1.0 PURPOSE AND NEED

1.1 Introduction

This document is a Supplemental Draft Environmental Impact Statement (Supplemental Draft EIS) for the Juneau Access Improvements Project. Currently, access to Juneau, the Alaskan state capital, is only possible by air and water. The Alaska Department of Transportation and Public Facilities (DOT&PF) proposes to improve surface transportation to and from Juneau within the Lynn Canal corridor. Figure 1-1 identifies the project vicinity and area.

DOT&PF and the Federal Highway Administration (FHWA) issued a Draft Environmental Impact Statement (Draft EIS) for the project in June 1997. In 1998 and 1999, DOT&PF analyzed comments submitted regarding the Draft EIS and conducted additional studies related to the project. In January 2000, then-Governor Knowles declared Alternative 2, the East Lynn Canal Highway, the state's preferred alternative. At the same time, he stated that the alternative would not be actively pursued during his administration and that most work on the EIS would be discontinued. In 2002, Governor Murkowski directed that the EIS be completed.

Because more than three years had passed since release of the Draft EIS, the adequacy of the environmental document was reevaluated. DOT&PF determined, and FHWA concurred, that there were sufficient changes in project alternatives and potential environmental impacts to warrant preparation of a Supplemental Draft EIS. This Supplemental Draft EIS has been prepared in accordance with the Council on Environmental Quality regulations for implementation of the National Environmental Policy Act (NEPA) of 1969 (Title 40, Code of Federal Regulations [CFR], Part 1502.9) and FHWA regulations (23 CFR 771.130). The purpose and need for the Juneau Access Improvements Project, described in Section 1.4, have not changed from the purpose and need described in the 1997 Draft EIS.

A substantial amount of the information on the affected environmental and potential environmental consequences of project alternatives presented in the 1997 Draft EIS remain valid. To assist the reviewer, that information has been carried forward in this Supplemental Draft EIS, as appropriate.

The Juneau Access Improvements Project is included in the Statewide Transportation Improvement Program (STIP) for 2004 to 2006. This federally required document was approved by the FHWA and Federal Transit Administration on October 31, 2003. The project is consistent with the Department's 2004 Southeast Alaska Transportation Plan (SATP). The SATP is an approved element of the Alaska Statewide Transportation Plan and was prepared in accordance with Title 23 United States Code (USC), Alaska Statute (AS) 44.42.050, and other related federal and state regulations.

1.2 Project History

Juneau, with a population slightly over 30,000, is the largest community on the North American continent not connected to the continental highway system. The only public surface transportation available is the Alaska Marine Highway System (AMHS), a state-owned ferry system that provides transportation to many of Alaska's Southeast coastal communities. AMHS service from Juneau connects to the continental highway system in Prince Rupert, British Columbia (B.C.), and Bellingham, Washington, to the south, and in Haines and Skagway to the north. The most commonly used access route to the continental highway system is northbound.

1.2.1 Marine Access

Between the mid-1890s and early 1960s, the two main companies providing surface transportation to Juneau were the Alaska Steamship Company and the Canadian Pacific Line. The motor vessel *(M/V) Chilkat*, owned and operated by the Territory of Alaska, began providing seasonal service between Juneau, Haines, and Skagway in the 1950s.

In 1960, following statehood, Alaska voters narrowly approved a $23 million bond proposal to create the AMHS. The issue was controversial because Alaska's four distinct population centers greatly differed in their views. Southeast region residents, who stood to benefit the most, approved the proposal almost ten to one, southcentral area residents voted against the bond by a margin of four to one, and Central and Northwest area residents were almost evenly split.

The bonds were used to construct the *M/V Malaspina*, *M/V Taku*, and *M/V Matanuska* for Southeast Alaska service and the *M/V Tustumena* for southwest Alaska service. Service in Southeast Alaska began in 1963, operating only between the larger communities. Lynn Canal service consisted of three round-trip voyages each week between downtown Juneau, Haines, and Skagway. AMHS and private barge services have been the primary surface transportation providers in Lynn Canal since the 1960s.

In the 1970s the *M/V Columbia*, *M/V LeConte*, and *M/V Aurora* were added to the fleet. The Lynn Canal corridor gained more service with the addition of the *M/V Columbia,* and the smaller *M/V LeConte* and *M/V Aurora* were dedicated to linking the smaller communities south of Lynn Canal. During this period, the Auke Bay Ferry Terminal was constructed, which reduced the time required to travel from Juneau to Haines and Skagway by about two hours.

In the late 1990s, service in Lynn Canal was supplemented by the *M/V Kennicott* and daily summer shuttle service by the *M/V Malaspina*. The *M/V Malaspina* would overnight in Juneau, travel to Haines and Skagway, and return through Haines to Juneau, usually a 14- to 16-hour voyage.

Prior to 2004 all of the vessels in the AMHS fleet operated continuously on a 24-hour basis throughout the year except for maintenance and lay-up periods. Crews generally worked six-hours on, six hours off, for one or two week periods. Larger vessels of the AMHS that travel the length of the system from Bellingham or Prince Rupert in the south to Haines and Skagway in the north are called mainliners. Smaller vessels that provide service to smaller communities not on the mainline routes are referred to as community link vessels. The mainline routes are part of the National Highway System (NHS).

The latest major change to service in Lynn Canal was implementation of the state's first fast vehicle ferry (FVF), the *M/V Fairweather*, in the summer of 2004 to replace the summer shuttle ferry service. The *M/V Fairweather* has less vehicular capacity than the larger monohulled vessels, but with its increased speed can make multiple daily trips between the three Lynn Canal communities.

The *M/V Fairweather* operates on a 12-hour schedule, travelling to a single community and then returning to Juneau before heading for another port. A separate crew performs maintenance nightly in Juneau.

1.2.2 Highway Access

The first road linking a Lynn Canal community with the continental highway system was the Haines Cutoff Highway. During World War II the U.S. Army constructed the Alaska Highway between Dawson Creek, British Columbia, and Fairbanks, Alaska. The 150-mile highway spur from Haines Junction to tidewater in Haines was an essential transportation corridor, providing support for construction of the Alaska Highway and adding another route to provide supplies and equipment to western Alaska for the war effort.

The construction of the Klondike Highway in the late 1970s provided another link to the continental highway system. The highway was strongly supported by Skagway residents and city officials, the Skagway Chamber of Commerce, the United States Department of the Interior, National Park Service (NPS), and the governments of Yukon Territory and British Columbia. The support was based on the need for economic development, tidewater access for mining ventures, access to Whitehorse, and access to historical areas along White Pass. The Klondike Highway parallels the White Pass and Yukon Route (WP&YR) Railroad that was constructed in the late 1890s to improve access to interior mining areas.

Providing highway access to Juneau has been an issue for many years. Because of geographical conditions, only two corridors are available for a highway or rail connection to the continental highway system from Juneau: Lynn Canal and the Taku River Valley.

Construction of the Alaska Highway in 1942 made a direct connection from Juneau to the continental highway system more feasible. The Bureau of Public Roads performed preliminary reconnaissance work in the Taku River Valley during the 1950s. With enactment of statehood in 1959, Alaska became responsible for an inadequate highway transportation system and could not afford to invest in expansion efforts without first repairing the existing infrastructure. This situation was further exacerbated by the 1964 earthquake which damaged many transportation facilities in the state.

In the 1960s, after many of the state-inherited roads were upgraded, the focus on improving access to Juneau centered on constructing a highway south from Haines along the west side of Lynn Canal. The highway would terminate at a ferry terminal facility, where shuttle ferries would cross Lynn Canal to Berners Bay. Reconnaissance engineering was completed and the state was within months of initiating construction on the first phase when the project was halted and an environmental assessment prepared in compliance with the recently enacted NEPA legislation. The environmental assessment was completed in the early 1970s, but the state chose to delay construction of the highway after passage in 1974 of a statewide ballot measure to move the capital to the southcentral region of the state.

On completion in 1979, the Klondike Highway provided another possible alternative to link Juneau to the continental highway system: via a highway along the east side of Lynn Canal. The 1975 Lynn Canal Transportation Corridor Economic Analysis identified a roadway between Juneau and Skagway as the best alternative to improve surface transportation in terms of total economic costs, citing low annual expenses and shortest travel times. The 1980 Southeast Transportation Plan (SATP) recommended the Lynn Canal Highway for further investigation and evaluation. The 1986 SATP recommended acquiring high speed ferries to operate in Lynn Canal, while monitoring demand to determine if a road link was warranted.

In 1994, work on the Juneau Access Improvements Project Environmental Impact Statement (EIS) began. In 1997, a Draft EIS was released; however, a decision was not made regarding a preferred alternative until 2000. Therefore the 1999 SATP only referenced the Draft EIS and the upcoming decision. In 2000, Governor Knowles announced Alternative 2, East Lynn Canal

Highway with Katzehin Terminal, was the preferred alternative, but his administration did not actively pursue completion of the EIS. The 2001 addendum to the 1999 SATP reflected this situation, identifying the road as the preferred alternative while addressing interim improvements. In 2002, Governor Murkowski directed that the EIS be completed. The 2004 SATP calls for construction of a road between Juneau and Skagway.

Providing highway access to Juneau is a contentious issue in northern Southeast Alaska. In October 2000, Juneau voters were split on an advisory ballot question regarding preference for a long-range plan for surface access north from Juneau, with 5,840 choosing enhanced ferry service and 5,761 choosing a road. A September 2002 motion by the City and Borough of Juneau (CBJ) Assembly supporting "completion of the EIS for the identified preferred alternative for the road into Juneau …" passed by a five to four vote. In 1999 a survey conducted for the City of Skagway indicated that 49 percent of Skagway residents opposed a road while 46 percent were in favor of a road. In April 2003, the City Council of Skagway passed a resolution supporting improved ferry service and opposing a road connection by a four to one vote. In January 2003, the Haines Borough Assembly voted unanimously to request that a road to Haines (as opposed to a road to just Skagway) be included in the EIS. In an October 2004 advisory ballot question regarding transportation in Lynn Canal, 62 percent of Skagway voters chose improved ferry service over a road. Telephone surveys of Haines, Skagway, and Juneau households conducted for the Supplemental Draft EIS confirm that residents are divided in their opinions on the value of highway access. For further information, refer to the *Household Survey Report*, Appendix I.

1.2.3 Existing Transportation Network

Haines and Skagway, at the north end of Lynn Canal, are linked by road to the continental highway system via the Alaska Highway. The Haines Highway connects Haines with the Alaska Highway at Haines Junction, Yukon Territory. The Klondike Highway links Skagway to the Alaska Highway near Whitehorse, Yukon Territory.

The existing road system in Juneau currently extends 40 miles to the north where Glacier Highway terminates at the public boat ramp in Echo Cove. No surface transportation facilities extend beyond Echo Cove. Goldbelt, a local corporation organized under the Alaska Native Claims Settlement Act, owns land at Cascade Point, three miles north of the end of the road, and has the necessary permits to extend the road. The State of Alaska is investigating the possibility of constructing this extension as part of the Industrial Roads Program. Also known as the Roads to Resources program, these state funds are used to foster industrial development. In this case the goal would be to assist Goldbelt and its partner Coeur Alaska, the mining company developing the Kensington Gold Project, with their plans to develop a marine facility at Cascade Point (USFS, 1997a). Because the road to Echo Cove does not connect to another community, the National Highway designation of Glacier Highway ends at the Auke Bay ferry terminal. Due to Juneau's location and lack of highway access, all freight, vehicle, and passenger movement is by air or sea.

Sections of Glacier Highway are identified in the STIP for improvement in the near future, independent of the Juneau Access Improvements Project. Improvements from Tee Harbor (five miles north of Auke Bay) to Bessie Creek (seven miles south of Echo Cove) are needed based on the condition of the highway and current traffic. DOT&PF plans to begin rehabilitating and widening the seven miles from Tee Harbor to Amalga Harbor Road in the spring of 2005. The remaining eight miles to Bessie Creek would be rehabilitated and widened as funding becomes available. Resealing or asphalt overlaying of the section from Bessie Creek to Echo Cove is not currently in the STIP but is anticipated in the next 5 to 10 years.

1.2.4 Aircraft Service

Aircraft access to Juneau is provided by commercial jet aircraft primarily from Seattle and Anchorage. The nearest other communities with regular jet service are Petersburg (98 miles south), Sitka (76 miles southwest), Yakutat (163 miles northwest), and Whitehorse (165 miles north). Commuter aircraft serve Haines, Skagway, and other communities that have neither the demand nor the facilities for jet aircraft service. Three companies offer regularly scheduled commuter service in Lynn Canal. These companies offer approximately 11 round-trips daily in the summer, with reduced service in the winter.

Because of the relatively short travel times and schedule frequency, business travelers generally prefer air travel over the ferry system. Air service in the Lynn Canal corridor plays an important role in transporting passengers, freight, and mail; however, travel is often constrained by fog, high winds, or snowstorms and can be delayed up to several days in the fall, winter, and spring.

1.2.5 AMHS Service

The AMHS is the only public transportation that carries passengers and vehicles in Lynn Canal. Statewide, the ferry system serves 31 ports in Alaska with a combined population of about 87,000, or 14 percent of Alaska's population. The system also has a port in Prince Rupert, British Columbia, and in Bellingham, Washington.

Six of the seven state ferries in Southeast Alaska serve Lynn Canal. Four are mainline vessels with full accommodations that can carry between 80 and 134 vehicles at one time. The feeder vessel *M/V LeConte* can transport 34 vehicles, and the *M/V Fairweather* can transport 35 vehicles. About one-third of all vehicular traffic on the statewide ferry system travels through Lynn Canal, and 70 percent of all travel through Lynn Canal embarks or disembarks in Juneau.

In the summer of 2003, the Lynn Canal corridor was served by two mainline ferries originating from Bellingham, two mainline ferries originating from Prince Rupert, the feeder vessel *M/V Aurora*, and a Juneau-based shuttle service provided by the *M/V Taku* operating three days per week. The times of arrival and departure for many of the mainline ferries in Juneau, Haines, and Skagway varied each trip due to tidal restrictions, differing ports of call, and other factors.

In the summer of 2004, weekly ferry service in Lynn Canal included mainline ferries from Bellingham and Prince Rupert, an occasional feeder vessel, and shuttle service five days per week by the *M/V Fairweather* to Haines and four days per week to Skagway. The *M/V Fairweather* vessel will be based in Juneau and will make a round-trip to Haines in the morning on Monday, Tuesday, Thursday, Friday, and Saturday and a round-trip to Skagway in the afternoon on Tuesday, Thursday, Friday, and Saturday.

1.2.6 Private Vessel Service

Private companies provide passenger-only service between Lynn Canal communities. This service is seasonal from mid May to mid September. Multiple daily trips are scheduled between Haines and Skagway as well as twice-weekly service between Haines and Juneau.

Another private company plans to begin providing daily passenger service from Juneau to Haines and Skagway beginning in 2006. This company would operate two wing-in-ground-effect vessels that typically carry up to eight passengers and 440 pounds of luggage.

Juneau receives three barge shipments per week from the Puget Sound area, with one barge shipment continuing north to Haines and Skagway.

1.3 AMHS Service History In Lynn Canal

In 2002, AHMS transported approximately 29,000 vehicles and 105,000 passengers through Lynn Canal. Annual Average Daily Traffic (annual ADT) is an important planning tool used to evaluate traffic levels on transportation facilities. It is a measure of average daily bi-directional traffic, that is, the number of vehicles passing a given point in either direction. Annual ADT is calculated by dividing annual traffic volumes by 365 days per year.

For AMHS service in Lynn Canal, annual ADT has two distinct counting locations: any point between Juneau and Haines and any point between Haines and Skagway. The average annual ADT in Lynn Canal between Juneau and Haines is 81 vehicles. This equates to about 40 vehicles traveling to or through Haines and about 40 vehicles traveling to or through Juneau. Table 1-1 summarizes the Lynn Canal annual ADT from 1988 to 2002.

Table 1-1
Lynn Canal Annual ADT 1988 to 2002 Juneau to Haines Traffic Volumes

Year	Round-trips	Traffic Volumes for Year (Vehicles)	Annual Average Daily Traffic
1988	266	29,513	81
1989	240	28,871	79
1990	256	30,734	84
1991	290	32,605	89
1992	283	31,044	85
1993	245	30,098	82
1994	262	29,322	80
1995	270	30,349	83
1996	270	30,998	85
1997	287	29,158	80
1998	285	28,083	77
1999	298	30,131	83
2000	308	28,889	79
2001	285	26,662	73
2002	324	29,202	80
Average (15 years)	278	29,711	81

Source: *Annual Traffic Volume Reports,* 1998-2002, AMHS.

About 60 percent of all ferry traffic in Lynn Canal occurs between May and September. AMHS adjusts for the downturn in volume during the off-season by reducing the number of weekly round-trips from about ten in the summer to about four in the winter.

Since 1998, the AMHS has utilized a dedicated Lynn Canal summer shuttle ferry to provide same-time departures and arrivals at each port. The *M/V Fairweather* will provide this service in 2004 with a round-trip voyage from Juneau to Haines five days per week and a round-trip voyage from Juneau to Skagway four days per week. The *M/V Fairweather* will not operate between Haines and Skagway. All other vessels that provide service in Lynn Canal communities will have scheduled but varied arrival and departure times.

The route distance from Auke Bay Ferry Terminal in Juneau to Lutak Inlet in Haines is 78 miles. It takes an average of 4.5 hours for a mainline vessel and 2.3 hours for a fast vehicle ferry (FVF) to transit this distance. The distance from Auke Bay to Skagway is 93 miles and requires an average transit time for a mainline vessel, including an intermediate stop in Haines, of 6.5 hours. The FVF takes 2.5 hours to transit from Auke Bay to Skagway with no intermediate stop in Haines. The required two-hour check-in time and off-loading time add to total travel time for both the mainline ferry and the FVF.

1.4 Purpose and Need Statement

The purpose of and need for the Juneau Access Improvements Project is to provide improved surface transportation to and from Juneau within the Lynn Canal corridor that will:

- Provide the capacity to meet transportation demand in the corridor
- Provide flexibility and improve opportunity for travel
- Reduce travel times between the communities
- Reduce state costs for transportation in the corridor
- Reduce user costs for transportation in the corridor

The project Purpose and Need Statement has been subdivided into these five elements for clarity and to help evaluate the ability of project alternatives to meet or approach the overall goal of improving surface transportation to and from Juneau in the Lynn Canal corridor.

The five elements of the project Purpose and Need Statement are interrelated. Convenience and opportunity for travel are important factors in transportation demand, as are travel times and user costs. Transportation improvements to provide increased capacity and opportunity in Lynn Canal affect state and traveler costs.

1.4.1 Transportation Demand

The first element of the Purpose and Need Statement is to *provide the capacity to meet transportation demand in the corridor*.

The Lynn Canal corridor is the largest bottleneck in Alaska's surface transportation system. DOT&PF estimates that the demand to travel through the corridor is over six times greater than the number of vehicles currently transported by AMHS. Indications of unmet demand in Lynn Canal include traffic growth and volume comparisons, telephone surveys, and the traffic forecast analyses.

1.4.1.1 Traffic Growth and Volume Comparisons

A clear indication that AMHS service is not meeting demand in Lynn Canal is the lack of traffic growth in Lynn Canal compared to the population growth in the state as a whole and in the three communities. A second indicator is the comparison of the traffic growth within transportation corridors adjacent to Lynn Canal to traffic growth in Lynn Canal. Table 1-2 presents both of these comparisons.

As shown in Table 1-2, the population of the three Lynn Canal communities grew 25 percent from 1988 to 2002, almost two percent annually. Traffic on adjacent corridors increased at a rate of one to two percent annually. Over the same period, there has been no increase in vehicular volumes in Lynn Canal.

In addition to no growth, a 15-year average annual ADT of 81 in Lynn Canal is extremely low for access to a community with a population of 30,000. Table 1-3 compares AMHS annual ADT for Lynn Canal with the annual ADT of adjacent transportation corridors and the annual ADT of three other highways in Alaska that terminate at a tidewater community. These three communities, Seward, Valdez, and the Kenai Peninsula, all have populations smaller than Juneau.

Table 1-2
Population and Transportation Growth

Population Growth	Percent Increase from 1988 to 2002
State of Alaska	20
City and Borough of Juneau	26
Haines Borough	21
City of Skagway	20
Transportation Growth	**Percent Increase from 1988 to 2002**
Haines Highway Border Station	13
Klondike Highway Border Station	14
Alaska Highway at Champagne (between Haines Junction and Whitehorse)	28
Alaska Highway near Beaver Creek	21
AMHS Lynn Canal Service	0

Source: Population growth from Alaska Department of Labor & Workforce Development, Research and Analysis Section, Demographics Unit statistics. Transportation growth from DOT&PF Annual Traffic Maps 1998-2002 and Yukon Highways and Public Works 2002 Yukon Traffic Count Summary (2003).

Table 1-3 shows that the lightly traveled Dyea Road in Skagway has traffic volumes 2.5 times greater than the traffic transported by AMHS. Dyea Road is a low-volume rural road used principally by local residents. The AMHS is the National Highway System (NHS) route between Juneau and Haines, the principal surface transportation route for everyone traveling between these two communities. The low annual ADT on this NHS route compared to the annual ADT on rural roads indicates that AMHS is not meeting the travel demand in Lynn Canal.

1.4.1.2 Telephone Surveys

In 1994 and 2003, DOT&PF contracted with an independent consultant to conduct telephone surveys of households in Juneau, Haines, Skagway, and Whitehorse (2003 survey only) regarding transportation needs, travel patterns, access preferences, and predicted travel frequencies. The surveys indicated that travelers in each community would make more trips through the Lynn Canal corridor if travel were faster, less costly, and more convenient.

The 1994 survey (Appendix C of the 1997 Draft EIS) responses indicated the following:

- More than 60 percent of households surveyed in all three communities felt that improving transportation was important to their own households.
- More than 75 percent of households in each community felt that improving transportation was important to their respective cities.

The 2003 (Appendix I) survey responses indicated the following:

- The majority of households, over 70 percent in all three communities, felt that improving transportation to and from Juneau was important.

Table 1-3
Corridor Annual Traffic Volumes and Annual ADT

Corridor	Annual Traffic Volume[1] (Vehicles)	Annual Average Daily Traffic
Alaska Highway between Haines and Whitehorse near Champagne	451,000	1,236
Glacier Highway in Juneau near Tee Harbor	627,000	1,734
Glacier Highway end of road in Echo Cove	78,000	213
Egan Drive in Juneau near McDonalds	9,790,000	26,817
Haines Highway at Haines Airport	381,000	1,045
Dyea Road in Skagway near end of road	74,000	204
Lutak Road in Haines near end of road	103,000	282
North Douglas Highway in Juneau past launch ramp	142,000	388
Klondike Highway at Skagway River Bridge	548,000	1,501
Sterling Highway west of Seward Highway Junction [2]	562,000	1,540
Richardson Highway between Glenallen–Valdez [2]	381,000	1,044
Seward Highway south of Sterling Highway Junction [2]	1,007,000	2,760
AMHS Lynn Canal between Juneau–Haines	30,000	81

Note: [1] Annual traffic volumes are rounded.
[2] Highways that terminate at a tidewater community.

Source: DOT&PF 2003, and Yukon Highways and Public Works, 2003.

1.4.1.3 Traffic Forecast Analysis

The traffic forecast analysis used the types of travel, origin/destination information, regional growth, and other methods and modeling to determine transportation demand in the Lynn Canal corridor for 2008 through 2038. A summary of the traffic forecast methodology is provided in Section 4.1.5. Further detail on the forecast is provided in Appendix C, *Traffic Forecast Report*.

The traffic forecast estimated that travel demand is over six times greater (500 vehicles per day) than what AMHS currently accommodates (15-year average annual ADT of 81 vehicles per day).

The analysis also indicated that traffic demand would grow at an annual rate of about 2 percent in the Lynn Canal corridor between 2008 and 2038. At this rate, traffic demand would exceed 900 annual ADT in 2038, more than 11 times the current annual ADT.

1.4.2 Flexibility and Opportunity for Travel

The second element of the Purpose and Need Statement is to *provide flexibility and improve opportunity for travel* in Lynn Canal.

The opportunity to travel is restricted in Lynn Canal under the current ferry system. As Table 1-1 in Section 1.3 indicates, there have been an average of about 278 round-trip voyages each year between Juneau and Skagway with intermediate stops in Haines. AMHS provides more service in the summer season, May to September, than in October to April, the winter

season. There are usually ten round-trip voyages per week during the summer peak season and four round-trip voyages per week during the off-season.

During the summer season, a traveler has a choice of one or two sailings per day. In the winter, a traveler has a choice of approximately four sailings per week. Ferries typically sail below vehicular capacity during winter, but in summer they are at times unable to accommodate all reserved space and standby traffic.

Some restrictions to flexibility and opportunity to travel are as follows:

- Travelers must make reservations for vehicles in advance; travel during peak season periods can require making reservations within days of the summer ferry schedule release in the preceeding December.
- Changing reservations can be problematic and can include financial penalties.
- Travelers must plan trips to coincide with ferry schedule departures and arrivals.
- A 1- to 2-hour check-in time is required.
- Trips can be delayed by unforeseen events, including vessel mechanical problems, inclement weather, and last-minute requests to serve an additional port south of Juneau.
- Reservation changes are limited to regular business hours.
- Border crossings are restricted at night but ferry schedules do not always coincide with the operating hours of the U.S. Customs stations, inconveniencing travelers going beyond Haines and Skagway.
- When ferries do not have vehicle space available, travelers may register at the ticket counter two hours before sailing for standby vehicle space; however, there is no guarantee of boarding.

The above restrictions to opportunity and flexibility to travel combined with long travel times inhibit residents of Juneau from using alternate airports such as Whitehorse Airport to travel to locations outside southeast Alaska. These restrictions also contribute to the perception held by many Alaska residents that the capital is isolated from the rest of the state. This is often cited by capital move proponents as a reason to relocate the state's capital.

The 1994 and 2003 household surveys included several questions on flexibility and convenience. The following information was identified in the 1994 survey:

- Households in all three communities reported having problems with ferry reservations (44 percent in Juneau, 53 percent in Haines, and 33 percent in Skagway).
- Fifty-five percent of households in Haines, 34 percent of households in Juneau, and 40 percent of households in Skagway said that they have been unable to travel in Lynn Canal due to scheduling or reservations problems.
- Forty-seven percent of Juneau households, 62 percent of Haines households, and 44 percent of Skagway households said that obtaining car space on the ferries was a problem.

The following information was identified in the 2003 survey:

- A strong majority of residents would travel more frequently in Lynn Canal if transportation were improved (72 percent in Juneau, 79 percent in Haines, and 70 percent in Skagway).
- Whitehorse households would make as many as three trips per year to Juneau with a highway connection, compared to the current average of once per year. Haines residents would take an average of eight trips to Juneau with a highway connection, and Skagway residents would take an average of 12 trips to Juneau with a highway connection.
- With a highway connection, Juneau households would increase their trips to Haines from the current two per year to four per year and would travel three times per year to Skagway, compared to the current once per year.

1.4.3 Travel Time

The third element of the Purpose and Need Statement is to *reduce travel time between the communities* in Lynn Canal. Table 1-4 lists AMHS travel times between Auke Bay and Haines and Auke Bay and Skagway.

Table 1-4
AMHS Travel Time

Route	Vessel Type	Check-in Time (hours)[1]	In-Transit (hours)	Unload Time (hours)	Total Travel Time (hours)
Auke Bay – Haines	Mainliner	2.0	4.5	0.6	7.1
	FVF	1.0[2]	2.3	0.2	3.5
Auke Bay – Skagway	Mainliner	2.0	6.5	0.6	9.1
	FVF	1.0[2]	2.5	0.2	3.8

Notes: [1]Check-in time is the time that a vehicle must arrive at the dock prior to departure and includes loading.
[2]Planned check-in time for the FVF is one hour. During initial startup of this service in summer 2004, check-in time for the FVF was two hours.

Source: 2004 AMHS Summer Schedule and *Marine Segments Technical Report* (Appendix B).

Travel time between the communities by ferry is significantly longer than travel times would be by highway, the most prevalent method of surface transportation outside the Lynn Canal corridor. If a direct highway connection existed, driving from Auke Bay to Haines at a speed of 40 to 50 miles per hour would take about 1.5 to 2 hours. Traveling by highway from Auke Bay to Skagway at a speed of 40 to 50 miles per hour would take between 2 and 2.5 hours.

1.4.4 State Costs for Transportation System

The fourth element of the Purpose and Need Statement is to *reduce state costs for transportation in the corridor*.

To maintain and operate the ferry system, AMHS depends on vessel-generated revenues (fares, restaurant income, staterooms, etc.) and state funds appropriated annually by the legislature. Statewide, the system requires about $80 million to operate and generates about $40 million in revenues, as shown in Table 1-5.

Table 1-5
AMHS Statewide Expenditures and Revenues

Fiscal Year (FY)	Expenditures in $Millions	Revenues in $Millions (Percent of Total)	State Subsidy in $Millions (Percent of Total)
FY01	$81.7	$37.6 (46%)	$44.1 (54%)
FY02	$79.6	$39.5 (50%)	$40.1 (50%)

Source: Lynn Canal Revenue and Expenditures 2001 and 2002 and Projected Capital Costs 2001-2038, DOT&PF 2004g.

The cost to operate the AMHS is high in comparison to the cost to operate and maintain Alaska's highways. For comparison, the AMHS provides about 21.3 million vehicle miles of travel at a state cost of about $40 million each year, or $1.87 per vehicle mile. On state-owned highways, about two billion miles are driven each year. The maintenance budget for state-owned highways is about $70 million per year, which equates to approximately $0.035 per vehicle mile. Revenues from gas tax receipts and licensing/registration fees are about $65 million, some of which reduces the overall state cost for highway maintenance.

Because the cost of providing AMHS service is high and the system is not used by a large portion of the state's population, state funding has become increasingly more difficult to obtain.

Travelers in the Lynn Canal corridor account for about 15 percent of the total AMHS revenues. In fiscal year 2002, the cost to operate AMHS in Lynn Canal was $11.5 million (Table 1-6). This cost included maintenance and operation of the vessels and administrative costs, such as selling tickets, scheduling, and operating the terminals. Revenues in fiscal year 2002 from passenger and vehicle tickets and on-ship services totaled $6.4 million. As a result, the state subsidy was $5.1 million to provide surface transportation in Lynn Canal.

Table 1-6
AMHS Lynn Canal Corridor Expenditures and Revenues

Fiscal Year (FY)	Expenditures in $Millions	Revenues in $Millions (Percent of Total)	State Subsidy in $Millions (Percent of Total)
FY01	$10.4	$5.5 (53%)	$4.9 (47%)
FY02	$11.5	$6.4 (56%)	$5.1 (44%)

Source: Lynn Canal Revenue and Expenditures 2001 and 2002 and Projected Capital Costs 2001-2038, DOT&PF 2004g.

In comparison to statewide operations, AMHS provides about 2.5 million vehicle miles of travel in Lynn Canal at a state cost of $5.1 million, or $2.04 per vehicle mile. As shown in Table 1-6, AMHS service in Lynn Canal recovers a slightly higher percentage of expenditures than the system-wide average; nevertheless, it requires a state subsidy of over $5 million annually to carry an average of 81 vehicles per day.

1.4.5 User Costs

The fifth element of the Purpose and Need Statement is to *reduce user costs for transportation in the corridor.*

The fares for passage in Lynn Canal on the AMHS are substantially higher than those for other surface transportation modes. A typical family of four in a 19-foot vehicle[4] traveling one way from Juneau to Skagway pays $237 on a mainline vessel and $261 on an FVF in 2004. The fare between Juneau and Haines for the same family is $180 on a mainline ferry and $198 on an FVF. In comparison, if direct highway links existed the total cost to a vehicle owner would be about $40 from Juneau to Skagway and $35 from Juneau to Haines. The out-of-pocket cost to a vehicle owner would be about $9 from Juneau to Skagway and $8 from Juneau to Haines[5].

Table 1-7 summarizes the cost per mile for a typical family traveling on a mainliner, FVF, and an equivalent-length highway.

Table 1-7
Family of Four Cost per Mile by Mode in Lynn Canal

Route	Conventional Vessel [1]	FVF[1]	Highway[2]
Auke Bay – Haines	$2.31	$2.54	$0.44
Auke Bay – Skagway	$2.55	$2.80	$0.44

Notes: [1] Uses distances of 93 miles (Auke Bay–Skagway) and 78 miles (Auke Bay–Haines). The FVF and conventional vessel costs per mile are based on 2004 AMHS published fares, not including the 10 percent fuel charge.
[2] Based on total vehicle cost for an SUV (AASHTO, 2003). Cost includes fuel, oil, tires, maintenance, insurance, license, registeration, depreciation, and financing.

As shown in Table 1-7, the cost per mile for a family of four traveling on the AMHS in Lynn Canal is five to six times higher than the cost to make an equivalent-length trip by highway.

[4] Nineteen feet is the average vehicle size transported on the AMHS. The cost of any vehicle over 15 feet up to 19 feet is the same. This medium vehicle size category includes station wagons, minivans, most pickups, and many sedans. The family of four passenger costs are based on two adults, one child over 12, and one child 2 through 12.

[5] Assumes fuel cost at $2 per gallon and 19.7 miles per gallon (United States Environmental Protection Agency fleet mix average).