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PACIFIC NORTHWEST FEDERAL LAND MANAGEMENT AGENCY

Long-Range Transportation Plan

April 2019

Photography by: USFS

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Photography by: Bureau of Land Management

ACRONYMS

ACT	Area Commissions on Transportation
AOC	Association of Oregon Counties
AOP	Aquatic Organism Passage
BLM	Bureau of Land Management
BMP	Best Management Practice
BOR	Bureau of Reclamation
CLRTP	Collaborative Long-Range Transportation Plan
CMAQ	Congestion Mitigation and Air Quality
CRAB	County Road Administrative Board
DOT	Department of Transportation
ERFO	Emergency Relief for Federally Owned Roads Program
FAHP	Federal-Aid Highway Program
FARS	Fatality Analysis Reporting System
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FLH	Federal Lands Highway
FLMA	Federal Lands Management Agency
FLAP	Federal Lands Access Program
FLTP	Federal Lands Transportation Program
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
HSIP	Highway Safety Improvement Program
I-5	Interstate 5
IFA	Independent Federal Agencies
ITS	Intelligent Transportation Systems
LRTP	Long-Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21st Century Act
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NBIS	National Bridge Inspection Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NPS	National Park Service
NRHP	National Register of Historic Places
NSFHP	Nationally Significant Freight and Highway Projects
NSFLTP	Nationally Significant Federal Lands and Tribal Projects
ODOT	Oregon Department of Transportation
ONA	Outstanding Natural Area
PDC	Programming Decision Committee
RTP	Recreational Trails Program
SHSP	Strategic Highway Safety Plan
STBG	Surface Transportation Block Grant
STIP	Statewide Transportation Improvement Program
TAP	Transportation Alternatives Program
TIP	Transportation Improvement Program
TTP	Tribal Transportation Program
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
VMT	Vehicle miles traveled
WFLHD	Western Federal Lands Highway Division
WSDOT	Washington Department of Transportation

EXECUTIVE SUMMARY

Photography by: Roy W. Lowe/U.S. Fish and Wildlife Service

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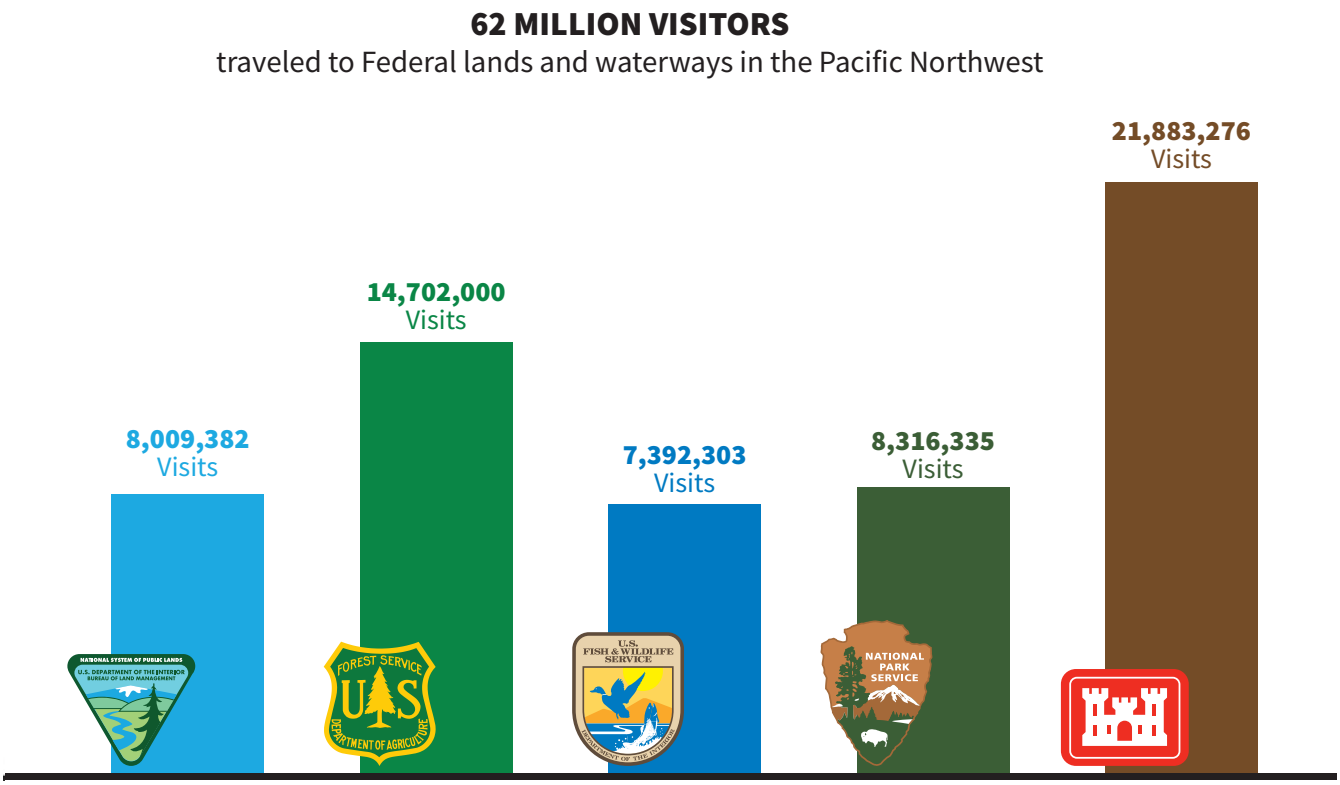
The Pacific Northwest Federal Land Management Agency (FLMA) Long-Range Transportation Plan (LRTP) is the result of a collaborative multiagency planning effort to establish common long-range goals, conditions, and actions of mutual benefit concerning those transportation facilities and services associated with the Federal Land Management Agency units located in Washington and Oregon. The Plan represents the shared interests of the Washington and Oregon units of the Bureau of Land Management (BLM), National Park Service (NPS), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (FWS), and U.S. Forest Service (USFS). Key partner agencies involved in the development of the Plan include the Federal Highway Administration (FHWA) Office of Federal Lands Highway (FLH), Washington State Department of Transportation (WSDOT), Oregon Department of Transportation (ODOT), Washington State County Road Administrative Board (CRAB), and Association of Oregon Counties (AOC). The Collaborative Long-Range Transportation Plan (CLRTP) is consistent with statewide, multimodal long-range transportation plans developed by the Washington and Oregon departments of transportation.

Federal public lands have significant and diverse contributions to the economies of Washington and Oregon. Transportation plays an important role supporting these contributions. In 2012, more than 919 million visitors (62 million in the Pacific Northwest) traveled to Federal lands and waterways, spending a total of $44 billion and supporting 710,000 jobs (see Figure 1). Through direct visitor spending and resource development, billions of dollars are circulated through the economies surrounding public lands. Additional market benefits are felt with increased property values, greater job growth, and increased income in communities near Federal lands.

Figure 1. Pacific Northwest Annual Visitation to Federal Lands



Note: Graph represents visitation in fiscal year 2012. USFS data are an average of annual visitation from 2008-2012. NPS data are calendar year 2013.

All aspects of this Plan have been structured around six long-range transportation goals that represent shared values among the participating Federal agencies. These goals are the basis for determining the existing conditions of agency owned and maintained transportation assets, have been the subject of trend and technical reports, form the backdrop for funding program discussions, and define the reason for this document's implementation plan.

- **Place-Based Collaboration**—Plan and manage a transportation system that depends upon collaboration and mutually beneficial actions.
- **Resource Protection**—Plan and manage Federal lands transportation networks to emphasize stewardship of natural and cultural resources and promote ecological sustainability.
- **Safety**—Provide safe and appropriate multimodal transportation access for all users of Federal lands.
- **Access and Connectivity**—Provide a seamless, multimodal transportation system that supports community connectivity and access to public lands.
- **Visitor Experience**—Promote ease and enjoyment of travel to and within Federal lands.
- **Asset Management**—Provide a transportation system with cost-effective assets that meets agency objectives over time.

A common thread found across all baseline conditions assessments, regardless of goal category, relates to the landscape qualities that draw people to and within Federal lands in these two states, which often span jurisdictional boundaries. As a result, solutions to related transportation needs center on the unique qualities of these landscapes and destinations and involve multiagency approaches and coordination to holistically address identified needs. This Plan emphasizes place-based approaches to addressing the convergence of transportation and resource protection, safety, access and connectivity, visitor experience, and asset management. With the development of this Plan, the Pacific Northwest FLMAs seek to institutionalize interdisciplinary collaboration among themselves and with the associated State-level agencies to manage FLMA transportation systems in ways that preserve and promote distinctive senses of place.

Strategies for addressing transportation needs are tempered by the availability of Federal, State, and local funding programs. To this end, the Plan identifies a broad range of Federal and non-Federal funding programs that are available to FLMAs, and emphasizes the importance of partnering with other Federal, State, and local agencies to overcome the funding gaps anticipated in the near-term future.

THE PACIFIC NORTHWEST IS HOME TO…

- 44 million acres of public recreational land
- More than 150 Federal land units
- 43 percent of land is Federally owned
- 62 million Federal land visitors
- Nearly 111,000 miles of Federal land roads
- Nearly 27,000 miles of Federal land trails
- 29 transit systems intersecting Federal lands

Transportation needs that, if properly addressed in a timely manner, will close gaps between present-day conditions and aspirational long-range goals have been determined by the collaborative multiagency planning process. Needs are addressed through actions devised during the Pacific Northwest CLRTP development process and are detailed in *Chapter 7.0, Implementation Plan*. By committing to the actions documented in the *Implementation Plan* section of the CLRTP (and summarized in Table 1), the Pacific Northwest FLMAs will be able to begin to close gaps between existing transportation system conditions and their long-range transportation goals.

Each FLMA is experiencing decreases in the availability of transportation funds, while needs for routine maintenance and new projects remain constant or are increasing. Lack of funding contributes to increasing levels of deferred maintenance. Assets degrade over time and as maintenance continues to be deferred, the magnitude of the costs required to bring assets back to proper condition (i.e., to a "state of good repair") will only continue to grow.

FLMAs face challenges in how transportation funds are allocated. If yearly operation and management costs exceed available funds, agencies must choose which assets receive funding and to what level they are to be maintained. New projects are impacted by lower funding levels and increasing funding competition from the demands of deferred maintenance to ensure that existing assets can continue to

be operated safely. There is a growing need to show that new projects are critical to the mission of each FLMA. Establishing frameworks for identifying the critical projects and making the very best use of available funds is one of the primary purposes of this Plan and accompanying agency profiles. The project selection processes, performance measures, actions, and recommendations ensure that transportation funds continue to support those efforts that are most effective in furthering FLMA missions.

Table 1. Summary of Implementation Actions

Place-Based Collaboration

Enhance multiagency collaboration by:

- Identifying forums for interagency transportation planning
- Sharing agency points of contact
- Developing new or updating existing Memoranda of Understanding (MOUs) and Memoranda of Agreement (MOAs) as appropriate
- Integrating CLRTP goals into Federal Lands Access Program (FLAP) project selection criteria

Resource Protection

- Assess vulnerabilities of transportation infrastructure to environmental hazards and share best practices to increase transportation system resiliency.
- Conduct research to assess and reduce wildlife-vehicle collisions.

Safety

Organize a multiagency working group to address safety issues that require collaboration, including:

- Safety data collection, sharing, and analysis
- FLMA participation in States' Strategic Highway Safety Plan (SHSP) and Highway Safety Improvement Program (HSIP) procedures
- Assessing and reducing vehicle-wildlife collisions
- Disseminating safety-related traveler information
- Supporting emergency response

Access and Connectivity

- Identify and pursue opportunities to leverage multiple funding sources for a seamless transportation network.
- Integrate CLRTP goals into FLAP project selection criteria.

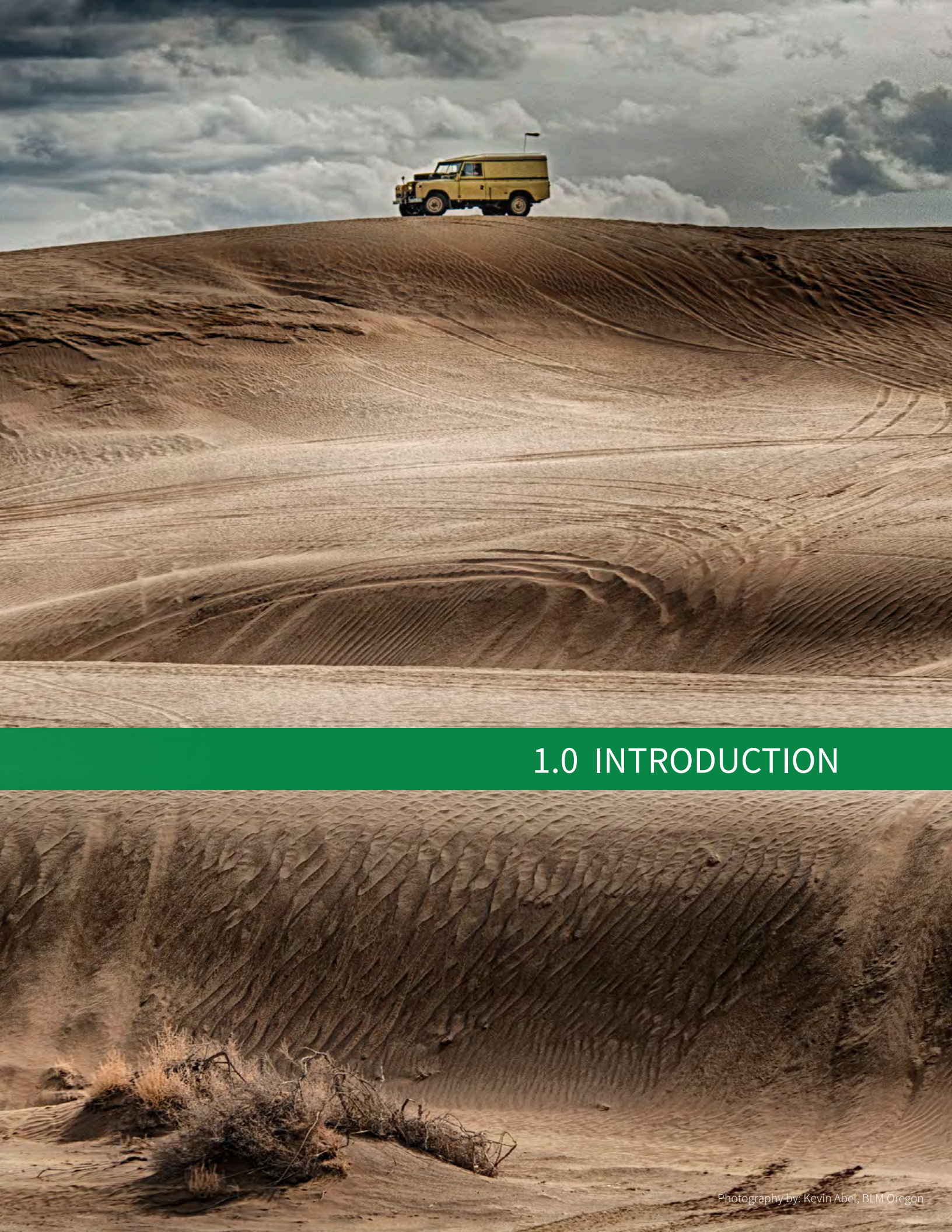
Visitor Experience

- Review/update FLMA visitor experience plans to include transportation.
- Enhance visitor information, whether through Intelligent Transportation Systems (ITS), signage, wayfinding, agency and partner websites, or third-party applications.
- Provide publicly accessible data on multimodal transportation options to access Federal lands, including transit schedules and routes.
- Conduct outreach to underserved communities, such as carless households or persons with disabilities, to help them access Federal lands.

Asset Management

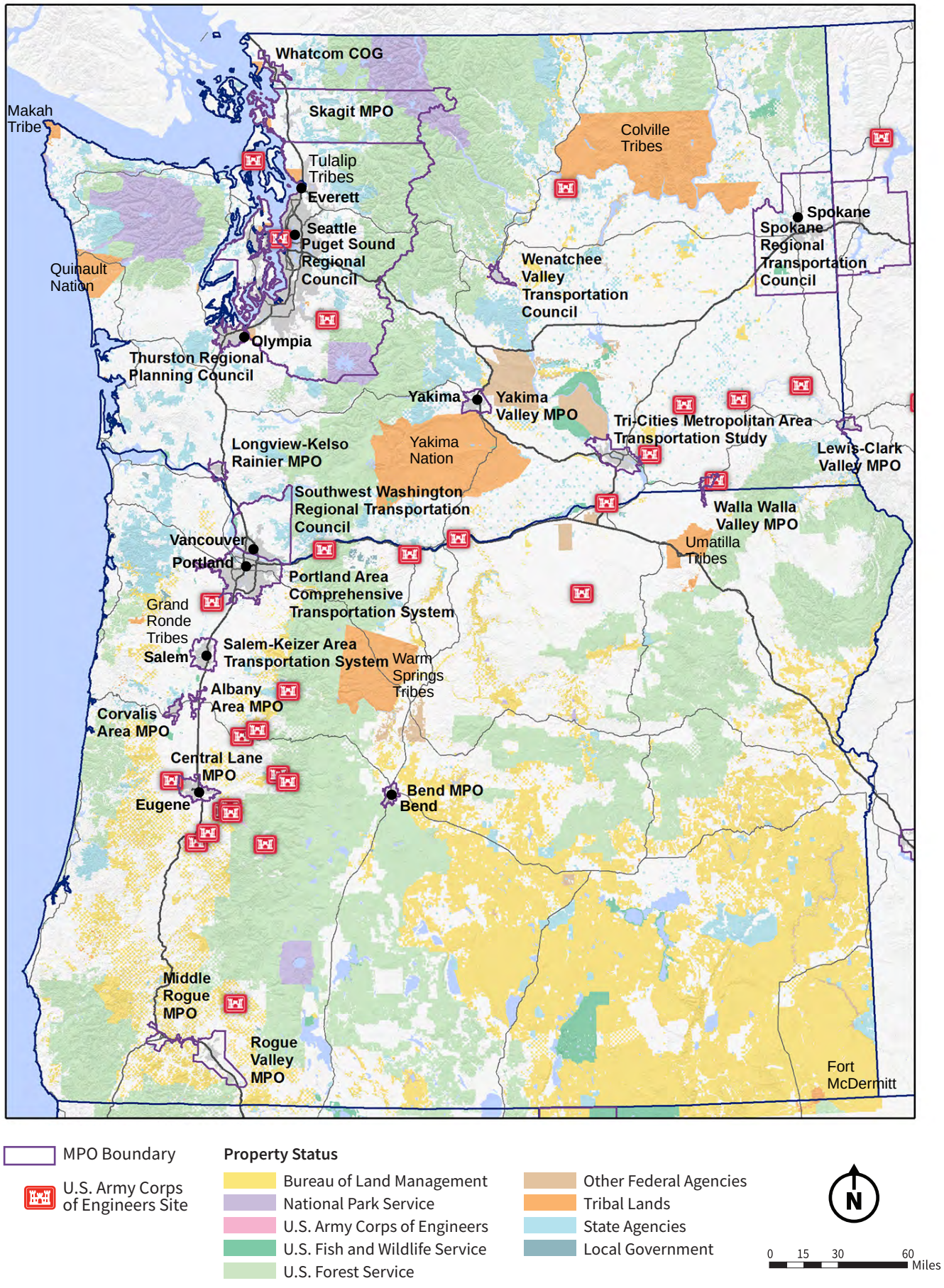
- Identify asset-level needs that cross agency boundaries and partnership opportunities to protect those assets.
- Assess vulnerabilities of transportation infrastructure to environmental hazards and share best practices to increase transportation system resiliency.
- Monitor Emergency Relief for Federally Owned Roads Program (ERFO) events to understand asset vulnerability, and coordinate with partners on emergency response.

1.0 INTRODUCTION



Photography by: Kevin Abel, BLM Oregon

Figure 2. Pacific Northwest Public Lands



The Pacific Northwest, defined as comprising the states of Oregon and Washington for the purposes of this Plan (see Figure 2), is unique in many ways, but among them is the diversity of Federal public lands within close proximity to the 11 million inhabitants. These two states alone welcome more than 114 million visitors each year, with an estimated 62 million recreation visitors traveling to Federal land facilities or units.[1] Federal lands, in concert with those owned and managed by State and local government agencies, provide countless recreation opportunities to the region and also serve as a key economic driver to gateway communities located nearby. Transportation infrastructure provides the connections between Federal lands and both local residents and visitors.

This Collaborative Long-Range Transportation Plan, or CLRTP, for the Pacific Northwest brought together the many Federal Land Management Agencies (FLMAs) with jurisdiction over the Federal public lands in the region, as well as dozens of additional stakeholders at the State and local levels who both provided input on, and stand to benefit from, the recommendations of the Plan. The result is a strategic-level plan that will inform and help guide FLMAs in planning and managing their transportation systems over the next 20 years and beyond.

Together, the five primary FLMAs manage more than 150 units covering more than 44 million acres of public recreational land and nearly 237,000 miles of public roads in the Pacific Northwest.[2] With a total of about 43 percent of all land in the Pacific Northwest being in Federal ownership, visitation and recreation on these lands has a major impact on transportation, the economy, and quality of life in this region. On these Federal lands are nearly 111,000 miles of roadway, nearly 27,000 miles of multiuse trails, and 29 transit systems.

THE FLMAs AND THEIR PARTNERS WHO CONTRIBUTED TO THIS CLRTP:

FLMAs:

Bureau of Land Management (BLM)

National Park Service (NPS)

U.S. Army Corps of Engineers (USACE)

U.S. Fish and Wildlife Service (FWS)

U.S. Forest Service (USFS)

Partners:

Federal Highway Administration (FHWA) Office of Federal Lands Highway (FLH)

Washington State Department of Transportation (WSDOT)

Oregon Department of Transportation (ODOT)

Washington State County Road Administrative Board (CRAB)

Association of Oregon Counties (AOC)

[1] This estimate includes recreational and non-recreation travel, overnight trips to Oregon and Washington, and day trips to Oregon. Day trips to Washington were not available.

[2] FHWA. 2017. *Highway Statistics*. https://www.fhwa.dot.gov/policyinformation/statistics.cfm.

1.1 PLAN PURPOSE

Each Pacific Northwest FLMA has its own defined mission, as stated in its specific enabling legislation. These missions guide all aspects of these agencies, including how they manage their transportation networks. The purpose of the CLRTP in the Pacific Northwest is to coalesce around the many shared goals of these agencies, which are reflective of individual FLMA missions. The defined mission of each agency is summarized as follows:

BLM Mission—To sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations.

FWS Mission—The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

NPS Mission—The National Park Service preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

USACE Civil Works Mission—Dedicated to providing quality, responsive service to the nation in peace and war. The Directorate of Civil Works is a major component of the U.S. Army Corps of Engineers. The Civil Works programs include water resource development activities including flood risk management, navigation, recreation, and infrastructure and environmental stewardship. Our mission also includes emergency response.

USFS Mission—The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.

The CLRTP in Oregon and Washington:

- Defines the transportation network.
- Identifies needs for the transportation network.
- Defines consistent transportation performance measures and targets.
- Develops a process that identifies each agency's larger planning needs and supports their local-level transportation planning processes.
- Creates interagency working groups to continue collaborating on transportation planning after the CLRTP process.
- Establishes implementation actions to achieve long-range transportation goals.

The CLRTP does not include specific project selection or management decisions, but instead provides high-level analysis and guidance to inform local, implementation-level plans and decisions. As such, this CLRTP provides pre-decisional analysis that FLMA staff and partners can use as a resource and it does not require a National Environmental Policy Act of 1970 (NEPA) process.[3]


Photography by: Roy W. Lowe/FWS

[3] Transportation planning under 23 USC 134 and 135 are NEPA FHWA categorical exclusions per 23 §771.117.

1.2 AUDIENCE AND OUTREACH

The primary audience for this CLRTP are the FLMAs who will benefit from having its contents available to inform their individual agency planning processes. Additionally, the Plan also will benefit and have implications for partner agencies and for the millions of visitors to these Federal lands. The FLMAs and their partners each have conducted outreach activities throughout the development of the Plan. The following are just a small representative sample of the various public forums at which the CLRTP has been presented and information about the Plan has been shared:

- WSDOT 2014 Tribal State Transportation Conference
- USFS Regional Engineering Leadership Meeting, 2015
- ODOT Fall Forum 2015
- Transportation Research Board Annual Meeting, 2015 and 2016

1.3 PLAN STRUCTURE

The CLRTP consists of a multiagency long-range transportation plan (LRTP) and agency-specific profiles. The CLRTP focuses on issues common to all agencies in the region. The Plan allows the participating Federal agencies to identify areas of common interest and concern. Some Federal agencies participating in the CLRTP also developed agency-specific profiles, which build upon the general principles established in the CLRTP but add context specific to the unique mission of that agency. The coordination necessary to make the CLRTP both possible and successful is achieved through:

- Documenting common goals and objectives
- Setting priorities for implementing projects
- Facilitating objective decision-making processes
- Identifying areas of need
- Developing common actions that benefit each FLMA in furthering the common goals and objectives of this CLRTP

The key components of the CLRTP versus the respective agency profiles are shown in Figure 3 below.

Figure 3. CLRTP Versus Agency Profiles

CLRTP	Agency Profiles
▪ Establish common FLMA transportation goals and objective applicable to all agencies. ▪ Document the unique role of multimodal travel to and within FLMAs, and within the Pacific Northwest as a whole. ▪ Identify common FLMA transportation funding sources. ▪ Document the role of outreach in the CLRTP ▪ Document joint FLMA actions and long-range transportation performance measures.	▪ Establish agency-specific regional transportation goals, objectives, and strategies. ▪ Document the role of the LRTP in decision-making processes and its significance to other plans. ▪ Identify needs, gaps, or opportunities. ▪ Identify agency-specific transportation funding sources and trends. ▪ Make recommendations for future actions.

1.4 BACKGROUND

Title 23 United States Code (USC)—Highways, and Title 49 USC, Chapter 53—Public Transportation, include most of the laws that govern transportation planning for the Federal-Aid Highway Program (FAHP), and the Public Transportation Program, respectively. The provisions under each Title establish similar requirements for States and Metropolitan Planning Organizations (MPOs) with regard to transportation planning.

Beginning with the passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) in 2012, and as further supported by the enactment of the Fixing America's Surface Transportation Act (FAST Act) in December 2015, FLMAs are required to develop and implement transportation planning processes and procedures that generally are consistent with the currently adopted metropolitan and statewide planning processes guidance (23 USC §134 and §135). This requires that FLMAs have regional, statewide, or unit-level LRTPs that inform the inclusion of projects in Statewide Transportation Improvement Programs (STIPs). The STIP is a four-year, fiscally constrained list of Federal-aid projects maintained by States. FLMAs work with FHWA to integrate their projects into STIPs. MAP-21 and the FAST Act also further emphasize the need for multiagency collaboration, breaking down stove-piped funding and establishing transportation system performance metrics.

MAP-21 established two new programs through which the majority of FHWA-directed transportation funds specifically dedicated to system improvements benefitting FLMA units are authorized:

1. The Federal Lands Transportation Program (FLTP) provides funding for transportation projects that facilitate mobility to and within the jurisdictional boundaries of units for the five core partners: USFS, BLM, USACE, FWS, and NPS. (The FAST Act included the Department of the Interior's Bureau of Reclamation (BOR) on the list of eligible recipients for FLTP funding.)
2. The Federal Lands Access Program (FLAP) provides funding for transportation projects for those facilities or services that are owned or maintained by non-FLMA organizations (typically, State departments of transportation [DOTs] or local government agencies) that facilitate access to Federal lands in each state or territory.

MAP-21 and the FAST Act allow up to 5 percent of the total annual appropriations funding for the FLAP and FLTP programs to be set aside for strategic planning, bridge inspections, and data collection. One intention of the transportation planning set-aside is to facilitate the collaboration between multiple FLMAs, Tribes, State DOTs, and other local transportation agencies in the areas of strategic long-range transportation planning, transportation improvement program development, and transportation facilities condition data collection and assessment.

Photography by: BLM

1.5 PLANNING SCALE AND SCOPE

This CLRTP is focused primarily on the role of FLMAs. However, it explicitly acknowledges that planning does not occur in a vacuum, and continued collaboration with external stakeholders will be necessary to see the goals set forth in this Plan come to fruition. Jurisdictional boundaries limit the amount of influence FLMAs have on the overall transportation networks that provide access to Federal lands. Programs such as the FLAP help to bridge the gap, but hurdles still exist in developing seamless transport to and from these valued Federal lands. Therefore, the CLRTP is intended to be consistent with statewide transportation plans.

This is particularly true for those people who do not have convenient access to a private automobile, or who prefer to use public and non-motorized transportation. Local and regional transportation service providers have a strong role to play in encouraging visitation to Federal lands and in establishing services and routes to make this possible. The CLRTP encourages partnerships between FLMAs and other essential transportation providers to increase access to Federal lands and make the journey more seamless than ever for all people, regardless of their travel mode of choice.

1.6 AFFECTED COMMUNITIES

With a total of approximately 43 percent of all land in the Pacific Northwest under Federal ownership, visitation and recreation on these lands has a major impact on transportation, the economy, and quality of life in this region.[4] FLMA lands are a major asset for residents of the Pacific Northwest, providing environmental, social, and economic benefits for communities throughout the region, as well as for the millions of visitors they attract to the region each year. The region's Federal lands—both recreational areas near major metropolitan regions or remote, back-country landscapes—are a major draw for many who choose to live in the area. Federal lands also provide economic opportunities, including logging, resource extraction, and tourism.

Some communities are more inherently linked to Federal lands than others. The Dalles, for example, is a focal point for visitors to Mount Hood and the Columbia River Gorge areas in Oregon, and Port Angeles, Washington, is a jumping-off point for visitors to Olympic National Park. Federal lands are instrumental to the economic health of these "gateway communities." Gateway communities are dependent on safe and reliable access both to and through Federal lands on a nearly year-round basis.

[4] Appendix C: Visitation-Demographics Technical Report

1.7 GOALS AND OBJECTIVES

The CLRTP focuses on six distinct goal areas, described below. These goal areas represent universal values among the agencies, and the objectives translate these aspirational statements into more actionable topics for the FLMAs to incorporate. These goals are also the basis for determining baseline conditions.

For each of these primary goal areas, the FLMAs collaboratively developed several objectives, described below.

GOAL: Place-Based Collaboration

Plan and manage a transportation system that depends upon collaboration and mutually beneficial actions.

Objectives:

- **Collaborative planning:** Integrate collaboration with Federal, Tribal, State, and local partners into the transportation planning process, and use interdisciplinary planning techniques.
- **Place-based planning:** Plan and manage a transportation system appropriate to the region's unique social, economic, and environmental contexts that supports diverse benefits for surrounding communities and regions.

GOAL: Resource Protection

Plan and manage Federal lands transportation networks to emphasize stewardship of natural and cultural resources and promote ecological sustainability.

Objectives:

- **Protect natural and cultural resources:** Avoid or minimize transportation impacts to sensitive natural and cultural resources.
- **Promote sustainable travel:** Increase the sustainability of travel to and within Federal lands by encouraging energy efficiency and supporting multimodal travel options.

GOAL: Safety

Provide safe and appropriate multimodal transportation access for all users of Federal lands.

Objectives:

- **Engineering and design:** Plan, design, operate, and maintain multimodal transportation systems to minimize fatalities and serious injuries during travel to and within Federal lands.
- **User information:** Conduct education and outreach to provide users information about safe travel to and within Federal lands.
- **Emergency preparedness and response:** Support coordinated and rapid emergency response and enhance communication of conditions affecting Federal lands transportation systems.

GOAL: Access and Connectivity

Provide a seamless, multimodal transportation system that supports community connectivity and access to public lands.

Objectives:

- **Planning information:** Strengthen the depth and breadth of information used to support access planning and management.
- **Multimodal access and connectivity:** Enhance interagency communication and collaboration to improve multimodal access and connectivity to public lands.
- **Supporting communities:** Collaborate with neighboring communities to support access to economic and recreational opportunities on Federal lands.
- **Access for underserved populations:** Work with diverse user groups to ensure access to Federal lands for all, including low-income, minority, carless, or mobility-impaired visitors.

GOAL: Visitor Experience

Promote ease and enjoyment of travel to and within Federal lands.

Objectives:

- **Transportation systems that contribute to a positive experience:** Create transportation systems that welcome and orient visitors, provide recreational experiences, and become part of a positive recollection of the visit.
- **Supporting diverse transportation experiences:** Provide transportation programs and modal options that encourage a diversity of experiences across user groups.
- **Visitor information:** Establish consistent visitor information systems and leverage opportunities to coordinate communications across agencies.

GOAL: Asset Management

Provide a transportation system with cost-effective assets that meets agency objectives over time.

Objectives:

- **Collaborative asset management:** Consider the importance of assets within the context of agency management objectives and coordinate with adjacent jurisdictions.
- **Asset resilience:** Consider risks to transportation assets and develop plans to increase asset resilience.

2.0 VALUE OF THE TRANSPORTATION SYSTEM

Photography by: BLM

Photography by: BLM

The Pacific Northwest is unique in many ways, but among these is the diversity of Federal public lands within close proximity to the 11 million inhabitants of the states of Washington and Oregon, and the millions more who visit these public lands each year. Federal lands—both recreational areas near major metropolitan regions or remote, back-country landscapes—provide countless recreation opportunities to the region and to the nation, and also serve as a key economic driver to gateway communities located nearby. Federal lands provide economic opportunities, in terms of both direct Federal agency staff employment at each unit, as well as revenue generated by related activities, such as commercial logging, resource extraction, and tourism. Publicly accessible transportation infrastructure elements provide the connections between Federal lands and both local residents and visitors.

This CLRTP aims for consistency with existing long-range transportation plans of both ODOT and WSDOT.[5, 6] These respective plans identify funding priorities and policy recommendations to support the continued vitality of the region. This Plan also aims for congruence with existing state operations and maintenance authorities and agreements.

2.1 LANDSCAPE, SOCIAL, CULTURAL, AND HISTORICAL IMPORTANCE

Oregon and Washington are steeped in a rich historical context dating back more than 10,000 years to initial Native American colonization, explorations of the Pacific Coastal region by European explorers in the 1700s, and the Lewis and Clark expedition in the early 1800s. In fact, the Lewis and Clark National Historic Trail straddles the Columbia River, which separates the two states, and ends at Fort Clatsop in the Lewis and Clark National Historic Park near the point where the Columbia River flows into the Pacific Ocean.

In subsequent decades, the Pacific Northwest became prominent in both the lumber and fishing trades, as well as in early manufacturing and shipbuilding. In the early 1900s, the Boeing Airplane Company (later the Boeing Company) established its headquarters in Seattle, Washington, and became the epicenter of domestic aircraft manufacturing for both military and commercial airplanes.

The landscape of the region is largely defined by the Cascade Mountain Range, which originates in the Canadian province of British Columbia to the north and terminates in Northern California, bisecting both Oregon and Washington along the way. The Cascades have tremendous importance in the foundation of the Federal lands that dot the region, creating divides that separate the two states demographically, geologically, and climatically. A traveler going east through Washington or Oregon from the Pacific Coast toward the State of Idaho can experience dense forested areas, alpine peaks, rolling grasslands, and arid high-desert environments. More than a dozen east-west transportation routes traverse the lower-elevation valleys and rivers that cross the Cascades in Oregon and Washington. Each one of these crossings bisects Federal lands.

Balance is needed to provide convenient, safe, and affordable access linkages between the more heavily developed and populated areas on the west side of the Cascade Range with the extensive areas of public lands located within and east of the Cascades. The tremendous costs associated with the initial construction and the continuing maintenance and operation of these corridors—while at the same time preserving the diversity of natural features across the region—are clear, illustrated by the limited number of roadways.

[5] ODOT, Planning and Technical Guidance website: http://www.oregon.gov/ODOT/TD/TP/pages/otp.aspx.
[6] WSDOT. 2018. Washington Transportation Plan 2035: https://washtransplan.com/.

2.2 PLACE-BASED PLANNING CONTEXT

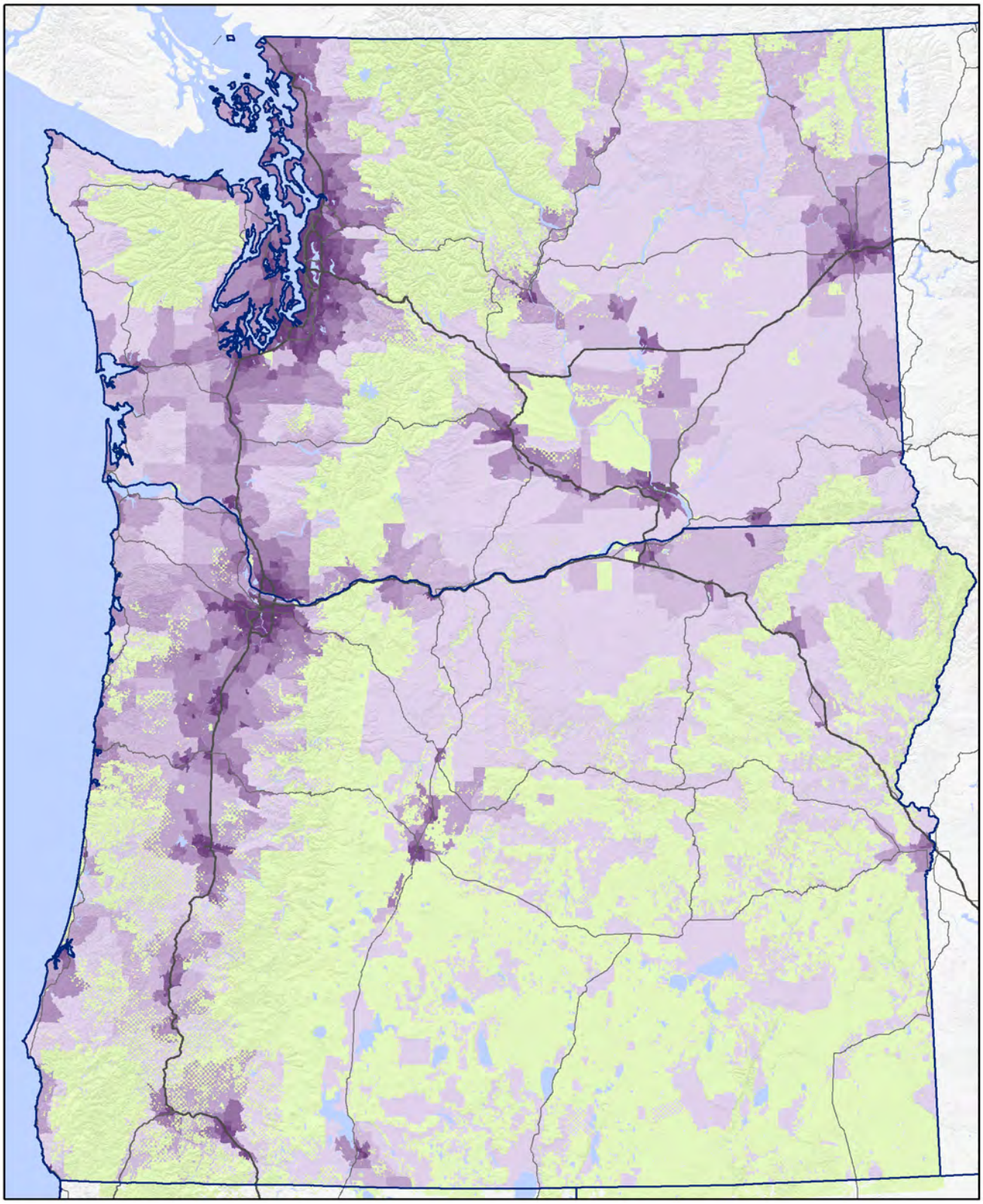
Oregon and Washington contain two relatively recently developed and still expanding metropolitan areas: Portland/ Vancouver and Seattle. They also are close to Federal lands and other outdoor recreational opportunities. This is no coincidence. Among the many contributing factors to the success of these urban areas is the prevalence and proximity of the recreational opportunities and economic development that these nearby public lands provide.

Oregon and Washington also both are characterized by more than 450 miles of majestic Pacific Ocean coastline in addition to the more mountainous and less densely populated terrains in the central and eastern parts of both states, where the majority of Federal lands are located.

As indicated by Figure 4, the population bases in both Oregon and Washington typically are found along the Interstate 5 (I-5) corridor and centralized in the Portland and Seattle metro areas, respectively. The I-5 corridor follows a historical north-south path through both states and connects the region from Canada to Mexico. Notable high-density areas in Washington State are Spokane, Walla Walla, the Tri-Cities, and Vancouver; in Oregon, notable high-density areas are Salem, Eugene, Corvallis, Bend, and Medford.

Photography by: Brent Lawrence / FWS

Figure 4. Pacific Northwest Population Density



2.3 REGIONAL MULTIMODAL TRANSPORTATION SYSTEM

One of the many roles the transportation system fulfills is providing the public access to and through Federal lands in Oregon and Washington, while still preserving the inherent natural qualities that make these lands unique. This access requires that FLMA-focused transportation networks be seamless, i.e., they share characteristics with other facilities to which they connect, and they also are fully integrated into regional transportation systems. For example, the roads within a Federal land unit ideally are consistent with the State or county roads by which primary access to the Federal land unit is obtained. Seamless transportation also suggests that most unit-level transportation facilities are accessible and usable by a variety of different travel modes, a task made difficult in Oregon and Washington due to spatial constraints and distances to be traveled. For example, while hiking or bicycling along a multiuse trail linking a residential community in the Portland/Vancouver area with a nearby FLMA unit generally is achievable within a short period of time, using these same travel modes to visit Forest Service units on the east side of the Cascade Range is considerably more challenging.

Federal lands distinguish themselves in several ways, including the use of park-oriented signage, roadways having typically lower speed limits than similar public routes, and abundant visual cues such as signed roadside pulloffs and observation areas that suggest the land is designated for a special purpose.

The types of Federal lands in the Pacific Northwest vary widely, from smaller "backyard" recreation sites located within major metropolitan areas, to much more remote areas that provide secluded experiences and are an economic boon to rural communities. Federal lands also serve several industries in the region, from timber harvesting to ranching and mining.

The region's transportation system also is characterized by the diversity of users of the network. Despite the many attractions afforded by Federal lands, most travelers within the vicinity of Federal lands are just passing through, without any Federal lands destination on their itinerary. This Plan recognizes that the regional multimodal transportation system must be suitable for all parties, regardless of their origin, destination, or personal relationship to or interaction with Federal lands.

Photography by: BLM

3.0 CONDITIONS

The following sections provide details about each goal's existing conditions and desired future conditions, and identify the gaps between existing and desired conditions

Photography by: BLM

3.1 PLACE-BASED COLLABORATION

GOAL:

Plan and manage a transportation system that depends upon collaboration and mutually beneficial actions.

Objectives:

- ***Collaborative planning:*** Integrate collaboration with Federal, Tribal, State, and local partners into the transportation planning process, and use interdisciplinary planning techniques.
- ***Place-based planning:*** Plan and manage a transportation system appropriate to the region's unique social, economic, and environmental contexts that supports diverse benefits for surrounding communities and regions.

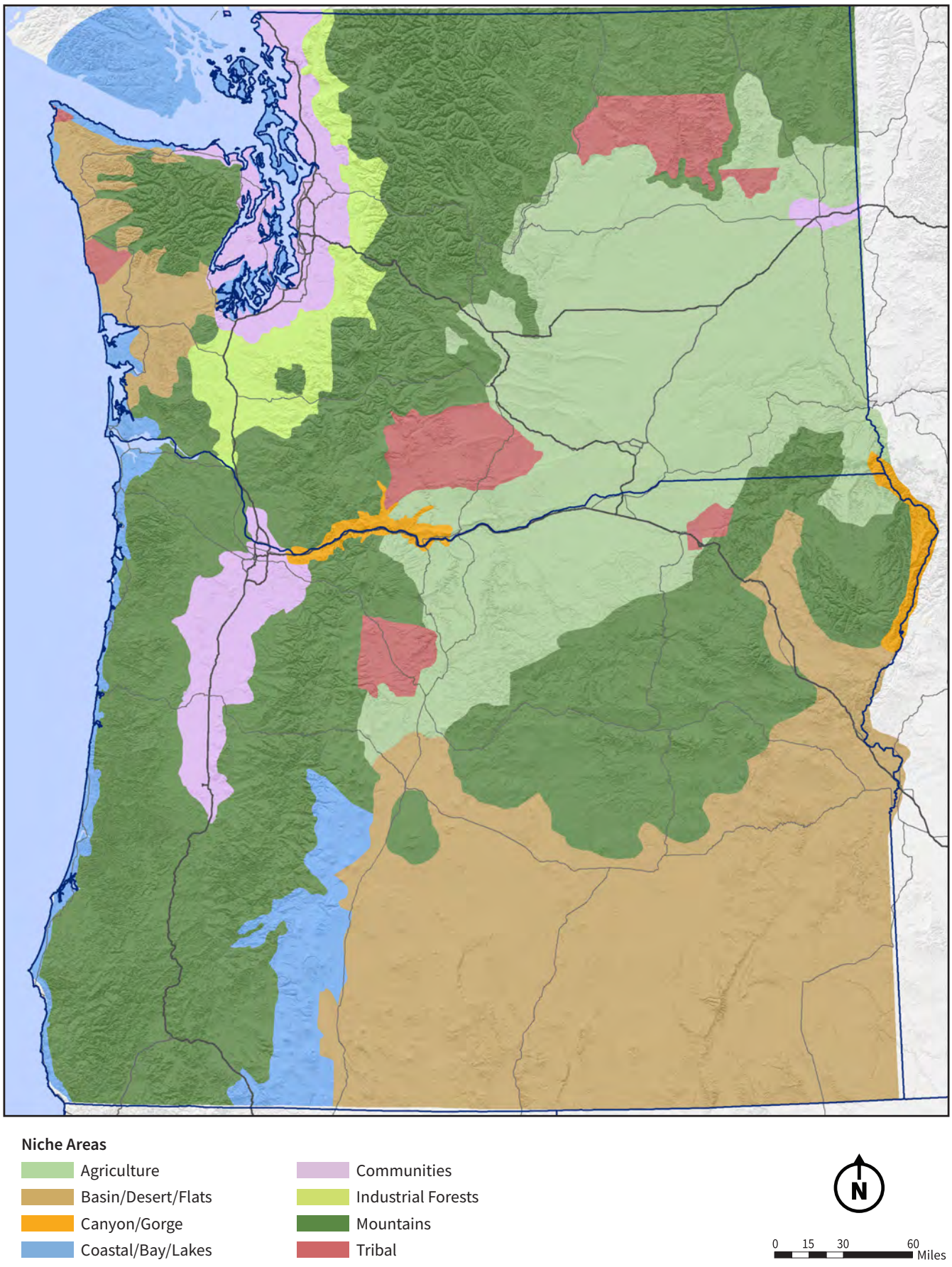
Place-based collaboration is an essential component of the Pacific Northwest CLRTP. This goal recognizes that every place within the boundaries of Federal lands has unique characteristics that draw people to them, and that the qualities distinct to these lands often span jurisdictional boundaries. In addition, different agencies fill different niches for users, depending on the unique landscapes they manage and agency missions. This goal focuses on the ways that agencies recognize and plan for the unique places they manage, and how they institutionalize interdisciplinary collaboration among agencies to think strategically about how the transportation system can preserve and promote that distinctive sense of place.

The concept of Place-Based Collaboration cuts across all the other goal areas in this CLRTP and focuses on how agencies can work together to address common priorities. As such, the Place-Based Collaboration goal touches on the processes and shared resources that can help FLMAs and their partners improve conditions related to Resource Protection, Safety, Visitor Experience, Access and Connectivity, and Asset Management.

3.1.1 PLACE-BASED PLANNING IN THE PACIFIC NORTHWEST

The Pacific Northwest is defined by its many unique landscapes: dramatic coastlines, the forested volcanoes of the Cascades, and the high-desert landscapes of eastern Oregon and Washington. Many of these landscapes serve important ecological niches, supporting rare or threatened ecosystems, and also have deep social and historical significance for residents and visitors. Additionally, many of these landscapes support important economic activities. Figure 5 shows the results of the USFS's human values mapping project. This map represents distinct sub-regions within the Pacific Northwest with common geographic characteristics.

Figure 5. Sub-Regions of the Pacific Northwest



FLMAs in the Pacific Northwest manage these unique landscapes to support their environmental, social, and economic values. Each FLMA has land use planning processes to designate places of outstanding value and manage them in a context-sensitive manner. These land use plans inform how agencies design and manage their transportation systems, as shown in Table 2.

Table 2. FLMA Land Use Plans and Their Transportation Implications

Agency	Land Use Plan	Implications for Transportation
BLM	**Resource Management Plan**	Identifies unique areas and establishes resource management goals and objectives. Establishes multiple compatible uses by area and establishes travel management policies (such as open, limited, or closed to vehicle travel) to be implemented in Travel and Transportation Management Plans.
NPS	**Foundation Document, General Management Plan**	Foundation documents articulate the purpose of NPS units and identify specific issues and needs. A General Management Plan is a strategic planning document that outlines the future management of a National Park Service site for the next 15 to 20 years, establishing vision and resource management and visitor experience goals. Future transportation planning flows from the General Management Plan.
USACE	**Master Plan**	A Master Plan is the document that conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of a USACE water resource project. A Master Plan is a land use management document.
FWS	**Comprehensive Conservation Plan**	A Comprehensive Conservation Plan identifies specific goals to achieve the purpose and vision for the refuge and meet the mission of the National Wildlife Refuge System. These goals guide the management of each refuge for the next 15 years, including future transportation plans and management decisions.
USFS	**Forest Plans**	Forest Plans establish multiple-use goals and objectives, management requirements, management areas and prescriptions, and recommendations for wilderness or other special areas in a forest. Future transportation plans implement the decisions in the Forest Plans.

Special Environmental Places

FLMAs recognize and designate unique environmental places in a variety of ways, as shown in Table 3. These special designations are important for transportation planning because they influence FLMAs' transportation planning decisions by designating areas with particular environmental sensitivity or policies that limit the infrastructure agencies can build. These special places often draw visitors, requiring careful planning for appropriate transportation access.

Table 3. Special Area Designations for Federal Lands in the Pacific Northwest

Special Area Designation	FLMAs	Description
Wilderness Area	**BLM, NPS, FWS, USFS**	Defined in the Wilderness Act of 1964,[7] wilderness areas are the highest level of protection and must be designated by the U.S. Congress. Wilderness areas are defined as areas without permanent improvements or human habitation, and FLMAs manage them to preserve their natural conditions.
National Monument	**BLM, NPS, FWS, USFS**	The Antiquities Act of 1906[8] allows the President of the United States to proclaim that "objects of historic or scientific interest" on Federal lands be designated as national monuments.
National Scenic Area	**NPS, USFS**	The purpose of the Columbia River Gorge National Scenic Area Act of 1986 is to protect and provide for the enhancement of the scenic, cultural, recreational, and natural resources. The Act established new partnerships between the USFS, Tribes, counties, States, and a bi-state regional planning agency, the Columbia River Gorge Commission.
National Conservation Area	**BLM**	National conservation areas are designated by Congress to conserve, protect, enhance, and manage public lands for the benefit and enjoyment of present and future generations.
Outstanding Natural Area	**BLM**	Outstanding Natural Areas (ONAs) were established by Congress to protect unique scenic, scientific, educational, and recreational values. Recreational activities center on those that foster education and interpretation of the ONA's unique resource.
Wilderness Study Area	**BLM**	The Federal Land Policy and Management Act of 1976 directed the BLM to inventory and study its roadless areas for wilderness characteristics. To be designated as a Wilderness Study Area, an area must have specific characteristics, which often coincide with special qualities such as ecological, geological, educational, historical, scientific, and scenic values.
National Wildlife Refuge	**FWS**	All FWS refuges are designated based on their unique environmental resources and have missions specific to the unique species they were founded to preserve.
National Fish Hatcheries	**FWS**	National Fish Hatcheries work collaboratively with Tribes, States, landowners, partners, and stakeholders to promote healthy, self-sustaining populations of fish and other aquatic species.
Wild and Scenic Rivers	**USFS, BLM, NPS**	The National Wild and Scenic Rivers System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection. Rivers may be designated by Congress or, if certain requirements are met, the Secretary of the Interior. Each river is administered by either a Federal or State agency.[9]
Scenic Byways	**BLM, NPS, USFS**	Through the National Scenic Byways Program, the U.S. Secretary of Transportation may designate certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. The National Scenic Byways discretionary grant program was discontinued with MAP-21 in 2012. However, ODOT and WSDOT still have scenic byways.[10,11] Because many scenic byways pass through or access Federal lands, or have segments on FLMA-owned roads, FLMAs in Oregon and Washington are active partners in scenic byways programs.

7 16 USC 1131-1136.
8 16 USC 431-433.
9 National Wild and Scenic Rivers System website: https://www.rivers.gov/index.php
10 ODOT, Scenic Byways Program website: http://www.oregon.gov/ODOT/Programs/Pages/Scenic-Byways.aspx
11 WSDOT, Scenic Byways website: https://www.wsdot.wa.gov/travel/highways-bridges/scenic-byways/

Special Social, Cultural, and Historical Places

Federal lands in the Pacific Northwest have unique social, cultural, and historic meanings for both residents and visitors. Members of the region's Native American Tribes have deep, long-lasting cultural ties to the region's landscapes. These lands were the homes of their ancestors and support traditional, subsistence activities, such as hunting, fishing, and foraging. Other residents trace their heritage from the settlers of diverse backgrounds who migrated to the region from around the world beginning in the 18th Century. Federal lands throughout the Pacific Northwest are home to cultural sites that are meaningful to many diverse communities. Figure 6 shows the locations of sites on Federal lands that are listed on the National Register of Historic Places (NRHP). These are sites that have been designated as having national historical or cultural significance. Those shown are only a small fraction of the prehistoric and historic sites eligible for listing on the NRHP. In addition to the designated and eligible sites, there are many more locations that communities value as part of their cultural heritage regardless of designation status.

Some transportation systems on Federal lands are themselves historical resources. For example, the Lewis and Clark National Historic Trail, Oregon Trail National Historic Trail, California National Historic Trail, Santiam Wagon Road, and the McKenzie Highway are all long-distance historic travel routes that traverse multiple partners' lands and shaped the region's history. The Historic Columbia River Gorge Highway, built between 1913 and 1922, was the first planned scenic highway in the United States and is now a National Historic Landmark. USACE's Bonneville Dam, a crucial part of the nation's navigable water transportation system, is also a National Historic Landmark District representative of New Deal-era public works.

Cultural resources matter for transportation planning because they are popular visitor destinations that require access. They are part of a unique sense of place that transportation networks should protect, promote, and support.

FLMAs manage cultural and historical resources on Federal lands in conformance with Section 106 of the National Historic Preservation Act of 1966 and National Environmental Policy Act of 1970. These acts establish processes by which agencies recognize culturally significant sites; consult with descendants and stakeholders; and analyze, mitigate, or minimize project impacts to cultural resources.

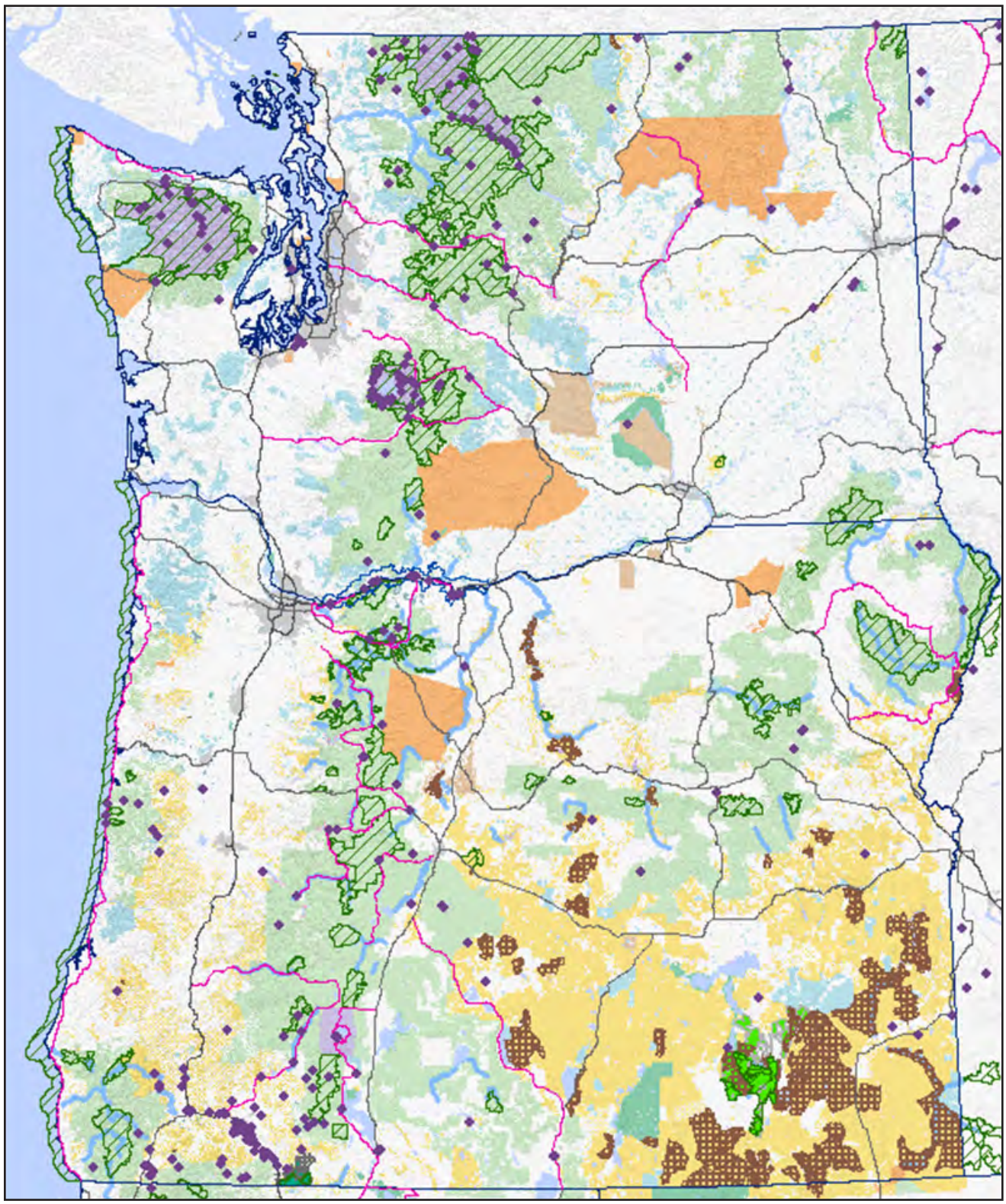
Where appropriate, FLMAs also highlight cultural and historical sites through interpretation. Context-sensitive design of transportation infrastructure and interpretive signage and wayfinding can enhance visitors' experiences of these unique places and preserve their special character.

Federal lands in the Pacific Northwest also have social significance for their natural settings. They are often the "backyards" and the "backdrops" of the region's cities and towns, and as such they are important to the sense of identity of communities. Many residents grew up visiting these lands and even newcomers have strong, personal ties—from hiking, camping, picking berries, or otherwise enjoying the region's landscapes. It is the unique outdoor environment that creates a draw for visitors to experience the region's Federal lands as well.

Based on location and agency mission, each FLMA fills a different niche in terms of the recreational sites and experiences they provide. FWS refuges are primarily destinations for wildlife observation, while USACE locations predominantly support water-based recreation. USFS and BLM provide some of the most diverse visitor experiences due to the multiuse nature of their missions. NPS units have some of the most famous natural and cultural sites in the region, drawing national and international visitors.

Within the broad trends in agency recreational niches, each agency recognizes a complex mosaic of unique recreational sites within their lands. Wilderness areas, front-country areas, special recreation areas for uses such as off-highway vehicles (OHVs), mountain biking, water-based activities, and many others each have their own transportation needs and opportunities. FLMAs identify these areas in their land use plans and develop appropriate transportation management strategies to support them.

Figure 6. Special Area Designations in the Pacific Northwest



Economic Places

Sites within Federal lands in the Pacific Northwest each have unique economic value, based on the economic development they offer for surrounding communities.[12] Many different activities on Federal lands—including tourism, recreation, energy development, navigation, timber harvesting, and grazing—provide jobs and economic growth for the local, regional, and national economy. Based on land holdings and agency missions, each FLMA supports a range of economic activities on their lands, as shown in Table 4.

Table 4. Economic Activities on Federal Lands in the Pacific Northwest by FLMA

Economic Activity	BLM	NPS	USACE	FWS	USFS
Tourism and Recreation	X	X	X	X	X
Timber Harvesting	X				X
Ranching/ Livestock Grazing	X			X	X
Navigation			X		
Renewable Energy	X		X		X
Oil and Gas Extraction	X				
Mining	X				X

Although tourism and recreation can contribute to the economy in several ways—such as visitor spending on lodging, food, and other travel expenses—some high-use recreation sites have concentrated economic impacts. For example, ski areas attract high levels of visitors and employ a large staff during the winter, while the region's wild and scenic rivers are a draw for water-based recreation that provide business opportunities for outdoor outfitting companies.

The FAST Act requires FLMAs and FHWA to consider access to Federal High-Use Recreation Sites and Federal Economic Generators as evaluation criteria for FLTP and FLAP investments. Each FLMA defines these sites based on its mission and the types of economic activities that take place on its lands.

3.1.2 MULTIAGENCY AND INTERDISCIPLINARY COLLABORATION

A crucial part the place-based concept is collaboration among partners and disciplines. To successfully recognize and plan for the unique places throughout the Pacific Northwest, agencies need to coordinate across boundaries and disciplines to meet context-sensitive transportation needs. It is important for FLMAs to recognize which partners to collaborate with based on context and to build this collaboration into planning and decision-making processes.

Collaboration among FLMAs and their partners is necessary because many of the characteristics that create a sense of place throughout the Pacific Northwest transcend administrative boundaries. Ecosystems and wildlife span jurisdictional boundaries, and so do people. Many recreational visitors may pass through BLM, USFS, and NPS lands in a single trip, for example, and it is important to plan for their seamless journey. Places such as the Columbia River Gorge highlight how several Federal, State, and local agencies' lands and transportation systems are entwined, impacting each other and contributing to the complex spectrum of recreational and economic opportunities throughout the Gorge.

As such, it is important for FLMAs to understand their partners' missions, needs, and planning and programming processes. Collaboration has multiple benefits:

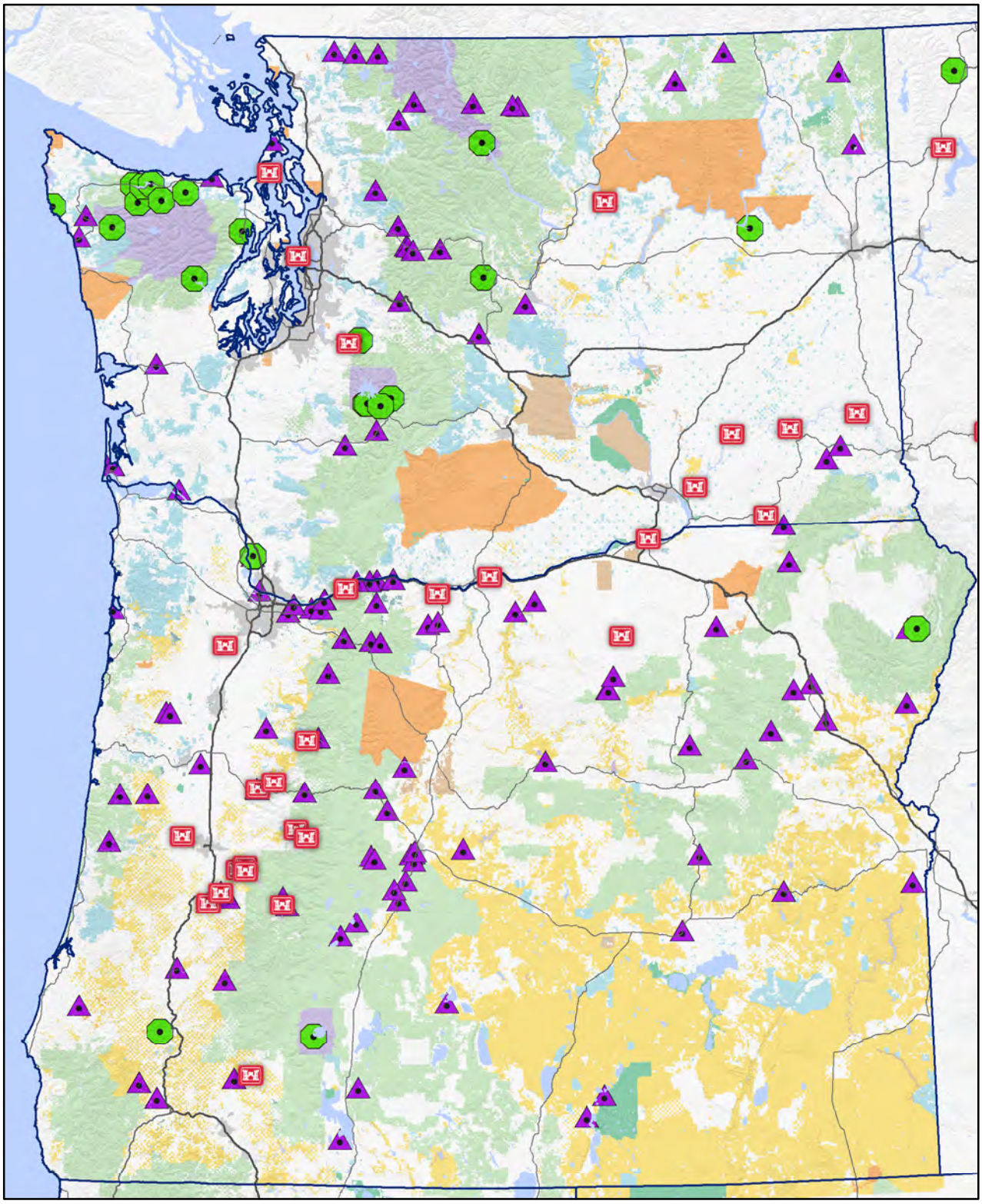
- Recognizing the unique context of a place and its value to diverse partners
- Developing shared strategies for improving resource protection, safety, congestion, and access issues on a landscape scale
- Developing a coherent, seamless transportation network appropriate to its context
- Identifying opportunities for mutual benefit or increased efficiency
- Identifying funding opportunities available through partnerships

The FAST Act recognizes the importance of partnerships to support transportation to and within Federal lands and supports enhanced partnerships through FLAP. Figure 7 illustrates locations that have FLAP and FLTP projects programmed in the Pacific Northwest. FLAP provides approximately $36 million in Oregon and $12 million in Washington per year in U.S. DOT funds for projects that improve transportation systems owned or maintained by non-Federal partners that provide access to Federal lands.

There are many potential partners for FLMAs, but the main categories of partners are discussed below.

[12] Appendix D: Economic Impact of Federal Public Lands Technical Report

Figure 7. Programmed FLTP and FLAP Projects in the Pacific Northwest, 2013-2018



Collaboration between FLMAs

FLMAs collaborate with each other on issues that cut across land ownership boundaries, such as ecosystem and watershed management. In many cases, their transportation systems also are interconnected, requiring coordination on transportation data, maintenance, and incident management. Collaboration between FLMAs may take place via formal Memoranda of Understanding (MOUs), Memoranda of Agreement (MOAs), or Interagency Agreements (IAAs). FLMAs also may collaborate as stakeholders in other agencies' land use and transportation planning processes.

U.S. Department of Transportation

The U.S. Department of Transportation (USDOT) is an important partner for Federal lands transportation. The FHWA's Western Federal Lands Highway Division (WFLHD) administers USDOT funds for Federal lands transportation programs, including FLTP, FLAP, and the Emergency Relief for Federally Owned Roads (ERFO) Program. WFL also provides planning support, technical assistance, and project delivery services for FLMAs. Because WFL works with all FLMAs in the Pacific Northwest, WFL also can act as an organizer to facilitate collaboration between FLMAs.

The Federal Transit Administration (FTA) is also an important partner for FLMAs and their partners because it administers grant funds for rural transit projects that may provide access to Federal lands. The FTA's Rural Transit Assistance Program also provides technical assistance, peer resources, and other tools to support rural transit.[13]

State DOTs

ODOT and WSDOT are partners in this CLRTP. They are important partners for FLMAs, because they often own and manage the primary access roads to or through FLMAs. As such, they are an important part of planning and managing a seamless transportation system to and through Federal lands in the region. State DOTs also collect and maintain statewide transportation datasets and monitor transportation system performance on the statewide transportation network, and they have strong relationships with local governments. They can be a valuable resource and partner to FLMAs. Since travel to and through Federal lands is crucial to the State economies in Oregon and Washington, it is likewise important for ODOT and WSDOT to collaborate with FLMAs.

FLMAs should consult with ODOT and WSDOT when developing LRTPs, unit-level transportation plans, and other project plans. In addition, FLMAs should coordinate with ODOT and WSDOT during development of their statewide LRTPs and related plans. FLMAs and State DOTs already coordinate on shared transportation issues. For example, USFS has MOUs with WSDOT and ODOT.

Metropolitan Planning Organizations, Regional Transportation Planning Organizations, and Area Commissions on Transportation

MPOs are Federally mandated and Federally funded organizations that carry out metropolitan transportation planning for census-defined urbanized areas with a population above 50,000. MPOs consist of representatives from local governments and transportation authorities. They develop Metropolitan Transportation Plans (MTPs), which are LRTPs for their metropolitan planning areas, and they develop annual Transportation Improvement Programs (TIPs). FLMAs should coordinate with MPOs on their MTPs and TIPs, as well as other plans, where relevant.

Washington State has Regional Transportation Planning Organizations (RTPOs) that represent rural regions of the state. Oregon has Area Commissions on Transportation (ACTs) to deal with regional and local issues that affect the State transportation system and play an advisory role in statewide transportation planning and programming.

FLMAs should consult with MPOs, RTPOs, and ACTs when developing LRTPs, unit-level transportation plans, and other project plans. In addition, FLMAs should coordinate with MPOs and RTPOs to provide input on their plans and programs.

See Appendix A for a map of ACTs, MPOs, and RTPOs in Oregon and Washington. The appendix provides a table with additional information about MPOs/RTPOs, such as major cities, populations, and nearby FLMA units.

Counties and Local Governments

Counties and local governments are important partners for FLMAs in Oregon and Washington, since they own and maintain many of the rural routes that access or pass through Federal lands. This is especially true for the BLM and the Forest Service, since their lands often are interspersed with private land. Federal lands are important economic development drivers for local communities, and FLMA-managed roads are important routes for intracommunity access. For this reason, it is important for FLMAs to coordinate transportation plans, communicate, and share data with counties and local governments to meet the transportation needs of the FLMA and surrounding communities.

[13] National Rural Transit Assistance Program website: http://nationalrtap.org/.

In Oregon, the Association of Oregon Counties (AOC) represents Oregon counties and their transportation systems through the Oregon County Road Program. The Washington State County Road Administration Board (CRAB) provides standards of good practices, fair administration of funding programs, and professional technical services for county road transportation providers in Washington.

Tribal Governments

Native American Tribes are sovereign governments and receive Federal transportation funding through the Tribal Transportation Program "… to contribute to the economic development, self-determination, and employment of Indians and Native Americans."[14] Partnerships between Tribes and all U.S. government agencies are subject to Executive Order 13175, under which all FLMAs and Federal agencies are required to consult with Tribes in a government-to-government relationship when considering policies that would impact Tribal communities. Many Federal lands are adjacent to Tribal lands, so it is important to coordinate with Tribes on shared routes. Some Tribes also include FLMA-owned roads on the National Tribal Transportation Facility Inventory. In addition, Tribes are important stakeholders in FLMA transportation plans because Federal lands are important for their heritage, subsistence use, and community access. All FLMAs have Tribal liaison plans to guide coordination with Tribes, as shown in Table 5.

Table 5. Agency Tribal Liaison Plans

Tribal Liaison Plan
BLM http://www.blm.gov/wo/st/en/prog/more/CRM/tribal_consultation.html
NPS https://www.nps.gov/history/tribes/Tribal_Historic_Preservation_Officers_Program.htm
USACE http://www.usace.army.mil/Missions/CivilWorks/TribalNations.aspx
FWS https://www.fws.gov/endangered/what-we-do/tribal-secretarial-order.html
USFS http://www.fs.fed.us/spf/tribalrelations/strategicplan.shtml

Non-Governmental Partners

FLMAs partner with a wide range of non-governmental organizations, both non-profit and for-profit companies. All of these relationships are guided by FLMAs' policies for partnering with non-governmental organizations.

Many non-profit partners have compatible missions to FLMAs and collaborate with FLMAs on shared goals. For example, "Friends of" groups tend to be locally based groups that care for and raise funds to support a specific FLMA unit of interest to a community. Other non-profits—for example, the Washington Trails Alliance—provide funds and volunteer labor to help FLMAs build and maintain trails. Recreational groups—for example, the International Mountain Bike Association—often develop partnerships with FLMAs to support specific recreational activities. FLMAs also partner with academic institutions on research projects, design, and implementation. The Pacific Northwest Cooperative Ecosystem Studies Unit brings together 11 Federal agencies and 17 academic institutions in the Pacific Northwest to improve the scientific base for managing Federal lands by providing resource managers with high-quality scientific research, technical assistance, and education.[15]

It is also important for FLMAs to collaborate with for-profit companies on transportation plans and projects. For-profit partners include concessionaires, transit operators, and recreational outfitters. In addition, the for-profit companies that develop economic uses on Federal lands, such as logging and mining companies, are important road users. In many cases, logging and mining companies also build and maintain roads on or adjacent to Federal lands, working closely with FLMAs to plan, design, and build transportation systems.

3.1.3 LOOKING FORWARD

In many respects, FLMAs are conducting place-based collaborative planning in the Pacific Northwest already. The development of this Plan is itself progress on this goal, since the FLMAs and their partners are collaborating to develop this Plan together. However, there is still room for progress. The project team identified the following needs and gaps for place-based collaboration:

- There is a need for more collaboration and understanding of transportation needs between FLMAs and their partners, particularly at the local level (e.g., counties and local governments).
- There is a need for better sharing of transportation data between FLMAs and their partners. This is especially important to help FLMAs and their partners understand the relationships between their transportation systems and to recognize opportunities for mutual benefit.

[14] FHWA. Tribal Transportation Program website: hhttp://flh.fhwa.dot.gov/programs/ttp/
[15] University of Washington, Pacific Northwest Cooperative Ecosystem Studies Unit website: https://depts.washington.edu/pnwcesu/.

3.2 RESOURCE PROTECTION

GOAL

Plan and manage Federal lands transportation networks to emphasize stewardship of natural and cultural resources and promote ecological sustainability.

Objectives:

- ***Protect natural and cultural resources:*** Avoid or minimize transportation impacts to sensitive natural and cultural resources.
- ***Promote sustainable travel:*** Increase the sustainability of travel to and within Federal lands by encouraging energy efficiency and supporting multimodal travel options.

Recognizing that natural and cultural resources, watersheds, and wildlife habitats are not restricted by jurisdictional boundaries, FLMAs and State and local governments in Oregon and Washington are working collaboratively to avoid, minimize, and mitigate transportation impacts on a landscape scale.

The Federal lands transportation network, as well as State and local agencies in the Pacific Northwest, prioritize protection of natural and cultural resources in their jurisdictions. Sometimes, transportation infrastructure can adversely affect those resources and lead to habitat loss and fragmentation, and disturbance of historic and archaeological resources.

This chapter focuses on four main resource protection priorities: (1) protecting natural and cultural resources, (2) enhancing wildlife connectivity, (3) ensuring aquatic organism passage and water quality, and (4) promoting sustainability and air quality. Note that the policies, practices, and current projects described under this section do not necessarily reflect all activities being undertaken by Federal, State, and local governments in these focus areas.

Each of the focus areas featured in this section follows a landscape-scale approach to natural and cultural resource protection, aligning with the first objective of this chapter—protect natural and cultural resources within and across administrative boundaries. The second objective—increase the sustainability of travel to and within Federal lands—is supported by current FLMA activities that promote sustainability and air quality. Collectively, these priorities and their interaction with the Federal transportation system in the Pacific Northwest lay the groundwork for more sustainable transportation planning.

3.2.1 PROTECTING NATURAL AND CULTURAL RESOURCES

Because of the Pacific Northwest's rich and diverse natural environment, the region has many natural resource protection concerns, including wildlife habitat loss and fragmentation, wildlife-vehicle collisions, aquatic organism passage, and forest stewardship and restoration. All FLMAs have published guidance for identifying sensitive resources and addressing environmental impacts from transportation projects through the NEPA process (Appendix B: Regulatory Technical Report, Section 2.3.1).

To protect roadside natural resources that may be impacted by transportation activities in the Pacific Northwest, the USFS Restoration Services Team (RST) provides expertise in native roadside revegetation. USFS RST also supports various other FLMA, State, and local road jurisdiction agencies in completing this work on other jurisdictional roads. ODOT and WSDOT also use programmatic agreements with FLMAs to streamline environmental review processes for transportation projects.

To ensure the protection of the numerous cultural resources on Federal lands in the Pacific Northwest, FLMAs operate

programs designed to inventory, evaluate, and manage cultural resources administered on their lands, in compliance with NEPA and the National Historic Preservation Act of 1966. Examples of FLMA cultural resource protection plans are provided in the Regulatory Technical Report, Section 2.3.1, in Appendix B of this report.

At present, each FLMA managing land in Oregon and Washington maintains guidance on implementing NEPA regulations within its agency to identify and avoid or mitigate environmental impacts from transportation. Additionally, both Oregon and Washington DOTs use programmatic agreements with FLMAs to facilitate environmentally focused transportation planning.

3.2.2 ENHANCING WILDLIFE CONNECTIVITY

Transportation features such as roads have an adverse impact on fish and wildlife by bisecting their habitats. This can threaten wildlife and human safety by increasing the chances of vehicle-wildlife collisions, and it can reduce an animal's range of movement and/or potential breeding population.

Currently, USFS, FWS, and other Federal and State partners are collaborating with WSDOT to restore habitat connectivity and reduce the number of wildlife-related crashes. An innovative solution can be seen in the Interstate 90 (I-90) Snoqualmie Pass East Project (see Figure 8). Bisecting Washington's Central Cascades, I-90 has historically been a hotspot for wildlife-related crashes. The Wildlife Bridges Coalition worked with WSDOT and FHWA to add wildlife crossing structures to reduce the number of wildlife-related incidents and provide safer animal passage over and under the roadway.[16]

Another approach FLMAs are taking to reduce vehicle-wildlife collisions is the construction of fencing to prevent wildlife crossings. For example, WSDOT collaborated with local partners to build fencing along a section of U.S. Highway 97 that has one of the highest mule deer and big horn sheep mortality rates in Washington (see Figure 9).

ODOT and WSDOT provide information about reducing the risk of wildlife collisions and data about areas with a high density of vehicle-wildlife collisions on their websites.[17,18]

Figure 8. Artist's rendering of a wildlife overpass over I-90 at Snoqualmie Pass

Figure 9. Fencing was needed to prevent wildlife crossings on US 97 near Chelan, WA (WSDOT)

Bighorn sheep crossing US 97 prior to construction of fencing.

3.2.3 ENHANCING AQUATIC ORGANISM PASSAGE AND WATER QUALITY

Transportation infrastructure bisects thousands of rivers in the region, disrupting fish migration and, as a result, other species in the food chain. Because waterways cross jurisdictional boundaries, protecting and enhancing aquatic organism passage requires collaboration. Washington has nearly 70,440 miles of river, with 197 miles designated as Wild and Scenic Rivers.[19] Oregon has approximately 110,994 miles of river, 1,917 miles of which are designated as Wild and Scenic.[20] Removing barriers to fish passage is a top priority, and FLMAs are collaborating to protect fish in the region.

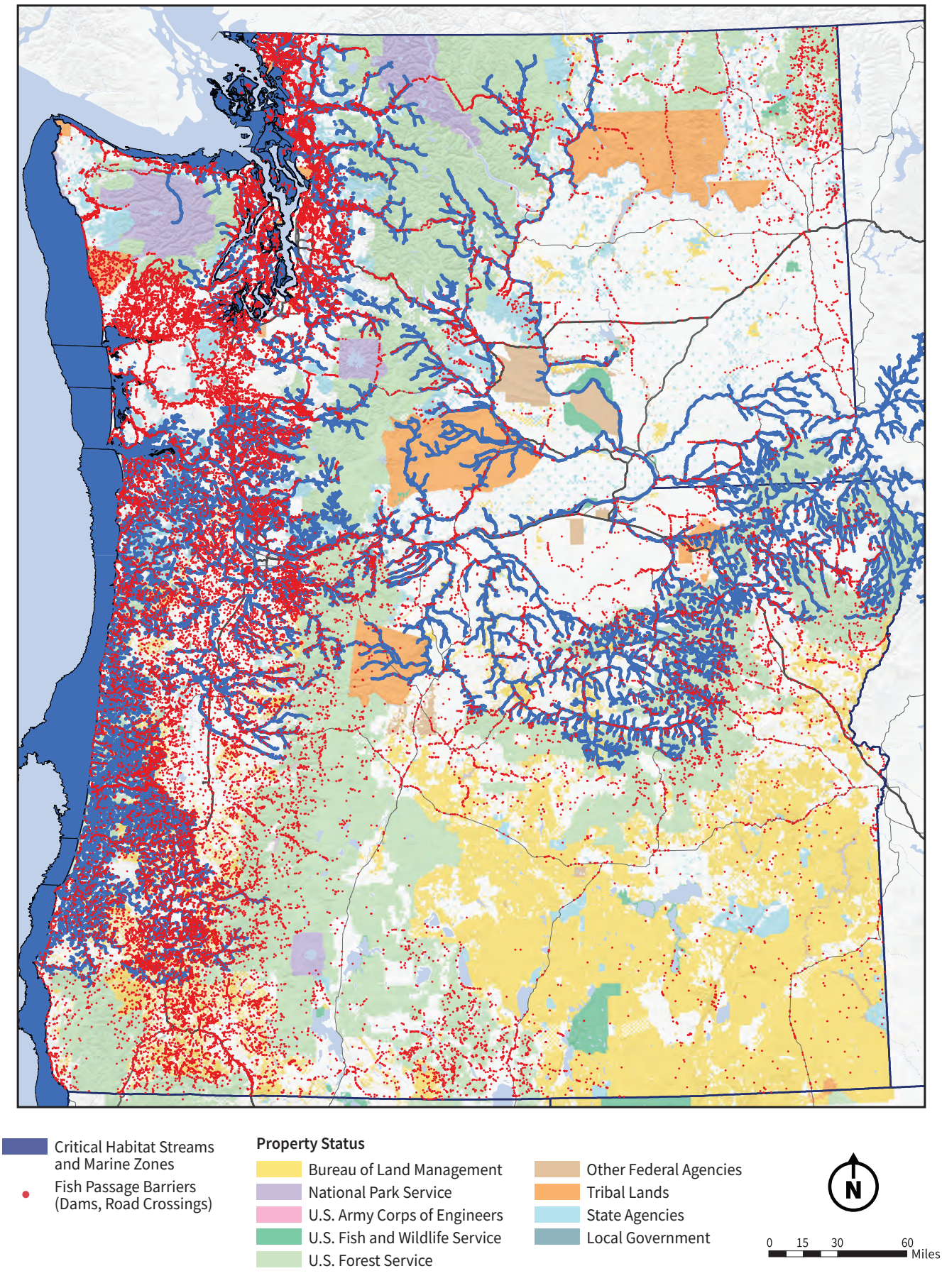
16 Conservation Northwest. 2017. "I-90 Wildlife Corridor Campaign" website: https://www.conservationnw.org/our-work/habitat/i-90/.
17 ODOT, "Wildlife Crossings" website: https://www.oregon.gov/ODOT/GeoEnvironmental/Pages/Wildlife.aspx. Accessed 2019.
18 WSDOT, "Reducing the risk of wildlife collisions" website: https://www.wsdot.wa.gov/environment/protecting/wildlife-collisions#Areas%20of%20the%20state. Accessed 2019.
19 National Wild and Scenic Rivers System, Washington: https://www.rivers.gov/washington.php. Accessed 2018.
20 National Wild and Scenic Rivers System, Oregon: https://www.rivers.gov/oregon.php. Accessed 2018.

State partners also support aquatic organism passage on Federal lands. The Oregon Department of Fish and Wildlife's fish passage program includes a fish passage mitigation banking system and a priority list of fish barriers for correction.[21] The Oregon Watershed Enhancement Board also works to clear fish passage to ensure migration. In Washington, WSDOT is working to remove and/or modify culverts and other infrastructure that impede fish passage along waterways under roads on the State's highway system. In fact, WSDOT has worked for more than two decades to improve fish passage and reconnect streams to help keep waterways healthy. As of 2015, WSDOT has corrected fish passage restrictions at 303 barriers (as depicted in Figure 10), improving access to more than 1,000 miles of upstream habitat.[22] The project has a six-year plan in place and will continue through 2021.[23]

Another focus for FLMAs in the Pacific Northwest is preserving water quality by reducing sediment runoff from transportation infrastructure. To reduce sediment runoff, FLMAs employ preventative road maintenance and drainage designs, which include storm damage risk reduction (SDRR) treatments to reduce the potential for road degradation or failure after storm events. USFS applies SDRR treatments based on their "open" or "stored" status to roads that may have little or no traffic, but still require much of the same erosion prevention and maintenance needs as busier roads. The Forest Service's *Storm Damage Risk Reduction Guide for Low-Volume Roads* provides information on preventative measures, which include ensuring road surface drainage, maintaining culverts, and planting deep-rooted plants on road shoulders.[24] FLMAs also employ other tactics to track and prioritize watershed health in the Pacific Northwest. One example of this is the USFS's Watershed Condition Framework, which assesses and tracks the condition of watersheds in national forests and grasslands to monitor any changes that might occur. To do this, the Framework establishes a scale on which watersheds are classified by their condition. Also supporting water quality in the region is the USFS National Best Management Practices (BMP) program, which includes a compendium of practices to improve water quality in watersheds.[25]

[21] Oregon Department of Fish and Wildlife, "Fish Passage" website: http://www.dfw.state.or.us/fish/passage/. Accessed 2018.
[22] WSDOT, "Fish Passage – Why are we fixing barriers?": http://www.wsdot.wa.gov/Projects/FishPassage/FixingBarriers.htm. Accessed 2018.
[23] WSDOT, "Fish Passage—Six-year project plan": http://www.wsdot.wa.gov/Projects/FishPassage/6YearPlan.htm. Accessed 2018.
[24] U.S, Forest Service. 2015. Storm Damage Risk Reduction Guide for Low-Volume Roads: https://www.fs.fed.us/t-d/pubs/pdfpubs/pdf12771814/pdf12771814dpi100.pdf
[25] U.S. Forest Service, "Best Management Practices (BMP) Program: https://www.fs.fed.us/biology/watershed/BMP.html. Accessed 2018.

Figure 10. Fish Passage in Oregon and Washington



FLMAs are putting in significant effort to protect aquatic organism passage and water quality in the Pacific Northwest. These contributions have produced positive results; however, like other focus areas highlighted in this Plan, further collaboration and knowledge sharing is needed to amplify results.

3.2.4 PROMOTING SUSTAINABILITY AND AIR QUALITY

Vehicle emissions from transportation to and within Federal lands can impact local air quality by producing nitrogen oxides (NO_x), sulphur oxides (SO_x), particulate matter (PM), and greenhouse gas (GHG) pollutants. Currently, Oregon has three areas in nonattainment or maintenance of the National Ambient Air Quality Standards (NAAQS), including Klamath Falls, Lane County, and Oakridge, while Washington has zero cities in nonattainment.[26] For these areas, FLMAs can partner with State or local agencies to apply for FHWA Congestion Mitigation and Air Quality (CMAQ) project funding. CMAQ provides funding for transportation projects that improve ozone air quality, reduce carbon monoxide, or reduce PM in a nonattainment or maintenance area.

To protect and conserve air quality in the region, FLMAs promote sustainable travel to and through Federal lands in the Pacific Northwest. Sustainable travel includes the use of active transportation (e.g., biking and walking), transit or carpooling, and alternative fuel vehicles, such as electric vehicles. In 2010, NPS partnered with the U.S. Department of Energy's Clean Cities Program to educate park visitors on the benefits of reducing petroleum consumption and GHG emissions by using alternative fuel and fuel-efficient vehicles.[27] The partnership also is installing electric vehicle chargers at National Parks across the United States, one of which is located at Mount Rainier National Park.

To encourage the use of sustainable travel options, FLMAs, Oregon Parks and Recreation Department, ODOT, Travel Oregon, and Ride Oregon partnered to designate 17 scenic bikeways. The partnership provides information and maps for bicycle touring routes throughout the state, many of which pass through Federal lands.[28]

To connect public lands with existing transit systems and reduce the environmental footprint of visitors, FLMAs are putting new transit systems into operation. A few examples of these new systems include the Mt. Hood Express and the Columbia Gorge Express. To support this initiative and identify current transit gaps and opportunities, FLMAs and FHWA have created the Federal Lands Multimodal Catalogue, which provides a national online database of transit and trail systems within and adjacent to Federal lands.

3.2.5 LOOKING FORWARD

FLMAs in the Pacific Northwest each have their own processes to ensure natural and cultural resource protection. These procedures have proven effective through the successful development of wildlife corridors, collaborative and streamlined environmental review procedures, vulnerable species protection, and AOP protection. However, the complex, cross-jurisdictional quality of natural resources, wildlife habitat, and watersheds on and across Federal lands in the Pacific Northwest poses challenges that can be overcome only by cross-agency coordination at the Federal, State, and local level. The project team identified the following needs and gaps in resource protection in the Pacific Northwest:

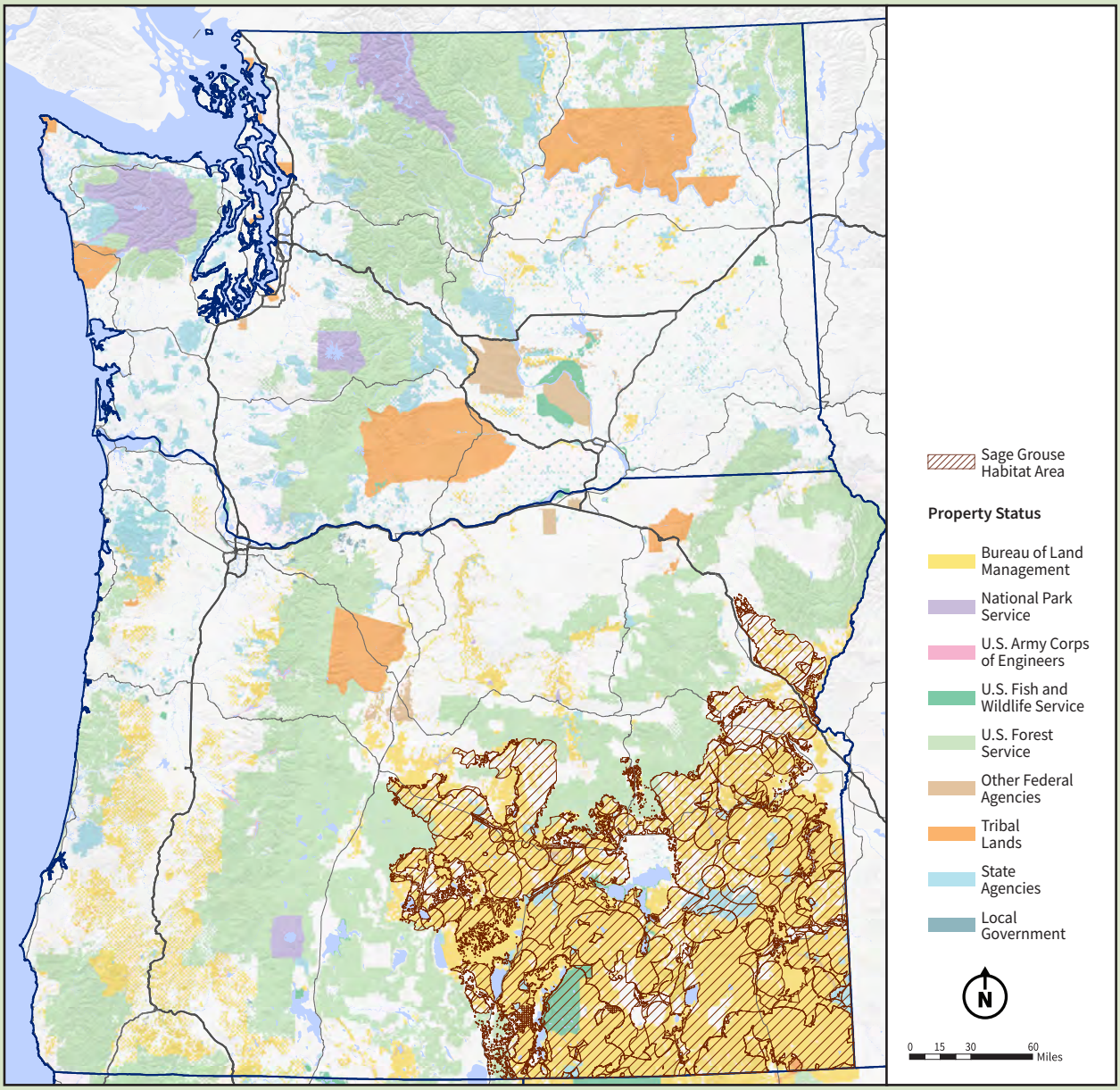
- Agencies experience challenges when it comes to collaboration across administrative boundaries, especially given that natural resources do not have concrete boundaries.
- FLMAs have limited funds for repairing, replacing, or enhancing transportation infrastructure to improve terrestrial or aquatic habitats and must be strategic with prioritizing and leveraging funds to maximize the benefit for sensitive resources.
- FLMA partners, such as State DOTs, can have limitations on how their funds may be used for transportation maintenance projects on Federal lands.
- Integrating resource planning with transportation planning will require planning resources and interdisciplinary coordination to succeed.
- Agencies do not have all the data they need to incorporate resource protection into their plans and projects.
- Agencies would like to work more effectively to reduce air quality emissions from their vehicle fleets.

[26] U.S. Environmental Protection Agency, "Current Nonattainment Counties for all Criteria Pollutants": https://www3.epa.gov/airquality/greenbook/ancl.html.
[27] U.S. Department of Energy, "Clean Cities Coalition Network: https://cleancities.energy.gov/national-parks.
[28] Oregon State Parks, "Scenic Bikeways" website: https://oregonstateparks.org/index.cfm?do=thingstodo.dsp_scenicBikeways.

COLLABORATING TO PROTECT THE GREATER SAGE GROUSE IN EASTERN OREGON AND WASHINGTON

There are many animal species in the region that require protection. However, of particular concern for the Pacific Northwest, specifically eastern Oregon and Washington, is the Greater Sage Grouse. While the Greater Sage Grouse was placed on the candidate list for the Endangered Species Act of 1973 in 2015, the species was removed from the list after a successful partnership between FLMAs and State and local government that implemented collaborative conservation efforts for the species.

A driving force behind the conservation efforts for the Sage Grouse is the September 2015 BLM/FWS Record of Decision (ROD) and approved resource management plan amendments for the region. The ROD takes a landscape-scale approach to Sage Grouse protection, requiring collaboration between FLMAs, other Federal agencies, local agencies, and private landowners. It has three main goals: (1) minimize new surface disturbance in sage grouse habitat, (2) improve habitat condition, and (3) reduce the threat of rangeland fire. Transportation is most directly related to the first goal. Now that the ROD has been adopted, FLMAs with Sage Grouse habitat on their lands will work to incorporate Sage Grouse protection into their transportation plans and will collaborate with surrounding landowners to minimize disturbance from transportation uses.



3.3 SAFETY

GOAL

Provide safe and appropriate multimodal transportation access for all users of Federal lands.

Objectives:

- ***Engineering and design:*** Plan, design, operate, and maintain multimodal transportation systems to minimize fatalities and serious injuries during travel to and within Federal lands.
- ***User information:*** Conduct education and outreach to provide users information about safe travel to and within Federal lands.
- ***Emergency preparedness and response:*** Support coordinated and rapid emergency response and enhance communication of conditions affecting Federal lands transportation systems.

Safety is an important goal for the Federal lands transportation network in the Pacific Northwest. The safety performance of the region's roads, trails, transit systems, and waterways is crucial for the traveling public, which includes recreational visitors, commuters, and industries using these systems. FLMA transportation systems in the Pacific Northwest also serve as critical elements in emergency management and response. As such, safety on the Federal lands network entails designing, operating, and maintaining infrastructure to reduce the potential for crashes, providing users with the information they require to understand travel risks, and effectively supporting emergency response, with the ultimate aim of reducing fatal and severe injury crashes in the Pacific Northwest.

FHWA guidance for Strategic Highway Safety Plans requires transportation planners and engineers to consider a framework of "4Es" when considering safety: Engineering, Education, Enforcement, and Emergency Services.[29] Employing this holistic framework helps FLMAs and their partners consider a comprehensive range of opportunities to increase safety for transportation users.

3.3.1 LEGISLATIVE CONTEXT

The FAST Act includes requirements for how FLMAs and State DOTs address safety in their planning and performance management.

Planning: The FAST Act requires that State DOTs consider safety in their long-range transportation plans, develop a Strategic Highway Safety Plan (SHSP), and update their SHSPs no less frequently than every five years. Following the 4E framework, SHSPs use a data-driven approach to guide decisions about transportation investments that will improve safety. ODOT's current SHSP is the Transportation Safety Action Plan 2016; WSDOT's current SHSP is Target Zero 2016. Each plan provides information on the system improvement, legislation, and financing needs necessary to implement a strong safety agenda for multimodal transportation in each state.

States also receive Federal funds through the HSIP, through which they fund planning, project implementation, and reporting to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on Tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads, with a focus on performance. In Oregon, safety investments also are directed by the

[29] FHWA. 2016. Strategic Highway Safety Plan (SHSP) Guidance. https://safety.fhwa.dot.gov/legislationandpolicy/fast/shsp_guidance.cfm.

All Roads Transportation Safety Program, which deploys limited state funds and resources through cooperation with local road jurisdictions. Washington has adopted the Target Zero goal for transportation safety in the state and directs its investments toward projects that will help the state meet specified fatality reduction targets.

Because Oregon and Washington's implementation of their SHSP and HSIP entails collaboration with other jurisdictions to reduce fatality and serious injury crashes on all roads in the states, FLMAs are a potential partner in these programs.

Performance Management: In 2012, MAP-21 required the U.S. Department of Transportation to develop a rulemaking for safety performance management. The HSIP and Safety Performance Management Measures Final Rule, which became effective April 14, 2016, establishes five performance measures as the five-year rolling averages for: (1) number of fatalities, (2) rate of fatalities per 100 million vehicle miles traveled (VMT), (3) number of serious injuries, (4) rate of serious injuries per 100 million VMT, and (5) number of non-motorized fatalities and non-motorized serious injuries. The Safety Performance Management Measures Final Rule also establishes the process for State DOTs and MPOs to establish and report their safety targets, and the process that FHWA will use to assess whether State DOTs have met or made significant progress toward meeting their safety targets. The Safety Performance Management Measures Final Rule also establishes a common national definition for serious injuries.[30] State DOTs now are working to establish and implement performance management systems to meet this requirement.

MAP-21 and the FAST Act also require FLMAs to collect and report safety performance data. Although FHWA has not issued guidance on safety performance management for FLMAs, some FLMAs already have begun to develop Safety Management Systems. FLMAs also can collaborate with State DOTs as they implement their safety performance management systems.

3.3.2 DESIGNING, OPERATING, AND MAINTAINING TRANSPORTATION SYSTEMS TO REDUCE CRASHES

FLMAs face unique safety performance challenges on their transportation networks in the Pacific Northwest. Due to mountainous terrain in the region, many of the roadways through Federal lands have challenging curves and grades, potential for collisions with a variety of wildlife, and risks from inclement weather, such as winter storms or flooding. Furthermore, many visitors lack familiarity with local roads and conditions, and drivers must take extra precautions as recreational travelers use the same roadway to hike and bicycle. When planning for Federal lands transportation safety performance in the Pacific Northwest, FLMAs must consider the unique characteristics and multimodal nature of their transportation systems.

The Fatality Analysis Reporting System (FARS) is a nationwide census maintained by the National Highway Traffic Safety Administration (NHTSA) of fatal injuries suffered in motor vehicle crashes on all public roads in the United States. State DOTs report fatality data annually to NHTSA, based on data collected by first responders, such as local law enforcement agencies. Between 2009 and 2013, 172 fatal traffic crashes on Federal lands in Oregon and Washington were reported to FARS, an average of 43 per year. Of those, 109 were on the National Highway System, and 63 were on other roads on Federal lands, such as those managed by FLMAs, counties, and other local partners. Fatal traffic crashes on Federal lands occur throughout Oregon and Washington, but there are certain locations with the potential for improvement in the east-west and north-south routes through the Cascade Mountain Range, in the Columbia River Gorge, and near Grants Pass, Oregon. To fully understand the context of these crashes will require a more detailed analysis. In the future, FLMAs should work together with local and State partners to better understand the safety concerns in these areas and address them collaboratively.

FLMAs are conducting a variety of activities currently to address safety performance in their transportation systems, summarized in Table 6.

[30] FHWA. 2016. HSIP and Safety Performance Management Measures Rulemaking: https://safety.fhwa.dot.gov/hsip/rulemaking/.

Table 6. FLMA Safety Management Activities

Agency	Current Safety Management
NPS	Working on developing a National Safety Management System Investing about $1 million per year in safety projects in the Pacific Western Region (which also includes California, Nevada, and Idaho)
FWS	Using a National Safety Management System Using a regional analysis of locations with potential for safety improvement
USFS	Developing a National Safety Management System Prioritizing sites for Road Safety Audits
BLM	Tracking and reporting transportation-related fatalities that occur on BLM lands Investing FLTP funds in projects with safety benefits
USACE	Tracking transportation-related fatalities that occur on USACE lands, as well as incidents that result in property damage

The following sub-sections summarize emphasis areas based on the unique characteristics of Federal lands transportation systems in the Pacific Northwest. These emphasis areas are not driven by data but are anecdotal based on FLMA observations.

Reducing Risk on Multiuse Roadways

Because FLMA transportation networks support multiple modes, transportation safety is a multimodal issue. For example, many of the roads to and through Federal lands in the Pacific Northwest are popular bicycle routes, and, in many cases, bicyclists share the road with passenger vehicles, recreational vehicles, logging trucks, and other road users. In mountain settings, these roadways often follow winding, steep routes that obscure upcoming views for travelers. Multimodal use and a mix of recreational and economic use of roads are particularly prevalent on the region's 17 scenic byways. In Oregon, the Oregon Parks and Recreation Department, ODOT, Travel Oregon, and Ride Oregon have partnered to designate 17 scenic bikeways (see Figure 20), providing information and maps for bicycle touring routes throughout the state, many of which pass through Federal lands.[31] To reduce the frequency and severity of crashes related to bicycle travel on rural, multiuse roadways on Federal lands, the Forest Service, ODOT, and WFL currently are collaborating on a FLAP- and FLTP-funded project to research best practices to reduce crash potential on multiuse roadways in National Forests and similar road types. In addition, there are increasing numbers of organized/permitted events (i.e., bicycling and running events) that use the transportation routes through Federal lands. As potential conflicts between motorists and event participants become more prevalent, higher levels of information and awareness—along with sophisticated traffic control plans—become more critical for reducing the potential for crashes for all users and visitors.

Oregon Scenic Bikeway

Reducing Crashes Involving Wildlife

Currently, the Forest Service is collaborating with the State of Washington to reduce the number of wildlife-related crashes through its I-90 Wildlife Bridges Coalition Project. Bisecting Washington's Central Cascades, I-90 historically has experienced a concentration of wildlife-related crashes. The Washington FLAP also is funding projects related to this mission. In Oregon, similar projects are underway to reduce vehicle crashes involving wildlife on US 97, from Lava Butte to South Century Drive.[32] Collaborating on projects such as these to design roadways that provide wildlife with opportunities to cross without conflicts with vehicles can reduce the number of crashes with animals.

Reducing Crashes during Adverse Weather Conditions

Like other areas of the country, the Pacific Northwest faces inclement weather throughout the year, including strong winds, heavy rain, fog, hail, and snow. FLMAs and their partners

[31] Oregon State Parks, Scenic Bikeways: https://oregonstateparks.org/index.cfm?do=thingstodo.dsp_scenicBikeways.
[32] https://www.oregon.gov/ODOT/HWY/REGION4/Pages/WildlifeCrossings.aspx

coordinate to provide up-to-date information through various media on roadway conditions and closures due to inclement weather. Seasonal weather information also is provided on FLMA websites to provide future visitors with advanced notice of the types of weather conditions they might expect upon their arrival.

Figure 11. Cars parked along the shoulder of US 14 near Dog Mountain in the Columbia River Gorge, WA

Mitigating Crash Risks from Parking Congestion

Parking congestion is another factor increasing crash risk on the Pacific Northwest transportation network. Due to the increasing number of visitors to Federal lands each year, some parking lots are becoming overcrowded, forcing visitors to park on the roadway to visit recreational sites and walk to their destination. Overflow parking on busy roadways increases the chance for crashes involving pedestrians and vehicles and crashes involving vehicles backing up into oncoming traffic.

At sites where crashes involving vehicles backing out of parking areas are prevalent, such as Multnomah Falls or Dog Mountain in the Columbia River Gorge, FLMAs and their local partners are working together to develop performance expectations, such as reducing the demand for parking or roadway crossings.

3.3.3 SAFETY EDUCATION AND OUTREACH

Safety education and outreach is an important component of transportation safety. Visitor information should serve two main purposes:

- Communicate long-term conditions: Educate visitors about the transportation system and general conditions for their trip. This includes how to get to popular visitor destinations and general conditions, such as topography, wildlife, and other safety-related information. Safety education also can include traditional traveler behavior messaging, such as seat belt awareness and messages against texting while driving or driving under the influence of substances.
- Communicate short-term conditions: Inform visitors about current conditions that impact personal safety, such as inclement weather or wildfires resulting in road closures, organized outdoor events, and wildlife migration seasons.

Visitor information can educate visitors on what to expect when they travel and help prevent visitors from getting lost or stuck in dangerous conditions. It also can help visitors look out for other road users or wildlife, reducing crash risk. Current information on weather or closures also can help visitors make more informed decisions about visiting an area or using alternate routes to avoid specific conditions.

Currently, the majority of FLMAs publish detailed information on what to know before you go to Federal lands in the Pacific Northwest and post information about travel conditions on their websites. In addition, ODOT and WSDOT share up-to-date information on road conditions and closures on the State highway systems. Some high-traffic travel corridors, such as the Highway 26 corridor in Mount Hood National Forest, also use Intelligent Transportation Systems and variable messaging signs to alert travelers of current travel conditions.

3.3.4 EMERGENCY SERVICES & INCIDENT RESPONSE

Federal lands transportation systems are vulnerable to a variety of environmental hazards, but they also play an important role in incident response, serving as evacuation routes and providing access for emergency responders.

The Pacific Northwest is susceptible to unique environmental hazards, summarized in Table 7. To understand and monitor these hazards, FLMAs coordinate with a wide range of partners—including other FLMAs, the U.S. Geological Survey (USGS), academic researchers, State departments of forestry and natural resources, fire departments, law enforcement, and many others. FLMAs also collaborate with their partners to ensure a cohesive emergency response. This approach includes coordinated incident response and communications. Just as hazards are not bound to one area, incident response planning requires cross-agency coordination.

Table 7. Summary of Environmental Hazards in the Pacific Northwest

Hazard	Most Prevalent Geographic Location	Resources for More Information	Implications for Federal Lands Transportation
Volcanic Hazards	Cascade Mountain Range	■ USGS Volcano Hazards Program—Cascades Volcano Observatory	Roads in the Cascades Range could be damaged by volcanic eruptions. They also serve an important role as potential evacuation routes.
Earthquakes	Coastal Oregon and Washington	■ Pacific Northwest Seismic Network ■ USGS Earthquake Information • Washington • Oregon	Earthquakes can damage transportation infrastructure.
Tsunamis	Coastal Oregon and Washington	■ National Tsunami Hazard Mitigation Program ■ Oregon Tsunami Clearinghouse ■ Washington Tsunami Hazards	Tsunamis pose a risk for transportation infrastructure within inundation zones on the Pacific Coast. Roads designated as tsunami evacuation routes also serve an important role in tsunami response.
Wildfires	Northern Washington & central and southern Oregon	■ Active Fire Information—Incident Information System ■ USFS Wildfire Hazard Potential Mapping ■ Oregon Fire Precaution Levels ■ Washington Department of Natural Resources Fire Precaution Levels	Wildfires can damage road, bridge, and trail infrastructure. Roads also play an important role in evacuation, fire response, and post-fire recovery activities.
Floods	Low-lying areas near water bodies and the Pacific coast	■ Federal Emergency Management Agency Flood Hazard Mapping ■ FHWA Emergency Relief Program and Emergency Relief for Federally Owned Roads Programs	Floods can damage roads, trails, and bridges. Flood events also pose danger to Federal lands transportation users.
Landslides	Unstable slopes, particularly in steep valleys with heavy precipitation	■ USGS Landslide Hazards Program	Landslides can damage transportation infrastructure and can pose danger to Federal lands transportation users.

In addition to the resources in Table 7, Washington and Oregon both develop and regularly update hazard mitigation plans, which analyze a range of natural hazards and the populations and infrastructure that are vulnerable. The plans include goals, objectives, and actions to reduce injury and damage from natural disasters.[33,34]

Extreme weather trends in the Pacific Northwest may increase the risks posed by natural hazards in the future.[35] Specifically, the Pacific Northwest region is expected to experience increased risked from the following hazards:

- Sea level rise and storm damage to coastal infrastructure
- Increased flooding from heavy precipitation events
- Increased erosion and landslides
- Increased wildfire risk
- Impacts on natural resources and ecosystems

All the FLMAs in the Pacific Northwest, as well as ODOT and WSDOT, have taken actions to increase their understanding of the impacts of extreme weather and strategies to increase their resilience, as detailed in the Natural Hazards Technical Report (Appendix E). This is an area that will require further research, planning, and monitoring.

3.3.5 LOOKING FORWARD

FLMAs in the Pacific Northwest each have processes to improve safety performance on their transportation systems, as shown in Table 6. However, the complex, multijurisdictional nature of travel corridors to and through Federal lands in the Pacific Northwest poses distinct challenges in understanding and improving safety performance throughout the transportation network. The project team identified the following safety needs and gaps:

- Many agencies lack training on state-of-the-practice methods to analyze safety performance, as well as the analytical capability to effectively identify specific issues and appropriate mitigations for them.
- Many FLMAs lack the crash data required to understand and prioritize roadways with high crash potential specific to routes under FMLA jurisdiction.
- Challenges with data sharing among partners—especially given sensitivities around crash data (e.g., the need to protect personal health information)—make it difficult for agencies to effectively analyze safety data across jurisdictions.
- FLMAs need to better understand how travelers collect information before and during travel, how existing communication impacts their decisions, and how to best communicate safety-related information. This includes a need for FLMAs and their partners to provide relevant roadway condition and safety information in formats that can feed into third-party information providers, such as websites and mobile apps.
- As extreme weather threatens to increase the risk of environmental hazards, such as flooding, wildfire, and unstable slopes, FLMAs should assess and prioritize the current and potential future vulnerability of the Federal lands transportation systems, as well as the implications for traveler safety and emergency response.

[33] Washington State Emergency Management Division. 2018. Washington State Enhanced Hazard Mitigation Plan: http://mil.wa.gov/other-links/enhanced-hazard-mitigation-plan.

[34] Oregon Department of Land Conservation and Development. 2015. Natural Hazards Mitigation Plan: https://www.oregon.gov/LCD/HAZ/pages/nhmp.aspx.

[35] Appendix E: Natural Hazards Technical Report

3.4 ACCESS AND CONNECTIVITY

GOAL

Provide a seamless, multimodal transportation system that supports community connectivity and access to public lands.

Objectives:

- ***Planning information:*** Strengthen the depth and breadth of information used to support access planning and management.
- ***Multimodal access and connectivity:*** Enhance interagency communication and collaboration to improve multimodal access and connectivity to public lands.
- ***Supporting communities:*** Collaborate with neighboring communities to support access to economic and recreational opportunities on Federal lands.
- ***Access for underserved populations:*** Work with diverse user groups to ensure access to Federal lands for all, including low-income, minority, carless, or mobility-impaired visitors.

Pacific Northwest FLMAs are committed to providing a seamless multimodal transportation system that supports community access and connectivity to public lands. FLMAs are not only concerned with access and connectivity within Federal lands, but also to these places. Achieving seamless multimodal travel to Federal lands by working with partners (such as State DOTs and counties) is also a prominent theme in *Section 3.2, Resource Protection*. As a reflection of the Pacific Northwest FLMAs' emphasis on providing seamless multimodal transportation, this LRTP considers a broad definition of its transportation system. Although the transportation assets discussed in Section 3.2, Resource Protection, and elsewhere in this Plan focus on FLMA-managed assets, the concept of the Pacific Northwest transportation system also includes connections to other non-FLMA-managed transportation facilities.

It is for this purpose of providing a seamless multimodal transportation system that the Pacific Northwest CLRTP examines access and connectivity to and within all Federal lands. The determinations made in this Plan, combined with the resulting implementation actions documented in *Chapter 7.0, Implementation Plan*, create footholds for collaborative multiagency efforts to improve seamless access and connectivity to and within Pacific Northwest Federal lands.

3.4.1 TRANSPORTATION, ACCESS, AND CONNECTIVITY

While site-specific access and connectivity conditions are determined through more finely scaled planning and analysis (e.g., unit-level plans such as travel management plans and forest management plans), this multistate and multiagency Plan uses high-level indicators to represent common access and connectivity concepts and issues present in the Pacific Northwest. Such access and connectivity issues characterize the kinds of topics that may be addressed through multiagency collaboration and the actions outlined in *Chapter 7.0, Implementation Plan*.

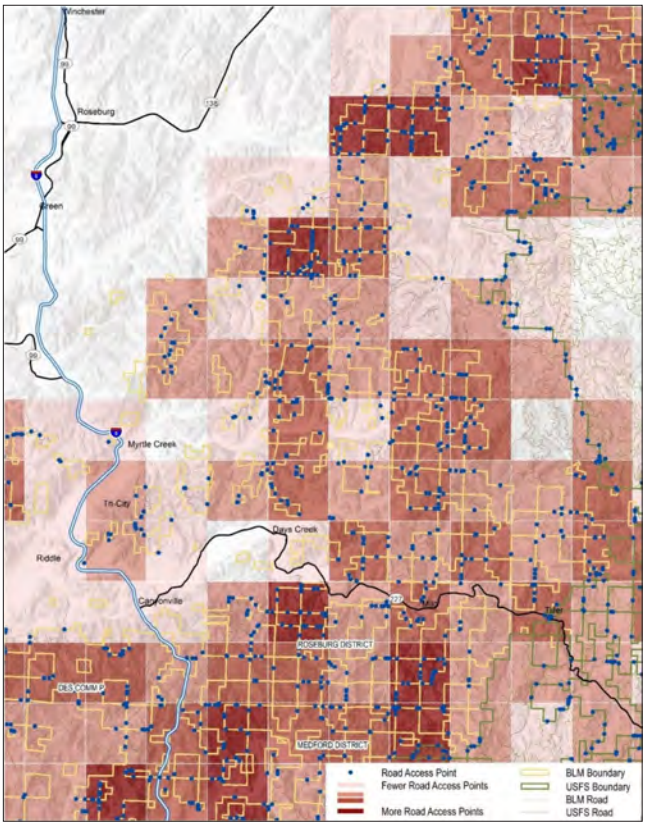
Access Points

Access points represent where a road or trail, regardless of ownership, crosses an FLMA boundary. Figure 12 and Figure 13 illustrate these locations as point symbols at the precise location where roads and trails access a Federal land, as well as increasingly darker colors to represent concentration of access points in six-mile-by-six-mile cells. Greater numbers of access points indicate that there are more opportunities to access Federal lands from another jurisdiction by vehicle, transit, foot, or bicycle. And while the unique nature of access and connectivity is different at each individual access point,

the premise for the two-state-scale Pacific Northwest CLRTP access point consideration is that more access points generally mean one of two things: First, greater concentrations of access points can be emblematic of non-contiguous FLMA lands where roads and trails repeatedly weave in and out of Federal lands. Second, more access points mean that there are more opportunities to access and connect to a specific Federal land area from another jurisdiction. Locations with more road or trail access points can indicate proximity to developed areas, adjacency to many other FLMA lands, or high-use areas, or it can be that they are located along major travel corridors. All such high-access point concentration locations are candidates for multiagency collaboration for the purposes of improving the continuity of access and connectivity across jurisdictions.

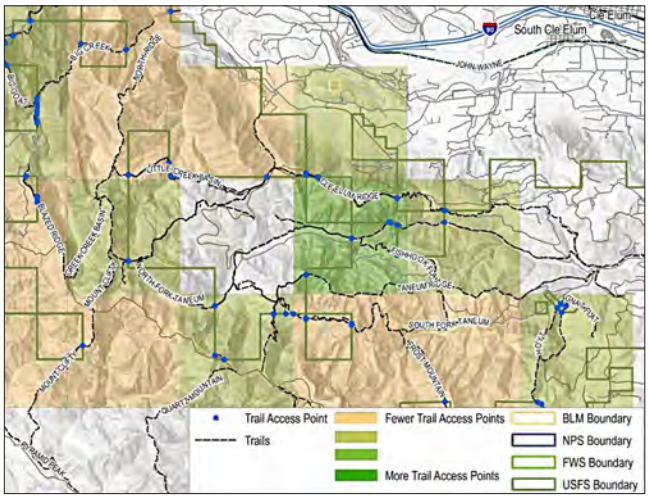
Fewer road and trail access points typify rural or remote Federal land locations. Areas with fewer trail access points do not typically represent areas with inadequate access. Rather, fewer access points represent remote lands, small land management units, lower visitation sites, longer distances from others' trail networks and/or other feeder arteries like roads or transit, and/or the result of carefully planned FLMA access management.

Figure 12. Road Access Point Example: Southwest Oregon



Full size maps are available in Appendix G.

Figure 13. Trail Access Point Example: Central Washington



Full size maps are available in Appendix G.

FLMA Roads

Access and connectivity is highly dependent on FLMA-managed roads that provide the visiting public and other users with the ability to move about Federal lands using vehicles, transit, or bicycles. The concentration of road miles indicates the extent to which travelers can move within Federal lands to access and connect to recreational or economic opportunities. Areas with high concentrations of public-use roads provide extensive Federal land access and connectivity. Higher concentrations of recreational sites, trails, and connectivity to major non-FLMA roads, as well as economic opportunities such as timber harvesting, are more closely associated with locations that have more numerous FLMA roads, since they provide access to these sites.

Vehicle circulation within Federal lands is limited where there are fewer public-use FLMA roads. This situation is not inherently undesired; it typically reflects deliberate decision-making processes and/or physical geographic constraints. Low FLMA road density areas typically are in locations where demand for road access is low and/or the condition meets the needs of other goals, such as visitor experience or the accommodation of environmental constraint factors.

Access encompasses movement within Federal lands.

Non-FLMA-Managed Roads

Seamless access also is determined by how roads *not* owned and managed by FLMAs connect to Federal lands. The presence and concentration of non-FLMA-managed roads—such as county roads, State highways, and interstates—is a proxy for external access and connectivity to Federal lands since these roads access and connect Federal lands with outside communities and cities. Areas with high concentrations of non-FLMA roads provide the greatest opportunity for the public to directly access Federal lands by vehicle or bicycle. These locations also offer opportunities for FLMAs and other agencies to collaborate for the advancement of access and connectivity goals. Locations with greater amounts of non-FLMA-managed roads include urbanized areas and the corridors that connect these areas.

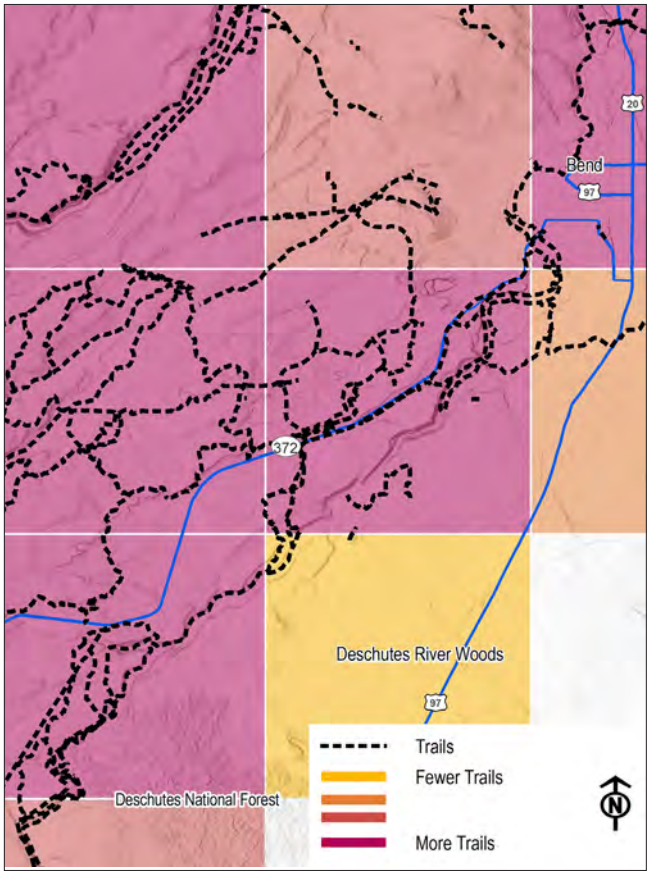
Areas with fewer non-FLMA roads are characteristic of rural communities, the outer edges of urban areas, and along remote sections of rural corridors. Access and connectivity in areas with fewer non-FLMA road areas means fewer travel routes are available to the traveling public to access Federal lands. This is not necessarily undesired, since fewer non-Federally managed roads connecting to Federal lands can reflect deliberate decision-making processes and/or meet the needs of other goals, such as visitor experience or the accommodation of environmental constraints.

Trails

Trails are another important means of access and connection to Federal lands. Their role also is important to recreation and visitor experience, as discussed in *Section 3.5, Visitor Experience*. The goal of providing seamless access and connectivity is served by improving the quality of trail connectivity to and within Federal lands. Areas with greater concentrations of trails provide extensive Federal land access and connectivity. High trail density tends to be in areas of higher recreation use where trails—in addition to providing access to recreational sites—are visitor attractions in and of themselves. It is also important for more expansive trail networks to be located within a convenient travel distance of populated areas and major non-FLMA roads. For example, Figure 14 shows access to high trail density areas of Deschutes National Forest from Bend, Oregon, by way of Oregon Route 372. In this example, colored grids symbolize trail density as a backdrop to actual trail alignments.

Locations with fewer trails do not necessarily indicate that they are underserved by trails or have inadequate connection to Federal lands. Rather, this condition reflects intentional and carefully planned decisions that consider factors such as need, cost, visitor experience, land use, environment, and other FLMA-specific concerns. Areas with fewer trails are characteristic of remote Federal lands, low-visitation areas, locations with fewer recreation sites, and/or sensitive environmental areas.

Figure 14. Trail Density Example: Central Oregon

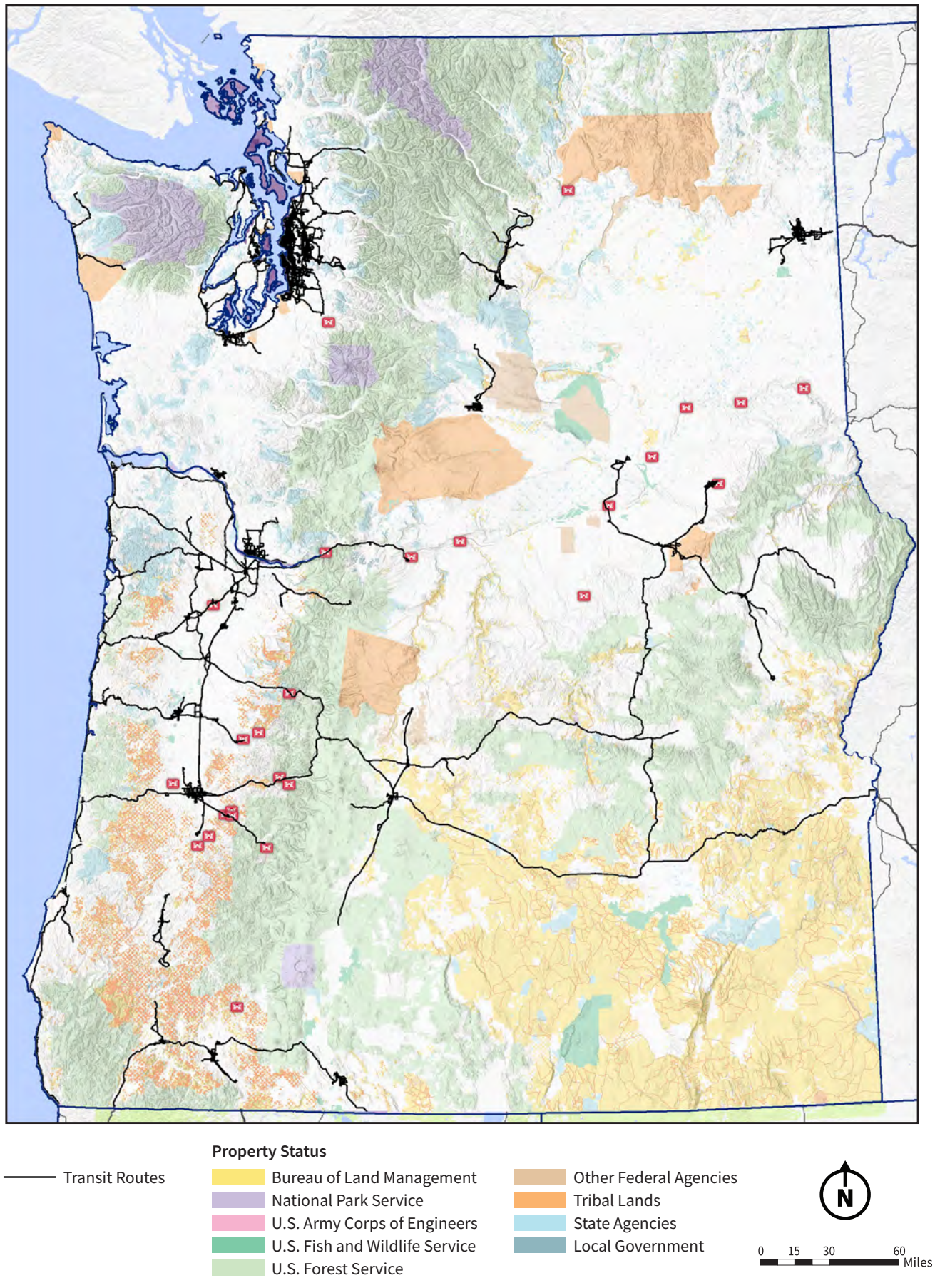


Full size maps are available in Appendix G.

Transit

Where available, public transit services provide critical access and connectivity to Federal lands (Figure 15). This mode is especially important for people wishing to connect to Federal lands, but who are without convenient access to a personal vehicle. Locations where transit accesses and connects to Federal lands represent potential opportunities for implementation actions, such as increased coordination, service, or number of stops. Areas with more numerous or extensive transit routes have greater existing/potential transit access and connectivity for travelers. High-transit density conditions can include connections between different transit systems. Locations with the greatest densities of transit are highly urbanized cities like Seattle and Portland. Opportunities for implementation actions in these locations is discussed further in *Chapter 7.0, Implementation Plan*.

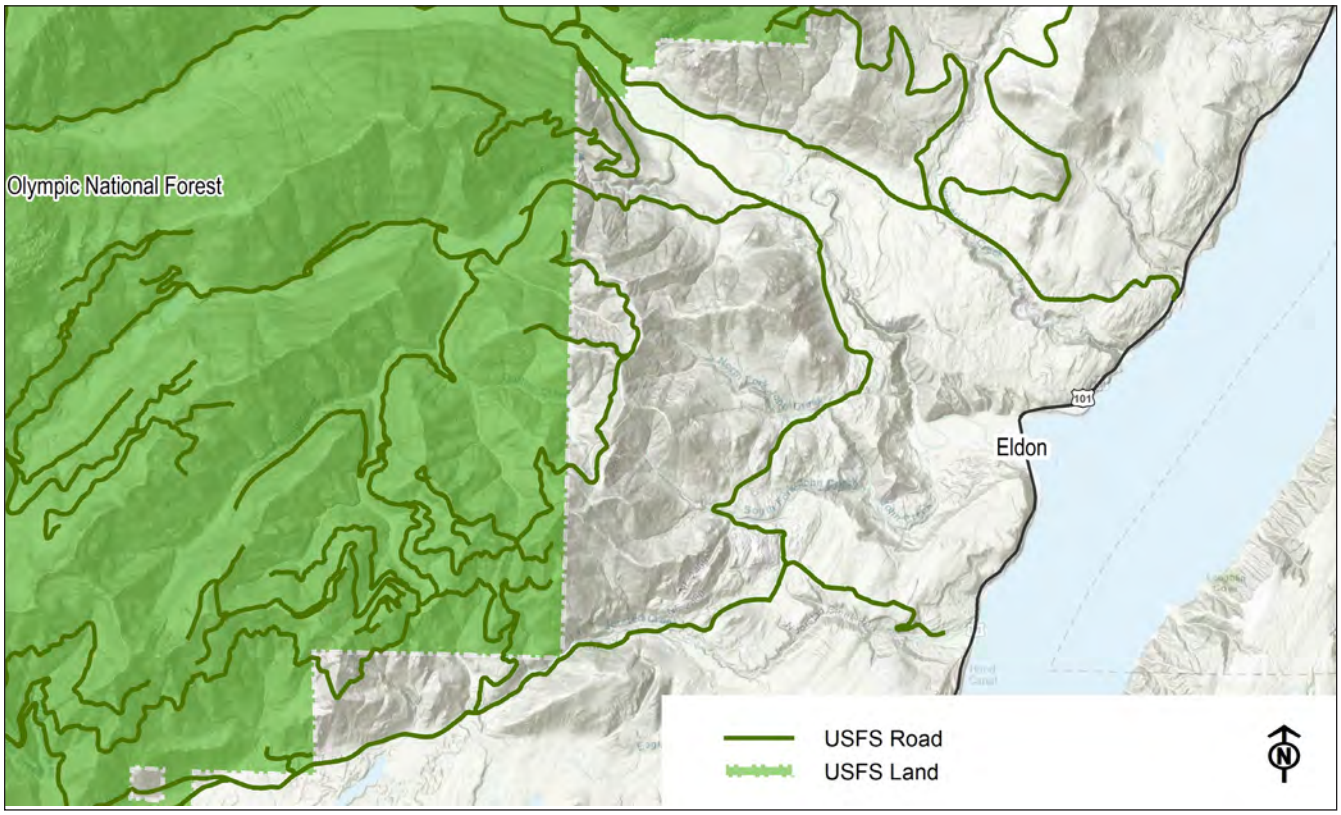
Figure 15. Pacific Northwest Transit Routes



Ownership Overlap

Access and connectivity issues can be especially complex in areas where roads that are owned and/or maintained by one agency are located on lands owned by another. The issue is related specifically to the "seamless" tenet of the Access and Connectivity goal statement. These areas of overlapping ownership benefit from multiagency collaboration and identifying actions and improvements to enhance seamless travel and have the potential to benefit two or more agencies. Highest-density road ownership conditions typically represent FLMA-managed roads extending well beyond their boundaries into non-Federally owned lands. This is illustrated in Figure 16, where USFS roads extend well beyond the Olympic National Forest boundaries into surrounding jurisdictions' lands.

Figure 16. Road Ownership Overlap Example: Northwest Washington



The example illustrates USFS-managed roads outside of the agency's boundaries. Full size maps are available in Appendix G

3.4.2 LOOKING FORWARD

Needs that will help close gaps between the aspirational conditions described in goal and objective statements and present-day conditions have been determined by the collaborative multiagency planning process and supported by information summarized in *Section 3.4, Access and Connectivity*. Needs are addressed through actions devised during the Pacific Northwest CLRTP development process. By committing to the actions listed in *Chapter 7.0, Implementation Plan*, Pacific Northwest FLMAs will be able to begin closing the identified gaps between existing conditions and the desired future conditions expressed in the Access and Connectivity goal. Specific actions include:

- Identify and pursue opportunities to leverage multiple funding sources for a seamless transportation network.
- Integrate CLRTP goals into FLAP project selection criteria.

3.5 VISITOR EXPERIENCE

GOAL

Promote ease and enjoyment of travel to and within Federal lands

Objectives:

- ***Transportation systems that contribute to a positive experience:*** Create transportation systems that welcome and orient visitors, provide recreational experiences, and become part of a positive recollection of the visit.
- ***Supporting diverse transportation experiences:*** Provide transportation programs and modal options that encourage a diversity of experiences across user groups.
- ***Visitor information:*** Establish consistent visitor information systems and leverage opportunities to coordinate communications across agencies.

Through their focus on attainment of the Visitor Experience goal, the Pacific Northwest FLMAs capture shared commitments to promote ease and enjoyment of travel to and within Federal lands. Like the Access and Connectivity goal, as well as the Place-Based Collaboration goal, the Visitor Experience goal builds on aspirations to provide appropriate travel to and within Federally owned lands. Unlike these other goals, however, the Visitor Experience goal focuses on how transportation may be used to maintain and improve travel-related enjoyment.

Enjoyable travel to and within Federal lands is determined by individual trip and route-level factors related to congestion, pavement condition, wayfinding services, aesthetics, information, parking availability, travel mode options, safety, and numerous other fine-scale factors related to traveler preferences and expectations. Of these factors, each FLMA characterizes and measures transportation-related visitor experience differently. For example, the NPS publication, *Visitor Experience: An Overview for Long-Range Transportation Planning*, provides an agency-specific approach for framing and assessing transportation-related experience at a long-range and regional scale. Unit-scale plans—for instance, resource management plans, comprehensive conservation plans, forest plans, general management plans, and others—also describe visitor experience conditions within the unique character of individual Federally managed units.

Regional and site-specific visitor experience conditions are determined through finely scaled planning and analysis (e.g., unit-level plans such as travel management plans and forest management plans). This multistate and multiagency Plan, however, uses high-level indicators to represent general visitor characteristics that can be described, uniformly, across Washington and Oregon and for all FLMAs using readily available data. High-level visitor characteristics center on the degree to which certain FLMA transportation-related features exist. Describing visitor characteristics related to the presence of various transportation features provides a high-level, multistate picture of visitor and transportation-related settings, and is not intended to measure the quality of visitors' travel experience.

3.5.1 TRANSPORTATION AND VISITOR EXPERIENCE

The following sections describe general visitor characteristics surrounding transportation-related features. Taken individually, each transportation-related feature (recreation sites, roads, transit, trails, etc.) provides visitation-related insights, such as the degree to which a location may be easily visited. Relationships and other characteristics also are derived through the examination of different combinations of densities. Used in combination with figures cited, the descriptions offer a high-level picture of visitor- and transportation-related settings for Pacific Northwest FLMA lands.

FLMA Roads

The presence of FLMA-managed roads allows the public and other users to visit Federal lands using vehicles, transit, or bicycles. Road travel is a means of reaching popular visitor destinations like campgrounds, trailheads, ski areas, and all other manner of recreation sites. Road travel also is a visitation experience in and of itself as it enables sightseeing, unpaved and four-wheel-drive recreation, and other vehicle-based visitor activities. Accordingly, addressing needed road, wayfinding, and other travel-related improvements benefits the quality of visitors' experience and promotes ease and enjoyment of travel to and within Federal lands. Visitor characteristics in areas with higher densities of FLMA roads tend to include higher concentrations of recreational sites, trails, and connectivity to major non-FLMA roads, as well as economic opportunities such as timber harvesting. Low FLMA road density areas typically are in locations where demand for roads is low and/or the characteristics meet the needs of other goals, such as visitor experience or the accommodation of environmental considerations.

Non-FLMA-Managed Roads

Visitor experience is linked to use of routes not managed by FLMAs, such as county roads, State highways, and interstates. The reasons for this echo those described above in the FLMA-managed roads discussion—namely, connecting to Federal lands and recreation opportunities. Areas with extensive roadway networks not managed by FLMAs provide opportunities for visitors to directly access Federal lands by vehicle, bicycle, or where available, public transit services.

Trails

Throughout the Pacific Northwest, trails are increasingly popular, both as outdoor recreational assets and as destinations for the visiting public. The presence of trails is also a useful barometer for understanding transportation-related visitor experience in Federal lands. Locations with more numerous trail characteristics are associated with higher-use recreation areas where trails, in addition to recreational sites, are visitor attractions. It is also a common characteristic that high trail density areas are within a convenient travel distance of populated areas and major non-FLMA roads. Low trail density features are characteristic of remote Federal lands, low visitation areas, locations with fewer recreation sites, and/or sensitive environmental areas.

Access Points

Road access points represent locations where a route, regardless of ownership, crosses an FLMA boundary. Areas with numerous road access points may be near developed areas, adjacent to many other FLMA lands, popular visitor destinations, or trace major travel corridors. Dense road access point areas also can indicate situations where FLMA boundaries include extensive inholdings or irregular patterns with smaller contiguous areas. These areas can benefit from multiagency collaboration and a focus on the quality of visitors' travel experience. Travel experience continuity can vary from one jurisdiction to the next without coordinated visitor experience-focused management.

Trail access point visitor experience characteristics mirror those described for road access points. Trails, however, accommodate different travel modes—hiking and biking. Trails also are popular attractions for visitors and are recreation-focused. Greater access point density indicates that there are more opportunities for visitors to connect to one Federal land from another jurisdiction via one or more trails. Visitor experience characteristics in high FLMA trail access point density locations are emblematic of non-contiguous, FLMA lands where trails may weave in and out of Federal lands (Figure 12). For example, Cle Elum Trail runs along the border of non-contiguous USFS lands southwest of Cle Elum, Washington (Figure 13). These locations are critical candidates for multiagency collaboration for the purposes of creating travel experience continuity across jurisdictions.

Transit

Public transit services allow visitors to safely view and connect to Federal lands without having to drive. Transit also broadens visitor experience opportunities to those without easy or convenient access to use of a personal vehicle. Opportunities for implementation actions in these locations is discussed further in Chapter 7, Implementation Plan. Areas with more numerous or extensive transit routes have greater potential to provide visitors with transit service.

Visitor Information

While not always considered a transportation-related feature, visitor information is an important element in promoting ease and enjoyment of travel to and within Federal lands. Having information readily available and in the format of greatest convenience for visitors (via website, mobile app, brochure, signage, etc.) is commonly cited as a factor in visitors' travel experience. The ease in which wayfinding and traveler information is received and used by visitors directly relates to perceptions of visit quality. Because of this, more options and consistency in visitor information systems across all agencies are believed to benefit the overall long-range Visitor Experience goal.

3.5.2 LOOKING FORWARD

Needs, which will close gaps between present-day conditions and the aspirational Visitor Experience goals and objectives expressed in this Plan when addressed, have been determined by the collaborative multiagency planning process. Needs are addressed through actions devised during the Pacific Northwest CLRTP development process. By committing to the actions documented in *Chapter 7.0, Implementation Plan*, Pacific Northwest FLMAs will close gaps between existing and desired transportation system conditions and fulfill objectives of the Visitor Experience goal. Specific actions include:

- Review/update FLMA visitor experience plans to include transportation.
- Enhance visitor information, whether through ITS, signage, wayfinding, agency and partner websites, or third-party applications.
- Provide publicly accessible data on multimodal transportation options to access Federal lands, including transit schedules and routes.
- Conduct outreach to underserved communities, such as carless households or persons with disabilities, to help them access Federal lands.


Photography by: USFWS

3.6 ASSET MANAGEMENT

GOAL

Provide a transportation system with cost-effective assets that meets agency objectives over time.

Objectives:

- ***Collaborative asset management:*** Consider the importance of assets within the context of agency management objectives and coordinate with adjacent jurisdictions.
- ***Asset resilience:*** Consider risks to transportation assets and develop plans to increase asset resilience.

Protecting transportation assets relies on strategically maintaining, upgrading, and operating physical assets. The practice includes preservation, modernization, and timely replacement of assets through cost-effective management, programming, and informed resource allocation decisions. This section describes the assets that define the existing Pacific Northwest FLMA transportation systems, establishes the existing physical and operational conditions associated with these assets, describes desired future conditions, and identifies the gaps between existing and future conditions.

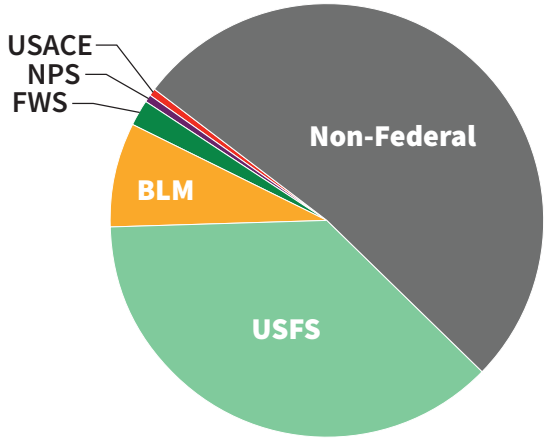
Sustainable transportation programs address current and future transportation system needs within the limits of current and expected future year budgets. Asset management principles, including preventative maintenance and corrective maintenance strategies, are essential for achieving these ends and making informed decisions about maintaining and improving FLMA transportation assets. In the face of increasing need and limited funds, it is essential to target transportation assets that are the most important to advancing FLMA missions and to prioritize them for maintenance and improvement. This collaborative multiagency LRTP focuses on overall FLMA transportation system composition and interdependencies with respect to protecting transportation assets. The interdependent nature of Northwest FLMA transportation systems outlined in the Place-Based Collaboration goal also applies to the Asset Management goal, where efforts to improve asset conditions may benefit multiple Federal and non-Federal agencies.

Pacific Northwest FLMA transportation systems primarily are composed of roads, trails, bridges, and transit. While the nature of transportation in Federal lands is multimodal, roads provide high-volume connections for visitors, residents, and commerce alike. Federally owned roads account for nearly 111,000 miles (or about 47 percent) of the Pacific Northwest's overall public roadway network. According to FHWA's 2016 Highway Statistics, there are 124,823 miles of non-Federal roads in the Pacific Northwest that are owned and maintained by State or local government agencies. FLMA-owned road miles are summarized in Table 8 and illustrated in Figure 17 and Figure 18. The Pacific Northwest FLMA transportation system also is comprised of nearly 27,000 miles of trails and 2,524 road bridges. These assets enable critical connection and access to FLMA lands, as described in Section 3.4. The cumulative Pacific Northwest FLMA inventory of trails and bridges is summarized in Table 8.

Table 8. Pacific Northwest FLMA Road Miles

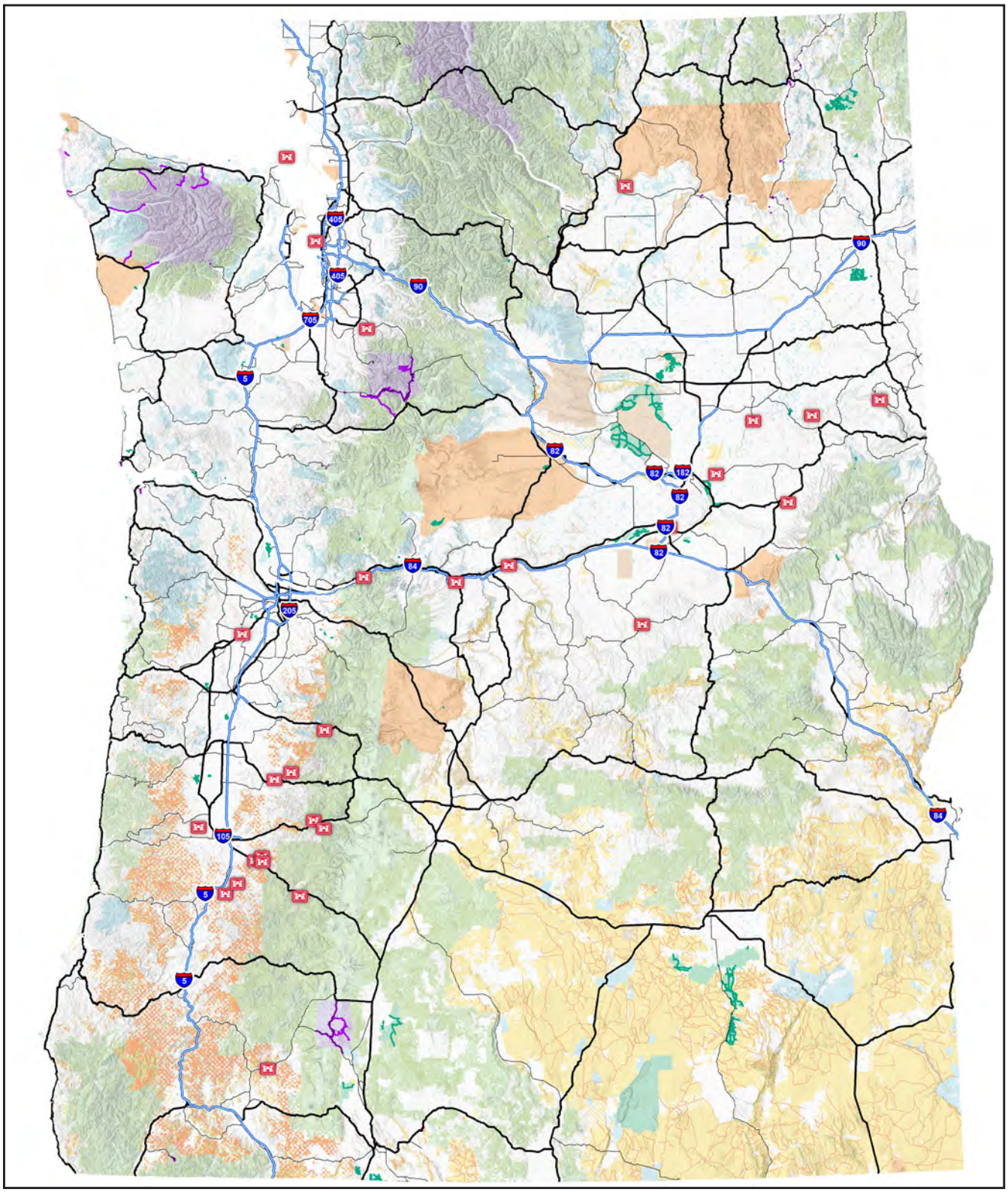
FLMA	Road Miles	Trail Miles	Road Bridges
USACE[36]	62	336	39
USFS[37]	90,000	24,843	1,483
BLM[38]	19,171	1,404	478
FWS[39]	1,127	137	433
NPS[40]	436	186	91
Total	**110,796**	**26,906**	**2,524**

Figure 17. Pacific Northwest Road Ownership



[36] USACE UMBIL (2016)
[37] Roads and road bridges: 2017 USDA Region 6 Engineering Materials (Publication FS/R6/RO/EN/2017/0001); Trails: Official geographic information systems data entitled Trails Existing Region 6, dated December 4, 2017.
[38] Transportation in the Bureau of Land Management, 2018
[39] FWS Road Inventory Program, Cycle 4, 2007
[40] Roads: NPS Road Inventory Program, accessed 2016; Trail miles: FHWA Office of Federal Lands Highway, Multimodal Catalog, 2016; Road bridges: NPS FHWA Bridge Inventory Program, accessed 2016

Figure 18. Pacific Northwest FLMA Road Networks



The Pacific Northwest FLMA transportation network also relies on the use of public transit services. While rarely owned and operated by the FLMAs, transit service provides critical access to public lands, as described in Section 3.4, Access and Connectivity. According to the FHWA Office of Federal Lands Highway's Multimodal Catalog, there are 29 public transit systems in the Pacific Northwest Region whose operations extend into FLMA-managed lands (summarized by state in Table 9). In recent years, transit service and operations benefitting FLMA access have grown in popularity as FLAP applications have sought to obtain funding for the initiation or expansion of these services.

Table 9. Transit Systems Intersecting Pacific Northwest FLMA Lands

State	Transit Systems
WA	23
OR	6
Total	**29**

Source: FHWA Office of Federal Lands Highway, Multimodal Catalog (2016)

3.6.1 TRANSPORTATION CONDITIONS

Understanding the condition of transportation assets is a prerequisite for informed management decisions and successful protection of transportation facilities. Each FLMA assesses and quantifies the condition of transportation assets in a manner that is consistent with agency needs and best practices. However, these condition assessment practices are not being applied uniformly among all FLMAs in the region and there are subtle differences in the way that asset conditions are reported. For this reason, road condition determinations cannot be made consistently across all agencies.

Pacific Northwest bridge conditions are calculated uniformly across all FLMAs through application of the FHWA's National Bridge Inspection Standards (NBIS). Among National Bridge Inspection Program data is the category "structurally deficient," which applies to bridges with deck, superstructure, substructure, or culvert condition ratings of poor or worse, or if the road approaches regularly overtop due to flooding. Examples of poor condition include corrosion that has resulted in significant section loss of steel support members, substructure movement, or advanced cracking and deterioration in concrete bridge decks. The fact that a bridge is classified as being structurally deficient does not necessarily imply that it is unsafe. A structurally deficient bridge typically needs maintenance and repair and eventual rehabilitation or replacement to address the identified deficiencies. Of the 1,857 total Pacific Northwest FLMA-owned bridges recorded in FHWA's National Bridge Inspection Program, only 67 bridges (or about 3.6 percent) are reported to be structurally deficient. Table 10 summarizes structurally deficient bridges by FLMA. Agency profiles presented in the appendices of this CLRTP document contain additional information about agency-specific strategies for managing these assets.

Table 10. Pacific Northwest FLMA Structurally Deficient Bridges

FLMA	Structurally Deficient Bridges
USACE	1
USFS	61
BLM	4
FWS	1
NPS	0
Total	**67**

Source: FHWA, National Bridge Inspection Program (accessed, 2016)

While the existing condition of transportation assets is relatively well understood within each FLMA, risks to specific Pacific Northwest FLMA transportation assets due to climate change and the effects of extreme weather events are less clear. Currently, there are no comprehensive asset-level climate risk assessments available for Pacific Northwest FLMA-managed transportation assets. Nevertheless, the Natural Hazards Technical Report accompanying this Plan (available in Appendix E) outlines FLMA climate change-related directives, studies, adaptation, and mitigation guidance, and additional agency-level climate planning resources. The report summarizes studies and initiatives being undertaken by FLMAs, WSDOT, and ODOT to address climate change-related risks to transportation systems. As these studies and initiatives (e.g., FWS's asset-level climate risk assessment) are completed and implemented over the lifespan of this long-range Plan, they will provide additional support to the asset management vulnerability objective and other related goals of this LRTP.

The Natural Hazards Technical Report (in Appendix E) recognizes that transportation assets managed by the Northwest FLMA may face increased risks due to climate change. The report concludes that transportation assets are vulnerable to damage from rising sea levels and storm surges. Assets located near coastal areas could experience more frequent flooding due to sea level rise and increased storm events, as well as increased damage from landslides. Increased precipitation events also can lead to increased flooding, road undercutting and erosion, and landslide events. Flooding and landslide risks to transportation assets are exacerbated through

increased frequency and severity of wildfires. The potential also exists to completely lose some coastal infrastructure elements due to sea level rise or adjacent land subsidence.

3.6.2 LOOKING FORWARD

This CLRTP identifies shared multiagency asset-focused objectives, whereas detailed agency-specific asset management goals, strategies, and desired future conditions are addressed in the accompanying agency profiles. The agency-specific condition objectives are essential context for understanding the unique nature of FLMA asset management principles. For example, it is not uncommon for desired conditions to be described as fair, poor, or even worse. This is often the case where positive visitor experience and expectations are tied to somewhat challenging travel over what may be rather primitive or natural roads or trails. Furthermore, target conditions are tied to agency-specific asset ratings that describe priority, use, and other categories of unique significance to a specific FLMA.

Throughout the CLRTP planning process—including numerous workshops, drafts, and revisions—the Pacific Northwest FLMAs have established the following transportation asset protection-related targets:

- FLMA transportation networks recognize agency interdependencies.
- Lifecycle costs of new transportation assets are fully considered and planned for before construction.
- Climate change and extreme weather event considerations are integrated into asset management practices.

Despite FLMA success in managing and protecting transportation assets, there are numerous hurdles facing the FLMA transportation system. The actions required to close the "gaps" between the future conditions described in long-range objectives and existing conditions are considered "needs." Needs take many forms, including maintenance of existing assets, constructing new assets, creating partnerships, conducting studies, collecting data, improving management systems and decision-making processes, planning, refining policies, and other actions that ultimately protect the Pacific Northwest FLMA transportation systems. Needs can be addressed through "actions" devised during the Pacific Northwest CLRTP development process. By committing to accomplishment of the actions listed in Chapter 7, Implementation Plan, the Pacific Northwest FLMAs will be able to work to close the currently identified gaps between present-day transportation system conditions and desired future conditions. Specific actions identified include:

- Identify asset-level needs that cross agency boundaries and partnership opportunities to protect those assets.
- Assess vulnerabilities of transportation infrastructure to environmental hazards and share best practices to increase transportation system resiliency. (This includes climate change vulnerability assessments, unstable slopes management plans, seismic/volcanic hazards preparedness, wildfire preparedness, etc.).
- Monitor ERFO events to understand asset vulnerability, and coordinate with partners on emergency response.

Photography by: USACE

4.0 TRENDS AND TECHNICAL REPORTS

Photography by: USFS

Photography by: USFS

To inform the development of this Pacific Northwest CLRTP, the multiagency partners developed four technical reports detailing trends and regional context, which are included as appendices. These are:

- **Regulatory Context (Appendix B):** Describes Federal regulations and programs regarding transportation to and within Federal lands, as well as Oregon and Washington regulations and programs relevant to Federal lands transportation planning.
- **Visitation and Demographics (Appendix C):** Presents data on visitors to Federal lands in Oregon and Washington, regional demographics, and common recreational activities.
- **Economic Impact of Federal Public Lands (Appendix D):** Presents data on the types of economic activities on Federal lands and the ways that Federal lands contribute to local economies in the Pacific Northwest.
- **Natural Hazards Technical Report (Appendix E):** Summarizes projected extreme weather impacts on Federal lands transportation systems in Oregon and Washington and each agency's programs and activities to increase transportation resilience.

This chapter provides a summary of key trends and their implications for the CLRTP's goal areas.

4.1 REGULATORY CONTEXT

The Regulatory Technical Report describes regulations and their jurisdictional authority as they relate to the long-range transportation planning process for FLMAs. The Regulatory Technical Report documents planning, funding, and investment programs at the Federal and State levels within Washington and Oregon, as well as bi-state agreements.

Each FLMA has a transportation program dedicated to planning, developing, and delivering transportation systems on its lands, which varies based on agency mission and funding levels. The Regulatory Technical Report explains state legislation and programs that affect transportation planning for FLMAs. Both Washington and Oregon have statewide LRTPs and statewide TIPs. Each state also has a variety of its own modal, Tribal, and regional plans and funding programs. There are also bi-state agreements that deal with transportation issues and services crossing state boundaries. FLMAs may need to coordinate with many of these agencies and efforts whose interests and boundaries intersect with their own.

This technical report is relevant to every goal area, but particularly to the Place-Based Collaboration goal, because it describes the funding programs and regulatory context necessary to understand how to collaborate with other FLMAs and State, local, and Tribal partners.

4.2 VISITATION AND DEMOGRAPHICS

The Visitation-Demographics Technical Report summarizes relevant FLMA visitation data, Washington and Oregon state data on tourism and outdoor recreation, and U.S. Census data. The trends in this report are most relevant for the Access and Connectivity goal and Visitor Experience goal. Key findings for this CLRTP include:

- Outdoor recreation is popular among visitors and residents in the Pacific Northwest. More than half of out-of-state visitors to Oregon and Washington include trips to Federal lands—approximately 62 million visitors. In addition, Oregon and Washington residents participate in outdoor recreation at particularly high rates, with 92 percent and 90 percent reporting outdoor recreation in the past year, respectively. As a result, there is high demand for access to Federal lands recreation sites in the Pacific Northwest, particularly in proximity to the region's population centers.
- Demographic trends in the Pacific Northwest project overall population growth (18 percent between 2015 and 2030), an aging population (60 percent more residents older than age 65 from 2015 to 2030), and an increasingly diverse population (with particular growth in Asian and Hispanic residents).[41,42] Because of these trends, FLMAs should expect to see increasing visitation and a potential shift in desired activities based on demographic changes. For example, an increasing number of visitors over the age of 65 is expected to increase demand for passive recreation, such as auto touring and wildlife viewing. FLMAs also should consider outreach strategies to reach a more diverse population.
- FLMAs in Oregon and Washington experience peak visitation on summer weekends. This pattern creates concentrated demand for access to recreation sites and results in congestion during peak times.
- Visitors to Federal lands engage in a diverse number of recreational activities, with FLMAs filling different recreational niches. For most FLMAs, the most popular activities are hiking and wildlife viewing, with a wide range of other activities depending on agency missions and lands. For USACE lands, however, boating is the most popular activity. Because some activities have specific transportation needs—such as boat ramp access or equestrian parking spaces—these activity trends have implications for transportation planning.

[41] Oregon Office of Economic Analysis. 2013. Forecasts of Oregon's County Populations and Components of Change, 2010–2050. Released March 28, 2013. http://www.oregon.gov/DAS/oea/Pages/demographic.aspx

[42] Washington Office of Financial Management. 2007. 2007 county projections by age: 5-year age groupings & 5-year intervals only. http://www.ofm.wa.gov/pop/gma/projections07.asp

4.3 ECONOMIC IMPACT OF FEDERAL LANDS

The Economic Impact of Federal Public Lands Technical Report summarizes the economic contribution and economic impact of Federal lands in Oregon and Washington. These include three types of economic impacts:

- *Direct impacts* are experienced after an initial financial transaction.
- *Indirect impacts* occur after the direct impact from the additional purchases that the original payment afforded or required.
- *Induced impacts* result from the expenditure of the wages and salaries supported by the directly and indirectly affected industries.

Economic impacts from Federal lands include revenue from recreation and tourism, economic uses of Federal lands (including timber harvesting, mineral extraction, energy production, navigation, and grazing), and employment. Through these impacts, Federal lands contribute to State and local economies.

Transportation plays a large role in allowing economically productive activities to occur on and surrounding public lands. The trends in this technical report are most relevant to the Place-Based Collaboration goal area, which has an objective to "plan and manage a transportation system appropriate to the region's unique social, economic, and environmental contexts that supports diverse benefits for surrounding communities and regions." In addition, the FLTP and FLAP emphasize investments in transportation systems that access high-use recreation sites and economic generators.

4.4 NATURAL HAZARDS

Natural hazards will affect environmental and cultural resources, as well as transportation systems and other infrastructure in the Pacific Northwest. Therefore, understanding and preparing for potential impacts is an important part of the long-range transportation planning process, which will help FLMAs anticipate and prepare for a number of management options. The Natural Hazards Technical Report documents:

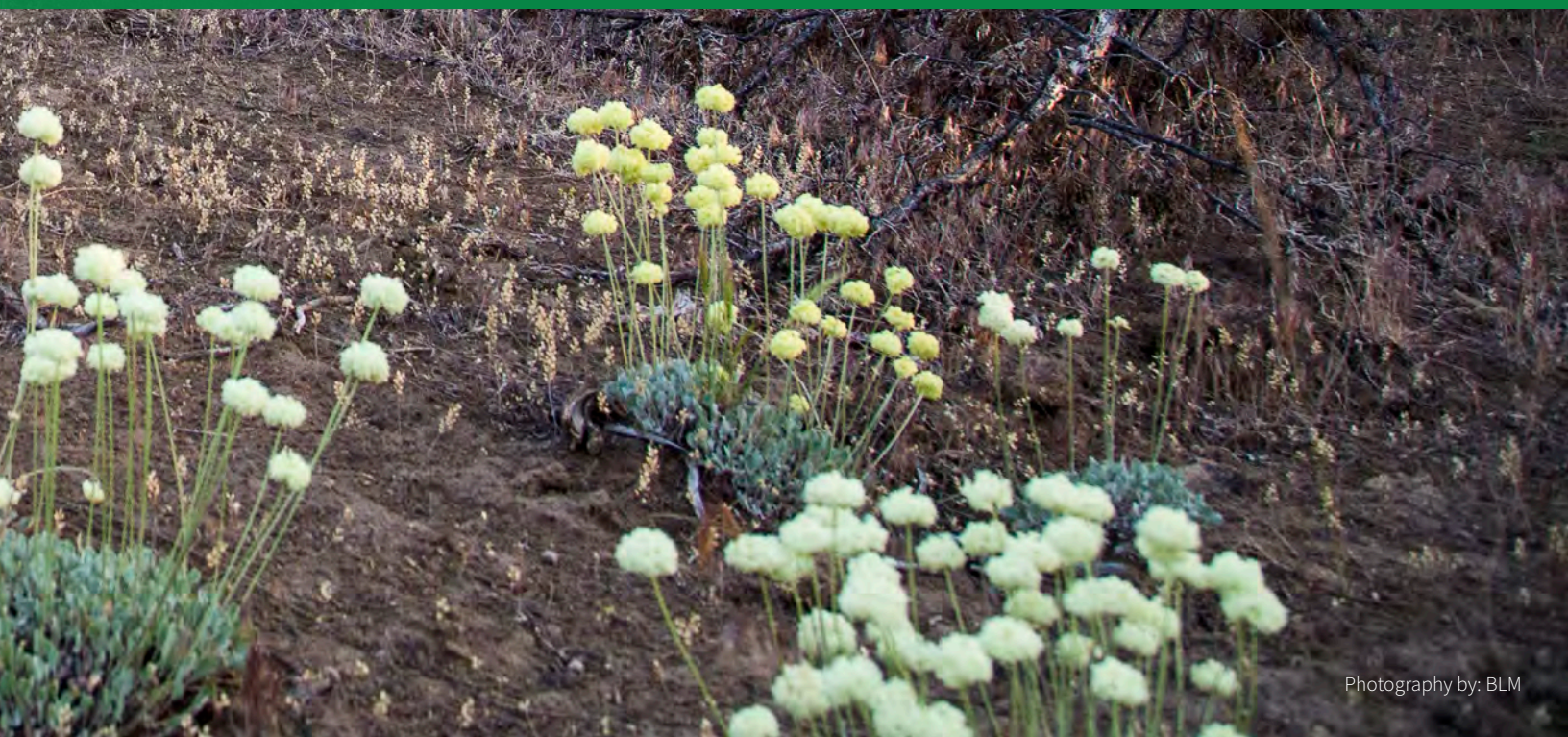
- FLMA directives and executive orders on climate change
- Climate change projections for the Pacific Northwest and potential impacts on FLMA transportation systems
- Department and agency strategies for climate change adaptation
- Department and agency strategies for climate change mitigation
- Available resources for climate change adaptation and mitigation planning

The agencies participating in this CLRTP chose not to create a stand-alone multiagency goal addressing natural hazards, but instead to consider these issues as they relate to other multiagency goals. The relationship between natural hazards and the following goal areas is listed below and documented further in this technical report:

- **Protect Resources**—Climate forecasts show that changes in temperature, precipitation, and associated environmental conditions will alter or threaten existing ecosystems. These changes will cause some species and ecosystems to migrate, while others may be threatened with extinction. Some Threatened and Endangered Species will experience additional stresses and habitat loss, and other species may become Threatened or Endangered. In addition, climate change impacts, such as flooding and erosion, may threaten cultural resources. Future FLMA transportation systems will have to adapt to these changing ecosystems and resource impacts through planning and management. In addition, FLMAs' climate change mitigation strategies can help reduce the severity of climate change impacts on environmental and cultural resources.
- **Ensure Safety**—Climate change may impact safety on the FLMA transportation system by affecting the physical and safe operating conditions of some transportation assets. Climate change-related extreme weather events also may affect the safety of the transportation system and have implications for FLMAs' operations, maintenance, emergency response, and communications.
- **Protect Assets**—Climate change impacts—such as increased flooding, sea level rise, landslides, erosion, heat waves, and wildfires—will increase risks to and may degrade the condition of transportation assets. These impacts may damage transportation infrastructure, increase operations and maintenance costs, or decrease the useful life of existing transportation systems. FLMAs may need to protect assets from climate change impacts by changing design standards, exploring adaptation options for existing transportation assets, or changing operations and maintenance practices.

Photography by: BLM

5.0 FUNDING



Photography by: BLM

Photography by: USFS

FLMA transportation systems are funded through a variety of Federal, State, and local programs. At this time, the funding levels for these programs are not anticipated to increase significantly over the next 20 years. In the current fiscally constrained environment, a well-defined funding and investment strategy built on defensible project selection processes and a wide-ranging pool of funding programs is critical to ensure continued maintenance and improvement of transportation assets. Federal, State, and local jurisdictions continue to look for innovative funding mechanisms to span growing gaps between projected needs and anticipated available funds.

This chapter identifies a broad range of Federal and non-Federal funding programs that are available to FLMAs. It is also important to note that, in a geographically large and complex area such as the bi-state region of Washington and Oregon, many of the principal access routes to and from individual FLMA units are facilities owned and operated by either State DOTs or local government agencies. These State and local governments use a variety of transportation funding programs with monies generated at the Federal, State, and local levels. These programs emphasize the importance of partnering with other Federal, State, and local agencies to overcome funding gaps.

5.1 FHWA ROLE

The WFLHD provides stewardship and oversight to FLMAs in the form of financial resources and technical assistance for transportation activities. These activities include transportation planning, environmental studies, preliminary and final design, construction, and rehabilitation of the highways and bridges that provide access to and within Federally owned lands.

Project coordination meetings among key stakeholders can result in development of an interagency menu of projects (a TIP of sorts) where agencies agree that follow-up between interested parties is warranted to explore partnership opportunities for one or more specific projects. The ultimate goal of these efforts is to optimize the utility of transportation investments that support LRTP goals and objectives, leverage partnerships to access diverse funding streams, and create cost-efficient construction scenarios.

As an agency, FHWA serves two primary roles in supporting the Oregon and Washington transportation systems. First, WSDOT and ODOT receive Federal transportation funds to support their respective State and Interstate highway systems. The FHWA Federal-Aid Division offices in each state also provide stewardship, oversight, and support to WSDOT and ODOT, and to the ACTs, MPOs, and RTPOs in each state, through the entire project development cycle.

5.2 COMMON FEDERAL LANDS TRANSPORTATION FUNDING PROGRAMS

As noted previously, many of the principal access routes to and from individual FLMA units are facilities owned and operated by either State DOTs or local government agencies. These State and local governments use a variety of transportation funding programs with monies generated at the Federal, State, and local levels. At the Federal level, most funds are provided through either the Title 23 program for surface transportation or the Title 49 program for urban and rural public transportation services. (Refer to http://www.fhwa.dot.gov/fastact/summary.cfm for a summary of the major provisions of the FAST Act.) While the funding associated with these Federal transportation programs benefits all users of the surface transportation systems in the two states to some degree, these programs are not specifically focused on the needs of visitors to the various FLMA units in Washington and Oregon.

Numerous transportation funding programs are available to all FLMAs. These programs are described in the following sections and target specific transportation-related project types and purposes. A common theme for many of these programs is local partnership. These programs emphasize the importance of partnering by FLMA units with other Federal, State, and local agencies to overcome funding gaps. Many of these funding sources were authorized initially through MAP-21, enacted in July 2013, and were reauthorized in the FAST Act, which was enacted in December 2015.

5.2.1 FEDERAL LANDS TRANSPORTATION PROGRAM

The FLTP was established under MAP-21 and continued under the FAST Act (23 USC §203). The stated legislative purpose of the program is to improve those transportation facilities that are owned and operated by the NPS, FWS, USFS, BLM, USACE, Bureau of Reclamation (BOR), and Independent Federal Agencies (IFAs) with natural resource and land management responsibilities. (Refer to the FLTP implementation guidance presented at https://flh.fhwa.dot.gov/programs/fltp/documents/FLTP%20Guidance%20-%20CLEARED.pdf on the FHWA public website for additional program details.)

By statute, NPS, FWS, and USFS receive a defined annual allocation of the total nationally authorized and appropriated funding amount for this program. The remaining FLTP funding each year is made available to the other defined recipient agencies based on competitive application submissions from each agency. Based on these competitive investment strategies, the Office of the Secretary of Transportation will determine allocations by using a performance management model. The table below shows the annual FLTP national funding authorizations and the defined sub-allocations through Fiscal Year (FY) 2020.

Table 11. Federal Lands Transportation Program Annual Authorization Amounts, FY16-FY20

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total
NPS	$268 M	$276 M	$284 M	$292 M	$300 M	**$1.42 B**
FWS	$30 M	$30 M	$30 M	$30 M	$30 M	**$150 M**
USFS	$15 M	$16 M	$17 M	$ 18 M	$19 M	**$85 M**
BLM, USACE, BOR, and IFAs	$22 M	$23 M	$24 M	$25 M	$26 M	**$120 M**
Total	**$335 M**	**$345 M**	**$355 M**	**$365 M**	**$ 375 M**	**$1.78 B**

**M = millions of dollars, B = billions of dollars*

The Federal share for FLTP projects is 100 percent. Funds made available under FLTP will be available for obligation during the current Federal fiscal year in which they were appropriated plus three additional Federal fiscal years.

As described in the enabling Federal legislation, the FLTP provides funding for the following activities:

- Program administration, transportation planning, research, preventive maintenance, engineering, rehabilitation, restoration, construction, and reconstruction of Federal lands transportation facilities
- Capital, operations, and maintenance of transit facilities
- Transportation projects, eligible under Title 23, that are on the public network that provides access to, is adjacent to, or travels through Federal lands
- Up to $10 million per Fiscal Year for environmental mitigation activities

5.2.2 FEDERAL LANDS ACCESS PROGRAM

FLAP was established in 23 USC §204 by MAP-21 and has been continued by the FAST Act. The primary focus of the program is to improve those non-Federally owned transportation facilities that provide access to, are adjacent to, or are located within Federal lands. FLAP supplements State and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on the improvement of access opportunities to FLMAs with units that are cited as being high-use recreation sites and local economic generators. (Refer to the following FHWA program implementation guidance document for additional information on the FLAP program: https://flh.fhwa.dot.gov/programs/flap/documents/FLAP%20Implem%20Guidance.docx.)

Projects are selected by a Programming Decision Committee (PDC) established in each State. The PDC members in each State must include a representative of the Federal Lands Highway division responsible for that state (in this case, the WFLHD), a representative of the State department of transportation in that state, and a representative of some organization representing the views of local governments in that state. The latter PDC member typically is associated with the State association of counties or the State association of county engineers. The PDCs request project applications through a call for projects. The frequency of the calls is established by the PDCs in each state, and typically varies from no more frequently than once each year to an average of once every two to three years.

Funds available to each state are determined by a legislatively mandated formula based on public land acreage, visitation, public road miles, and public bridges. The historically observed FLAP funding amounts over the FY13 to FY15 time period, and future annual funding over the FY16 to FY18 time period, in the states of Oregon and Washington are illustrated on Table 12.

Table 13 presents the national FLAP authorizations defined in the FAST Act for the period of FY16 through FY20. In total, the national authorized funding for this program is $1.3 billion.

Over the period of FY16 to FY20, the average annual FLAP funding allocations in Washington are anticipated to be approximately $12 million, and those in Oregon are anticipated to be approximately $36 million. Calls for projects occur periodically and are currently slated to next be open for submission in late 2018 for both Oregon and Washington.

Table 12. Historical and Anticipated FLAP Funding for Oregon and Washington, FY13-FY18[43,44]

	FY13	FY14	FY15	FY16	FY17	FY18	Total
Oregon	$22,079	$22,244	$21,798	$36,540	$36,540	$36,540	**$175,741**
Washington	$13,982	$14,087	$13,804	$12,324	$12,324	$12,324	**$78,845**
Total	**$36,061**	**$36,331**	**$35,602**	**$48,864**	**$48,864**	**$48,864**	**$254,586**

Amounts shown as $1,000s

Table 13. Federal Lands Access Program Annual Authorization Amounts, FY16-FY20[45]

	2016	2017	2018	2019	2020
Amount	**$250 M**	**$255 M**	**$260 M**	**$265 M**	**$270 M**

**M = millions of dollars*

[43] FLAP Funding Amounts by State, FY13-FY15: https://flh.fhwa.dot.gov/programs/flap/documents/2015-funding.pdf.
[44] FLAP Funding Amounts by State, FY16: https://flh.fhwa.dot.gov/programs/flap/documents/ FAST_Public_FundingTABLE_FY2016.pdf.
[45] FLAP FAST Act Fact Sheet: https://flh.fhwa.dot.gov/programs/flap/documents/FAST%20FLAP%20fact%20sheet.pdf.

5.2.3 NATIONALLY SIGNIFICANT FEDERAL LANDS AND TRIBAL PROJECTS

The Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Program is a new program established by the FAST Act for application to FLMA major projects. All FLTP, FLAP, and Tribal Transportation Program eligible agencies can apply. States and localities may be co-applicants. This program is designed to provide additional financial assistance for the implementation of those "major" projects with total estimated costs of at least $25 million, with priority consideration given to projects with an estimated cost of more than $50 million. The NSFLTP Program requires that at least 10 percent of the total estimated project cost funding come from non-NSFLTP sources. Projects must have completed the NEPA process, as demonstrated by a completed record of decision, finding of no significant impact, or categorical exclusion determination. This program is authorized in the FAST Act for up to $100 million per year.

In reviewing applications for the NSFLTP Program, the Secretary of Transportation will consider the extent to which the project:

- Furthers the Department's goals, including state of good repair, economic competitiveness, quality of life, and safety
- Improves the condition of critical transportation facilities, including multimodal transportation facilities
- Needs construction, reconstruction, or rehabilitation
- Has matching funds (projects with a greater percentage of matching funds rank higher than projects with a lesser percentage of matching funds)
- Is included on or eligible for the NRHP
- Uses new technologies and innovations to increase project efficiency
- Is supported (whether for construction or for operation and maintenance) by funds other than those received under this program
- Spans two or more States
- Serves land owned by multiple Federal agencies or Indian tribes [FAST Act § 1123(f)]

5.2.4 TRIBAL TRANSPORTATION PROGRAM

As defined in MAP-21, and as continued by the FAST Act, the purpose of the Tribal Transportation Program (TPP) is to provide safe and adequate transportation and public access to, within, and through Indian reservations for Native Americans, visitors, recreational users, resource users, and others. A prime objective of the TTP is to contribute to the health, safety, economic development, self-determination, and employment of Indians and Native Americans. (For additional details on this program, refer to: http://www.fhwa.dot.gov/fastact/guidance.cfm.)

The FAST Act continues the TTP, with a Federal share of 100 percent. Table 14 presents the annual authorization amounts over the period FY16 to FY20 for this program as defined in the FAST Act.

Prior to distributing these funds, nominal amounts may be deducted for program administration, Tribal planning, Tribal bridges, Tribal safety projects, and Tribal supplemental funding. When the aforementioned set-asides are removed, the remainder of the annually appropriated funds are allocated to Tribes according to a statutory formula based on Tribal population, road mileage, and average Tribal shares under the predecessor Indian Reservation Road program.

5.2.5 TRANSPORTATION ALTERNATIVES SET-ASIDE OF THE SURFACE TRANSPORTATION BLOCK GRANT PROGRAM

The Transportation Alternatives set-aside of the Surface Transportation Block Grant (STBG) Program (previously Transportation Alternatives Program, or TAP) offers funding to help State and local governments expand transportation choices and enhance the built and natural environment. To be eligible for funding, a transportation enhancement project must fit into one or more of 12 eligible transportation enhancement activities specified in 23 USC §104 related to surface transportation, which include:

- Pedestrian and bicycle infrastructure and safety programs
- Scenic and historic highway programs
- Landscaping and scenic beautification
- Preservation of historic transportation facilities
- Environmental mitigation and habitat connectivity enhancements associated with transportation facilities

FLMAs are eligible recipients, or they can work with partners, such as gateway communities, to submit applications.

The program will continue to operate essentially as it did previously, under MAP-21. This includes all projects and activities that were previously eligible under TAP. Table 15 illustrates the annual authorization amounts for the Transportation Alternatives set-aside of the STBG Program over the period FY16 to FY20 as described in the FAST Act.

Table 14. Tribal Transportation Program Annual Authorization Amounts, FY16-FY20[46]

	2016	2017	2018	2019	2020
Amount	**$465 M**	**$475 M**	**$485 M**	**$495 M**	**$505 M**

**M = millions of dollars*

Table 15. Transportation Alternatives Set-Aside of the STBG Program Annual Authorization Amounts, FY16-FY20[47]

	2016	2017	2018	2019	2020
Amount	**$835 M**	**$835 M**	**$850 M**	**$850 M**	**$850 M**

**M = millions of dollars*

The FAST Act requires all projects to be funded through a competitive process and administered by State DOTs and, in some cases, MPOs. To pursue TAP funding, FLMAs should reach out to their states and communities, develop partnerships, and make the case for how their projects meet State and local goals.

5.2.6 RECREATIONAL TRAILS PROGRAM

The Recreational Trails Program (RTP) provides funds to States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational uses (23 USC §206). Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, or using other off-road motorized vehicles.

Eligible projects include:

- Maintenance and restoration of existing recreational trails
- Development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails
- Purchase and lease of recreational trail construction and maintenance equipment
- Construction of new recreational trails (with specific requirements when Federal land is involved)
- Acquisition of easements and fee simple title for recreational trail corridors
- Assessment of trail conditions

The FAST Act consolidates the RTP, among other programs, into the STBG Program. However, the RTP will continue to operate essentially as it did previously. RTP provides a total of $85 million annually to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Oregon is apportioned roughly $1.6 million for RTP, while Washington is apportioned nearly $1.9 million. Since 1991, more than 20,000 RTP-funded projects have been documented nationwide.

Of the RTP funds, 30 percent are to be spent for uses relating to motorized recreation and 30 percent are to be spent for uses relating to non-motorized recreation. In addition, up to 40 percent is to be used for projects that facilitate diverse recreational trail use within a recreational trail corridor, trailside, or trailhead.

5.2.7 EMERGENCY RELIEF FOR FEDERALLY OWNED ROADS

The ERFO Program assists Federal agencies with the repair or reconstruction of Tribal transportation facilities, Federal lands transportation facilities, and other Federally owned roads that are open to public travel, which are found to have suffered serious damage by a natural disaster over a wide area or by a catastrophic failure.[48] The intent of the ERFO Program is to pay the unusually heavy expenses for the repair and reconstruction of eligible facilities.

Repairs are classified as either emergency or permanent repairs. Emergency repairs are those repairs undertaken during or immediately after a disaster to restore essential traffic, to minimize the extent of damage, or to protect the remaining facilities. Permanent repairs are those repairs undertaken after the occurrence of the disaster to restore facilities to their pre-disaster conditions. Emergency repairs do not require prior approval, while permanent repairs do.

This program is not intended to cover all repair costs but rather to supplement FLMA repair programs to help pay unusually high expenses resulting from the effects of extreme weather conditions. Funds are provided from the Highway Trust Fund.

[46] Tribal Transportation Program FAST Act Fact Sheet: http://www.fhwa.dot.gov/Fastact/factsheets/tribaltransportationfs.cfm.
[47] Transportation Alternatives Program FAST Act Fact Sheet: https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm.
[48] ERFO FAST Act Summary of Changes: https://flh.fhwa.dot.gov/programs/erfo/documents/fast-changes-summary.pdf.

No funding match is required by the program; the Federal share is 100 percent.

5.2.8 NATIONALLY SIGNIFICANT FREIGHT AND HIGHWAY PROJECTS

The Nationally Significant Freight and Highway Projects (NSFHP) Program is newly authorized in the FAST Act. This is a nationally competitive program created to allow for States, MPOs, and local agencies to address major investment needs. FLMAs are eligible to be co-applicants with States.

To be eligible for the receipt of these funds, any proposed projects must be categorized as meeting one or more of the following:

- Highway freight projects on the National Highway Freight Network
- Highway or bridge projects on the National Highway System or a project that would improve mobility or is located in a national scenic area
- Freight intermodal projects
- Railway-highway grade crossing or separation projects

NSFHP projects require a 40-percent match from non-NSFHP sources. Up to 20 percent can be from other programs such as FLTP; however, the remaining 20 percent must be from non-Federal sources.

The focus of this program is on projects with a total cost of greater than $100 million. However, it is anticipated that there will be set-aside for smaller projects and rural areas.

Photography by: USDA Forest Service

5.3 NON-FEDERAL SOURCES

Although not a formally defined funding source, volunteer work can be an important source for labor and other talent. There are many different types and sizes of public land volunteer organizations in Oregon and Washington. FLMA staff should work with their agency procurement and contracting staff to ensure volunteer agreements meet agency requirements. In addition to the use of volunteer civilian personnel, a variety of other public and private agency staff and/or individuals may have an interest in the contribution of labor, materials, or funding to assist an FLMA with a specific transportation asset improvement action.

5.3.1 WASHINGTON STATE FUNDING OPPORTUNITIES

Washington State has several funding programs that provide grants and other funding streams to support various transportation-related initiatives. Table 16, below, identifies several of these programs.

Table 16. Washington State Funding Opportunities

Administration/Program	Eligibility/Beneficiaries and Reference(s)
WSDOT—Regional Mobility Grants	Funds local projects to improve transit mobility and reduce congestion http://www.wsdot.wa.gov/Transit/Grants/mobility.htm
WSDOT—Freight Rail Investment Bank	Improvements to freight rail capital needs http://www.wsdot.wa.gov/Freight/Rail/GrantandLoanPrograms.htm
Washington State Recreation and Conservation Offices Grants	Grants for trails, off-road vehicle areas http://www.rco.wa.gov/grants/index.shtml#
Washington Traffic Safety Commission—Traffic Safety Grants	Provides traffic safety grants to State and local governments http://wtsc.wa.gov/grants/
Transportation Improvement Board	Projects within Federally designated urban areas http://www.tib.wa.gov/
County Road Administration Board (CRAB)—Rural Arterial Program	Road and bridge reconstruction funding program that counties compete for every two years within their respective regions http://www.crab.wa.gov/funding/grants/rap/index.cfm
CRAB—County Arterial Preservation Program	Helps counties preserve their existing paved arterial roads http://www.crab.wa.gov/Funding/Grants/CAPP/capp.cfm
CRAB—County Ferry Capital Improvement Program	Financial assistance for major capital improvements to the four county-operated ferry systems http://www.crab.wa.gov/funding/grants/ferries/index.cfm
Freight Mobility Strategic Investment Board	Grants for strategic freight corridors http://www.fmsib.wa.gov/
Washington State Transportation Center	Research grants http://www.washington.edu/research/centers/103

5.3.2 OREGON FUNDING OPPORTUNITIES

Oregon has several funding programs that provide grants and other funding streams to support various transportation-related initiatives. Table 17, below, identifies several of these programs.

5.3.3 OTHER NON-FEDERAL FUNDING SOURCES

In addition to the State funding programs listed above, opportunities exist to partner with local governments and private partners to fund transportation systems. These include partnerships with local transit agencies, universities, or businesses operating within Federal lands, such as ski resorts.

Table 17. Oregon State Funding Opportunities

Administration/Program	Eligibility/Beneficiaries and Reference(s)
Oregon State Parks—All-Terrain Vehicle Permit Program	Supports trails programs https://www.oregon.gov/OPRD/ATV/pages/permits.aspx#ATV_Permit_Information_
Oregon State Parks—Scenic Bikeway Program	Only Scenic Bikeways program in the U.S.; features routes highlighting scenic, historic, natural, and cultural experiences http://www.oregon.gov/oprd/BIKE/Pages/index.aspx
Oregon DOT—Connect Oregon	Bond initiative to invest in non-highway (air, rail, marine, transit, and bicycle/pedestrian) infrastructure http://www.oregon.gov/ODOT/TD/TP/pages/connector.aspx
Oregon DOT—Scenic Byways Program	Funding for signage, information kiosks, and marketing materials for designated unified network of scenic routes https://www.oregon.gov/ODOT/HWY/SCENICBYWAYS/pages/driving_guide.aspx
Oregon DOT—Transportation and Growth Management Program	Awards grants annually to help local communities implement projects that integrate transportation and land use https://www.oregon.gov/LCD/TGM/Pages/grants.aspx
Oregon DOT—All Roads Transportation Safety Program	This program is designed to address safety needs on all public roads in Oregon, regardless of jurisdiction; it is data driven to achieve the greatest benefits in crash reduction https://www.oregon.gov/ODOT/Engineering/Pages/ARTS.aspx
Travel Oregon—Competitive Grants Program	Grants for tourism purposes, which may include trails, bicycle infrastructure, and other transportation needs http://industry.traveloregon.com/industry-resources/matching-grants-program/oregon-tourism-commission-matching-grants-program/
Association of Oregon Counties—County Roads Program	Uses county receipts from State Highway Funds revenues to improve county roads http://oregoncounties.org/roads/county-road-program/

5.4 AGREEMENTS, IN GENERAL

In certain situations, and with the appropriate legal authority, FLMAs can enter into partnership agreements with cooperators for road maintenance and construction activities. Road maintenance agreements are more common than agreements for construction improvements. Several elements are common to all types of partnerships, including:

- Mutual interest in some goal or value
- A state of participation or sharing
- No conflict of interest
- Execution of agreement before costs are incurred or work commences
- A specific relationship between the parties (written agreement)
- Voluntary participation

5.4.1 COST SHARE AGREEMENTS

The Interior and Related Agencies Appropriations Act of 1992 authorizes Department of the Interior agencies to cooperate with other parties to develop, plan, and implement projects that are mutually beneficial to parties to enhance activities. This includes financing projects with matching funds from cooperators. Cooperators may be public and private agencies, organizations, institutions, and/ or individuals.

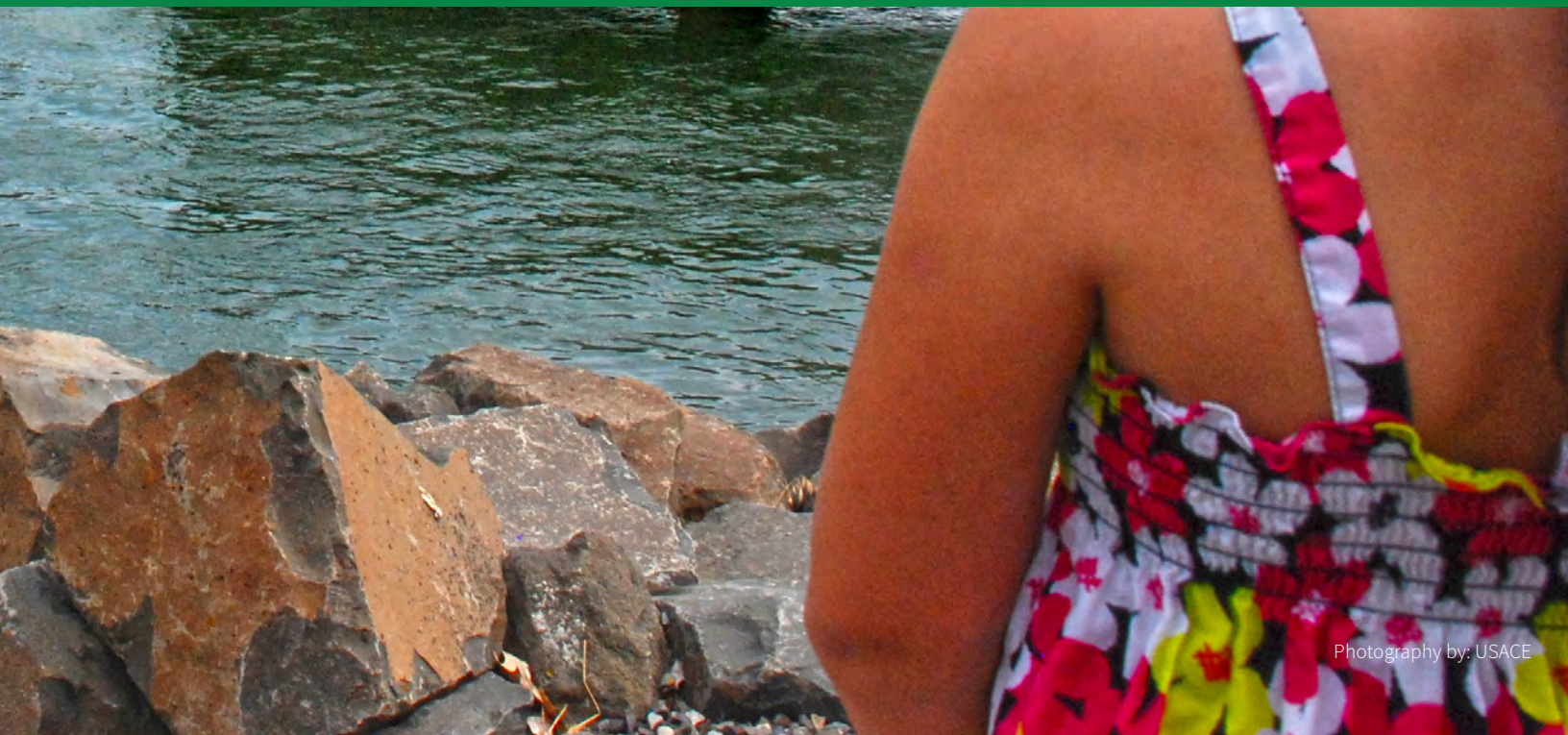
5.4.2 FUNDING GAPS

Each FLMA is experiencing decreases in the availability of transportation funds, while needs for routine maintenance and new projects remain constant or are increasing. Lack of funding contributes to increasing levels of deferred maintenance. Assets degrade over time and as maintenance continues to be deferred, the magnitude of the costs required to bring assets back to proper condition (i.e., to a "state of good repair") will only continue to grow.

FLMAs are challenged in how transportation funds are allocated. If yearly operation and management costs exceed available funds, agencies must choose which assets receive funding and to what level they are to be maintained. New projects are impacted by lower funding levels and increasing funding competition from the demands of deferred maintenance to ensure that existing assets can continue to be operated safely. There is a growing need to show that new projects are critical to the mission of each FLMA. Establishing frameworks for identifying the critical projects and making the very best use of available funds is one of the primary purposes of this Plan and accompanying agency profiles. The project selection processes, performance measures, actions, and recommendations ensure that transportation funds continue to support those efforts that are most effective in furthering FLMA missions.


Photography by: Jeff Clark/BLM

6.0 OUTREACH



Photography by: USACE

Photography by: Tom Iraci/USFS

This section summarizes the outreach efforts the multiagency CLRTP team conducted for this Plan. The team's outreach objectives were to inform, solicit input and feedback, and gain support from agency representatives and State and regional stakeholders, and to keep the public informed.

The CLRTP team tailored outreach efforts to accommodate a variety of interests. No formal process (i.e., no NEPA process) was required as part of the CLRTP; however, the CLRTP team has endeavored to be thorough enough in its outreach effort to obtain feedback and buy-in from multiple sources.

The outreach goals for the CLRTP are to:

- Illustrate to internal and external stakeholders the transportation needs of the region and potential solutions for meeting those needs.
- Solicit input from staff and external stakeholders to inform the transportation planning effort.
- Provide opportunities for stakeholders to identify their concerns, priorities, and ideas.
- Strengthen existing partnerships and forge new ones.
- Use non-traditional and technology-focused solutions, when possible.
- Reach populations that may be impacted by this Plan.

6.1 OUTREACH STRATEGY

The CLRTP outreach strategy has been tailored to accommodate a variety of diverse interests. While no formal outreach (e.g., NEPA-compliant outreach) process is required for this CLRTP, the team sought to obtain buy-in and feedback from multiple sources. Similarly, the team developed content to be accessible to various audiences, depending on their level of knowledge, level of interest, and awareness of both the planning process and the role of transportation. The team developed content according to the following principles:

- Content is clear, simple, and brief.
- Content is easily understandable to people without a background in transportation.
- Communications are definitive about the parameters of the CLRTP—notably, the project purpose and what the CLRTP does and does not do.
- Messages are targeted to appropriate levels (e.g., management, support staff, etc.).

Given the constraints on audiences' time, as well as the different ways in which people process information in today's tech-savvy work environment, the team conducted outreach using multiple outlets, allowing opportunities to process and share information in several digestible formats. Table 18, below, presents a list of communications outlets, as well as the content associated with each.

Table 18. Communications Outlets

Communications Outlet	Content	Frequency	Level of Effort
Multiagency Meetings (via webinar)	Presentations and draft documents seeking "live," instant input from a wider audience	Monthly	Low
Email	Briefing handouts (both CLRTP-wide and agency-specific)	Quarterly	Low
CLRTP Website	Document Repository; Feedback Forum	Ongoing	Medium-high
Video	Overview video highlighting major themes	One-time production	High
Regional and statewide events with a public lands or transportation audience	Posters; Presentations; Panels; Maps	As identified	Low

6.2 STAKEHOLDER ROLES & RESPONSIBILITIES

Each member of the CLRTP team has had a role to play in outreach. Outreach entails disseminating key information to internal staff as well as to external stakeholders.

Roles included:

- Identifying existing methods through which to get the word out about the CLRTP; ideally, those that will remain active throughout the duration of the CLRTP process
- Identifying liaisons who will distribute materials and solicit input at local events
- Soliciting comments and feedback through a variety of channels

6.3 STAKEHOLDER ENGAGEMENT

The CLRTP team categorized stakeholders according to their anticipated level of involvement and/or interest area(s). The project delivery team distinguished among those who will be thoroughly involved in the CLRTP versus those who only need to be kept informed or aware of the developments. The project delivery team maintained a database of key contacts. Table 20 provides a grouping of both internal and external stakeholders by level of involvement.

A project delivery team comprising FHWA Office of Federal Lands Highway, U.S. DOT Volpe National Transportation Systems Center, and Atkins North America, Inc., met on a weekly basis to discuss progress toward Plan completion. Beginning in January 2014, and recurring on average approximately every six weeks thereafter, CLRTP stakeholders participated in a full Core Team Meeting, which typically lasted three hours on average, and on four occasions took place in person in the Pacific Northwest. See Appendix F for a full list of Core Team participants.

In addition to regular Core Team meetings and agency leadership briefings at key milestones, the CLRTP team presented information about the Plan and solicited feedback at existing partner forums, listed in Table 19.

Table 19. Partner Forums

Forum	Location	Date
ODOT Fall Forum	Portland, OR	October 6, 2015
U.S. Forest Service Regional Engineering Leadership Team	Sandy, OR	December 2015
Transportation Research Board Annual Meeting, Poster Presentation	Washington, DC	January 2016
WSDOT MPO/RTPO Meeting	Teleconference	August 23, 2016
WSDOT 2016 Tribal State Transportation Conference	Suquamish, WA	September 28, 2016
WSDOT 2017 Tribal Transportation Planning Organization Meeting	Toppenish, WA	June 7, 2017

Table 20. Outreach Strategy by Category

	Internal Stakeholders	External Stakeholders
MORE INVOLVED Involved in CLRTP	■ Project Delivery Team ■ Regional/State FLMA Representatives ■ FLMA Washington (DC) Office Representatives ■ WSDOT/ODOT representative ■ County/local government representative	
Informed about CLRTP	■ Tribal liaisons ■ Bureau of Indian Affairs ■ FLMA leadership teams (state, regional, district) ■ Field, District Office staff, Line Officers ■ ODOT Area Commissions on Transportation ■ WA Department of Natural Resources ■ OR State Lands, Department of Natural Resources, Oregon Department of Forestry ■ Federal Forest Advisory Committee (OR) ■ Federal Interagency Council on Outdoor Recreation ■ Public landowners with transportation system connections/local road authorities ■ Individual counties ■ Those leasing federal lands (Oregon National Guard)) ■ Operating canals (federal and local)	■ Concessionaires ■ Out-grant (marinas, private sector, government) ■ Environmental groups ■ Commerce/State-level tourism and travel groups (Oregon Tourism, WA Department of Commerce, Oregon-Washington Resource Advisory Council) ■ Permittees ■ Forest road cooperators (cooperative agreements) ■ State parks ■ Ski associations ■ State Commission on Transportation ■ Regional Transportation Planning Organizations (WA) ■ Metropolitan Planning Organizations (WA and OR) ■ Tribal Transportation Planning Organization (WA) ■ Washington State Transit Association
Aware of CLRTP LESS INVOLVED		■ Emergency management ■ Municipal Research and Services Center WA

6.4 FEEDBACK MECHANISMS

Early in the Plan development process, each stakeholder identified colleagues and management personnel who would need to review the Plan before finalization. Typically, at least two weeks, and as many as four weeks, was provided to the Core Team to review draft materials and submit comments.

6.5 CONTINUING OUTREACH EFFORTS

The CLRTP will be submitted to the Federal Register for public availability. The CLRTP also will be available on the Plan website (http://nwfedlandslrtp.org/). The CLRTP will continue to engage with stakeholders and the public as appropriate during Plan implementation and future updates.

Photography by: USDA Forest Service

7.0 IMPLEMENTATION PLAN

Photography by: BLM

Photography by: USFS

This Implementation Plan lists the following for each goal area:

- Goal: A broad statement that describes a desired end state.
- Objectives: Specific, measurable statements that support achievement of a goal.
- Implementation Actions: Specific actions for FLMAs and their partners to make progress in achieving their goals and objectives.
- Performance Measures: Indicators that agencies can use to assess progress toward an objective.[49]

This Implementation Plan relates to the multiagency goals and objectives in the CLRTP and focuses on actions and performance measures that require multiagency collaboration. Each participating agency in the CLRTP will contribute to the implementation action and performance measures to the extent that is appropriate based on available resources and management priorities.

Like any other traditional LRTP, this Plan has a 20-year planning horizon. During this time, there will be continuing modification and evolution based on what actually takes place. Implementation actions will evolve and may change in future updates.

As part of the implementation of this CLRTP, the multiagency working group will further define these implementation actions and performance measures. For example, working group members will define specific data sources and actions required to effectively monitor and report on performance. This Implementation Plan does not spell out procedures for data collection and reporting at this time. Refinement of these performance measures will be carried out during implementation of this Plan.

Good performance measures should be both feasible and meaningful. Feasible means that performance is possible to measure given available data and that there is a clear methodology for collecting and reporting data. Meaningful means that the data provide important measures that provide worthwhile information to participating agencies, stakeholders, and the public. Because this CLRTP is the first attempt to develop performance measures for FLMA transportation in the Pacific Northwest, the potential performance measures listed below are constrained by what data are available currently. In some cases, development of meaningful and feasible performance measures is not possible at this time and will require further consideration. Although outcome-based measures—those that measure the performance of the transportation network—are ideal, the CLRTP team may have to start with output-based measures—those that measure actions the agencies have taken to achieve the Plan's goals and objectives.

[49] FHWA, *Performance Based Planning and Programming Guidebook*, September 2013.

7.1 PLACE-BASED COLLABORATION GOAL

	**Plan and manage a transportation system that depends upon collaboration and mutually beneficial actions.**
Objectives	**Collaborative planning:** Integrate collaboration with Federal, Tribal, State, and local partners into the transportation planning process, and use interdisciplinary planning techniques. **Place-based planning:** Plan and manage a transportation system appropriate to the region's unique social, economic, and environmental contexts that supports diverse benefits for surrounding communities and regions.
Implementation Actions	Enhance multiagency collaboration by: ■ Identifying forums for interagency transportation planning ■ Sharing agency points of contact ■ Developing new or updating existing memoranda of understanding and memoranda of agreement as appropriate ■ Integrating CLRTP goals into FLAP project selection criteria
Potential Performance Measures	■ Number of FLMA transportation plans developed with interagency coordination ■ Number of State and local transportation plans developed with FLMA coordination ■ Number of projects that leverage multiple funding sources and contribute to FLMA goals

7.2 RESOURCE PROTECTION GOAL

	**Plan and manage Federal lands transportation networks to emphasize stewardship of natural and cultural resources and promote ecological sustainability.**
Objectives	**Protect natural and cultural resources:** Avoid or minimize transportation impacts to sensitive natural and cultural resources. **Promote sustainable travel:** Increase the sustainability of travel to and within Federal lands by encouraging energy efficiency and supporting multimodal travel options.
Implementation Actions	■ Assess vulnerabilities of transportation infrastructure for environmental hazards and share best practices to increase transportation system resiliency. (This includes climate change vulnerability assessments, unstable slopes management plan, seismic/volcanic hazards preparedness, wildfire preparedness, etc.). ■ Conduct research to assess and reduce wildlife-vehicle collisions.
Potential Performance Measures	■ Number of vulnerability assessments completed for transportation infrastructure[50] ■ Number of projects that enhance aquatic organism passage or terrestrial habitat connectivity per year ■ Number of transportation projects that preserve or interpret cultural resources or historic transportation resources ■ Number of projects that enhance sustainable or multimodal transportation options

[50] Also related to asset management and safety.

7.3 SAFETY GOAL

	**Provide safe and appropriate multimodal transportation access for all users of Federal lands.**
Objectives	**Engineering and design:** Plan, design, operate, and maintain multimodal transportation systems to minimize fatalities and serious injuries during travel to and within Federal lands. **User information:** Conduct education and outreach to provide users information about safe travel to and within Federal lands. **Emergency preparedness and response:** Support coordinated and rapid emergency response and enhance communication of conditions affecting Federal lands transportation systems.
Implementation Actions	Organize a multiagency working group to address safety issues that require collaboration, including: ■ Safety data collection, sharing, and analysis ■ FLMA participation in States' SHSP and HSIP procedures ■ Assessing and reducing vehicle-wildlife collisions ■ Disseminating safety-related traveler information ■ Supporting emergency response
Potential Performance Measures	■ Number of Road Safety Audits completed with multiagency coordination ■ Number of Road Safety Audit recommendations implemented ■ Number of transportation-related human fatalities ■ Number of transportation-related human serious injuries ■ Number of non-motorized transportation fatalities and serious injuries

7.4 ACCESS AND CONNECTIVITY GOAL

	**Provide a seamless, multimodal transportation system that supports community connectivity and access to public lands.**
Objectives	**Planning information:** Strengthen the depth and breadth of information used to support access planning and management. **Multimodal access and connectivity:** Enhance interagency communication and collaboration to improve multimodal access and connectivity to public lands**.**
Implementation Actions	■ Identify and pursue opportunities to leverage multiple funding sources for a seamless transportation network. ■ Integrate CLRTP goals into FLAP project selection criteria.
Potential Performance Measures	■ Number of projects that leverage multiple funding sources and contribute to FLMA goals

7.5 VISITOR EXPERIENCE GOAL

	**Promote ease and enjoyment of travel to and within Federal lands.**
Objectives	**Transportation systems that contribute to a positive experience**: Create transportation systems that welcome and orient visitors, provide recreational experiences, and become part of a positive recollection of the visit. **Supporting diverse transportation experiences:** Provide transportation programs and modal options that encourage a diversity of experiences across user groups. **Visitor information:** Establish consistent visitor information systems and leverage opportunities to coordinate communications across agencies..
Implementation Actions	■ Review/update FLMA visitor experience plans to include transportation. ■ Enhance visitor information, whether through ITS, signage, wayfinding, agency and partner websites, or third-party applications. ■ Provide publicly accessible data on multimodal transportation options to access Federal lands, including transit schedules and routes. ■ Conduct outreach to underserved communities, such as carless households or persons with disabilities, to help them access Federal lands.
Potential Performance Measures	■ Number of projects to manage visitor congestion or mobility ■ Number of outreach activities to underserved and/or carless communities ■ Ridership of existing transit services accessing FLMA units ■ Availability of trip-planning information (e.g., website trip-planning information or the availability of online transit information where applicable)

7.6 ASSET MANAGEMENT GOAL

	**Provide a transportation system with cost-effective assets that meets agency objectives over time.**
Objectives	**Collaborative asset management:** Consider the importance of assets within the context of agency management objectives and coordinate with adjacent jurisdictions. **Asset resilience:** Consider risks to transportation assets and develop plans to increase asset resilience.
Implementation Actions	■ Identify asset-level needs that cross agency boundaries and partnership opportunities to protect those assets. ■ Assess vulnerabilities of transportation infrastructure to environmental hazards and share best practices to increase transportation system resiliency. (This includes climate change vulnerability assessments, unstable slopes management plan, seismic/volcanic hazards preparedness, wildfire preparedness, etc.). ■ Monitor ERFO events to understand asset vulnerability, and coordinate with partners on emergency response.
Potential Performance Measures	■ Degree to which agencies meet their agency-specific asset performance targets (based on a good/fair/poor scale) • FLTP Paved Roads • FLTP Unpaved Roads ■ % NBIS Bridges in Good Condition ■ % NBIS Bridges in Poor Condition ■ Risk assessments completed for transportation infrastructure[51] ■ Number of transportation assets that have repetitive damage (using ERFO Program data)

[51] Also related to resource protection and safety.