

1 Introduction

In fall 2006, the State of Alaska Department of Transportation and Public Facilities (DOT&PF), Northern Region initiated the development of the Interior Alaska Transportation Plan (IATP). This plan joins five other regional, multi-modal transportation plans that make up the Statewide Transportation Plan required by State¹ and Federal² law. The plan considers the State and Federally mandated Statewide Long Range Transportation Plan (*Let's Get Moving 2030*), Statewide Aviation System Plan and Strategic Highway Safety Plan (SHSP). The Federal requirement is very important, as Federal transportation funds must be allocated in a manner consistent with transportation plans following Federal guidelines.

1.1 Plan Purpose

The purpose of the IATP is to develop a 20-year regional transportation plan that guides future investments toward vital transportation projects consistent with the DOT&PF overall mission, addresses regional needs, and enhances the movement of people and goods within the Interior of the state and to points beyond. It analyzes all modes of transportation—railroad, highways, rural interconnecting roads and trails, aviation and river transportation.

Several objectives will help to achieve the plan's purpose.

- To inventory existing conditions, prepare traffic forecasts based on a sound socioeconomic analysis and recommend facilities to accommodate future demand.
- To prepare a strategy to address impacts to the transportation system due to economic development, resource development and changes in military operations.
- To develop corridor assessments along specific routes between major traffic generators or destinations.
- To identify potential safety concerns, and outline solutions to improve safety.
- To prepare an implementation strategy for the 5-year, 10-year, and 20-year planning levels, that is economically feasible and meets the needs determined in the analysis.

¹ Alaska Statute 44.42.050

² 23 Code for Federal Regulations (CFR) 450.214

1.2 Planning Factors

On August 10, 2005, President George W. Bush signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009. The legislation contains guidance for development of statewide transportation plans. It states : “each State shall carry out a continuing, cooperative, and comprehensive statewide transportation planning process that provides for consideration and implementation of projects, strategies, and services that will address the following factors:

- 1) Support the economic vitality of the United States, the States, metropolitan areas, and non-metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
- 2) Increase the safety of the transportation system for all motorized and non-motorized users;
- 3) Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users;
- 4) Increase accessibility and mobility of people and freight;
- 5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- 6) Enhance the integration and connectivity of the transportation system, across and between modes throughout the state, for people and freight;
- 7) Promote efficient system management and operation; and
- 8) Emphasize the preservation of the existing transportation system.”³

These factors will be reviewed and incorporated into the IATP planning process.

1.3 Outline

The plan is divided into the following chapters:

- Chapter 1 provides an overview of the plan, its purpose, study area, planning process, public involvement activities, issues, and goals.
- Chapter 2 gives background information about the study area.

³ Public Law 109-59 Section 6001.135. (c) (1), August 10, 2005.

- Chapter 3 provides an inventory of the existing transportation systems within the study area.
- Chapter 4 provides a forecast of anticipated growth within the region.
- Chapter 5 discusses the potential impacts of various factors on transportation in the Interior.
- Chapter 6 contains an analysis of each of the transportation systems.
- Chapter 7 provides an analysis of transportation finance systems
- Chapter 8 provides recommendations for improvement and guidelines for their implementation.

1.4 Study Boundaries

The study area is bounded on the east by the Canadian border and on the north by the North Slope Borough border. The west boundary follows the Dalton Highway beginning at MP 232 to MP 57 at the Yukon River then to just west of Tanana where it goes directly south to include Lake Minchumina. From there, the boundary heads east to intersect with the Parks Highway at MP 163.2, and continues east to the Susitna River. It intersects the Glenn Highway at MP 118.4. From there, the boundary heads east to intersect with MP 69 on the Richardson Highway and directly east to the Canadian Border (Figure 1). Fairbanks is inside this boundary but the Fairbanks Metropolitan Planning Organization (MPO) boundary is excluded from review and recommendations. The MPO has a separate planning process from the State's.

Figure 1 Study Area



1.5 Planning Process and Public Involvement

The planning process began in fall 2006 with a series of kick-off meetings and interviews with key stakeholders in the planning area. Public meeting locations included Fairbanks, Glennallen, Healy, Nenana and Delta Junction. In addition, interviews were conducted with numerous staff from federal, State, and local agencies; Native groups such as Doyon Native Corporation,



ASCG Incorporated

Public meeting with Copper Valley Chamber of Commerce members

Tanana Chiefs Conference (TCC), and the Council of Athabascan Tribal Governments (CATG); and stakeholders such as the Alaska Railroad (ARRC), the Fairbanks Convention and Visitors Bureau, and the Airline Operators and Pilots Association (AOPA). A summary of public involvement for this project is located in Appendix A.

At these meetings and during the interviews, the steps of the planning process for the IATP were presented. These include the following:

- Inventory of existing conditions;
- Traffic forecasts based on a sound socioeconomic analysis;
- Analysis of resource development and military operations;
- Consideration of the SAFETEA-LU Planning factors;
- Analysis of roads, airports, regional trails, railroads and river transportation;
- Outline of recommended transportation facilities to accommodate future demand; and
- An implementation strategy that is economically feasible and meets the needs determined in the analysis for the 5-year, 10-year, and 20-year planning horizon.

1.6 Overview of Previous Planning Documents

The planning team conducted a review of relevant planning documents on the study area. Each of the transportation plans previously developed by DOT&PF for different regions of the State was reviewed. Each plan covered all relevant modes; but, depending on the primary means of

transportation in that region, each plan had a different emphasis focusing on the area's transportation needs. For example, the *Northwest Alaska Transportation Plan* focused more on winter trails and aviation, while the *Prince William Sound Area Transportation Plan* was more concerned with the Alaska Marine Highway System.

Other documents reviewed included the 2020 and 2030 Statewide Transportation Plan, highway corridor studies, community long range transportation plans (where available), tourism and economic development documents, resource management and environmental impact studies, and the previous Interior regional transportation plan completed in 1982. An annotated list of documents reviewed is located in Appendix B.

1.7 Planning Issues

Several factors have the potential to influence, or be influenced by, transportation in Interior Alaska. These include economic development opportunities, changes in military usage, potentially conflicting needs of various user groups, health and safety concerns, and transportation funding. Some of the major issues to be considered in the plan are identified below:

Gas Pipeline

According to the US Department of Energy, the natural gas pipeline “will provide access to Alaska’s 35 trillion cubic feet of proven natural gas reserves.” Access is a critical component to gas pipeline development plans. The Parks, Alaska, Richardson, and Dalton Highways in the Interior will likely become important supply lines as construction efforts ramp up. Several studies are underway to analyze various Pipeline corridors including Parks Highway Natural Gas Pipeline Corridor Feasibility Study (spur line from Fairbanks to Wasilla), Prudhoe to Valdez with a spur line to Cook Inlet for Liquefied Natural Gas (LNG) transport, and the Alaska Highway Route.

The State of Alaska has taken a very proactive role in supporting natural gas pipeline development. In 2002, legislation was enacted (Alaska Statute 41.41.010) that set up a 7-member appointed Alaska Natural Gas Development Authority Board whose goal is to help get natural gas to Alaskans. The mission of the Board, is to plan and construct a ...

“gas transmission pipeline, together with all related property and facilities, to extend from the Prudhoe Bay area on the North Slope of Alaska either to tidewater at a point on Prince William Sound and the spur line from Glennallen to the Southcentral gas distribution grid or to tidewater at a point on Cook Inlet, ... includ(ing) planning, design, and construction of the pipeline and facilities....”

On May 11, 2007, the State legislature passed the Alaska Gasline Inducement Act (AGIA) that sets up terms and conditions for competitive bid process for companies interested in building an Alaska Natural Gas Pipeline. AGIA is intended to attract an independent pipeline builder, who, if awarded the license, will be the State's surrogate and thus tasked with getting the three producers (Exxon, BP & Conoco-Phillips) to make a commitment so a pipeline can be financed.

Resource Development

Economical transportation is a critical element of viable mineral resource development operations. Rich deposits of silver, gold, copper, lime, nickel, platinum, palladium, gravel, coal and other minerals are located within the study area. However, it is only practical to extract these deposits if the cost of transportation is reasonable. Current mining operations include: Usibelli Coal Mine near Healy; Pogo Mine near Delta Junction; Fort Knox Mine near Fairbanks; and mineral exploration in the Tangle Lakes region, Delta River and in the Doyon Region as a whole. There are also numerous small scale placer mines operating in the Interior. Although not currently accessible, there are known deposits of limestone in the Livengood vicinity. In addition to minerals, there are also timber, agriculture and potential natural gas resources, (including recent natural gas exploration in the Nenana Basin).

Pavement Management

In 2005, the Federal Highway Administration (FHWA) analyzed pavement preservation practices within Alaska. The resulting report made several observations and outlined recommendations for the State to follow. According to the report, in its current reactive approach, the DOT&PF relies to a large extent on a policy of “worst first.” The result is

that by the time these roadway improvement projects are programmed, the roads have sustained structural damage and will be more expensive to fix.

Seasonal weight restrictions on highways in the Interior are also an issue. Applying primarily to truckers hauling goods and resources along the Interior highways, weight limits vary from season to season and negatively impact the movement of goods. Many would like to see weight restrictions eliminated.

Military Impact

As residential and other incompatible land uses grow around military bases in the Lower 48, the need has increased to conduct military training in less developed areas such as Interior Alaska. This has led to an increase in military training exercises at Eielson Air Force Base (AFB), Fort Wainwright, and Fort Greely.

For example, in 2006, more than 5,000 military personnel participated in the annual Northern Edge training exercise, which involves Pacific, Alaska, and Air Combat Commands and Pacific Air Forces, as well as



Red Flag exercises, Eielson Air Force Base

*U.S. Air Force Photo, Airman 1st Class
Jonathan Snyder*

the Navy, Army and Marine Corps; and in 2007, more than 1,300 military service members from the U.S., France, and Australia participated in a two-week Red Flag training designed to facilitate teamwork between U.S. and coalition forces. While aviation exercises, which are increasing in both scope and quantity, lead to airspace issues, convoys transporting troops and equipment along the Richardson Highway and the Parks Highway present an issue for road users. The change in unit classification at Fort Wainwright from a Light Infantry Brigade to a Stryker Brigade Combat Team has

led to a significant increase in personnel as well as increased traffic on the highways due to vehicle convoys traveling to training areas.

The ARRC is also considering military use. Currently, they are examining a route between North Pole and Delta Junction that would be used to help transport military troops and equipment.

Railroad

Operating year-round passenger service between Anchorage and Fairbanks, ARRC has several projects in progress or under consideration in the study area. These include the Fairbanks Area Rail Line Relocation, a Nenana Rail realignment to avoid downtown Nenana, the Northern Rail Extension Project – North Pole to Fort Greely and a railroad connection between Alaska and Canada. The Alaska-Canada rail was studied under the previous version of the *Interior Alaska Transportation Study*. Other projects are also being considered, several with the goal of moving natural resources to market, including facilitating the gas line and mining endeavors.

Tourism

Tourism in Alaska remains an important part of the overall economy. Most of the growth over the years has occurred in cruise and package tours including ARRC packages to Denali National Park and Fairbanks. More cultural tourism is occurring, such as Arctic Village/Arctic Circle, Fort Yukon, Yukon River and Anaktuvuk Pass tours. Winter tourism is also a growing market in the Interior.

Significant portions of the Dalton, Steese, Taylor/Top of the World, Richardson, Parks and Glenn Highways have received Alaska Scenic Byway status. A portion of the Parks Highway was designated a National Scenic Byway in October 2009. Designation of a route as a National Scenic Byway can facilitate Federal funding for needed preservation and improvements in support of tourism.

Aviation

Several developments may affect air transportation within the study area such as military exercises, pipeline construction and technological advances. Population and economic growth might generate an increase in air traffic resulting in the need for facility improvements and expansion. Other aviation issues could include implementation of Phase III of the Capstone program including more Global Positioning System (GPS) instrument approaches; commercial, general aviation, and all-cargo fleet changes; and access to backcountry strips.

Transportation Financing

Transportation financing in Alaska is changing. Earmarked funds are siphoning off needed transportation dollars in Interior Alaska and maintenance funds have not kept up with current needs. State motor fuel taxes, the second lowest rate nationwide at eight cents per gallon, are transferred to Alaska's general operating fund and not to a dedicated highway fund. Millions in State General Funds are spent on transportation projects each year; however, there is no comprehensive State program set up specifically for transportation projects

There are numerous Federal programs that the State currently uses to finance highway and aviation improvements such as the Surface Transportation Program, Safety Program, Bridge Rehabilitation and Replacement funds, Earmark funds, Airport Improvement Program, etc. In addition, there are numerous Federal discretionary funding sources such as the Public Lands Discretionary (PLD) and the Bridge Discretionary funds. However, even with these funding streams, the amount received by the State is not enough to keep up with the growing demand.

Other funding sources, notably, the Bureau of Indian Affairs Indian Reservation Roads program and Denali Commission Access program, are two other sources of transportation funds. While these funds benefit community transportation projects, they are generally not used for regional highway projects.

Rural Community Transportation Issues

While this study does not focus on community road issues, the State recognizes that remote communities, especially those without access to the highway system, face unique challenges. Rising fuel costs contribute to the difficulty of transportation to remote areas, whether by river, road, or air. Some communities, currently not on the road system, are considering the benefits of connecting to the highway system in order to reduce fuel and freight costs and to provide access to hub communities for shopping, medical services and other amenities.

Dust control is a concern in rural communities throughout the study area wherever local roads and airports are not paved. Particulate matter (PM) is referred to as PM 10 or PM 2.5, relating to the size of the airborne particles. The Environmental Protection Agency (EPA) has issued a new ruling (March 2007) covering PM 2.5. Parts of the Fairbanks North Star Borough have exceeded the EPA standards covering PM 2.5 and have been designated as “non-attainment” (December 2009). The rest of the study area is in compliance with the new rule but airborne particles contribute to respiratory ailments that particularly affect the very young and the elderly.

Economic development is an ongoing community concern and many communities want local employment when transportation projects are constructed in their jurisdiction. Community leaders have indicated they would like to complete projects with local labor forces or have local workers considered for jobs by outside contractors.

1.8 Goals and Objectives

Development of goals and objectives began by analyzing the original Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Planning Factors and the Planning Factors from SAFETEA-LU. Commonalities between the two sets of Planning Factors were identified and then combined into the five goals stated below. The SAFETEA-LU Planning Factors were then used to develop the individual objectives.

The goals and objectives address the transportation planning issues in the study area and the planning factors identified in SAFETEA-LU as stated previously. These goals and objectives are grouped into five categories: economy; health, safety, and security; funding; preservation; and

efficiency, and are presented in Table 1-1. Objectives that address the SAFETEA-LU planning factors are noted.

Table 1-1 Goals and Objectives

Goals	Associated Objectives	
<p>Economic</p> <p>1. Support the economic vitality of the State, metropolitan and non-metropolitan areas, especially by enabling global competitiveness, productivity and efficiency. Prioritize projects that support, protect or enhance economic development.</p>	<p>a) Facilitate access to mineral resources when economically feasible and supported by local communities. <i>(Meets SAFETEA-LU planning factor 1,5)</i></p>	<p>e) Support the continued existence of backcountry airstrips, which serve an important role in the area economy as well as provide emergency landing areas. <i>(Meets SAFETEA-LU planning factor 2, 4, 6, & 8)</i></p>
	<p>b) Support upgrades to roads, bridges and airports to meet industry needs. <i>(Meets SAFETEA-LU planning factor 1, 2, 3, 4, 6, 7, & 8)</i></p>	<p>f) Minimize transportation system directional flow imbalance by developing backhaul potential. <i>(Meets SAFETEA-LU planning factor 1, 4, 5, 6, & 7)</i></p>
	<p>c) Support ARRC improvements and expansion to facilitate economic development. <i>(Meets SAFETEA-LU planning factor 1, 4, 5, 6, & 7)</i></p>	<p>g) Maximize the potential of scenic byway programs to increase tourism. <i>(Meets SAFETEA-LU planning factor 1 & 5)</i></p>
	<p>d) Support access from rural communities to the State Transportation System. <i>(Meets SAFETEA-LU planning factor 2, 4, 6, & 8)</i></p>	<p>h) Upgrade airport facilities for the design aircraft, appropriate level of instrument approach and forecast demand. <i>(Meets SAFETEA-LU planning factor 2, 3, & 4)</i></p>
<p>Health, Safety and Security</p> <p>2. Improve the overall Interior Regional Transportation System to promote the health, safety and security of residents and visitors and for all motorized and non-motorized users.</p>	<p>a) Eliminate at-grade railroad crossings where practicable and provide adequate safety features where at-grade crossings are unavoidable. <i>(Meets SAFETEA-LU planning factor 2 & 8)</i></p>	<p>f) Evaluate highway vertical and horizontal alignments, accident statistics, and pavement design to ensure that deficiencies are addressed. <i>(Meets SAFETEA-LU planning factor 2 & 8)</i></p>
	<p>b) Continue to work on dust control efforts. <i>(Meets SAFETEA-LU planning factor 2 & 5)</i></p>	<p>g) Implement the National Highway Safety Improvement Program and the SHSP, including goals for accommodating cyclists and pedestrians. <i>(Meets SAFETEA-LU planning factor 2, 3, 6, & 7)</i></p>
	<p>c) Work with villages to increase trail marking on inter-village trails and roads where desired. <i>(Meets SAFETEA-LU planning factor 2 & 8)</i></p>	<p>h) Address potential conflicts between civilian and military aviation. <i>(Meets SAFETEA-LU planning factor 2, 3, & 8)</i></p>
	<p>d) Provide rest stops or waysides along highways at reasonable intervals. <i>(Meets SAFETEA-LU planning factor 1, 2 & 5)</i></p>	<p>i) Identify solutions to aviation safety problems such as improved weather information, navigation aids and instrument approaches. <i>(Meets SAFETEA-LU planning factor 2,3 & 7)</i></p>
	<p>e) Promote projects that provide Interior communities with usable and safe access to clean water and basic sanitation. <i>(Meets SAFETEA-LU planning factor 5)</i></p>	

Goals	Associated Objectives	
Funding 3. Diversify Transportation Funding	a) Continue to support road and waterfront projects considered in the Denali Access Program. <i>(Meets SAFETEA-LU planning factor 5)</i>	d) Encourage National Scenic Byway System designation to increase funding opportunities for highway improvements and enhancements. <i>(Meets SAFETEA-LU planning factor 1, 2, & 5)</i>
	b) Support a State funded Capital Improvement Program for road and airport projects. <i>(Meets SAFETEA-LU planning factor 5 & 7)</i>	e) Recommend appropriate inclusions and exclusions of airports in the National Plan of Integrated Airport Systems (NPIAS). <i>(Meets SAFETEA-LU planning factor 5 & 7)</i>
	c) Continue partnerships with local Tribal governments to coordinate use of BIA funds. <i>(Meets SAFETEA-LU planning factor 5 & 7)</i>	f) Maximize the use of competitive discretionary funding streams such as PLD, Highway Bridge Replacement and Rehabilitation (HBRR), Federal Aviation Administration (FAA), etc. <i>(Meets SAFETEA-LU planning factor 4, 6, & 7)</i>
Preservation 4. Emphasize preservation of the existing transportation facilities.	a) Implement programs to ensure that deficient highways and bridges are brought into compliance with standards. <i>(Meets SAFETEA-LU planning factor 7 & 8)</i>	d) Promote land use compatibility and unobstructed airspace around airports to maintain safe operating conditions and allow for future growth. <i>(Meets SAFETEA-LU planning factor 2, 3, 5, & 7)</i>
	b) Improve pavement structures to reduce the need for seasonal weight restrictions. <i>(Meets SAFETEA-LU planning factor 2, 7 & 8)</i>	e) Extend the life of existing pavement. <i>(Meets SAFETEA-LU planning factor 8)</i>
	c) Promote access management strategies along State owned highway corridors. <i>Meets SAFETEA-LU planning factor 4, 6, & 7)</i>	
Efficiency 5. Provide efficient and cost-effective regional transportation facilities. Promote efficient system management and operation and enhance the integration and connectivity of the system.	a) Use "life cycle costs" financial analysis to determine the tradeoffs in capital investments to minimize ongoing operating and maintenance costs. <i>(Meets SAFETEA-LU planning factor 7 & 8)</i>	d) Review gaps and overlaps in service area coverage in the system of public use airports; identifying minimum facility and service improvements needed for airports, based on their roles within the system. <i>(Meets SAFETEA-LU planning factor 5 & 7)</i>
	b) Maintain or acquire rights of way for future access corridors. <i>(Meets SAFETEA-LU planning factor 5, 6, & 7)</i>	e) Support multimodal connectivity projects for people and freight. <i>(Meets SAFETEA-LU planning factor 6)</i>
	c) Support transit projects within and between Interior communities and areas outside the region. <i>(Meets SAFETEA-LU planning factor 4, 6, 7)</i>	

Note: SAFETEA-LU Planning Factors

- 1) Support the economic vitality of the United States, the States, metropolitan areas, and non-metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
- 2) Increase the safety of the transportation system for all motorized and non-motorized users;
- 3) Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users;
- 4) Increase accessibility and mobility of people and freight;
- 5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- 6) Enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;
- 7) Promote efficient system management and operation; and
- 8) Emphasize the preservation of the existing transportation system.

Source: Title 23. U.S.. Code as amended by SAFTEA-LU