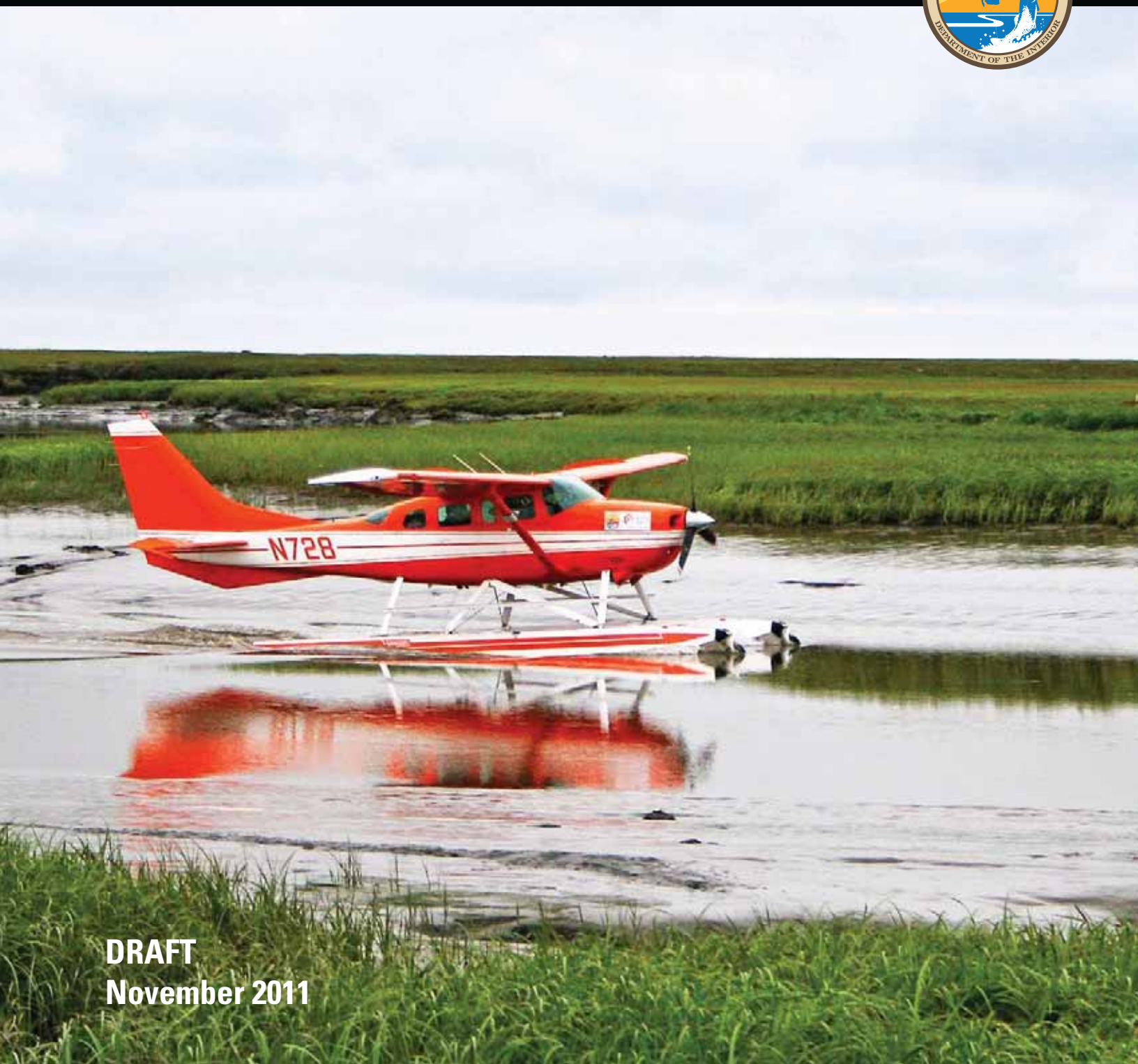


# U.S. Fish and Wildlife Service

## *Region 7 Long Range Transportation Plan*



A Drop-Down Plan to the Alaska Federal Lands Long Range Transportation Plan



**DRAFT**  
**November 2011**



*COVER PHOTO: Floatplane taxiing on Kashanuk River; Donna Dewhurst*

*INSIDE COVER PHOTO: Arctic NWR, Sharon Seim*



# U.S. Fish and Wildlife Service

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A Drop-Down Plan to the  
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DRAFT  
November 2011

### How to Comment on this Plan

Preferred Method: Electronically, through [www.parkplanning.nps.gov](http://www.parkplanning.nps.gov)

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## List of Acronyms and Definitions

<b>API</b>	Asset priority index
<b>ADOT&amp;PF</b>	Alaska Department of Transportation and Public Facilities
<b>ANILCA</b>	Alaska National Interest Land Conservation Act
<b>ANCSA</b>	Alaska Native Claims Settlement Act
<b>CCP</b>	Comprehensive Conservation Plan
<b>EIS</b>	Environmental impact statement
<b>FCI</b>	Facility condition index
<b>FHWA</b>	Federal Highway Administration
<b>FLH</b>	Federal Lands Highway Division
<b>FLMA</b>	Federal Land Management Agency
<b>L RTP</b>	Long Range Transportation Plan
<b>MPO</b>	Metropolitan planning organization
<b>NWR</b>	National Wildlife Refuge
<b>NEPA</b>	National Environmental Policy Act of 1969
<b>RRP</b>	Refuge Roads Program
<b>SAFETEA-LU</b> Users	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
<b>SAMMS</b>	Service Asset Maintenance Management System
<b>Service</b>	U.S. Fish and Wildlife Service
<b>U.S.</b>	United States

# Executive Summary

This long range transportation plan (LRTP) is the first of its kind in the Alaska Region. The plan is needed to ensure that the fundamental mission of U.S. Fish and Wildlife Service (Service), “working with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people,” is advanced through the function of its entire transportation system – from float docks to roads and all transportation related assets in-between. The LRTP achieves this by establishing a transportation project selection process that emphasizes efforts that are most effective in furthering long range goals which represent the tenets of the agency’s mission statement. This document identifies needs, opportunities, actions, and strategies that would benefit the long range goals established in this plan. This LRTP is a policy-level plan intended to provide context and direction to project-level decisions over time. This plan does not make project-level decisions – that is, *this plan is not proposing road projects.*

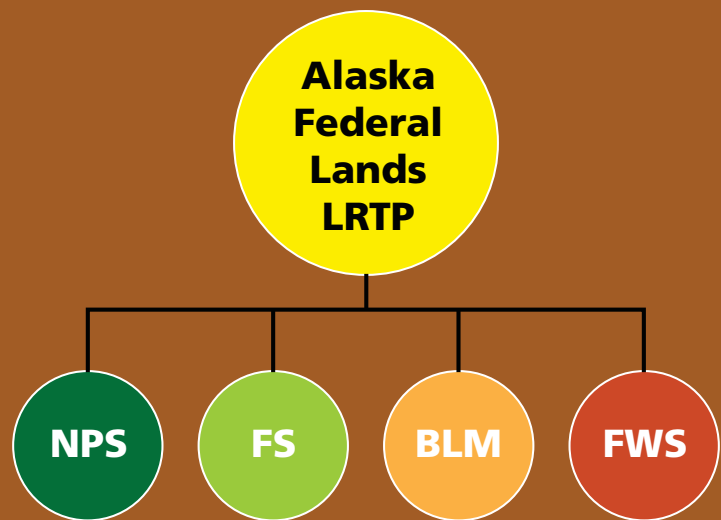
This LRTP establishes goals for the Service’s regional transportation system to help guide transportation decisions. Long range transportation planning provides a framework for identifying system-level needs and to objectively choose projects that are most likely to achieve these goals. The intent is to provide a defensible process for identifying transportation-related projects that advances the Service’s overarching vision and mission.

The LRTP brings multiple benefits to the Service, such as:

- Providing policy suggestions for topics such as decommissioning roads, climate change, sustainability, and other long range recommendations, and brings the Service into compliance with Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for

## Alaska Federal Lands LRTP

In addition to being a LRTP for Region 7, this plan is a “drop-down plan” to the Alaska Federal Lands LRTP. As a drop-down plan, this document elaborates upon topics discussed in the Alaska Federal Lands LRTP with Service-specific details including baseline conditions, transportation needs and gaps, project selection processes, funding opportunities, and recommended future actions. This information allows the Service and Alaska Federal Lands LRTP partner agencies to identify gaps in the statewide transportation system serving Federal lands, to develop better interagency coordination, and to leverage funds to address high-level priorities of mutual interest. The Alaska Federal Lands LRTP is a unique opportunity afforded Federal lands management agencies in Alaska because of the shared regional boundaries of the Federal agencies in the state. This plan is also a first-of-a-kind effort.



Users (SAFETEA-LU) for conducting long range transportation planning.

- Providing a platform for individual refuges to communicate needs and opportunities to regional, national decision makers, and potential partners.

- Enabling leaders to make informed decisions based on the long-term transportation mission, goals, and objectives as well as direct funding to the highest priority and most beneficial transportation projects.
- Providing the Service with a better picture of future transportation needs and present day gaps.
- Enabling leaders to find alternative funding from Federal sources that are administered by States (Alaska Department of Transportation and Public Facilities [ADOT&PF]), metropolitan planning organizations (MPO), and others.
- Enabling leaders to synchronize transportation planning with other Service planning efforts such as comprehensive conservation plans (CCP) and visitor services plans, and with other regional planning efforts outside Service boundaries.
- Providing current data on multimodal transportation issues, needs, and opportunities across the region.

### National Environmental Policy Act

This LRTP is not intended to meet the standards required of National Environmental Policy Act (NEPA) documents and does not make project-level decisions. NEPA-level public involvement and documentation will occur once project-level needs are identified and solutions are considered. At the project-level NEPA stage, however, this LRTP will play a vital role in explaining how project need was identified.

### Plan Findings

The following observations highlight the key findings of the Region 7 LRTP:

- Based on current and forecasted funding allocation for the Refuge Roads Program, the Service will continue to experience a funding gap where funding allocations and funds fall short of program needs. The anticipated gap between funds available and funds needed will be \$228 million by 2035.
- Long range transportation goals can be furthered by emphasizing various unit level tasks and needs. Chapter 5 of this LRTP lists unit level actions that can be most effective in achieving long range transportation goals.
- The project selection process adopted in this plan increases the defensibility of funding decisions and ensures that projects selected for implementation are effective in supporting the Service's mission and goals.
- Participating in the joint actions identified in the *Alaska Federal Lands LRTP* will provide benefits to all Federal land management agencies involved, including the Service.
- As refuges consider climate change adaptation and mitigation, they can use the *Draft Climate Change Technical Report* and Table 14 of this LRTP as resources.
- Refuges identified in Table 15 should monitor and respond to erosion on Service lands, especially on refuges adjacent to "priority action" communities.

- Each refuge may consider the known and possible environmental threats identified in Table 16 in future refuge level planning efforts.
- The number of transportation projects and/or percent of transportation funds spent to reduce fish and wildlife conflicts with the transportation system needs to be recorded and reported to national level leaders.
- Refuges identified in Table 19 as having high visitation, need to address user experience in transportation components of CCPs – especially as the experience relates to the refuge activities identified in Table 18.
- The methods for delivering user information should complement the types of access and uses experienced to or within each refuge.
- Studies are needed to determine where there are ingress/egress issues between Service and non-Service lands and intervention is necessary to reduce safety needs identified in Table 21 and Table 22.
- Support is needed for alternative transportation systems (ATS) in refuges with identified need (Table 22).
- Refuges can find partnership opportunities through their CCPs, as summarized in Table 23. Better communication is needed between refuges and regional offices to transfer knowledge about partnership opportunities to the regional (especially in relationship to performance measures 9 and 10 in Table 27) and national levels.

## Plan Implementation

This plan will be implemented over time as projects which further long range goals are selected and completed. The LRTP's action plan (Chapter 5) ensures that progress is tracked through the use of performance measures and recommendations which respond to the needs and opportunities identified in each goal area. Performance measures embody outcomes that, once fully achieved, represent major milestones in meeting the long range goals and objectives expressed in this LRTP. The intent of the performance measures is to report progress in meeting these performance measures each year to Service leaders and other interested parties.

As performance measures are used to evaluate and track progress in meeting the long range goals and objectives expressed in this LRTP, the baseline for future measurements are also set in this LRTP. Regular reporting will show progress over time in achieving desired performance, and future plan updates will provide opportunities to modify performance measures to accommodate new needs and opportunities. The performance measure baseline, or starting point, values are documented in Chapter 5 of this LRTP.



*Turner River landing area, Sharon Seim*

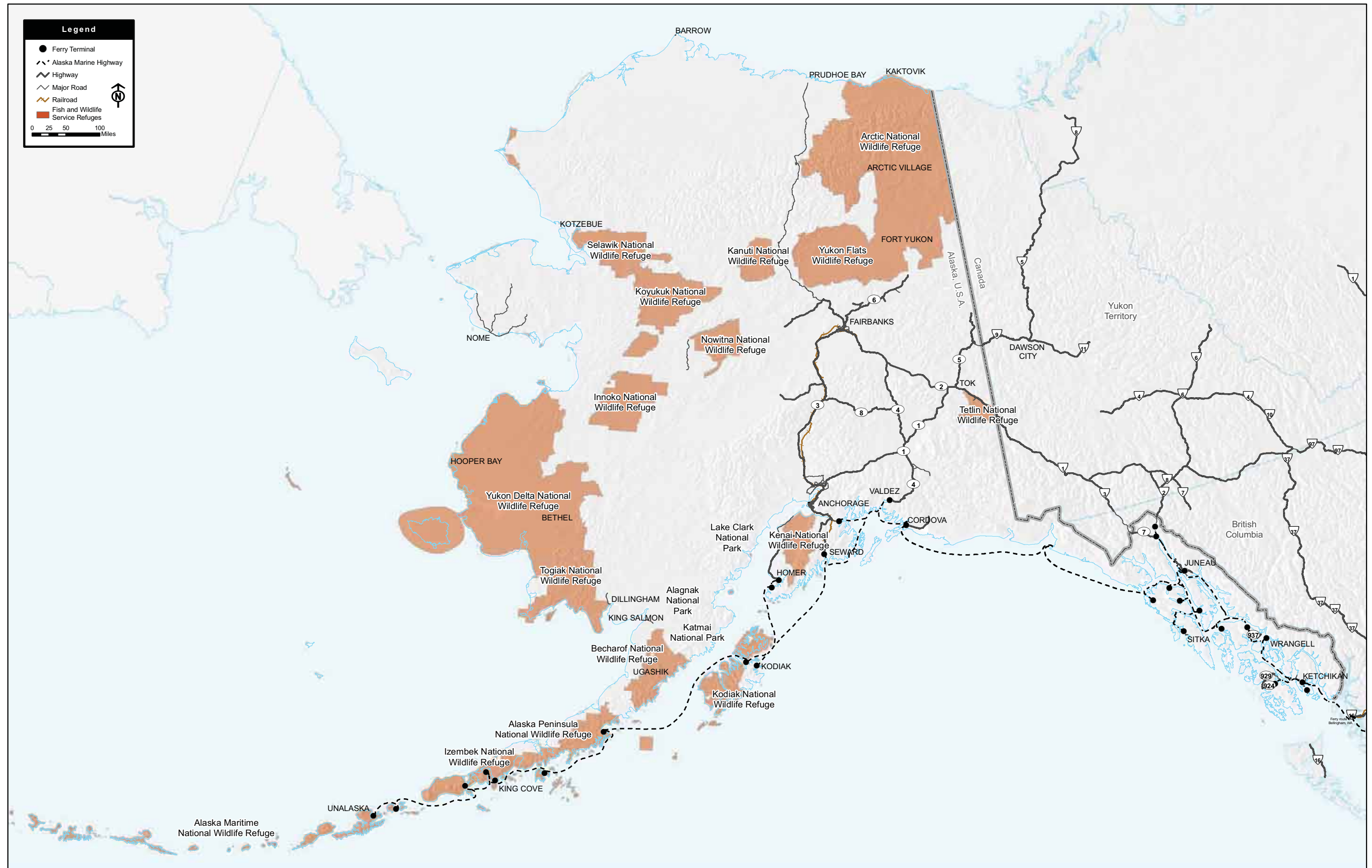
# 1 Introduction

Region 7 of the U.S. Fish and Wildlife Service (Service), with the assistance of the Federal Highway Administration (FHWA), Western Federal Lands Highway Division (WFLHD), has developed this long range transportation plan (LRTP) to support transportation-related decision making in the Service's Region 7 (Figure 1). This LRTP outlines a strategy for improving and maintaining transportation assets that provide access to and within Service-managed lands in Alaska to 2035 and beyond. This plan ensures that the Service's fundamental mission of "working with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people," is advanced by a transportation system on Service-owned lands. This LRTP is also intended to help the Service make investment decisions for planning, preservation, and construction related to transportation throughout Region 7. This LRTP is a policy-level plan intended to provide context and direction to project-level decisions over time; however, this plan does not make project-level decisions.

This plan is a "drop-down plan" to the *Alaska Federal Lands LRTP*. As a drop-down plan, it elaborates on topics discussed in the *Alaska Federal Lands LRTP* with Service-specific details including baseline conditions, transportation deficiencies and needs, project selection processes, funding opportunities, and recommended future actions. This information allows the Service and Alaska Federal Lands LRTP partner agencies to identify gaps in the statewide transportation system serving Federal lands, to develop better interagency coordination, and to leverage project funds to address high-level priorities of mutual interest.

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**Figure 1**  
**U.S. Fish and Wildlife Region 7 Refuges**



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## 1.2 Long Range Transportation Planning in Region 7

This LRTP presents goals for the Service's regional transportation system. These goals are intended to help guide transportation decisions. Long range transportation planning provides a framework for identifying system-level needs and objectively choosing projects that are most likely to achieve these goals. The intent is to provide a defensible process for identifying transportation-related projects that advances the Service's overarching vision and mission.

The LRTP brings multiple benefits to the Service, such as:

- Providing a platform for individual refuges to communicate needs and opportunities to regional, national decision makers, and potential partners.
- Enabling leaders to make informed decisions based on the long-term transportation mission, goals, and objectives as well as direct funding to the highest priority and most beneficial transportation projects.
- Providing the Service with a better picture of future transportation needs.
- Enabling leaders to find alternative funding from Federal sources that are administered by States (Alaska Department of Transportation and Public Facilities [ADOT&PF]), metropolitan planning organizations (MPO), and others.
- Enabling leaders to synchronize transportation planning with other Service planning efforts such as comprehensive conservation plans (CCP) and visitor services plans, and with other regional planning efforts outside Service boundaries.
- Providing current data on multimodal transportation issues, needs, and opportunities across the region.

## 1.3 Plan Purposes

The LRTP supports the following topics by providing:

### Policy

- Suggestions for decommissioning roads.
- Direction on long-term issues like climate change and sustainability.
- Compliance with Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) for conducting long range transportation planning.

### Funding

- Strategies for partnering with other agencies and organizations.
- Possible transportation funding sources.

### Decision-Making

- Long range mission, goals, and objectives for transportation planning.
- Defensible framework for transportation planning and decision making.
- Understanding of transportation assets and how to determine and illustrate "needs" and "gaps".
- Structure for incorporating long range goals into other levels of regional, unit, and project level planning.

### Information

- Understanding of the unique nature and roles of transportation in Region 7.
- Documentation of external factors that could affect Service transportation assets.
- Region-wide transportation terms and definitions.
- Increased regional and national awareness of refuge level alternative transportation system needs.
- Best management practices for transportation improvements on Service lands.

Transportation infrastructure provides critical links and resources in connecting people with nature, which in Alaska includes national wildlife refuges and off-refuge administrative sites. The Service seeks to systematically approach transportation funding decisions and leverage its transportation dollars wisely.

The Service desires a planning process that involves partner agencies (Federal, State, and local), that is consistent with State and local transportation planning processes, and that clearly defines and offers opportunities for public input. The key objective of such a planning process is to develop and maintain a coordinated, transportation system for public use, ranging from ferries to vehicle access, summer and winter trails, airports and landing strips, and parking lots. Coordinated planning also helps ensure that the most critical projects receive funding.

A critical aspect of this LRTP is facilitating partnerships and fostering opportunities to leverage funds with other FLMAs, State, local, and tribal governments, and others to accomplish

transportation improvements of common interest and mutual benefit. The intent is to increase the utility of transportation investments by pooling resources into efforts that satisfy the goals of multiple agencies and organizations. The LRTP serves as a tool in working with refuge gateway communities, boroughs, MPOs, other FLMAs, and stakeholder agencies.

#### **1.4 Mission, Goals, and Objectives**

Through a collaborative effort, Region 7 defined this LRTP's mission, goals, and objectives based upon the agency's mission statement, National Wildlife Refuge System strategic goals (available in Appendix A), *Alaska Federal Lands LRTP* goals and objectives, and the unique values and circumstances of Region 7. The mission, goals, and objectives of this LRTP reflect a union of these overarching directives, as they pertain to transportation. The following Region 7 LRTP mission, goals, and objectives shaped the development, conclusions, and recommendations of this document.

## L RTP Mission

Support the Service's overarching mission by connecting people to fish, wildlife, and their habitats through strategic implementation of transportation programs.

## Goals and Objectives

The goals of this Region 7 LRTP represent the six goal categories. Each goal includes distinct objectives that describe targets the Service will strive for to accomplish each goal.

**Goal 1.** Provide a sustainable transportation program to satisfy current and future land management needs in the face of a changing climate.

**Objective 1. Address climate** change and other environmental factors at all levels of transportation planning, design, project delivery, operations, and maintenance.

**Objective 2. Consider sustainability** of operation and maintenance of new assets in the planning process.

**Objective 3. Reduce fossil** fuel energy consumption by refuge staff and visiting public while continuing to provide for and encourage compatible uses.

**Goal 2.** Conserve and protect natural and cultural resources through comprehensive transportation planning and management.

**Objective 1. Conduct transportation** planning at a landscape level by considering direct and indirect effects of the transportation system on ecosystems within and adjacent to refuges.

**Objective 2. Ensure protection** of open water, wetlands, and aquifers on refuges; maintain and/or improve air quality; and avoid or minimize impacts on permafrost and sensitive soils when planning for and constructing transportation improvements.

**Objective 3. Avoid, minimize,** or mitigate transportation-related habitat impacts.

**Objective 4. Preserve cultural** resources by avoiding or minimizing negative transportation impacts to culturally significant human settlements, subsistence areas, cultural landscapes, and historic and archaeological sites.

**Goal 3.** Fulfill the Service's Alaska National Interest Land Conservation Act (ANILCA) of 1980 obligations as they relate to subsistence use and access.

**Objective 1. Ensure effects** of transportation decisions on resources and subsistence users are considered.

**Objective 2. Consider subsistence** access needs when making transportation decisions.

**Objective 3. Document traditional** uses of off-road vehicles for subsistence access.

**Goal 4. Proactively enhance connectivity of the Alaskan multimodal transportation system and user experience.**

**Objective 1. Engage visitors** with compelling information so they can get to and better understand Alaska refuges.

**Objective 2. Establish a** seamless interagency multimodal transportation system that emphasizes the journey as part of the Alaska experience.

**Objective 3. Collect and** analyze visitor information to determine which experiences/expectations are most important and relevant to transportation access.

**Goal 5. Provide opportunities for safe, efficient, affordable, and appropriate access to, through, and within refuge lands.**

**Objective 1. Identify and** reduce safety problems and modal conflicts to and within Alaskan refuges.

**Objective 2. Ensure that** mission critical transportation assets are maintained in “good” or better condition.

**Objective 3. Develop partnerships** to leverage resources and develop integrated transportation solutions.

**Objective 4. Work with** public and private sector partners to address shared transportation issues.

**Objective 5. Coordinate annually** with other agencies and partners to set priorities for needs, exchanging data, and discussing mutual policies to facilitate shared execution and potential economic savings for projects of mutual interest and benefit.

## 1.5 Planning Structure

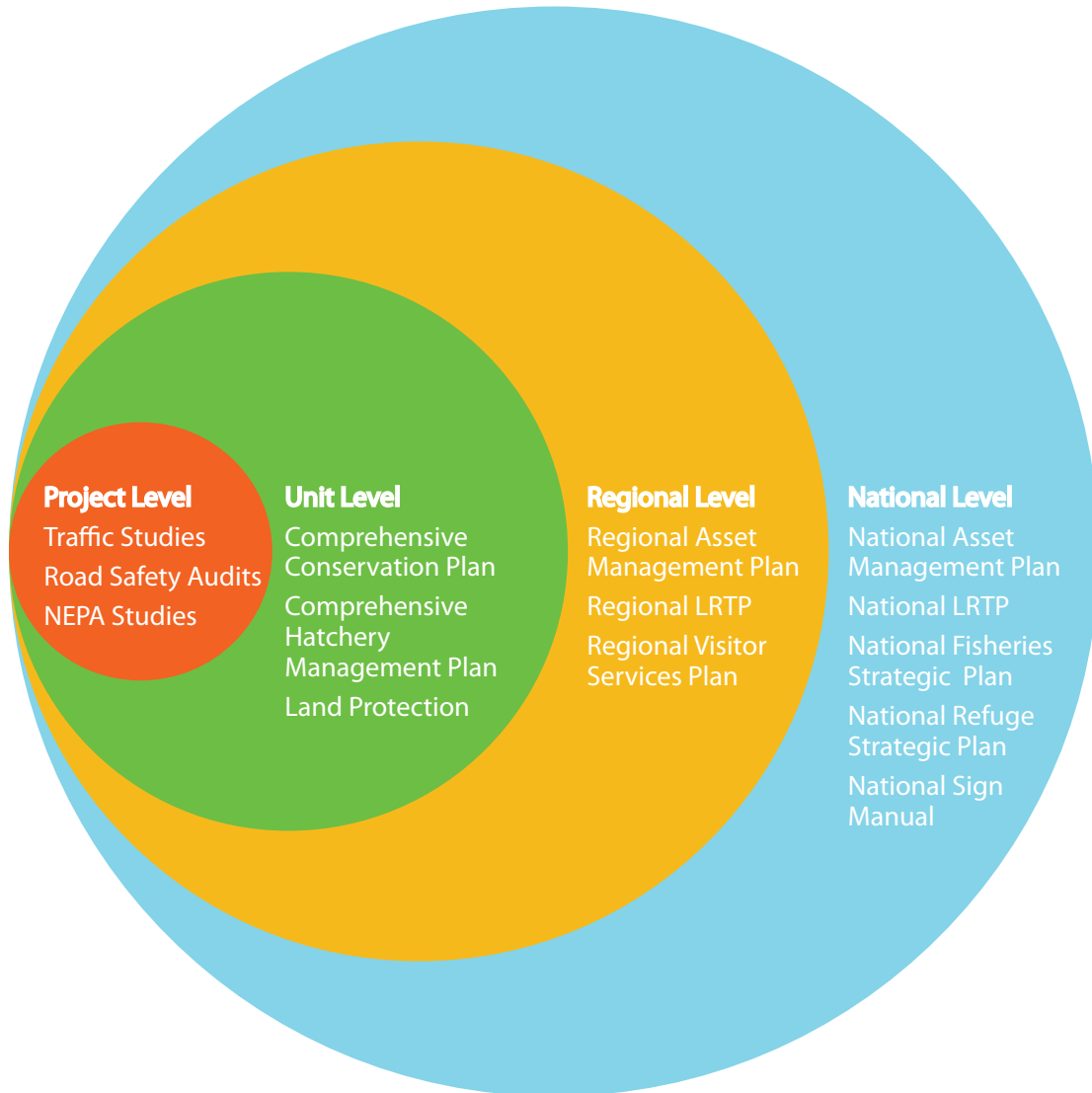
The Service uses planning documents at all levels of the agency (project, unit, regional, and national levels) to improve decision-making processes. Plans are used to express guiding principles and/or specific deficiencies or needs ranging from the project to the policy level. A wide range of planning tools is therefore available at all Service levels. Figure 2 illustrates various types of plans that are commonly used at different levels within the Service.

### 1.5.1 Comprehensive Conservation Plans

Of particular relevance to long range transportation planning are those plans that document management directions within individual units, such as resource

management plans. Relevant Service resource management plans include refuge CCPs, visitor service plans, and land protection plans. CCPs are developed for individual refuges to provide a description of the desired future conditions and long range guidance with regard to resource management at the refuge unit level. CCPs establish management direction to achieve refuge purposes and establish vision, goals, and objectives for a refuge. The first series of CCPs were completed for all Alaska Refuges between 1985 and 1988. Since that time, 11 refuges have revised their CCPs to include environmental impact statements (EIS) or environmental assessments consistent with the National Environmental Policy Act (NEPA) of 1969, as illustrated in Figure 3.

**Figure 2**  
**Service Plan Levels**



**Figure 3**  
**CCPs and NEPA Compliance**



**1.5.2 Land Protection Plans**

Land protection plans focus on private lands located within refuge boundaries and identify high-quality habitat for possible conservation. The plans guide land-protection activities and provide a framework for refuge and private landowner cooperation. The plans do not obligate either the refuge or the landowners to undertake any of the land conservation measures identified. The refuge must consider management goals, priorities, and the availability of funds when approached by private landowners with land conservation proposals. Ten land protection plans in Alaska (covering 11 refuges) were completed between 1992 and 2007, and the remaining four plans (covering 5 refuges) are expected to be completed by the end of 2015.

**1.5.3 Other Plans**

Regional and refuge level leaders have other planning tools available to them if there is a demonstrated need for additional transportation planning based on their knowledge of issues facing individual refuges. Additional plans fall into three categories: large-scale and comprehensive plans, issue driven plans, and small-scale plans and studies. These categories are used to describe the different types of plans and studies, as shown in Table 1.

**1.5.4 This LRTP and NEPA**

By design, this LRTP does not meet the standards required of a standalone NEPA document and does not make project-level decisions. As this long range plan is comparable to similar State and/or MPO transportation planning processes, the following references from 23 CFR section 450 apply to this LRTP.

- **§ 450.222 Applicability of NEPA to Statewide Transportation Plans and Programs** Any decision by the Secretary concerning a long range statewide transportation plan or statewide transportation improvement program developed through the processes provided for in 23 U.S.C. 135, 49 U.S.C. 5304, and this subpart shall not be considered to be a Federal action subject to review under NEPA. § 450.336
- **Applicability of NEPA to Metropolitan Transportation Plans and Programs** Any decision by the Secretary concerning a metropolitan transportation plan or transportation improvement program developed through the processes provided for in 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart shall not be considered to be a Federal action subject to review under NEPA.

**Table 1  
Planning Need and Plan Types**

Planning Need	Corresponding Plan Types
<b>Comprehensive/Large Scale</b>	<ul style="list-style-type: none"> <li>CCP step-down plan (e.g., wilderness stewardship, visitor service)</li> <li>Land protection plan</li> <li>Complex issue analysis (e.g., wind turbine environmental assessment or EIS)</li> <li>Regional transportation analysis (e.g., big picture look at connectivity, visitor use analysis)</li> </ul>
<b>Issue Driven</b>	<ul style="list-style-type: none"> <li>Engineering/traffic safety analysis</li> <li>Access analysis</li> </ul>
<b>Small Scale</b>	<ul style="list-style-type: none"> <li>Traffic or transportation safety audit</li> </ul>

NEPA-level public involvement and documentation will occur once project-level needs are identified and solutions are considered. At this project-level NEPA stage, however, this LRTP plays a vital role in explaining how project need was identified, which supports NEPA-level project need and purpose definitions.

While this plan does not identify specific projects for implementation, it does provide a decision-making context to guide planning professionals in making better, more objective investment decisions (i.e., project selection). The information assembled to support this plan can be used to further develop project-level decisions that will contribute to better analysis of purpose and need, and therefore support NEPA documentation.

### 1.5.5 The Alaska Federal Lands LRTP

This Region 7 LRTP serves dual purposes: it is a Region 7 specific long range planning document as well as the Service's drop-down plan to the *Alaska Federal Lands LRTP*. The *Alaska Federal Lands LRTP* was developed because of Alaska's unique reliance on a statewide multimodal transportation system. More than anywhere else in the United States, Alaska depends on a combination of highway, trail, marine, river, and air connections to meet its transportation needs. This plan, unlike regional or state LRTPs developed for Federal lands in the lower 48 States, focuses on addressing planning issues related to interconnectivity of the various modes to provide a unique experience across multiple land jurisdictions for local residents, visitors, and administrative, commercial, and subsistence users.

The *Alaska Federal Lands LRTP* was also intended to help foster partnerships among Alaska's FLMAs. As funding has become increasingly scarce, it has become progressively more important for the Service and other FLMAs to work together in addressing transportation needs, setting priorities, and implementing projects to provide public benefits, while

meeting fundamental program goals. The LRTP describes the process and provides guidance for coordinated planning and decision making among FLMAs, including the Service, National Park Service, Forest Service, Bureau of Land Management, ADOT&PF, and FHWA FLH. The LRTP is intended to help these partners make mutually beneficial investment decisions for planning, safety management, preservation, construction, and other improvements related to the transportation system.

## 1.6 Primary Audience

This LRTP is written for project leaders from field stations, regional leaders from the Service, national-level decision makers, and potential local and regional partners from governmental agencies or non-governmental organizations. Information provided in the LRTP is intended to support these groups as documented in the following subsections.

### 1.6.1 Project Leaders

Project leaders use the LRTP as a guide for project identification strategies and tools for communicating project need to regional level management. Guidance found in this plan assists project leaders in using readily available data and resources to justify a project's need. This will ultimately lead to better positioning for funding, which affects project prioritization at the regional level. Project leaders also use this plan as a process-based tool to partner with outside agencies and discuss project needs of mutual interest, such as safety concerns, alternative transportation systems, and addressing climate change with public and regional entities.

### 1.6.2 Regional Level

At the regional level, this LRTP provides the information necessary for leaders to make transportation decisions based on Service vision, mission, and goals. The

plan also enables regional transportation coordinators to direct funding to the most beneficial and highest priority transportation projects. Furthermore, the LRTP helps regional leaders find potential alternative funding sources from Federal, State, or MPO sources. At the regional level, the LRTP is also used to synchronize transportation planning with efforts such as CCPs, visitor services plans, land protection plans, and other regional and statewide plans outside Service boundaries, such as MPO regional transportation plans and State transportation plans.

### 1.6.3 National Level

This LRTP will align with the forthcoming *National U.S. Fish and Wildlife Service LRTP* and other regional LRTPs to provide additional information to congressional leaders as to unmet mission critical transportation needs. It also helps illustrate the Service's foresight, need, and commitment to certain mission critical goals—especially when projects are being pursued jointly with other agencies or organizations and additional Federal dollars are requested. This regional plan will be updated in the future, as necessary, to align with the Service's forthcoming National LRTP.

### 1.6.4 Potential Partners

Potential partners may use this LRTP to understand the Service transportation programs as well as its needs, goals, and objectives for the future. It can serve as a tool for identifying projects of mutual interest between the Service and external groups or agencies. The Service recognizes the value of cooperative transportation partnerships, and seeks to leverage funds with other agencies and organizations. Potential partner agencies could include other FLMAs, ADOT&PF, MPOs, borough governments, and others.

## 1.7 Plan Overview

This LRTP is structured into five chapters and several appendices. Each chapter builds upon the information and conclusions derived in the previous chapter(s). The document examines the existing transportation system, baseline conditions, funding and project selection, and recommendations for future action.

**Chapter 1, Introduction.** This chapter introduces the purpose, goals, objectives, structure, and audiences for this plan.

### Chapter 2, Existing Transportation System and Baseline Conditions.

This chapter summarizes the Service's existing transportation systems in Alaska and explores relevant trends. Conditions and trends are summarized using data from various sources including asset management systems and road inventory data maintained by the Service and FLH. Data such as road service life, visitation statistics and trends, population growth, alternative transportation opportunities, and other significant issues are used to establish baselines from which LRTP decisions can be made.

**Chapter 3, Goals and Baseline Conditions.** This chapter presents baseline conditions as they relate to the six goals of this plan. This chapter uses this information highlighted in Chapter 2.

**Chapter 4, Funding and Project Selection.** This chapter describes a variety of funding categories currently available to transportation projects in Region 7. Transportation funding needs, availability, and the gaps between the two are also illustrated in this chapter. This chapter also outlines a defensible project selection process that incorporates long range goals and objectives.

**Chapter 5, Action Plan.** This chapter outlines performance measures that gauge progress in meeting long range goals and objectives. The chapter also presents recommendations for improving the effectiveness of future planning efforts.



*Sheenjek River, Sharon Seim*

## 2 Existing Transportation System Conditions

The current state of Region 7's transportation system serves as a baseline for identifying the needs and opportunities that will help achieve the long range goals expressed in Chapter 1. This chapter describes the nature and condition of the region's transportation system, establishes desired future conditions, and explores relevant trends that could potentially affect the Service's transportation system. The baseline data presented in this chapter and Chapter 3 are intended to inform the project identification and selection process described in Chapter 4, thereby allowing projects to be selected through an objective process, and not based on conditions alone. In this chapter, the Service's asset management system (SAMMS) data is categorized by refuge and administrative site, as summarized Table 2.

### 2.1 Transportation System Overview

Understanding the unique nature of travel in Alaska is a prerequisite for transportation planning in Region 7. Alaska's expansive multimodal network is necessary due to the State's immense size, challenging physical geography, and extreme climate. It is commonplace for travel in the State to involve connections from one mode of transportation to another.

Alaska distinguishes itself from other states in that seasons and climatic conditions significantly influence modes of travel. They also hasten degradation of transportation assets. Modes of travel are influenced as seasons restrict some forms of transportation and create opportunities for others. For example, extreme winter conditions inhibit automobile use in some remote areas; however, the winter season makes travel by snowmobile and on frozen river ice roads possible.

**Table 2**  
**Number of Region 7 Transportation Assets**

Location	Roads (Paved)	Roads (Dirt)	Roads (Gravel)	Parking Lot	Trails (Paved)	Trails (Unpaved)	Board-walks	Bridges (Trail)	Bridges (Culvert)	Bridges (Road)	Docks (Floating)	Docks (Stationary)	Airstrips
Refuge	12	10	47	90	6	51	8	2	0	4	2	2	3
Administrative Site	1	0	10	56	3	2	1	1	0	0	1	4	0
<b>Total</b>	<b>13</b>	<b>10</b>	<b>57</b>	<b>146</b>	<b>9</b>	<b>53</b>	<b>9</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>3</b>	<b>6</b>	<b>3</b>

*Region 7 SAMMS (as of July 2011)*

## Refuge Interviews

Preparation of this LRTP involved conducting individual refuge interviews. Information about transportation access, threats, needs, opportunities, and other transportation related issues that are not necessarily captured through SAMMS and Refuge Road Inventory Program were documented through this exercise. The results of these interviews are summarized in Chapter 3, where needs and opportunities are discussed for the region and in individual refuges.

Methods of travel to and through refuges in Alaska are diverse. Refuges range from roadless areas accessible only by air or boat with annual visitation below 100 people to easily accessible destination refuges where over one million people visit annually. These refuges may be accessible by a wide range of modes of

travel, including automobile, ferry, boat, foot, snowmobile, bicycle, and all-terrain vehicles. Region 7 is unique in that it reports relatively few transportation assets in SAMMS compared with other regions that rely on more traditional transportation assets (such as gravel and paved roads). The disparity between Region 7 transportation assets documented in SAMMS and those of other regions is summarized in Table 3. The table indicates that except for unpaved trails, trail bridges, and airstrips, Alaska, on average, has fewer units of documented transportation assets than other Service regions. The type of assets that exceed the service-wide averages reflects the unique composition of transportation assets in the Alaska Region. The limited nature of the Region 7 transportation network is further illustrated in Table 4, which shows refuge assets<sup>1</sup>, and Table 5, which summarizes assets by administrative site<sup>2</sup>.

**Table 3**  
**Number of Region 7 Transportation Assets versus Service Averages**

Asset Type	Measurement Unit	Region 7	Averages for all Other Regions
Roads (paved)	Lane miles	8	74
Roads (dirt)	Lane miles	35	451
Roads (gravel)	Lane miles	173	549
Parking lot	Count	90	256
Trails (paved)	Miles	1	3
Trails (unpaved)	Miles	174	32
Boardwalks	Miles	8	6
Bridges (road)	Count	0	30
Bridges (trail)	Count	4	3
Bridges (culvert)	Count	2	7
Docks (floating)	Count	2	5
Docks (stationary)	Count	2	9
Airstrips	Count	3	<1

*Region 7 SAMMS (as of July 2011); Service-wide data (as of January 2011)*

<sup>1</sup> Refuge assets are located within the boundaries of a national wildlife refuge.

<sup>2</sup> Administrative sites, consisting of offices, visitor centers, warehouses, etc, are generally not located within the boundaries of a national wildlife refuge.

**Table 4**  
**Region 7 Transportation Assets by Refuge**

Refuge	Roads (Paved) Lane Miles	Roads (Dirt) Lane Miles	Roads (Gravel) Lane Miles	Parking Lot Count	Trails (Paved) Length in LNFT	Trails (Unpaved) Length in LNFT	Boardwalks Length in LNFT	Bridges (Trail) Size in SQYD	Bridges (Road) Size in SQYD	Docks (Floating) Count	Docks (Stationary) Count	Airstrips Count
Alaska Maritime	0	0	0	0	0	0	0	0	0	0	0	0
Alaska Peninsula	0	0	3	1	0	0	0	0	0	0	0	1
Arctic	0	0	0	0	0	0	0	0	0	0	0	1
Becharof	0	0	0	0	0	0	0	0	0	0	0	0
Innoko	0	0	0	1	0	0	0	0	0	0	0	0
Izembek	0	8	63	17	0	0	0	0	143	0	0	0
Kanuti	0	0	0	0	0	0	0	0	0	0	0	0
Kenai	7	27	102	65	3,784	758,659	2,733	67	0	2	1	0
Kodiak	0	0	0	1	0	0	0	0	0	0	0	0
Koyukuk	0	0	0	0	0	0	0	0	0	0	0	0
Nowitna	0	0	0	0	0	0	0	0	0	0	0	0
Selawik	0	0	0	0	0	0	800	0	0	0	0	0
Tetlin	1	0	6	4	0	138,960	0	0	0	0	1	0
Togiak	0	0	0	0	0	20,390	0	0	0	0	0	0
Yukon Delta	0	0	0	0	0	0	1,563	0	0	0	0	1
Yukon Flats	0	0	0	1	0	0	0	0	0	0	0	0
<b>Total</b>	<b>8</b>	<b>35</b>	<b>173</b>	<b>90</b>	<b>3,784</b>	<b>918,009</b>	<b>5,096</b>	<b>67</b>	<b>143</b>	<b>2</b>	<b>2</b>	<b>3</b>

*Region 7 SAMMS (as of July 2011)*

**Table 5**  
**Region 7 Transportation Assets by Administrative Site**

Administrative Site	Roads (Paved) Lane Miles	Roads (Gravel) Lane Miles	Parking Lot Count	Trails (Paved) Length in LNFT	Trails (Unpaved) Length in LNFT	Boardwalks Length in LNFT	Bridges (Trail) Size in SQYD	Docks (Floating) Count	Docks (Stationary) Count
Aleutian Islands Unit	0	0	3	0	0	0	0	0	2
Aviation Manager	0	0	1	0	0	0	0	0	0
Bethel AS	0	1	2	0	0	0	0	0	0
Bettles AS	0	0	2	0	0	0	0	0	0
Cold Bay Hangar	0	0	2	0	0	0	0	0	0
Dillingham AS	0	0	7	0	0	0	0	0	0
Fort Yukon AS	0	0	1	0	0	0	0	0	0
Galena AS	0	0	9	0	0	0	0	1	0
Homer Visitor Center AS	0	0	2	1,880	1,015	1,400	122	0	0
Juneau Fish and Wildlife Field Office	0	0	0	0	0	0	0	0	1
Juneau Hangar Wildlife AS	2	0	0	0	0	0	0	0	0
Ketchikan AS	0	0	0	0	0	0	0	0	1
King Salmon AS	0	0	9	240	0	0	0	0	0
Kodiak AS	0	0	1	0	0	0	0	0	0
Kodiak Office	0	1	3	0	1,320	0	0	0	0
Kotzebue AS	0	0	5	0	0	0	0	0	0
McGrath AS	0	0	4	0	0	0	0	0	0
Tok AS	0	0	5	0	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>56</b>	<b>2,120</b>	<b>2,335</b>	<b>1,400</b>	<b>122</b>	<b>1</b>	<b>4</b>

*Region 7 SAMMS (as of July 2011)*

## 2.2 System-Wide Conditions

Data from the Refuge Road Inventory Program (RIP) and SAMMS is used to quantitatively determine the condition of Service transportation assets. The datasets are updated regularly, and follow established procedures to ensure data consistency and objectiveness. These datasets serve as good measures for quantifying transportation system conditions across the region.

SAMMS uses an asset priority index (API) for ranking how critical assets are in accomplishing the Service's mission and goals. The Service's use of API is consistent with the Department of the Interior definition of API as, "an asset evaluation process that quantifies the value of an asset in relation to the mission of the Bureau or Office. The API ranks assets according to rating system." The Service uses this metric to ensure that maintenance activities focus on the highest priority assets. Similarly, it is used to identify the lowest priority assets for possible decommissioning. SAMMS also contains a measure of facility condition index (FCI). The FCI is the ratio of the deferred maintenance costs (which can be thought of as overdue maintenance, but is formally defined in the adjoining sidebar) to replacement value; therefore, a larger FCI value indicates higher costs to bring an asset back to full repair, while a lower value indicates that less cost is required to bring an asset back to full repair.

As illustrated in Figure 4, the SAMMS chart can be thought of as four quadrants. The top-left quadrant represents assets that are high priority and in better condition, and should therefore receive preventative maintenance. Assets in the top-right quadrant are higher-priority assets in poor condition, and should therefore be repaired or replaced. Assets in the bottom-left quadrant can be classified as lower-priority assets in

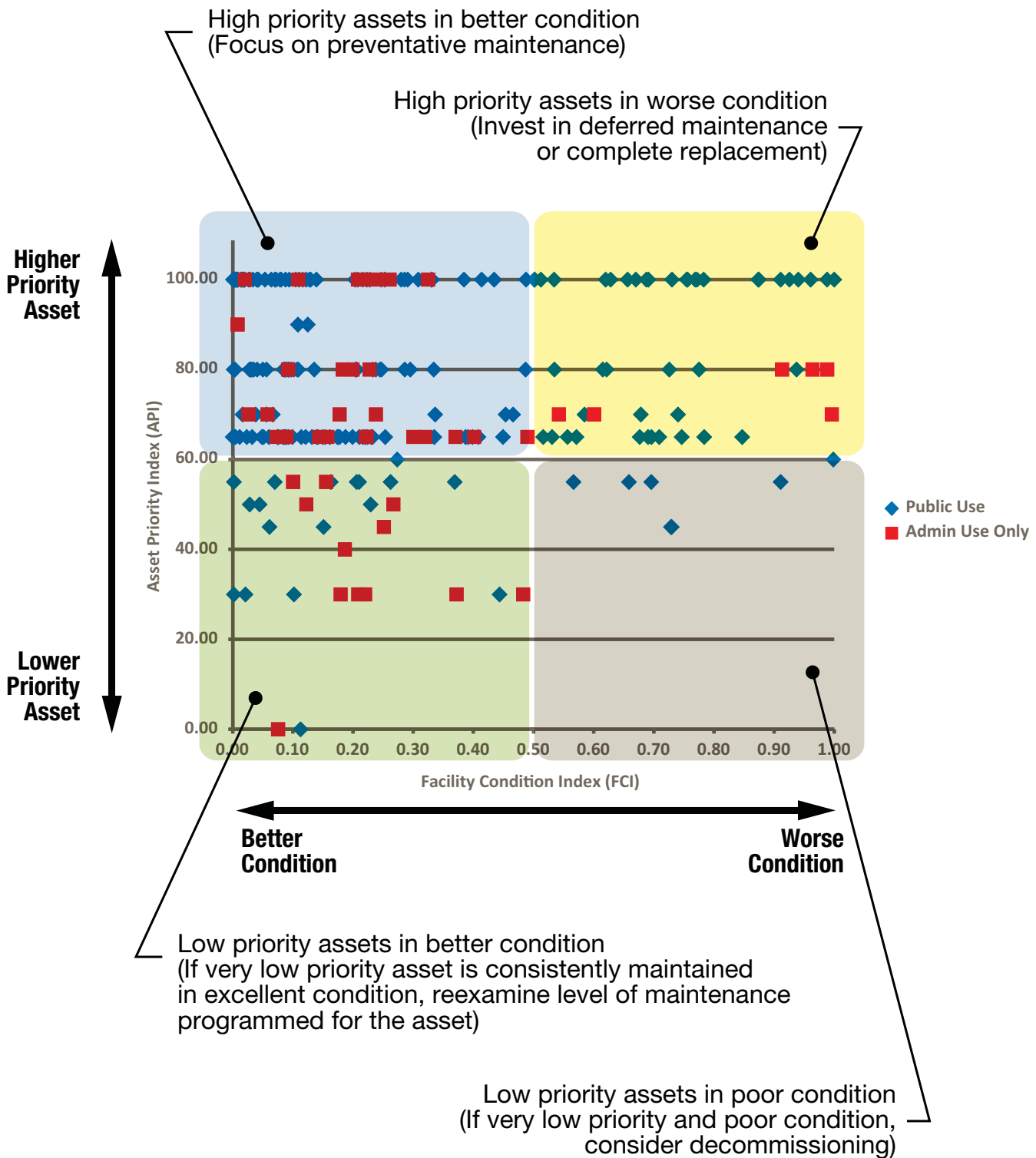
good condition. These assets can perhaps wait to receive additional maintenance if maintenance funds are needed elsewhere. Assets in the bottom-right quadrant are facilities in poor condition and of low priority. Management strategies for these assets include keeping poor condition as the target condition or considering these assets for decommissioning. SAMMS summaries and charts are provided for each transportation asset type and refuge in Appendix B.



### Deferred Maintenance

The Department of the Interior defines "deferred maintenance" as maintenance that was not performed when it should have been or which was scheduled and was, therefore, put off or delayed for a future period. Deferred maintenance is comprised of existing maintenance repairs and required replacements (component renewal), not accomplished when they should have been, not funded in the current fiscal year, or otherwise delayed to the future. It is typically identified by a comprehensive facilities condition assessment/audit of buildings, grounds, fixed equipment and infrastructure. These needs have not been scheduled to be accomplished in the current budget cycle. Therefore, these needs are postponed until future funding budget cycles. The projects have received a lower priority status than those to be completed in the current budget cycle. Indirect costs, which include salaries and benefits for government employees are covered by annual appropriations and not added to estimated costs for deferred maintenance, nor are they included in the numbers reported to the Department of the Interior for the annual deferred maintenance display in the Department's financial statement or any bureau financial statement.

**Figure 4**  
**How to Read Asset Priority Index vs. Facility Condition Index Charts**



Using these measures, several observations can be drawn about the current state of the Region 7 transportation system. Charting SAMMS information, as shown in Figure 5 and Figure 6, indicates that the only refuge asset that has an API rating lower than 55 is an 800 foot long boardwalk in Selawik NWR (Asset 10035582). Also, only 12 of the current 79 administrative site assets are very low in priority. Of these administrative assets, all but one are in excellent condition (FCI level of 0). This indicates that although the assets are low in priority, these assets are in better condition and the level of maintenance given to these assets may need to be reexamined. These lower priority administrative site assets in excellent condition are listed in Table 6.

Not illustrated in Figure 5 and Figure 6 are two assets that exceed an FCI of 1. An FCI above 1 indicates that it would cost more to bring the asset back to full repair through deferred maintenance than it would be to completely replace the asset. In these situations, replacement is therefore the best course of action, if the asset is still desired. Assets that exceed an FCI of 1 are:

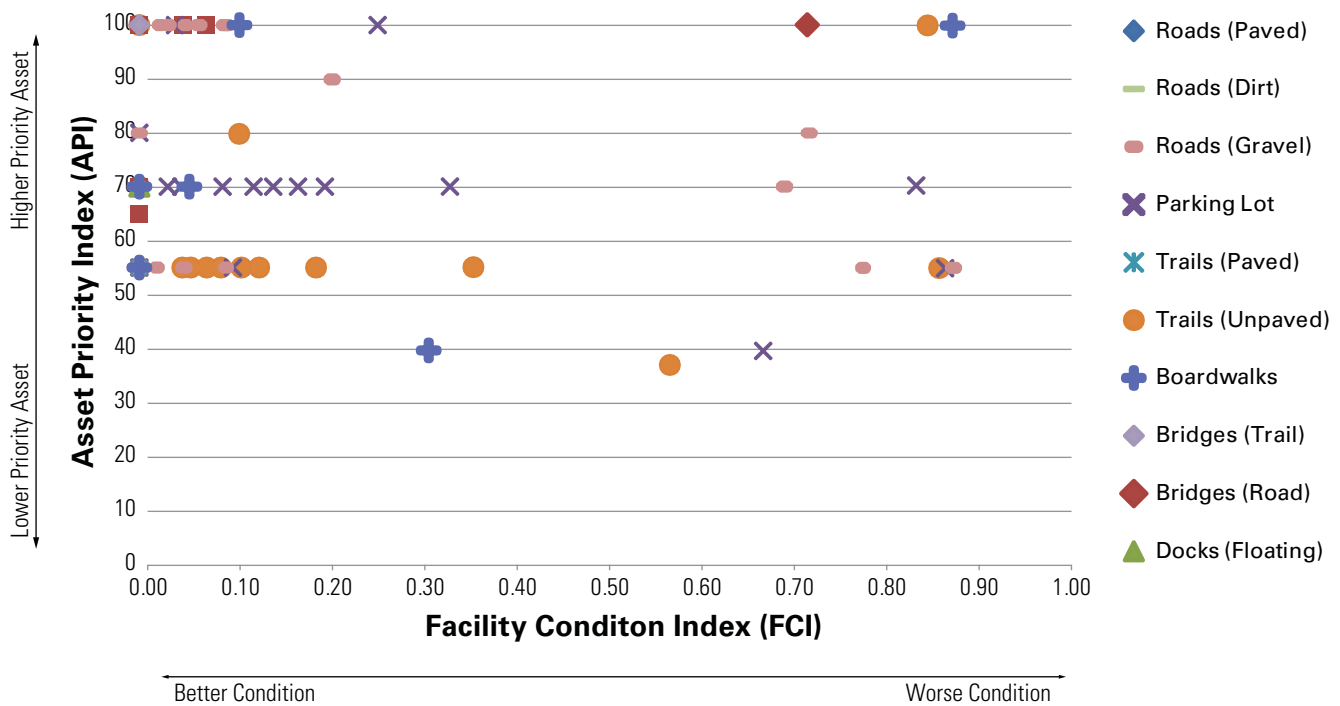
- The Kenai National Wildlife Refuge Upper Skilak Campground foot trail (SAMMS asset number 10046985, API 55, FCI 1.79)
- The Kodiak Triplex Parking Lot (SAMMS asset number 10035314, API 100, FCI 1.22)

**Table 6**  
**Lower Priority Administrative Sites in Excellent Condition**

SAMMS Asset Identification	Administrative Site	FCI	API
10037133	Galena Administrative Site	0.00	30
10037145	Galena Administrative Site	0.00	30
10040578	Aleutian Islands Unit	0.00	40
10035567	Galena Administrative Site	0.00	45
10045678	McGrath AS	0.00	45
10035843	Aleutian Islands Unit	0.00	50
10034840	Juneau Fish and Wildlife Field Office	0.00	50
10035597	Kotzebue AS	0.00	50
10035598	Kotzebue AS	0.00	50
10052519	Kotzebue AS	0.00	50
10052520	Kotzebue AS	0.00	50

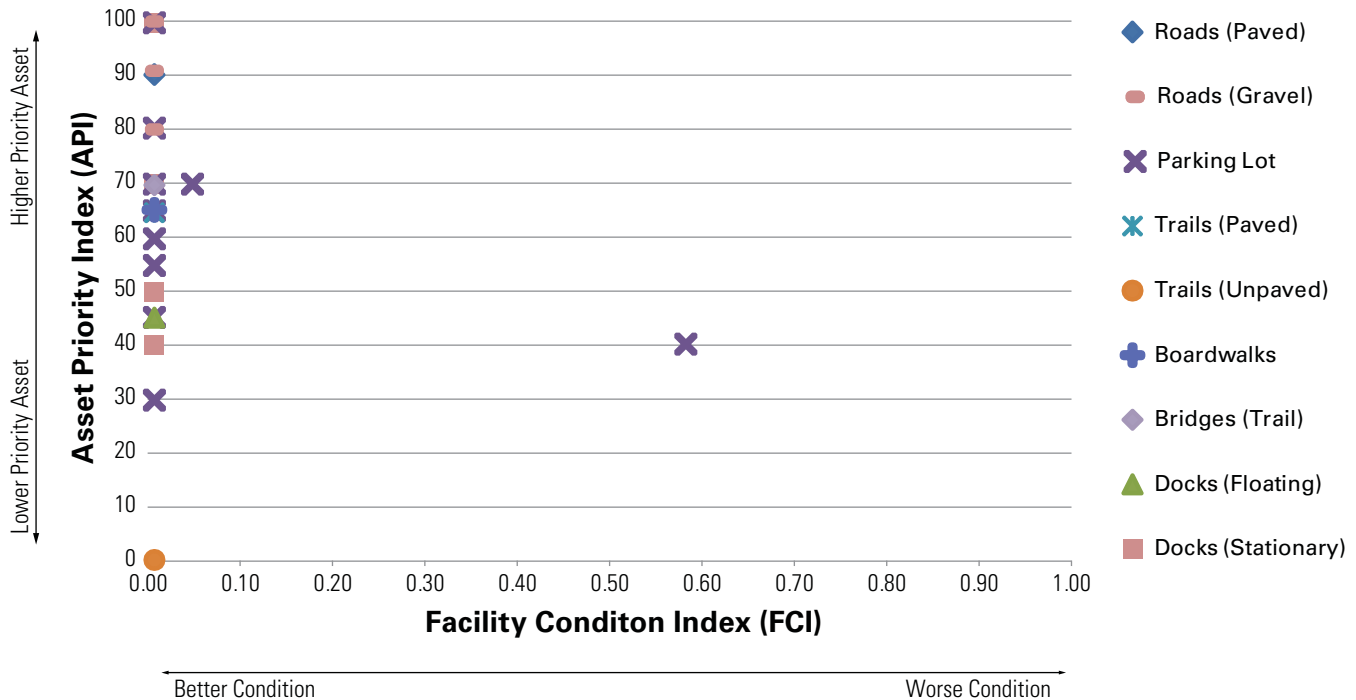
*Region 7 SAMMS (as of July 2011)*

**Figure 5**  
**Region 7 Refuge Transportation Asset Condition and Priority**



SAMMS (2011)

**Figure 6**  
**Region 7 Administrative Site Condition and Priority**



SAMMS (2011)

Not only does Figure 5 show that most of Region 7’s transportation assets have priorities of 55 or higher, but it also shows that assets have a wide range of conditions as determined by the FCI. It is helpful to separate high- and low-priority assets when discussing conditions because an asset’s priority determines the range for its allowable asset condition (generally, high-priority assets should be in better repair than lower-priority assets).

example, refuge dirt roads, which account for 35 miles of the refuge network, are 86 percent in excellent condition, while the other 14 percent are in failed condition. Likewise, administrative site paved trails, which account for 2,120 linear feet of the overall network, are 83 percent in excellent condition and 17 percent in failed condition. All high priority administrative assets are in excellent condition except for parking lots, where 1 percent of the total are in failed condition.

As summarized in Table 7 and Table 8, high-priority assets vary in condition. For

**Table 7**  
**Condition of Refuge High Priority Assets**

Condition	Roads (Paved)	Roads (Dirt)	Roads (Gravel)	Parking Lot	Trails (Unpaved)	Boardwalks	Bridges (Trail)	Bridges (Road)	Docks (Floating)	Docks (Stationary)	Airstrips
Excellent	100%	86%	96%	89%	74%	50%	100%	100%	100%	100%	100%
Good	0%	0%	0%	4%	13%	25%	0%	0%	0%	0%	0%
Fair	0%	0%	1%	6%	0%	0%	0%	0%	0%	0%	0%
Poor	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Failed	0%	14%	3%	1%	13%	25%	0%	0%	0%	0%	0%

Condition as measured by FCI (“Excellent” is 0.1 or less, “Good” 0.1 to 0.15, “Fair” is 0.15 to 0.50, “Poor” is 0.50 to 0.70, “Fail” is less than 0.70). “High” priority assets have an API of 60 or greater.

**Table 8**  
**Condition of Administrative Site High Priority Assets**

Condition	Roads (Paved)	Roads (Gravel)	Parking Lot	Trails (Paved)	Trails (Unpaved)	Boardwalks	Bridges (Trail)	Docks (Stationary)
Excellent	100%	100%	99%	100%	100%	100%	100%	100%
Good	0%	0%	0%	0%	0%	0%	0%	0%
Fair	0%	0%	0%	0%	0%	0%	0%	0%
Poor	0%	0%	0%	0%	0%	0%	0%	0%
Failed	0%	0%	1%	0%	0%	0%	0%	0%

Condition as measured by FCI (“Excellent” is 0.1 or less, “Good” 0.1 to 0.15, “Fair” is 0.15 to 0.50, “Poor” is 0.50 to 0.70, “Fail” is less than 0.70). “High” priority assets have an API of 60 or greater.

As indicated in Table 9, 100 percent of refuge low-priority dirt and paved roads are in excellent condition. This is a possible indication that maintenance performed on these low-priority gravel roads could be performed elsewhere (such as high-priority refuge dirt roads).

A second quantitative tool for illustrating system conditions is RIP data, which is collected by FLH on behalf of the Service to provide ongoing condition monitoring of all public use roads, trails, and parking lots. The inventory is updated regularly and resulting datasets are compiled and released every 5 years.

Although it is possible to join SAMMS and RIP datasets at this time, doing so

requires aggregation of SAMMS data. Given the relatively small SAMMS dataset in Region 7, the results of this reconciliation of SAMMS and RIP data provides results of limited utility. As such, RIP data is provided as a standalone dataset and serves the function of a cross-check for Region 7 FCI based condition determinations. The cross-check is useful as the RIP measures observed surface condition rather than condition as function of deferred maintenance, as is done in SAMMS. Table 11, Table 12, and Table 13 summarize conditions of roads, trails, and parking lots by unit and surface type. Locations omitted from the tables do not have RIP data.

**Table 9**  
**Condition of Refuge Low Priority Assets**

Condition	Roads (Paved)	Roads (Dirt)	Roads (Gravel)	Parking Lot	Trails (Paved)	Trails (Unpaved)	Boardwalks	Bridges (Trail)
Excellent	100%	100%	99%	96%	83%	88%	75%	100%
Good	0%	0%	0%	0%	0%	5%	0%	0%
Fair	0%	0%	0%	0%	0%	5%	25%	0%
Poor	0%	0%	0%	0%	0%	0%	0%	0%
Failed	0%	0%	1%	4%	17%	2%	0%	0%

*“Low priority assets” have an API of less than 60.*

*Condition as measured by FCI (“Excellent” is 0.1 or less, “Good” 0.1 to 0.15, “Fair” is 0.15 to 0.50, “Poor” is 0.50 to 0.70, “Fail” is less than 0.70).*

**Table 10**  
**Condition of Administrative Site Low Priority Assets**

Condition	Parking Lot	Docks (Floating)	Docks (Stationary)
Excellent	94%	100%	100%
Good	0%	0%	0%
Fair	0%	0%	0%
Poor	6%	0%	0%
Failed	0%	0%	0%

*“Low priority assets” have an API of less than 60.*

*Condition as measured by FCI (“Excellent” is 0.1 or less, “Good” 0.1 to 0.15, “Fair” is 0.15 to 0.50, “Poor” is 0.50 to 0.70, “Fail” is less than 0.70).*

**Table 11**  
**Road Inventory Program (RIP) Road Conditions (Miles)**

Unit	Surface Type	Excellent	Good	Fair	Poor	Failed	Grand Total
Izembek	Gravel	14.9	8.9	0.0	0	0	23.7
	Native	0.0	3	15.7	0.3	10.6	29.6
	Total	14.9	11.9	15.7	0.3	10.6	53.3
Kenai	Asphalt	0.1	0.3	2.9	0	0	3.3
	Gravel	0.2	58.2	9.6	0	0	68
	Native	0.0	8	4.6	0	0.1	12.7
	Total	0.3	66.5	17.1	0.0	0.1	84
Kodiak	Gravel	0.0	0.2	0.0	0	0.0	0.2
	Total	0.0	0.2	0.0	0.0	0.0	0.2
Tetlin	Asphalt	0.0	0	0.5	0.0	0.0	0.5
	Gravel	0.0	5.2	0.0	0.1	0.2	5.6
	Native	0.0	0.0	1	0.0	0.0	1
	Total	0.0	5.2	1.5	0.1	0.2	7
<b>Grand Total</b>		<b>15.2</b>	<b>83.8</b>	<b>34.3</b>	<b>0.4</b>	<b>11</b>	<b>144.6</b>

*Refuge Roads Program, RIP Cycle 4 (2009)*

**Table 12**  
**Service Trail Inventory Conditions (Miles)**

Unit	Surface Type	Excellent	Good	Fair	Poor	Not Rated	Grand Total
Homer Visitor Center	Asphalt	0	0	0	0	0	0
	Boardwalk	0.3	0	0	0	0	0.3
	Gravel	0.2	0	0	0	0	0.2
	Total	0.5	0	0	0	0	0.5
Kenai	Boardwalk	0.2	0	0	0	0	0.2
	Gravel	3	0	0	0	0	3
	Mowed	4.7	0	0	0	0	4.7
	Native	69.7	15.5	0	3	27.2	115.4
	Puncheon	0.6	0	0	0	0	0.6
	Wood Chip	0.6	0	0	0	0	0.6
	Total	78.8	15.5	0	3	27.2	124.5
Kodiak	Gravel	0	0.2	0	0	0	0.2
	Total	0	0.2	0	0	0	0.2
Tetlin	Boardwalk	0	0	0	0	0	0
	Native	1.5	0	1.1	0	0	2.6
	Puncheon	0.5	0	0	0	0	0.5
	Total	2	0	1.1	0	0	3.1
<b>Grand Total</b>		<b>81.3</b>	<b>15.7</b>	<b>1.1</b>	<b>3</b>	<b>27.2</b>	<b>128.4</b>

*Service Trail Inventory (2007)*

**Table 13**  
**Parking Lot Conditions (Number of)**

Unit	Surface Type	Excellent	Good	Fair	Poor	Failed	Grand Total
Alaska Maritime	Asphalt	1	0	0	0	0	1
	Total	1	0	0	0	0	1
Izembek	Asphalt	0	0	0	1	0	1
	Gravel	0	2	3	2	0	7
	Native	0	0	4	0	1	5
	Total	0	2	7	3	1	13
Kenai	Asphalt	1	4	1	0	0	6
	Gravel	13	32	18	0	0	63
	Total	14	36	19	0	0	69
Kodiak	Gravel	0	1	0	0	0	1
	Total	0	1	0	0	0	1
Tetlin	Asphalt	0	1	0	0	0	1
	Gravel	1	4	0	0	0	5
	Native	0	1	1	0	1	3
	Total	1	6	1	0	1	9
<b>Grand Total</b>		<b>16</b>	<b>45</b>	<b>27</b>	<b>3</b>	<b>2</b>	<b>93</b>

*Refuge Roads Program, Cycle 4 (2009)*

### 2.3 FLMA Trends

The *Visitation Trends Technical Report* developed for the *Alaska Federal Lands LRTP* presents an analysis of trends in visitation to FLMA's. The report is available in the appendix of that LRTP. In general, the report concludes that out-of-state visits to Alaska are likely to increase over the next 20 years. Visitation is expected to increase most in FLMA units that are either directly accessed

by cruise ships or are secondary stops for visitors who enter the state by cruise ship or commercial airline. Such units are generally those that are adjacent to cities with access to roads and accommodate tour busses and automobiles. The visitation technical report in the appendix of the *Alaska Federal Lands LRTP* also presents which FLMA units, including refuges, are in or near such destination communities.

## 3 Goals and Baseline Conditions

This chapter discusses the current state of Region 7's transportation system as it relates to the goals and objectives described in Chapter 1. The six LRTP goal areas include topics of sustainability, environment, subsistence access, user experience, mobility, and partnership. The following sections define the intent of each goal and provide supportive data and an analysis summary supporting each goal. This chapter provides a roadmap for identifying improvement needs (i.e., potential projects) at the refuge level using readily available data to identify deficiencies or needs in individual refuges. By applying the approach demonstrated in the following sections for each goal area, Service leadership can identify needs and opportunities that are most likely to help Region 7 meet the long range goals of this LRTP. This chapter outlines the data sources, data relationships, and steps necessary to identify needs and opportunities corresponding to the LRTP goals and objectives.

A common thread for needs and opportunities among each of the six LRTP goal areas is additional planning. While these planning needs and opportunities are documented in the subsections below, they are also documented for the entire region in Appendix D.

### 3.1 Sustainability

The sustainability goal is to **“provide a sustainable transportation program to satisfy current and future land management needs in the face of a changing climate.”** The following objectives contribute towards reaching this goal.

#### Objective 1

Address climate change and other environmental factors at all levels of transportation planning, design, project delivery, operations, and maintenance.

#### Objective 2

Consider sustainability of operation and maintenance of new assets in the planning process.

#### Objective 3

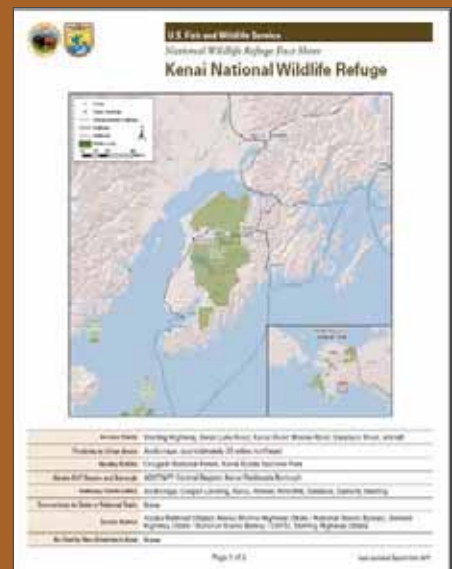
Reduce fossil fuel energy consumption by refuge staff and visiting public while continuing to provide for and encourage compatible uses.

### 3.1.1 Identifying Sustainability Needs and Opportunities

Several indicators are used to identify sustainable transportation program gaps, as defined by the sustainability goal and its objectives. By using the data collected in interviews with refuge staff in conjunction with the information contained in the region's CCPs, gaps in a region-wide sustainable transportation program were identified. Additionally, the *Draft Climate Change Technical Report*, which was developed in support of the *Alaska*

## Refuge Factsheets

The data, analysis, and conclusions presented in Chapters 2 and 3 of this LRTP are summarized in Region 7 refuge factsheets. The fact sheets are presented in Appendix C. The factsheets provide a high level overview of each refuge in terms of its location, size, number and condition of assets, transportation planning needs, as well as other relevant data.



## Reducing Fossil Fuel Consumption

Interviews with refuge staff revealed that refuges use video conferencing and virtual private network capabilities to work remotely, thereby reducing fossil fuel consumption for work-related travel.

Arctic, Kenai, Kodiak, Koyukuk, Maritime, and Tetlin National Wildlife Refuges have also committed to replacing fleet vehicles with higher efficiency vehicles such as four stroke instead of two stroke snowmobiles.

*Federal Lands LRTP*, helps identify long range needs and threats to asset sustainability (as outlined in Objective 1).

Actions taken or planned by refuges as they relate to sustainability Objectives 1, 2, and 3 are summarized in Table 14. The table shows that although planning related to sustainability in the transportation program in the face of a changing climate has not occurred, refuge-level actions are largely consistent with climate change mitigation.

Adaptation to climate change by the region's transportation program remains a challenge for long-term improvement. Nevertheless, the groundwork for developing climate change adaptations to the region's transportation program is already underway. In addition to refuge level climate change adaptation, results produced from interviews with refuge staff from the *Draft Climate Change Technical Report* helps identify threats to asset sustainability over the long term. The results of the technical report identify transportation system impacts related to erosion and permafrost instability as the two primary climate change threats. As reported in the technical report, several communities in and near refuges are prone to erosion risk factors as well as high levels of permafrost. The results of this technical report are available in the appendix of the *Alaska Federal Lands LRTP*, and summarized in Figure 7, Figure 8, and Table 15.

**Table 14  
Sustainability**

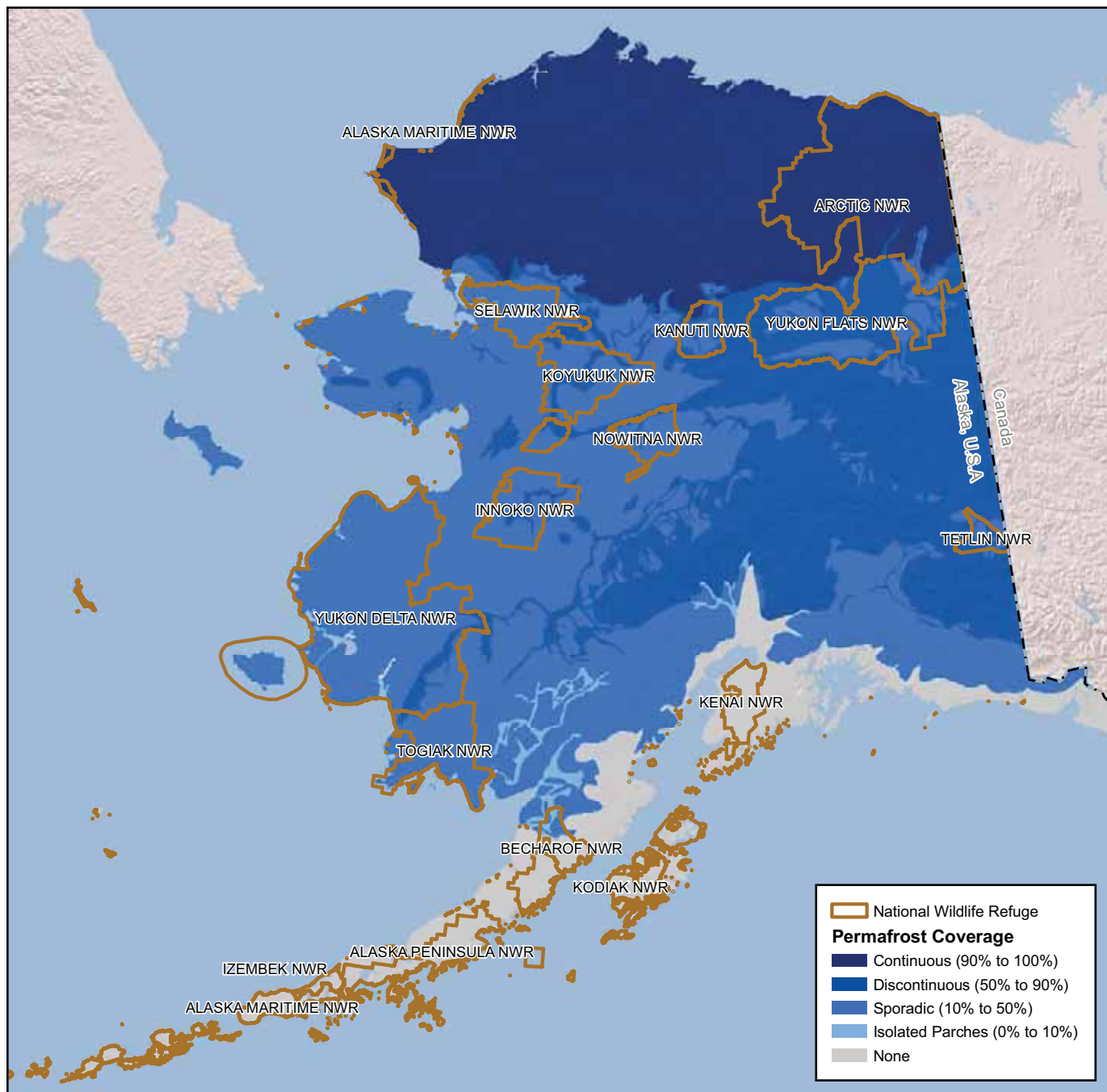
Refuge	Refuge Interview									CCP**			
	Climate Change Threats				Climate Change Mitigation					Climate Change Response in CCP	Climate Change Adaptation Strategies	Climate Change Mitigation Strategies	Sustainability in Operation and Maintenance Planning
Flooding	Storm Frequency/Intensity	Freeze/Thaw Cycles	Sea/Lake Level Change	Fewer Motorized Vehicle Trips	More Fuel Efficient Fleet (snow machine, auto, etc.)	Bike Use	Carpool	Other					
Alaska Maritime National Wildlife Refuge	*	H	*	*	No	Yes	Yes	No	*	*	*	*	*
Alaska Peninsula-Becharof National Wildlife Refuge	*	M	*	*	Yes	No	Yes	No	Video conferencing	*	*	Management policies and guidelines exist.	*
Arctic National Wildlife Refuge	H	H	*	H	Yes	Yes	Yes	Yes	Consolidating flights; video conferencing; VPN capabilities	*	*	Is considered in alternatives analysis.	*
Innoko National Wildlife Refuge	*	H	*	*	Yes	No	No	No	All-weather air strip; planning for fewer trips	Documented commitment to address the effects of climate change.	*	*	*
Izembek National Wildlife Refuge	H	H	M	*	Yes	No	Yes	Yes	Three-seat ATVs	*	*	*	*
Kanuti National Wildlife Refuge	H	*	H	H	No	Yes	Yes	No	Video conferencing	Awareness of long-term effect is hoped to result in reprioritization of issues and changes in management strategies.	Moderate management areas are allowed to erect water control structures to mitigate potential wetland loss due to climate change.	*	*
Kenai National Wildlife Refuge	M	*	*	*	No	No	No	No	Alternative fuels, telecommuting	Documented goal and objective to within one year of CCP adoption, develop internal policies to emphasize long-term management needs associated with climate change.	*	*	*
Kodiak National Wildlife Refuge	M	M	*	*	No	Yes	No	No	LCD lighting	*	*	*	*
Koyukuk and Nowitna National Wildlife Refuge	M	*	*	*	No	Yes	Yes	No	Teleconferencing, building-related energy saving program	*	*	*	*

**Table 14  
Sustainability**

Refuge	Refuge Interview									CCP**				
	Climate Change Threats				Climate Change Mitigation					Climate Change Response in CCP	Climate Change Adaptation Strategies	Climate Change Mitigation Strategies	Sustainability in Operation and Maintenance Planning	
Flooding	Storm Frequency/Intensity	Freeze/Thaw Cycles	Sea/Lake Level Change	Fewer Motorized Vehicle Trips	More Fuel Efficient Fleet (snow machine, auto, etc.)	Bike Use	Carpool	Other						
Selawik National Wildlife Refuge	*	*	*	M	No	Yes	Yes	No	Video conferencing	A plan goal is to develop a leadership role in addressing climate change in northwest Alaska.	*		Public discussion of road development (to shorten travel times/distances) has resurfaced in response to skyrocketing fuel costs and economic hardships in outlying villages. Selawik, Noorvik, and Kiana.	*
Tetlin National Wildlife Refuge	H	*	H	*	No	Yes	Yes	Yes	*	*	*	*	*	*
Togiak National Wildlife Refuge	*	*	*	*	No	No	No	No	Video conferencing	A plan goal is to manage refuge habitats and wildlife to ensure the health and integrity of native ecosystems by developing long term ecological inventory and monitoring programs and a collaborative research program, which incorporate data collection to evaluate the effects of climate change.	*		*	*
Yukon Delta National Wildlife Refuge	*	H	*	*	No	No	No	No	Tracking fuel use	*	*	*	*	*
Yukon Flats National Wildlife Refuge	H	*	*	*	No	No	Yes	No	*	*	*	*	*	*

- H** Identified as a high level of potential threat
- M** Identified as a medium level of potential threat
- L** Identified as a low level of potential threat
- \*** No comment from Refuge
- \*\*** Publication date and status of CCPs on Table 16

**Figure 7**  
**Alaska Permafrost Coverage**

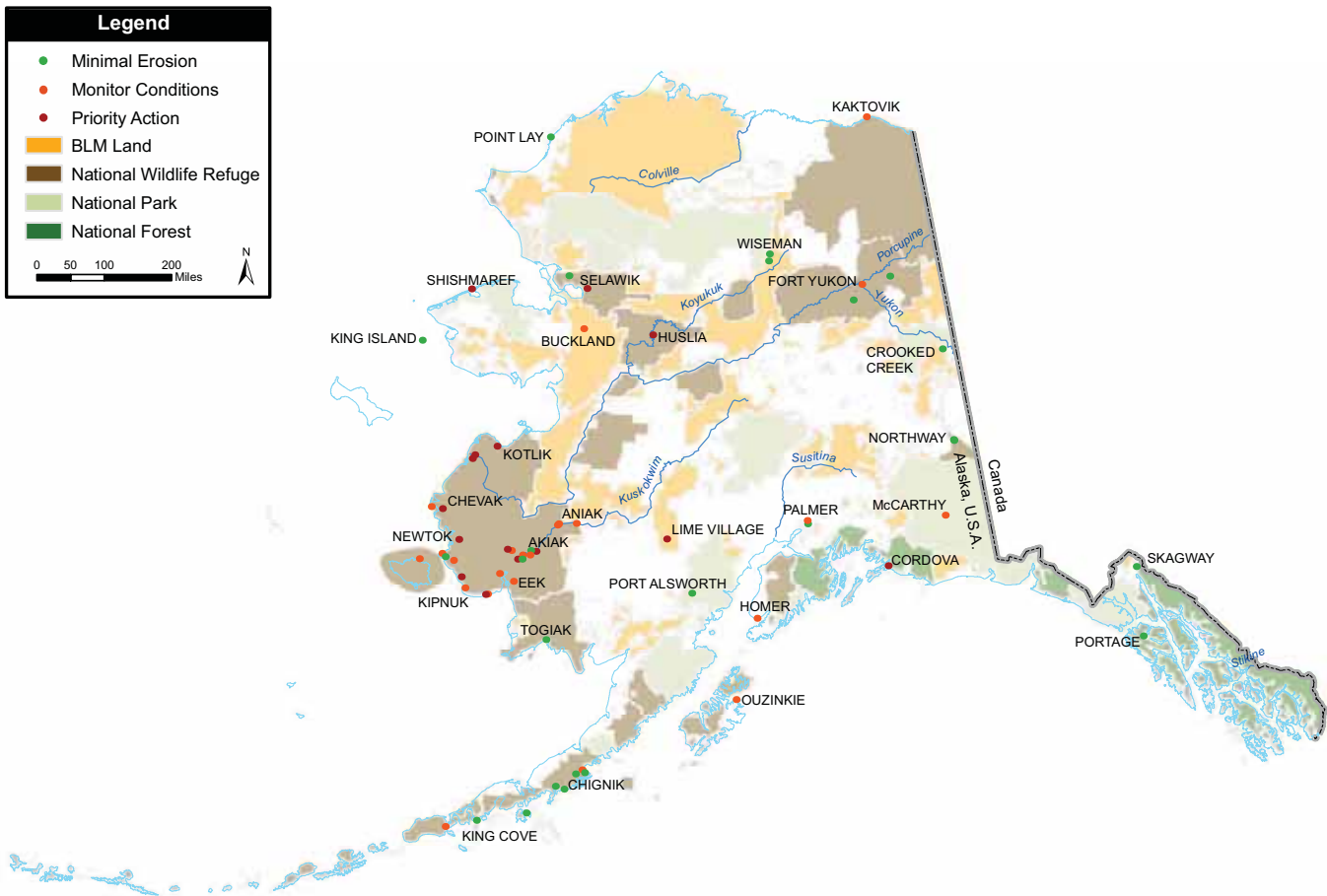


Source: U.S. Geological Survey Earth Resources Observation Systems Alaska Field Office (1996). Reported in the Climate Change Technical Report in the Alaska Federal Lands LRTP.

Erosion related to climate change falls into two categories: coastal and river/lakeshore. Coastal erosion can accelerate when shorelines are exposed due to melting sea ice, melting permafrost, increased storm and wave activity, and/or rising sea levels. Transportation infrastructure near coastal areas could face increased risks due to climate change. Like coastal erosion, river erosion can damage structural integrity or accelerate the degradation process of transportation asset. Warming has a particular effect on

river shoreline erosion due to increased intensity of thaw periods and the resulting surges of stream activity, and even flooding. Increased storm frequency and precipitation levels can also accelerate stream bank erosion. As reported in the *Draft Climate Change Technical Report*, several communities in and near refuges have erosion risk factors. These communities and their relative risk of erosion are shown in Figure 8 and are summarized in Table 15.

**Figure 8**  
**Refuge Community\* Erosion Risk**



Source: U.S. Army Corps of Engineers, *Alaska Baseline Erosion Assessment (2009)*. Reported in the *Climate Change Technical Report in the Alaska Federal Lands LRTP*.

\*Communities in or within 5 miles of an FLMA boundary

**Table 15**  
**Refuge Community\* Erosion Risk**

Refuge	Community	Erosion Risk
Alaska Maritime	False Pass	Monitor Conditions
	King Island	Minimal Erosion
	Ouzinkie	Monitor Conditions
	Point Lay	Minimal Erosion
	Sand Point	Minimal Erosion
	Shishmaref	Priority Action
Alaska Peninsula	Chignik	Minimal Erosion
	Chignik Lagoon	Monitor Conditions
	Chignik Lake	Minimal Erosion
	Ivanof Bay	Minimal Erosion
	King Cove	Minimal Erosion
	Perryville	Minimal Erosion
Arctic	Birch Creek	Minimal Erosion
	Chalkyitsik	Minimal Erosion
	Fort Yukon	Monitor Conditions
	Kaktovik	Monitor Conditions
Koyukuk	Huslia	Priority Action
Selawik	Noorvik	Minimal Erosion
	Selawik	Priority Action
Tetlin	Northway	Minimal Erosion
	Northway Indian Village	Minimal Erosion
Togiak	Togiak	Minimal Erosion
Yukon Delta	Akiachak	Minimal Erosion
	Akiak	Priority Action
	Alakanuk	Priority Action
	Aniak	Monitor Conditions
	Atmautluak	Monitor Conditions
	Bethel	Monitor Conditions
	Chefornak	Priority Action

**Table 15**  
**Refuge Community\* Erosion Risk**

Refuge	Community	Erosion Risk
Yukon Delta	Chevak	Priority Action
	Eek	Monitor Conditions
	Emmonak	Priority Action
	Hooper Bay	Monitor Conditions
	Kipnuk	Monitor Conditions
	Kongiganak (Site)	Monitor Conditions
	Kotlik	Priority Action
	Kwethluk	Monitor Conditions
	Kwigillingok	Priority Action
	Lower Kalskag	Monitor Conditions
	Mekoryuk	Monitor Conditions
	Napakiak	Priority Action
	Napaskiak	Minimal Erosion
	Newtok	Priority Action
	Nightmute	Monitor Conditions
	Nunapitchuk	Priority Action
	Oscarville	Monitor Conditions
	Toksook Bay	Minimal Erosion
	Tuntutuliak	Monitor Conditions
Tununak	Monitor Conditions	
Upper Kalskag	Monitor Conditions	

<b>Priority Action</b>	= <i>Erosion issues in these communities warrant immediate and substantial intervention.</i>
<b>Monitor Conditions</b>	= <i>Erosion issue may warrant intervention in these communities.</i>
<b>Minimal Erosion</b>	= <i>Reported erosion impacts that are not serious and are not currently affecting the viability of the community. No intervention is necessary at this time.</i>

Source: U.S. Army Corps of Engineers, Alaska Baseline Erosion Assessment (2009). Reported in the Climate Change Technical Report in the Alaska Federal Lands LRTP.

\* Communities in a refuge, or within 5 miles of a refuge boundary

Izembek National Wildlife Refuge provides an example of how identified needs and opportunities can strengthen a refuge's sustainable transportation program. Through interviews, Refuge Staff indicated a high level of vulnerability to changes in flooding and storm frequency as well as a medium level of threat from changes in freeze thaw cycles. The Refuge's 1985 CCP did not include climate change responses, adaptations, or mitigation strategies as it predated widespread concern regarding climate change. Nevertheless, refuge staff are taking actions that can be classified as climate change mitigation; such as bicycle use and carpooling. The results of the refuge interviews and CCP reviews summarized in Table 14 show an opportunity to include sustainability in future planning efforts, thereby recognizing climate change efforts already underway as well as creating a strategic approach that includes adaptation in its transportation program.

Yukon Delta National Wildlife Refuge also identifies risk from changes in freeze/thaw cycles and did not include climate change issues in its 1998 CCP. In addition, the U.S. Army Corps of Engineer's erosion study identifies 10 communities in and near the refuge that warrant immediate and substantial erosion intervention. The data suggest that future planning efforts would benefit from including climate change adaptation strategies, especially as they pertain to erosion and freeze/thaw cycles.

## 3.2 Environment

The LRTP environment goal is to **"conserve and protect natural and cultural resources through comprehensive transportation planning and management."** The following objectives contribute towards reaching this goal.

### Objective 1

Conduct transportation planning at a landscape level by considering direct and indirect effects of transportation systems on ecosystems within and adjacent to refuges.

### Objective 2

Ensure protection of open water, wetlands, and aquifers on refuges; maintain and improve air quality; and avoid or minimize impacts on permafrost and sensitive soils when planning for and constructing transportation improvements.

### Objective 3

Avoid, minimize, or mitigate transportation-related habitat impacts.

### Objective 4

Preserve cultural resources by avoiding or minimizing negative transportation impacts to culturally significant human settlements, subsistence areas, cultural landscapes, and historic and archaeological sites.

### 3.2.1 Identifying Environmental Needs and Opportunities

Identifying areas of need and opportunity in terms of conserving and protecting natural and cultural resources through comprehensive transportation planning and management was achieved through individual refuge interviews and the review of Region 7 CCPs. The review of CCPs is significant because, as described in Section 1.4, CCPs are NEPA-compliant documents and therefore address the sentiments expressed in the environment goal of this LRTP. By this measure, if a CCP has been completed and is up to date, the underlying principle expressed in this LRTP's environment goal is being met. Those that have not yet been updated are identified as improvement areas (these plans are to be developed and will no longer be viewed as gaps once they are adopted).

The CCP summaries used in conjunction with refuge interviews helped identify opportunities and needs in terms of improving transportation planning and management in conserving and protecting resources. Interview results pointed

to known and possible environmental threats at the refuge level as they relate to transportation. These results illustrate perceived need, and can form the basis of future study and planning to ensure that the Region 7 transportation system continues to support the conservation and protection of natural and cultural resources.

Table 16 indicates that refuges perceive a wide range of environmental threats as they relate to the transportation system. Tetlin National Wildlife Refuge, for example, perceives existing threats from flooding, roads (through runoff, invasive species, and fuel spills), off-road vehicles, as well as possible threats from fuel spills and invasive species. Innoko National Wildlife Refuge, however, perceives fewer and lower threats though flooding alone and only views on-site fuel storage and fuel barges as low and medium threats, respectively. The results show that identifying needs based on environmental threats is highly subjective from one refuge to the next and dependent on each refuge's perception of the situation.

Table 16  
Environment

Refuge	Refuge Interviews												CCPs**		
	Flooding	Known Threats						Possible Threats					CCP Publish / Update Date	Transportation-related Natural Impacts	Transportation-related Cultural Impacts
		Roads (runoff, invasive species, etc.)	Off-road Vehicle (public use)	Wildfire	Wildlife (bears, moose, etc.)	Coastal Erosion	Trampling, vandalism and looting of archaeological sites	On-site Fuel Storage	Fuel Barge Spills (including hazmat)	Other vehicle fuel/hazmat spills (trucks, airplanes, etc.)	Severe Weather (tsunamis, volcanoes, earthquakes, etc.)	Invasive Species			
Alaska Maritime National Wildlife Refuge	*	H	H	*	*	*	L	*	H	*	H	H	1988 / expected in 2017	CCP contains an EIS and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Alaska Peninsula-Becharof National Wildlife Refuge	*	M	*	*	*	*	L	*	H	H	H	M	1985 (1987 Update) / 2006	Goal to develop / implement methodology for monitoring off-road vehicle impacts on refuge lands. Would be conducted to document damage to vegetative cover and soils in areas of significant use, including Big Creek, King Salmon River (near Egegik), Becharof Lake outlet, Yantarni Bay airstrip, and Port Heiden. CCP contains an EIS and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Arctic National Wildlife Refuge	H	M		M	*	H	L	M	H	*	*	M	1988 / 2012	No proposals have been made to build roads, pipelines, utility lines, or other transportation corridors through the refuge (south of the "1002" area). CCP contains an EIS and the environmental protections provided through NEPA.	No proposals have been made to build roads, pipelines, utility lines, or other transportation corridors through the refuge (south of the "1002" area). CCP contains an EIS and the environmental protections provided through NEPA.
Innoko National Wildlife Refuge	M	*	*	*	*	*	L	M	L	*	*	*	1987 / 2008	CCP contains an EA and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Izembek National Wildlife Refuge	H	L	H	*	*	*	L	*	*	*	*	*	1985 / Update due after Izemek Land Exchange and Road Corridor EIS is completed.	CCP contains an EIS and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Kanuti National Wildlife Refuge	H	M	M	M	*	*	L	H	*	*	*	M	1987 / 2003	CCP contains an EA and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Kenai National Wildlife Refuge	M	*	*	*	M	H	L	*	*	H	*	H	2010	Directly addresses issues dealing with aircraft, snow machines, and general access to pipeline roads. CCP contains an EIS and the environmental protections provided through NEPA.	Directly addresses issues dealing with aircraft, snow machines, and general access to pipeline roads. CCP contains an EIS and the environmental protections provided through NEPA.

**Table 16  
Environment**

Refuge	Refuge Interviews												CCPs**		
	Flooding	Known Threats						Possible Threats						CCP Publish / Update Date	Transportation-related Natural Impacts
Roads (runoff, invasive species, etc.)		Off-road Vehicle (public use)	Wildfire	Wildlife (bears, moose, etc.)	Coastal Erosion	Trampling, vandalism and looting of archaeological sites	On-site Fuel Storage	Fuel Barge Spills (including hazmat)	Other vehicle fuel/hazmat spills (trucks, airplanes, etc.)	Severe Weather (tsunamis, volcanoes, earthquakes, etc.)	Invasive Species				
Kodiak National Wildlife Refuge	M	M	*	*	*	*	L	*	M	H	M	M	2006	CCP contains an EIS and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Koyukuk and Nowitna National Wildlife Refuge	M	H	M	*	*	*	L	*	M	*	*	H	2009	CCP contains an EA and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Selawik National Wildlife Refuge	*	*	*	*	*	*	L	*	*	*	*	*	1987 / 2011	CCP contains an EA and the environmental protections provided through NEPA.	Public discussion of road development in the region has resurfaced recently. Opinions on roads are divided. The use of ATVs for transportation is limited to within the villages. CCP contains an EIS and the environmental protections provided through NEPA.
Tetlin National Wildlife Refuge	H	H	H	H	H	*	L	*	*	H	*	H	1987 / 2004	CCP contains an EA and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Togiak National Wildlife Refuge	*	*	H	*	*	*	L	*	H	*	*	*	1987 / 2008	CCP contains an EA and the environmental protections provided through NEPA.	Use of snow machine, motorboats, airplanes and nonmotorized surface transportation methods for traditional activities and for travel to and from villages and homesites.
Yukon Delta National Wildlife Refuge	*	M	H	*	*	*	L	*	H	*	*	*	1988	CCP contains an EIS and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.
Yukon Flats National Wildlife Refuge	H	*	*	H	*	*	L	*	*	*	*	*	1988	CCP contains an EIS and the environmental protections provided through NEPA.	CCP contains an EIS and the environmental protections provided through NEPA.

H Identified as a high level of potential threat  
M Identified as a medium level of potential threat  
L Identified as a low level of potential threat  
\* No comment from Refuge  
\*\* Publication date and status of CCPs on Table 16

### 3.3 Subsistence Access

The LRTP subsistence access goal is to **“fulfill the Service’s Alaska National Interest Land Conservation Act (ANILCA) of 1980 obligations as they relate to subsistence use and access.”**

The following objectives contribute towards reaching this goal.

#### Objective 1

Ensure effects of transportation decisions on resources and subsistence users are considered.

#### Objective 2

Consider subsistence access needs when making transportation decisions.

#### Objective 3

Document traditional uses of off-road vehicles for subsistence access.

#### 3.3.1 Identifying Subsistence Needs and Opportunities

Data collected through individual refuge interviews as well as the information contained in CCPs were used to identify areas where the Service has been successful, and where it might improve, meeting its obligations for subsistence access. For example, CCPs document whether or not traditional use determination studies have been conducted and which modes of travel are allowable for subsistence use. Interview results describe which modes of subsistence access are occurring on refuges. Areas where subsistence access could be examined further are places without formal traditional use determinations, as indicated in Table 17.

## ANILCA

Prior to statehood, nearly all land in Alaska was federally-owned. The 1959 Alaska Statehood Act granted the State selection of 104 million acres of Federal land. Much of the land selected for State ownership, consisted of lands traditionally used by Alaska Natives. Contention and several lawsuits arose as a result. This situation finally led to broad Alaska Native community objections and resulted in a freeze on further State land selections until Congress could settle the Native claim issues.

In 1971, Congress passed the Alaska Native Claims Settlement Act (ANCSA), which had a fundamental purpose of resolving Native land claims. ANCSA created 12 Native-owned regional corporations, granted them nearly \$1 billion in seed money, and authorized the Native Corporations to select 44 million acres of Federal lands in Alaska. ANCSA also provided for withdrawal of 80 million acres for possible designation as national parks, fish and wildlife refuges, national forests, and wild and scenic rivers.

Signed into law on December 2, 1980, ANILCA created or revised 15 national parks while setting aside public lands for the U.S. Forest Service and the Fish and Wildlife Service.

ANILCA, ANCSA, and the Alaska Statehood Act, combined with years of homesteading, mining claims and Native allotments, has resulted in a situation where private land is sometimes located in national parks, national forests, or national wildlife refuges. Access to these parcels has been, and continues to be, a significant transportation issue facing all Federal land management agencies. ANILCA addresses these issues by requiring reasonable access to and through Federal lands for residents affected by jurisdictional overlaps with Federal lands. For example, ANILCA Section 811(a) ensures that rural residents shall have reasonable access to subsistence resources, and 811(b) provides for the appropriate and reasonably regulated use of snowmobiles, motorboats, and other means of surface transportation traditionally used by local residents. In certain cases ANILCA allows for access to and from villages and home sites, traditional activities, and in holdings for economic and other activities.

**Table 17  
Subsistence**

Refuge	Refuge Interviews				CCPs**
	Allowable Subsistence Off-road Travel				
	Traditional Uses	Truck	Snow Machine (ORV)	ATV	Subsistence Travel Modes
Alaska Maritime National Wildlife Refuge	*	Yes	Yes	Yes	Varies by location. Marine areas are used in many cases. Generally: snow machines, sled dogs, and three-wheelers.
Alaska Peninsula-Becharof National Wildlife Refuge	*	*	Yes	*	Traditional use include snow machines, motorboats, dog teams, and other means of surface transportation traditionally used by local rural residents engaged in subsistence activities. Provisions have been made for the use of off-road vehicles for subsistence purposes. Three- and four-wheeled vehicles with a maximum gross vehicle weight of 650 pounds are allowed on the Refuges for subsistence purposes.
Arctic National Wildlife Refuge	Yes	*	Yes	Yes	The use of snow machines (during periods of adequate snow cover), motorboats, airplanes, and non-motorized surface transportation methods for traditional activities on refuge lands and for travel to and from villages and home site is permitted.
Innoko National Wildlife Refuge	Yes	*	Yes	*	CCP Goal 3 is to provide the opportunity for continued subsistence uses of the refuge, consistent with the subsistence priority and with other refuge purposes.
Izembek National Wildlife Refuge		Yes		Yes	Dominant modes include foot and vehicle traffic.
Kanuti National Wildlife Refuge	*	*	Yes	*	The use of ORVs other than on established roads and parking areas is prohibited except on designated routes or areas or with a valid permit under the Code of Federal Regulations. Currently there are no roads, no parking areas, and no designated routes or areas on the refuge.
Kenai National Wildlife Refuge	*	*	*	*	No mention.
Kodiak National Wildlife Refuge	*	*	*	*	Dog teams, motorboats, and snow machines are authorized when use is for specific purposes such as subsistence, access to villages and home sites, and access for traditional activities
Koyukuk and Nowitna National Wildlife Refuge	*	*	*	*	No mention.

**Table 17**  
**Subsistence**

Refuge	Refuge Interviews				CCPs**
	Allowable Subsistence Off-road Travel				
	Traditional Uses	Truck	Snow Machine (ORV)	ATV	Subsistence Travel Modes
Selawik National Wildlife Refuge	*	*	*	*	No ATV routes or areas are currently designated. There is no known established use or pattern of use for subsistence purposes on Selawik Refuge.  Access to the refuge is possible only by boat, float- or ski-equipped airplane, snow machine, or dog sled team. Snow machine trails provide vital links among the local communities.
Tetlin National Wildlife Refuge	*	*	Yes	*	Traditional means include snow machines, motorboats, dog teams, and other means of surface transportation traditionally used by local rural residents engaged in subsistence activities. A traditional use determination concluded that ATVs, three-wheelers, four-wheelers, tracked vehicles, or other ORVs are not traditional uses.
Togiak National Wildlife Refuge	*	*	*	*	Use of snowmobiles, motorboats, and other means of surface transportation traditionally considered subsistence purposes are allowed.
Yukon Delta National Wildlife Refuge	*	*	*	Yes	Villagers frequently request continued use of snowmobiles, motorboats and three-wheelers for hunting and fishing.
Yukon Flats National Wildlife Refuge	Yes	*	Yes	*	Use of snowmobiles, motorboats, and other means of surface transportation traditionally considered subsistence purposes are allowed.

\* No comment from Refuge

\*\* Publication date and status of CCPs in Table 16

### 3.4 User Experience

The LRTP user experience goal is to **“proactively enhance the connectivity of the Alaska multimodal transportation system and user experience.”** The following objectives contribute towards reaching this goal.

#### ■ Objective 1

Engage visitors with compelling information so they can get to and better understand Alaska refuges.

#### ■ Objective 2

Establish a seamless interagency multimodal transportation system that emphasizes the journey as part of the Alaska experience.

#### ■ Objective 3

Collect and analyze visitor information to determine which experiences/expectations are most important and relevant to transportation access.

#### 3.4.1 Identifying User Experience Needs and Opportunities

User experience successes and improvement opportunities were identified through the use of CCP reviews, regional and individual refuge staff interviews, and published refuge visitation data. The CCP reviews indicate whether or not plans contained visitor experience goals and/or objectives as they relate to transportation, as shown in Table 18. The inclusion of transportation user experience in the CCPs demonstrates success in meeting the LRTP user experience goal. This is considered a success because it illustrates recognition and forethought of transportation’s

role in visitor journeys and access, as specified in Objectives 2 and 3. A lack of user experience in a CCP may indicate an opportunity to shape a refuge-specific direction for its transportation system in supporting user experience. Refuge interviews helped highlight specifics of how user experience is being supported through a refuge’s transportation system (for example, the presence of kiosks and signage). Conversely, gaps in user experience related planning and/or assets are potential opportunities or needs for future efforts in improving user experience.

As specified in Objective 3, visitation data is used to express which user experiences are common in Region 7’s refuges. This information informs decision makers of user expectations through counts of visit purpose. This data, used in conjunction with information about dominant modes of refuge access, show where there is overlap in a refuge’s transportation system and visit purpose, which are potential opportunities for user experience improvements. For example, based on the visitation data shown in Table 19, Kenai National Wildlife Refuge has high levels of fishing, hiking, and wildlife observation visits. Access mode information provided in Table 20 indicates the refuge’s primary access modes are road and air. The data suggest visitors mostly arrive by roads and air for fishing, hiking, and wildlife observation activities. Visitor experience improvement opportunities could exist where there are transitions from the arrival mode of travel to the visitor activity (for example, a candidate for improvements could be a parking lot where visitors arrive by vehicle and begin a pedestrian activity).

**Table 18  
User Experience**

Refuge	Refuge Interviews							CCPs**	
	Frequently Used Visitor Information Delivery							Visitor Experience Topics in CCP	Are/How Are Neighboring FLMAs Discussed?
	Visitor Center	Website	Off-site Signs (airports, highways, etc.)	Kiosks	Phone	E-mail	Other (list)		
Alaska Maritime National Wildlife Refuge	Yes	*	Yes	Yes	*	*	*	Tourist industry is not developed in many communities near the refuge; access hinders tourism.	Kodiak National Wildlife Refuge
Alaska Peninsula-Becharof National Wildlife Refuge	Yes	*	*	*	*	*	Guides	Moderate management areas will be managed for greater concentrations of visitors than Minimal Management and Wilderness areas. The Refuges will manage all recreation use to avoid crowded conditions and to minimize adverse effects to cultural resources, fish and wildlife, wilderness, and other special values of the refuge. Leave No Trace techniques will be the standard.	Bristol Bay side of the refuge has a lot of bordering state land. BLM land is not present except for some in the north.
Arctic National Wildlife Refuge	Yes	Yes	Yes	Yes	Yes	*	*	No mention.	The refuge coordinates Pan-Arctic information with BLM.
Innoko National Wildlife Refuge	*	Yes	*	*	Yes	*	*	No mention.	BLM lands are nearby as part of a game management unit and hunts go in and out of FWS/BLM areas.
Izembek National Wildlife Refuge	*	Yes	Yes	Yes	Yes	Yes	*	No mention.	The lands nearby include State Fish and Game Refuge, Native Corporation, some of Alaska Maritime Refuge and Alaska Peninsula Refuge.
Kanuti National Wildlife Refuge	Yes	*	Yes	*	Yes	Yes	*	CCP Goal 4 is to provide opportunities for quality public use and enjoyment of refuge resources in ways that minimize conflicts among user groups through compatible wildlife-dependent recreation activities, including hunting, fishing, wildlife observation and photography.	There are BLM lands east and south of the Refuge, State of Alaska lands on the west and north side of the refuge, but no state parks nearby. The 37,000 acres of BLM area of ecological concern on the southwest side.
Kenai National Wildlife Refuge	Yes	Yes	*	*	Yes	No	AM radio	Members of the general public and the planning team raised concerns about increasing public use of Refuge resources.	Chugach National Forest borders the refuge.
Kodiak National Wildlife Refuge	Yes	*	*	Yes	Yes	Yes	*	A plan goal is to improve management of commercial use opportunities that are compatible with Refuge purposes, provide quality public use opportunities, enhance visitor experiences, and ensure compliance with provisions of ANILCA.	Alaska State Lands and State Parks and Abercrombie State Park border the refuge.
Koyukuk and Nowitna National Wildlife Refuge		Yes	Yes	Yes		Yes	Postal mail	No mention.	BLM lands and State Land border the refuge
Selawik National Wildlife Refuge	*	*	*	*	Yes	Yes	Administrative site	A plan goal is to provide quality visitor experiences and enjoyment of refuge resources through compatible recreation activities in ways that minimize conflicts among visitor groups and residents.	Plan mentions collaboration among FLMAs in search and rescue efforts. Recreation visits typically go to the State Park instead. There are BLM lands nearby but no State Lands.

**Table 18  
User Experience**

Refuge	Refuge Interviews							CCPs**	
	Frequently Used Visitor Information Delivery							Visitor Experience Topics in CCP	Are/How Are Neighboring FLMAs Discussed?
	Visitor Center	Website	Off-site Signs (airports, highways, etc.)	Kiosks	Phone	E-mail	Other (list)		
Tetlin National Wildlife Refuge	Yes	Yes	Yes	Yes	Yes	Yes	*	The plan referenced the Visitor Services Plan. Also, the CCP states that significant increases in fuel prices will also likely affect refuge visitation and use. Also, Upgrade the Tetlin Refuge Visitor Center to reduce the noise, pollution, and cost of operation by 50 percent within five years of completing the Revised Conservation Plan to enhance the user experience.	BLM and Wrangell-Saint Elias National Park border the refuge.
Togiak National Wildlife Refuge	Yes	*	*	*	*	*	*	No mention.	No mention.
Yukon Delta National Wildlife Refuge	Yes	*	Yes	*	Yes	*	*	Visitor experience is intentionally not a CCP topic as recreational uses account a very small percentage of the public use.	No mention.
Yukon Flats National Wildlife Refuge	*	Yes	Yes	Yes	*	*	*	Subsistence activities account for over 90% of the public use so non-local visitors are rare. Visitor experience is therefore not a significant CCP topic.	No mention.

\*No comment by Refuge

\*\* Publication date and status of CCPs in Table 16

**Table 19**  
**Region 7 Refuge Visits\* (2010)**

Refuge		Total number of Visitors	Number of Foot Trail/ Pedestrian visits	Number of Auto Tour visits	Number of Boat Trail/ Launch visits	Number of Bicycle visits	Total Wildlife Observation visits
Alaska Maritime	Count	120,000	20,000	300	70,000	500	90,800
	% of Visits		17%	0%	58%	0%	76%
Alaska Peninsula	Count	5,305	2,000	0	0	0	2,000
	% of Visits		38%	0%	0%	0%	38%
Becharof	Count	4,133	1,300	0	0	0	1,300
	% of Visits		31%	0%	0%	0%	31%
Arctic	Count	12,600	2,000	0	6,300	0	8,300
	% of Visits		16%	0%	50%	0%	66%
Innoko	Count	1,400	0	0	0	0	0
	% of Visits		0%	0%	0%	0%	0%
Izembek	Count	7,600	230	770	60	12	1,072
	% of Visits		3%	10%	1%	0%	14%
Kanuti	Count	4,283	30	0	0	48	78
	% of Visits		1%	0%	0%	1%	2%
Kenai	Count	1,074,379	135,750	0	13,500	400	149,650
	% of Visits		13%	0%	1%	0%	14%
Kodiak	Count	48,951	1,000	0	0	0	1,000
	% of Visits		2%	0%	0%	0%	2%
Koyukuk	Count	3,000	10	0	1,600	0	1,610
	% of Visits		0%	0%	53%	0%	54%
Nowitna	Count	1,000	0	0	250	0	250
	% of Visits		0%	0%	25%	0%	25%
Selawik	Count	4,342	50	0	30	0	80
	% of Visits		1%	0%	1%	0%	2%
Tetlin	Count	38,168	7,366	23,760	400	100	31,626
	% of Visits		19%	62%	1%	0%	83%
Togiak	Count	8,000	0	0	7,800	0	7,800
	% of Visits		0%	0%	98%	0%	98%

**Table 19**  
**Region 7 Refuge Visits\* (2010)**

Refuge		Total number of Visitors	Number of Foot Trail/ Pedestrian visits	Number of Auto Tour visits	Number of Boat Trail/ Launch visits	Number of Bicycle visits	Total Wildlife Observation visits
Yukon Delta	Count	64,000	500	0	1,350	0	1,850
	% of Visits		1%	0%	2%	0%	3%
Yukon Flats	Count	10,537	0	0	0	0	0
	% of Visits		0%	0%	0%	0%	0%
Regional Total	Count	1,407,698	170,236	24,830	101,290	1,060	297,416
	% of Visits		12%	2%	7%	0%	21%

Source: Refuge Annual Performance Plan (2010)

\*Visitors and visits are different measures. One visitor can be responsible for several visits on a refuge. For example, if a family of 4 goes fishing in the morning, hikes a short nature trail in the afternoon, and later participated in an environmental education program, that family of 4 would have contributed 12 activity visits to the refuge, yet they are only 4 visitors. Visits do not include use by staff, volunteers, researchers, meeting participants, contractors, or special use permit holders. For example, visits count visitors arriving by tour bus but not the bus driver. Visits do not include individuals who do not stop on the station or whose purpose for being on the station is to get to some other non-refuge location (e.g., access to in-holdings).

**Table 20**  
**Gateway Communities and Mode of Access**

Refuge	Gateway Communities	Air	Road	Boat	Ferry	Trail	Railroad	Snowmobile	Comments
Alaska Maritime NWR	Homer, Adak, Dutch Harbor, St. George, St. Paul, Sitka, Unalaska, Kodiak, Sand Point, Atka, Umnak, Akutan, Point Hope	x	x	x	x				Visitor center in Homer on SH1 off-site attraction, entry
Alaska Peninsula NWR	King Salmon, Chignik, Naknek	x		x				x	Air from King Salmon; Boats from communities; Planes are mostly float; Fly in, boat within unit
Arctic NWR	Coldfoot, Kaktovik, Arctic Village, and Fort Yukon	x	x	x		x		x	Cold Foot visitor center serves Arctic, Yukon Flats, Kanuti
Becharof NWR	King Salmon, Anchorage Bay, Chignik, Bristol Bay, Yantarni Bay, and Naknek	x		x				x	Air from King Salmon; Boat from towns; Air float, some wheel
Innoko NWR	McGrath, Galena, Koyukuk, Nulato, Kaltag, Grayling, Anvik, Shageluk, Holy Cross (Northern Unit), Willow, Huslia, Hughes, Tanana, Ruby, Poorman, and Kaltag	x		x				x	Commercial thru McGrath; Floatplane from McGrath, Galena, Anchorage; Yukon River boat access
Izembek NWR	Cold Bay, King Cove	x	x		x				Air, ferry, road from Cold Bay; all-terrain vehicles from ferry/boats
Kanuti NWR	Coldfoot, Bettles, Allakaket, Alatna, and Evansville	x		x				x	Fairbanks Airport; River floating from communities
Kenai NWR	Kenai, Sterling, Homer, Seldovia, Seward, Cooper Landing, Ninilchik, and Anchorage	x	x	x		x		x	Hunters use SH1; Air is mostly float
Kodiak NWR	Kodiak, Akhiok, Karluk, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions	x		x	x			x	Air is mostly float; Ferry through Kodiak; Boats from towns
Koyukuk NWR	Galena, Huslia, Hughes, Tanana, Ruby, Kaltag, Koyukuk, Nulato	x		x				x	Air Galena; Float from McGrath, Galena, Anchorage; Yukon River boat access
Nowitna NWR	Galena, Huslia, Hughes, Tanana, Ruby, Kaltag, Koyukuk, Nulato							x	
Selawik NWR	Kotzebue, Noorvik, Selawik, Villages of Ambler, Buckland, Shungnak, Kiana, and Kobuk	x		x				x	Airport at Kotzebue main portal
Tetlin NWR	Tok, Tetlin, and Northway	x	x	x		x		x	Off-site visitor center in Tok, access from SH2; Fly in from Tok
Togiak NWR	Dillingham, Bethel	x	x					x	Access from Dillingham town and airport, Dillingham Alekanik
Yukon Delta NWR	Bethel, St. Mary's, Mary's Village, St. Michaels, Chevak	x		x		x		x	Bethel is the air portal
Yukon Flats NWR	Circle, Coldfoot, Fort Yukon		x	x					

Source: CCPs, Refuge interviews, mapping; x = primary mode; x = secondary mode

### 3.5 Mobility

The LRTP mobility goal is to “provide opportunities for safe, efficient, affordable, and appropriate access to, through, and within refuge lands.” The following objectives describe how the goal will be met.

#### Objective 1

Identify and reduce safety problems and modal conflicts to and within Alaskan refuges.

#### Objective 2

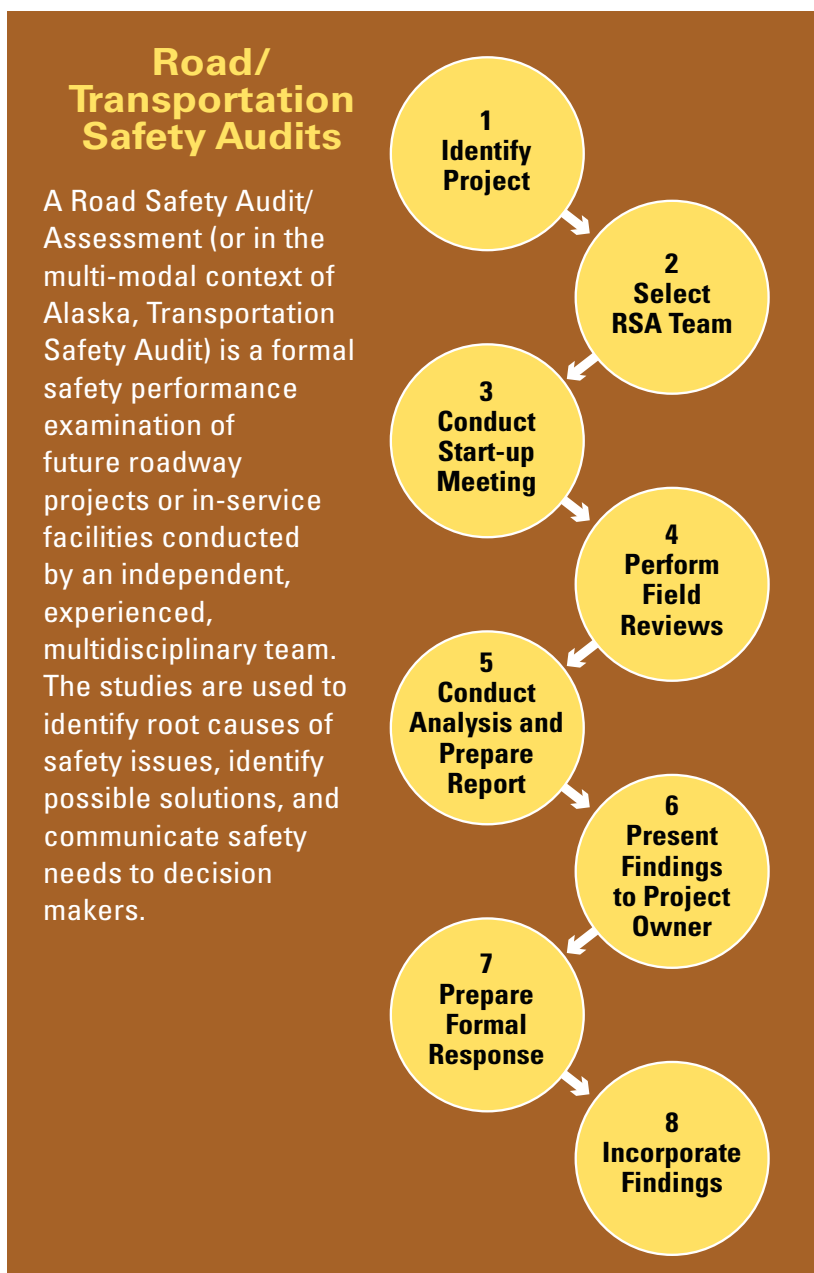
Ensure that mission critical transportation assets are maintained at “good” or better condition.

#### 3.5.1 Identifying Mobility Needs and Opportunities

The safety concerns expressed in Objective 1 can be addressed by using refuge interviews, CCP reviews, ADOT&PF crash data, and reported airplane crash data provided by National Transportation Safety Board. Needs and opportunities that respond to Objective 2 are identified through the SAMMS and RIP data discussed in Chapter 2.

Through interviews, refuges without airstrips frequently expressed a need for one to support administrative functions and the added value airstrips play in avoiding crashes (due to fuel issues or inclement weather) or supporting search and rescue operations. Refuges that are best positioned to justify an airstrip for the purposes of safety are those that can document historic airplane crashes. Although it is understood that airplane crashes are commonly undocumented, Table 21 highlights refuges that have had documented crashes since 1990. Refuge interview results and CCP review results are listed in Table 22.

Vehicle crashes are also of concern to refuges. Conflicts between vehicles, or wildlife and vehicles, significantly detract from the mobility goal. Accordingly, areas of frequent crashes in or near refuges are opportunities to improve safe access to and through Service lands. For example, ADOT&PF crash data illustrated in Table 21 indicates that between 2003 and 2007, 1,059 accidents were experienced through or within a quarter mile of Kenai National Wildlife Refuge on Sterling Highway. The results show a spike in vehicle accidents compared to other Region 7 refuges that experience lower volumes of traffic. The results may be grounds to investigate the cause of the accidents (through coordination with



ADOT&PF and Division of Alaska State Troopers) to learn more about the cause of these accidents and devise a response strategy, if needed. Other possible responses for areas of higher crash rates include road/transportation safety audits.

Identifying needs that respond to the Objective 2 charge for mission critical

transportation assets to be maintained at “good” or better condition is largely based on SAMMS and RIP data as described in Section 2.2. Needs are identified by assets that are high priority (have an API of 60 or greater), but are in poor condition (an FCI greater than 0.15) as suggested in Figure 4.

**Table 21**  
**Reported Crashes**

Refuge	Vehicle Crashes	Airplane Crashes (Refuge-Wide)
Alaska Maritime	N/A	16
Alaska Peninsula	None Reported	5
Arctic	N/A	13
Becharof	N/A	2
Innoko	N/A	1
Izembek	None Reported	1
Kanuti	N/A	N/A
Kenai	363 (Funny River Road)	10
	209 (Kalifornsky Beach Road)	
	2 (Kenai Spur Highway)	
	12 (Ski Hill Road)	
	1,059 (Sterling Highway)	
	3 (Swanson River Road)	
Kodiak	N/A	5
Koyukuk	N/A	2
Nowitna	N/A	N/A
Selawik	N/A	1
Tetlin	144 (Alaska Highway)	3
	19 (Northway Road)	
Togiak	N/A	11
Yukon Delta	N/A	75
Yukon Flats	N/A	N/A

Source: Vehicle crashes (2003 to 2007), ADOT&PF; Airplane Crashes (1990 to 2011), National Transportation Safety Board.

“N/A” means not applicable as the refuge does not contain roads

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Table 22  
Mobility

Refuge	Refuge Interviews														CCPs**						
	Typical Modes of Travel to/in Refuge										Alternative Transportation Opportunities				Safety	Access to Refuge	Allowable Public Transportation Uses	Transportation Safety Issues			
	Automobile	ATV	Boats	Canoe/Kayak	Snow Machine	Floatplane	Airplane	Foot	Ferry	Other (list)	Bikes	Trails	Kayak	Other (list)					Boat Accident	Airplane Crashes	Vehicle Crashes
Alaska Maritime National Wildlife Refuge	Yes	Yes	Yes	*	Yes	*	Yes	*	Yes	*	*	*	*	*	H	*	H	*	Auto, ATV, boats, snowmobile, airplane, and ferry	Traditional motorized access is permitted for traditional activities	No mention.
Alaska Peninsula-Becharof National Wildlife Refuge	*	Yes	Yes	Yes	Yes	*	Yes	*	*	*	*	*	*	*	H	L	*	*	ATV, boats, canoe/kayak, snowmobile, and airplane	No mention.	Includes a safety plan which focuses on providing a safe and healthful environment for employees and the visiting public. It aims to minimize accidents resulting in injury to employees and the visiting public and to prevent property damage. It describes programs needed to train personnel in how to deal with the environment, materials, and machines that may pose hazards, with the goal of making safety and environmental health an integral part of every task. The safety plan is revised annually.
Arctic National Wildlife Refuge	Yes	*	Yes	Yes	Yes	Yes	Yes	Yes	*	*	Yes	Yes	*	*	*	M	*	M	Locals' access is primarily by motor boats or snowmobile. There is a big distinction between transportation of locals and visitors	Auto, boats, canoe/kayak, snowmobile, floatplane, airplane, and walking	No mention.
Innoko National Wildlife Refuge	*	*	Yes	*	Yes	Yes	Yes	*	*	*	*	*	*	*	*	*	*	*	Boat, snow machine, floatplane, and airplane	No mention.	A plan goal includes continuing an aggressive safety program
Izembek National Wildlife Refuge	Yes	Yes	Yes	*	*	Yes	Yes	*	Yes	*	Yes	Yes	Yes	*	H	H	H	*	42 mile Cold Bay road system provides easy access. Others living outside of the local communities fly to Cold Bay to gain access. Four wheel drive roads are available. Also use of boats, float plane, air plane and ferry system.	No mention.	No mention.
Kanuti National Wildlife Refuge	*	*	Yes	*	Yes	Yes	Yes	*	*	*	*	Yes	*	*	*	M	M	*	Boat, snowmobile, floatplane, and airplane	No mention.	An objective is to work with community and State and Federal authorities to develop a comprehensive law enforcement program with an emphasis on educating visitors to prevent violations

**Table 22  
Mobility**

Refuge	Refuge Interviews														CCPs**						
	Typical Modes of Travel to/in Refuge										Alternative Transportation Opportunities				Safety				Access to Refuge	Allowable Public Transportation Uses	Transportation Safety Issues
	Automobile	ATV	Boats	Canoe/Kayak	Snow Machine	Floatplane	Airplane	Foot	Ferry	Other (list)	Bikes	Trails	Kayak	Other (list)	Boat Accident	Airplane Crashes	Vehicle Crashes	Wildlife Interaction (bears, moose, etc.)			
Kenai National Wildlife Refuge	Yes	*	Yes	Yes	Yes	*	Yes	Yes	*	sled dogs and cross country skiing	*	Yes	*	*	M	M	M	H	Auto, boats, canoe/kayak, snowmobile, airplane, walking, sled dogs, and cross country skiing.	No mention.	Aircraft, snowmobile, general access routes to pipeline roads, Sterling Highway through the Refuge
Kodiak National Wildlife Refuge	*	*	Yes	*	*	Yes	Yes	*	Yes	*	*	*	*	*	M	M	*	H	Boat, float plane, airplane, and ferry	Use of snowmobiles, motorboats, and other means of surface transportation is allowed in moderate and minimal management areas.	YEA
Koyukuk and Nowitna National Wildlife Refuge	*	*	Yes	Yes	*	*	Yes	*	*	*	*	*	*	*	M	M	*	*	Boat, canoe/kayak, airplane	No mention.	No mention.
Selawik National Wildlife Refuge	*	*	Yes	Yes	*	Yes	Yes	*	*	*	Yes	*	*	ATV to/from hanger	*	L	*	*	Boat, canoe/kayak, float plane, and airplane.	No ATVs are allowed on the refuge. During scoping, refuge staff and a nongovernmental organization identified various forms of motorized transportation such as ATV) and helicopters as a concern. None of these forms of motorized transportation appear to be key planning issues at the time of CCP adoption, but have potential to become issues in the future.	There are several established winter trails cross the refuge that link Selawik to Buckland, Noorvik, Kiana, Ambler, and Shungnak. With no roads in the area, these trails serve as the "highways" of the region, providing critical transportation routes for subsistence activities and inter-village travel.
Tetlin National Wildlife Refuge	Yes	*	Yes	*	Yes	*	Yes	Yes	*	*	*	Yes	*	*	*	*	H	H	Automobile, boats, snowmobile, airplane, walking	Boats and highway vehicles were identified as the primary modes of transportation in the area (USFWS 1997a).	No mention.
Togiak National Wildlife Refuge	Yes	*	*	*	Yes	*	Yes	*	*	*	*	*	*	*	*	*	*	*	Snowmobile, boat and air plane	Boats are used by both locals and visitors, snowmobile are utilized by mainly locals and aircraft are typically utilized by non-locals. There is no road access.	No mention.

**Table 22  
Mobility**

Refuge	Refuge Interviews														Access to Refuge	CCPs**					
	Typical Modes of Travel to/in Refuge										Alternative Transportation Opportunities					Safety	Allowable Public Transportation Uses	Transportation Safety Issues			
	Automobile	ATV	Boats	Canoe/Kayak	Snow Machine	Floatplane	Airplane	Foot	Ferry	Other (list)	Bikes	Trails	Kayak	Other (list)					Boat Accident	Airplane Crashes	Vehicle Crashes
Yukon Delta National Wildlife Refuge	*	*	Yes	*	Yes	*	Yes	*	*	*	*	*	*	Dog sledding	H	*	*	*	Airplanes are the primary method of access followed by water. Road access into the refuge does not exist. Boat and snow machine access exists.	ORVs will be prohibited except on specifically designated routes and areas	No mention.
Yukon Flats National Wildlife Refuge	*	*	Yes	*	Yes	*	Yes	*	*	*	*	*	*	*	*	M	*	H	Access is primarily by air and water. Road access into the refuge does not exist. Boat and snowmobile access exists.	A few airstrips, as well as lakes and gravel bars make the refuge accessible by light aircraft. River boats, canoes, and small watercraft are allowed	No mention.

- H Identified as a high level of potential threat
- M Identified as a medium level of potential threat
- L Identified as a low level of potential threat
- \* No comment from Refuge
- \*\* Publication date and status of CCPs on Table 16

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### 3.6 Partnership

The LRTP partnership goal is to **“develop partnerships to leverage resources and develop integrated transportation solutions.”** The following objectives contribute towards reaching this goal.

#### Objective 1

Work with public and private sector partners to address shared transportation issues.

#### Objective 2

Coordinate annually with other agencies and other partners to set priorities for needs, exchange data, and discuss mutual policies to facilitate shared projects of mutual interest and benefit including project development and potential economic savings.

### 3.7 Identifying Partnership Needs and Opportunities

Successes in interagency and/or other partnerships are documented in CCPs and interviews. Refuge-level knowledge is most appropriate for identifying partners because of their awareness of local interest groups, neighboring land management agencies, and personal connections. Recent or ongoing partnerships are documented by refuge in Appendix E. Opportunities for future partnerships are identified in refuge survey results, as indicated in Table 23. For example, refuge interviews identified potential opportunities for alternative transportation system grant funds in supporting bike travel to, from, and within some refuges. Izembek, Alaska Maritime, Arctic, Koyukuk, Nowitna and Northern Unit Innoko, Alaska Peninsula-Becharof, Selawik, and Yukon Flats National Wildlife Refuges all expressed need for bikes for use by staff and/or visitors.

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**Table 23  
Partnership**

Refuge	Frequent Inquiries about Other FLMA's	Nearby FLMA's that Attract/Generate Visitors	Refuge Interviews		CCPs**
			Partnership Examples	Partnership Opportunities	Partnership Goals
Alaska Maritime National Wildlife Refuge	Kodiak NWR, NPS	*	Kachemak Bay Research Reserve, Friends of Alaskan National Wildlife Refuges, city of Homer, Coast Guard, RAP, the Ferry, numerous state, national, and international science collaborations	Kachemak Bay Research Reserve, NPS, Friends of Alaskan National Wildlife Refuges, City of Homer	No mention.
Alaska Peninsula-Becharof National Wildlife Refuge	Katmai	*	Aleutians, DOI, Coast Guard, NOAA, NPS, ADFG, Togiak and Izembek	*	Partnership is a repeated CCP objective. Opportunities include: Koniag, Inc., the Aleut Corporation, and the Bristol Bay Native Corporation, Local village corporations, Local village councils, Local communities and boroughs, State of Alaska, National Park Service, Universities, Nongovernmental organizations, Alaska Natural History Association (ANHA).
Arctic National Wildlife Refuge	*	BLM	North Slope Borough, Kaktovik polar bear, Dalton Highway Working Group, Game Commercial Service Board, Air Force, and local university	*	The refuge works with the ADOT&PF on Dalton Highway efforts.
Innoko National Wildlife Refuge	*	BLM	None	*	CCP goals include partnerships. Refuge staff collaborates with the following partners, among others: State of Alaska, other federal agencies, Federal Subsistence Western Interior Regional Advisory Council, Migratory Bird Co-management Council, Grayling, Anvik, Shageluk, and Holy Cross village councils, Tanana Chiefs Conference, Inc. (Regional Native non-profit organization), City of McGrath, Iditarod Area School District, universities and museums, nongovernmental organizations.
Izembek National Wildlife Refuge	*	State Fish and Game Refuge, Native Corporation, Alaska Maritime Refuge and Alaska Peninsula Refuge	AK Fish and Game, USGS, FWS, Coast Guard, Aleutians East Borough	AK Fish and Game, USGS, and Coast Guard	No mention.
Kanuti National Wildlife Refuge	*	BLM, State Land	City of Bethel, Evansville Tribe, Park Service, Friends of Alaska	ADOT&PF	CCP objectives include partnerships. For example, "in partnership with the BLM and the NPS, continue providing interpretive and educational experiences to visitors at the Arctic Interagency Visitor Center in Cold foot by contributing staff and operational support." Objective 48 is to seek out and develop partnerships with Native corporations, universities, other government agencies, etc., to cooperatively inventory, manage, and protect cultural and historical resources.

**Table 23  
Partnership**

Refuge	Refuge Interviews			CCPs**	
	Frequent Inquiries about Other FLMAs	Nearby FLMAs that Attract/Generate Visitors	Partnership Examples	Partnership Opportunities	
Kenai National Wildlife Refuge	*	Chugach NF; Kenai Fjords	DOT, Kenai Watershed Forum, Kenai River Special Management Area, State Troopers	*	CCP objectives include partnerships. Habitat and Population Management—Continue to develop and maintain partnerships with the public, other governmental agencies, and private organizations to increase the ability of the Refuge and those agencies with management responsibilities that overlay the Refuge to conserve fish, wildlife, and their habitats. Objective 6.1.1: Effective Environmental Education Programming— Continue to maintain and develop the partnership with Alaska Natural History Association (ANHA) and/or other cooperating associations to provide interpretive and environmental sales products on the natural and cultural history of Kenai Refuge and surrounding public lands. Objective 6.1.11: Effective Environmental Education Programming— Within three years of Plan’s approval, form partnerships with the Kenaitze Indian Tribe and Cook Inlet Region Inc, to interpret their cultural history.
Kodiak National Wildlife Refuge	*	State lands and parks	Coast Guard	*	CCP objectives include partnerships.
Koyukuk and Nowitna National Wildlife Refuge	*	BLM lands near Yukon	BLM, Louden Tribe youth program, Friends group	*	CCP goals include partnerships. Refuge staff collaborates with the following partners, among others: State of Alaska, other federal agencies, Federal Subsistence Western Interior Regional Advisory Council, Migratory Bird Co-management Council, tribal governments in Galena, Hughes, Huslia, Kaltag, Koyukuk, Nulato, Ruby, and Tanana, Gana-A’Yoo (Galena, Koyukuk, Nulato, and Kaltag); K’oyitl’ots’ina, Limited (Hughes and Huslia); Dineega (Ruby); and Tozitna, Limited (Tanana) village corporations, Tanana Chiefs Conference, Inc. (a regional Native non-profit organization), Local governments in Galena, Hughes, Huslia, Kaltag, Koyukuk, Nulato, Ruby, and Tanana, Yukon Koyukuk and City of Galena school districts, University of Alaska Fairbanks, University of Alaska Anchorage, and the University of Alaska Fairbanks museum, and nongovernmental organizations (including Friends of Alaska National Wildlife Refuges, Alaska Geographic, and Ducks Unlimited)
Selawik National Wildlife Refuge	*	*	BLM, NPS	*	CCP goals and objectives include partnerships. The hope is to develop and maintain credibility and open communication with partners in resource management and conservation, including Federal and State agencies, local communities, Native corporations, tribal governments, neighboring landowners, and businesses and organizations.

**Table 23  
Partnership**

Refuge	Refuge Interviews				CCPs**
	Frequent Inquiries about Other FLMA's	Nearby FLMA's that Attract/Generate Visitors	Partnership Examples	Partnership Opportunities	Partnership Goals
Tetlin National Wildlife Refuge	BLM, Denali, Yukon Charley River, Kenai NWR	*	Department of Community and Economic Development, ADOT&PF, Native Corporations and Tribal councils, APLIC	ADOT&PF	<p>The CCP cites a specific partnership examples. For one, the Tok APLIC, focus and design of the Tetlin Refuge Visitor Center toward interpretation of the unique aspects of Tetlin Refuge and other refuges in Alaska. Also, within three years of the Plan's approval, and in cooperation with ADOTPF, the refuge will develop strategies consistent with Service policies and guidelines to standardize refuge signage; and develop a schedule for revising, repairing, and replacing refuge signs.</p> <p>The BLM Alaska Fire Service (BLM/AFS) provides emergency suppression services on refuge lands in Alaska, as directed by the refuge manager. Through a cooperative agreement with BLM/AFS, the State of Alaska Division of Forestry provides emergency suppression services on refuge lands in State protection zones, as directed by the refuge manager. Tetlin Refuge is located in the Tok Area Fire Management Zone with suppression services provided by the State of Alaska's Department of Natural Resources, Division of Forestry.</p>
Togiak National Wildlife Refuge	State parks	*	Alaska State Park	ADOT&PF	CCP goals include partnerships. Development of a visitor contact station at the Dillingham Airport, including exhibits related to refuge resources, should be done through partnerships with local agencies and organizations. Another objective is to organize and participate in local, regional, state, national, and international partnerships, groups, and associations pursuing common natural resource management goals.
Yukon Delta National Wildlife Refuge	Togiak Refuge, BLM lands	*	Yukon Health Corporation, FAA	*	No mention.
Yukon Flats National Wildlife Refuge	*	*	DOT Alaska Fire Service, BLM	*	No mention.

\* *No comment from Refuge*

\*\* *Publication date and status of CCPs on Table 16*

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## 4 Funding and Project Selection

Funding for the Service’s transportation program does not meet current needs. SAMMS indicates a shortfall in asset deferred maintenance of \$1.7 billion (\$1.2 billion in public use assets and \$0.5 billion in administrative use assets) nationally and \$63 million (\$62 million in public use assets and \$1 million in administrative use assets) in Region 7. Table 24 lists national and Region 7 needs through an aggregate facility condition index of high- and low-priority assets. The table shows that a maintenance backlog exists Service-wide, and that Region 7’s high-priority transportation assets are in worse condition (have an average FCI of 0.41) than the national average (which is an average FCI of 0.22).

Estimates show that approximately \$130 million per year is needed nationally to ensure that Refuge Roads Program (RRP) eligible public roads and bridges are maintained in “good” to “excellent” condition. This estimate assumes an aggressive schedule for road reconstruction and bridge rehabilitation over an extended period of time. The 2010 report *Life Cycle Investment Needs for Assets in the Refuge System* found that the deferred maintenance cost for public

roads alone is over \$1 billion (41 percent of all Service assets), with a replacement value of \$6.7 billion (30 percent of all Service assets). Today, approximately 45 percent of the public roads and 40 percent of the public bridges are in “fair” to “poor” or “failing” condition throughout the entire Service’s transportation system. Given the deferred maintenance backlog, improving the overall condition of transportation assets through the RRP requires increasing the program’s funding.

Based on the nationwide need of \$130 million per year, \$3 to \$6 million per year is needed in Region 7 just to maintain the road system and bridges in good to excellent condition. SAFETEA-LU, the current Federal transportation legislation and authorization for public transportation systems, expired in September 2009, but has been extended since that time. In 2011, dialogue on new transportation legislation continues. While the changes brought by a new Federal transportation authorization are yet unknown, documentation of transportation need will continue to be an essential component for decision makers.

**Table 24**  
**Service Transportation Asset Deferred Maintenance and Replacement Cost**

		Nationally (millions of dollars)	Region 7 (millions of dollars)
<b>Replacement Cost</b>	High Priority Assets	\$5,917.2	\$146.1
	Low Priority Assets	\$1,251.1	\$69.5
	<b>Total</b>	<b>\$7,168.3</b>	<b>\$215.7</b>
<b>Deferred Maintenance</b>	High Priority Assets	\$1,302.7	\$59.3
	Low Priority Assets	\$362.6	\$3.7
	<b>Total</b>	<b>\$1,665.3</b>	<b>\$63.0</b>
<b>Total FCI</b>	High Priority Assets	0.22	0.41
	Low Priority Assets	0.29	0.05
	<b>Total</b>	<b>0.23</b>	<b>0.29</b>

Source: SAMMS (2011)

High-priority assets = API equal or greater than 60. Low-priority assets = API less than 60.

A well-defined funding and investment strategy and a defensible project selection process are critical to maintaining Service transportation assets. The Region 7 LRTP is an important step in documenting such a process. This chapter identifies reasonably expected funding through the 2035 LRTP planning horizon, illustrates the gap between projected funding levels and anticipated need for Service transportation improvements, identifies existing funding opportunities through partnership with State and local entities, and defines the current project selection process for transportation projects in Region 7.

#### 4.1 Transportation Funding in Region 7

The two primary funding sources used for transportation projects are the RRP and deferred maintenance funds. For fiscal year 2010, Region 7 received approximately \$550,000 through the RRP and \$2.4 million in deferred maintenance funds. Visitor facility enhancement funds were allocated through resource appropriations averaging \$50,000 annually over the last 5 years.

It is important to note that only a small portion of the total budgets for both deferred maintenance and visitor facility enhancement funds are used for transportation projects. This section provides an overview of the two primary sources currently used to fund Region 7 transportation improvements.

##### 4.1.1 Refuge Roads Program

The Service's RRP began in 1998 with the passage of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), which authorized \$20 million annually. Initially, work focused on completing inventories and addressing the most pressing transportation improvement needs. Transit and trail improvements were also evaluated across Service owned lands to prepare for future needs. Under SAFETEA-LU, RRP was re-authorized at \$29 million per year. This represented

a 45 percent increase over the previous TEA-21 funding levels. Nationwide, the program provides a funding source to improve public-use transportation assets at wildlife refuges within the Service's eight regions.

A majority of program funds have gone to improve roads and bridges. More recently, the emphasis for use of program funds has grown to include other transportation improvements such as bicycle and pedestrian access and alternative vehicle use. By law, however, the Service can use only up to 5 percent of the allocated RRP funds to improve existing trails. Other program funding sources (Paul S. Sarbanes Transit in the Parks, for example) are needed to fulfill this need. With pending transportation reauthorization, the Service intends to continue providing multiple quality transportation options for visitors and staff.

Funds are also allocated to the RRP from the FHWA according to Title 23 United States Code, Chapter 2 section 202(e). In keeping with its decentralized decision making structure, the Service has chosen to allocate the majority of its funds to its eight regional offices using an internally developed formula. The current RRP allocation to Region 7 is \$550,000 per year. A small percentage, which varies with the RRP actual allocation from the Highway Trust Fund, is used to fund the ongoing Inventory and Assessment Program and national level research, technical assistance training, partnership development, and coordination of legislative affairs with the Service's Congressional and Legislative Affairs Division. The Service's allocation formula has three components:

1. Size of a region's combined adjusted road/bridge/parking inventory
2. Amount of a region's road/bridge/parking assets assessed as being in fair/good/excellent conditions
3. Public use of a region's refuges, wetland management districts, and hatcheries

Fifty-five percent of a region’s allocation is based on roadway miles and type (paved, improved gravel, improved native, and native surfaces), square footage of bridges, and parking lot square footage and type (paved, improved gravel, improved native, native surfaces, and mowed). This data is gathered by the ongoing Public Use Roads inventory program (RIP) conducted by FHWA FLH. Thirty percent of the allocation is based on asset condition (fair/good or excellent). Fifteen percent of the formula is based on the amount of public visitation per region as reported each year in the Refuge Annual Performance Plan. The National Transportation Coordinator in the Service’s Washington office manages the allocation process to the Service regions through coordination with FHWA and the Regional Refuge System Chief. Any legislative changes associated with upcoming Federal transportation legislation may also change this allocation process.

Through the RRP, the Service is working to improve public access to refuges and provide a better overall visitor experience. Eligible project types under this program include improvements to existing public use roads, bridges, parking lots, and trails. This includes projects needed to correct safety problems at high accident

locations and to protect natural and cultural resources within national wildlife refuges. Additional information on project eligibility is in the *Guidance on the Federal Lands Highway Refuge Roads Program* (2005) in Appendix F.

The following types of projects are not presently eligible to be funded under the RRP guidance:

- Constructing new roads, parking areas or pullouts, or widening of existing road benches.
- Realigning or relocating roads.
- Constructing new pedestrian or bicycle paths.
- Recurring, routine maintenance (e.g., grading roads and mowing roadsides).

Based on current and forecasted funding allocation for the RRP, the Service will continue to experience a funding gap that significantly falls short of program needs. Table 25 shows current and anticipated funding through this plan’s horizon and indicates an over \$200 million funding gap through 2035 to maintain all Region 7’s RRP transportation assets a condition rating of good to excellent.

**Table 25**  
**Anticipated Funding Gap through Planning Horizon Year (2035)**

Existing Region 7 annual funding (in millions)	Anticipated need through 2035 (in millions)	Anticipated funding available through 2035 (in millions)	Funding gap through 2035 (in millions)
<b>\$0.55</b>	<b>\$250</b>	<b>\$22</b>	<b>\$228</b>

*Note: Anticipated need is based on a current need of \$15 million, with 4 percent annual inflation. Anticipated funding is based on 20 percent program increase every 6 years, starting in 2012.*

## 4.2 Transportation Project Selection Process

Currently, Region 7 transportation projects are generated by soliciting needs from each refuge. Headquarters then announces funds available and decides on projects that fit within the specified budget. Larger projects, therefore, require funding over multiple years.

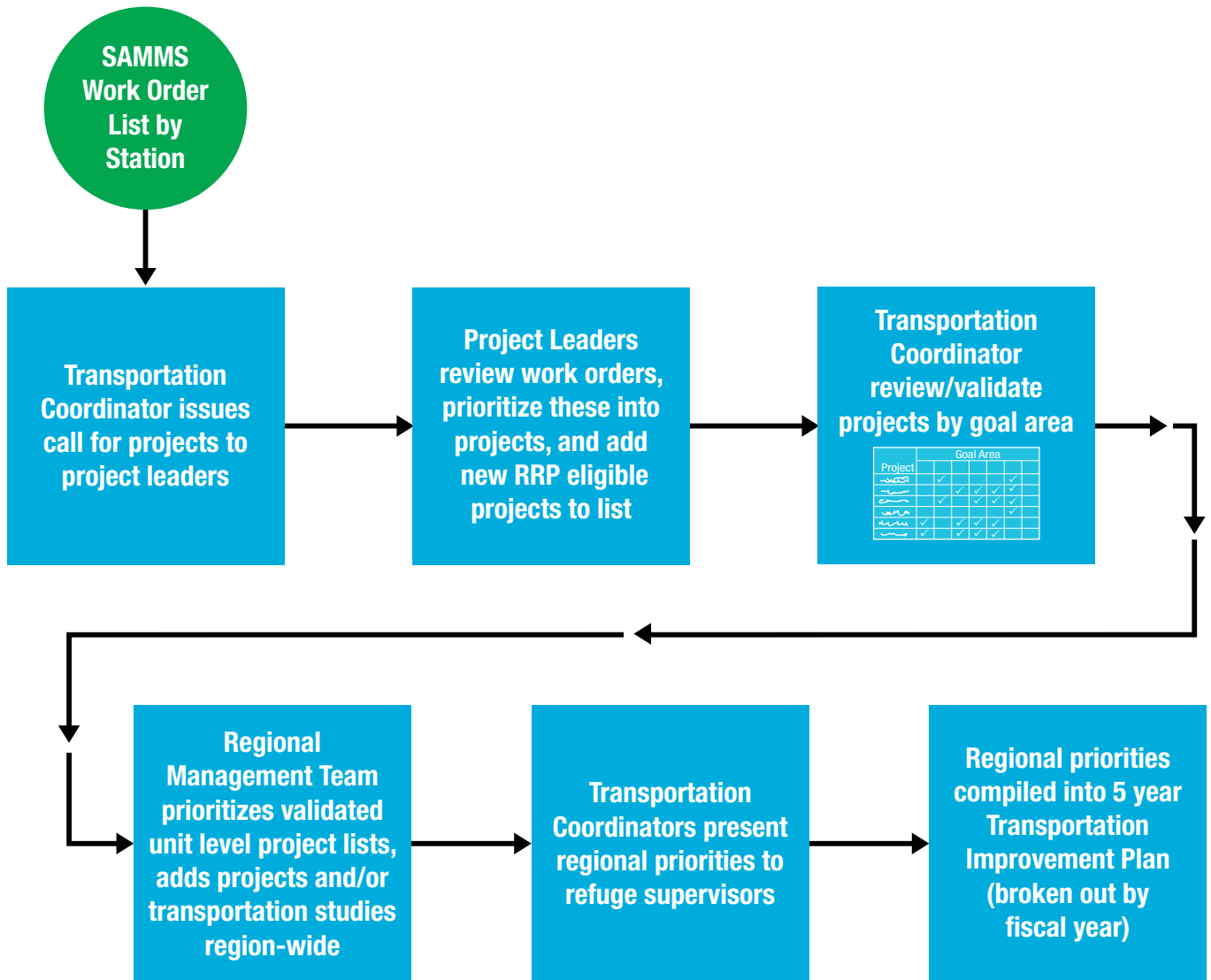
This LRTP creates an updated and defensible transportation project selection process that is based on goals, information, and funding to advance the projects that best fulfill the Service's vision and mission. This process will be used to guide project programming. The Region may alter the process as needed to be responsive to emergency needs, changes in the funding allocation, and other urgent programming needs. The six-step decision-making process, described below and illustrated in Figure 9, is conducted annually to address critical transportation needs.

**Step 1: Call for projects.** The first step in project selection is initiated when the transportation coordinators for refuges issue a call for projects. This call will be released in a memorandum that describes the project selection process, describes the integral relationship between project selection and transportation goals and objectives, and includes a list of existing projects generated through work orders in SAMMS.

**Step 2: Project leaders review work orders and prioritize needs.** This call is an opportunity for refuge supervisors and project leaders to review the needs of each unit and submit projects to the regional transportation coordinator. Project submittals should include sufficient information to support eligibility and need for the transportation improvements based on the information provided in this LRTP.

**Step 3: Review and validate projects.** Upon receiving project submittals from the call process, the transportation coordinators review each potential project and validate it against the goals and objectives and the "identifying areas of improvement" subsections of Chapter 3 of this LRTP. The validation process may include site visits to confirm the condition of a specific facility and/or discussions with project leaders and refuge managers to confirm or clarify a project's purpose and need and how it relates to the Region's priorities. Consistent with the goals described in this LRTP, rankings are assigned to each goal category as a function of the relative importance the Service places on achieving a particular goal relative to the mission of the agency, as illustrated in Table 26. The rankings represent the relative priority of each of the goal areas in which a project can be scored. Projects with the highest total ranking points indicate the Region's highest priority projects, while projects with lower scores may be funded if additional funds were to become available. Regional leadership has discretion in altering the priority of individual projects as needed.

**Figure 9  
Project Selection Process**



**Table 26  
Transportation Program Goals and Selection Criteria  
Used for Project Ranking**

Goals/Objectives	Ranking Priority
Goal 1: Sustainability	Medium
Goal 2: Environment	High
Goal 3: Subsistence Access	High
Goal 4: User Experience	Low
Goal 5: Mobility	Medium
Goal 6: Partnership	Medium

Source: Region 7 LRTP Core Team

**Step 4: Regional-level prioritization.**

Following validation, the regional management team will meet to discuss and prioritize the validated project listing. Using the information obtained during the call for projects and validation process, the transportation coordinator presents each project to the management team. Regional priorities are aligned with project level decisions, resulting in an approved, prioritized ranking of projects.

**Step 5: Presentation of regional priorities.** The transportation coordinator then presents this prioritized list to refuge supervisors.

**Step 6: Develop 5-year Transportation Improvement Program.** In order to program projects, the transportation coordinator aligns the prioritized project list with available funding to identify when each project will be implemented. Once this alignment has been completed, the list serves as the Region's 5-year Transportation Improvement Program. Because this process is conducted on an annual basis, changes in funding availability, local conditions, and unforeseen circumstances may influence how and when specific projects are programmed for implementation during the 5-year timeframe.

Because Region 7's project selection process is designed to be a defensible mechanism to select projects, the key to advancing projects is ensuring consistency with the Region's transportation priorities (the six goals and corresponding objectives and strategies).

In addition to creating a work order in SAMMS, the project proponent must describe how a project supports specific goal areas or objectives, as described in Chapters 2 and 3 of this LRTP. It is also critical to communicate the validity of

the project and how it supports regional transportation goals/objectives with the respective project leader, as these individuals play an important role early in the selection process during the initial review of work orders and identification of eligible projects.

One of the most important ways to inform regional decision makers about the validity of a project is to submit appropriate documentation supporting the projects' need. Additional factors needed to articulate project needs are identified in Chapter 3 of this LRTP. Examples of supporting documentation include road or bridge condition data, safety assessments, traffic volumes, accident data, visitation statistics, site photos, and potential funding partnerships. Recognizing the limited funding for transportation projects within the region, the Service is placing greater importance on the need to coordinate beyond refuge boundaries, and seek partnerships for projects that receive RRP funds.

### 4.3 External Funding

Because this document is a companion piece to the *Alaska Federal Lands LRTP*, funding sources identified in that plan are relevant to the Service as supplemental funding sources to be pursued when projects meet funding program requirements. Chapter 4 of the *Alaska Federal Lands LRTP* outlines external funding program types and eligibility that are available to all FLMA's, including the Service. A common theme for external funding programs is local partnership. These programs emphasize the importance of partnering with other Federal, State, and local agencies to overcome funding gaps.

## 5. Action Plan

The action plan consists of performance measures and recommendations, which respond to the needs identified in Chapter 3. Performance measures embody outcomes that once fully achieved, represent major milestones in meeting the long range goals and objectives expressed in this LRTP. These outcomes

are presented in Table 27 as a desired performance, followed by the measure from which progress can be evaluated and tracked. The intent is to report progress in meeting these performance measures each year to national leaders and other interested parties.

**Table 27**  
**Performance Measures**

Goal Area	Performance	Measure
Sustainability	1. Address transportation related climate change adaptation and mitigation in all CCPs.	Percentage of published CCPs or step-down plans that include climate change adaptation and potential mitigation.
Environment	2. Reduce transportation and wildlife conflicts. *	Number of transportation projects and/or percentage of transportation funds spent on reducing wildlife conflicts with the transportation system. *
Subsistence Access	3. Each refuge will formally define traditional subsistence transportation uses.	Percentage of refuges that define traditional uses in CCPs or other formal reports.
User Experience	4. All CCPs will include transportation user experience components.	Percentage of published CCPs or step-down plans that address transportation related visitor experience.
	5. All refuges surveyed will have a “good” or better transportation system user rating. *	Percentage of units with good/better satisfaction rating for transportation system (Question 5 from 2011 visitor survey). *
Mobility	6. Percent of high priority assets in good condition (SAMMS/RIP).	All high priority transportation assets (API of 60 or higher) will be maintained at “good” condition or better (RIP pavement condition greater than 75, or an FCI of 0.15 or less).
	7. All transportation assets that are no longer needed will be decommissioned.	Percentage of transportation assets that are both in very low priority (API less than 20) and failed condition (FCI greater than 0.70) as measured by SAMMS. Percentage of assets named for decommissioning in CCPs and/or facility asset management plans that have not been decommissioned.
	8. Transportation project selection process will be defensible and consistent.	Adherence to project selection process documented in Section 4.2.

**Table 27**  
**Performance Measures (continued)**

Goal Area	Performance	Measure
Partnership	9. Strengthen communication within the Service – especially with national leaders: <ul style="list-style-type: none"> <li>• 5-year plan</li> <li>• RIP/BIP data</li> <li>• Research studies</li> <li>• Completed/active partnership projects*</li> <li>• Performance measure reporting</li> </ul>	Annual reporting.
	10. Participate in at least one transportation project coordination meeting with other FLMAs and ADOT&PF each year.	Meeting notes/materials.
	11. Seek multiple funding sources for transportation projects on or accessing refuges (see Chapter 4, Funding and Project Selection).*	Number of transportation: Projects on or accessing Service units using multiple funding sources. * Grants applications. Dollars received from outside sources.

\* Same as, or slight rewording of, the draft U.S. Fish and Wildlife Service National LRTP performance measure (as of July 14, 2011)

The recommendations presented in Table 28 also address the needs identified in Chapter 3, Goals and Baseline Conditions, but are not considered performance measures. Needs are not included as performance measures when:

- Performance is not quantifiable.
- Specific actions are better determined at the refuge, issue driven, and small scale planning levels (as illustrated in Table 1) than at a regional and long range level.

- Additional information is needed before actions can be recommended and performance benchmarks can be established.
- Needs are short term and not fully consistent with the long range outlook of this plan.

**Table 28  
Recommendations**

Goal Area	Need	Possible Action(s)
Sustainability	1. When refuges are considering climate change adaptation and mitigation in CCPs, consider erosion and permafrost impacts and locations identified in the Draft Climate Change Technical Report as well as the threats identified in Table 14.	Consideration for CCP updates.
Environment	2. Refuges identified in Table 15 should monitor and respond to erosion in Service lands, especially in refuges adjacent to “priority action” communities.	Consideration for CCP updates.
Environment	3. Each refuge should consider the known and possible environmental threats identified in Table 16.	Consideration for CCP updates.
	4. Record number of transportation projects and/or percent of transportation funds spent to reduce fish/wildlife conflicts with the transportation system. *	Periodic memorandum. Periodic work order literature review.
Subsistence Access	None specified.	
User Experience	5. Ensure that the refuge level visitation hot-spots identified in Table 19 and hot-spot activities in Table 18 are addressed in transportation user experience components of CCPs.	Consideration for CCP updates. Possible topic for a comprehensive/ large scale, issue driven, or small scale plan (Table 1).
	6. The method for delivering user information should complement the types of access and uses experienced to/within each refuge.	Consideration for CCP updates. Possible topic for a comprehensive/ large scale, issue driven, or small scale plan (Table 1).
Mobility	7. Take steps to reduce safety hot-spots identified in Table 21 and Table 22.	Safety audit or other issue driven or small scale plan (Table 1). * Reenergize refuge safety plans. Collect traffic data. Report accidents in the Service’s safety management system.
	8. Determine where there are ingress/egress issues. Begin tracking projects that resolve these issues.*	Issue driven or small scale plans (Table 1).
	9. Support ATS in refuges identifying need (Table 22), as appropriate.	Consideration for CCP updates Grant application (Chapter 4).
Partnership	10. Support partnership opportunities identified in Table 23.	Interagency project coordination (See number 11 in Table 27)
	11. Communicate refuge level knowledge about partnership opportunities to the regional (especially in relationship to performance measure 9 and 10 in Table 27) and national level.	Consideration for CCP updates.

\* Is a prerequisite for measuring draft U.S. Fish and Wildlife Service National LRTP performance measures (as of July 14, 2011)

## 5.1 Long Range Transportation Performance

As performance measures are used to evaluate and track progress in meeting the long-range goals and objectives expressed in this LRTP, the baseline for future measurements are also set in this LRTP. Regular reporting will show progress over time in achieving desired performance, and future plan updates provide opportunities to modify performance measures to accommodate new needs and opportunities. The performance measure baseline, or starting point, values are noted in Table 29.



*Canoeing by upper ramparts of Porcupine River, Sharon Seim/FWS*

**Table 29**  
**Long-Range Transportation Performance (October 2011)**

Goal Area	Performance	Measure	2011 Baseline Performance Measure Value	Value Comments
<b>Sustainability</b>	1. Address transportation related climate change adaptation and mitigation in all CCPs.	Percent of published CCPs or step-down plans that include climate change adaptation and potential mitigation.	43%	Table 16 indicates that 6 of 14 CCPs mention climate change, adaptation or mitigation.
<b>Environment</b>	2. Reduce transportation and wildlife conflicts. *	Number of transportation projects and/or percent of transportation funds spent on reducing wildlife conflicts with the transportation system. *	1 project	
<b>Subsistence Access</b>	3. Each refuge will formally define traditional subsistence transportation uses.	Percent of refuges that define traditional uses in CCPs or other formal reports.	21%	Table 17 indicates that 3 of 14 CCPs mention traditional uses.
<b>User Experience</b>	4. All CCPs will include transportation user experience components.	Percent of published CCPs or step-down plans that address transportation related visitor experience.	64%	Table 18 indicates that 9 of 14 CCPs mentioned visitor experience.
	5. All refuges surveyed will have a "good" or better transportation system user rating. *	Percent of units with good/better satisfaction rating for transportation system (Question 5 from 2011 visitor survey). *		No data available at this time. Survey will be released in the fall of 2011.
<b>Mobility</b>	6. Percent of high priority assets in good condition (SAMMS / RIP).	All high priority transportation assets (API of 60 or higher) will be maintained at "good" condition or better (RIP pavement condition greater than 75, or an FCI of 0.15 or less).	94%	Of those transportation assets with an API of 60 or greater, 12 of 200 have an FCI of 0.15 or greater
	7. All transportation assets that are no longer needed will be decommissioned.	Percent of transportation assets that are both in very low priority (API less than 20) and failed condition (FCI greater than 0.70).	0%	No asset API is less than 20 (0%).
	8. Transportation project selection process will be defensible and consistent.	Adherence to project selection process documented in Section 4.2.	No	This project selection process is newly adopted as part of this LRTP. Therefore the process has not yet been performed.
<b>Partnership</b>	9. Strengthen communication within the Service, especially with national leaders: <ul style="list-style-type: none"> <li>• 5-year plan</li> <li>• RIP / BIP data</li> <li>• Research studies</li> <li>• Completed/active partnership projects*</li> <li>• Performance measure reporting</li> </ul>	Annual reporting.	Yes	See Appendix G for annual report.
	10. Participate in at least one transportation project coordination meeting with other FLMAs and ADOT&PF each year.	Meeting notes / material.	Yes	Last FLMA and ADOT&PF project coordination meeting held in October, 2010 in Fairbanks, AK.
	11. Seek multiple funding sources for transportation projects on or accessing refuges (see Chapter 4). *	Number of transportation: Projects on or accessing Service units using multiple funding sources. * Grants applications Dollars received from outside sources	1 grant application	Grant application submitted for Sterling Highway project.

\* Is a prerequisite for measuring draft U.S. Fish and Wildlife Service National LRTP performance measures (as of July 14, 2011)

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# U.S. Fish and Wildlife Service

*Region 7 Long Range Transportation Plan*

