

SOUTHEAST ALASKA TRANSPORTATION PLAN

2011 Update Scoping Report



Alaska Department of Transportation
and Public Facilities



Alaska Department of Transportation and Public Facilities

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**SOUTHEAST ALASKA
TRANSPORTATION PLAN**
2011 Update Scoping Report
August 2011

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

SOUTHEAST REGION PLANNING

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Dear Reader,

This scoping report has been prepared as part of the Southeast Alaska Transportation Plan (SATP) update process. Its purpose is to provide information on the state of the region's transportation system, explain the purpose and need for the update of the SATP, and describe a preliminary set of alternatives for the new plan.

Beginning in the next few weeks, we will be hosting a series of public meetings around the region. It is our hope that this report will provide participants with a useful tool as they prepare for these meetings, and that it will serve as the basis for a productive discussion of the various possibilities we can compare and contrast as we work toward an updated plan. You are encouraged to review the scoping report and carefully consider the preliminary alternatives that it includes. These are not intended to comprise the final set of alternatives, but rather a starting point from which a final set will be developed. Your input at the public meetings, or provided to us separately if you are unable to attend, will be considered during the development of a draft plan.

If you are unable to attend a public meeting, or want to provide us with your comments at any time during the scoping process, please send them to:

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Comments will be accepted until November 4, 2011.

Following the first round of meetings, we will prepare a draft of the SATP that will present the set of alternatives that is developed through this scoping process, a thorough comparative analysis of the alternatives, and a draft recommendation concerning a preferred alternative. The draft plan will also be provided for public review and we will host a second round of public meetings to discuss its conclusions and get your comments.

The final SATP will be prepared after the second round of meetings and after we have considered all of the input and feedback we receive.

Thank you for taking time to review this document and participate in the update of the Southeast Alaska Transportation Plan. If you have questions or comments about any

other transportation issues that aren't related to the SATP scoping process, please feel free to contact one of us by phone or e-mail.

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THE SOUTHEAST ALASKA TRANSPORTATION PLAN

WHAT IS THE SATP AND WHY IS IT BEING UPDATED?

The Alaska Department of Transportation and Public Facilities (hereafter the Department or ADOT&PF) is designated in the Alaska Statutes¹ as the agency responsible for state highways, ferries, airports, and ports and harbors. The Department is charged with the responsibility to develop statewide and regional transportation plans to ensure that future transportation investments are in the public interest. The Department's mission is **"to provide for the movement of people and goods and the delivery of State services."**

The Southeast Alaska Transportation Plan (SATP) is one of a series of region wide, multimodal transportation plans. The SATP was first published in 1980 and was updated and revised in 1986, 1999, and 2004 as an approved component of the Statewide Transportation Plan. State regulation (Section 05.130, Title 17, of the *Alaska Administrative Code* [AAC]) provides that the Department shall develop a long-range transportation plan for all areas of the state and that each component be reviewed and updated every five years. This update is being developed in accordance with 17 AAC 05.130 and will comply with the *Alaska Strategic Highway Safety Plan* (2007) and the *Statewide Long-Range Transportation Policy Plan, Let's Get Moving 2030* (2008).

The SATP provides a framework for state investment in regional transportation over the ensuing 20 years; it takes into account the system's condition and needs, provides general direction for development of the regional system, and recommends specific improvements. This update of the plan is necessary to ensure that it reflects changes in the region's industries, economy, population, and infrastructure since the previous 2004 update. In addition, this update will focus on the future sustainability of the regional transportation system and the need to improve connectivity between communities within the region.

¹ Section 02.10.010 of Title 2, Aeronautics, and Section 19.05.010 and Chapter 65 of Title 19, Highways and Ferries.

WHAT IS THE PROCESS FOR UPDATING THE SATP?

Public Involvement Plan

The Public Involvement Plan for the Southeast Alaska Transportation Plan Update will assure that the public is:

- informed about the Alaska Department of Transportation and Public Facilities (ADOT&PF) project to update the Southeast Alaska Transportation Plan (SATP),
- invited to review and offer comments on proposed alternatives, and
- notified of public meeting dates and times.

General Public Notification

Project Contact List

The project contact list will include Southeast legislators, federal and state agencies, local municipal officials, interested civic associations or community groups, and interested public, including the department-maintained list of people who have requested notice of such projects. Anyone who attends a public meeting or hearing, requests information, or provides comments will be added to the project contact list. This project list helps satisfy §17 AAC 05.140.

Project Web Site

ADOT&PF has a website for the Southeast Alaska Transportation Plan –

<http://dot.alaska.gov/sereg/projects/satp/index.shtml>

Project Information Sheet

The Department will develop a project information sheet that describes the purpose of the SATP update, the proposed schedule and relevant contact information. This will be distributed to the media and other interested parties.

Notice of Intent to Update the Plan

Notice of Intent to Update the SATP Plan, required by §17 AAC 05.135, was published by ADOT&PF starting in October 2008, as follows:

- In the Juneau Empire, the Ketchikan Daily News and Sitka Sentinel in October 2008.
- Letters were sent to legislators, municipalities, tribes, other interested parties and those who were on the project contact list from the previous planning process in October 2008.
- Notice was posted on the website starting in October 2008.

- The formal public notice was published on the Alaska Online Public Notice System.

Publish Plan Assumptions and Alternative Scoping for Review

As background material for the SATP was completed, it was published on the website for public comment. The people on the project contact list were notified that the documents were available for public comment. Documents that were published between October 2008 and August 2009 were the mission statement and goals, the SATP Alternative Scoping, Transportation Alternatives, and the SATP Plan Assumptions. Public comments were incorporated into the final mission statement and goals.

A Scoping Report has been prepared, which shows a full range of preliminary alternatives to be considered for the SATP update.

Public Scoping Meetings

The Scoping Report will be published following the same publishing process as was used for previous documents. A series of public meetings will be held to gather input on the alternatives presented and any new suggested alternatives.

Public Input Analysis and Reporting

This process will include summarizing and analyzing the issues raised, public opinions regarding project alternatives, and other issues relevant to the SATP update. The summary and analysis, including correspondence received, will be posted on the website.

Publish and Distribute Draft SATP

Following public review of the Scoping Report, the Department will prepare a draft SATP. Once the draft SATP is completed, it will be released and distributed for public comment. The following steps will be completed:

- Post draft plan and cover letter on the website
- Send a message to contact list
- Mail paper copies of the plan to each local and tribal government, major public libraries, select organizations, and to members of the public who specifically request hard copy plans. These distributions are dependent on the total number of copies that the DOT&PF budget allows to be printed.

Public Meetings & Public Input Analysis

The draft SATP will be published and available for public review. A series of public meetings will be held and all public input will be compiled and analyzed. This information will be used to write the final plan.

Adopt and Publish Final Plan

Once a final SATP has been adopted it will be posted on the website. Within 15 days of the adopting the SATP, the Department will prepare and publish public notice of adoption (17AAC 05.150). Public notice will be published in Juneau Empire, Ketchikan Daily News, and Sitka Sentinel. Notice will be sent out to the project contact list.

Government Consultation Plan

The Government Consultation Plan for the Southeast Alaska Transportation Plan Update will assure that affected local, regional, state, tribal and federal governments are:

- informed about the Alaska Department of Transportation and Public Facilities (ADOT&PF) project to update the Southeast Alaska Transportation Plan (SATP),
- invited to participate in the update and review process through consultation, and
- notified of additional opportunities to provide input, including public meeting dates and times.

This consultation plan is made in accordance with:

- State of Alaska ADOT&PF Policy and Procedure #10.03.010 *Government-to-government relations with the federally recognized tribes of Alaska* (March 2002)
- Alaska Department of Transportation and Public Facilities Non Metropolitan Local Official Consultation Process (February 2011)
- AS 19.65.011 Comprehensive long-range plan. [Marine Transportation Advisory Board (MTAB) Consultation]
- Code of Federal Regulations, Title 23 - Part 450 - Subpart B
 - § 450.210 (b)(c)
 - § 450.214 (g)(h);

Project Contact List

The planning staff will compile a contact list and add to and routinely update this list as required. The project contact list will include Southeast legislators, federal and state agencies, local municipal officials, tribal governments, tribal corporations, interested civic associations or community groups, and interested public, including the department-maintained list of people who have requested notice of such projects. Anyone who attends a public meeting or hearing, requests information, or provides comments will be added to the project contact list.

Project Web Site

DOT&PF has a website for the Southeast Alaska Transportation Plan - <http://dot.alaska.gov/sereg/projects/satp/index.shtml>

Government Consultation Meetings

Staff will provide opportunity for consultation with:

- Tribal governments,
- Tribal corporations,
- Local governments/municipalities/organizations,
- Marine Transportation Advisory Board, and
- Interested and affected federal and state agencies.

Regional Advisory Associations

- Southeast Conference - a membership organization of community officials and leaders
- Prince of Wales Community Advisory Council - a membership organization of Prince of Wales Island communities and leaders.

All local municipal, borough, and tribal governments and state and federal government agencies will receive all notices and information distributed to the public.

WHY ARE ALTERNATIVES DEVELOPED AND HOW ARE THEY USED?

In the planning process, alternatives are developed to ensure that all the reasonable potential solutions to a problem are considered and compared. However, it isn't necessary to analyze every conceivable possibility in order to craft an updated plan. Many proposed solutions may not be feasible because of their cost or difficulty. Some may be far too detailed for decision making at the planning level. Others may not meet the draft purpose and need of the plan as presented herein.

In the case of the SATP, the Department has proposed a preliminary set of alternatives that incorporate a range of operational concepts and encompass a set of reasonable possibilities that may address the purpose and need statement for this update. The purpose of the scoping process is to present these alternatives to the public, discuss the impacts they may have on travelers, and explore other alternatives that might have been overlooked.

The alternatives crafted for this analysis are designed to evaluate the following concepts;

1. Alternative one is designed to identify what it may cost to maintain the existing system and provides a baseline alternative against which all other alternatives are compared.
2. Alternative two is designed to identify what the cost, benefits, and impacts would be to manage our ferry fleet capacity in a way that more closely matches current and future traffic demand.
3. Alternative three is designed to identify the costs, benefits, and impacts of discontinuing ferry service between Southeast Alaska and Bellingham, Yakutat or Whittier.
4. Alternative four presents an evaluation of the of replacing three aged mainline ferries with three 350 foot "Alaska Class" ferries and a new mainline ferry.
5. Alternative five is designed to identify the costs, benefits, and impacts of replacing the existing mainline ferry system with a system based on road segments connected by shuttle ferries.
6. Alternative six is designed to evaluate what happens to the transportation system, if we do not plan for replacement of the aged ferries.

The scoping process will include public review and meetings, collection of comments, and a final review of purpose and need, mission, goals, assumptions, and projects under development. Once these steps are complete, a final set of alternatives will be developed. These may include variations of the preliminary alternatives and new ones that come out of the public process. This set of alternatives will be analyzed to

determine which components will be incorporated into the draft SATP and presented to agencies and the public for review and comment.

PURPOSE AND NEED

The proposed purpose and need for the Southeast Alaska Transportation Plan (SATP) is:

Ensure the continuing opportunity to travel among the communities of Southeast Alaska to meet basic needs and support the local and regional economy by providing the most financially sustainable transportation system that resources permit.

People travel to meet a multitude of wants and needs, and the transportation system in Southeast Alaska provides them the opportunity to do so. The SATP provides the guidance to ensure that 1) the transportation system is operated, maintained, and improved as needed to meet the transportation needs of the regional population, and 2) the regional economy is not constrained by a lack of capacity or other transportation problems.

Airlines, ferries, barges, and highways make up the Southeast Alaska transportation system. Air carriers provide frequent and fast passenger service and transport time sensitive air freight. Barge service provides the bulk of freight deliveries. Highways and ferries allow people to travel with vehicles and a number of small outlying communities rely on ferry service to meet their freight transport needs. Air and barge service transportation needs are met by the private sector.

The state owns and operates most of the ferries, inter-community highways, and airports in the region, but it has significantly different roles with regard to the traveling public in each of these modes. In the case of the Alaska Marine Highway System (AMHS), the state maintains the entire system including operating as a carrier. The AMHS requires a substantial operating budget, which is largely funded through the General Fund. For all other modes; drivers, pilots, air carriers, and freight companies bear the cost of operating planes, cars, trucks, and barges. The state only incurs the cost of maintaining the infrastructure that makes the use of them possible.

Transportation improvements are typically based on meeting demand and relieving constraints; however, Southeast Alaska does not have a growing industry that is overburdening its transportation system; no growing population is stressing the capacity of the existing system; and economic data have not indicated that transportation constraints are hampering development. Population and employment have been nearly static for several years with little growth forecast for the next 20 years.

However, even without increasing demands on the transportation system, there are problems that need to be addressed. The AMHS has several ferries that will soon need replacement; the deferred maintenance list for state infrastructure is ever-growing; and operating costs are rising for all modes. Furthermore, while state revenues that support the operation of ferries, highways, and airports are expected to rise over the next several years, the long term outlook is less clear. Perhaps the greatest concern is that

the capital funding — i.e., the large amount of federal dollars that make new ferries, roads, and airports possible — is expected to decline substantially. As a result, the Department must plan for the possibility of reduced financial resources to support transportation infrastructure and operations for all modes of travel.

Therein lies the “need” driving this update of the SATP — the need to make changes to the regional transportation system that make it more financially sustainable. Choosing a set of actions that improves sustainability may extend the life of the system until economic and population growth drive demand for its expansion. If changes that make the regional transportation system sustainable also enhance service through increased frequency or capacity or both, the Southeast region can enjoy a connected benefit or by-product of having met the purpose and need. On the other hand, if frequency or capacity is increased without reducing the annual operating budget, the need will fail to be met and may result in significant reductions in service. Because changes to the highway system and AMHS have the greatest potential to impact current inefficiencies, they are the focus of the alternatives presented in this scoping report.

THE STATE OF THE SOUTHEAST TRANSPORTATION SYSTEM

Southeast Alaska is made up of the Alexander Archipelago (a 300-mile-long chain of more than 1,000 islands) and the adjacent margin of the North American mainland. From the northwest corner of the study area at Yakutat Bay to the southernmost point (Cape Muzon on Dall Island) the region is about 450 miles in length – about the size of the State of Florida. Residents of Southeast Alaska are distributed throughout the region in isolated communities on the mainland and major islands, separated by mountains and waters of the inside passage. Travel between the communities within the region is severely restricted by geography, weather, and lack of connecting roads.

ADOT&PF maintains a transportation system that provides for travel between communities and connects the region with the rest of the state and the continental transportation system. The following list describes the components of the regional transportation system that ADOT&PF constructs, maintains, and operates.

- The ADOT&PF Southeast Alaska regional roadway network largely consists of arterial and major collector (primary) roads connecting communities to airports and marine terminals. It also provides direct connections between communities on Prince of Wales Island and to the continental highway system from Haines, Skagway, and Hyder.
- An airport system composed of 11 airports and 23 public seaplane floats is owned and operated by the state (Ketchikan International Airport is owned by the state but operated under lease by the Ketchikan Gateway Borough).
- ADOT&PF owns and operates the ferry terminals and vessels that comprise the Alaska Marine Highway System (AMHS). Additionally, AMHS uses and provides maintenance or funding for a few municipally-owned ferry terminals. AMHS provides connections among regional communities and to the continental highway system through two ports to the south (Bellingham, Washington and Prince Rupert, British Columbia), two within the region (Haines and Skagway), and one to the north (Whittier).

The regional transportation system is not limited to the infrastructure and services provided by ADOT&PF. Many communities own and operate roads within their jurisdiction and the City and Borough of Juneau owns and operates Juneau International Airport. Several communities and private air carriers own and operate seaplane terminals throughout the region. Additionally, a multitude of carriers operate on the waters of the Inside Passage including the Inter-Island Ferry Authority (IFA), private contract ferry services, cruise ship lines, and barge lines. A new port authority, Rainforest Island Ferries, is planning on providing ferry service between Coffman Cove

and Petersburg, Wrangell, and Ketchikan in 2012. These roads and waterways, and the carriers who use them, contribute essential services to complete the regional transportation system.

The regional transportation system faces many challenges. Although Alaskans are well acquainted with and tolerant of the difficulties of traveling around Southeast, most would likely want to see improvements in the system. However, providing reliable transportation services comes at a significant financial cost to the State; constraints affecting the ability to implement improvements include the tremendous rise during the past several years in both operating and capital costs. Additionally, because transportation services are needed by communities year-round, ADOT&PF cannot eliminate or, in some cases, even reduce service when demand is low as many private carriers do.

The level of demand for transportation that determines the requirements for the transportation system is largely a function of population and economic activity. Because those two factors have been relatively static in Southeast Region for several years, the transportation system, with the exception of a few discreet segments, has not required additional capacity. But, that doesn't mean that it can simply continue to operate as it does today. Vessels need to be replaced when they reach the end of their useful life, roads have to be repaved, and so do airports. Unfortunately, the resources available for making system improvements are not likely to increase in the foreseeable future – in fact; they are more likely to decrease. But, there are also opportunities to improve service where needed by reallocating existing resources. Therefore, it is imperative that ADOT&PF choose a course of action that improves the economic sustainability of the transportation system. Improving efficiency, reducing cost, and getting the best results with capital expenditures are essential.

Core Regional Transportation Services

The Alaska Marine Highway and Inter-Island Ferry Authority

The current southeast AMHS route system, shown on Map 1, is divided into two subsystems: the mainline coastal circuit routes, which typically take more than one day for the ships to travel, and shorter point-to-point routes on which the vessels depart the home port in the morning, travel to destination ports, and return to the home port on the same day. The shorter routes are commonly referred to as shuttle routes.

The mainline routes carry far more passengers in summer than in winter — nearly three quarters of their annual traffic. They provide service from Bellingham, Washington, and Prince Rupert, British Columbia to Skagway, Alaska. On these routes, the ships stop in Ketchikan, Wrangell, Petersburg, Sitka, Juneau, and Haines. Although smaller than the typical communities served by mainline routes, Kake and Hoonah are served by certain mainline sailings to ease scheduling.

The five largest AMHS vessels are used on the Southeast mainline routes: M/V *Columbia*, M/V *Kennicott*, M/V *Malaspina*, M/V *Matanuska*, and M/V *Taku*.

Shuttle routes connect the smaller communities of Southeast Alaska with each other and the larger communities of Ketchikan, Sitka, and Juneau; which serve as regional centers for commerce, government, health services, and connections to other transportation systems. The shuttle routes primarily serve local residents, and include Angoon, Hoonah, Kake, Metlakatla, Pelican, Tenakee, and Gustavus.

Three AMHS vessels provide service on the shuttle routes. The M/V *Lituya* is dedicated to providing shuttle service



between Ketchikan and Metlakatla. Shuttle service is also provided between Juneau, Haines, and Skagway during the peak summer season by M/V *Malaspina*.

The Southeast marine transportation system connects with the continental road system at Bellingham, Washington; Prince Rupert, British Columbia; and in Alaska at Haines, Skagway, and Whittier.

The Inter-Island Ferry Authority (IFA) is a municipal port authority created by the communities of Craig, Klawock, Thorne Bay, Coffman Cove, Petersburg, and Wrangell to provide point-to-point, shuttle ferry service connecting Prince of Wales Island communities to Ketchikan, Petersburg, and Wrangell. The IFA owns two passenger car ferries, each with a capacity of 30 cars and 200 passengers. The IFA currently operates a route between Ketchikan and Hollis and provided service on its northern route connecting Coffman Cove with Wrangell and Petersburg from 2006 to 2008. Map 2 shows the IFA routes.

Table 1 identifies the frequency of current IFA and AMHS routes.



Map 2 Inter-island Ferry Authority Routes

Table 1 - Frequencies for Existing Ferry Service

Carrier	City Pair		Trips per Week	
			Summer	Winter
IFA	Ketchikan	Hollis	7 RT	7 RT
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a
AMHS	Juneau-Haines-Skagway		9 RT	5 RT
	Juneau	Sitka	7	4
	Sitka	Juneau	6	6
	Juneau	Angoon	2	2
	Juneau	Hoonah	5	3
	Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.25 RT
	Juneau	Petersburg	7	3
	Petersburg	Juneau	7	3
	Juneau	Kake	2	1
	Kake	Juneau	2	1
	Sitka	Angoon	1	1
	Angoon	Sitka	1	1
	Sitka	Petersburg	2	1
	Petersburg	Sitka	1	1
	Sitka	Kake	1	0
	Kake	Sitka	1	1
	Petersburg	Kake	2	1
	Kake	Petersburg	2	1
	Petersburg	Wrangell	5	3
	Wrangell	Petersburg	5	3
	Ketchikan	Wrangell	5	3
	Wrangell	Ketchikan	5	3
	Ketchikan	Prince Rupert	4	2
	Prince Rupert	Ketchikan	4	2
	Ketchikan	Metlakatla	10 RT	10 RT
	Prince Rupert	Skagway	4	1
	Bellingham	Skagway	1	1

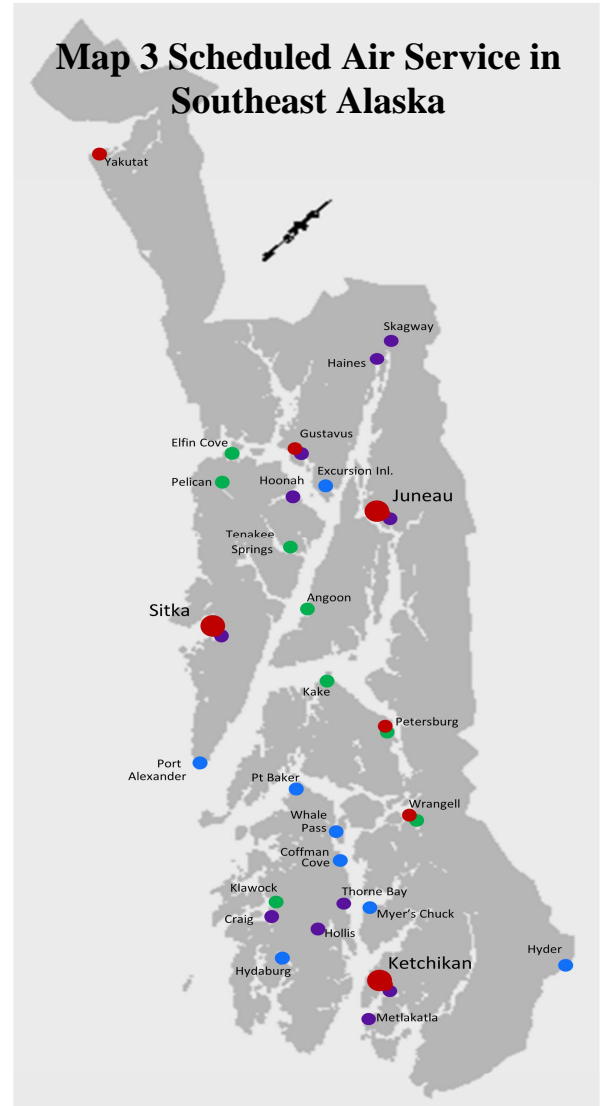
Southeast Alaska Air Service

The Southeast region is remarkably well served by its system of airports and the numerous carriers that provide service. Every community in the region is accessible by air and, by extension, has access to the world’s air transportation system. Most communities have access to both airports and seaplane facilities, though some are a long drive from an airport. An airport is planned for Angoon, the largest community in the state that does not have a local airport.

Air service is provided to the region by a variety of carriers. Alaska Airlines is the only carrier providing jet passenger service in the region, and it serves all seven of the larger airports that are certificated under Part 139 of the Federal Aviation Regulations. Other service runs the gamut from on-demand charter flights to remote locations and air-taxi services to scheduled daily service to and from the larger communities of the region. Map 3 identifies the locations and frequency of scheduled air service in the Southeast region.

Alaska Airlines and the smaller carriers provide air freight service throughout the region. In addition, several cargo carriers provide daily and on-demand flights.

Finally, three companies provide air medevac services to the region, but only with fixed-wing aircraft on wheels. This configuration limits the services to locations with airports.



Scheduled Jet Service

- 1 or 2 flights daily
- 3 or more flights daily

Scheduled Air Taxi Service

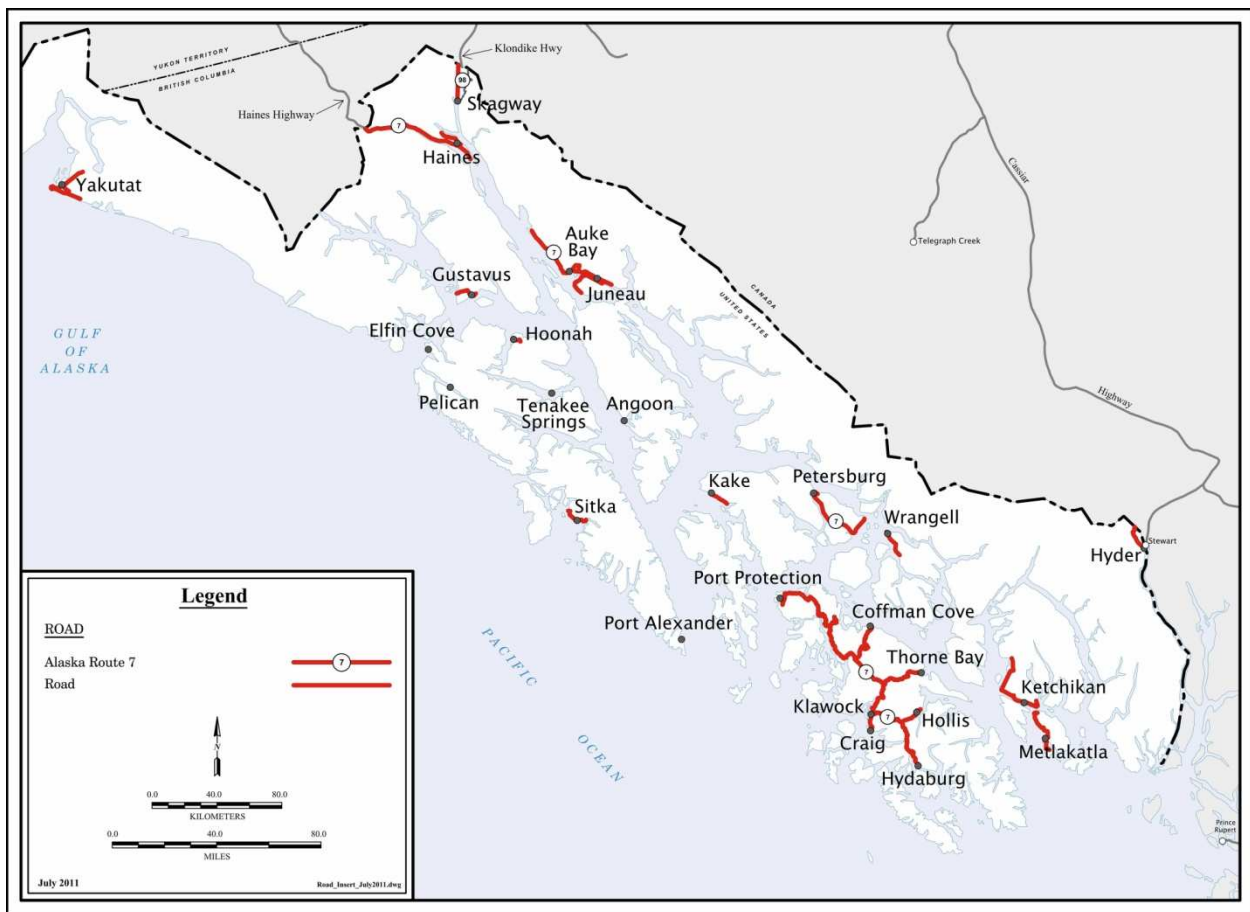
- More than 5 flights daily
- 1 to 5 flights daily
- Less than daily

Highways in Southeast

The highway system in Southeast is limited and discontinuous. Only three communities in the region – Haines, Skagway, and Hyder – have road connections to the continental highway system, and only those communities on Prince of Wales Island are connected to one another by road. The remainder of the region uses short highway segments for local travel. There are about 825 highway centerline miles in Southeast Alaska: 110 miles in the National Highway System, 200 miles in the Alaska Highway System, and 515 miles in the State Highway System (including local roads).

At the northern end of the region, the Klondike and Haines Highways provide a connection with the continental highway system, carrying traffic to and from the region and extending the road for marine highway travelers into Canada and Alaska’s interior.

Local access is not a small matter. Egan Drive in Juneau (>20,000 Average Daily Traffic - ADT), Tongass Highway in Ketchikan (>17,000 ADT), and Halibut Point Road in Sitka (>6,000 ADT) are primary thoroughfares and carry a large amount of traffic on a daily basis.



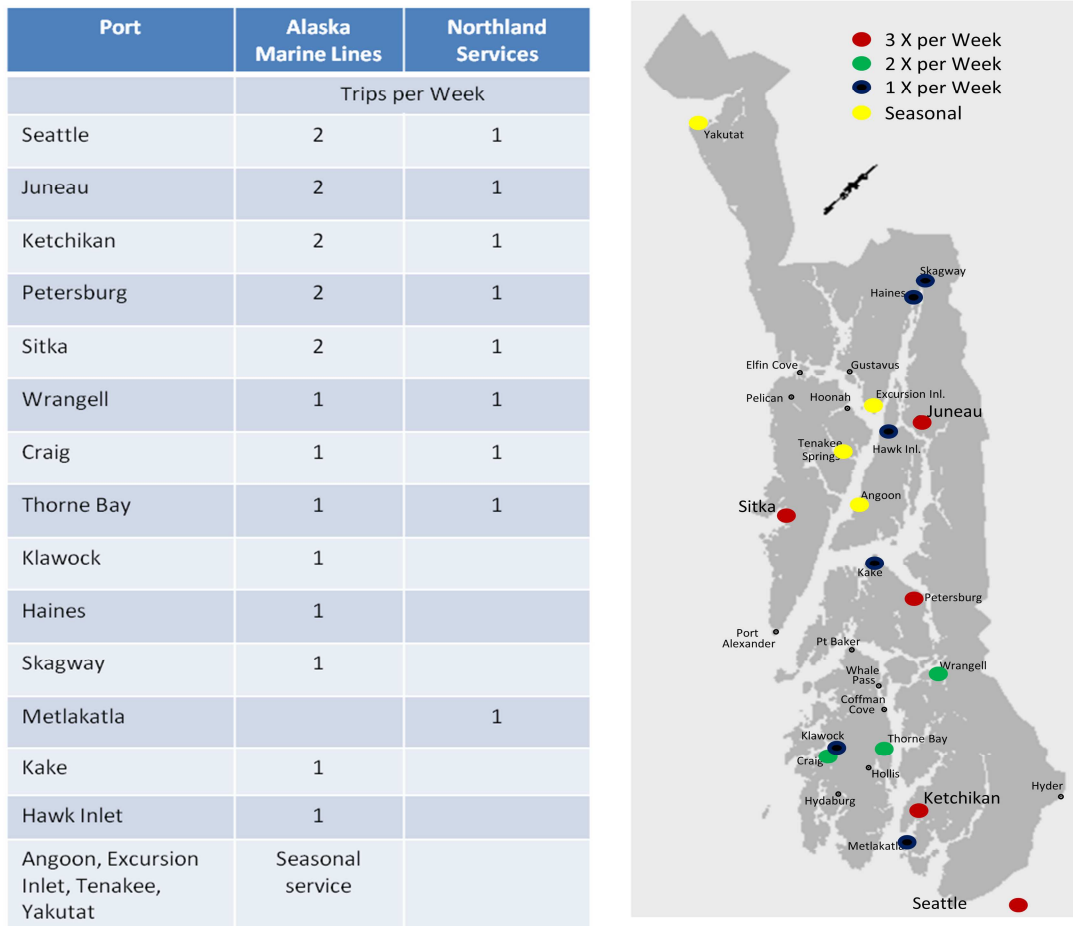
Map 4 Southeast Alaska Highways

Barge Service in Southeast

Three major barge lines provide scheduled service to Southeast Alaska from Seattle, delivering freight, vehicles, and equipment. One line serves the communities of Ketchikan, Wrangell, Petersburg, Sitka, and Juneau weekly, and some smaller communities less frequently (in some cases, seasonally). The second line serves Ketchikan, Petersburg, Sitka, and Juneau twice weekly; Wrangell, Craig, Klawock, Thorne Bay, Kake, Hawk Inlet, Haines, and Skagway weekly; and Angoon, Pelican, Hoonah, Excursion Inlet, Tenakee Springs, Gustavus, and Yakutat seasonally. A third line serves Craig and Sitka every 2 weeks, and then continues on to Alaska destinations north and west. Figure 1 shows the approximate number of trips between Seattle and several Southeast Alaska ports.

In addition, commercial ocean freight service is available by charter from regional hubs by marine cargo transport companies. The vessels generally used for that service are landing craft for beach landings of cargo and equipment. Some vessels also have cranes for delivery of goods to the dock.

Figure I Barge Service in Southeast Alaska



ALTERNATIVES DEVELOPMENT

The development of SATP revolves around determining a set of reasonable transportation system alternatives and recommending a preferred course of action for the 20 year planning period. To meet the plan's purpose and need statement, the preferred alternative should accomplish the following:

- Maintain an economically sustainable regional transportation system
- Reduce overall system operation and maintenance costs
- Provide for the retirement of aging mainline ferries during the next 20 years
- Improve or maintain the ability to travel between communities

The increasing costs of construction, operation, and maintenance of highways, airports, and the AMHS threaten the viability of the regional transportation system. Because funding for operations and capital improvements is limited, identifying ways to reduce operating costs and maximize the value of capital investments is crucial to achieving a sustainable system.

Five distinctly different paths for developing long-range alternatives have been identified and are presented for ongoing evaluation along with the "no action" alternative. They have been selected because they provide a wide range of development possibilities from continued reliance on large ferries to their replacement with a fleet of smaller shuttle ferries connecting new or extended road segments. Each focuses on a different concept for addressing the overall purpose and need. Ultimately, more than one concept may be combined into a final alternative.

It is important to point out that two projects which are already under development, Juneau Access and the first Alaska Class ferry are included among the actions in some, but not all alternatives. One reason for this is that the objective of the scoping process is to include a wide variety of reasonable possibilities that can be compared and contrasted. Another is that neither of the projects is under construction, so neither is a certainty at this point. None of the preliminary alternatives presented here is expected to be carried into the revised plan, let alone become the preferred alternative without significant changes, with the exception of the baseline and no action alternatives. To the extent that either of these projects has come nearer to completion, or at least more certain, it will be incorporated in the final plan.

It is also important to note that there are many other projects that may become necessary in the future, but are not included in these alternatives. The actions that are included are those thought to be reasonably achievable and that contribute to meeting the purpose and need.

- Alternative 1, Maintain the Existing Ferry System: Replace existing ferries in kind, as required to maintain the existing ferry fleet capacity, routes, and level of service. This alternative serves as the baseline alternative against which all other alternatives are compared.
- Alternative 2, Ferry Fleet Capacity Management: This alternative is based on management of excess route and system capacity to match demand and reliance on other modes of transportation, such as air service and private freight carriers, when traffic does not warrant the cost of ferry service.
- Alternative 3, Maximize Use of Existing Roads: Discontinue ferry service to Bellingham, Washington and across the Gulf of Alaska. Manage AMHS system vehicle capacity as described in Alternative 2.
- Alternative 4, Alaska Class Ferries: Replace three mainline ferries with three new Alaska Class shuttle ferries and one new mainline ferry, resulting in a slight increase in fleet capacity.
- Alternative 5, Highway Route 7: Replace all mainline ferries with a combination of shuttle ferries and four highway segments. Ultimately, vehicle traffic would traverse the road system on Prince of Wales Island between Hollis and Coffman Cove, the Mitkof Highway and a proposed highway between Kake and Petersburg, and a highway between Juneau and Skagway.
- Alternative 6, No Action: This is the default alternative. It involves taking no steps to maintain or increase either frequency of service or capacity of the regional transportation system. Neither would steps be planned to reduce operation and maintenance costs. Instead, ferries would be retired without replacement when rising costs or insufficient funding dictates reduction in service or when ferries reach the end of their service lives.

A more detailed description of the above alternatives are presented in the next section (Preliminary Alternatives) with a summary of major actions, operational changes, and impacts anticipated upon implementation of each alternative.

Basic Tenets

The following basic tenets must guide choices:

- Aircraft are more efficient than personal vehicles or ferries for transporting passengers over long distances.
- Air service is more easily scaled to meet short-term changes in demand than is ferry service.
- Access to air service is essential for all communities in order to meet certain health, safety, and quality-of-life criteria.

- Because all communities in the Southeast region can be reached by floatplane, all communities have access to the most basic level of air service.
- In any community where a runway can be constructed, the level of air service that can be provided will be superior to that possible by floatplane alone.
- A vehicle can operate at lower cost and consume less fuel per mile compared to the cost and fuel consumed to transport it by ferry.
- For any particular origin and destination that can be connected by both a road and ferry service of substantially the same length, a road will provide greater capacity and opportunity to travel more frequently and at lower cost per passenger or vehicle mile. Therefore, where they can be constructed, roads are more efficient.
- For any particular origin and destination for which the only connection is ferry service, a smaller vessel that provides sufficient capacity to meet demand will be more efficient than a larger vessel that has excess capacity.
- Larger ferries are less susceptible to weather delays than are smaller ferries.
- Larger ferries are capable of serving a wider variety of routes than are smaller ferries because larger ferries have greater capacity and sea-keeping ability.
- Smaller ferries are capable of serving more communities than are larger ferries because smaller ferries are less constrained by draft and maneuvering challenges.
- Smaller ferries are more cost-effective than are larger ferries in serving small communities and low-traffic routes.
- Given the same total capacity, a fleet made up of many smaller ferries is more operationally flexible and capable of providing more frequent service than a fleet of a few larger ferries.
- Some number of large ferries will always be required to serve long routes that are more susceptible to high-sea states.
- Some number of small ferries will always be required to serve communities that pose navigational obstacles to large ferries.
- For any given community, greater frequency of service will be preferable to less frequency as long as total route service capacity is adequate.

PRELIMINARY ALTERNATIVES

The six long-range alternatives identified below have been developed as a starting point for discussion during the alternatives scoping process. The purpose of the scoping process is to generate ideas and gather information for consideration in preparation of a draft transportation plan for Southeast Alaska. The draft plan will be distributed for agency and public review prior to adoption of a final update of the regional plan.

BASELINE ALTERNATIVE 1 – MAINTAIN THE EXISTING SYSTEM

Description

The baseline transportation system consists of all existing roadways, airports, seaplane facilities, AMHS, and IFA assets. This alternative includes the continued maintenance and operation of the existing infrastructure. It is not the “no action” alternative because it does include major actions to preserve the system as it is today.

Alternative 1 provides the benchmark against which other system alternatives are measured on the basis of cost and service levels.

Major Actions

The most significant action will be the replacement of aging mainline ferries with vessels of similar size, capacity, and accommodations. The three oldest mainline ferries – M/V *Malaspina*, M/V *Matanuska*, and M/V *Taku* – are reaching the end of their service lives and will have to be replaced within the next 14 years. The design and construction of a vessel of this type may take six to seven years, requiring the process to begin in about six years – soon after the next SATP update. In this alternative, only general maintenance and preservation are anticipated for the regional highway system with no additional road construction.

Operational Changes

Alternative 1 serves as the status quo or bench mark option. The transportation system will continue to serve regional needs in the same manner and with the same capacity as it does today therefore there are no operational changes. (See Table 1 service frequency in the existing system.)

Impacts

This alternative will likely have little to no impact on the growing gap between system operating costs and revenues. Although the operating costs of new, more efficient vessels may be lower than those for vessels they replace, the overall result is expected to be an increasing, rather than a decreasing, gap between cost and revenue for AMHS as the system continues to operate with excess vehicle and passenger capacity year-round.

Mainline ferries are designed to meet peak summer traffic demands and sea-keeping demands of long routes exposed to high-sea states.

The only means of significantly reducing the cost gap under Alternative 1 is to increase AMHS fares substantially; however, doing so would likely be counterproductive, driving ridership down and shifting business to commercial freight and passenger carriers. Alternative 1 does not include any actions that would alter these situations, therefore may not significantly reduce costs or improve sustainability.

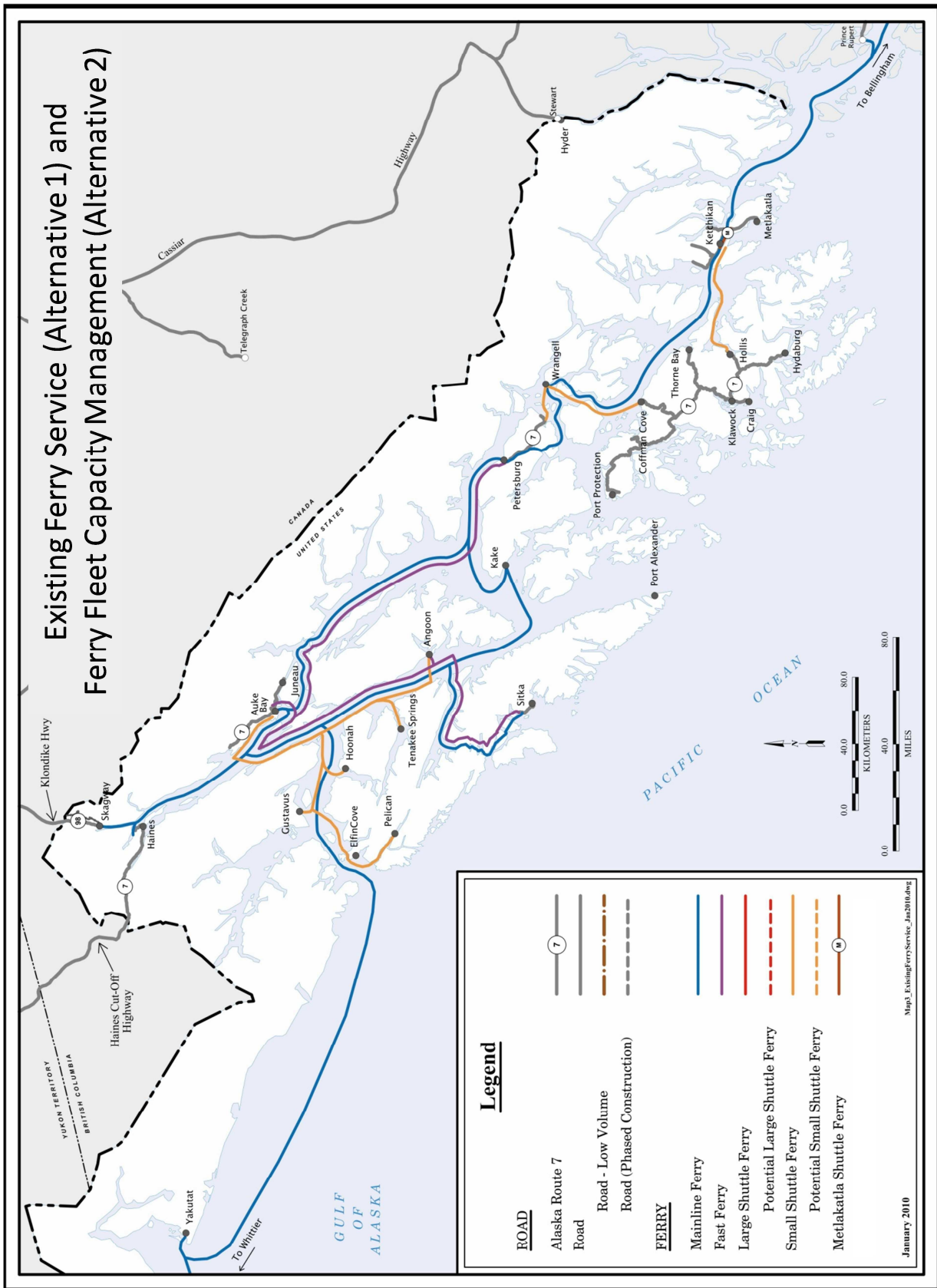
Tables 2 and 3, and Map 5 provide details for Alternative 1.

Table 2. Alternative 1 - Frequencies for Existing Ferry Service

Carrier	City Pair		Trips per Week		
			Summer	Winter	
IFA	Ketchikan	Hollis	7 RT	7 RT	
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a	
AMHS	Juneau-Haines-Skagway		9 RT	5 RT	
	Juneau	Sitka	7	4	
		Sitka	Juneau	6	6
	Juneau	Angoon	2	2	
	Juneau	Hoonah	5	3	
		Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.25 RT	
	Juneau	Petersburg	7	3	
		Petersburg	Juneau	7	3
	Juneau	Kake	2	1	
		Kake	Juneau	2	1
	Sitka	Angoon	1	1	
		Angoon	Sitka	1	1
	Sitka	Petersburg	2	1	
		Petersburg	Sitka	1	1
	Sitka	Kake	1	0	
		Kake	Sitka	1	1
	Petersburg	Kake	2	1	
		Kake	Petersburg	2	1
	Petersburg	Wrangell	5	3	
		Wrangell	Petersburg	5	3
	Ketchikan	Wrangell	5	3	
		Wrangell	Ketchikan	5	3
	Ketchikan	Prince Rupert	4	2	
		Prince Rupert	Ketchikan	4	2
	Ketchikan	Metlakatla	10 RT	10 RT	
	Prince Rupert	Skagway	4	1	
	Bellingham	Skagway	1	1	

Table 3. Alternative 1 - Maintain Existing System

Improvement	Contract Award	Enters Service	Phase	Cost Estimate (\$Millions)	Running Total	Proposed Program Funding Segments Millions
Columbia Repower	2012		Construction	25.0	25.0	
Fairweather Repower	2013		Construction	12.5	37.5	
New Malaspina	2013		Design	20.0	57.5	
	2016	2020	Construction	250.0	307.5	307.5
New Taku	2015		Design	2.0	309.5	
	2016	2021	Construction	209.0	518.5	211.0
New Matanuska	2018		Design	2.0	520.5	
	2020	2025	Construction	250.0	770.5	
Kennicott Repower	2030		Construction	25.0	795.5	277.0
TOTAL 20-YR. FERRY REPLACEMENT COST				795.5		
TOTAL 20-YR. FERRY BOAT REFURBISHMENT COST ESTIMATE				326.0		
TOTAL 20-YR. FERRY TERMINAL REFURBISHMENT COST				123.8		
Total Ferry Capital Cost - 20 Years				1,245.3		
TOTAL 20-YR. HIGHWAY CAPITAL REFURBISHMENT COST				482.4		
Total Road Capital Cost - 20 Years				482.4		
TOTAL FERRY & ROAD CAPITAL COST - 20 YEARS				1,727.7		
TOTAL 20-YR. AIRPORT CAPITAL REFURBISHMENT COST				210.0		
Total Airport Capital Cost - 20 Years				210.0		
TOTAL REGIONAL TRANSPORTATION CAPITAL COST - 20 YEARS				1,937.7		
Note: All cost estimates are 2010 dollars in millions.						
<p>The plan annual capital budget target for major new capital improvements is \$25M per year or \$250M average every ten years. The above capital improvement program is shaded a different color for each logical funding element of each alternative. A cumulative running total is provided to demonstrate when each alternative exceeds the plan budget.</p>						



Map 5 Existing Ferry Service

ALTERNATIVE 2 – FERRY FLEET CAPACITY MANAGEMENT

Description

This alternative manages ferry service capacity to better match demand. The capacity of the ferry fleet is a function of the number and size of the individual ferries. The size of the vehicle deck is the most constraining measure for capacity. This alternative is based on the premise that a cost effective operation requires management of excess route and system capacity.

Major Actions

Minimize deployment of overall ferry system capacity to no greater than the average weekly demand in the peak month of the year. Establish demand and capacity standards for provision of ferry service for individual routes. For example, if utilization of the car deck is below 50% for a given route, then service would be provided not more than once per week. If utilization is less than 25%, then service would be provided not more than twice per month or if less than 15% then service would be provided once per month.

Retire one non-SOLAS mainline ferry without replacement.

Operational Changes

Service would be maintained over all existing AMHS and IFA routes of service. However, the level of service would be reduced throughout the year to match overall fleet capacity as described above. A minimum demand standard would be established to determine when provision of ferry service should be provided.

Impacts

Alternative 2 should provide more cost effective ferry service throughout the region through management of excess fleet capacity over the entire system and service capacity over individual routes. The overall system is expected to become more economically sustainable over the long term; however, the level of service would be reduced. Some ferries that are taken off routes with low demand might be used on other routes. Some savings will result from laying up ferries that are not needed, but the primary savings will result from the retirement of a non-SOLAS mainline ferry without replacement.²

Tables 4 and 5, and Map 6 provide details for Alternative 2.

² Cost calculations for this report assume that M/V Malaspina would be the non-SOLAS ferry to be retired.

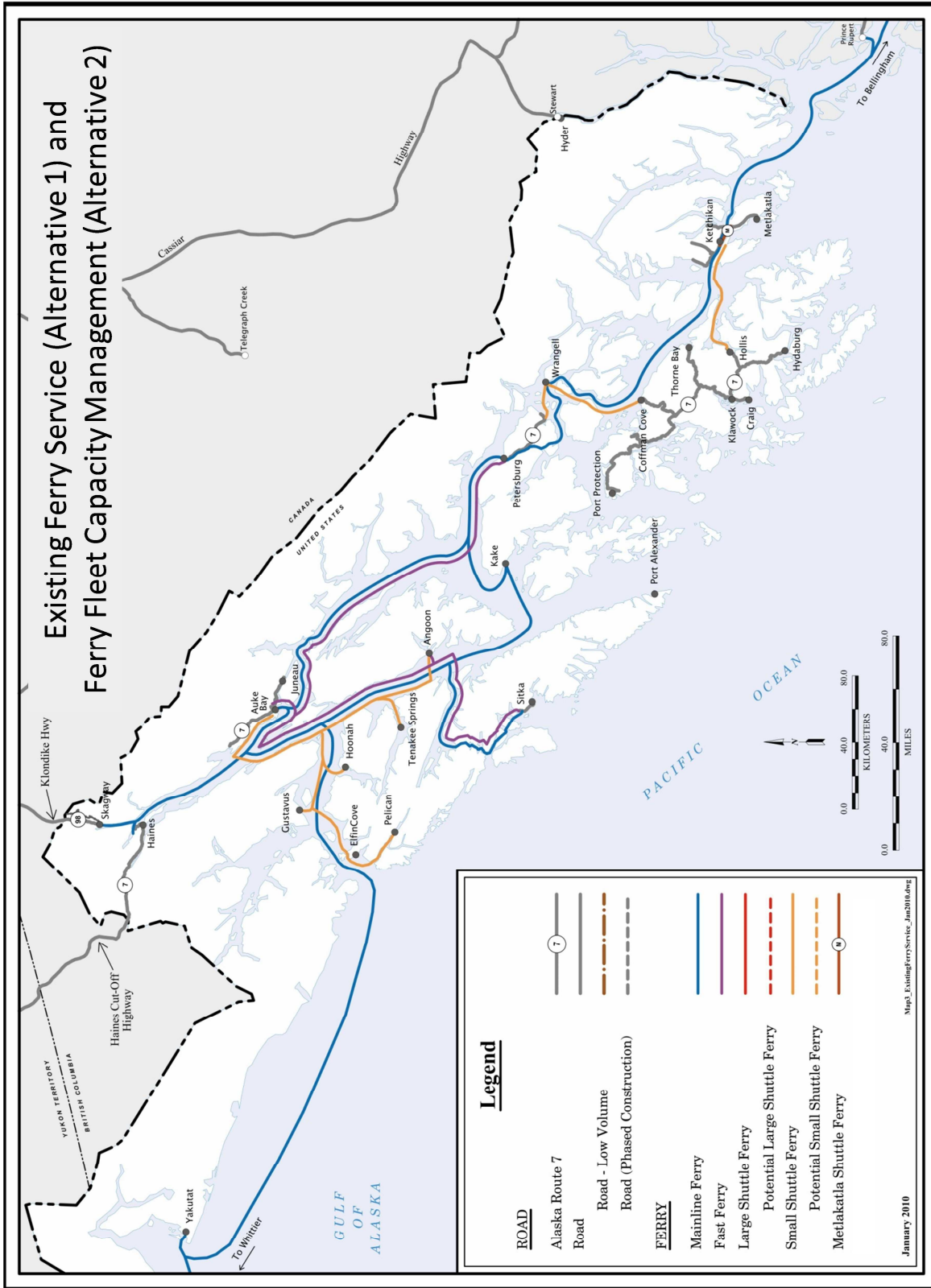
Table 4. Alternative 2 - Frequencies for Fleet Capacity Mangement

Carrier	City Pair		Trips per Week	
			Summer	Winter
IFA	Ketchikan	Hollis	7 RT	7 RT
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a
AMHS	Juneau-Haines-Skagway		7 RT	4 RT
	Juneau	Sitka	6	3
		Sitka Juneau	6	4
	Juneau	Angoon	2	2
	Juneau	Hoonah	5	5
		Hoonah Tenakee	2	1
	Juneau	Pelican	.5 RT	.25 RT
	Juneau	Petersburg	3	2
		Petersburg Juneau	3	2
	Juneau	Kake	1	1
		Kake Juneau	1	1
	Sitka	Angoon	1	1
		Angoon Sitka	1	1
	Sitka	Petersburg	2	2
		Petersburg Sitka	2	1
	Sitka	Kake	1	1
		Kake Sitka	1	1
	Petersburg	Kake	1	1
		Kake Petersburg	1	1
	Petersburg	Wrangell	3	2
		Wrangell Petersburg	3	2
	Ketchikan	Wrangell	3	2
		Wrangell Ketchikan	3	2
	Ketchikan	Prince Rupert	2	1
		Prince Rupert Ketchikan	2	1
	Ketchikan	Metlakatla	10 RT	10 RT
	Prince Rupert	Skagway	0(2)	1(2)
	Bellingham	Skagway	0(1)	0(1)

(-) possible though not required

Table 5. Alternative 2 - Capacity Management

Improvement	Contract Award	Enters Service	Phase	Cost Estimate (\$Millions)	Running Total	Proposed Program Funding Segments (\$millions)
Columbia Repower	2012		Construction	25.0	25.0	
Fairweather Repower	2013		Construction	12.5	37.5	
New Taku	2015		Design	2.0	39.5	
	2016	2021	Construction	209.0	248.5	248.5
New Matanuska	2018		Design	2.0	250.5	
	2020	2025	Construction	250.0	500.5	
Kennicott Repower	2030		Construction	25.0	525.5	277.0
TOTAL 20-YR. FERRY REPLACEMENT COST				525.5		
TOTAL 20-YR. FERRY BOAT REFURBISHMENT COST				284.9		
TOTAL 20-YR. FERRY TERMINAL REFURBISHMENT COST				123.8		
Total Ferry Capital Cost - 20 Years				934.2		
TOTAL 20-YR. HIGHWAY CAPITAL REFURBISHMENT COST ESTIMATE				482.4		
Total Road Capital Cost- 20 Years				482.4		
TOTAL FERRY & ROAD CAPITAL COST - 20 YEARS				1,416.6		
TOTAL 20-YR. AIRPORT CAPITAL REFURBISHMENT COST ESTIMATE				210.0		
Total Airport Capital Cost - Years				210.0		
TOTAL REGIONAL TRANSPORTATION CAPITAL COST - YEARS				1,626.6		
Note: All cost estimates are 2010 dollars in millions.						
<p>The annual capital budget target for major new capital improvements is \$25M per year or \$250M average every ten years. The above capital improvement program is shaded a different color for each logical funding element of each alternative. A cumulative running total is provided to demonstrate when each alternative exceeds the plan budget.</p>						



Map 6 Ferry Fleet Capacity Management

ALTERNATIVE 3 – MAXIMIZE USE OF EXISTING ROADS

Description

This alternative proposes to discontinue ferry service to Bellingham and across the Gulf of Alaska, including Yakutat, in addition to capacity management proposed in Alternative 2. Prince Rupert, British Columbia would be the only southern gateway to the AMHS system.

Major Actions

Manage AMHS system vehicle capacity as described in Alternative 2. Minimize deployment of excess ferry system capacity to no greater than the average weekly demand in the peak month of the year. Eliminate ferry service to Bellingham, Washington and across the Gulf of Alaska, including Yakutat.

Retire two non-SOLAS mainline ferries without replacement.

Operational Changes

Ferry system service would be reduced to no greater than the average weekly demand in the peak month of the year as described in Alternative 2. Additionally, ferry service would be eliminated to Bellingham, Washington and across the Gulf of Alaska, including Yakutat.

Impacts

Alternative 3 should provide more cost effective ferry service throughout the region through management of excess fleet capacity over the entire system and service capacity over individual routes. The overall system is expected to become more economically sustainable over the long term; however, the level of service would be reduced.

Ferry service to Bellingham, Washington, across the Gulf of Alaska, and to Yakutat would be eliminated. Travelers who do not want to drive or travel through Canada could ship their car by barge to Seattle and fly to Seattle at a potential savings in cost and travel time. (See travel time and cost comparisons on page 52)

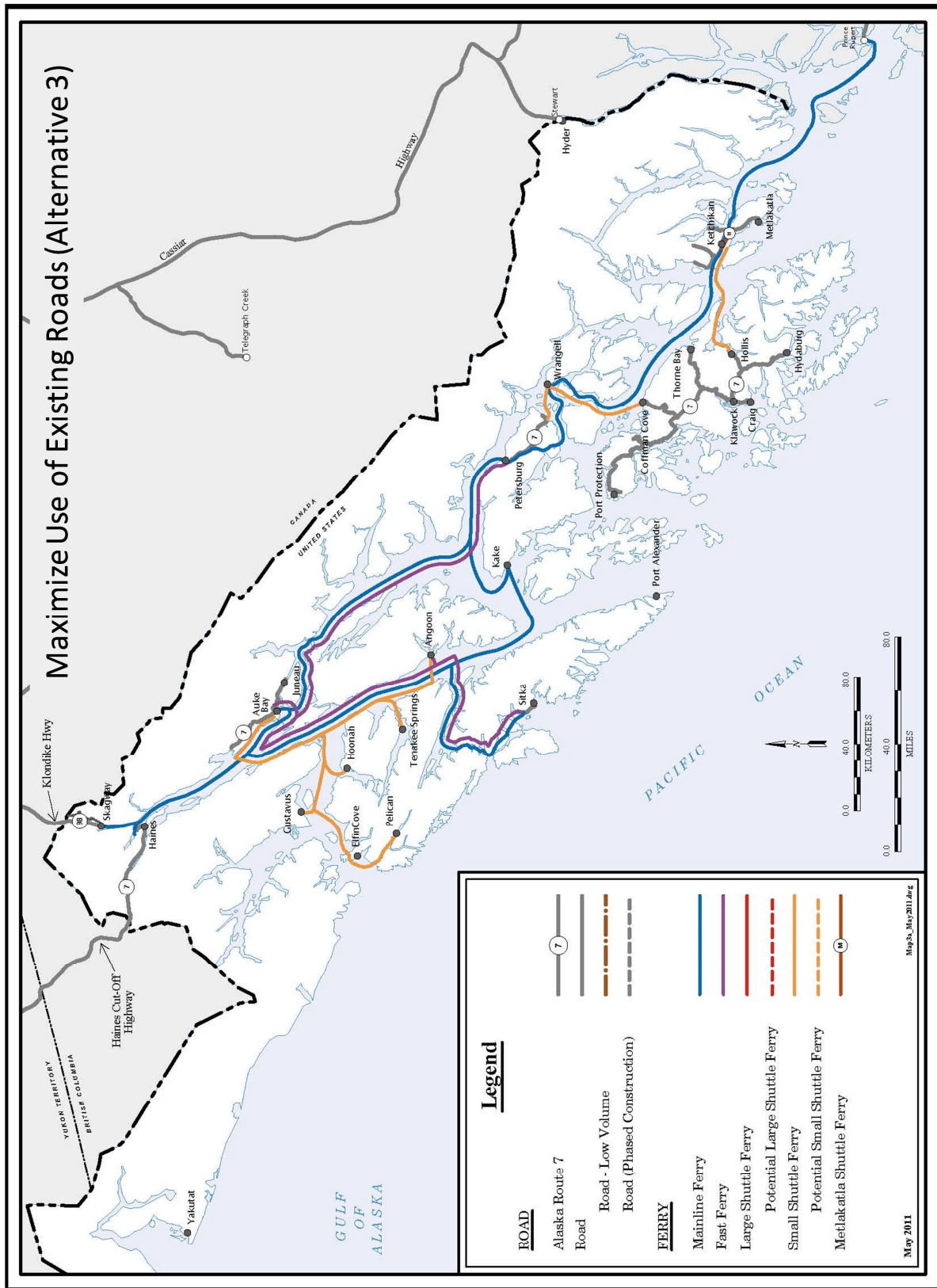
Tables 6 and 7, and Map 7 provide details for Alternative 3.

Table 6. Alternative 3 - Frequencies with Maximum Use of Existing Roads

Carrier	City Pair		Trips per Week	
			Summer	Winter
IFA	Ketchikan	Hollis	7 RT	7 RT
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a
AMHS	Juneau-Haines-Skagway		6	3
	Juneau	Sitka	7	4
		Sitka Juneau	5	4
	Juneau	Angoon	2	2
	Juneau	Hoonah	5	5
		Hoonah Tenakee	2	1
	Juneau	Pelican	.5 RT	.5 RT
	Juneau	Petersburg	4	2
		Petersburg Juneau	4	2
	Juneau	Kake	2	2
		Kake Juneau	2	1
	Sitka	Angoon	1	1
		Angoon Sitka	1	1
	Sitka	Petersburg	3	2
		Petersburg Sitka	1	1
	Sitka	Kake	1	0
		Kake Sitka	1	0
	Petersburg	Kake	2	0
		Kake Petersburg	2	2
	Petersburg	Wrangell	4	2
		Wrangell Petersburg	4	2
	Ketchikan	Wrangell	4	2
		Wrangell Ketchikan	4	2
	Ketchikan	Prince Rupert	4	2
		Prince Rupert Ketchikan	4	2
	Ketchikan	Metlakatla	10 RT	10 RT
Prince Rupert	Skagway	4	2	
Bellingham	Skagway	0	0	

Table 7. Alternative 3 - Maximize Use of Existing Roads

Improvement	Contract Award	Enters Service	Phase	Cost Estimate (\$Millions)	Running Total	Proposed Program Funding Segments (\$Millions)
Fairweather Repower	2013		Construction	12.5	12.5	
New Taku	2015		Design	2.0	14.5	
	2016	2021	Construction	209.0	223.5	223.5
New Matanuska	2018		Design	2.0	225.5	
	2020	2025	Construction	250.0	475.5	
Kennicott Repower	2030		Construction	25.0	500.5	277.0
TOTAL 20-YR. FERRY REPLACEMENT COST				500.5		
TOTAL 20-YR. FERRY BOAT REFURBISHMENT COST				231.6		
TOTAL 20-YR. FERRY TERMINAL REFURBISHMENT COST				123.8		
Total Ferry Capital Cost - 20 Years				855.9		
TOTAL 20-YR. HIGHWAY CAPITAL REFURBISHMENT COST ESTIMATE				482.4		
Total Road Capital Cost - 20 Years				482.4		
TOTAL FERRY & ROAD CAPITAL COST - 20 YEARS				1,338.3		
TOTAL 20-YR. AIRPORT CAPITAL REFURBISHMENT COST ESTIMATE				210.0		
Total Airport Capital Cost - 20 Years				210.0		
TOTAL REGIONAL TRANSPORTATION CAPITAL COST - YEARS				1,548.3		
Note: All cost estimates are 2010 dollars in millions.						
<p>The annual capital budget target for major new capital improvements is \$25M per year or \$250M average every ten years. The above capital improvement program is shaded a different color for each logical funding element of each alternative. A cumulative running total is provided to demonstrate when each alternative exceeds the plan budget.</p>						



Map 7 Maximize use of Existing Roads

ALTERNATIVE 4 – ALASKA CLASS FERRIES

Description

Alternative 4 would continue the operation of AMHS in similar fashion to that for the current system, however, two mainline ferries would be replaced with three Alaska Class shuttle ferries and a third mainline ferry would be replaced by a new mainline ferry. The Alaska Class ferry would not have state rooms, travels at 17 knots, holds 60 vehicles, and is 350 ft. long and 74 ft. wide—about the size of the M/V *Taku*. This alternative results in a small increase in system capacity and service frequency for a few ports. Alternative 4 also includes construction of a ferry terminal at Cascade Point in Berners Bay.

Major Actions

Major actions include the replacement of two mainline ferries with three Alaska Class shuttle ferries, replacement of one mainline ferry in kind, and construction of a new ferry terminal. Because it is intended to operate as a shuttle, the Alaska Class ferry would not have overnight passenger accommodations; however, it would be capable of operating around the clock if necessary. The third mainline ferry that will reach the end of its service life during the period would be replaced in kind. The construction of a ferry terminal in Berners Bay would enable the Alaska Class ferries to make two round trips a day in Lynn Canal between Berners Bay and Haines and Skagway, allowing for more efficient utilization of these ferries.

Operational Changes

Two of the Alaska Class ferries would serve the Lynn Canal corridor connecting Juneau, Haines, and Skagway via the Berners Bay Ferry Terminal, and the third Alaska Class ferry would serve the route between Ketchikan and Prince Rupert, British Columbia. One Alaska Class ferry would relieve the Prince Rupert or Juneau-Ketchikan mainline ferries during overhaul periods. The new mainline ferry would operate between Ketchikan and Auke Bay, serving the communities in between. The M/V *Columbia* would continue to operate between Bellingham, Washington and Juneau; and the M/V *Kennicott* would continue to operate across the Gulf of Alaska to Yakutat and Whittier from Juneau. The M/V *LeConte* would continue village service and the M/V *Fairweather* would connect Juneau, Angoon, and Sitka. The service frequencies for the Alaska Class ferry options are shown in Table 3.

Impacts

Replacing the two mainline ferries with three Alaska Class ferries would increase the number of ferries in the AMHS fleet and slightly increase overall vehicle transport capacity. Alternative 4 would provide increased frequency of service between Juneau, Haines, and Skagway; and slightly less frequency of service between Juneau and Ketchikan and the communities in between. Some reduction in crew would be

accomplished by the elimination of staterooms. Alternative 4 would likely decrease overall system cost but would not reduce overall system excess capacity.

Tables 8 through 11 and Map 8 provide details for Alternative 4.

Table 8. Alternative 4 - Frequencies for One Alaska Class Ferry

Carrier	City Pair		Trips per Week	
			Summer	Winter
IFA	Ketchikan	Hollis	7 RT	7 RT
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a
AMHS	Berners Bay-Haines-Skagway (ACF)		8 RT	4 RT
	Juneau	Sitka	6	5
	Sitka	Juneau	6	5
	Juneau	Angoon	2	2
	Juneau	Hoonah	5	4
	Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.5 RT
	Juneau	Petersburg	5	3
	Petersburg	Juneau	5	3
	Juneau	Kake	2	2
	Kake	Juneau	2	2
	Sitka	Angoon	1	1
	Angoon	Sitka	1	1
	Sitka	Petersburg	2	2
	Petersburg	Sitka	2	2
	Sitka	Kake	1	2
	Kake	Sitka	0	2
	Petersburg	Kake	2	2
	Kake	Petersburg	2	2
	Petersburg	Wrangell	3	2
	Wrangell	Petersburg	3	2
	Ketchikan	Wrangell	3	2
	Wrangell	Ketchikan	3	2
	Ketchikan	Prince Rupert	3	2
	Prince Rupert	Ketchikan	3	2
	Ketchikan	Metlakatla	10 RT	10 RT
	Prince Rupert	Juneau	2	0(1)
	Bellingham	Haines / Juneau	1	0(1)

(-) possible though not required

Table 9. Alternative 4 - Frequencies for Two Alaska Class Ferries

Carrier	City Pair		Trips per Week		
			Summer	Winter	
IFA	Ketchikan	Hollis	7 RT	7 RT	
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a	
AMHS	Berners Bay-Haines-Skagway (ACF)		9 RT	4 RT	
	Juneau	Sitka	6	3	
		Sitka	Juneau	7	2
	Juneau	Angoon	2	2	
	Juneau	Hoonah	5	4	
		Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.25 RT	
	Juneau	Petersburg	5	0	
		Petersburg	Juneau	5	2
	Juneau	Kake	1	1	
		Kake	Juneau	1	0
	Sitka	Angoon	1	1	
		Angoon	Sitka	1	1
	Sitka	Petersburg	2	2	
		Petersburg	Sitka	2	2
	Sitka	Kake	1	1	
		Kake	Sitka	1	1
	Petersburg	Kake	2	1	
		Kake	Petersburg	2	1
	Petersburg	Wrangell	3	3	
		Wrangell	Petersburg	3	3
	Ketchikan	Wrangell	3	3	
		Wrangell	Ketchikan	3	3
	Ketchikan (ACF)	Prince Rupert	4 RT(7)	3 RT(7)	
		Prince Rupert	Ketchikan	4 RT	3 RT
	Ketchikan	Metlakatla	10 RT	10 RT	
	Prince Rupert	Juneau	0	0	
	Bellingham	Juneau	1	1	

(-) possible though not required

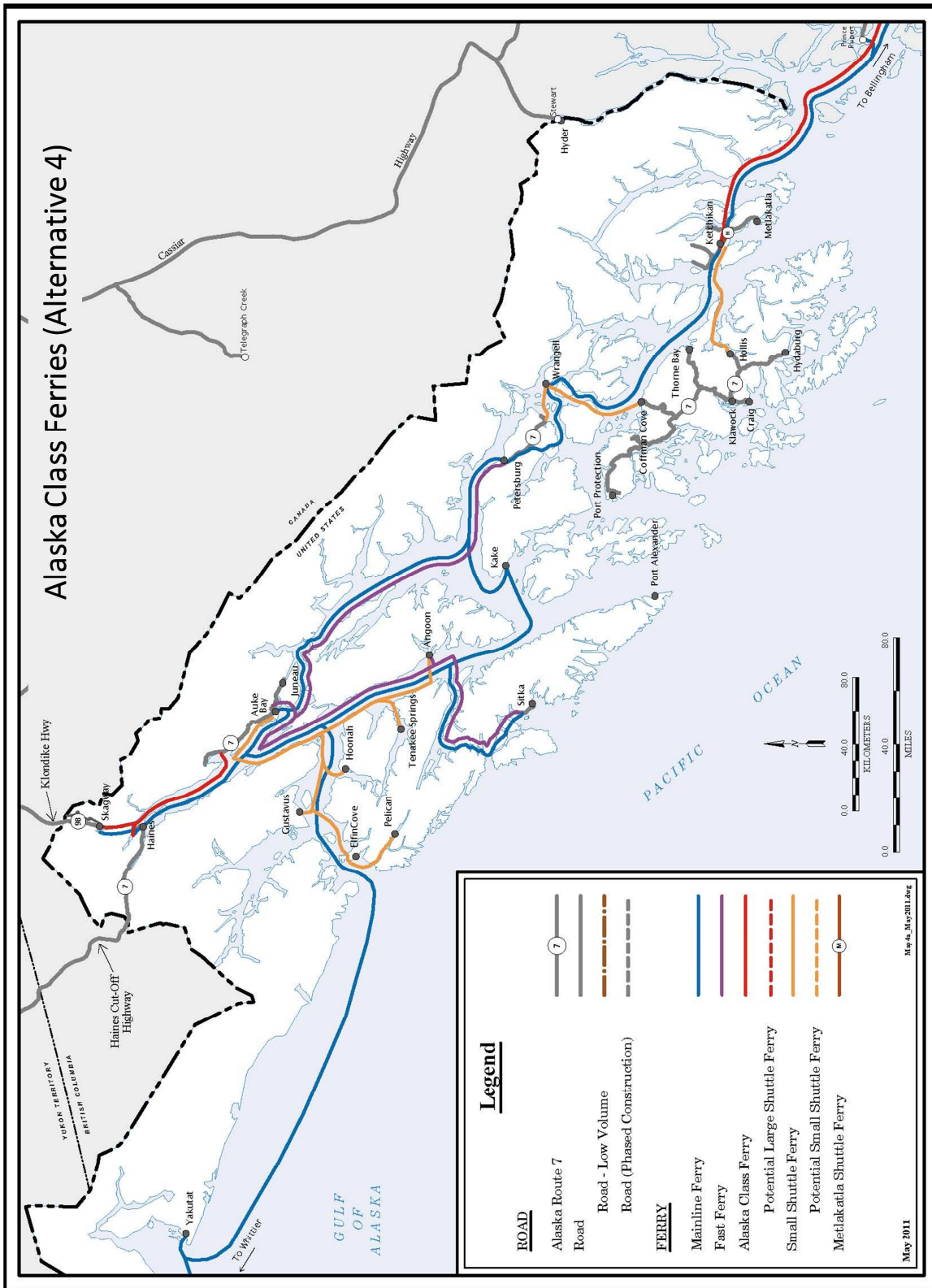
Table 10. Alternative 4 - Frequencies for Three Alaska Class Ferries

Carrier	City Pair		Trips per Week	
			Summer	Winter
IFA	Ketchikan	Hollis	7 RT	7 RT
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a
AMHS	Berners Bay-Haines-Skagway (2 ACF summer only)		14 RT	4 RT(7)
	Juneau	Sitka	7	5
	Sitka	Juneau	7	5
	Juneau	Angoon	2	2
	Juneau	Hoonah	5	4
	Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.25 RT
	Juneau	Petersburg	5	3
	Petersburg	Juneau	5	3
	Juneau	Kake	1	1
	Kake	Juneau	1	0
	Sitka	Angoon	1	1
	Angoon	Sitka	1	1
	Sitka	Petersburg	3	1
	Petersburg	Sitka	2	1
	Sitka	Kake	1	0
	Kake	Sitka	1	1
	Petersburg	Kake	2	1
	Kake	Petersburg	2	1
	Petersburg	Wrangell	3	3
	Wrangell	Petersburg	3	3
	Ketchikan	Wrangell	3	3
	Wrangell	Ketchikan	3	3
	Ketchikan (ACF)	Prince Rupert	4 RT(7)	4 RT(7)
	Prince Rupert	Ketchikan	4 RT(7)	4 RT(7)
	Ketchikan	Metlaktla	10 RT	10 RT
	Prince Rupert	Juneau	0	0
	Bellingham	Juneau	1	1

(-) possible though not required

Table 11. Alternative 4 - Alaska Class

	Contract Award	Enters Service	Phase	Cost Estimate (\$Millions)	Running Total	Proposed Program Funding Segments (\$Millions)
Surface Transportation Capital Improvements						
Alaska Class Ferry #1	2012	2017	Construction	120.0	120.0	
Columbia Repower	2012		Construction	25.0	145.0	
Fairweather Repower	2013		Construction	12.5	157.5	
Alaska Class Ferry #2	2014		Design	0.5	158.0	
Haines Term. Exp.	2016		Design	1.0	159.0	
Alaska Class Ferry #2	2015	2019	Construction	120.0	279.0	279.0
Berners Bay Term. Exp.	2015	2016	Construction	20.0	299.0	
Alaska Class Ferry #3	2016		Design	0.3	299.3	
Alaska Class Ferry #3	2017	2021	Construction	120.0	419.3	
Haines Term. Exp.	2017	2019	Construction	18.0	437.3	
Ketchikan Term. Exp.	2019	2020	Construction	5.0	442.3	163.3
New Matanuska	2016		Design	20.0	462.3	
	2020	2024	Construction	250.0	712.3	
Kennicott Repower	2030		Construction	25.0	737.3	295.0
TOTAL 20-YR. FERRY REPLACEMENT COST				737.3		
TOTAL 20-YR. FERRY BOAT PERIODIC REFURBISHMENT COST				352.0		
TOTAL 20-YR. FERRY TERMINAL PERIODIC REFURBISHMENT COST				136.6		
Total Ferry Capital Cost - 20 Years				1,225.9		
TOTAL 20-YR. HIGHWAY CAPITAL REFURBISHMENT COST ESTIMATE				482.4		
Total Road Capital Cost - 20 Years				482.4		
TOTAL FERRY & ROAD CAPITAL COST - 20 YEARS (\$2010)				1,708.3		
Airport Capital Improvements						
Angoon Airport	2014	2016		50.0		
TOTAL 20-YR. AIRPORT PERIODIC REFURBISHMENT COST				210.0		
TOTAL AIRPORT CAPITAL COST - 20 YEARS (2010)				260.0		
TOTAL REGIONAL TRANSPORTATION CAPITAL COST - 20 YEARS				1,968.3		
Note: All cost estimates are 2010 dollars in millions.						
<p>The annual capital budget target for major new capital improvements is \$25M per year or \$250M average every ten years. The above capital improvement program is shaded a different color for each logical funding element of each alternative. A cumulative running total is provided to demonstrate when each alternative exceeds the plan budget.</p>						



Map 8 Alaska Class Ferries

ALTERNATIVE 5 – HIGHWAY ROUTE 7

Description

This alternative develops and makes full use of the regional highway system, designated as Route 7, which currently serves only a minor role in connecting communities. Additional road construction would allow the entire highway system to be linked with shuttle ferries.

Alternative 5 relies on highway connections through Canada to Interior Alaska in the north and to the lower 48 states (via Prince Rupert, British Columbia) in the south and discontinues ferry service across the Gulf of Alaska, to Yakutat, and to Bellingham, Washington. Glacier Highway would be extended from Juneau all the way to Skagway in phases. The first phase would be to the north end of Berners Bay and a subsequent extension would connect the highway to a terminal planned north of the Katzehin River. A highway would also be constructed between Petersburg and Kake; and eventually Sawmill Creek Road would be extended from Sitka to a ferry terminal at Warm Spring Bay. It would not be possible to fund all of these improvements within the next 20 years; however, because the life of the transportation system continues beyond that, environmental and preliminary design work must begin within the planning period in order for them to be feasible when needed in the future.

Operational Changes

Proposed near- term zonal ferry service implementation:

Alternative 5 can be introduced in phases in advance of new road construction with deployment of the existing Southeast ferry fleet incorporating the IFA model of service. In the Southern Panhandle, mainline ferry service between Ketchikan and Petersburg would be replaced with one 30- to 40-vehicle-capacity ferry operating between Ketchikan and Hollis and the Prince Rupert mainline ferry (ultimately an Alaska Class ferry) operating between Hollis and Prince Rupert via Ketchikan. Traffic north would drive the highway from Hollis to Coffman Cove to connect with two 30- to 40-vehicle-capacity shuttle ferries. These shuttle ferries would provide two daily round trips between Coffman Cove and Petersburg (South Mitkof Ferry Terminal) with stops at Wrangell. Shuttle ferries between Hollis and Ketchikan would make two to three round trips each day in the summer. They would be home-ported in Ketchikan, Hollis, Coffman Cove, and South Mitkof. In the off-season, trips would be reduced to adjust to traffic demand. This service scenario assumes one ferry over each route to serve winter demand and provide for annual inspections and overhauls of vessels.

An Fast Vehicle Ferry (FVF) would provide service between Juneau, Sitka, and Angoon and between Juneau and Petersburg, as traffic demand warranted. The M/V *LeConte* would continue to provide service to Hoonah, Gustavus, Pelican, and Tenakee Springs.

Proposed mid- to long-term road implementation:

Following construction of the Juneau Access project, an Alaska Class ferry would be redeployed to provide daily service between Hollis, Ketchikan, and Prince Rupert in the summer. Following completion of a paved two-lane highway between Kake and Petersburg, three 30- to 40-vehicle-capacity shuttle ferries would replace the mainline ferry and provide two round trips between Kake and Auke Bay, with daily connections to Sitka via a transfer facility (for crew, vehicles, and passengers) at Angoon. A smaller shuttle ferry would serve Hoonah, Gustavus, Pelican, and Tenakee Springs.

An FVF would continue to provide service between Sitka, Juneau, and other ports as required. Using smaller shuttle ferries in Chatham Strait should allow more frequent service with better year-round capacity utilization and lower operations cost.

Impacts

Alternative 5 would significantly increase the frequency of ferry service and reduce travel time between most neighboring communities while maintaining service to more isolated communities (see Table 5); however, service to Bellingham, Yakutat, and across the Gulf of Alaska would be discontinued. An increase in travel time would result for those passengers who traditionally traveled through the region without getting off a ferry to visit the communities between their origin and destination.

Alternative 5 is expected to affect the cost of travel between communities and through the region. Current analyses suggest that Alternative 5 would reduce the annual expense of operating and maintaining the system. Additionally, it is expected to increase demand for tourist and recreational services, such as hotels and restaurants, ashore in Ketchikan, Prince of Wales, Wrangell, Petersburg, Kake, Juneau, Sitka, and Angoon

Tables 12 and 13, and Map 9 provide details for Alternative 5.

Table 12. Alternative 5 - Frequency for Highway 7 Ferries

Carrier	City Pair		Trips per Week	
			Summer	Winter
IFA	Ketchikan	Hollis	21 RT	14 RT
	Coffman Cove-Wrangell-South Mitkof		14 RT	14 RT
AMHS	Juneau-Haines-Skagway		14 RT(7)	7 RT(7)
	Juneau	Sitka	7	4
	Sitka	Juneau	7	4
	Juneau	Angoon	7	4
	Juneau	Hoonah	5	5
	Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.5 RT
	Juneau	Petersburg	4 via Kake	2 via Kake
	Petersburg	Juneau		
	Juneau	Kake	4	2
	Kake	Juneau	4	2
	Sitka	Angoon	1	1
	Angoon	Sitka	1	1
	Sitka	Petersburg	4 via Kake	2 via Kake
	Petersburg	Sitka		
	Sitka	Kake	4	2
	Kake	Sitka	4	2
	Petersburg	Kake	road and WN ferry 21 10	
	Kake	Petersburg		
	Petersburg	Wrangell	14	14
	Wrangell	Petersburg	14	14
	Ketchikan	Wrangell	Via PoW Isl 12 5	
	Wrangell	Ketchikan		
	Ketchikan	Prince Rupert	6(7)	3(7)
	Prince Rupert	Ketchikan	6(7)	3(7)
	Ketchikan	Metlakatla	10 RT	10 RT
	Prince Rupert	Skagway	0	0
Bellingham	Skagway	0	0	

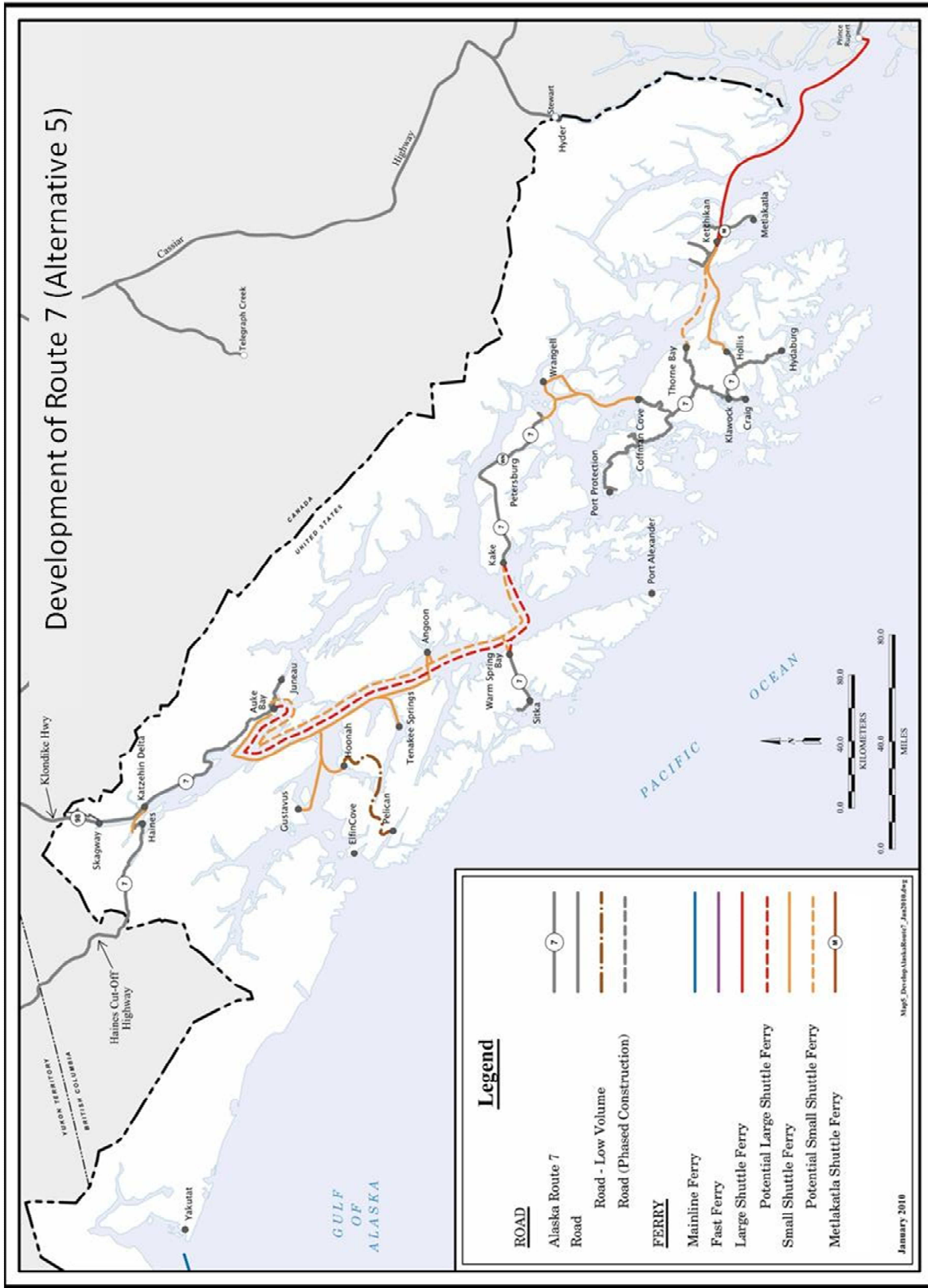
(-) possible though not required

Table 13. Alternative 5 - Highway Route 7

Improvement	Contract Award	Enters Service	Phase	Cost Estimate (\$Millions)	Running Total	Proposed Program Funding Segments (\$Millions)
Alaska Class Ferry #1	2012	2017	Construction	120.0	120.0	
Kake-PSG Road	2012	2018	Design	6.5	126.5	
Wrangell Narrows Ferry (1)	2012	2018	Design	1.0	127.5	
K Class Ferry	2012	2014	Design	2.2	129.7	
Fairweather Repower	2013	2014	Construction	12.5	142.2	
Berners Bay Terminal	2013	2014	Design	1.5	143.7	
K Class Ferry (POWI)	2013	2015	Construction	20.5	164.2	
Berners Bay Terminal	2014	2016	Construction	20.0	184.2	
K Class Ferry (Chatham Strait)	2014	2016	Design	2.0	186.2	
Sitka Warm Spring Bay Road	2014	2024	Prel. Design	10.0	196.2	
Haines Term. Exp.	2014	2015	Design	1.0	215.2	197.2
Glacier Hwy #1 to Kensington	2015	2018	Construction	125.0	340.2	
Glacier Hwy #2 to Katzehin	2015	2016	Design	16.0	356.2	
Angoon Transfer Facility	2015	2017	Design	1.0	357.2	
Kake Terminal Expansion	2015	2017	Design	0.8	358.0	
2-Wrangell Narrows Terminals	2018	2020	Construction	10.0	206.2	
Wrangell Narrows Ferry (1)	2018	2020	Construction	8.0	214.2	
Kake-PSG Road (2-lane gravel rd)	2018	2020	Construction	129.0	487.0	
Kake-PSG Road Pavement	2018	2019	Design	2.0	489.0	291.8
Glacier Hwy #2 to Katzehin	2018	2024	Construction	297.0	786.0	
Katzehin Terminal	2018	2024	Construction	18.0	804.0	
Haines Term. Exp.	2021	2024	Construction	18.0	822.0	
K Class Ferry (Upper Lynn Canal)	2021	2024	Construction	20.5	842.5	
K Class Ferry (Upper Lynn Canal)	2021	2024	Construction	20.5	863.0	
K Class Ferry (Upper Lynn Canal)	2021	2024	Construction	20.5	883.5	394.5

Table 13 (Cont.)

Improvement	Contract Award	Enters Service	Phase	Cost Estimate (\$Millions)	Running Total	Proposed Program Funding Segments (\$Millions)
Angoon Transfer Facility	2019	2022	Construction	10	893.5	
Kake Terminal Expansion	2019	2022	Construction	8.0	901.5	
35 K Class Ferry (Chatham Strait)	2019	2022	Construction	35.0	936.5	
35 K Class Ferry (Chatham Strait)	2019	2022	Construction	35.0	971.5	
K Class Ferry (Chatham Strait)	2019	2022	Construction	20.5	992.0	
Wrangell Narrows Ferry (2)	2019	2022	Construction	8.0	1,000.0	
Kake-PSG Road Pavement	2020	2022	Construction	30.0	1,030.0	146.5
TOTAL 20-YR. FERRY CAPITAL COST ESTIMATE				414.5		
TOTAL 20-YR. FERRY BOAT REFURBISHMENT COST ESTIMATE				242.2		
TOTAL 20-YR. FERRY TERMINAL REFURBISHMENT COST ESTIMATE				142.7		
Total Ferry Capital Cost - 20 Years				799.4		
TOTAL 20-YR. HIGHWAY CAPITAL COST ESTIMATE				615.5		
TOTAL 20-YR. HIGHWAY REFURBISHMENT COST ESTIMATE				551.8		
Total Road Capital Cost - 20 Years				1,167.3		
TOTAL FERRY & ROAD CAPITAL COST - 20 YEARS (\$2010)				1,966.7		
Airport Capital Improvements						
Angoon Airport	2014	2016		50.0		
TOTAL 20-YR. AIRPORT CAPITAL REFURBISHMENT COST ESTIMATE				210.0		
Total Airport Capital Cost - 20 Years				260.0		
TOTAL REGIONAL TRANSPORTATION CAPITAL COST - 20 YEARS				2,226.7		
Note: All cost estimates are 2010 dollars in millions.						
<p>The annual capital budget target for major new capital improvements is \$25M per year or \$250M average every ten years. The above capital improvement program is shaded a different color for each logical funding element of each alternative. A cumulative running total is provided to demonstrate when each alternative exceeds the plan budget.</p>						



Map 9 Development of Route 7

ALTERNATIVE 6 – NO ACTION

Description

The “No Action” alternative takes no steps to maintain or increase either frequency of service or capacity of the system, nor does it involve planned steps to reduce long-term operation or maintenance costs. Instead, the “No Action” alternative would respond to rising costs or decreased funding by reducing service and capacity of the system as necessary.

Available capital funding would be focused on refurbishing individual components of the system, both highways and vessels, as opposed to new construction of either. Without a positive plan of action to replace existing vessels with a new more efficient fleet, transportation system costs will continue to rise faster than revenues. If that scenario is combined with decreases in capital and operating budgets, vessel layups would be longer and more frequent and vessels would be retired as they reach the end of their service lives or they would require major investment.

Major Actions

There are no major actions taken under the “No Action” alternative.

Operational Changes

The ultimate state of the regional transportation system under Alternative 6 is reactive to available construction, maintenance, and operations funding. Vessel layups and retirements would initially result in reduced service frequency. Depending on the degree of future funding and the condition of the vessels, overall service would be affected and service to some ports may be reduced or discontinued.

Impacts

The retirement of one mainline vessel would result in some reductions in service frequency system-wide; however, the remaining fleet should have adequate capacity to meet overall traffic demand. With the second mainline vessel retirement, service to Bellingham, Washington, and service across the Gulf of Alaska and to Yakutat would likely be dropped. However, adequate fleet capacity would remain to transport the forecast traffic demand. These service reductions would correspond with reduced system subsidies and therefore increase overall system sustainability for the remaining service.

Passenger travel by air would increase, with a corresponding increase in demand for rental cars at destinations. Demand for barge transportation may increase in response to gaps in service for freight and vehicle transfer. The overall cost of a trip between larger communities and over long distances would likely remain similar to that for

existing ferry service. The cost of travel between small outlying communities, however, would likely be higher as a result of greater reliance on air travel.

Most freight is already transported by barge, and high-value or urgently needed items are transported by air. Reductions in freight service by ferry would be felt predominantly by small, outlying communities and those who use ferries to support just-in-time inventory management systems. Reductions in ferry container capacity and frequency between fish processing communities and Prince Rupert, British Columbia would affect movement of fresh fish to market in the summer. Reductions in movement of vans by the ferry system would be replaced by unsubsidized commercial barge lines.

Although this alternative is primarily presented as what could happen if funding becomes short, either for maintaining operations at the current level or for refurbishment and replacement of aged vessels, Alternative 6 is a valid option that largely meets the stated purpose and need.

Table 14. Alternative 7 - Frequencies for Retirement of Ferries

Carrier	City Pair		Trips per Week		
			Summer	Winter	
IFA	Ketchikan	Hollis	7 RT	7 RT	
	Coffman Cove-Wrangell-South Mitkof		n/a	n/a	
AMHS	Juneau-Haines-Skagway		7/6	4/2	
	Juneau	Sitka	3	1	
		Sitka	Juneau	3	2
	Juneau	Angoon	2	2	
	Juneau	Hoonah	4	3	
		Hoonah	Tenakee	2	1
	Juneau	Pelican	.5 RT	.25 RT	
	Juneau	Petersburg	3	2	
		Petersburg	Juneau	3	2
	Juneau	Kake	1	1	
		Kake	Juneau	1	1
	Sitka	Angoon	1	1	
		Angoon	Sitka	1	1
	Sitka	Petersburg	1	0	
		Petersburg	Sitka	1	1
	Sitka	Kake	1	1	
		Kake	Sitka	1	1
	Petersburg	Kake	1	0	
		Kake	Petersburg	1	0
	Petersburg	Wrangell	3	2	
		Wrangell	Petersburg	3	2
	Ketchikan	Wrangell	3	2	
		Wrangell	Ketchikan	3	2
	Ketchikan	Prince Rupert	2	2	
		Prince Rupert	Ketchikan	2	2
	Ketchikan	Metlakatla	10 RT	10 RT	
	Prince Rupert	Skagway	2	2	
	Bellingham	Skagway	1	0	

(-) possible though not required

COMPARISON OF ALTERNATIVES

The final set of alternatives will be checked to see if they meet Purpose and Need and judged according to the criteria including the following:

- Cost
 - Capital Cost: The cost of constructing airports, roads, terminals, vessels, and associated facilities are capital costs, as are expenditures for major periodic refurbishment of infrastructure.
 - Annual Cost: The yearly cost to administer, operate, and maintain transportation infrastructure and means of conveyance.
 - User Cost: The cost to the users of the transportation system.
- Cost Effectiveness: The measures of cost effectiveness employed in this analysis are cost per passenger mile and cost per vehicle mile.
- Cost-User Benefits: A comparison of total costs and user benefits over time.
- Travel Time: The average time required to transit a given segment defined by an origin and destination.
- Level of Service: Level of Service in this study primarily relates to frequency of air, ferry and barge service. It also relates to road design speed and size and speed of aircraft and vessels.
- Subjective Measures: These are criteria that are more difficult to measure and include criteria such as, but not limited to, economic sustainability, reliability, convenience, and overall social economic and environmental impacts.

Most of the alternatives presented do not add new roads; these alternatives will all have similar costs and travel times as the existing system. Alternative 5 adds new roads and will have an impact on the cost and time it takes to travel within Southeast Alaska.

Table 15. Comparison of user costs for roundtrip travel between SE Alaska hub communities and Seattle

Travel Options	VEH Fare ¹ (\$)	PAX Fare ¹ (\$)	VEH Operating Costs ² (\$)	Lodging ³ (\$)	Total Cost (round trip) (\$)	Total Travel Time ⁴ (one way)
1. One passenger from Juneau						
Air + Rent A Car	359	556	NA	NA	\$ 915	4 hours
AMHS to YPR + Drive	720	282	506	68 (AMHS) 460 (hotel)	\$ 2,036	5 days
AMHS to HNS + Drive	172	74	961	920	\$ 2,127	5-6 days
Barge (VEH) + Air (PAX)	1,756	616	NA	NA	\$ 2,372	7-8 days (veh) 4 hrs (pax)
AMHS to BEL + Drive	1,754	652	25	148	\$ 2,579	3 days
AMHS to YPR + BC Ferries + Drive	1,637	702	185	68 (AMHS) 230 (hotel)	\$ 2,822	3-4 days (summer only)
2. Family of four (two children between ages 3 & 11) from Juneau						
AMHS to BEL + Drive	1,754	1,304	25	842	\$ 3,925	3 days
Barge (VEH) + Air (PAX)	1,756	2,283	NA	NA	\$ 4,039	7-8 days (veh) 4 hrs (pax)
3. Family of four (two children between ages 12 & 18) from Juneau						
Barge (VEH) + Air (PAX)	1,756	2,283	NA	NA	\$ 4,039	7-8 days (veh) 4 hrs (pax)
AMHS to BEL + Drive	1,754	2,608	25	842	\$ 5,229	3 days
4. One passenger from Ketchikan						
AMHS to BEL + Drive	1,234	478	25	112	\$ 1,849	2.5 days
Barge (VEH) + Air (PAX)	1,568	514	NA	NA	\$ 2,082	7 days(veh) 2 hrs (pax)
5. One passenger from Sitka						
AMHS to BEL + Drive	1,560	602	25	140	\$ 2,327	3 days
Barge (VEH) + Air (PAX)	2,290	594	NA	NA	\$ 2,884	4 wks (veh SB) 5 days (veh NB) 2 hrs (pax)

VEH – Vehicle; PAX – Passenger; AMHS – Alaska Marine Highway System; YPR – Prince Rupert; HNS – Haines;

BEL – Bellingham; BC –British Columbia; SB – Southbound; NB – Northbound

¹ Fares and travel time quoted May 2011 for travel in July 2011 with a standard vehicle between 15’ and 19’; all rates are subject to change. Barge fare is lowest quote from local carriers not including personal belongings (ship for approximately \$.60/lb). Rent a car fare is lowest weekly compact car quote from major carriers. Barge + Air passenger fare includes \$30 dollar cab fare (each way) to travel between airport and freight terminal.

² 2011 AAA Vehicle Operating Cost recalculated for average SE Alaska fuel costs resulting in 24.50 cents per mile. YPR to SEA is 1033 miles; HNS to SEA is 1962 miles; AMHS to YPR +BC Ferries + Drive Option is Juneau to Prince Rupert via AMHS, Prince Rupert to Port Hardy via BC Ferries, Drive Port Hardy to Duke Point (238 miles), Duke Point to Vancouver via BC Ferries (plus 15\$ reservation premium), Drive Vancouver to Seattle (141 miles). Calculations reflect doubling of these numbers to account for roundtrip travel.

³AMHS lodging rates are lowest price 2 bedroom berth (roomette) for one passenger travel and 4 bedroom berth for family of four travel. Hotel rates calculated using average economy priced hotel room (\$115/night); number of overnight stays corresponds to layovers in ferry travel or an overnight for every 400 miles of driving.

⁴Schedule dates and times vary; attempts were made to choose the shortest travel time available using July schedules.

Table 16. Comparison of user costs for roundtrip travel between SE Alaska hub communities and Anchorage

Travel Options	VEH Fare ¹ (\$)	PAX Fare ¹ (\$)	VEH Operating Costs ² (\$)	Lodging ³ (\$)	Total Cost (\$) (roundtrip)	Total Travel Time ⁴ (One Way)
1. One passenger from Juneau						
Air + Rent a car	381	238	NA	NA	\$ 619	3 hours
AMHS to HNS + Drive	172	74	380	230 (hotel)	\$ 856	2 days
AMHS to WHI + Drive	1,208	442	29	112 (AMHS)	\$ 1,791	2 days
2. One passenger from Ketchikan						
Air + Rent a car	381	442	NA	NA	\$ 823	4 hours
AMHS to HNS + Drive	700	268	380	48 (AMHS) 230 (hotel)	\$ 1,626	3 days
AMHS to WHI + Drive	1,740	640	29	150 (AMHS)	\$ 2,559	3 days
3. One passenger from Sitka						
Air + Rent a car	381	422	NA	NA	\$ 803	6 hours
AMHS to HNS + Drive	318	132	380	38 (AMHS) 230 (hotel)	\$ 1,106	3 days
AMHS to WHI + Drive	1,392	532	29	112 (AMHS) 230 (hotel)	\$ 2,295	3-4 days

VEH – Vehicle; PAX – Passenger; AMHS – Alaska Marine Highway System; HNS – Haines; JNU – Juneau; WHI – Whittier

¹ Fares and travel time quoted May 2011 for travel in July 2011 with a standard vehicle between 15’ and 19’; all rates are subject to change. Rent a car fare is lowest compact car quote from major carriers.

² 2011 AAA Vehicle Operating Cost recalculated using average SE Alaska fuel costs resulting in 24.50 cents per mile.

HNS to ANC is 770 miles; WHI to ANC is 60 miles.

³ AMHS lodging rates are lowest price 2 bedroom berth (roomette) for one passenger travel and 4 bedroom berth for family of four travel. Hotel rates calculated using average economy priced hotel room (\$115/night); number of overnight stays corresponds to layovers in ferry travel or an overnight for every 400 miles of driving.

⁴ Schedule dates and times vary; attempts were made to choose the shortest travel time available using July schedules.

Table 17. Comparison of Ferry Service Frequencies

Carrier	City Pair	Alternative 1		Alternative 2		Alternative 3		Alternative 4				Alternative 5		Alternative 6				
		Existing		Capacity Mgmt		Max Roads		Alaska Class (1)		Alaska Class (2)		Alaska Class (3)		Highway 7		No Action		
		Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	Trips per Week Summer	Trips per Week Winter	
IFA	Ketchikan	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	7 RT	
	Coffman Cove-Wrangell-SouthMitkof	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-	-	-	-	14 RT	14 RT	n/a	n/a	
	Juneau-Haines-Skagway	9 RT	5 RT	7 RT	4 RT	6	3	8 RT	4 RT	9 RT	4 RT	14 RT	4 RT(7)	14 RT(7)	7 RT(7)	4	4	2
	Juneau	7	4	6	3	7	4	6	5	6	3	7	5	7	4	3	1	1
	Juneau	6	6	6	4	5	4	6	5	7	2	7	5	7	4	3	2	2
	Juneau	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Juneau	5	3	5	5	5	5	5	4	5	4	5	4	5	5	4	3	3
	Juneau	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	1
	Juneau	5 RT	25 RT	5 RT	25 RT	5 RT	5 RT	5 RT	5 RT	5 RT	25 RT	5 RT	25 RT	5 RT	5 RT	5 RT	25 RT	25 RT
	Juneau	7	3	3	2	4	2	5	3	5	0	5	3	4 via	2 via	3	2	2
AMHS	Petersburg	7	3	3	2	4	2	5	3	5	2	5	3	Kake	Kake	3	2	
	Petersburg	7	3	3	2	4	2	5	3	5	2	5	3	Kake	Kake	3	2	
	Juneau	2	1	1	1	2	2	2	2	1	1	1	1	4	2	1	1	
	Juneau	2	1	1	1	2	1	2	2	1	0	1	0	4	2	1	1	
	Sitka	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Angoon	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Sitka	2	1	2	2	3	2	2	2	2	2	3	1	4 via	2 via	1	0	
	Petersburg	1	1	1	1	1	1	1	1	1	1	1	1	Kake	Kake	1	1	
	Sitka	1	0	1	1	1	0	1	2	1	1	1	0	4	2	1	1	
	Sitka	1	1	1	1	1	1	0	2	1	1	1	1	4	2	1	1	
AMHS	Petersburg	2	1	1	1	2	0	2	2	2	1	2	1	road and	WN ferry	1	0	
	Kake	2	1	1	1	2	2	2	2	2	1	2	1	21	10	1	0	
	Petersburg	2	1	1	1	2	2	2	2	2	1	2	1	14	14	4	2	
	Peterburg	5	3	3	2	4	2	3	2	3	3	3	3	14	14	4	2	
	Wrangell	5	3	3	2	4	2	3	2	3	3	3	3	14	14	4	2	
	Ketchikan	5	3	3	2	4	2	3	2	3	3	3	3	Via PoW Isl		4	2	
	Wrangell	5	3	3	2	4	2	3	2	3	3	3	3	12	5	4	2	
	Ketchikan	4	2	2	1	4	2	3	2	4 RT(7)	3 RT(7)	4 RT(7)	4 RT(7)	6(7)	3(7)	7	6	
	Prince Rupert	4	2	2	1	4	2	3	2	4 RT	3 RT	4 RT(7)	4 RT(7)	6(7)	3(7)	7	6	
	Ketchikan	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT	10 RT
Bellingham	Skagway or Juneau	4	1	Q(2)	1(2)	4	2	2	Q(1)	0	0	0	0	0	0	2	2	
	Skagway or Juneau	1	1	Q(1)	Q(1)	0	0	1	Q(1)	1	1	1	1	0	0	0	0	
(-) possible though not required		Existing		Alternative 2		Alternative 3		Alaska Class (1)		Alaska Class (2)		Alaska Class (3)		Highway 7		No Action		
/italics = estimated		Alternative 1		Alternative 2		Alternative 3		Alternative 4				Alternative 5		Alternative 6				

Table 18. Present Value Cost Comparison of Alternatives

Present Value Comparison of Total System Cost of Alternatives

(\$ millions 2010 dollars)

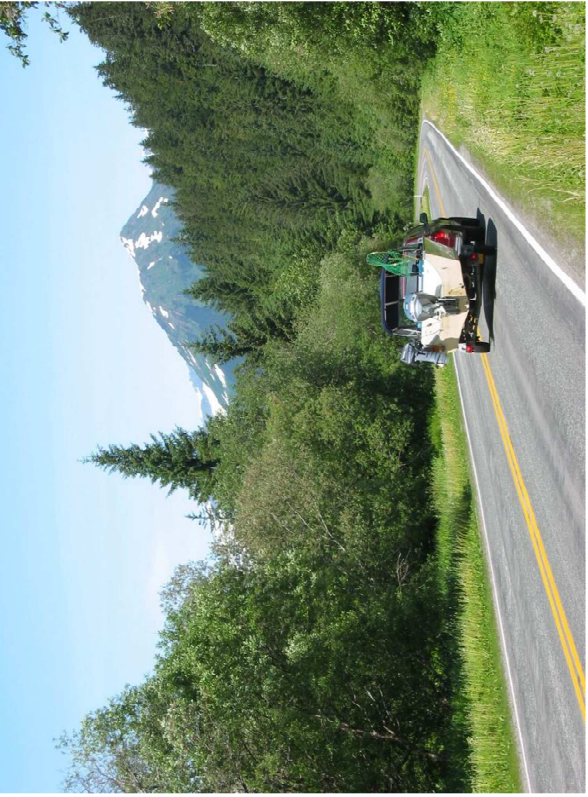
Alternative Cost Category	Alt. 1 Maintain Existing System (Baseline)	Alt. 2 Capacity Management	Alt. 3 Maximize Roads	Alt. 4 Alaska Class	Alt. 5 Highway 7
Capital	386.5	253.2	198.5	275.7	369.7
Refurb	771.9	737.9	694.7	814.0	719.6
O&M	2,064.3	1,801.5	1,589.0	2,000.2	1,757.1
Recurring (Refurb + O&M)	2,836.2	2,539.4	2,283.7	2,814.1	2,476.7
Total PV	3,222.7	2,792.6	2,482.2	3,089.8	2,846.5

Study period is 2012-2032
 Discount Rate = 0.021 per U.S. OMB
 Data Source: Southeast Region and AMHS, ADOT&PF

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25005



To: