment in which projects are designed and delivered using digital data. The highway sector is starting to implement various elements of this strategy. Many state DOTs started on the path toward e-Construction with paperless project delivery. DOT&PF recognizes that there are many benefits associated with

digital design and e-Construction, most notably reduced construction costs and improved quality. DOT&PF will seek opportunities to benefit from FHWA's on-going technology transfer activities designed to speed deployment of these approaches.

3.4 Support broader use of Intelligent Transportation System technologies in the truck freight network to improve routing, coordination, reliability, and overall system efficiency. (Priority 2)

Trucks are responsible for moving 26.7 percent of Alaska's freight tonnage and are an essential part of the state's freight movement network that delivers goods from seaports and airports to industrial customers and consumers, as well as distribution of non-traded goods internally within Alaska. It is the only mode that provides door-to-door and on-demand service, which makes it unique. This action is to support the use of technologies that improve the productivity and reliability of the existing roadway network for freight shippers. In Alaska, there are no or very few alternative routes; therefore, these technologies can play a role in managing the system to increase reliability.

3.5 We will collaborate with MPOs and coordinate with their Intelligent Transportation Systems plans to establish regional approaches. (Priority 2)

The Alaska Long-Range Transportation Plan recognizes that the greatest risks to system reliability and increased travel times are in Alaska's MPO areas. The use of ITS and other technologies employed directly by highway users can increase the efficiency of roadway operations. This action specifies a role for DOT&PF in coordination of ITS deployment across regions. This action complements DOT&PF's Iways program, which ensures that ITS technologies are implemented in an effective, coordinated, and cost-effective manner to improve the efficient, safety, and reliability of the state's transportation system. DOT&PF is currently in the process of updating its Alaska Iways Architecture, which attempts to develop an integrated, statewide Iways effort. [3]

4 Economic Development

Promote and support economic development by ensuring safe, efficient, and reliable access to local, national, and international markets for Alaska's people, goods, and resources, and for freight-related activity critical to the State's economy.

Supporting economic development in Alaska through transportation involves transportation infrastructure investments or policy actions that remove inefficiencies or limitations to commerce due to the availability, cost, or reliability of transportation infrastructure and services. Although economic development is market driven, the lack of transportation, or limitations in the existing transportation system, can be barriers to economic development. This results in policy-maker and stakeholder interest in financing transportation infrastructure projects to support economic development. The absence of funding sources for economic development-related transportation projects raises important questions for each one—such as whether economic development would be viable without subsidy through

[3] http://dot.alaska.gov/iways/architecture.shtml

government-funded infrastructure or whether the amount of economic development that would result from government expenditure would be sufficient to justify the expenditure.

Policies

Policy 4.A: Identify new construction and modernization needs that address travel demand growth, economic development, travel and tourism needs and funding strategies through area and metropolitan plans.

- We will monitor and plan for acceptable levels of mobility and reliability to support the Alaska economy.
- We will target system development investments based on their benefits, costs, and sustainability in supporting market-driven economic development.
- We will continue to include a Freight Element in the Statewide Long-Range Transportation Plan to identify transportation infrastructure barriers to economic development.

Policy 4.B: Preserve and operate Alaska's multimodal transportation system to provide efficient and reliable access to and from local, national, and international markets to support economic development goals.

- We will focus on preserving and modernizing the existing system while recognizing that system development is also necessary in Alaska.
- We will maintain and operate the system to provide acceptable reliability and performance.
- We will provide safe, secure, reliable, and cost-effective freight transportation infrastructure for Alaska's freight shippers, receivers, and communities to support Alaska's economic vitality and growth.
- We will monitor climate change to plan for its impacts on transportation-related economic development.
- We will preserve and identify cost-effective opportunities to increase freight modal choices available to rural communities.

Actions

4.1 Support and facilitate Alaska's continued economic development and growth by providing access to new resource development areas, new intermodal infrastructure, and other major freight generating projects through the private development of required transportation infrastructure, and where public investments are required, recover those costs from the proceeds of resource development. (Priority 1)

DOT&PF is not in a position to fund new construction to reduce the costs of development. The philosophy is that investment and commercial viability should be market driven. Resource development often requires complementary transportation investment to transport the resources from areas not on the roadway system and/or to navigable tidewater. DOT&PF will respond flexibly to industry needs when market conditions result in a project-specific need for freight-related infrastructure improvements. The expectation is that the State will not subsidize private development through the transportation program. Improvements on the public road system will be evaluated based on their economic benefit to the State (see Action 1.7).

4.2 Work with the Alaska Industrial Development and Export Authority and other partners to coordinate funding and development opportunities for freight transportation facilities and supporting economic development. (Priority 1)

The Alaska Industrial Development and Export Authority is a public corporation of the State of Alaska that was created by the Alaska Legislature to promote the welfare of the people in the state, increase job opportunities, and encourage economic growth in the State through the establishment and expansion of manufacturing, industrial, energy, export, small business, and business enterprises.[4] Partnerships could provide additional funding mechanisms outside of state and federal funds to invest in the state's freight system.

4.3 Monitor and take all available actions for the continuation of the U.S. Postal Service bypass mail program. (Priority 1)

The bypass mail program was established to address a shortage of facility/mail handling space in the State. By providing a means to move mail without being handled in a postal facility, the program relieves stress on the existing limited facilities. Bypass mail is important because many remote Alaskan communities that are not accessible by road are dependent on the service to receive mail—including groceries and household items. However, this program is very costly to the U.S. Postal Service since the cost to transport this mail exceeds the revenue from the postage paid by customers. As a result, the U.S. Postal Service has incurred significant financial losses. These financial losses have led to reassessment of the sustainability of the program and whether changes need to occur in order to defer some of the costs. DOT&PF will pursue efforts to ensure the service continues to deliver reliable service at a reasonable cost to Alaskans.

4.4 Implement the freight rail policy and plan priorities established by the State Rail Plan. (Priority 1)

The extent of the State's rail network remains very limited, and rail freight improvement projects are necessary to expand its reach and utilization. DOT&PF will continue to identify needed rail freight improvement projects through the State rail plan, coordinate with railroads and system users on current and future needs, and implement the State's policy interest in multimodal freight movement through supporting highway connector investments and effective

[4] http://www.aidea.org/About/WelcomePage.aspx

coordination with the Federal Railroad Administration and other responsible federal agencies. In addition, DOT&PF will work to advance the State's policy interest to invest in complementary projects that support the multimodal transportation system. Where competitive, funding for freight-related projects will be pursued through the new federal discretionary funding program for freight projects.

5 Safety and Security

Improve transportation system safety and security.

Transportation safety and security involves project investments and programmatic actions that will reduce safety and security risks for users of the Alaskan transportation system. It is important to acknowledge that safety considerations are built into all the policy areas and investment actions of DOT&PF. Notably modernization investments often have a large element of safety included in them.

Policies

Policy 5.A: Improve transportation system safety in Alaska.

- We will use new technology to improve safety for people and freight through Alaska's Intelligent Transportation Systems Architecture and related use of new technology.
- We will address airport safety and the role of aviation in ensuring health and safety across Alaska in DOT&PF's aviation system plan.
- We will ensure safe transportation by means of timely compliance with national and federal safety standards.

Policy 5.B: Work with federal, local, and state agencies to provide a safe, secure, and resilient transportation system and emergency preparedness for all modes.

- We will improve system resiliency of freight and passenger transportation to reduce the safety and security risks of natural events such as earthquakes, climate change, and man-made disasters (e.g., accidents).
- We will address the security of airports, vessels, and highways in our operating plans, manuals, and guidelines.
- We will partner with other governmental agencies, private and public transportation providers, and their customers to address security.
- We will address security and resiliency as part of our emergency preparedness and response planning.
- We will address security and resiliency as we plan and develop infrastructure projects.

- We will apply technology to improve security and resiliency in all transportation modes.

Actions

5.1 Address the safety goals and implement the strategies established in the Alaska Strategic Highway Safety Plan and subordinate safety plans.

Let's Get Moving 2036 safety goals are addressed in large part through the Alaska Strategic Highway Safety Plan and subordinate safety plans. The Alaska Strategic Highway Safety Plan provides safety-related goals and metrics that are incorporated into this long-range plan. DOT&PF will establish targets consistent with federal requirements for target setting that represent progress toward these goals. Future updates to the Alaska Strategic Highway Safety Plan will address target setting required for federal funding considerations.

5.2 Identify the facilities that present the greatest risks from lack of redundancy in Alaska's primary transportation corridors and appropriate risk response strategies. (Priority 1)

In many cases, there is only one surface route on the Alaska's highway system between major communities. This action involves systematically assessing the risks from natural and man-made disasters to the transportation system. This assessment should consider the resilience of the system and the role the facility would prepare in emergency response. The results would provide the information required to improve and, where warranted, increase the resiliency of the Alaska Transportation System. This information will then be used as consideration in project prioritization and the design decisions made for modernization and replacement of facilities.

5.3 Address lack of redundancy and climate change resiliency in asset management plans, project identification, and prioritization within area, corridor and metropolitan plans. (Priority 1)

Climate change resiliency and lack of redundancy are risks to the availability of the assets to deliver safe and reliable surface transportation. These risks and mitigation strategies will be addressed in asset management plans as appropriate.

5.4 Incorporate emergency freight management in Alaska's emergency response plan. (Priority 2)

This action is to ensure that the role that freight shipment would play in emergency management is considered in emergency preparedness planning. The dependence on single points of entry for much of freight into Alaska and within Alaska elevates the importance of addressing this issue.

5.5 Work with federal partners to streamline and reduce the cost of security measures related to international trade. (Priority 2)

Security measures for international trade at marine ports and airports are costly to facility owners and operators. In the case of airports, security requirements associated with parameter fencing at remote and infrequently used airports are considered unwarranted by the affected

communities. This action involves working with federal partners to seek, where applicable, exceptions specific to Alaska's circumstances.

6 Livability, Community, and the Environment

Incorporate livability, community, and environmental considerations in planning, delivering, operating, and maintaining the Alaska Transportation System.

The Alaska Transportation System plays an important role in the quality of life of Alaskans. The transportation system provides access to jobs, recreation, and critical services, such as medical and social services. There is a strong policy interest in the relationship between the development, management, and operation of the Alaska Transportation System and livability and environmental conditions beyond the day-to-day availability of basic transportation infrastructure.

Policies

Policy 6.A: Address quality-of-life, livability, and community considerations in the Statewide Long-Range Transportation Plan, area and corridor plans, asset management, and other plans and project investment decisions.

- We will continue to emphasize effective public involvement, consultation, and cooperation with local units of government, stakeholders, and local communities in the development of transportation plans at all levels.
- The State shall consider the formation of Regional Transportation Planning Organizations as appropriate.
- We will recognize the critical role of transportation in all aspects of quality of life.
- We will address livability and community considerations in project development and work with local governments for roads that are managed to serve local and regional mobility needs.
- We will consider the accessibility needs of mobility-impaired individuals, including the senior population, in designing facilities.

Policy 6.B: Preserve the integrity of the ecosystems and the natural beauty of the State, limit the negative impacts, and enhance the positive attributes – environmental, social, economic, and human health – from the Alaska Transportation System.

- We will evaluate and consider environmental outcomes in area plans, modal plans, and project development.
- We will approach transportation planning and project development to minimize adverse environmental, economic, or social impacts on the State and its traveling public.

- We will support Planning and Environmental Linkage where appropriate and consider Programmatic Mitigation Plans and efforts during the planning process.
- We will use the area and modal planning processes to consult with resource agencies in the early identification of environmental sensitivities, avoidance areas, and potential mitigation measures.
- We will monitor the issues and assess the actions we can take to address climate change concerns.
- We will promote environmentally friendly, affordable transportation solutions.

Policy 6.C: Support energy conservation, specifically in our consumption of fossil fuels to address climate change.

- We will implement strategies for energy conservation of our transportation system that are identified in area plans, metropolitan plans, and community plans.
- We will support transit, ride sharing, trip reduction, non-motorized transportation, and the use of alternative fuels where economically feasible.
- We will continue the State's role in establishing and supporting coordinated community transit systems.

Policy 6.D: Develop transportation plans in close coordination with local communities to ensure transportation investment decisions reflect Alaskans' quality of life values.

- We will coordinate with local jurisdictions to provide transportation enhancements such as waysides, trailheads, and trails for residents and visitors as funding becomes available.
- We will coordinate with and support local land use planning to ensure livable communities.
- We will encourage local jurisdictions to make land use decisions that protect the efficient functioning of the highway system.

Actions

6.1 Align project design elements with the primary purpose of the project. (Priority 1)

The project planning process should align a project's key goals—whether they include preservation, safety, and/or modernization—with project design. This includes establishing business rules that identify the work items that can be included under projects selected to accomplish safety, modernization, and preservation goals. These rules will enable a performance-based approach that links funding to outcomes. The business rules will consider how to address other project objectives, such as community livability. This type of approach

ensures that projects address the goal areas under which they are programmed resulting in more efficient resource allocation.

6.2 Implement the process and methods required for the early identification and evaluation of environmental outcomes in area and modal planning. (Priority 2)

This action will enable DOT&PF to evaluate, at the system level, the impacts of transportation plans on the environment. The intent is to conduct the planning-level analysis required to avoid or minimize impacts on the human and natural environment from the modernization, preservation, and operation of the transportation system. The analysis will address the relationships between land use and transportation, ecological connectivity, climate change considerations, air quality, social and cultural needs, and comparison to State and Tribal conservation plans among others. As an example, area plans will be informed by documents such as the Alaska Department of Fish and Game's Comprehensive Wildlife Conservation Strategy. The planning process will provide for input and consultation with the applicable resource agencies.

6.3 Review industrial and resource roads and alternative mechanisms to fund them. (Priority 2)

This action recognizes that historically private roads have played a large role in the development of Alaska by providing infrastructure that meets the transportation demands of a single user. The action involves reclassifying and privatizing such roads so that the user of the facility is responsible for maintaining and developing the road.

Under certain circumstances, DOT&PF is able to establish industrial use roads and charge for their use when trucks are in an overweight and over-length condition. The primary example is the Klondike Highway from Skagway to the Canadian Border, currently designated as an industrial use highway. In the late 1980s, the state allowed Lynden Inc. to operate its ore trucks in both an overweight and over-length configuration, subject to both an initial investment in additional pavement and a trip-based toll. This road remains an industrial use road, and Alaska Statute has provisions for charging tolls for its use by carriers that wish to operate in an overweight capacity.

6.4 Work cooperatively with federal agencies and industry partners to support practical strategies that reduce fuel consumption and emissions from freight movement through a combination of improved logistics, higher efficiency, lower emission vehicles, and/or alternative fuels. (Priority 2)

This action is intended to address greenhouse gas emissions and climate change by reducing the freight carbon footprint while simultaneously working toward creating a more efficient freight network.

6.5 Reestablish and maintain the Statewide Freight Advisory Committee comprised of public and private sector owners, operators, customers, and others. (Priority 2)

The Statewide Freight Advisory Committee formed for this planning effort was charged with providing input on specific elements of the Statewide Long-Range Transportation Plan. Maintaining the committee will provide a valuable feedback mechanism on freight planning challenges and opportunities and ensure the diverse perspectives of all participants are represented, including those of shippers, haulers, and logistics professionals who represent diverse geographic, modal, and freight delivery industry groups.

6.6 Incorporate the needs of the mobility-impaired in facility design to develop a transportation system that is accessible by all Alaskans. (Priority 1)

DOT&PF policy mandates that all new construction and/or significant modification of existing facilities provide American with Disabilities Act-compliant features as necessary unless such features are technically infeasible due to site constraints.

DOT&PF has undertaken a process to understand the effort necessary to ensure all facilities in the public rights-of-way are fully accessible. This process includes a self-evaluation to identify the deficiencies of current facilities relative to the accessibility standards set forth by the U.S. Access Board. These deficiencies have been incorporated into the Americans with Disabilities Act Transition Plan, which also identifies deficiencies in DOT&PF policies and procedures. This Plan will provide guidance for the removal of these barriers in order to provide an accessible transportation system program.

7 Results-Based Alignment for Transportation System Performance

Ensure broad understanding of the level, source, and use of transportation funds available to DOT&PF; provide and communicate the linkages between this document, National Goals and Performance Measures, State Performance Targets, area transportation plans, asset management, other plans, program development, and transportation system performance.

Transportation planning, investment decisions, and project delivery is a complex process that involves multiple parties and can take many years. With the large gap between the ambitions for the preservation and development of Alaska's Transportation System and the ability to finance them, it is critical that existing funds are used in the most effective way. This requires an open, transparent, and easy to communicate explanation of the funds available for transportation, the financial constraints that DOT&PF operates under, and how planning and project investment decisions are made. An effective linkage between expenditures and transportation system performance requires on-going monitoring and evaluation of the Alaska Transportation System.

Policies

Policy 7.A: The statewide plan will provide the framework from which DOT&PF sets investment priorities.

- We will monitor, forecast, and report transportation system performance with an emphasis on the federally funded surface transportation system.
- We will provide information for performance-based planning and budgeting.
- We will promote and work to improve coordination between public transportation and human services transportation.
- We will use best practice techniques and technology for involving public and private sector stakeholders in the transportation planning process.

Actions

7.1 Communicate the current and forecast levels of funding available for transportation and pursue increased transportation revenue. (Priority 1)

The recently enacted FAST Act provides a five-year federal funding program for Alaska's surface transportation. This provides the predictable baseline for funding enacted just as this Plan is being finalized. The FAST Act increases funding at about the anticipated rate of inflation. This action, recommended by the Transportation Stakeholders Group, is for DOT&PF to pursue as part of its legislative agenda the establishment of a state transportation fund. Unlike almost every other state, Alaska has no programmed state transportation funding, relying instead upon annual legislative budget authorizations from the state's general fund. State funding is required because federal funds are not sufficient for the long-run preservation, maintenance, and operation of the transportation system. Typically, state funding mechanisms are based partly on the user fee principle so that those who use the system pay for it. Among the mechanisms to consider are vehicle registration fees, vehicle excise taxes, congestion fees levied on development, and motor fuel taxes.

This action pursues an Alaska Transportation Fund for the preservation and maintenance of the transportation system. The priority recommended by this Plan is for the fund to support the maintenance, modernization, and preservation of the system. Given the state's geographic size and limited population, additional funds beyond traditional user fees will also be critical. Alaska has a vast geographic area, significant natural resources, and a very low population. Simply put, traditional user fees such as a motor fuel tax would not yield enough funding unless they were set at very high levels because there are so few users relative to the State's geography. Thus the State's vast resource base should also be considered as a key to adequate transportation investment. This approach is consistent with the State constitution, which clearly encourages the development of State resources for the maximum benefit of Alaska's citizens.

7.2 Collaborate with local units of government and, where applicable, private entities, to transfer state-owned and/or state-maintained local facilities that have no regional or statewide function to local ownership and local financing mechanisms. (Priority 1)

In some communities, DOT&PF is responsible for local roads that in other communities are owned and operated by local units of government. This action involves the transfer of ownership of local roads to local communities through mutually beneficial agreement whenever possible. This will ensure greater equity between communities.

This plan targets the state priorities on modernization and preservation of the National Highway System (including the Alaska Marine Highway System [AMHS]) and the Alaska Highway System. Provided it has sufficient local population and economic base, a local jurisdiction can pursue additional revenue generation using the enabling authority that it has to impose a variety of user fees to fund improvements. For example, motor fuels are eligible for sales tax in some, but not all, communities due to a limitation in state law. Fees on new development or subdivisions are also widely used in communities elsewhere in the United States. A further option might be a local road use fee applied to vehicles that could be added by communities to the motor vehicle registration process administered by the State.

7.3 Advance regional funding approaches for major new construction and transit service needs identified in area and MPO plans. (Priority 1)

In the Anchorage and Mat-Su areas, MPO and area plans have identified project improvements to address travel between the regions. This action involves DOT&PF supporting and collaborating with local and regional entities to pursue regionally based funding approaches, such as a Regional Transit Authority, to contribute to financing the projects identified in the plans. Potential regional funding approaches may include a regional tax or sales tax to help fund new construction projects.

ALASKA'S TRANSPORTATION SYSTEM TODAY

Alaska is geographically the largest state in the country, while 48th in population.[5] The current and future economic and social wellbeing of Alaskans is critically dependent on a reliable transportation system—but delivering reliable transportation in Alaska is a complex undertaking.

The State of Alaska owns and operates an extensive multimodal transportation system that includes airports, highways, ferries, and harbors. As the owner of this system, the State has many responsibilities – preeminent among them is preserving the value of this system, which represents the largest capital investment by government in the State. However, the State of Alaska is facing budget shortfalls and DOT&PF must balance its responsibility of maintaining the current transportation system and providing basic services against new expansion. Without additional revenue, this funding shortfall will become larger. Additionally, for many years the cost of doing business has increased at a greater rate than funding.

In the past, Alaska has prepared many transportation plans with ambitions that have greatly exceeded the ability to fund them. At the state level, transportation plans for Alaska have always had to balance two key facts: 1) that the majority of Alaska's population is concentrated in its urban areas, yet there is a rural population with mobility needs dispersed over a vast area, and 2) the State's economy is heavily tied to natural resource extraction in remote areas. This disparity between population concentrations across different parts of the State is expected to become more acute in the future. This increases the importance of an efficient intermodal transportation system that provides a basic level of connectivity to all parts of the State.

[5] http://www.census.gov/popest/data/national/totals/2014/NST-EST2014-popchg2010-2014.html

A uniquely intermodal system

Alaskans have long relied on aviation and marine transportation to move people and goods, and many remote communities are connected to the rest of the world only through either waterways or airports, with no connections by road. Depending on local ordinances and season, it is not uncommon for residents to use snow machines and all-terrain vehicles as regular forms of transportation. The transportation system in Alaska is still developing and there are many plans for its further development into a more integrated network. By looking to improve its current intermodal transportation network, DOT&PF continues to pursue its goal of making the system more efficient and productive.

Passengers and freight move in and through Alaska using infrastructure and services provided by the government and private industry. DOT&PF owns and operates highways and bridges, the AMHS, and airports. Marine ports and some airports are owned and operated by other units of government. Rail passenger and freight infrastructure is owned and operated by the Alaska Railroad, which is a public corporation and White Pass and Yukon Route Railroad, which is a private corporation. Aviation services, marine and highway freight services, and some roads are provided by private enterprise and are an integral part of the transportation system. Most of the freight coming into Alaska arrives via water at the Port of Anchorage, which handles a diverse set of commodities that in many cases are basic necessities for Alaska's population and industries. Transit service is provided by local entities, with some funding support from the State to augment federal transit grant funds.

ALASKA TRANSPORTATION SYSTEM

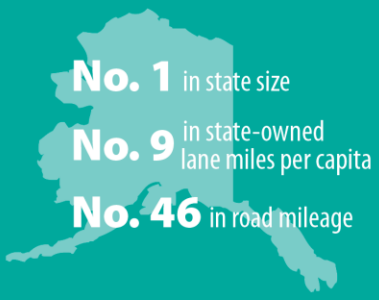
HIGHWAYS & BRIDGES, RAILROAD, PUBLIC TRANSPORTATION AND BIKE/PED FACILITIES

HIGHWAYS & BRIDGES

Alaska has the largest area in the U.S. but has the fifth lowest road mileage.

~5,600 centerline miles

~700 state-owned bridges



No. 1 in state size

No. 9 in state-owned lane miles per capita

No. 46 in road mileage

~10% of Alaska's roads are in poor condition and in need of immediate repair

<7% of the deck area of NHS bridges is structurally deficient, and therefore in need of immediate repair

The total number of fatalities has ranged from **51** to **101** in the state over the last 10 years.

The **least number** of fatalities was **51 in 2013**, which **increased to 73 in 2014**.
While driver inattention is the primary cause of accidents, road conditions may also play a role in crashes and fatalities.

RAILROAD

611 public miles

21 private-owned miles

1 freight railroad covering **506** miles across the state, ranking it **45th** by mileage (ASCE)

BICYCLE AND PEDESTRIAN FACILITIES

8.9% of Alaskans bike or walk to work

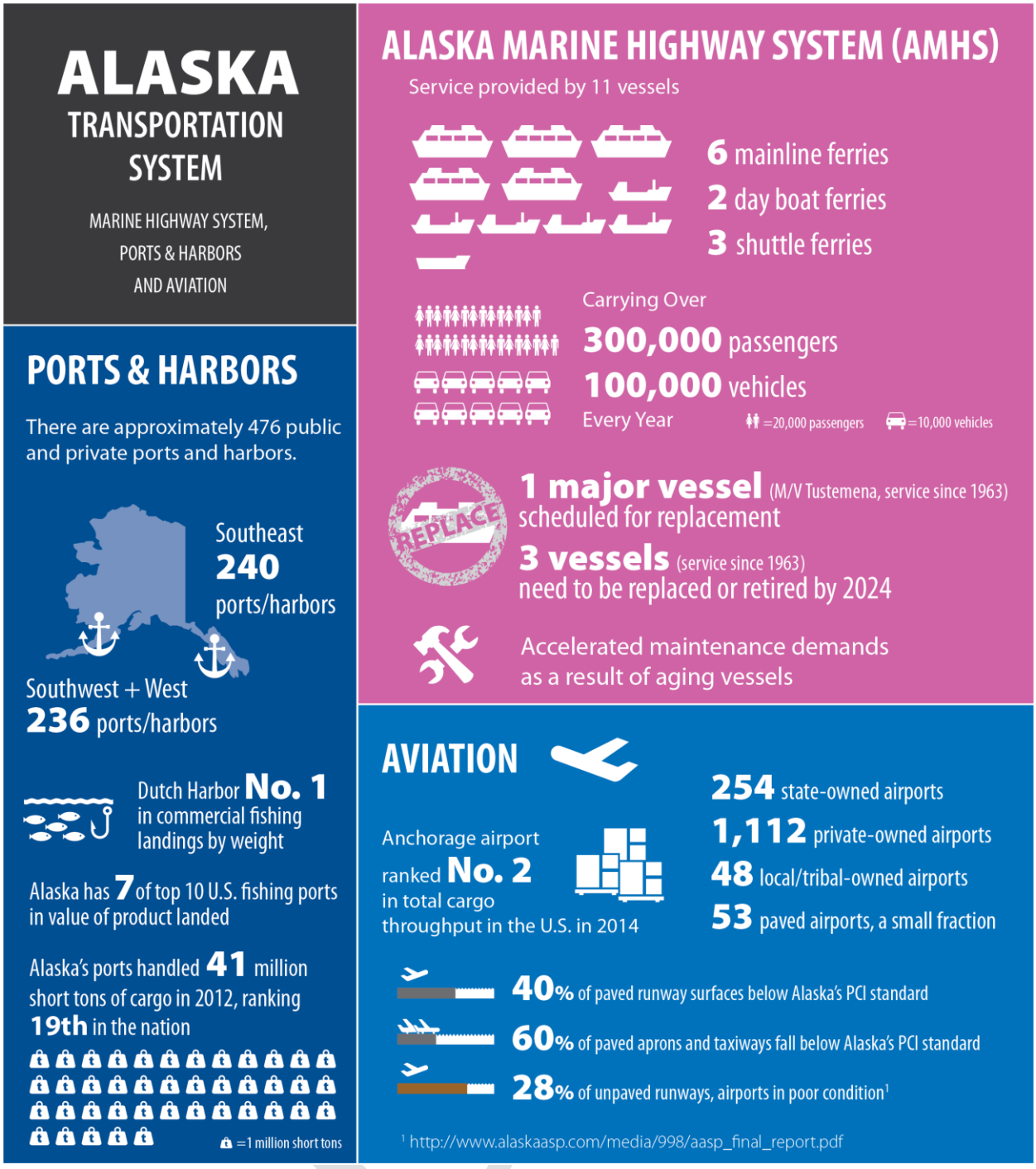
In 2015, Federal-Aid Highway Program spending on pedestrian and bicycle facilities was **$6.2 million** in Alaska.

PUBLIC TRANSPORTATION

Fixed-route bus systems in Anchorage, Juneau, Fairbanks, Ketchikan, Sitka, Kodiak, Mat-Su and Bethel

Demand-responsive service accounts for 8% of transit ridership

5.1 million annual unlinked passenger trips via transit systems (motor bus, heavy rail, and commuter rail) (ASCE)


ALASKA
TRANSPORTATION SYSTEM
MARINE HIGHWAY SYSTEM, PORTS & HARBORS AND AVIATION
PORTS & HARBORS
There are approximately 476 public and private ports and harbors.
Southeast
240
ports/harbors
Southwest + West
236 ports/harbors
Dutch Harbor No. 1 in commercial fishing landings by weight
Alaska has 7 of top 10 U.S. fishing ports in value of product landed
Alaska's ports handled 41 million short tons of cargo in 2012, ranking 19th in the nation
=1 million short tons
ALASKA MARINE HIGHWAY SYSTEM (AMHS)
Service provided by 11 vessels
6 mainline ferries
2 day boat ferries
3 shuttle ferries
Carrying Over
300,000 passengers
100,000 vehicles
Every Year
=20,000 passengers
=10,000 vehicles
REPLACE
1 major vessel (M/V Tustemena, service since 1963) scheduled for replacement
3 vessels (service since 1963) need to be replaced or retired by 2024
Accelerated maintenance demands as a result of aging vessels
AVIATION
Anchorage airport ranked No. 2 in total cargo throughput in the U.S. in 2014
254 state-owned airports
1,112 private-owned airports
48 local/tribal-owned airports
53 paved airports, a small fraction
40% of paved runway surfaces below Alaska's PCI standard
60% of paved aprons and taxiways fall below Alaska's PCI standard
28% of unpaved runways, airports in poor condition[1]
[1] http://www.alaskaasp.com/media/998/aasp_final_report.pdf

KEY TRENDS THAT IMPACT ALASKA'S TRANSPORTATION SYSTEM

This Plan's technical analysis considers the following trends that affect transportation system performance:

- **Demand for transportation in Alaska.** Travel demand is driven by population, household size, age, location, the cost of transportation, and the level of economic activity. We analyze trends in demand to assess the impacts or risk in providing an acceptable level of mobility. In some cases, large increases in travel demand without increases in capacity will result in congestion and longer travel times.

- **Delivery and supply of the transportation system is dependent on the availability of funding to preserve and maintain the system.** The condition of the system in the future will be determined by the level of deferred maintenance (backlog of preventive maintenance) and the level of expenditure (whether planned maintenance and preservation work is performed). The biggest determinant is level of investment; it is more cost-effective to perform maintenance work as scheduled rather than defer it and grow a backlog of reconstruction needs.

- **Public policy and financial capacity will affect future transportation funding and the State's ability to secure and use the funding it needs to preserve and develop the transportation system.** Funding impacts both the demand and delivery of a robust transportation system. Alaskans' expectations for transportation service will affect the priorities for allocating transportation funds.

- **Climate change and extreme weather events will have an increasing impact on how transportation infrastructure is planned, built, and maintained.** The State's infrastructure is vulnerable to the impacts of climate change (some areas will be more vulnerable than others) and will require the application of a risk-based approach to asset management.

The trends with the most impact on Alaska's future travel demand were identified by comprehensive technical analyses of Alaska's transportation baseline, historical trends, and future projections of socioeconomic and travel demand trends. These were validated and their impacts considered by the Transportation Stakeholders Group and Freight Advisory Committee during a risk planning workshop. Trends selected for further analysis were identified as having the most potential to shape the future nature and type of travel demand in Alaska through 2036.

This Plan focuses on addressing risks to transportation system performance arising from the trends analyzed. The trends with a high risk to the current transportation system performance (status quo) informed the development of plan policies and actions that will guide future investment.

Using these definitions, Exhibit 8 illustrates where each trend affecting the performance of the transportation system is categorized on a risk matrix. This is referred to as a heat matrix with those risks in red having the greatest likelihood of occurring and having the greatest impact on transportation system performance. Therefore, the Plan targets attention on managing the risks identified in red.

Exhibit 8: Risks to Transportation System Performance

PROBABILITY	IMPACT: Insignificant	Minor	Moderate	Major
Almost Certain			• Higher demand for specialized transportation options such as human service transportation, public transit, and other alternatives	• Increasing travel demand concentrated in urban areas • Higher cost of providing transportation services in remote communities with decreasing population • Increased user expectation • Increased federal requirements • Changing climate patterns
Likely			• Increase in veteran population • Opening of Arctic Ocean • Limited funds for community roads/Alaska Highway System	• Increase in resource development • Unstable state funds • Policy environment is not receptive to transportation revenue increase
Possible		• Decrease in resource development		• Declining revenues from federal program
Unlikely				

The trends and their potential implications for transportation system performance are summarized below. The trends are grouped into four categories: demand/growth, delivery/supply, public policy, and climate change.

Demand/Growth

Travel demand is growing and increasingly concentrated in and around urban areas because this is where population growth is located.

This increased demand would degrade travel reliability and increase journey times (congestion) as there will be more demand on the current system in locations that are currently the most trafficked. The largest concentration of population growth is expected to occur in the Mat-Su region, where the population is likely to increase by more than 50 percent by 2036. In addition to increased congestion, we anticipate that the increased urban concentration of demand will result in an increase in multimodal expectations for new and expanded facilities to keep pace with growth. There is an almost certain likelihood that population and travel demand growth would lead to the following:

- Increase in highway congestion during commute peak times
- Increase in safety risks on public roadways
- Congestion at times beyond commute peak times
- Growing travel demand for bicycle, pedestrian, and transit improvements
- Customer expectations for new and expanded facilities to keep pace with growth
- Degradation of safety, travel time, capacity, and increasing maintenance costs as a result of the need for numerous timed signalized intersections to mitigate traffic surrounding development adjacent to National Highway System (NHS) routes

The rapid population increase in the Mat-Su region is almost certain to occur and the impact will be major. This poses a high risk to current system performance and will affect the following performance measures:

- Annual hours of delay (travel time above a congestion threshold in units of vehicle-hours of delay)
- Reliability index (ratio of the 80th percentile travel time to threshold travel time)

Higher demand for specialized transportation such as human service transportation, public transit, and other alternatives in various regions.

As population increases in urban areas, the demand for public transit and other transportation options will increase. Furthermore, the demand for these options is expected to increase due to a large forecasted rise in senior and veteran populations. This increase in demand could occur in both the high-growth areas as well as remote areas as residents "age in place." The senior population in Alaska is projected to increase faster than any other age group due to the aging baby boomer generation. Between 2012 and 2037, the senior population will increase 127 percent statewide. In addition, Alaska has the highest percentage of veterans of any state (between 2007 and 2011, 14.5 percent of the state's population consisted of veterans, as compared to 9.6 percent nationwide), and its growing veteran population can be attributed to the sizeable presence of the military in the State.[6] Similar to the elderly, the veteran population also has unique transportation needs as many are disabled and need reliable transportation to access healthcare and other services (e.g., getting to and from Veterans Administration facilities).

These risks will affect demand for transportation services that meet the needs of an aging and a veteran population. There is a high likelihood of increased demand for transit-related services.

Increase in and changing user expectations for the transportation system

Our risk analysis indicates that user expectations will change and would increase over time, outpacing forecasted financial increases, including what the public is willing to fund. A more urban population has expectations for pedestrian and bicycle facilities, and other transportation amenities. This would result in the following:

- Increased unplanned maintenance and operating expenditure on the system
- Increased modernization needs and expectations for bicycle and pedestrian facilities

As user expectation increases over time, DOT&PF faces a growing backlog of unfunded expenditures that are necessary to maintain and modernize the system to meet transportation needs. This trend has a high risk.

Delivery/Supply

Higher cost of providing transportation services in remote communities with decreasing population.

Many remote communities have a declining population, but the demand for essential transportation services continues from the remaining population. The cost of providing these services per person, by definition, increases. DOT&PF is not always able to send staff to perform maintenance work in these communities and sometimes has to use contractors that can be more expensive. This has resulted over

[6] 2012 American Community Survey

time in infrastructure that is not maintained and will require a more costly reconstruction. A stagnant/declining population in remote communities would result in the following:

- Challenges for supporting basic infrastructure and an increase in deferred maintenance needs
- A higher cost of transportation services per person

Stagnant/declining population in many smaller communities is almost certain to occur and the impact will be major. This trend poses a high risk to how transportation services are provided in many communities and at what cost.

Resource development remains highly volatile and is dependent on market trends. Future resource development could lead to unplanned maintenance and operating expenditures along with increased demand for new transportation improvements.

While the future direction of resource development is uncertain, there are important implications to travel demand in the case of either an increase or decrease in resource development. The future direction of resource development may be affected by the lack of transportation infrastructure, but it will also be affected by the trends in federal and state funding for transportation.

A decrease in resource development could negatively impact the economy and result in the following:

- Declines in freight volumes, state revenues, and travel demand

An increase in resource development could result in the following:

- Increased unplanned maintenance and operating expenditure on the system
- New development and new capital improvements in response to growth
- New infrastructure if a resource is found in a place where there is no infrastructure
- Increased population growth by bringing more people into the State
- Increased safety risk as traffic volumes increase

Our risk analysis indicates that, over the plan horizon, an increase in resource development is more likely than a decrease, which would have a major impact on the transportation system. An increase in resource development poses a high risk. However due to the volatility it is difficult to plan for.

Public Policy

Unstable and declining state and federal funds may result in a growing backlog of maintenance needs and lack of funding for new facilities.

These financial risks to transportation are highly likely to result in the following:

- Need for periodic infusions of capital to AMHS from the State General Fund to maintain older vessels or replace older vessels with new ones

- Elimination of market-driven supply to rural Alaska (i.e., bypass mail, essential air service, other commercial services)

- Lack of federal funding to reconstruct low volume airports or low volume local roads

Federal funding/Highway Trust Fund

Today's transportation system in Alaska is dependent on federal funding for most construction projects. Federal funding comes from a national motor vehicle fuel tax whose value is eroded by inflation and increased fuel efficiency every year. This funding is predicted to have very small growth, if any, in the coming years. This Plan's expectation is that the level of federal funding for Alaska's transportation system is highly likely to be stable or decline somewhat in coming years. Therefore the plan reflects these fiscal realities and the fact that Alaska will need to look to other revenue sources to implement the Plan.

With enactment of the FAST Act, however, Alaska will receive more than $2.6 billion over the next five years. The State will receive $508.6 million in 2016, with the amounts for subsequent years increasing at the pace of inflation. By 2020, the state will receive $555.3 million. [7]

Unstable/decreasing state transportation funding is likely to occur and will have a major impact. This trend has a high risk.

Beyond the next five years of federal funding, the future federal policy direction is very uncertain due to declining revenues from federal motor vehicle fuels taxes, and it is possible that this will have a major impact. This trend has a medium risk because the plan expects federal funds to stay constant.

State transportation funding

Nationwide, state and local funding are increasing as a proportion of state department of transportation expenditures. This places Alaska's transportation system at risk because the State does not have a dedicated funding mechanism for transportation. State funding for transportation competes with other General Fund resources from what is currently a decreasing revenue stream. It is possible that the state-level policy environment will not be receptive to increased funding for transportation, further exacerbating the funding shortfall.

A policy environment that is unreceptive to revenue increase is likely over this Plan's horizon. This will have a major impact on the performance of the transportation system. This trend has a high risk.

Very limited funds for community roads and the Alaska Highway System may result in no projects on the Alaska Highway System and community roads.

Limited funding for community roads and the Alaska Highway System is likely to occur and the impact is major. Most funding is focused on preserving, modernizing, and expanding the National Highway System, leading to a deterioration of community roads and the Alaska Highway System. This would also result in a growing backlog of maintenance needs and no new construction. This trend has a moderate risk.

[7] http://www.alaskajournal.com/2015-12-09/305b-transportation-bill-grows-annual-outlays-alaska

Federal policy for aviation and surface transportation may no longer align with rural and remote Alaska's unique needs, limiting the ability to fund some project priorities.

The federal requirements for funding airports are quite prescriptive in terms of which improvements can be made and where funds can be used. As noted earlier, funds for the surface transportation program are stable and increasingly likely to be focused on performance of the Interstate and NHS. The overall risks arising from trends in federal funding are high because airport and surface transportation projects are almost all federally funded. This could lead to the following:

- A growing backlog of reconstruction needs if aging infrastructure is not maintained
- Inability to construct new infrastructure without additional funding
- Lack of funding to maintain AMHS vessels
- Elimination of market-subsidized transportation to rural Alaska (i.e., bypass mail, essential air service)
- Inability to meet new Federal Aviation Administration requirements

The probability of federal policy requirements not fully aligning with Alaska's environment is high and the impact could be major. This trend has a high risk.

Climate Change

Climate change will increase infrastructure vulnerability, but it may also increase development opportunities in the Arctic Ocean.

Changing climate patterns and extreme weather events contribute to an increased quantity and intensity of events such as melting/thawing of permafrost, coastal erosion, flooding, and wildfires. This could lead to the following:

- Increased risk and vulnerabilities on portions of the transportation infrastructure
- Increased cost of maintenance and reconstruction

Changing climate patterns is almost certain to occur and the impact is major. This trend has a high risk.

Thinning and retreating sea ice in the Arctic Ocean opens up the potential for new growth to materialize and the development of infrastructure and resources. An increase in Arctic traffic may lead to the following:

- Some limited new federal investment in facilities
- New opportunities for Alaska and travel demands for DOT&PF to plan for.

The opening of the Arctic Ocean is almost certain to occur and the impact is moderate. This trend has a medium risk. This trend would likely generate demand for new or expanded facilities in remote areas to safeguard maritime traffic.

TRANSPORTATION SYSTEM PERFORMANCE MEASURES

Let's Keep Moving 2036 will provide the basis for establishing performance measures/metrics and associated targets to comply with federal law. This section provides background and Alaska's performance measurement approach. Federal guidance and requirements are currently being established through a rule-making process that will not be finished until sometime after this Plan is adopted. In addition, it is likely that some of the performance measures will need to be phased in over a number of years in Alaska.

Federal Requirements

The FAST Act focuses the federal-aid program on the following seven national goal areas:

1. Safety
2. Infrastructure condition
3. Congestion reduction
4. System reliability (and performance)
5. Freight movement and economic vitality
6. Environmental sustainability
7. Reduced project delivery delays

The law directs the USDOT to develop specific performance measures for each of the goal areas listed above to guide states, MPOs, and transit agencies in the planning and programming of transportation projects. This guidance has been delayed. Once USDOT sets measures in these areas, states will have 18 months to develop targets for each measure.

The FHWA is in the process of circulating the review of rules with which Alaska will have to comply. The FHWA recently published several Notices of Proposed Rulemaking (NPRM) aimed at establishing the performance management framework required by MAP-21. In 2014, the FHWA published two NPRMs to propose safety performance measures and to integrate performance management into the Highway Safety Improvement Program. In January 2015, the FHWA published an NPRM to propose performance management regulations related to assessing the condition of bridges on the NHS, pavements on the Interstate, and pavements on the non-Interstate NHS, as required by MAP-21. An additional NPRM was published in April 2016 that propose performance measures for system performance on the NHS, freight movement on the interstate system, and the congestion mitigation and air quality improvement program. The USDOT will issue a report and order once the public comments on the NPRMs are considered, formalizing and mandating the performance measures.

Exhibit 9 outlines the implementation schedule for each performance area, including the date of the anticipated final rule, which is subject to change.[8]

[8] https://www.fhwa.dot.gov/tpm/about/schedule.pdf (Accessed on 4/26/2016)

Exhibit 9: Transportation Performance Management Rulemaking Schedule

Performance Areas	NPRM	Comments Due	Anticipated Final Rule
Safety Performance Measures	March 11, 2014	***Closed*** June 30, 2014	Published March 15, 2016
Highway Safety Improvement Program	March 28, 2014	***Closed*** June 30, 2014	Published March 15, 2016
Statewide and Metro Planning; Non-Metro Planning	June 2, 2014	***Closed*** October 2, 2014	Anticipated May 2016
Pavement and Bridge Performance Measures	January 5, 2015	***Closed*** May 8, 2015	Anticipated October 2016
Highway Asset Management Plan	February 20, 2015	***Closed*** May 29, 2015	Anticipated October 2016
System Performance Measures	April 22, 2016	Open until August 2016	TBD

This Plan establishes direction for implementing performance measurement in compliance with the proposed rules. In some cases, where Alaska does not have the data or will not be federally required to report on a particular measure, we identify an interim reporting strategy and recommended measures.

This Plan incorporates these performance measures and, where applicable, corresponding performance targets in examining both the baseline and current conditions of the transportation system, and linking the policies to performance measures. Since the timeline for finalization of the FAST performance measures is beyond the completion of this Plan, these initial targets will need to be updated as the FAST performance measures are finalized and mandated.

Each of the national goal areas and performance measures are explained in this section, followed by Exhibit 10, which links the *Let's Keep Moving 2036* Plan policies to the performance measures, targets, and current conditions.

Performance Measures by National Goal Area

Safety

This Plan identifies five measures for the safety goal area: two related to fatalities, two related to serious injuries and one related to non-motorized fatalities and serious injuries. Final ruling requires that states establish targets identical to the targets established in the Highway Safety Plan. These performance measures are as follows:

Number of Fatalities (five-year rolling average of the total number of fatalities on all public roads in a calendar year)

This information is obtained from the Fatal Accident Reporting System from the National Highway Traffic Safety Administration. Alaska has a goal to reduce the number of fatalities by 3.1 percent each year as identified in the Alaska Highway Safety Plan (June 2014). Alaska marked a 3.5 percent reduction in five-year rolling average in year 2013 but a 3 percent increase in year 2014 (using preliminary 2014 data). As the number of fatalities continues to decrease, it is anticipated that the target/goal will be changed to a numerical reduction in the number of fatalities instead of a percentage reduction.

Fatality Rate (five-year rolling average of the number of fatalities per 100 million vehicle miles traveled for a calendar year)

This metric is calculated using the Fatal Accident Reporting System data and the vehicle miles traveled (VMT) data from FHWA HPMS. Alaska has a goal to reduce the fatality rate by 3.1 percent each year as identified in the Alaska Highway Safety Plan (June 2014). Alaska marked a 3.4 percent reduction in five-year rolling average in year 2013, which is the year with the latest available data. As the fatality rate decreases, it is anticipated that the target/goal will be changed to a numerical reduction in the fatality rate instead of a percentage reduction.

Number of Serious Injuries (five-year rolling average of the total number of serious injuries on all public roads in a calendar year)

This metric is calculated using the information from individual state crash data files. Alaska has a goal to reduce the number of serious injuries by 3.1 percent each year as identified in the Alaska Highway Safety Plan (June 2014).[9] Alaska recorded a 3.7 percent reduction in five-year rolling average in year 2012, which is the year with the latest available data.

Rate of Serious Injuries (five-year rolling average of the number of serious injuries per 100 million vehicle miles traveled for a calendar year)

This metric is calculated using the information from individual state crash data files and the VMT data from FHWA HPMS. Alaska has a goal to reduce the rate of serious injuries by 3.1 percent each year as identified in the Alaska Highway Safety Plan (June 2014). Alaska recorded a 2.2 percent reduction in five-year rolling average in year 2012, which is the year with the latest available data.

Number of Non-motorized Fatalities and Serious Injuries (five year rolling average, combined total, and must involve a motor vehicle)

This metric is calculated using the Fatal Accident Reporting System data and data from individual state crash data files. The Alaska Highway Safety Plan (June 2014) reports on pedestrian and bicycle safety, including pedestrian fatalities and serious injuries as well as bicycle fatalities. Current performance targets include reducing the number of pedestrian fatalities from 8 to 7 by 2015, and the number of

[9] The HSP reports a three year rolling average, but the information in the HSP was used to calculate five-year rolling averages for this plan to be consistent with the final Federal rules.

bicyclist fatalities to zero. The performance targets for this metric will follow changes made to the Alaska Highway Safety Plan.

Infrastructure Condition

This Plan identifies six measures for this goal area: four related to pavements (bundled together below) and two related to bridges. These performance measures are as follows:

Pavement Condition (condition of pavement, measured as good, fair, or poor determined by a combination of International Roughness Index (IRI), cracking, and rutting data): for Interstate system and non-interstate NHS system – percentage of pavements in good condition and poor condition

This metric is calculated using the IRI and other condition data collected by the State and reported in the FHWA HPMS. The goal of DOT&PF is that the percentage of lane miles on the NHS in poor condition would not exceed 10 percent. DOT&PF started collecting this data and will use it to compute pavement condition within the timeframes set by federal requirements.

National Highway System Bridge Condition (condition of bridge, measured as good, fair, or poor determined by a combination of the National Bridge Inventory (NBI) rating for deck, superstructure, and substructure)

This metric is calculated using the NBI data at the element level. In law, there is a goal for the percentage of deck area that is structurally deficient. This information is presented in the next metric. Currently, Alaska does not have a goal for percentage of bridges in poor condition; however, the proposed MAP-21 rulemaking states if one metric is poor, the entire bridge is marked poor; therefore, less than 10 percent of NHS bridges can be in poor condition.

Structurally Deficient Bridges on National Highway System (percentage of deck area that is structurally deficient)

This metric is calculated using the data collected for the NBI. Alaska's goal is that no more than 10 percent of the deck area of all NHS bridges should be structurally deficient. Currently, 7 percent of the deck area on the NHS is structurally deficient. The 10-year average from 2005 to 2014 is 8.5 percent.

Congestion Reduction and System Reliability

Annual Hours of Delay

Congestion is typically measured in ***annual hours of delay***: travel time above a congestion threshold, defined by DOTs and MPOs, in units of vehicle hours and passenger hours of delay. The proposed Federal measure is ***annual hours of excessive delay per capita***. Currently, DOT&PF does not report

congestion measures and is expected to be exempt from measurement requirements due to population limits/requirements.[10]

Currently, the Anchorage Metropolitan Area Transportation System and the Fairbanks Metropolitan Area Transit System use the ratio of travel speeds as an indication of congestion, as well as to forecast future congestion. Furthermore, the Anchorage Metropolitan Area Transportation System uses the measure "level of service" to describe how well traffic flows on a road based on its design, operational characteristics, and traffic volumes.

DOT&PF will coordinate efforts with the MPOs to ensure a consistent methodology in the future that is compliant with federal requirements to report on congestion and system reliability, if applicable, including setting appropriate targets.

Level of Travel Time Reliability (LOTTR)

This metric will be used to measure the percent of the Interstate System and Non-Interstate NHS providing for reliable travel times using data from the National Performance Management Research Data Set (NPMRDS). Alaska does not currently report on this metric.

Peak Hour Travel Time Ratio (PHTTR)

This metric will be used to measure the Percent of the Interstate System and non-Interstate NHS where Peak Hour Travel Times meet expectations by using data from the National Performance Management Research Data Set (NPMRDS). Since this measure is applicable only within each urbanized area that has a population of over 1 million, it is therefore not applicable to Alaska.

Freight Movement and Economic Vitality

The freight element of the LRTP uses a ***Planning Travel Time Index***: a ratio of the 80th percentile travel time to 10th percentile travel time. The 10th percentile travel time represents free-flow conditions where no congestion is present, while the 80th percentile travel time represents the amount of time that a driver should budget to be on time 80 percent of the time if the travel times are sampled randomly. For example, a planning time index of 1.6 means that for a trip that takes 15 minutes in light traffic, a traveler should budget a total of 24 minutes to ensure on-time arrival 80 percent of the time:

Free-flow travel time = 15 minutes

Planning time index = 1.60

Planning time = 15 minutes x 1.60 = 24 minutes

[10] Applicable only to NHS roads in urbanized area with a population over 1 million that are, all or in part, designated as nonattainment or maintenance areas for ozone (O3), carbon monoxide (CO), or particulate matter (PM)

The proposed Federal rules (released in April 2016, after the freight element update) list Truck Travel Time Reliability (TTTR) and Average Truck Speed as proposed measures, though the comment period is open till August 2016 and are therefore subject to change.

Environmental Sustainability

A key measure of livability/environmental sustainability is air quality. The metric proposed in FHWA NPRM is ***Annual Tons of Emission Reductions by project for each applicable criteria pollutant and precursor***, to be measured by 2 and 4 year cumulative emission reductions. This metric will be applicable to all projects funded by the CMAQ program in areas designated as nonattainment or maintenance for Ozone (O_3), Carbon Monoxide (CO), or Particulate Matter (PM).

Exhibit 10: Performance Metrics and Link to Policy Areas

MAP-21 National Goal Area and Metric	*Let's Get Moving 2036* Policy Area	Metric Details	Metric Source	Data Source	Performance Targets	Current Condition
Safety: Number of fatalities	System Management and Operations; Safety and Security	**Number of fatalities.** Five-year rolling average of the total number of fatalities on all public roads in a calendar year.	FHWA Safety Performance Management Measures Final Rule	Fatalities data from Fatal Accident Reporting System from National Highway Traffic Safety Administration; VMT data from FHWA HPMS	Reduce number of fatalities by 3.1%	3.5% reduction in five-year rolling average in year 2013, 3% increase in year 2014 (preliminary data)
Safety: Fatality rate		**Fatality rate.** Five-year rolling average of the number of fatalities per 100 million (above) VMT for a calendar year.	FHWA Safety Performance Management Measures Final Rule		Reduce rate of fatalities by 3.1%	3.4% reduction in five-year rolling average in year 2013 (year of latest available data)
Safety: Number of serious injuries		**Number of serious injuries.** Five-year rolling average of number of serious injuries on all public roads in a calendar year.	FHWA Safety Performance Management Measures Final Rule	Serious injury data from individual state crash data files (report the same way as in Highway Safety Plan); VMT data from FHWA HPMS	Reduce number of serious injuries by 3.1%	3.7% reduction in five-year rolling average in year 2012 (year of latest available data)
Safety: Rate of serious injuries		**Serious Injury rate.** Five-year rolling average of number of serious injuries (above) per 100 million VMT for a calendar year.	FHWA Safety Performance Management Measures Final Rule		Reduce rate of serious injuries by 3.1%	2.2% reduction in five-year rolling average in year 2012 (year of latest available data)

MAP-21 National Goal Area and Metric	*Let's Get Moving 2036* Policy Area	Metric Details	Metric Source	Data Source	Performance Targets	Current Condition
Safety: Non-motorized fatalities and serious injuries		**Number of non-motorized fatalities and serious injuries.** Five-year rolling average of the total number of fatalities and serious injuries among pedestrians and bicyclists in a calendar year.	FHWA Safety Performance Management Measures Final Rule	Fatalities data from Fatal Accident Reporting System from National Highway Traffic Safety Administration; Serious injury data from individual state crash data files (report the same way as in Highway Safety Plan)	Will need to be established in the HSP	N/A
Pavement Condition: Pavement condition on the National Highway System	System Preservation	**Interstate pavement in good, fair, or poor condition.** Condition of pavement is determined by a combination of IRI, cracking, and rutting.	FHWA NPRM	IRI data already collected by transportation agencies for HPMS; state can also submit data from state database	Percentage of lane miles on Interstate in poor condition would not exceed 10%	
		Non-interstate NHS pavement in good, fair, or poor condition. Condition of pavement is determined by a combination of IRI, cracking, and rutting.	FHWA NPRM	IRI data already collected by transportation agencies for HPMS; state can also submit data from state database	Percentage of lane miles on non-Interstate NHS in poor condition would not exceed 10%	

MAP-21 National Goal Area and Metric	*Let's Get Moving 2036* Policy Area	Metric Details	Metric Source	Data Source	Performance Targets	Current Condition
Bridge Condition: Bridge conditions on NHS		**NHS Bridges classified as good, fair, or poor condition.** Condition is determined by a combination of the NBI rating for deck, superstructure, and substructure.	FHWA NPRM	Also to be collected with data from NBI, but in the future the use of element level data may change the metric. Recommendations on good, fair, or poor conditions to be determined by Task Force at later date	TBD	TBD
		Structurally deficient NHS bridges.	FHWA NPRM	To be collected with data from the NBI	Less than 10% of the deck area of all NHS bridges should be structurally deficient	Less than 7% of the deck area of all NHS bridges is structurally deficient; the 10-year average between 2005 and 2014 is 8.5%
Congestion Reduction: Traffic congestion	New Facilities and Modernization; System Management and Operations	**Annual hours of delay.** Annual hours of excessive delay per capita	FHWA NPRM	Data to calculate the metric to come from FHWA National Performance Management Research Data Set and other sources	DOT to coordinate with MPOs to set consistent methodology and determine targets	N/A

MAP-21 National Goal Area and Metric	*Let's Get Moving 2036* Policy Area	Metric Details	Metric Source	Data Source	Performance Targets	Current Condition
System Performance and Reliability: Performance of the NHS	New Facilities and Modernization; System Management and Operations	**Level of Travel Time Reliability (LOTTR).** Percent of the Interstate System and non-Interstate NHS providing for reliable travel times	FHWA NPRM	Derived from National Performance Management Research Data Set (NPMRDS)	DOT to coordinate with MPOs; the measure is applicable to the Interstate system and non-Interstate NHS	N/A
		Peak Hour Travel Time Ratio (PHTTR). Percent of the Interstate System and non-Interstate NHS where Peak Hour Travel Times meet expectations	FHWA NPRM	Derived from National Performance Management Research Data Set (NPMRDS)	The measure is applicable only within each urbanized area with population over 1 million, and is not applicable to Alaska	N/A
Freight movement on the Interstate Highway: Planning Travel Time Index		**Truck Travel Time Reliability (TTTR)**	FHWA NPRM	Derived from National Performance Management Research Data Set (NPMRDS)	TBD	TBD
		Average Truck Speed	FHWA NPRM	Derived from National Performance Management Research Data Set (NPMRDS)	TBD	TBD

MAP-21 National Goal Area and Metric	*Let's Get Moving 2036* Policy Area	Metric Details	Metric Source	Data Source	Performance Targets	Current Condition
On-road mobile source emissions	Livability, Community, and the Environment	**Annual Tons of Emission Reductions by Project for each Applicable Criteria Pollutant and Precursor**. Daily kilograms of on-road, mobile source air pollutants (ozone, carbon monoxide and particulate matter) reduced by the latest annual Congestion Mitigation and Air Quality Improvement Program projects over a 2-year and 4-year time frame (cumulative reductions).	FHWA NPRM	Data from current Congestion Mitigation and Air Quality Improvement Program reporting methodologies used by DOTs and MPOs and the EPA Green Book	TBD	TBD

Addressing Federal Planning FAST Requirements

The FAST Act, which was signed into law on December 4, 2015, is five-year legislation that includes several requirements for the development of Long-Range Transportation Plans. States are required to implement performance-based management guidelines intended to efficiently measure an agency's performance. Long-Range Transportation Plans need to include a description of the performance measures and targets used in assessing system performance and a system performance report and subsequent updates evaluating the condition and performance of the transportation system in relation to the performance goals.

Exhibit 11 outlines the Long-Range Transportation Plan requirements in FAST and how *Let's Keep Moving 2036* addresses these requirements. Exhibit 12 addresses the implication of FAST. There are no significant changes to the performance-based planning process in MAP-21.

Exhibit 11: FAST LRTP Requirements

FAST LRTP Requirement	*Let's Keep Moving 2036*
The Plan shall cover a minimum 20-year forecast period for all areas of the State that provides for the development and implementation of the intermodal transportation system of the State.	This Plan is an update of Let's Keep Moving 2030 and covers a 20-year planning horizon from 2015 to 2036.
The Plan shall be developed in cooperation with metropolitan planning organizations, affected nonmetropolitan officials with responsibility for transportation, tribal government, and as appropriate, in consultation with state, tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation.	This Plan has been developed in consultation with a wide range of stakeholders including nonmetropolitan officials, in addition to the STIP, regional, modal, and MPO plans.
The Plan shall include participation by interested parties, including nonmetropolitan local elected officials, citizens, affected public agencies, representatives of public transportation employees, public ports, freight shippers, private providers of transportation (including intercity bus operators, employer-based commuting programs, such as a carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, providers of freight transportation services, and other interested parties through the opportunity to comment on the proposed plan, public meetings, and making public information available in electronically accessible format and means, such as the World Wide Web.	A combination of online public meetings and public open houses were used in developing this Plan. A log of all public comments received was maintained pursuant to 17 AAC 05.135 and other applicable laws and regulations.

FAST LRTP Requirement	*Let's Keep Moving 2036*
The Plan shall include a discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the Plan.	Environmental mitigation activities are included as part of the Plan policies.
The Plan may include a financial plan that demonstrates how the adopted statewide transportation plan can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the Plan, and recommends any additional financing strategies for needed projects and programs.	The LRTP is a policy plan. It includes a financial analysis component that identifies available funding. Plan goals and implementing actions address the financial capacity of Alaska to implement the Plan.
The Plan shall include a description of the performance measures and performance targets used in assessing the performance of the transportation system.	Initial performance measures and the approach to performance measurement are included as part of the Policies and Action section in the Policy Plan. Performance targets will be developed within the mandated time frame after final rulemaking by federal agencies
The Plan shall include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the established performance targets.	The Plan presents a comprehensive baseline system assessment that addresses FAST's performance metrics, and a baseline needs assessment for lifecycle management needs through 2036.
The Plan should include capital, operations, and management strategies, investment, procedures, and other measures to ensure the preservation and most efficient use of the existing transportation system, including consideration of the role that intercity buses may play in reducing congestion, pollution, and energy consumption in a cost-effective manner and strategies and investments that preserve and enhance intercity bus systems, including systems that are privately owned and operated before the period end.	The Plan recognizes the need to balance the competing needs between developing and preserving the system. System preservation is addressed in the Policy and Actions section of the Policy Plan.
Each State that receives funding under section 167 or title 23 shall develop a freight plan that provides a comprehensive plan for the immediate and long-range planning activities and investments of the State with respect to freight.	The freight element is included in this Long-Range Transportation Plan.
The Plan shall be published or otherwise made available including (to the maximum extent practicable) in electronically accessible formats and means, such as the World Wide Web.	The Plan is available online at DOT&PF's website.

Exhibit 12: Implications of FAST

1. Expands the scope of the planning process to include addressing resiliency and reliability as well as enhancing travel and tourism of the transportation system. Let's Get Moving 2036 addresses these topics with a special attention of risks due to lack of redundancy in the system.
2. Adds language that the long-range transportation plan shall consider public ports and freight shippers. Let's Get Moving 2036 addresses these areas in policy, system analysis, and through the freight element.
3. Changes "should" to "shall" regarding the inclusion of description of performance measures and the system performance report in a State's long-range transportation plan. Let's Get Moving 2036 addresses this subject to completion of Federal rulemaking regarding performance measures.

Exhibit 13 and Exhibit 14 present the freight planning requirements of FAST and the freight planning implications of FAST compared to MAP-21.

Exhibit 13: FAST Freight Planning Requirements

FAST LRTP Requirement	*Let's Keep Moving 2036*
1. The Plan shall include an identification of significant freight system trends, needs, and issues with respect to the State.	This information is included in various sections of the Freight Element, including: Section 2 (Freight Demand Drivers); Section 3 (Freight System Elements); Section 4 (Critical Freight Trends); and Section 5 (Performance, Needs, and Opportunities).
2. The Plan shall include a description of the freight policies, strategies, and performance measures that will guide the freight-related transportation investment decisions of the State.	Section 6 of this Freight Element (Freight Goals, Policies, and Actions) provides a description of policies and strategies related to freight. Section 7 of this Freight Element (Freight Performance Measurement, Prioritization, and Project Evaluation) provides a comprehensive framework for performance based freight planning and investment.
3. The Plan shall include a listing, when applicable, of: (a) multimodal critical rural freight facilities and corridors designated within the State under section 70103 of this title and (b) critical rural and urban freight corridors designated within the State under section 167 of title 23.	The Freight Element identifies an Alaska Multimodal Freight Network (AMFN) which includes all major freight facilities that play a significant role in the state's economy. Portions of the AMFN corresponding to federal designations defined under FAST will be identified and may be periodically updated under separately developed *Alaska Freight Element Implementation Guidance*.
4. The Plan shall include a description of how the plan will improve the ability of the State to meet the national multimodal freight policy goals described in section 70101(b) of this title and the national highway freight program goals described in section 167 of title 23.	Section 8 of the Freight Element (Relationship with Other Plans and Federal Guidance) describes how the Freight Element supports national multimodal freight policy and national highway freight program goals.
5. The Plan shall include a description of how innovative technologies and operational strategies, including freight intelligent transportation systems,	The use of innovative technologies and operational strategies, including ITS, is recommended in the

FAST LRTP Requirement	*Let's Keep Moving 2036*
that improve the safety and efficiency of freight movement, were considered.	Freight Element, as described in Section 6 (Freight Goals, Policies, and Actions).
6. In the case of roadways on which travel by heavy vehicles (including mining, agricultural, energy cargo or equipment, and timber vehicles) is projected to substantially deteriorate the condition of the roadways, the Plan shall include a description of improvements that may be required to reduce or impede the deterioration.	Section 5 of the Freight Element (Performance, Needs, and Opportunities) addresses infrastructure needs and planned improvements associated with natural resource (mineral, oil and gas extraction, timber, etc.) development, including existing roadways as well as potential future roadways. Freight priority projects consistent with this Freight Element, and investment plans to implement them, will be identified and may be periodically updated under separately adopted *Alaska Freight Element Implementation Guidance*.
7. The Plan shall include an inventory of facilities with freight mobility issues, such as bottlenecks, within the State, and for those facilities that are State owned or operated, a description of the strategies the State is employing to address the freight mobility issues.	Section 5 of the Freight Element (Performance, Needs, and Opportunities) addresses freight facility performance and provides an inventory of planned actions and initiatives to improve the performance of state-owned facilities.
8. The Plan shall consider any significant congestion or delay caused by freight movements and any strategies to mitigate that congestion or delay.	Section 5 of the Freight Element (Performance, Needs, and Opportunities) addresses freight congestion and delay. Policies and actions to improve freight performance are presented in Section 6 of the Freight Element (Freight Goals, Policies, and Actions).
9. The Plan shall include a freight investment plan that, subject to subsection (c)(2), includes a list of priority projects and describes how funds made available to carry out section 167 of title 23 would be invested and matched.	The Freight Element is part of the LRTP, and the LRTP itself does not include projects or investments. Freight priority projects consistent with this Freight Element, and investment plans to implement them, will be identified and may be periodically updated under separately adopted *Alaska Freight Element Implementation Guidance*.
10. The State Freight Advisory Committee shall be consulted in development of the Plan, if applicable.	The Freight Element was developed with the participation of diverse public and private sector stakeholders, as part of the larger public involvement process guiding development of the full LRTP.

Exhibit 14: Implications of FAST on Freight Planning

1.	Creates a National Multimodal Freight Network, which includes a National Highway Freight Network consisting of all Interstate Highways, an additional 41,000 primary freight network highway miles identified under MAP-21, and other State-identified highway segments.
2.	Establishes a new National Highway Freight Program (NHFP) as part of the core Federal-aid Highway Program structure. This formula program is authorized at $6.2 billion over five years, and each State's share of the NHFP will be based on the State's overall share of highway program apportionments. In addition, flexibility of NHFP dollars within a State will be related to its share of miles on the Primary Highway Freight System. The FAST Act repeals the increased Federal match for freight projects on interstates and highways.
3.	Requires all States using formula dollars to complete a State Freight Plan, either standalone or part of a State's long-range transportation plan. The plans must be updated every five years.
4.	Creates a Port Performance statistics program, requiring ports of certain thresholds to report annual throughput statistics. An advisory group will report to the Secretary annually on recommendations to improve port efficiency.
5.	Creates the Nationally Significant Freight and Highway Projects (NSFHP) discretionary grant program designed for major highway and freight projects funded at $4.5 billion over five years.
6.	Although funded out of the Highway Trust Fund (HTF), certain non-highway projects are eligible to receive portions of the NHFP and NSFHP dollars.

IMPLEMENTING THIS PLAN

Let's Keep Moving 2036 is the statewide long-range transportation plan. It provides policy direction and specifies priorities and implementing actions that align capital and maintenance expenditures with goals for the preservation and modernization of Alaska's "as-built" transportation system. This is accomplished by providing direction for the scope of area and modal plans that identify project priorities for inclusion in the capital improvement program.

Taking as its starting point, the expected fiscal realities for the next 5 years and beyond, the plan targets investment strategically to preserve the system, maintain the basic connectivity across the state, and tackle the requirements for modernizing the system to address the expected travel demand growth in the fastest growing parts of the state. The Plan will be implemented through the following:

- **Area, Corridor and Modal Plans.** Plan updates will evaluate transportation preservation and modernization needs and provide a direct link to the capital plan by identifying longer-range corridor and project priorities. Transportation system analysis and project evaluation will be through an approach that determines their impact on the performance goals of preservation and modernization. The plans will be developed to apply and align with the statewide plan policies and goals.
- **MPO Plans**. Some 54% of Alaska's population and 34.6% of statewide VMT is located in MPO areas. MPO plans therefore will play a key role in implementing the statewide plan. Through participation in the MPO planning process, DOT&PF will work to ensure plans and investments address the statewide plan performance goals. Additionally, MPO planning activities will be the mechanism for implementing some of the long-range plan actions in urban areas.
- **Transportation Asset Management Planning.** DOT&PF's asset management plan includes performance targets for bridge and pavement preservation consistent with federal requirements. These plans will include the specific lifecycle management strategies to be pursued in order to accomplish the long-range plan performance goals for preservation.
- **Plan Actions.** DOT&PF will assign responsibility and monitor the accomplishment of plan actions. DOT&PF intends to report on action implementation every two years.
- **Performance Management.** DOT&PF will align federal performance reporting requirements with monitoring and reporting on risks to plan goal accomplishment.
- **Development of the CIP and STIP** will be directly linked to plan goals and priorities. This ensures that given fiscal constraints, project scope and prioritization directly link to plan accomplishment. The CIP and STIP should be revisited and rebalanced to prioritize projects that implement Plan goals.