



Arizona Forest Highway Long Range Transportation Plan

A transportation policy plan to coordinate the Arizona
Forest Highway Program into the future

2011 - 2030

February 2012



Prepared by:



Prepared in partnership
with:



Arizona Forest Highway Long Range Transportation Plan

2011-2035

A transportation policy plan to advance the
Forest Highway Program in Arizona into the future

Prepared in partnership with:



Prepared by:

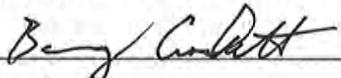


Arizona Forest Highway Long Range Transportation Plan Concurrence

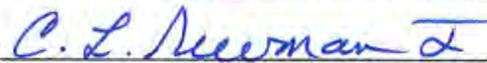
The Arizona Forest Highway Long Range Transportation Plan (LRTP) is a policy plan that will be used to guide the development of the Forest Highway Program in Arizona over the next 20 years. This 20-year plan identifies long term goals for the program and ensures that future decision-making is driven by a mutually agreed upon set of program goals and objectives. This LRTP is a living document that will be updated consistent with statewide planning cycles, or as needed to meet the Forest Highway Program needs. Modifications of this plan will require agreement and concurrence by each of the Tri-Agencies.

By signing below, each Tri-Agency representative endorses and approves the program policies and further implementation of the Arizona Forest Highway LRTP.

Arizona Department of Transportation

Name BARRY CROCKETT
Signature 
Date 5/4/12

U.S. Department of Agriculture, Forest Service, Southwest Region

Name Corbin L. Newman Jr.
Signature 
Date March 21, 2012

Federal Highway Administration, Central Federal Lands Highway Division

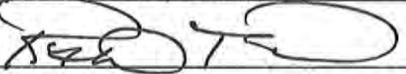
Name RYAN TYLER
Signature 
Date 5/21/12

Table of Contents

Chapter 1: Introduction 1

1.1 What Are Forest Highways?..... 1

1.2 How Are Forest Highways Defined? 1

1.3 Why Are Forest Highways Important?..... 3

1.4 What is the Arizona Forest Highway Program? 3

1.5 What are the Vision, Mission, and Goals of the Arizona Forest Highway Program? 3

1.6 Why Do We Need Long-Range Transportation Planning?..... 5

1.7 What is the Arizona Forest Highway Long Range Transportation Plan? 6

1.8 What Is Included in This Plan? 6

Chapter 2: Agency and Planning Coordination 8

2.1 USFS National Forest Plans 8

2.2 Arizona Statewide Long Range Transportation Plan 9

2.3 Consistency with Other Plans 9

2.4 Other Factors that Influence Forest Highway Planning..... 10

2.4.1 Inflation of Construction Costs 10

2.4.2 Multi-Modal Considerations..... 10

2.4.3 Economic Development Opportunities 12

2.5 Public Involvement 12

Chapter 3: Existing Conditions and Trends 14

3.1 Facility Inventory and Conditions 14

3.2 Arizona National Forest Trends..... 21

Chapter 4: Funding and Investment Strategies 25

4.1 Recent Forest Highway Investments..... 25

4.2 Funding Assumptions..... 26

4.3 Funding Needs For Stated Goals..... 26

4.4 Gap Analysis 28

4.5 Additional Funding/Partnering Opportunities..... 29

Chapter 5: Project Selection Process 32

5.1 Forest Highway Call Process 32

5.1.1 Call for Projects 33

5.1.2 Project Selection 34

5.1.3 Programming..... 36

Chapter 6: Recommendations for Future Plan Activities..... 39

List of Figures

Figure 1 Arizona Forest Highway Network 2

Figure 2 Roadway Condition..... 14

Figure 3 Arizona Forest Highway Condition 15

Figure 4 Bridge Structure Sufficiency Rating 16

Figure 5 Forest Highway Bridge Condition 17

Figure 6 Arizona Forest Highway Traffic Data 19

Figure 7 Arizona Scenic Byways 20

Figure 8 Arizona Population Change by County 22

Figure 9 National Forest Visitation (2002 and 2006) 23

Figure 10 2006 Recreational Visits 24

Figure 11 Project Call and Selection Process..... 33

List of Tables

Table 1 LRTP Goals and Related CFR Criteria5
Table 2 Arizona Forest Highway Project History25
Table 3 Anticipated Funding Scenarios through the Horizon Year (2035).....26
Table 4 Estimated Funding Required to Improve the Arizona Forest Highway Road Network...28
Table 5 Estimated Funding Required to Improve Arizona Forest Highway Bridges28
Table 6 Anticipated Funding Gap through Planning Horizon Year (2030)29
Table 7 Forest Highway Program Transportation Goals and Selection
Criteria Used for Project Ranking35
Table 8 Unconstrained Forest Highway Need38
Table 9 Long Range Transportation Plan Action Items39

Appendices

- Appendix A – Forest Highway Background
- Appendix B – Tri-Agency Roles
- Appendix C – Forest Highway Legal Guidance
- Appendix D – Partner Agency Mission and Goals
- Appendix E – Shared Forest Highways
- Appendix F – Forest Highway Project Call Packet
- Appendix G – 7-Year Program of Funded Forest Highway Projects

Abbreviations and Acronyms

ADOT	Arizona Department of Transportation
CFLHD	FHWA, Central Federal Lands Highway Division
CFR	Code of Federal Regulations
FH	Forest Highway
FHWA	Federal Highway Administration
L RTP	Long-Range Transportation Plan
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act of 1969
NFS	National Forest System
OVN	Over Night
RTP	Regional Transportation Plan
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
STIP	Statewide Transportation Improvement Program
STP	Statewide Transportation Plan
TEA-21	Transportation Efficiency Act for the 21 st Century
TIP	Transportation Improvement Program
TMP	Travel Management Plan
U.S.	United States
USC	United States Code
USFS	U.S. Department of Agriculture, Forest Service

Chapter 1: Introduction

This 24-year transportation plan describes the Arizona Forest Highway (FH) Program and identifies the long-range goals for the program. One purpose of this document is to help transportation planners, transportation professionals, forest professionals, community representatives, and citizens who have an interest in improving FHs understand the FH Program, thereby helping them understand the types of projects eligible for program funding as well as how to participate in the planning and decision-making processes.

This plan describes the process for coordinated planning and decision making among the partner agencies involved in the Arizona FH Program. The plan is the product of the Tri-Agency partnership, which consists of representatives from the Arizona Department of Transportation (ADOT); the United States (U.S.) Department of Agriculture, Forest Service (USFS), Region 3; and the Federal Highway Administration (FHWA), Central Federal Lands Highway Division (CFLHD). Each agency has specific roles and responsibilities as part of the planning and implementation of FH projects (see Appendix A). This long-range plan is intended to help the Tri-Agency make investment decisions for planning road and bridge improvements with regard to safety management, preservation, and resource protection on FHs in Arizona. Because funds are limited, it is essential to assess needs, set priorities, and efficiently manage and leverage funds from a variety of sources to meet transportation needs.

1.1 What Are Forest Highways?

FHs are simply a subset of Arizona's road system, representing approximately 1,280 miles of roadway in Arizona, as shown in Figure 1. Established by the passage of the Federal Highway Act of 1921, specific roadways in national forests across the U.S. were designated as FHs due to the benefits they provide to the national forest, states, and local communities. For more information on how FHs were designated, please see Appendix B, Forest Highway Background. Arizona FHs are diverse, ranging from isolated roads in rural areas to roads that receive intense use from nearby metropolitan areas. FHs are intended to provide safe and efficient transportation access to and through the National Forest System (NFS) for visitors, recreationists, resource users, and others. FHs also assist rural and community economic development, and promote tourism and travel.

1.2 How Are Forest Highways Defined?

The term "Forest Highway" refers to a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel. A public authority other than FHWA, such as ADOT, USFS, or a local government, typically has jurisdiction of a FH. A FH may be comprised of several segments, each managed by a different authority. FH maintenance and improvement projects can also receive funding from several sources. In general, FHs must be in or adjacent to the NFS; be necessary for access to protect, administer, use, and develop national forest resources; open to public travel; and provide a connection to other transportation systems.

The list of designated FHs is not fixed. FH route designation or de-designation may be formally requested by ADOT, USFS, or by a County through coordination with ADOT. The CFLHD Division Engineer reviews and approves designation or de-designation with concurrence of the USFS and State. Figure 1 shows currently designated FHs in Arizona. Further information regarding FH eligibility and designation is provided in Appendix B.

1.3 Why Are Forest Highways Important?

Accessing our NFS lands is part of our heritage, our culture, and our economy. The FH Program addresses the needs for safe and efficient transportation access to and within NFS lands for tourism, recreation, resource use, and other uses. Other transportation programs do not specifically address those needs. FHs aid rural and community economic development and promote tourism and travel. Meanwhile, Arizona's population has increased, placing more people closer to the NFS and other federal lands. In addition, urban and suburban development outside of federal lands is placing greater pressure on existing transportation infrastructure and resources.

1.4 What is the Arizona Forest Highway Program?

Because FHs provide a multitude of economic, cultural, and environmental services to state residents and visitors, we need to understand the existing and long-term demands on the roadway system to meet current and future needs. The Arizona FH Program was developed to address those needs by providing funding for improvements to FHs. Through the federal tax on gasoline, the Arizona FH Program provides approximately \$8.8 million of federal transportation funding to Arizona each year.



FH 3 Flagstaff-Clint's Well Road

The Arizona FH Program is, by law, a partnership of ADOT, USFS, and CFLHD (the Tri-Agency). Roles of the Tri-Agency are defined in Appendix A.

1.5 What are the Vision, Mission, and Goals of the Arizona Forest Highway Program?

The vision, mission, goals, and objectives presented in this document are intended to guide the process for ranking and selecting projects for the Arizona FH Program. Through a cooperative effort, the Tri-Agency partners developed these foundational statements specifically for this LRTP, using the requirements set forth in 23 Code of Federal Regulations (CFR) §660, Subpart A – Forest Highways (see Appendix C). Once complete, they were distributed to ADOT districts and forests in an effort to solicit their comments. Based on input received during the comment period, the vision mission, goals, and objectives were revised and finalized. These guiding principles shape the development of this plan, the project selection process, and recommendations of this LRTP. Nevertheless, each state and federal partner has specific vision,

mission, and goals that are of unique interest to that particular agency. The individual statements of the three partnering agencies are provided in Appendix D.

Vision

The vision of the FH Program in Arizona is to advance the FH network in an efficient manner that facilitates responsible care for the land, while providing an enhanced user experience to and within the National Forests.

Mission

The mission of the FH Program in Arizona is to work in partnership with CFLHD, ADOT, USFS, and local entities to improve the FHs within the state.

Goals and Objectives

Goals of the Arizona FH Program represent four topical categories including access and mobility, safety and condition, funding and economic development, and natural and cultural resource protection. Each goal includes distinct objectives that serve to further the sentiment expressed by the goal. The goals and objectives are listed with a description of the purpose of each objective.

Access and Mobility: Provide reliable access to and within the national forests for use and enjoyment of the land and utilization of its resources.

Objective 1: Provide and maintain recreational, commercial, administrative, and other suitable access to NFS lands by funding appropriate improvements for transportation facilities.

Objective 2: Consider mode choice opportunities to improve mobility and access to and through the national forests.

Objective 3: Provide a seamless transportation network connecting the NFS lands with local communities and major highway systems.

Safety and Condition: Ensure a safe and reliable transportation network to and within the national forests.

Objective 1: Identify risks to traveler safety and take measures to reduce them.

Objective 2: Improve the condition of the transportation facilities in order to reduce long term maintenance costs.

Funding and Economic Development: Use innovative partnerships to fund FH projects and to support economic development opportunities at the local, regional, and national level.

Objective 1: Create partnerships with other agencies or programs to provide additional funding to extend the benefits of the FH Program.

Objective 2: Support economic development in terms of recreation, tourism and utilization of natural resources.



Natural and Cultural Resource Protection: Protect and enhance the natural and cultural environment.

Objective 1: Use transportation facilities as a tool to improve the health of NFS lands.

Objective 2: Repair the negative impacts of transportation facilities to natural and cultural resources.

As mentioned previously, the goals are based upon the criteria established in 23 CFR §660; however, the CFR criteria were modified to more clearly state the intent of project selection for the FH Program. Table 1 summarizes the relationship between the FH Long Range Transportation Plan (LRTP) goals and the criteria established in 23 CFR §660.

**Table 1
LRTP Goals and Related CFR Criteria**

Related 23 CFR §660 Criteria	LRTP Goal
<ul style="list-style-type: none"> • Development, use, protection, and administration of the NFS and its resources. • Continuity of the transportation network serving the NFS and its dependent communities. • Mobility of the users of the transportation network and the goods and services provided. 	<p>Access and Mobility: Provide reliable access to and within the national forests for use and enjoyment of the land and utilization of its resources.</p>
<ul style="list-style-type: none"> • Result for FHs from the pavement, bridge, and safety management systems. 	<p>Safety and Condition: Ensure a safe and reliable transportation network to and within the national forests.</p>
<ul style="list-style-type: none"> • Enhancement of economic development at the local, regional, and national level, including tourism and recreational travel. • Improvement of the transportation network for economy of operation and maintenance and the safety of its users. 	<p>Funding and Economic Development: Use innovative partnerships to fund FH projects and to support economic development opportunities at the local, regional, and national level.</p>
<ul style="list-style-type: none"> • Protection and enhancement of the rural environment associated with the USFS and its resources. 	<p>Natural and Cultural Resource Protection: Protect and enhance the natural and cultural environment.</p>

1.6 Why Do We Need Long-Range Transportation Planning?

FH long-range transportation planning is necessary to define the vision and goals for the FH network that will serve the public into the future. Long-range planning also provides a mechanism to objectively set priorities for implementing projects while working toward the ultimate vision for the FH network that the Tri-Agency is trying to achieve. To accomplish these tasks, planners and decision makers must consider a complex balance among economical transportation investments, human safety, and environmental care. They must do so collaboratively to effectively manage and implement the Arizona FH Program.

The FH Program requires long-range transportation planning; that is, a planning process that is consistent with other state and MPO planning processes, that involves the partner agencies, that is compatible with other transportation planning processes, and that clearly defines and offers opportunities for public input. The key objective of such a planning process is to develop and maintain a coordinated, “seamless” transportation system for public use, even though various segments of the system are under different jurisdictions. Coordinated planning will also help ensure that the most critical projects receive funding and are implemented, so that the FH infrastructure continues to provide access to Arizona’s forest resources and communities.



FH 43 Big Lake Road

Some general requirements for coordinated FH planning are set forth in 23 CFR §660, Subpart A – Forest Highways, which is provided in Appendix C of this document.

1.7 What is the Arizona Forest Highway Long Range Transportation Plan?

The Tri-Agency prepared this LRTP to describe how the FH Program operates, and to identify the long-range goals for the program for the next 24 years. As funding has become more scarce and demand on the FH transportation system continues to increase, it has become increasingly important for the Tri-Agency to work together to assess needs, set priorities, and implement projects that provide public benefits, while meeting fundamental program goals.

This LRTP describes the process and provides guidance for coordinated planning and decision making among the Tri-Agency. Such coordination is the key to wisely investing Arizona FH funds. This LRTP is intended to help the partners make investment decisions for planning, safety management, preservation, and construction on FHs in Arizona.

While funding for maintenance and capital improvements to FHs can come from many sources, such as cities, counties, and states, this LRTP focuses specifically on the types of projects eligible for funding through the FH Program over the next 24 years. It also provides guidance on how FH projects are selected for the FH Program (see Chapter 5, Project Selection Process).

1.8 What Is Included in This Plan?

This LRTP is presented in six chapters, including this Introduction. An explanation of the contents of each chapter follows.

Chapter 2, Agency and Planning Coordination, describes the long-range plans that are particularly related to Arizona’s FHs, including USFS National Forest Plans and ADOT’s Statewide Transportation Plan (STP). Chapter 2 also describes other factors and regulations that influence FH planning, and describes the public involvement process for this FH LRTP.

Chapter 3, Existing Conditions and Trends, summarizes the current state of FH transportation infrastructure in terms of type, condition, use, and jurisdiction. Chapter 3 also presents recent trends in population change, forest visitation, and recreational trips to Arizona's forests.

Chapter 4, Funding and Investment Strategies, summarizes the recent investment history for Arizona FH projects, identifies reasonably expected funding through 2035, and discusses the funding gap between available funds and needed improvements to the FH network. Chapter 5 also identifies additional opportunities for funding through partnerships with other agencies.

Chapter 5, Project Selection Process, describes the process for selecting projects that will receive FH Program funds. It provides a step-by-step account of the Tri-Agency call for projects and the rationale for why this process is necessary for the FH Program.

Chapter 6, Plan Implementation, summarizes how this LRTP will be implemented by the Tri-Agency and includes recommended actions for the Tri-Agency. Recommendations include ongoing system monitoring and the development of a process to identify routes for designation and/or de-designation on the FH network.

Chapter 2: Agency and Planning Coordination

This LRTP is intended to link partner agencies' long-range planning efforts related to FHs. Each agency prepares its own long-range plans for managing the resources under its jurisdiction. The long-range plans related to Arizona's FHs include USFS National Forest Plans and ADOT's STP. This chapter discusses those plans, describes other factors and regulations that influence FH planning, and describes the public involvement process for this FH LRTP.

2.1 USFS National Forest Plans

The USFS prepares Land and Resource Management Plans (commonly referred to as a "Forest Plan") for every national forest in the country. The Forest Plans are updated periodically. In general, each Forest Plan specifies goals for environmental quality and natural resource management.



As a part of the Plan implementation process, each Forest develops "Access Management Objectives" to provide public access to the Forest. These objectives describe the extent and form of access needed to achieve management goals. Forms of access may include hiking, horseback riding, motor vehicle, air or watercraft.

Specific management objectives are developed by USFS District Rangers for each road and trail under USFS jurisdiction. Objectives for roads are known as "road management objectives." USFS engineers and technical specialists use the objectives to develop road design standards, maintenance plans, sign plans, use restrictions, forest visitor maps and all other processes used to manage access to and within National Forests. Decisions about specific roads and trails are made through project-level analysis and decision documents in accordance with the National Environmental Policy Act (NEPA) of 1969.

The USFS also develops Travel Management Plans (TMP). These are transportation-specific plans developed to help ensure that specific transportation corridors meet forest plan guidelines. TMP planning provides opportunities for the public and other key stakeholders to engage in discussions with the USFS about transportation issues in specific areas of national forests. TMPs address only roads under USFS jurisdiction, not roads under state or county jurisdiction. The following TMPs have been completed in Arizona:

- *Apache-Sitgreaves National Forests – 2010 Draft Environmental Impact Statement (DEIS) for the Motorized Travel Management Plan*
- *Coconino National Forest – 2010 Draft Environmental Impact Statement for Motorized Travel Management*
- *Coronado National Forest – 2010 Environmental Assessment: Proposed Changes to the Motorized Travel System*
- *Kaibab National Forest – North Kaibab Travel Management Project (Developing Proposal)*

- *Tonto National Forest – 2009 Proposed Action for Managing Motorized Travel on the Tonto National Forest*

2.2 Arizona Statewide Long Range Transportation Plan

The Arizona LRTP, MoveAZ, is ADOT's vision and policy document for Arizona's transportation system, including airports, railroads, bicycle and pedestrian facilities, state highways, and transit. MoveAZ is a 20-year performance-based plan, providing ADOT with tools to understand the use of the transportation system and the impact that specific projects will have upon that system. The plan prioritizes limited available resources to maintain, improve, and expand transportation infrastructure. Required by Arizona and federal statutes, the LRTP guides development and investment in the transportation system. The LRTP also includes ADOT's strategy that begins identifying tough choices to maintain the existing transportation system under the demands placed on the current system, given funding shortfalls. As required by law, the Arizona LRTP is under revision and is anticipated to be adopted by the end of 2011.

The LRTP's goals, policies, strategies, and implementation framework respond to the challenges facing Arizona's transportation system. The LRTP guiding principles emphasize:

- Access and mobility – a reliable and accessible multimodal transportation system that provides for the efficient mobility of people and goods throughout the state
- Economic vitality – a multimodal transportation system that improves Arizona's economic competitiveness and provides access to economic opportunities for all Arizonans
- Safety – provide safe transportation for people and goods
- Stewardship – a balanced, cost-effective approach that combines preservation with necessary expansions and coordinates with local and regional transportation and land use planning
- Environmental sensitivity – a transportation system that enhances Arizona's natural and cultural environment

As mentioned previously, the LRTP includes a list of corridor priorities. Four of the corridors listed in the MoveAZ Plan Projects are also FHs.

- US 60 (FH 30A, FH 30B)
- US 89A (FH 28)
- SR 260 (FH 9, FH 11)
- SR 366 (FH 34)

2.3 Consistency with Other Plans

This FH LRTP is intended to integrate with and inform future state, county, and forest plans. Consistency between plans helps identify projects with multiple-agency benefits and potential

for partnerships. Furthermore, documenting FH long-range vision, mission, and goals as well as individual projects will continue to assist local and regional planning in areas near FH routes.

In addition, this FH LRTP provides a means to enhance the consideration of environmental issues and impacts within the long range transportation planning process. As part of FH project application, project sponsors are asked to provide information regarding the need for proposed projects and potential environmental impacts. Project sponsors are also asked to document any pre-project coordination with resource agencies or the public. The analysis conducted during the planning stage will impart great benefits to the project, if selected, when it moves forward through the NEPA-level analysis as part of project development.

2.4 Other Factors that Influence Forest Highway Planning

Several factors have been influencing the federal FH Program over the last 10 years. Some of those factors are changing areas of emphasis for the program. These include inflation of construction costs, multi-modal considerations, and economic development opportunities.

2.4.1 Inflation of Construction Costs

Road and highway construction costs have shown volatility in recent years, but, overall, costs have continued to rise. From 2006 to 2008, the cost of rehabilitating some roadways increased at a rate greater than U.S. core inflation. In addition, the amount of road rehabilitation that is deferred each year has been growing as a result of funding limitations and deteriorating infrastructure conditions.

The Arizona FH Program is affected by rising costs of construction and is simply unable to deliver as many miles of road construction today as 10 years ago. Construction cost is a factor that must be considered when deciding how Arizona FH funds will be invested. Specifically, planners and decision makers should consider how available funds can provide more miles of improved road or more road deficiencies/conditions improved. Potential for combining or matching funds from various sources should also be evaluated.

2.4.2 Multi-Modal Considerations

States, metropolitan planning organizations (MPO), and federal land management agencies consider alternative transportation solutions in their transportation plans. Likewise, the Arizona FH Program must consider alternative transportation modes when evaluating and developing proposed projects. Alternative transportation modes can be solutions for managing demand, providing access, and enhancing environmental quality, among other issues. Alternative transportation solutions may also provide additional funding opportunities. The Sarbanes Transit in Parks program funded through the Federal Transit Administration provides grant-based assistance for alternative transportation projects on Federal lands. This funding program is discussed on page 30 of this document. In addition, Section 3039 of the Transportation Equity Act for the 21st Century (TEA-21) required the Secretary of Transportation, in coordination with the Secretary of the Interior, to:

[...] undertake a comprehensive study of alternative transportation needs in national parks and related public lands managed by Federal land management agencies in order to [...] encourage and promote the development of transportation systems for the betterment of the national parks and other units of the National Park System, national wildlife refuges, recreational areas, and other public lands in order to conserve natural, historical, and cultural resources and prevent adverse impact, relieve congestion, minimize transportation fuel consumption, reduce pollution (including noise and visual pollution), and enhance visitor mobility and accessibility and the visitor experience. (FHWA, 2001).

In response to the directive in TEA-21, FHWA and the Federal Transit Administration, in cooperation with the Federal land management agencies, produced a study that assessed transit needs in national parks and other federal lands. Volume III of that study focused on NFS lands and, in particular, on 30 high-use sites in national forests. The “Federal Lands Alternative Transportation System Study, Summary of Forest Service ATS Needs” (Cambridge Systematics, Inc., 2004) included one potential site in Arizona; *Kaibab National Forest Grand Canyon Parking Garage/Bus Staging* in the Kaibab National Forest. The project includes the establishment of a bus shuttle system, connecting a park-and-ride lot, to be established near the Tusayan community and the south rim of the Grand Canyon National Park.

The following excerpt is from the “Federal Lands Alternative Transportation System Study, Summary of Forest Service ATS Needs” (Cambridge Systematics, Inc., 2004).

Arizona – Kaibab National Forest Grand Canyon Parking Garage/Bus Staging

The 1.6 million-acre Kaibab National Forest is directly adjacent to the Grand Canyon National Park (GCNP) and is split by the canyon into two major parts, the North Kaibab and the South Kaibab. The Forest accommodates a number of recreational activities, including camping, hiking, picnicking, biking, scenic vistas, wildlife viewing, cross-country skiing, and hunting. The South Kaibab serves as a gateway for visitors destined to the GCNP. With more than 3.3 million annual visitors accessing the Park from the south, the South Kaibab National Forest often experiences the negative impacts of traffic congestion and delay resulting from the large number of visitors accessing the park.

In response to this issue, an ATS project has been proposed in the Tusayan Ranger District. The project includes the establishment of a bus shuttle system, connecting a park-and-ride lot, to be established near the Tusayan community and the south rim of the canyon located within the GCNP. The Tusayan community is located within the Kaibab National Forest about three miles south of the southern gate for the National Park. The proposal includes the construction of a parking/staging area with up to 2,400 parking spaces and a bus loading area. The original Forest Service plan called for 1,000 spaces which could serve as a first phase. The bus shuttle provides an opportunity for Grand Canyon visitors to park outside of the national park gate, take the bus shuttle to the south rim, avoid driving in congested traffic at the park gate, and avoid congested parking areas within the GCNP. The GCNP and FTA are currently working on a proposal for remote parking and shuttle service that may consist of either bus or light rail.

To date, the GCNP completed construction on new visitor parking (600 spaces) at the Canyon View Information Plaza as an initial phase, with up to 300 more in the future, based

on demand. The park has also initiated a shuttle bus route to connect Canyon View Information Plaza with Tusayan, which runs April through September to meet peak season demand. This shuttle service makes use of existing parking in the gateway community of Tusayan. The need for additional parking within the Kaibab National Forest will be monitored to determine the timing and required components in the future.

2.4.3 Economic Development Opportunities

The economic impacts of tourism and recreation on federal lands have been studied in various contexts relating to impacts at the regional level; impacts to industry and recreational activities; and studies of individual parks, forests, tribal lands, and wildlife refuges. Relative to other states, Arizona contains a moderate number of national forests and FHs, and a sizeable area of national forest land. National forests and FHs, therefore, make an appreciable contribution to the state's economy. In Arizona, there are:

- Approximately 11.5 million acres of national forest lands in Arizona
- Six National Forests in Arizona
- Recreation generates \$350 million annually in state tax revenues, and produces nearly \$5 billion annually in retail sales and services across Arizona (Outdoor Foundation, 2009)
- Outdoor recreation supports 82,000 jobs across Arizona (Outdoor Foundation, 2009)

2.5 Public Involvement

Public involvement occurs throughout the transportation planning process, and while FH public involvement and planning are unique, they are linked to existing long-range and short-term planning efforts of ADOT, the counties, and the national forests in Arizona. FH planning builds upon, and is integrated with other planning efforts for consistency among the partner agencies' planning and public involvement activities, thereby providing multiple opportunities for public involvement.

Public involvement during transportation planning is perhaps best explained by distinguishing "policy level," "plan level," and "project level" public involvement opportunities. "Policy level" public involvement occurs during the development of a long-range transportation plan, such as the Arizona STP, regional transportation plans (RTP), forest plans, and this FH LRTP. Such long-range policy plans provide guidance and direction for a transportation program. In short, they address "the big picture." "Plan level" public involvement occurs during development of shorter-term plans like the Statewide Transportation Improvement Program (STIP), MPO transportation improvement programs (TIP), and the Federal Lands Highway TIP that list specific desired improvements and often include prioritized lists of projects to be implemented over the plan's timeframe. "Project level" public involvement occurs when specific projects are being developed through the process used to evaluate and assess projects under NEPA.

Public involvement continues to be an integral part of the planning process for this LRTP. As such, the Tri-Agency has conducted initial outreach including the development of a FH website that provides current information, by state, for each FH LRTP (<http://www.cflhd.gov/LRTP/index.cfm>). In addition to the website, two newsletters were

developed and distributed to forest supervisors, state department of transportation representatives, and county public works supervisors to solicit input on the mission, goals, and objectives, the project selection process, and the draft of this FH LRTP.

The result of the project selection process outlined in this LRTP (a list of approved projects for the FH program) will be included in Arizona's STIP, which is subject to Arizona's public involvement process associated with the STIP. Because these plans include statewide lists of projects proposed for implementation, public input is used to inform the process of project selection. Therefore, there is some project-specific input at the plan level of public involvement.

The public will have further opportunity to provide input on specific proposed projects through the process used to evaluate and assess projects under NEPA. All projects that include federal funding, such as FH projects, must comply with the NEPA process. The NEPA process requires public outreach at several stages: project scoping (to present the proposed project and identify potential issues), public review of the draft environmental document (environmental assessment or environmental impact statement), and public review of the final environmental impact statement. Additional public involvement opportunities are often provided, such as public meetings at various stages of project development.

Chapter 3: Existing Conditions and Trends

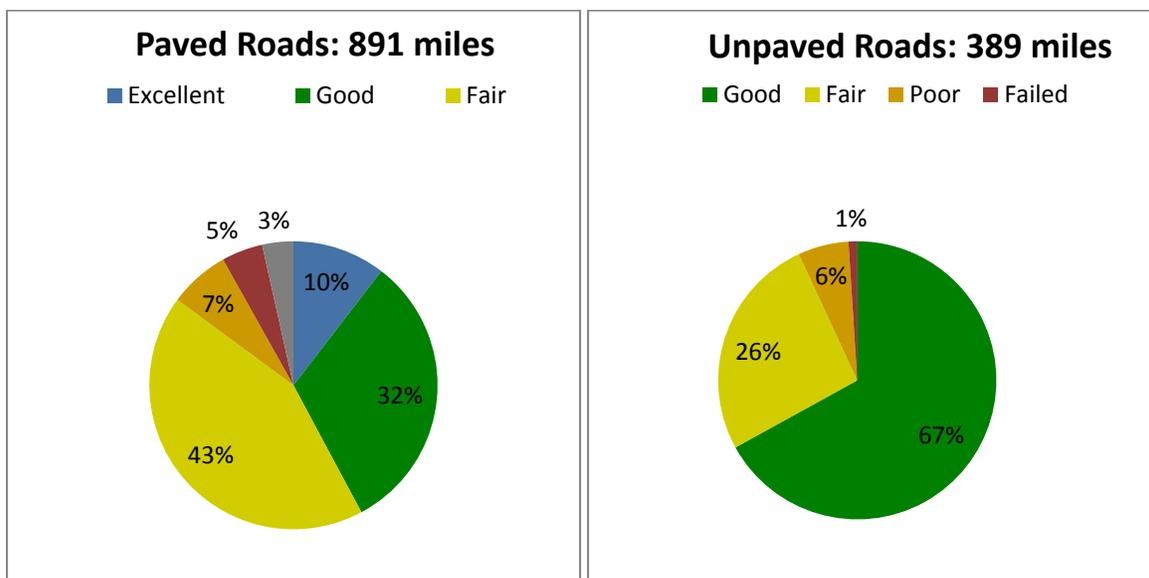
Understanding the current state of FHs is a prerequisite for planning future transportation projects. The dynamics of use, condition, and visitation are therefore considered in transportation funding decisions. Furthermore, this FH LRTP considers changes that are likely to occur in the future, such as increased traffic and visitation due to population increases. As is the nature of LRTPs, the intent is to identify future needs and plan for them proactively. The existing data in this chapter has informed the project selection process described in Chapter 5, and projects will be selected based on that process, not existing data alone.

This chapter offers a summary of the current state of FH transportation infrastructure in terms of type, condition, use, and jurisdiction. Indicators of future trends include population change, visitation, and resource extraction activities.

3.1 Facility Inventory and Conditions

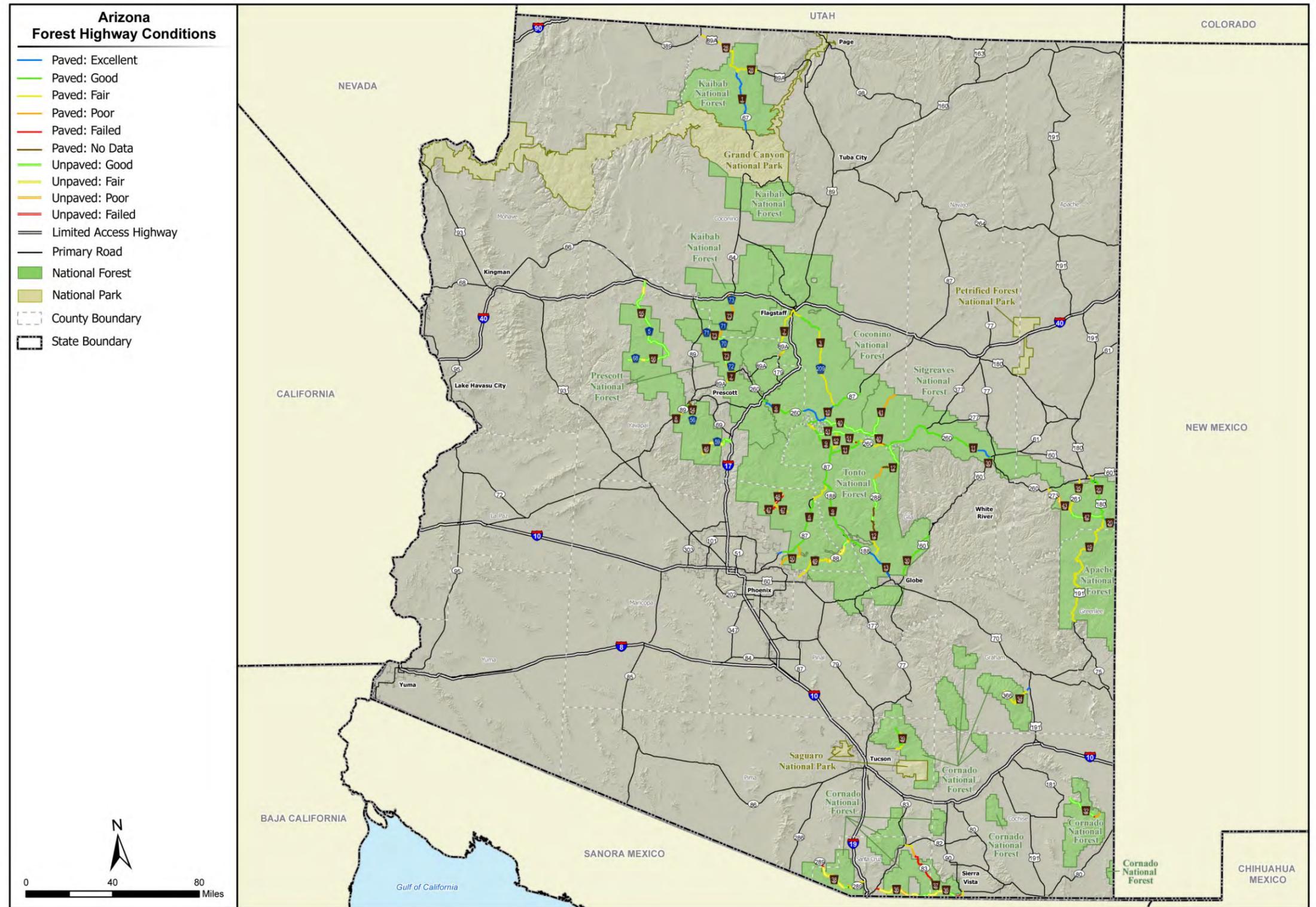
Currently, CFLHD collects information on road conditions through the Road Inventory Program every two years. Based on the data, it was determined there are 37 routes and 1,280 miles of FH roads in Arizona. Of these, 891 miles (70 percent) are paved and 389 miles (30 percent) are unpaved. Figure 2 summarizes the condition of the roadway network by surface type. Road conditions are also shown in Figure 3. For route specific condition detail, view the [Road Inventory Program report](#) online. The figures show that the majority of paved FH roads in Arizona are in less than Good condition, but most unpaved roads are in Good condition. As the network continues to age and traffic volumes increase, more of these roads will deteriorate to Poor or Failed conditions. Surface condition is an important factor to consider when selecting projects to construct as part of the LRTP, as it has a direct effect on FH operations and safety.

Figure 2
Roadway Condition



Source: FHWA, Road Inventory Program (2008)

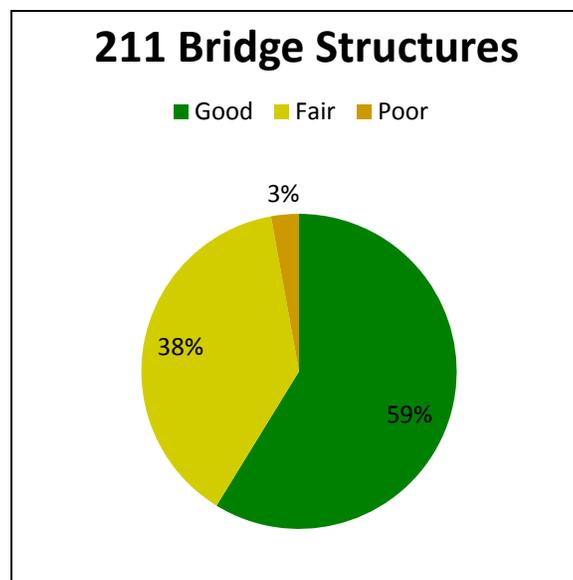
Figure 3
Arizona Forest Highway Condition



Source: FHWA, Road Inventory Program (2008)

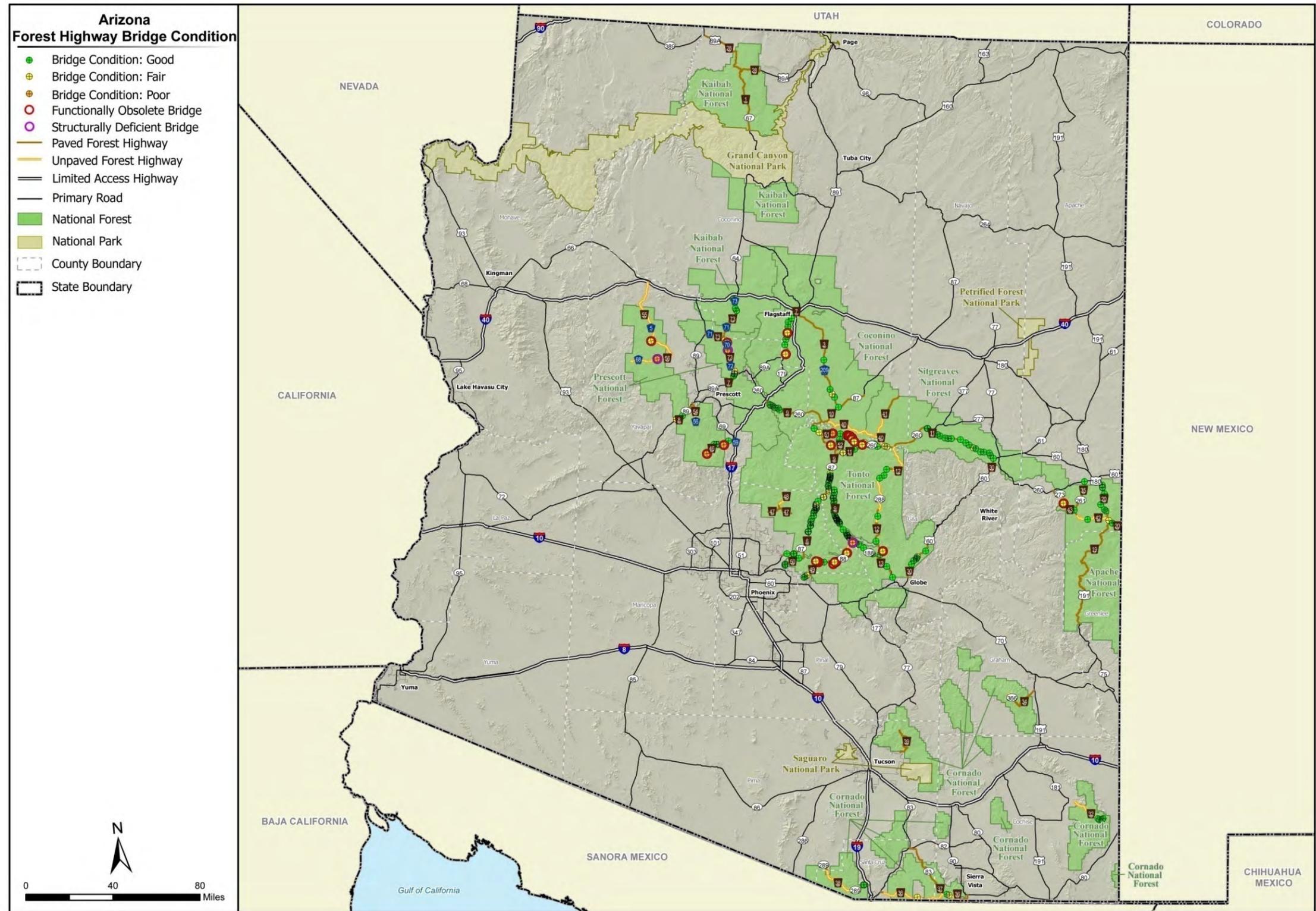
There are 211 bridges or other structures on the FH road network in Arizona. Of the 211 structures, 23 bridges are classified as functionally obsolete and three are classified as structurally deficient. A functionally obsolete bridge is one that was built to standards that are not used today. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe. Functionally obsolete bridges include those that have sub-standard geometric features such as narrow lanes, narrow shoulders, or inadequate vertical clearances. A bridge is considered structurally deficient if it has a Poor general condition rating for the deck, superstructure, substructure, or culvert. Figure 4 summarizes qualitative bridge structure sufficiency ratings. The location and conditions of these bridges are shown in Figure 5. For the most updated condition information, refer to <http://www.cflhd.gov/FHRoadInv/index.cfm> and select the Arizona report.

Figure 4
Bridge Structure Sufficiency Rating



Source: FHWA, Road Inventory Program (2008)

Figure 5
Forest Highway Bridge Condition



Source: FHWA, Road Inventory Program (2008)

Twenty-one designated FHs in Arizona (840 miles) are under state jurisdiction. State routes typically carry higher traffic volumes than other routes, as they serve multiple trip purposes in addition to forest visitation and resource extraction. In addition, 155 miles of FH roads are under county jurisdiction, and the remaining 285 miles are considered federal routes under USFS jurisdiction. The overall average daily traffic data are displayed in Figure 6. There are several paved and unpaved routes that are missing average daily traffic data.

Many of the FHs are also designated as national or state scenic byways. This is an important distinction, as scenic byways are eligible for additional funding and should therefore receive higher priority in the project selection process. Forest highways collocated on scenic byway routes are shown in Figure 7 and listed below:

- Kaibab Plateau–North Rim (FH 1)
- Mingus Mountain (FH 7)
- Sedona Oak Creek Canyon (FH 7)
- From the Desert to Tall Pines (FH 12)
- Coronado Trail (FH 19)
- Fredonia–Vermillion Cliffs (FH 28)
- White Mountain (FH 35, FH 43)

Surface and structure conditions are important on routes with higher average daily traffic due to the increased exposure to the traveling public. Routes with higher traffic volume will deteriorate faster than those with lower volume in most cases; therefore, priority should be given to routes that have both poor conditions and high traffic volumes.

Because these routes are either designated state routes or county owned FH routes, there is a greater chance to leverage funds to improve these roads. State routes may qualify for other funding sources that could be used to complete FH projects. Counties may have funding for road improvements that alone would not be enough to reconstruct a road but if combined with FH funds, become viable projects. Such routes have a better chance of being selected for improvements because of their potential ability to leverage outside funds.

An important factor when selecting a project is whether the county or state is willing to accept maintenance responsibilities once the project is completed. If the county or state is unable or unwilling to accept these duties, a project will have less of a chance of being selected for the FH Program. The project selection process must consider maintenance agreements between all project partners to ensure the sustainability of FH routes.

Figure 6
Arizona Forest Highway Traffic Data

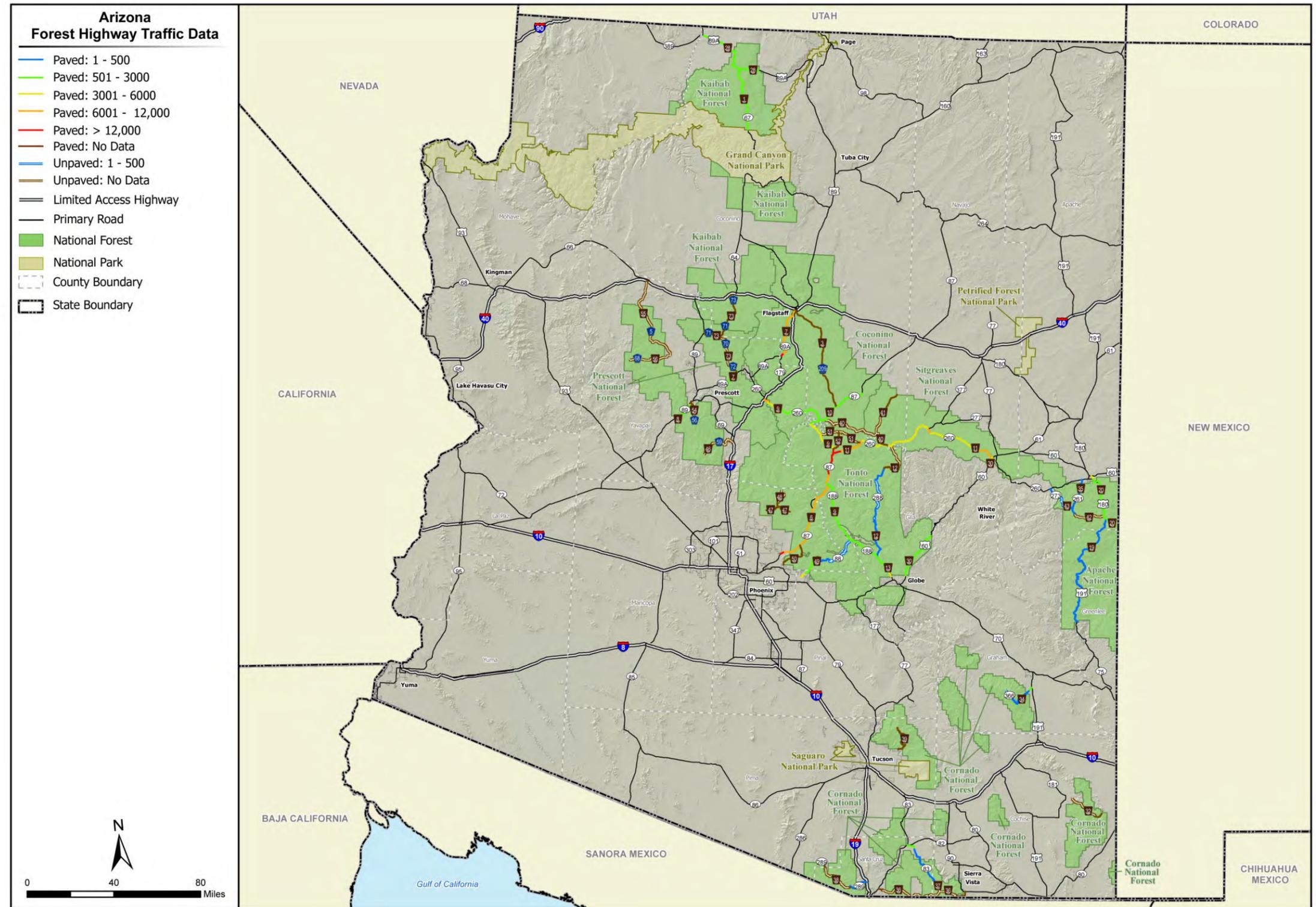
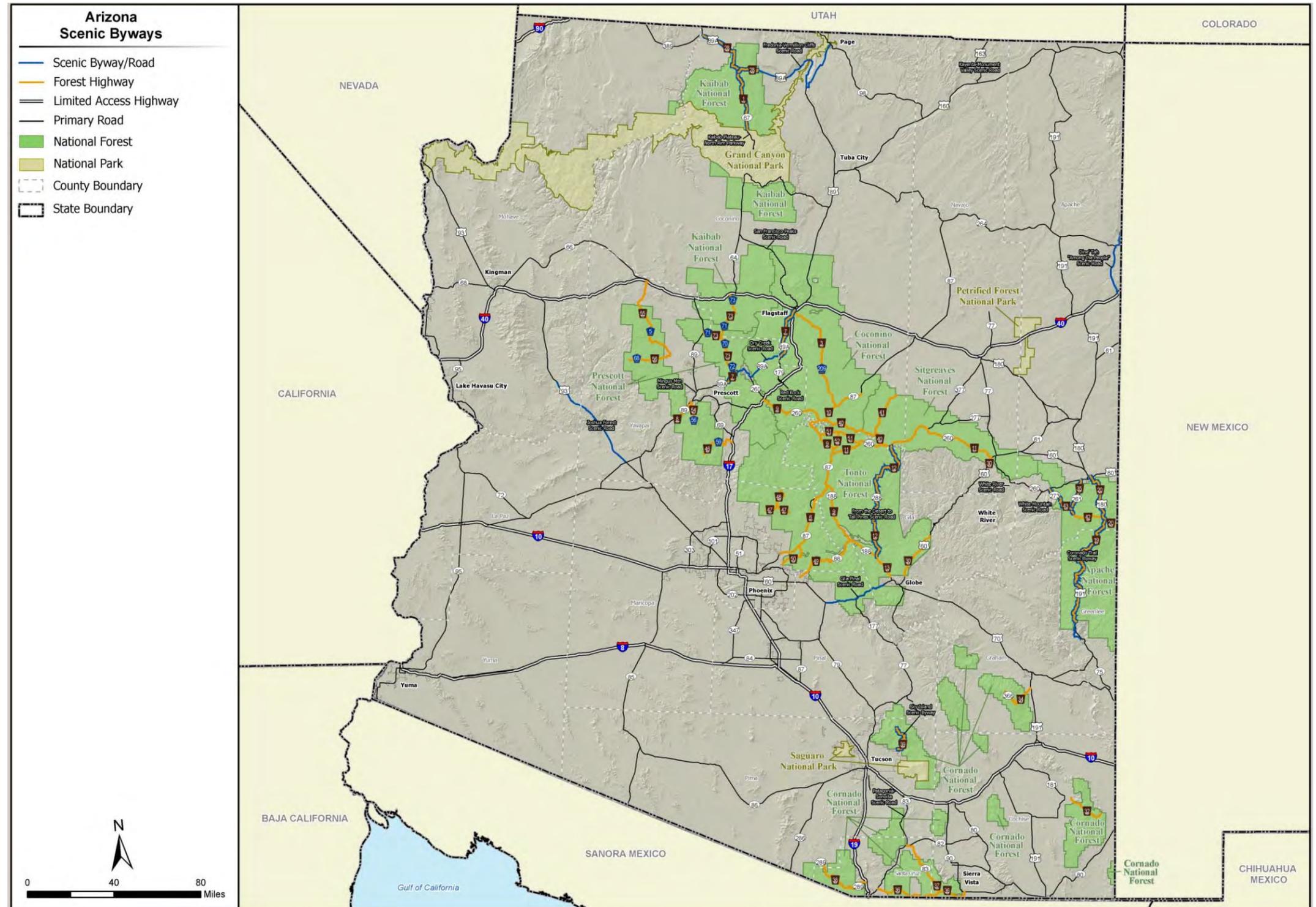


Figure 7
Arizona Scenic Byways



Source: FHWA, Road Inventory Program (2008)

3.2 Arizona National Forest Trends

The population of Arizona has increased 24.6 percent from 2000 to 2010 (U.S. Census). Generally, counties overlapping national forests have also increased in population during this period; however, Greenlee County which overlaps Apache National Forest decreased in population. Pinal, Mohave, Yavapai, Maricopa, and Santa Cruz counties are the top five in terms of population growth of counties that intersect a national forest. Growth in these counties ranged from 25 to 110 percent from 2000 to 2010. Population change between 2000 and 2010 is illustrated in Figure 8.

According to the Arizona Department of Commerce, Arizona is anticipated to increase in population by 58 percent from 2010 to 2035. Generally, counties that have the highest existing population levels will experience the greatest growth. These counties include Pinal, Mohave, Yavapai, Maricopa, Yuma, and Santa Cruz.

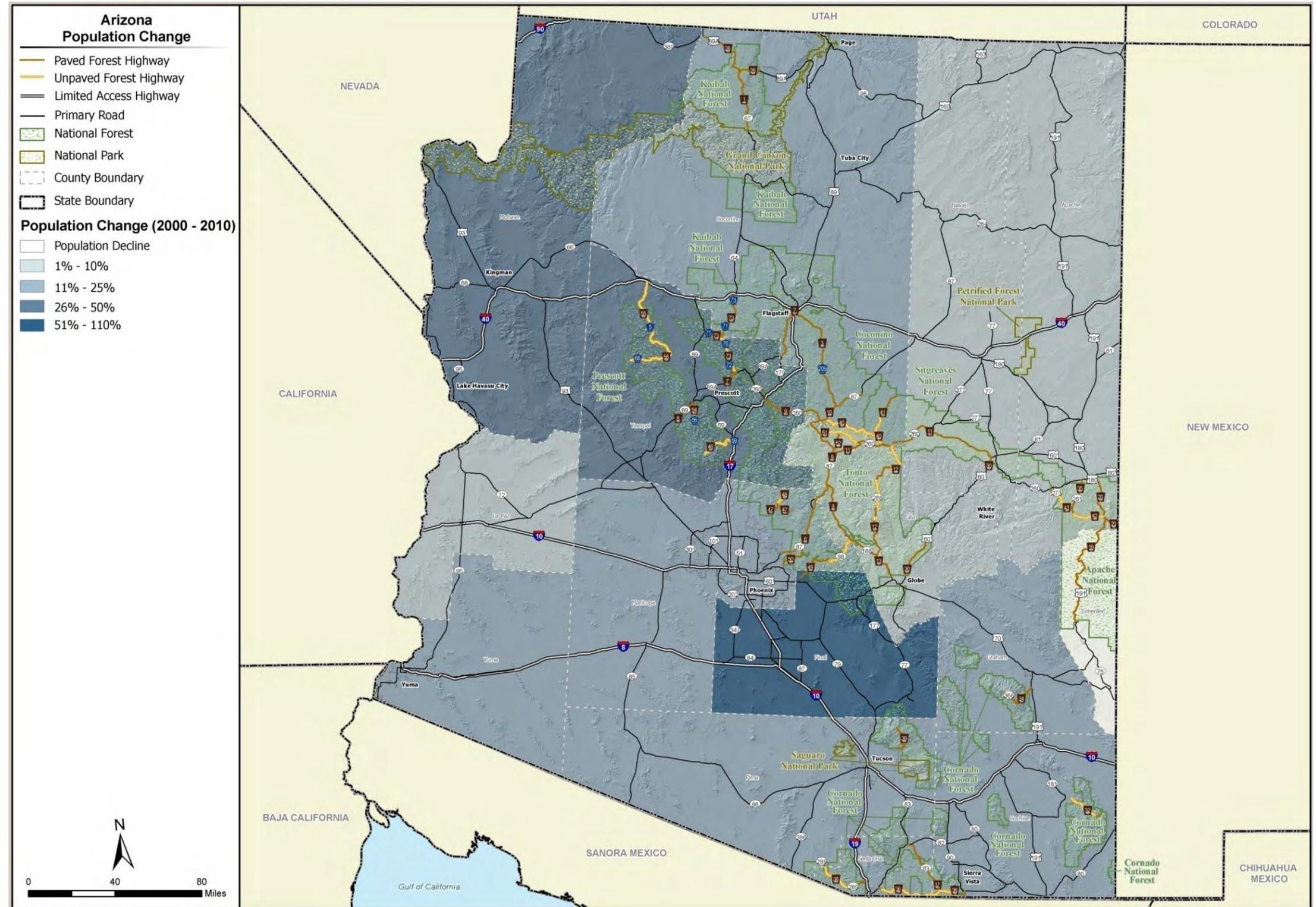
Tonto National Forest is located within Pinal County which had the third highest population in 2008, and is forecasted to experience the greatest population growth in the state, at 166 percent from 2010 to 2035. Other forests located within high population counties that are expected to experience population increases in the future include Prescott and Coconino National Forest. As such, forests receiving local visits due to proximity to populated areas should expect local visits to increase into 2035.

Visitation to national forests in Arizona has also increased in recent years. Figure 9 shows recent visitation levels and percent change between 2002 and 2006 visits. The 2006 report, Spending Profiles for National Forest Recreation Visitors by Activity (Stynes & White), provides the basis for the recreational visitation. Figure 10 summarizes the 2006 segment shares for recreation visits to national forests in Arizona.

Tonto, Coconino, and Coronado National Forests receive the highest number of visits and have experienced the greatest growth in terms of visits. This may be attributed to their close proximity to highly populated areas such as Phoenix and Tucson. This population base generates high numbers of local day trips, as illustrated in Figure 10. Forests that receive more non-local visits are not expected to be significantly impacted by changes in local population. Changes in Arizona population would not affect 80 percent of trips to Apache-Sitgreaves National Forest as summarized in Figure 10.

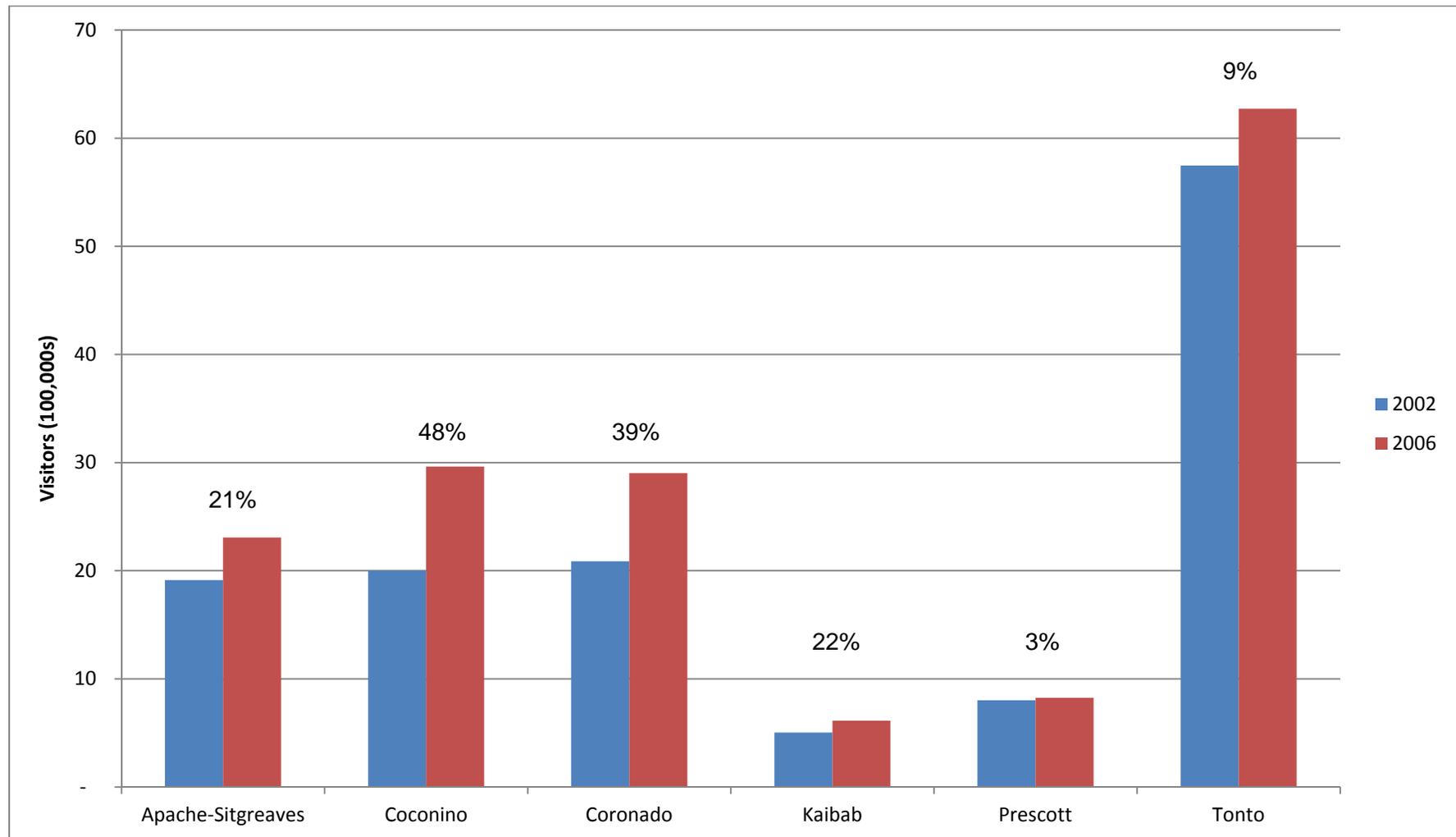
Arizona FHs are not used exclusively for recreational trips. Forest highway use also includes resource extraction, specifically for minerals and timber. According to the U.S. Energy Information Administration, Arizona is the sixteenth highest coal producing state. Non-recreation FH trips are also associated with timber harvesting. According to the USFS 2007 Forest Resources of the United States (USFS, 2009), the USFS manages 41 percent (or 7.7 million acres) harvestable forest land in Arizona.

Figure 8
Arizona Population Change by County



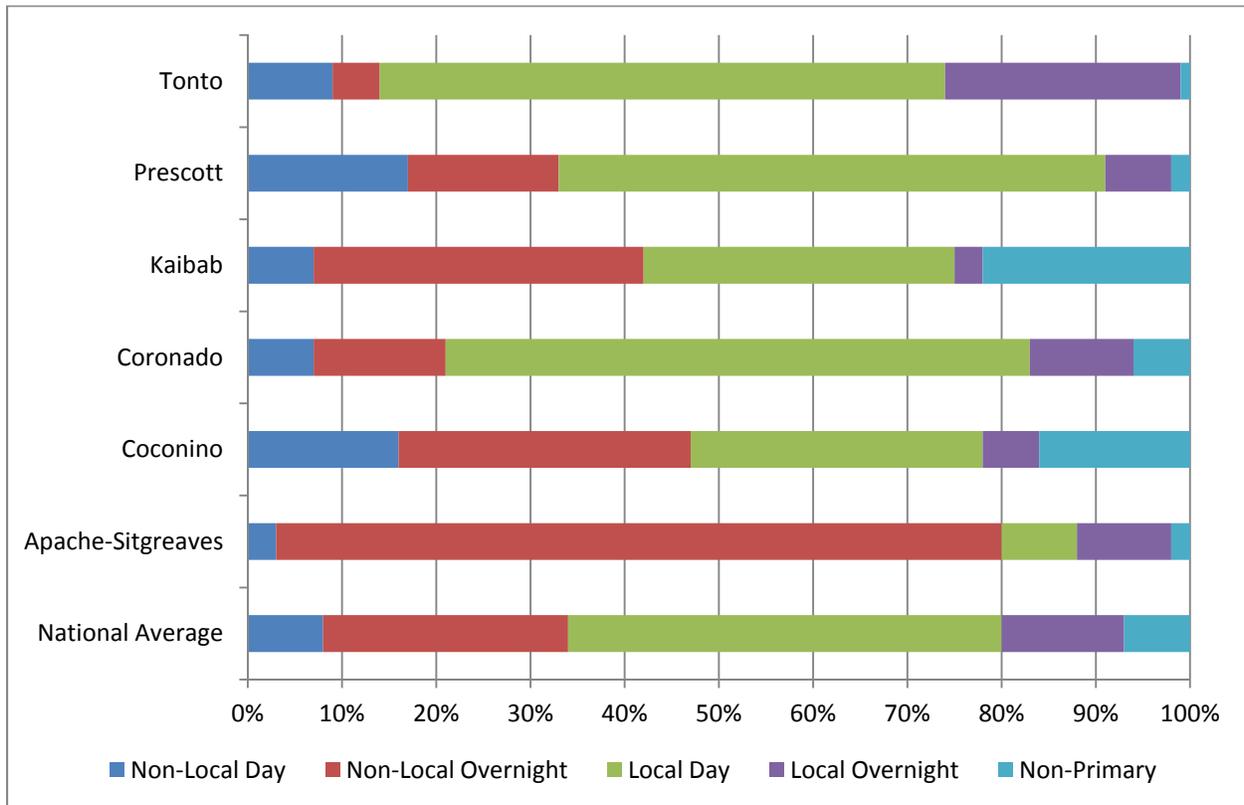
Source: FHWA (2010), US Census (2010)

**Figure 9
National Forest Visitation (2002 and 2006)**



Source: USFS

Figure 10
2006 Recreational Visits



Source: USFS

Note: Local visitors were defined as living within 50 miles of the recreation site. The uses are defined as follows:

- **Non-local day trips:** Non-local residents on day trips
- **Non-local over night (OVN)-national forest:** Non-local resident staying overnight on the national forest
- **Non-local OVN:** Non-local residents staying overnight on the national forest
- **Local day trips:** Local residents on day trips
- **Local OVN-national forest:** Local residents staying overnight on the national forest
- **Local OVN:** Local residents staying overnight on the national forest
- **Non-Primary:** Visits where recreating on the national forest is not the primary trip purpose

Chapter 4: Funding and Investment Strategies

Funding for the Arizona FH Program is anticipated to change with the new transportation authorization. However, the degree to which funding levels will increase or decrease is yet unknown. In addition, given the initiatives, challenges, and changes in state and local funding and inflation, a long-term funding and investment strategy is critical to the FH Program's success.

This chapter summarizes the recent investment history for Arizona FH projects, identifies reasonably expected funding through the planning horizon, and illustrates the funding gap between projected funding levels and anticipated need for FH improvements, based on current road and bridge inventory.

4.1 Recent Forest Highway Investments

Since 2003, the Arizona FH Program has funded five individual construction projects totaling \$67.2 million. These projects include a combination of 4R (repair, resurfacing, rehabilitation, and reconstruction), 3R (repair, resurfacing, and rehabilitation) and rockslide repair. Table 2 summarizes these projects by project category. The Tri-Agency recognizes the need to provide a better balance between the types of projects in the program. Program balancing will enable the Tri-Agency to improve a wider range of needs throughout the state, while remaining consistent with the intent of the stated mission and goals of the FH Program. The project selection process, described in Chapter 5, Project Selection Process, describes the manner in which similar type projects will be compared against each other to ensure better program balancing.

Table 2
Arizona Forest Highway Project History

Project Name	Forest Unit	County	Description	Award Amount (in millions)
Young-North	AZ PFH 12	Gila	Grading, drainage, and paving over 4.7 miles	\$5.6
General Hitchcock Highway	AZ PFH 39	Pima	Grading, drainage and paving over 6.8 miles	\$16.0
General Hitchcock Highway	AZ PFH 39	Pima	Grading, drainage and paving over 7.1 miles including the Windy Point parking area	\$16.7
Swift Trail Rockfall Repair	AZ PFH 34	Graham	Rockfall repair	\$0.8
Sunrise Park – Big Lake	AZ PFH 43	Apache	Heavy 4R construction along 10.0 miles	\$16.8
Flagstaff-Clints Well (Lake Mary Road)	AZ PFH 3	Coconino	Road reconstruction, grading, drainage, asphalt surfacing and guardrail replacement over 4.9 miles	\$11.3

Project Name	Forest Unit	County	Description	Award Amount (in millions)
Apache Trail	AZ PFH 49	Maricopa	Retaining wall repair	\$0.9
Control Road	AZ PFH 51	Gila	Bridge replacement	\$5.9
TOTAL				\$74.0

4.2 Funding Assumptions

Funding for the Arizona FH Program is likely to change with the authorization of new transportation legislation. The annual allocation may remain at current levels or may experience minor increases in the next 20 years. With the initiatives, challenges, and changes in local funding and inflation, a funding and investment strategy is critical to the program's success through the planning horizon.

In fiscal year 2010, the Arizona FH program was allocated approximately \$8.8 million through the Federal Lands Highway Program, which was the maximum allocation under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Because it is unknown at this time how much the next transportation authorization will allocate to the Arizona FH program, two financial scenarios were developed to illustrate the gap between the needs of the network and the available funding. As shown in Table 3, the two scenarios include one that assumes the current fiscal year allocation of \$8.8 million over the next 24 years, and another assuming a 20 percent increase in current funding over the 24-year period, beginning in fiscal year 2012. It is understood that the next authorization may not match either one of these scenarios; however, these scenarios illustrate methodology that will be used in analyzing the needs versus the available funding.

Table 3
Anticipated Funding Scenarios through the Horizon Year (2035)

Forecast Scenario	Annual Allocation (in millions)	24-Year Estimate (in millions)
Fiscal Year 10 Estimate	\$8.8	\$211
20 Percent Increase	\$10.6	\$254

4.3 Funding Needs For Stated Goals

Meeting the stated goals and objectives of the FH Program will require wise decisions regarding the program's investment strategy. In order to achieve the goal of maintaining access to and within the national forest by maintaining and improving the condition of the transportation facilities, funding level expectations must be established. For illustration purposes, one possible strategy used to achieve this goal would be to base project programming and prioritization decisions on the worst condition roads and bridges.

This strategy analyzed the funding that would be needed to improve portions of the FH network that are in less than good condition. Based on current road condition data, nearly 612 out of a total of 1280 miles of the roads in the Arizona FH system are rated in fair or worse condition. Therefore, this analysis assumes that some level of improvement could be made to half of the road segments in the system. Table 4 summarizes the funding required to improve the worst 25 percent (\$202 million), and 50 percent (\$312 million), of the rated roads in the Arizona FH system, based on an estimated fiscal year 2010 improvement cost per mile.

Table 4
Estimated Funding Required to Improve the
Arizona Forest Highway Road Network

Rated Roads	Total Miles	Mileage Covered By Improvement	Percentage	Estimated Improvement Cost/Mile	Cost to Improve
Worst 25%	1279.59	319.90	25%		\$201,959,000
Failed	45.13	45.13	100.00%	\$1,500,000	\$67,695,000
Poor	83.27	83.27	100.00%	\$750,000	\$62,452,500
Fair	483.96	191.50	39.57%	\$375,000	\$71,811,500
Worst 50%	1279.59	612.36	50%		\$311,632,500
Failed	45.13	45.13	100.00%	\$1,500,000	\$67,695,000
Poor	83.27	83.27	100.00%	\$750,000	\$62,452,500
Fair	483.96	483.96	100.00%	\$375,000	\$181,485,000

A similar analysis was conducted for improving the FH bridges. Table 5 summarizes the fiscal year 2010 estimated cost for improving bridges throughout the system. As shown in the table, it would cost nearly \$91 million to improve the worst 25 percent of bridges and nearly \$127 million to improve the worst 50 percent of bridges in the FH network.

Table 5
Estimated Funding Required to Improve Arizona Forest Highway Bridges

Rated Bridges	Total Number of Rated Bridges	Bridges Covered by Improvement	Total Bridge Square Feet	Estimated Improvement Cost per Square Foot	Cost To Improve
Worst 25%	211	53	363,039	\$250	\$90,759,750
Worst 50%	211	87	506,483	\$250	\$126,620,750

**Bridge improvements considered at each improvement level for those currently rated failed, poor, or fair.*

4.4 Gap Analysis

A gap analysis was performed to show the disparity between funds needed to make wholesale improvements in the FH system and what funding from known sources is likely to be available to make these improvements under either of the two funding scenarios shown in Table 3. Under the fiscal year 2012 funding scenario, the Arizona FH Program will see an \$82 million funding gap over the next 24 years to improve even the worst 25 percent of the system. Under the 20 percent increase funding scenario, these same improvements would result in a \$39 million gap. Additional improvements would result in significant shortages.

Table 6 summarizes the anticipated funding gaps under the two different scenarios.

Table 6
Anticipated Funding Gap through Planning Horizon Year (2030)

Improvement Level	Estimated Improvement Cost (in millions)*	FY '12 Scenario \$211M (in millions)	20% Increase Scenario \$254M (in millions)
Worst 25%	(\$292.7)	(\$ 81.7)	(\$38.7)
Worst 50%	(\$438.3)	(\$227.3)	(\$184.3)

*Bridge improvements considered at each improvement level for those currently rated failed, poor, or fair.

4.5 Additional Funding/Partnering Opportunities

In addition to the funding provided through the Federal Lands Highway Program, other sources have been used for transportation improvements in past years through partnering with state and local agencies. Much of the federal funding that may be applied to FHs is available at the state and local level, which is why partnering is critical to addressing the recognized funding gap. The following funding categories address specific conditions or factors relevant to a particular project:

- Federal sources
- State sources
- Local sources

Federal Funding

SAFETEA-LU provides \$193.2 billion for highway transportation improvements. This funding is administered to states based on a formula, and is administered through the state departments of transportation. This funding focuses on transportation issues of national significance, while giving state and local transportation decision makers more flexibility in solving transportation problems. A large portion of the past federal funding has been through the Surface Transportation Program. Additional federal funding opportunities have included the Transportation Enhancements Program, High Priority Project Program, the Public Lands Highway – Discretionary Program, the Sarbanes Transit in Parks Program, the National Scenic Byways Program, and the Aquatic Organisms Passage program. The following discussions provide additional information on these programs. Note that it is uncertain if all or any of these programs will be included in the new transportation authorization, and thus would not continue through the life of this LRTP.

Transportation Enhancements

Transportation enhancement activities offer funding opportunities to help expand transportation choices and enhance the transportation experience through 12 eligible transportation enhancement activities related to surface transportation, including pedestrian and bicycle infrastructure and safety programs, scenic and historic highway programs, landscaping and scenic beautification, historic preservation, and environmental mitigation. Transportation enhancement projects must relate to surface transportation and qualify under one or more of the 12 eligible categories.

High Priority Project Program

The High Priority Projects Program provides designated funding for specific projects identified in SAFETEA-LU. A total of 5,091 projects are identified, each with a specified amount of funding over the 5 years of the transportation legislation. This program can provide 80 percent of total project cost. The 20-percent match must come from non-federal sources. Federal land management agencies may provide the non-high priority projects' cost for projects on federal or Indian lands using Federal Lands Highway Program and/or federal land management agency appropriated funds.

Public Lands Highway – Discretionary Program

Public Lands Highway – Discretionary Program funds are available for transportation planning, research, engineering, and construction of highways, roads, parkways, and transit facilities within federal public lands. These funds are also available for operation and maintenance of transit facilities located on federal public lands. Historically, funding has been provided for projects designated by Congress. In 2011, a call for projects was issued for this program. Applications were submitted through State DOTs for state, local and FLMA projects. Federal Lands Highway Headquarters along with agency partners made project selection decisions. Eligible projects may include:

- Transportation planning for tourism and recreational travel, including National Forest Scenic Byways, Bureau of Land Management Back Country Byways, National Trail System, and similar federal programs
- Adjacent vehicle parking areas
- Interpretive signs
- Acquisition of scenic easements and scenic or historic sites
- Provision for pedestrians and bicycles

Sarbanes Transit in Parks Program

The Sarbanes Transit in Parks Program is administered by the Federal Transit Administration in conjunction with the Department of the Interior and USFS (http://www.fta.dot.gov/funding/grants/grants_financing_6106.html). It is a competitive grant program open to the National Wildlife Refuge System, the National Park Service, Bureau of Land Management, Bureau of Reclamation, and USFS. The program funds capital and planning expenses for alternative transportation systems such as shuttle buses and bicycle trails. The goals of the program are to conserve natural, historical, and cultural resources; reduce congestion and pollution; improve visitor mobility and accessibility; enhance visitor experience; and ensure access to all, including persons with disabilities. In addition, 10 percent of the annual allocation is available for technical assistance in alternative transportation planning where project proposals are not already well-developed. The Coronado National Forest received such a grant for \$450,000 to undertake the design, engineering, and NEPA actions required for the future construction of a hard-surfaced, accessible trail system from the main parking lot to Sabino Canyon Road. The total allocation for the Alternative Transportation for Parks and Public Lands program has been \$20 to \$27 million each year.



National Scenic Byways Program

The National Scenic Byways Program is funded through FHWA to help recognize, preserve, and enhance designated roads throughout the U.S. Designation is awarded to certain roads based on one or more archeological, cultural, historic, natural, recreational, and scenic qualities. SAFETEA-LU allocated \$175 million in funding over six years for byways-related projects. FHWA awards funds competitively each year covering 80 percent of project cost, with the requirement that the remaining 20 percent be matched by local, state, other federal or in-kind means.

Aquatic Organism Passage

Aquatic Organism Passage is a subcategory of FH funding, created by SAFETEA-LU. This program authorizes \$10 million per year under the FH Program to facilitate the passage of aquatic species beneath the roads in the National Forest System, including the cost of constructing, maintaining, replacing, or removing culverts and bridges, as appropriate. This program represents an excellent example of the type of leveraging opportunity that should be considered when identifying matching funds for FH projects.

State Funding

Arizona's STIP is a four-year capital improvement program of multi-modal transportation projects both on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources. The STIP programming is updated every two years and must be approved by the Governor and FHWA. The programming cycle begins with a needs analysis, followed by Arizona Transportation Commission adoption of the fund estimate.

Local Funding

Arizona's Regional TIPs consist of a capital listing of all transportation projects proposed over a five-year period for each transportation planning region. County Transportation Commissions have the responsibility under Arizona law of proposing county projects. FHs under county jurisdiction may fall into this program. Other local sources include local funds or in-kind donations such as right-of-way donation, utility relocation, and/or traffic control as part of the project implementation.



FH 3 Flagstaff-Clint's Well Road

Chapter 5: Project Selection Process

LRTP establishes a formalized project selection process, which is achieved through issuing a call for projects using a standardized project application. The Tri-Agency will evaluate completed applications based on how well each proposed project meets agreed upon goals, objectives, and selection criteria. The result of project selection is a list of prioritized projects that can be brought before the Tri-Agency partners for informed discussion and funding approval for inclusion in the FH Program and advancement into project development. This process is intended to be used as a guide for programming future projects. The Tri-Agency may alter the process as needed to be responsive to emergency needs, changes in the funding allocations, and other urgent programming needs.

This project selection process is designed to be objective, transparent, and capable of ranking projects that serve the program goals. As part of the proposed project selection process, projects would compete equally based on individual merit in meeting FH Program goals, regardless of project scope. Project applications that articulate how they would address several of the investment guidelines would generally compete better for funds. With limited funding available for potential projects, and anticipation of potential changes to the way the Arizona FH Program is funded, the Arizona Tri-Agency is committed to selecting projects that offer the greatest possible value to access and mobility, system performance, funding and economic development, and natural resource protection.

The ideal project for the Arizona FH Program is defined as the project that:

- Provides reliable access to and within the national forests for use and enjoyment of the land and utilization of its resources.
- Ensures a safe and reliable transportation network to and within the national forests.
- Uses innovative partnerships to fund FH projects and to support economic development opportunities at the local, regional, and national level.
- Protects and enhances the natural and cultural environment.

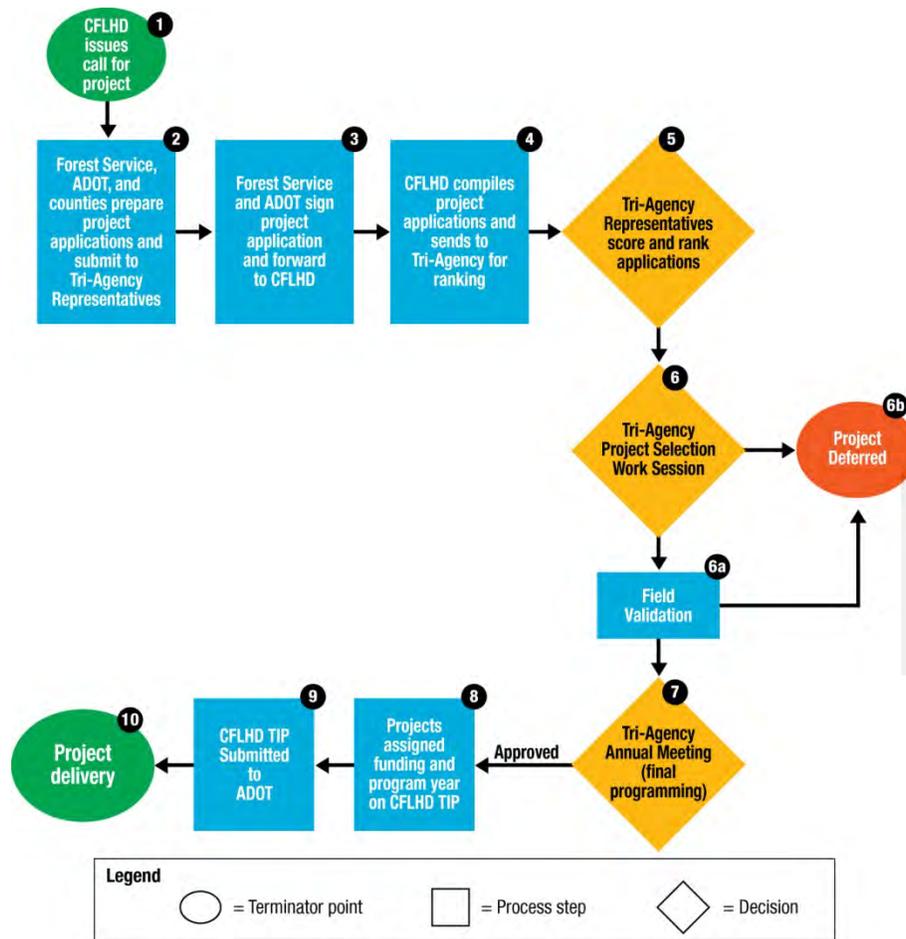
5.1 Forest Highway Call Process

On an annual basis, the Tri-Agency will determine if a call is needed to generate projects for the FH Program. In some instances, there may be some variance from this schedule if, for example, larger corridors have been previously programmed for construction over a number of years. The process consists of the following steps and is shown in Figure 11:

- Call for Projects – USFS, ADOT, and/or counties submit applications to the Tri-Agency.
- Project Selection – Tri-Agency ranks project proposals and selects projects for programming.
- Programming – Tri-Agency includes projects in the 7-Year FH Program, assigns a program year and program amount, and then projects are added to the STIP.

This process was followed by a call for projects that was completed in early 2011 concurrent with the development of this LRTP. The following sections describe each of these steps in more detail and how they were applied to the call process.

**Figure 11
Project Call and Selection Process**



5.1.1 Call for Projects

The purpose of this process is to generate candidate projects when there is a need or opportunity in the program of a particular state. The Arizona Tri-Agency determined that a one to three year cycle would be used, as needed to meet program needs. Each of the proposed candidate projects will be consistent with and/or support the vision, mission, and goals of the long range transportation plan for the Forest Highway program in the state. The following steps discuss the call process and project applications in more detail.

Step 1: CFLHD issues call for project

Each local USFS office, ADOT, and county with a FH will receive the call packet. The call packets will be made available electronically and will have instructions on how to complete the

application. The call packet will also include the details on the goals of the FH program that are used to score each project. A complete call packet example is included in Appendix G.

Step 2: USFS, ADOT, and counties prepare project applications and submit to Tri-Agency Representatives

Once the USFS, ADOT, and counties receive their packets, it is their responsibility to complete the project applications to the best of their ability. It is the responsibility of the entity proposing a project to supply the necessary information to complete the project application. It is understood that data may not be available for all of the project application questions, but the agency may use anecdotal information as a substitute. Any projects proposed by a county government must have the project application submitted through the ADOT to certify that the application is complete.

In subsequent call cycles, projects unprogrammed from the previous call cycle will re-compete for funding. Sponsors of these projects will have the opportunity to provide updated information at that time, if needed.

Step 3: USFS or ADOT sign project application and forward to Tri-Agency

After the USFS and ADOT complete their project applications and review applications proposed by counties for completeness, they submit all project applications to CFLHD.

Step 4: CFLHD compiles all project applications and distributes to members of the Tri-Agency for ranking

CFLHD compiles all project applications submitted and distributes to Tri-Agency representatives for their review. Each representative of the Tri-Agency will review all project applications. The applications were sent to the Tri-Agency with the Evaluation Criteria and assigned points, as agreed upon earlier in the process.

5.1.2 Project Selection

Once project applications are received, CFLHD distributes the information to the Tri-Agency partners for review of all materials and independent ranking of projects based upon established selection criteria.

23 CFR §660 established a list of seven criteria (listed in Table 1) for the Tri-Agency to jointly select the projects that will be included in the FH Program. As discussed in Chapter 2, Agency and Planning Coordination, these criteria relate directly to the goals and objectives used in this LRTP. While these criteria are presented in the national regulations, the Tri-Agency has latitude to apply more weight to one or more criteria, and to develop additional guidance for the types of projects that will rank higher. Once the Tri-Agency drafted these selection criteria and weightings, a second newsletter was sent to local USFS and county offices for their input. These comments were incorporated into the scoring criteria.

As this is a 24-year long-range planning document, the needs of the system may change during this extended time. To address any changes in needs, the Tri-Agency may establish, through cooperation with the counties and USFS office, a varied weighting scheme or perhaps a set aside portion of the funding dollars to address these issues.

Consistent with the objectives developed in Chapter 1, Introduction, specific criteria were identified that will provide a measure of how well a particular project meets the FH Program's goals. Total points assigned to each goal category are a function of the relative importance that the Tri-Agency places on achieving a particular goal category relative to the mission of the FH Program. FH transportation goals and selection criteria are summarized in Table 7.

After meetings with Tri-Agency partners and comments received from counties and local USFS offices, it was determined that the Safety and Condition goal was the most important goal, with regard to project selection. Once the points for the remaining goal were assigned, points were assigned to each performance measure based on the importance of the measure to partnering agencies.

Table 7
Forest Highway Program Transportation Goals and Selection Criteria Used for Project Ranking

Goals/Project Selection Criteria	Points
Access and Mobility	25
<ul style="list-style-type: none"> • Type and amount of NFS accessed • Level of use of FH route segment • Overall improvement of the FH network • Linkages to alternate modes 	
Safety and Condition	30
<ul style="list-style-type: none"> • Anecdotal safety data • Road surface/bridge condition • Reduction of maintenance cost 	
Funding and Economic Development	20
<ul style="list-style-type: none"> • Percent of leveraged funds • Support of economic development 	
Natural and Cultural Resource Protection	25
<ul style="list-style-type: none"> • Improvement to health of the National Forest System Lands • Level of conflict with environmentally sensitive resources • Level of coordination with regulatory agencies 	

Step 5: Tri-Agency Representatives score and rank applications

Tri-Agency representatives score and rank project applications based on the established weighting criteria. Projects will be evaluated on the content of the project application. Tri-Agency representatives assemble one score per project per agency for discussion at the Tri-Agency Annual Meeting.

Each member of the Tri-Agency scores projects based on the selection criteria in Table 7. Once each project is scored, each member of the Tri-Agency must rank the projects depending on the scope. For example, small safety projects will be ranked among other small safety projects, and large reconstruction projects will be ranked among other large reconstruction projects, and so forth. This is done because the overall program has \$8.8 million per year and programming will

have to be flexible to allow for a mix of large reconstruction projects, bridge replacements, spot improvements, and resurfacing projects to balance the program.

Projects that do not meet the FH program criteria or those with insufficient information may be removed from the project list at this time. After review of project applications from the 2011 call for projects, no projects were dropped from further consideration.

Step 6: Tri-Agency Work Session (project ranking and programming)

A planning work session is scheduled for the Tri-Agency to discuss the merits of each project proposal based on the established weighted criteria. Depending on the outcome of discussion, a project may proceed in one of two ways:

- a. Field validation – high scoring projects are scheduled for field validation. If field validation confirms that the project is a good candidate for the program, it is brought forward for programming. If the project is not a good candidate, it is deferred (Step 6b)
- b. Deferred – lower scoring projects are added to the unconstrained list of projects in the LRTP

Step 7: Tri-Agency Annual Meeting (final programming)

Following the field validation, the Tri-Agency reconvened to make final programming decisions for the 7-Year FH Program. **The project selection process described in this chapter will not alter currently programmed project obligations.**

In extreme cases, situations may arise that require action be taken to address urgent and immediate needs within the FH system. The Tri-Agency retains the authority to re-prioritize and re-allocate funds to projects that must be completed to address urgent needs of the program.

5.1.3 Programming

The efforts of this process culminate in a recommended list of projects to advance to the Tri-Agency program meeting for inclusion in the 7-Year FH Program. Once the Tri-Agency has approved the project list and prioritization, each project will advance to Step 8.

Step 8: Projects assigned funding and program year on CFLHD TIP

Each approved project is assigned a program year and budget, based on funding availability and other programming considerations. As mentioned previously, there is only \$8.8 million per year, and programming will need to be flexible by having a mix of projects with different sizes and scopes of work.

Step 9: CFLHD TIP submitted to ADOT

After funding and program years are assigned, the list of projects is sent to ADOT for inclusion in the STIP.

Step 10: Project delivery

The final step for each project is project delivery. CFLHD prepares engineering drawings, conducts appropriate NEPA action, constructs the project, and turns it over to the agency with jurisdiction.

5.2 Project Outcomes

A call for projects was issued by the Tri-Agency in October 2010, with applications due February 1, 2011. From this solicitation, sixteen project applications were received. Note that costs are listed as they appeared in the application:

- FH 3 Lake Mary Road – 16.9 miles 3R with guardrail replacement for \$6.8 million
- FH 11/SR 260 – 12.6 miles 3R for \$4.7 million
- FH 40/NFSR 300 Rim Road – 18.1 miles 4R with guardrail and drainage structure replacement for \$24.8 million
- FH 42/ NFSR 249 Alpine-Big Lake Road – 19 miles 4R for \$16.5 million
- FH 51/ NFSR 64 Vented Ford – 1.2 miles 4R with structure replacement for \$2.0 million
- FH 48/ NFSR 205 Horseshoe Dam Road – 10.9 miles 4R for \$14.1 million
- FH 51/ NFSR 64 Control Road – 23.1 miles 4R with curve realignment for \$24.8 million
- FH 36/ NFSR 61 Nogales-Palominas – 31.4 miles 4R for \$26.6 million
- FH 34/SR 366 Swift Trail – 7 miles of 4R with culvert replacement for \$11.0 million
- FH 7A/SR 89A Oak Creek – 8.4 miles of 4R with widening for \$28.7 million
- FH 32/ NFSR 42 Retaining Wall – retaining wall and slope stabilization for \$0.3 million
- FH 32/ NFSR 42 Bridge – bridge replacement of three structures for \$0.9 million
- FH 36/ NFSR 61 Bridge – bride replacement for two structures for \$0.8 million
- FH 12/SR 288 Bridge – bridge replacement for \$0.8 million
- FH 52/ NFSR 199 Houston Mesa Bridge – one bridge replacement for \$1.9 million
- FH 52/ NFSR 199 Houston Mesa Bridge – one bridge replacement for \$2.2 million

A Tri-Agency series of workshops was held to discuss and prioritize among the sixteen submitted projects. Field validation was conducted over the summer of 2011, and once complete, the following six projects were programmed, with corresponding funding. Scoping for these projects is scheduled to begin in late 2011.

- FH 3 Lake Mary Road – 17 miles 3R for \$7.6 million (FY 2012)
- FH 51/ NFSR 64 Vented Ford – 1.2 miles 4R with structure replacement for \$2.0 million (FY 2013)
- FH 52/ NFSR 199 Houston Mesa Bridges – two bridge replacements for \$4.1 million (FY 2013)
- FH 12/SR 288 Reynolds Creek Bridge – bridge or CBC replacement for \$0.8 million (FY 2013)
- FH 42/ NFSR 249 Alpine-Big Lake Road – 19 miles 3R/4R for \$14.0 million (FY 2014, 2016)

- FH 7A/SR 89A Oak Creek – 8.4 miles of 4R for \$7.0 million with \$4.0 million from ADOT (FY 2015)

The remaining nine projects, shown in Table 8, are part of the Arizona FH unconstrained list of project needs. These projects must be resubmitted through the application process to re-compete for consideration in the next call for projects.

**Table 8
Unconstrained Forest Highway Need**

Project Name	Project Type	Scope of Work	Miles	Applicant/ Jurisdiction	National Forest	County	Cost Estimate
FH 11/SR 260	3R	Pulverize/pave, replace guardrail, signage	16.9	ADOT	Apache-Sitgreaves	Navajo	\$4.7M
FH 40/NFSR 300 Rim Road	4R	Reconstruct, replace guardrail & existing drainage structures	18.1	USFS	Apache-Sitgreaves	Gila	\$24.8M
FH 48/ NFSR 205 Horseshoe Dam Road	4R	Realignment & construct new paved road, ROW, low water crossing	10.9	USFS	Tonto	Yavapai	\$14.1M
FH 51/NFSR 64 Control Road	4R	Construct 2-lane chipseal, curve realignment, culvert replacement, new guardrail	23.1	USFS	Tonto	Gila	\$24.8M
FH 36/FDR 61 Nogales-Palominas	4R	4R, Quarry	31.4	County	Coronado	Santa Cruz	\$26.6M
FH 34/DR 366 Swift Trail	4R	Grading, culvert replacement, paving of existing gravel road	7.0	ADOT	Apache-Sitgreaves	Graham	\$11.0M
FH 32/FDR 42 Retaining Wall	4R	Retaining wall/slope stabilization	N/A	USFS	Coronado	Cochise	\$315,000
FH 32/FDR 42 Bridge	BR	Bridge replacement (3 bridges)	N/A	USFS	Coronado	Cochise	\$910,000
FH 36/FDR 61 Bridges	BR	Bridge replacement (2 bridges)	N/A	USFS	Coronado	Cochise	\$845,000

Chapter 6: Recommendations for Future Plan Activities

This FH LRTP establishes a formalized project selection process, which is achieved through issuing a call for projects, establishing project application materials, and using agreed upon goals, objectives, and selection criteria to evaluate and rank projects. The result of project selection is a list of prioritized projects that can be brought before the Tri-Agency partners for informed discussion and funding approval for inclusion in the FH Program and advancement into project development. Several action items have been identified during the development of the Arizona LRTP. These items are summarized in Table 9.

Table 9
Long Range Transportation Plan Action Items

No.	Action Item	Description
1	Improve data collection and monitoring	<p>In addition to the RIP, additional data, such as average daily traffic and crash data, should be collected to monitor all FHs, specifically on county and USFS routes where current data is not available.</p> <p>Data for resource extraction should also be collected. Typically, vehicles used for resource extraction are larger and heavier vehicles that cause more damage to the roadway. Average daily traffic and crash data are also important to determine the amount of traffic using a FH and the associated crash rates with that FH. The data gathered during these monitoring efforts may then be used in future LRTP updates to change how projects are ranked, or how project selection is determined based on the needs and performance of the FH network.</p>
2	Set performance objectives for FH program	The Tri-Agency should create performance measures and quantifiable targets to assist in ranking and selecting projects. Targets for each goal area should be established in 3-5 year strategic plans. The partner agencies will use those targets to evaluate how well the Arizona FH Program is achieving the goals.
3	Update LRTP every five years	This LRTP is intended to be a living document that will require some changes over time and will need to be updated in order to reflect changes in project selection, goals and objectives, or any other items that may affect the project selection process. It is anticipated that the update cycle will be every five years. The LRTP updates will take into account the current FH network, existing conditions based on road inventory data, and the list of programmed projects.
4	After first project call, re-evaluate project selection process	<p>Once the initial call for projects was complete, the Tri-Agency evaluated the project selection process and identified areas of improvement as well as modifications to the process.</p> <p>It was concluded that the period of time for call was sufficient and could be shortened in the future. Sufficient time for field validation as part of the call process needs to be built in prior to making programming decisions. An online application process, with the ability to upload pictures, maps, etc, would be desired. Finally, the DOTs or CFLHD should conduct follow-up during the call process.</p>

Table 9
Long Range Transportation Plan Action Items

No.	Action Item	Description
5	Annual programming flexibility	The Tri-Agency should consider programming smaller safety, facility enhancement, and minor improvement projects in addition to major route projects. Additionally, developing smaller projects allows for programming flexibility when bids come in low on a major route project. A standing agenda item should be added to the annual FH programming meeting to solicit any new safety, facility enhancement, or minor improvement needs.
6	Resolve highway easement deed issues	When many forest highways in Arizona were built, a USDOT highway easement deed was never issued either to ADOT nor the respective counties, although these roads are maintained and operated by the local jurisdictions. This creates problems for the Forest Service and the maintaining agency including a host of issues such as utilities, herbicides, hazard tree removal, gravel pits, etc. The Tri-Agency should attempt to resolve these easement issues utilizing Forest Highway funding.

APPENDIX A

Appendix A: Tri-Agency Roles

FH planning requires the involvement of federal, state, and local governments to ensure suitable outcomes for all organizations involved. The three primary agencies involved in FH planning (ADOT, USFS, and CFLHD) have very specific roles and responsibilities as part of the planning and implementation of FH projects as listed in the following table. Arizona counties also play a vital role in the FH Program by assuming the role of operator and maintainer of many FHs following project construction. In many cases, counties obtain right-of-way and handle utility relocations for projects on their roads, as part of their funding contribution. Typically, counties work through ADOT during most of the project planning and design. ADOT represents all counties as part of their role in the Tri-Agency.

Agency Roles in Forest Highway Project Development

Role/Responsibility	ADOT/County	USFS	CFLHD
Proposes routes for FH designation	X	X	
Approves proposed routes for FH designation			X
Coordinates with local governments on proposed FH routes and projects	X	X	
Proposes projects for the FH Program	X	X	
Selects/approves projects for FH program	X	X	X
Enters in project agreement	X	X	X
Concurs with project plans and estimates*	X	X	
Inspects and approves final construction	X	X	X
Contributes cooperative funding for projects	X	X	
Obtains right of way and assumes maintenance responsibility	X		
Administers FH program funds			X
Advertises, awards, and administers construction contract			X

*CFLHD develops project plans and estimates

APPENDIX B

Appendix B: Arizona Forest Highway Program Background

Forest Highway History

In 1891, Congress authorized the creation of Forest Reserves, now called National Forests. Forests were to be conserved to assure a permanent national timber supply; to preserve scenic and wilderness areas for recreational use by the public; and to safeguard the steady flow of streams that supplied water for domestic, farm, and industrial use.

Federal participation in forest road construction began when Congress passed the Federal-Aid Road Act in 1916. This act appropriated \$10 million (\$1 million per year for 10 years) for the "[...] survey, construction, and maintenance of roads and trails within or only partly within the national forests when necessary for the use and development of resources upon which communities within and adjacent to the national forests are dependent."

It was not until the passage of the Federal Highway Act of 1921 that two types of forest roads were defined:

- Forest Development Roads¹ - those forest roads that are needed primarily for management of the national forests
- Forest Highways (FH) - those forest roads which must serve the national forests and also serve the communities within and adjacent to the national forests

During the first 50+ years of the program, most of the funds were expended on routes which were of primary importance to the States, Counties, or communities within or adjacent to the National Forests. Most of those routes were of statewide importance and were then, or later became, State Primary Highways.

The 1978 Surface Transportation Assistance Act changed the direction of the Forest Highway Program by redefining Forest Roads, Forest Development Roads, and Forest Highways:

- "The term "forest road or trail" means a road or trail wholly or partly within, or adjacent to, and serving the National Forest system and which is necessary for the protection, administration, and utilization of the National Forest system and the use and development of its resources.
- "The term "forest development road and trail" means a forest road or trail under the jurisdiction of the Forest Service."
- "The term "Forest Highway" means a forest road under the jurisdiction of, and maintained by, a public authority, and open to public travel."

A primary effect of these new definitions was increased Forest Highway Program emphasis on local roads with less emphasis on State Highways. This was possible because requirements that

¹ The historic term Forest Development Road has changed to National Forest System Road per 36 CFR §212.1, amended July 2009.

such routes be “[...] of primary importance to the States, Counties, or communities [...], and on the Federal-Aid System” had been eliminated.

Although many miles of roads have met the requirements of Arizona Forest Highway designation, funding for their improvement has remained in short supply. Congress had authorized an amount of \$33 million for each year from 1955 to 1982. These funds were made available to Federal Highway Administration (FHWA) for expenditure in the various States according to an apportionment formula based on the area and value of the national forests in each State.

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) combined the Forest Highway Program and Public Lands under the Public Lands Highway Program. Sixty-six (66) percent of these Public Lands funds were allocated for use on Forest Highways using the same formula as applied in FY 1987 to FY 1991. This formula used the Area/Value formula for 66 percent of the funding and the FHWA/USFS relative needs formula for the remaining 34 percent.

The 1998 TEA-21 did not alter any of the allocation formulas for 66 percent of the Public Lands funds but did increase the amount of funding for Forest Highways. The Forest Highway funds available are as follows:

Year	Total Forest Highway Funds
1998	\$129.4 Million
1999	\$162.4 Million
2000	\$162.4 Million
2001	\$162.4 Million
2002	\$162.4 Million
2003	\$162.4 Million
2004	\$162.4 Million
2005	\$171.6 Million
2006	\$184.8 Million
2007	\$184.8 Million
2008	\$191.4 Million
2009	\$198.0 Million

Allocations for the Arizona Forest Highway Program, from 2001 to 2011, were as follows:

<i>Year</i>	<i>Arizona Forest Highway Allocations</i>
2001	\$7.8 Million
2002	\$7.8 Million
2003	\$7.8 Million
2004	\$7.6 Million
2005	\$7.6 Million
2006	\$7.9 Million
2007	\$8.5 Million
2008	\$9.1 Million
2009	\$8.8 Million
2010	\$9.4 Million
2011	\$8.7 Million
<i>Annual Average 2001-2011</i>	<i>\$8.3 Million</i>

TEA-21 also legislated the following program changes:

- Allowed Public Lands funds to be used for the State/local share for Federal-Aid Highway funded projects.
- Reduced the administrative takedown to 1.5 percent.
- Placed an annual limitation on Public Land's funds.
- Provided full obligation limitation for future fiscal year carryover funds.
- Authorized funds, which exceed the obligation limitation for FY 1998 to 2003, to be distributed to the States as Surface Transportation Program funds. These funds lose their funding designation and are not available for obligation by Federal Land Management agencies.

Because of the legislative and regulatory changes over the past decade, there is now more county involvement in the program as the forest needs generally are on those local roads connecting the Forest to the main State highways. With these changes, the objective of the Forest Highway Program has been clarified, i.e., to construct or improve roads serving the national forest and its resources and which connect the national forest to the main State transportation network.

Forest Highway Designation

Forest Highways are designated as such if they meet certain criteria. The list of designated forest highways is not fixed. Routes can be added or removed at any time. Forest Highway route

designation may be requested by the Arizona Department of Transportation, the USFS or by a County through the State. Routes are designated by Central Federal Lands Highway (CFLHD) Division Engineer with concurrence of the USFS and State. Routes do not have to be designated before a project can be proposed, but a route must be designated before Forest Highway funds are expended on it.

Route designation proposals must contain information on the criteria listed below and must be coordinated with the local USFS representatives who can provide information on USFS use of the proposed route. USFS support for the proposed designation is very important.

The Forest Service Manual Chapter 7700

7741.1 - Route Designation: Forest highways are a special classification of forest roads. They are specifically designated State or local government roads that meet the criteria listed in 23 CFR 660.105. The designation of forest highways is not intended to form a "system" of roads. Instead, the purpose of the designation is to identify State and local government roads that qualify for construction and reconstruction funding under the forest highway program.

The challenge is that the Forest Highway Routes in Arizona are not by themselves a “system” of roads, but are part of state and county road systems. Many roads in the State of Arizona will meet the definition of a Forest Highway, the key is what roads need all or part of the Forest Highway Program to truly meet the needs of accessing the National Forests.

To be designated as a Forest Highway, a route must:

1. Be wholly or partially within, or adjacent to, and serving the National Forest System (NFS) (23 USC §101).
2. Be necessary for the protection, administration, and utilization of the NFS (23 USC §101).
3. Be necessary for the use and development of NFS resources (23 USC §101).
4. Be under the jurisdiction of a cooperator and open to public travel (23 CFR §660.105).
5. Provide a connection between NFS resources and one of the following (23 CFR §660.105):
 - a. A safe and adequate public road
 - b. Communities
 - c. Shipping points
 - d. Markets dependent on these resources
6. Serve one of the following (23 CFR §660.105):
 - a. Local needs such as schools, mail delivery, commercial supply
 - b. Access to private property within the NFS
 - c. A preponderance of NFS generated traffic
 - d. NFS generated traffic that has a significant impact on road design or construction.

APPENDIX C

Appendix C: 23 CFR 660, Subpart A—Forest Highways

Authority:

16 USC §§1608–1610; 23 USC §§101, 202, 204, and 315; 49 CFR 1.48.

Source:

59 FR 30300, June 13, 1994, unless otherwise noted.

§660.101 Purpose.

The purpose of this subpart is to implement the Forest Highway (FH) Program which enhances local, regional, and national benefits of FHs funded under the public lands highway category of the coordinated Federal Lands Highway Program. As provided in 23 U.S.C. 202, 203, and 204, the program, developed in cooperation with State and local agencies, provides safe and adequate transportation access to and through National Forest System (NFS) lands for visitors, recreationists, resource users, and others which is not met by other transportation programs. Forest highways assist rural and community economic development and promote tourism and travel.

§660.103 Definitions.

In addition to the definitions in 23 U.S.C. 101(a), the following apply to this subpart:

Cooperator means a non-Federal public authority which has jurisdiction and maintenance responsibility for a FH.

Forest highway means a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel.

Forest road means a road wholly or partly within, or adjacent to, and serving the NFS and which is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources.

Jurisdiction means the legal right or authority to control, operate, regulate use of, maintain, or cause to be maintained, a transportation facility, through ownership or delegated authority. The authority to construct or maintain such a facility may be derived from fee title, easement, written authorization, or permit from a Federal agency, or some similar method.

Metropolitan Planning Organization (MPO) means that organization designated as the forum for cooperative transportation decision making pursuant to the provisions of part 450 of this title.

Metropolitan Transportation Plan means the official intermodal transportation plan that is developed and adopted through the metropolitan transportation planning process for the metropolitan planning area.

National Forest System means lands and facilities administered by the Forest Service (FS), U.S. Department of Agriculture, as set forth in the Forest and Rangeland Renewable Resource Planning Act of 1974, as amended (16 U.S.C. 1601 note, 1600–1614).

Open to public travel means except during scheduled periods, extreme weather conditions, or emergencies, open to the general public for use with a standard passenger auto, without restrictive gates or prohibitive signs or regulations, other than for general traffic control or restrictions based on size, weight, or class of registration.

Public authority means a Federal, State, county, town, or township, Indian tribe, municipal or other local government or instrumentality with authority to finance, build, operate, or maintain toll or toll-free facilities.

Public lands highway means: (1) A forest road under the jurisdiction of and maintained by a public authority and open to public travel or (2) any highway through unappropriated or unreserved public lands, nontaxable Indian lands, or other Federal reservations under the jurisdiction of and maintained by a public authority and open to public travel.

Public road means any road or street under the jurisdiction of and maintained by a public authority and open to public travel.

Renewable resources means those elements within the scope of responsibilities and authorities of the FS as defined in the Forest and Rangeland Renewable Resource Planning Act of August 17, 1974 (88 Stat. 476) as amended by the National Forest Management Act of October 22, 1976 (90 Stat. 2949; 16 U.S.C. 1600–1614) such as recreation, wilderness, wildlife and fish, range, timber, land, water, and human and community development.

Resources means those renewable resources defined above, plus other nonrenewable resources such as minerals, oil, and gas which are included in the FS's planning and land management processes.

Statewide transportation plan means the official transportation plan that is: (1) Intermodal in scope, including bicycle and pedestrian features, (2) addresses at least a 20-year planning horizon, and (3) covers the entire State pursuant to the provisions of part 450 of this title.

§660.105 Planning and route designation.

(a) The FS will provide resource planning and related transportation information to the appropriate MPO and/or State Highway Agency (SHA) for use in developing metropolitan and statewide transportation plans pursuant to the provisions of part 450 of this title. Cooperators shall provide various planning (23 U.S.C. 134 and 135) information to the Federal Highway Administration (FHWA) for coordination with the FS.

(b) The management systems required under 23 U.S.C. 303 shall fulfill the requirement in 23 U.S.C. 204(a) regarding the establishment and implementation of pavement, bridge, and safety management systems for FHs. The results of bridge management systems and safety management systems on all FHs and results of pavement management systems for FHs on

Federal-aid highways are to be provided by the SHAs for consideration in the development of programs under §660.109 of this part. The FHWA will provide appropriate pavement management results for FHs which are not Federal-aid highways.

(c) The FHWA, in consultation with the FS, the SHA, and other cooperators where appropriate, will designate FHs.

(1) The SHA and the FS will nominate forest roads for FH designation.

(2) The SHA will represent the interests of all cooperators. All other agencies shall send their proposals for FHs to the SHA.

(d) A FH will meet the following criteria:

(1) Generally, it is under the jurisdiction of a public authority and open to public travel, or a cooperator has agreed, in writing, to assume jurisdiction of the facility and to keep the road open to public travel once improvements are made.

(2) It provides a connection between adequate and safe public roads and the resources of the NFS which are essential to the local, regional, or national economy, and/or the communities, shipping points, or markets which depend upon those resources.

(3) It serves:

(i) Traffic of which a preponderance is generated by use of the NFS and its resources; or

(ii) NFS-generated traffic volumes that have a substantial impact on roadway design and construction; or

(iii) Other local needs such as schools, mail delivery, commercial supply, and access to private property within the NFS.

§660.107 Allocations.

On October 1 of each fiscal year, the FHWA will allocate 66 percent of Public Lands Highway funds, by FS Region, for FHs using values based on relative transportation needs of the NFS, after deducting such sums as deemed necessary for the administrative requirements of the FHWA and the FS; the necessary costs of FH planning studies; and the FH share of costs for approved Federal Lands Coordinated Technology Implementation Program studies.

§660.109 Program development.

(a) The FHWA will arrange and conduct a conference with the FS and the SHA to jointly select the projects which will be included in the programs for the current fiscal year and at least the next 4 years. Projects included in each year's program will be selected considering the following criteria:

- (1) The development, utilization, protection, and administration of the NFS and its resources;
- (2) The enhancement of economic development at the local, regional, and national level, including tourism and recreational travel;
- (3) The continuity of the transportation network serving the NFS and its dependent communities;
- (4) The mobility of the users of the transportation network and the goods and services provided;
- (5) The improvement of the transportation network for economy of operation and maintenance and the safety of its users;
- (6) The protection and enhancement of the rural environment associated with the NFS and its resources; and
- (7) The results for FHs from the pavement, bridge, and safety management systems.

(b) The recommended program will be prepared and approved by the FHWA with concurrence by the FS and the SHA. Following approval, the SHA shall advise any other cooperators in the State of the projects included in the final program and shall include the approved program in the State's process for development of the Statewide Transportation Improvement Program. For projects located in metropolitan areas, the FHWA and the SHA will work with the MPO to incorporate the approved program into the MPO's Transportation Improvement Program.

§660.111 Agreements.

(a) A statewide FH agreement shall be executed among the FHWA, the FS, and each SHA. This agreement shall set forth the responsibilities of each party, including that of adherence to the applicable provisions of Federal and State statutes and regulations.

(b) The design and construction of FH projects will be administered by the FHWA unless otherwise provided for in an agreement approved under this subpart.

(c) A project agreement shall be entered into between the FHWA and the cooperator involved under one or more of the following conditions:

- (1) A cooperator's funds are to be made available for the project or any portion of the project;
- (2) Federal funds are to be made available to a cooperator for any work;

- (3) Special circumstances exist which make a project agreement necessary for payment purposes or to clarify any aspect of the project; or
- (4) It is necessary to document jurisdiction and maintenance responsibility.

§660.112 Project development.

(a) Projects to be administered by the FHWA or the FS will be developed in accordance with FHWA procedures for the Federal Lands Highway Program. Projects to be administered by a cooperator shall be developed in accordance with Federal-aid procedures and procedures documented in the statewide agreement.

(b) The FH projects shall be designed in accordance with part 625 of this chapter or those criteria specifically approved by the FHWA for a particular project.

§660.113 Construction.

(a) No construction shall be undertaken on any FH project until plans, specifications, and estimates have been concurred in by the cooperator(s) and the FS, and approved in accordance with procedures contained in the statewide FH agreement.

(b) The construction of FHs will be performed by the contract method, unless construction by the FHWA, the FS, or a cooperator on its own account is warranted under 23 U.S.C. 204(e).

(c) Prior to final construction acceptance by the contracting authority, the project shall be inspected by the cooperator, the FS, and the FHWA to identify and resolve any mutual concerns.

§660.115 Maintenance.

The cooperator having jurisdiction over a FH shall, upon acceptance of the project in accordance with §660.113(c), assume operation responsibilities and maintain, or cause to be maintained, any project constructed under this subpart.

§660.117 Funding, records and accounting.

(a) The Federal share of funding for eligible FH projects may be any amount up to and including 100 percent. A cooperator may participate in the cost of project development and construction, but participation shall not be required.

(b) Funds for FHs may be used for:

- (1) Planning;
- (2) Federal Lands Highway research;
- (3) Preliminary and construction engineering; and
- (4) Construction.

(c) Funds for FHs may be made available for the following transportation-related improvement purposes which are generally part of a transportation construction project:

- (1) Transportation planning for tourism and recreational travel;
- (2) Adjacent vehicular parking areas;
- (3) Interpretive signage;
- (4) Acquisition of necessary scenic easements and scenic or historic sites;
- (5) Provisions for pedestrians and bicycles;
- (6) Construction and reconstruction of roadside rest areas including sanitary and water facilities; and
- (7) Other appropriate public road facilities as approved by the FHWA.

(d) Use of FH funds for right-of-way acquisition shall be subject to specific approval by the FHWA.

(e) Cooperators which administer construction of FH projects shall maintain their FH records according to 49 CFR part 18.

(f) Funds provided to the FHWA by a cooperator should be received in advance of construction procurement unless otherwise specified in a project agreement.

APPENDIX D

Appendix D: Partner Agency Mission and Goals

Although the vision, mission, and goals were developed collaboratively between Tri-Agency partners, each agency retains vision, mission, or goals that are of unique interest to the individual agency. The interests of individual Tri-Agency partners are summarized below.

ADOT

The mission of ADOT is to provide a safe, efficient, cost-effective transportation system. This mission is supported through two guiding goals and five strategies. The goals include:

- Maximize available resources to provide essential services to ADOT's customers.
- Identify and explain the need for new, sustainable funding opportunities dedicated to multimodal transportation projects.

The strategies are as follows:

- Prioritize and focus on the products and services most critical to serving the public, collecting revenue, and maintaining the transportation infrastructure.
- Align the organizational structure to optimize effectiveness and reduce costs.
- Increase efficiency of service delivery processes and systems.
- Refine ADOT's performance measures
- Research, evaluate, and explain alternative funding sources to help finance and maintain a multimodal transportation system.

U.S. Forest Service

The USFS mission is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. USFS goals include:

- Effective public service – Ensure the acquisition and use of an appropriate corporate infrastructure to enable the efficient delivery of a variety of uses.
- Multiple benefits to people – Provide a variety of uses, values, products, and services for present and future generations by managing within the capability of sustainable ecosystems.
- Ecosystem health – Promote ecosystem health and conservation using a collaborative approach to sustain the nation's forests, rangelands, and watersheds.

Federal Lands Highway

The Federal Lands Highway mission is to continually improve transportation access to and through federal and tribal lands through stewardship of Federal Land Highway programs by providing balanced, safe, and innovative roadways that blend into or enhance the existing environment, and by providing technical services to the transportation community. The goals include:

- Safety – Continually improve highway safety.
- Mobility – Continually improve access and condition of transportation.
- Productivity – Continually improve economic efficiency.
- Human and Natural Environment – Protect and enhance the natural environment and communities affected by highway transportation.



APPENDIX E

Shared Forest Highway and State Routes

Forest Highway	State Route	Beginning Milepost	Ending Milepost	Length (miles)	National Forest
1	SR-67	610.25	579.36	30.89	Kaibab
6	SR-87	188.82	234.48	45.68	Tonto
7A	SR-89A	374.14	401.18	27.04	Coconino
7B	SR-89A	331.57	344.18	12.61	Prescott
8	SR-89	295.22	309.16	13.94	Prescott
9	SR-260	218.79	252.66	107.33	Tonto
	SR-87	278.50	236.62		
	SR-188	275.75	244.17		
10	SR-87	277.26	303.32	26.06	Coconino
11	SR-260	251.95	340.07	88.12	Tonto Apache-Sitgreaves
12	SR-288	258.10	310.53	73.79	Tonto
	FDR-512	0.00	21.36		
13	SR-188	244.17	217.09	27.08	Tonto
19	US-191	177.71	253.69	75.98	Apache-Sitgreaves
20	US-180	433.47	400.60	32.87	Apache-Sitgreaves
28	US-89A	608.31	566.10	42.21	Kaibab
30A	US-60/SR-77	257.04	281.17	24.13	Tonto
30B	US-60/SR-77	336.84	339.70	2.86	Apache-Sitgreaves
34	SR-366	113.69	142.33	28.64	Coronado
35	SR-273	396.82	394.36	20.36	Apache-Sitgreaves
	SR-261	394.36	412.27		
37	FDR-48	0.00	5.34	33.43	Coronado
	SR-83	3.19	31.28		
38	Ruby Road	0.00	5.30	36.17	Coronado
	FDR-39	5.30	25.72		
	SR-289	10.49	0.04		
43	SR-273	377.46	394.22	16.76	Apache-Sitgreaves
49	SR-88	196.13	239.40	43.37	Tonto

Source: RIP data, 2008

APPENDIX F

Do you have a designated
Forest Highway route under your
jurisdiction in need of improvement?

The Arizona Forest Highway Tri-Agency is now accepting project applications.

The enclosed packet of materials includes the following items for your review and use in submitting a project to the Arizona Forest Highway Tri-Agency for consideration of inclusion in the 7-Year Forest Highway program for funding:

- Description of the Forest Highway Program Project Selection Process
- Map of Designated Forest Highways
- Forest Highway Application Instructions
- Forest Highway Application Signature Page
- Forest Highway Project Application
- Forest Highway Program Project Selection Criteria

If you are interested or intend to submit a project application, please contact the Forest Highway Program Manager at the Central Federal Lands Highway Division with any questions or to obtain assistance with completing your application.

Don't delay!
Project applications are due
February 1, 2011.



Forest Highway Program Project Selection Process

Background:

The Forest Highway Program was established with the passage of the Federal Highway Act of 1921. Over the history of the program, each state containing National Forests, has designated Forest Highways under the direction of the Federal Land Highway Division that provide public access to National Forests and benefit the forest, states, and local communities. Currently, there are approximately 1,280 miles of roadway in Arizona that are designated as Forest Highways.

Purpose:

The purpose of this process is to generate candidate projects when there is a need or opportunity in the program of a particular state. Each of the proposed candidate projects will be consistent with and support the vision, mission, and goals of the long range transportation plan for the Forest Highway program in the state.

Process:

Step 1: Central Federal Lands Highway Division issues call for projects

Each local U.S. Forest Service office, Arizona Department of Transportation, and county with a Forest Highway will receive the call packet. The call packets will be made available electronically and will have instructions on how to complete the application. The call packet will also include the details on the goals of the Forest Highway program that are used to score each project.

Step 2: U.S. Forest Service, Arizona Department of Transportation, and counties prepare project applications and submit to Tri-Agency Representatives

Once the U.S. Forest Service, Arizona Department of Transportation, and counties receive their packets, it is their responsibility to complete the project applications to the best of their ability. It is the responsibility of the entity proposing a project to supply the necessary information to complete the project application. It is understood that data may not be available for all of the project application questions, but the agency may use anecdotal information as a substitute. Any projects proposed by a county government must have the project application submitted through the Arizona Department of Transportation to certify that the application is complete.

Step 3: U.S. Forest Service and Arizona Department of Transportation sign project application and forward to Tri-Agency

After the U.S. Forest Service and Arizona Department of Transportation complete their project applications and review applications proposed by counties for completeness, they submit all project applications to Central Federal Lands Highway Division.

Step 4: Central Federal Lands Highway Division compiles all project applications and sends to Tri-Agency for ranking

Central Federal Lands Highway Division compiles all project applications submitted and distributes to Tri-Agency representative for their review. Each representative of the Tri-Agency will review all project applications.

Step 5: Tri-Agency Representatives score and rank applications

Tri-Agency representatives score and rank project applications based on the established weighted criteria. Projects will be evaluated on the content of the project application. Tri-Agency representatives assemble one score per project per agency for discussion at the Tri-Agency Annual Meeting.

Step 6: Tri-Agency Annual Meeting (project ranking and programming)

A planning work session is scheduled for the Tri-Agency to discuss the merits of each project application based on the established weighted criteria. Depending on the outcome of discussion, a project may proceed in one of four ways:

Arizona Forest Highway Project Application

- Drop - Project receives no further consideration
- Deferred – Project is added to the unconstrained list of projects in the long range transportation plan
- Need more information - Additional information is collected before a program decision is made
- Approved - Project is programmed

Step 7: Projects assigned funding and program year on Central Federal Lands Highway Division Transportation Improvement Program

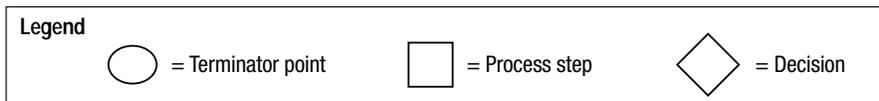
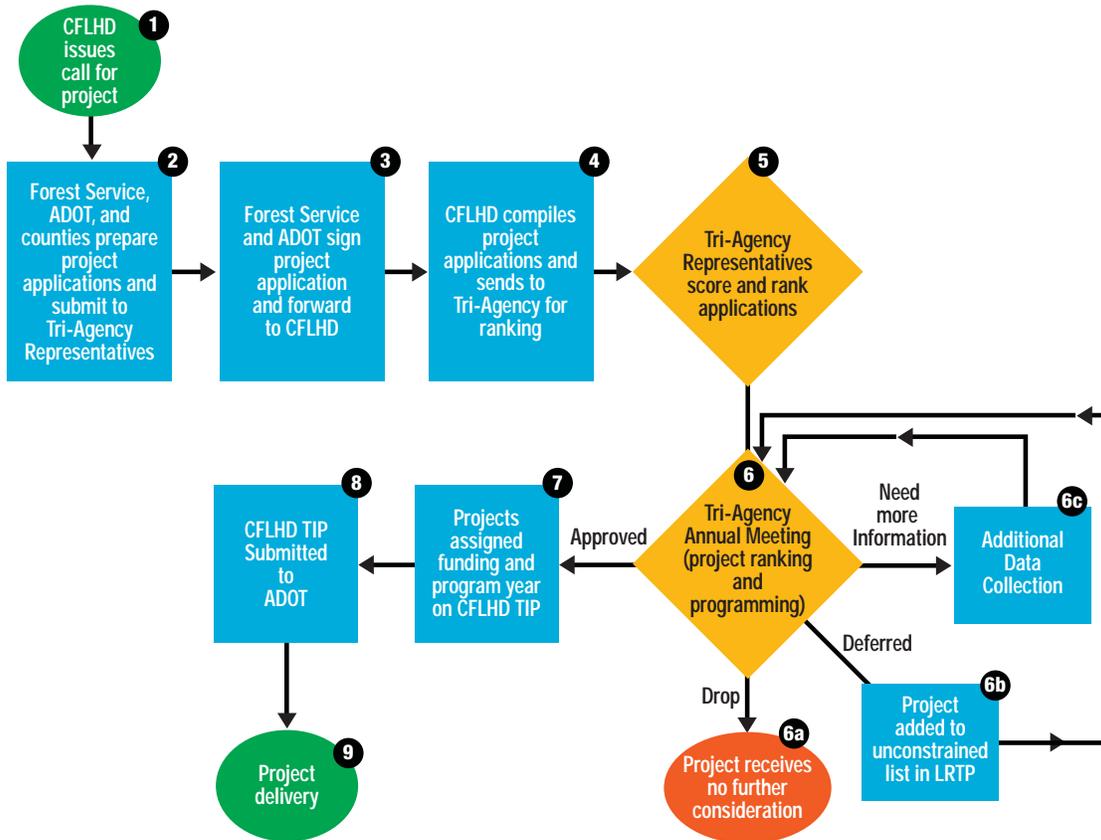
Each approved project is assigned a program year and budget, based on funding availability and other programming considerations. The Forest Highway Program in Arizona has only \$8.8 million per year; programming will need to be flexible by having a mix of projects of different sizes and scopes of work.

Step 8: Central Federal Lands Highway Division Transportation Improvement Program submitted to Arizona Department of Transportation

After funding and program years are assigned, the list of projects is sent to the Arizona Department of Transportation for inclusion in the Statewide Transportation Improvement Program.

Step 9: Project delivery

The final step for each approved project is project delivery. Central Federal Lands Highway Division prepares engineering drawings, conducts appropriate National Environmental Policy Act studies, constructs the project, and turns it over to the agency with jurisdiction.



Long Range Transportation Plan for the Forest Highways in Arizona

Vision

The vision of the Forest Highway Program in Arizona is to advance the Forest Highway network in an efficient manner that facilitates responsible care for the land, while providing an enhanced user experience to and within the National Forests.

Mission

The mission of the Forest Highway Program in Arizona is to work in partnership with Central Federal Lands – Highway Division, Arizona Department of Transportation, US Forest Service, and local entities to improve the Forest Highways within the state.

Goals and Objectives

1. Access and Mobility

Provide reliable access to and within the national forests for use and enjoyment of the land and utilization of its natural resources.

Objective 1: Provide and maintain recreational, commercial, administrative, and other suitable access to National Forest System lands by funding appropriate improvements for transportation facilities.

Objective 2: Consider mode choice opportunities to improve mobility and access to and through the national forests.

Objective 3: Provide a seamless transportation network connecting the National Forest System lands with local communities and major highway systems.

2. Safety and Condition

Ensure a safe and reliable transportation network to and within the national forests.

Objective 1: Identify risks to traveler safety and take measures to reduce them.

Objective 2: Improve the condition of the transportation facilities in order to reduce long-term maintenance costs.

3. Funding and Economic Development

Use innovative partnerships to fund Forest Highway projects and to support economic development opportunities at the local, regional, and national level.

Objective 1: Create partnerships with other agencies or programs to provide additional funding to extend the benefits of the Forest Highway Program.

Objective 2: Support economic development in terms of recreation and tourism and utilization of natural resources.

4. Natural Resource Protection

Protect and enhance the natural environment.

Objective 1: Use transportation facilities as a tool to improve the health of National Forest System lands.

Objective 2: Repair the negative impacts of transportation facilities to natural and cultural resources.

Arizona Forest Highway Project Application

Item 1:

Central Federal Lands Highway Division will complete all design, National Environmental Policy Act clearance, and construction of the selected projects, except as otherwise agreed by Tri-Agency .

Cooperator – A State or local government agency that has jurisdiction over and/or maintenance responsibility for forest highways.

Functional classification: <http://www.fhwa.dot.gov/environment/flex/ch03.htm>

Please note that due to federal funding requirements, right-of-way acquisition must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and is the responsibility of the Cooperator.

Item 2:

This estimate will be used to compare approximate construction cost relative to other projects. Projects will not be ranked based on cost.

3R –Resurfacing, Rehabilitation, and Restoration

Projects include some application or road rehabilitation (scarification, pulverization, etc. of existing Asphalt Concrete Pavement (ACP)), addition of supplemental aggregate surface course, and the placement of ACP. Minor guardrail, signing, and other appurtenances included on a case-by-case basis.

4R –Resurfacing, Rehabilitation, Restoration, and Reconstruction

Light 4R – Projects typically include minor widening off the roadway bench. Primarily regarding the road template and resurfacing. Projects do not include walls but can include minor guardrail, signing, and other appurtenances.

Medium 4R – Projects include widening where some walls will be included. Projects will also include earthwork to address some vertical or horizontal alignment deficiencies. Guardrail, signing, and other appurtenances are included.

Heavy 4R – Projects include major widening along a route including heavy use of cut and/or fill walls. Typical work includes major earthwork operations to address some vertical/horizontal alignment deficiencies. Work also includes aggregate surface course and ACP. Guardrail, signing, and other appurtenances included.

Item 3:

Average Daily Traffic – The average number of vehicles on a road during the day. To calculate the average daily traffic, take the total traffic volume during a given time period (in 24-hour periods) and divide it by the number of days in that time period. This data should not be collected during the peak season.

Seasonal Average Daily Traffic – The average number of vehicles on a road during a typical day in the peak season

Recreation Visitor Day – A recreational visitor day is 12-person hours of participation in a recreational activity, whether it is 12 hours by 1 person, or 1 hour each by 12 different people, or some combination of time and people.

% Forest Generated Traffic – The percent of traffic traveling to/from the National Forest.

% Non-Forest Generated Traffic – The percent of traffic traveling through a National Forest with a separate destination.

Item 5:

In the project description, include items such as existing and proposed roadway width, surface type, structures, approximate design speed, and any work affecting drainage structures.

Arizona Forest Highway Project Application

Item 10b:

Consider whether this project fills in gaps or missing links in the transportation network or whether travel restrictions, bottlenecks, and/or load limits that prevent all-weather travel are alleviated by this project improvement.

Item 12:

Identify deficient or lacking road features that contribute to safety hazards. Include engineering analysis if available. Also include crash data, animal/vehicle collisions, reported incidents, or anecdotal information that can be used to identify a safety issue.

Item 13a:

Standard pavement condition ratings are available from Central Federal Lands Highway Division at <http://www.cflhd.gov/FHRoadInv/index.cfm>

Item 13c:

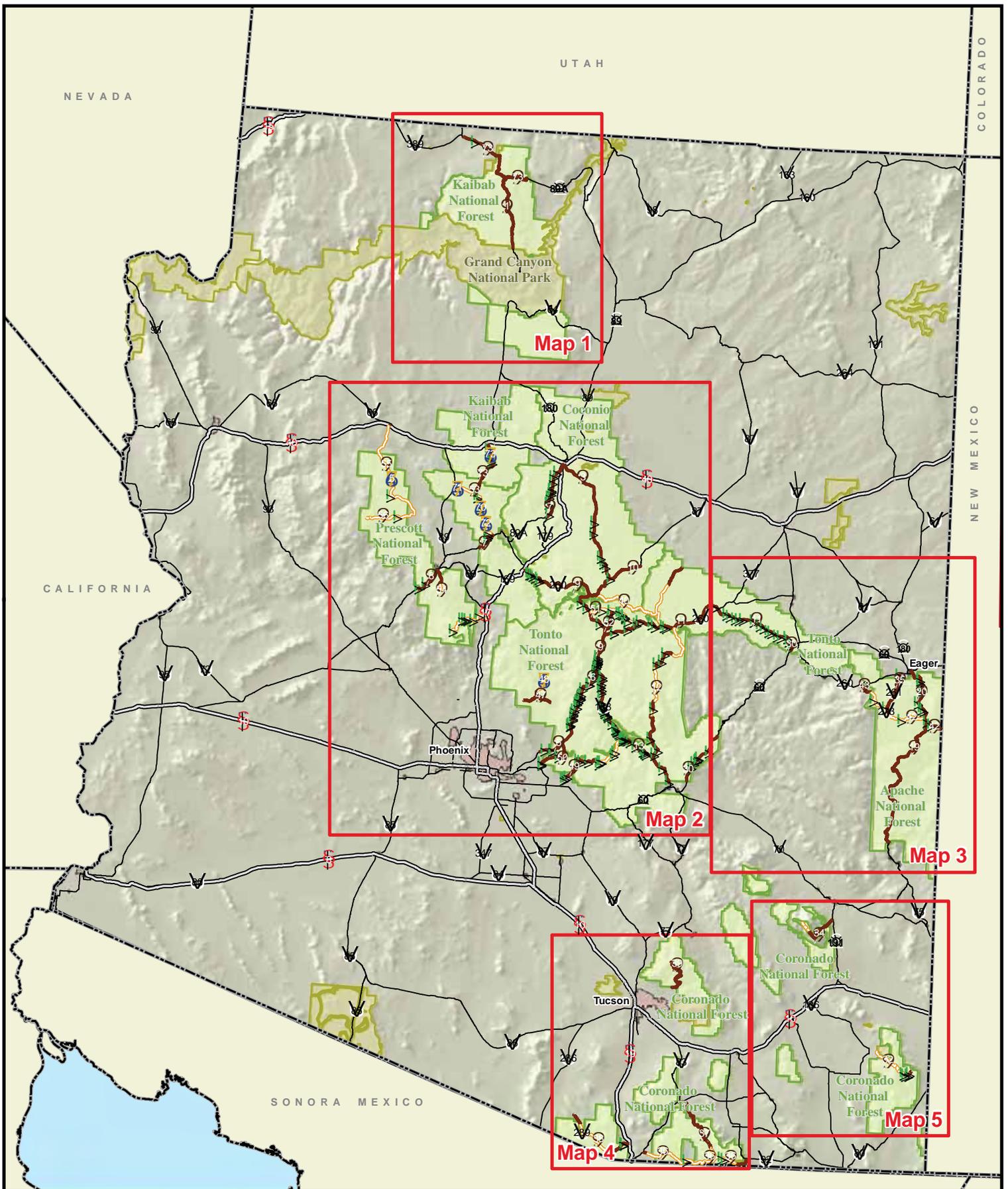
Bridge condition information can be found from the National Bridge Inventory <http://nationalbridges.com/>

Item 16e:

To identify whether your forest highway route is on a designated National Scenic Byway, click on the following link. www.byways.org

Item 18:

To identify potential threatened & endangered species in your project area, click on the following link. <http://www.fws.gov/Endangered/>

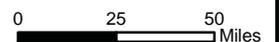


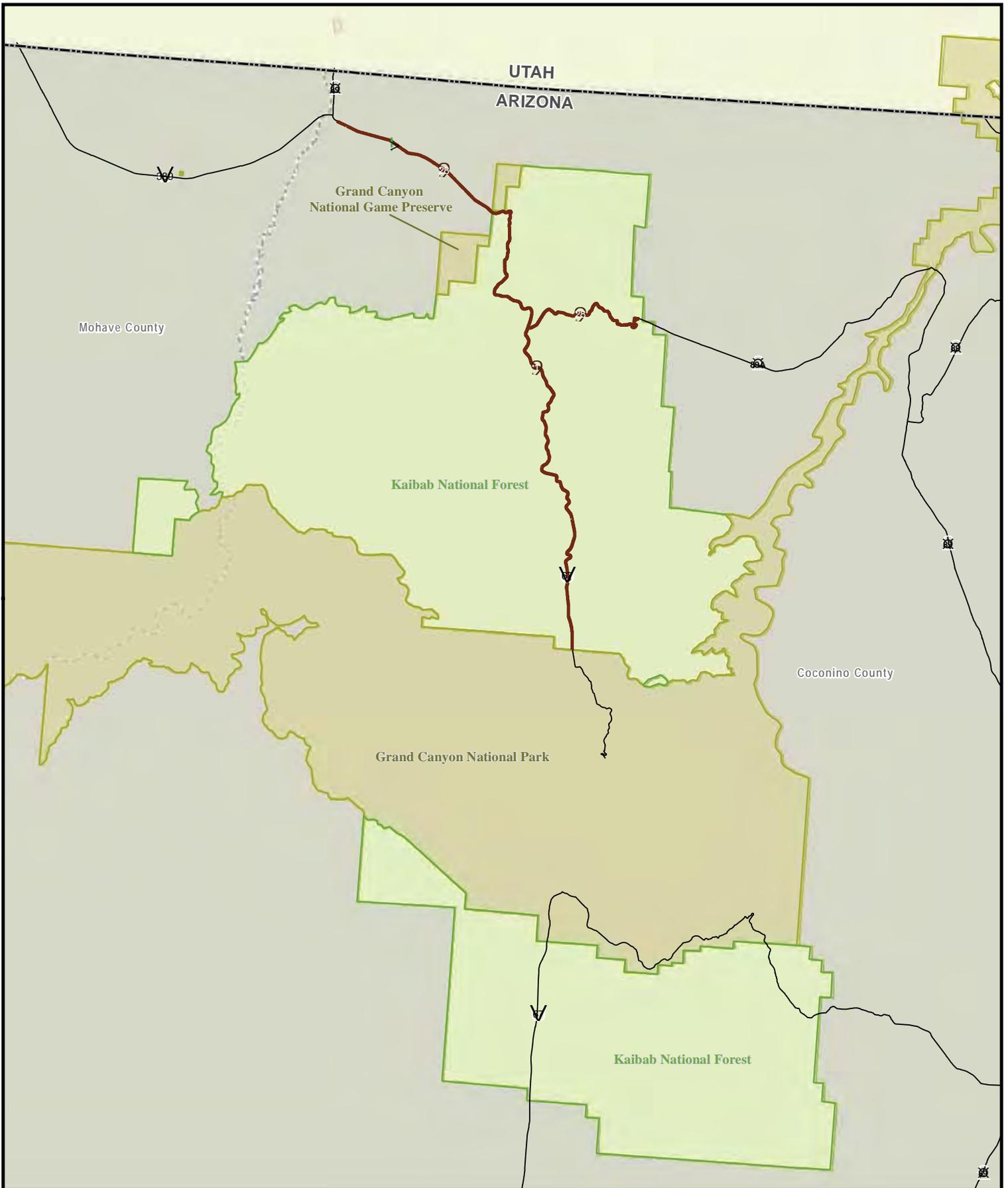
Arizona Forest Highways and Bridges

- National Forest
- National Park
- Forest Highway Bridge
- Paved Forest Highway
- Unpaved Forest Highway

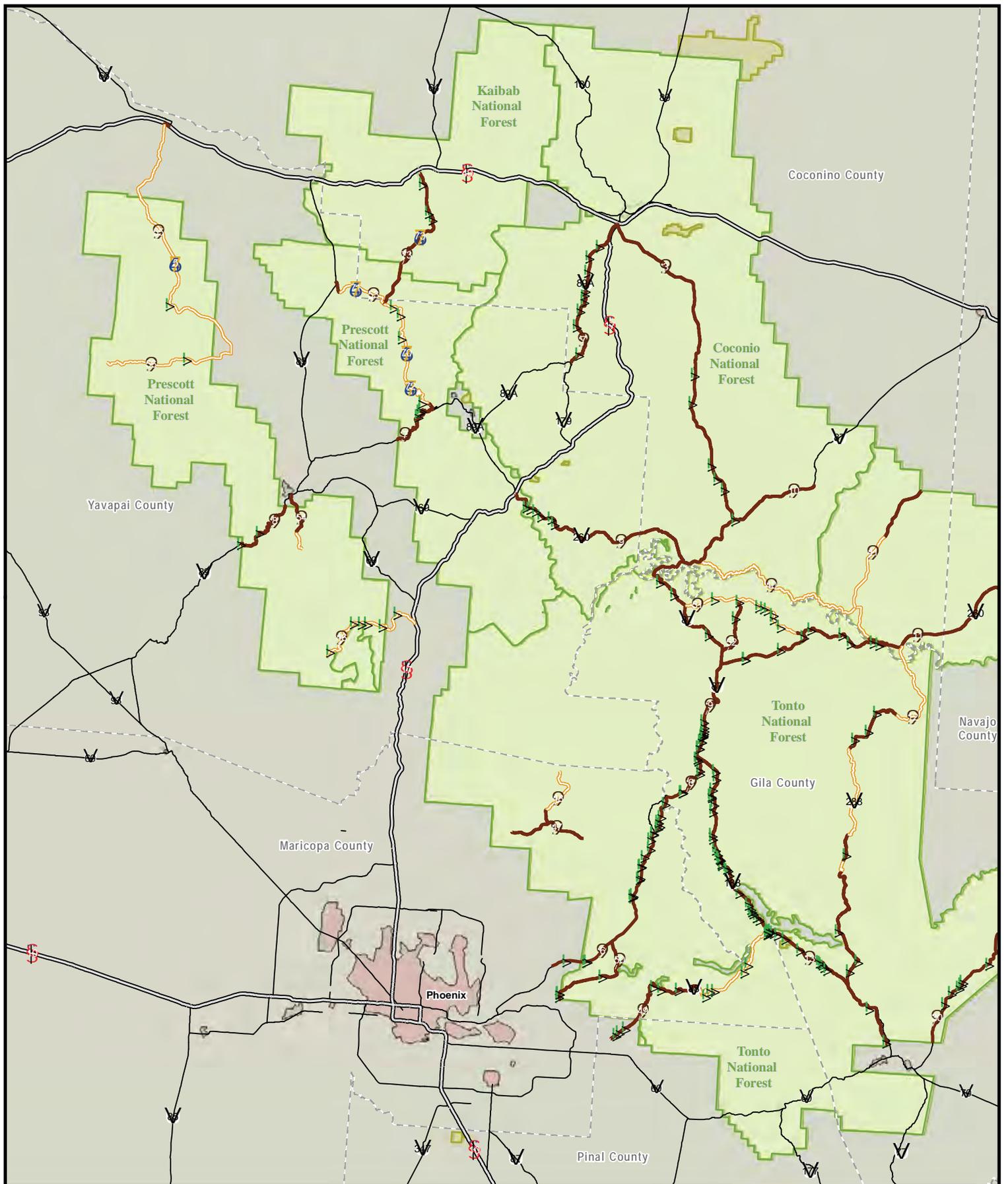
INDEX

F





Arizona Forest Highways and Bridges		MAP 1 of 5 F 0 5 10 Miles
<ul style="list-style-type: none"> National Forest National Park Forest Highway Bridge 	<ul style="list-style-type: none"> Paved Forest Highway Unpaved Forest Highway 	

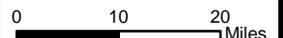


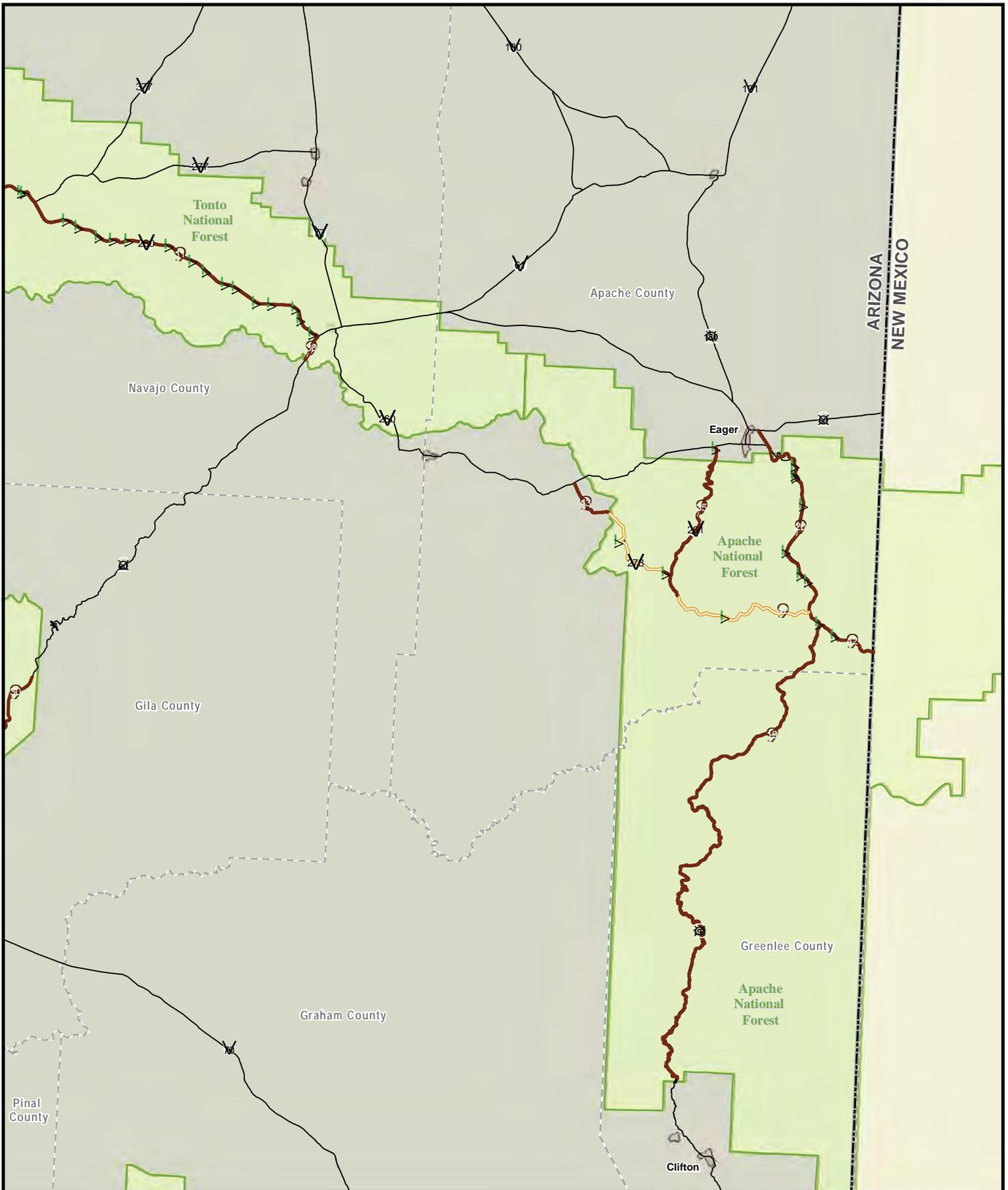
Arizona Forest Highways and Bridges

- National Forest
- National Park
- Forest Highway Bridge
- Paved Forest Highway
- Unpaved Forest Highway

MAP 2 of 5

F



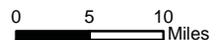


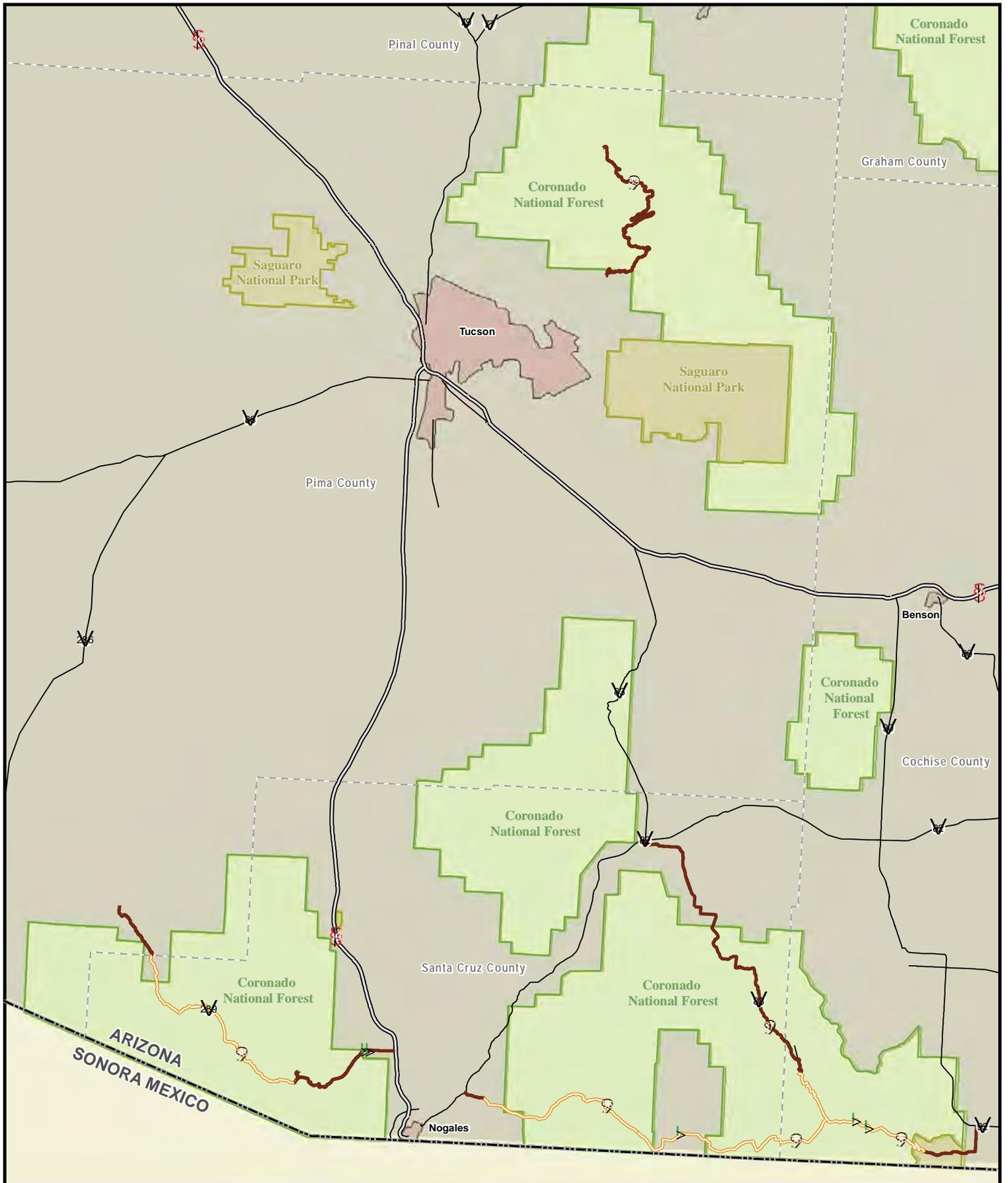
Arizona Forest Highways and Bridges

- National Forest
- National Park
- Forest Highway Bridge
- Paved Forest Highway
- Unpaved Forest Highway

MAP 3 of 5

F





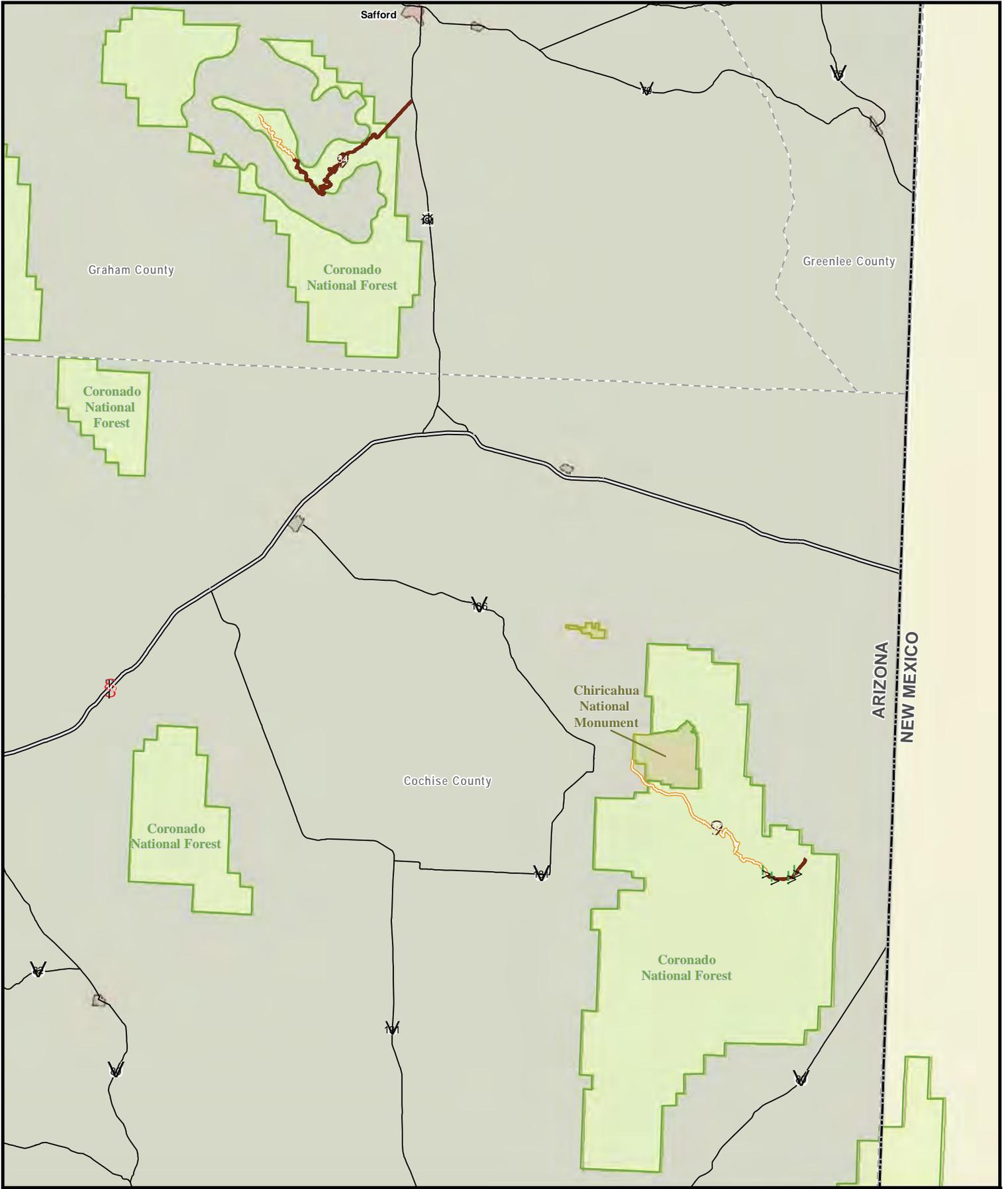
Arizona Forest Highways and Bridges

- National Forest
- National Park
- Paved Forest Highway
- Unpaved Forest Highway
- Forest Highway Bridge

MAP 4 of 5

F





Arizona Forest Highways and Bridges

 National Forest	 Paved Forest Highway
 National Park	 Unpaved Forest Highway
 Forest Highway Bridge	

MAP 5 of 5

F

0 5 10 Miles

Arizona Forest Highway Project Application

Signature Page

All projects must be submitted by the U.S. Forest Service or the Arizona Department of Transportation. For projects on county-owned routes, applications must be submitted through the Arizona Department of Transportation.

All applications must have the appropriate signatures in order to be considered. By signing the application, signees certify the completeness of the application and support of the project application; this does not indicate the approval of the project.

Project Contact Person

The contact name below is the individual from the sponsoring agency who will serve as the agency representative for this project, and has direct knowledge of the information contained within this Forest Highway project application.

Name: _____

Address: _____

City: _____ State: _____

Phone: _____ Fax: _____

E-mail: _____

Authorized Signature

(Forest Supervisor, Arizona Department of Transportation District Engineer, County Commissioner)

By signing the application, signee certifies the completeness of the application and support of the project application from the sponsoring agency and authorizes the Tri-Agency to consider this project for approval in the Forest Highway program in Arizona.

Signature: _____

Printed Name: _____

Title: _____

Agency/Organization: _____

Date: _____

For Internal Use Only:

Tri-Agency Certification

This application is CERTIFIED TO BE COMPLETE. By signing below, the Tri-Agency representative (Forest Service or Arizona Department of Transportation) will forward this application to the Forest Highway program for project consideration.

Signature: _____

Printed Name: _____

Title: _____

Agency/Organization: _____

Date: _____

Arizona Forest Highway Project Application

General Information:

The Tri-Agency (U.S. Forest Service, Arizona Department of Transportation, and Central Federal Lands Highway Division) will review project applications and rank them based on weighted selection criteria developed as part of the Long Range Transportation Plan for Forest Highways in Arizona. The selection criteria are directly related to the goals and objectives developed for this plan. The selection criteria are directly related to the goals and objectives developed for this plan. The scoring will be out 100 points and will be broken down by goal as follows:

- Access and Mobility - 25 points
- Safety and Condition - 30 points
- Funding and Economic Development - 20 points
- Natural and Cultural Resource Protection - 25 points

The projects will be discussed at the annual Tri-Agency program meeting to develop an approved project list to be funded through the Forest Highway program. It is important to note that the top ranked project is not guaranteed funding and the approved list of projects will be agreed upon by the Tri-Agency. Project approval resides with the Tri-Agency. The Tri-Agency will select a balanced program made up of some large projects with smaller projects used to fill in the gaps. Projects should be a minimum of \$500,000 and maximum of \$25 million. Typically, Forest Highway funds are intended for design, construction, or reconstruction and are not intended for maintenance (chipseal, potholes, etc.) projects.

Eligibility Requirements:

- Is the project on the Forest Highway Network?
- Is the project consistent with the Forest Land Management Plan?

 *If both boxes are not checked, proceed no farther; your project is not eligible.*

Arizona Forest Highway Project Application

Instructions:

Applications must be received by February 1, 2011 to be considered.

1. All project applications must be submitted using the Arizona Forest Highway Project Application form. Complete the project application to the best of your ability. It is the responsibility of the entity proposing a project to supply the necessary information to complete the project application. It is understood that data may not be available for all of the project application questions, but the agency may use anecdotal information as a substitute. Only complete applications including the required signatures will be considered.
2. Complete Project Application Signature Page.
3. Contact the appropriate Tri-Agency representative to submit completed applications for certification.

U.S. Forest Service applicants:

Transportation Group Leader
USDA-FS Region 3
333 Broadway SE
Albuquerque, NM 87102
505-842-3371

County or Arizona Department of Transportation applicants:

Arizona Department of Transportation
Assistant State Engineer
205 South 17th Avenue, Mail Drop 611E
Phoenix, AZ 85007
602-712-4282

Checklist of Requirements for certification:

- Signature sheet
- Forest-level map
- Project-level map identifying termini
- Up to 5 photos of project location

If you are considering this application for your project and would like assistance in completing this form, contact:

Forest Highway Program Manager
Central Federal Lands Highway Division
12300 West Dakota Ave
Lakewood, CO 80228
Phone: 720-963-3626

Additional information on the Forest Highway program is located at <http://www.cflhd.gov/LRTP/>

Arizona Forest Highway Project Application

(Place cursor over green underlined words for additional information related to the specific item)

General Project Information

1. Project Identification

Forest Highway Route #:	Local Route #:
Forest Highway Inventory Name:	
Other (local) Road Names/Designator (if any):	
Agency with Jurisdiction (authority to control traffic):	
Agency currently maintaining roadway:	
<u>Cooperator:</u>	
<u>Functional Classification:</u> <input type="checkbox"/> National Highway System <input type="checkbox"/> Arterial <input type="checkbox"/> Major Collector <input type="checkbox"/> Minor Collector <input type="checkbox"/> Local Road	
Termini (mileposts or landmarks):	
Begin:	End:
Project Length:	Miles

Key Items of work (check all that apply):

- | | | |
|---|--|--|
| <input type="checkbox"/> Paving | <input type="checkbox"/> Road base or Surface Course | <input type="checkbox"/> Major Concrete Structures |
| <input type="checkbox"/> Major culverts | <input type="checkbox"/> Safety Enhancements | <input type="checkbox"/> Earthwork |
| <input type="checkbox"/> Bridges | <input type="checkbox"/> Intersection improvements | <input type="checkbox"/> Widen shoulders |
| <input type="checkbox"/> Pullouts | <input type="checkbox"/> Multimodal Enhancements | <input type="checkbox"/> Access Lanes |
| <input type="checkbox"/> Other (specify): _____ | | |

Right-of-Way Acquisition:

Is right-of-way acquisition required? Yes No *If "no" then proceed to [Utilities](#) item*

Classification of right-of-way required for project:

- Extensive (5 or more owners) Minor (1-5 owners)

How does the Cooperator plan to acquire and pay for right-of-way?

How long will it take to acquire right-of-way?

Utilities: Identify utilities in the roadway corridor.

Would relocation be required? Yes No *If "no" then proceed to [Cost Estimate](#) item*

How does the Cooperator plan to pay for utility relocation?

How long will it take to coordinate or relocate utilities?

Arizona Forest Highway Project Application

2. Construction Cost Estimate: Fill in amount for appropriate scope items given the Central Federal Lands unit cost listed after each item. Unit cost is based on a two-lane road. Check all that apply.

- Bridge replacement
Square Feet (SF) of Bridge: _____ x \$250/SF = \$ _____
- Pulverize and aggregate surfacing
Number of Miles: _____ x \$75k/mile = \$ _____
- 3R (i.e., Pulverize/Pave)
Number of Miles: _____ x \$375k/mile = \$ _____
- Light 4R (i.e., Regrade Road Template)
Number of Miles: _____ x \$750k/mile = \$ _____
- Medium 4R (i.e., Widening, Minor Wall Work)
Number of Miles: _____ x \$1.5M/mile = \$ _____
- Heavy 4R (i.e., Major Widening, Major Wall Work)
Number of Miles: _____ x \$3.0M/mile = \$ _____
- Right of way \$ _____
- Utilities \$ _____
- Other: _____
Unit: _____ x \$ _____ /unit = \$ _____

ESTIMATED TOTAL COST OF PROPOSED PROJECT: \$ _____ (Transfer this number to [page 11](#))

3. Provide any available traffic data from recent counts or other documented sources (list sources):

	Current	20-Year Projection	Data Source
<u>Average Daily Traffic</u>			
<u>Seasonal Average Daily Traffic</u>			
<u>Recreation Visitor Days (RVD)</u>			
<u>% Forest Generated Traffic</u>	%	%	
<u>% Non-Forest Generated Traffic</u>	%	%	

Note: If no data (i.e., counts) are available, please estimate range. (< 200, 200-500, 500-1000, > 1000 vehicles per day)

Arizona Forest Highway Project Application

4. Problem Statement:

a. Summarize the need for this project.

b. What purpose does this roadway serve?

c. List physical and functional deficiencies, anticipated changes in road use, or known safety problems.

d. Describe consequences and actions that will be taken if Forest Highway funding is not received.

Arizona Forest Highway Project Application

5. Description of proposed work: Provide a summary of the work required to complete this project.

6. **Roadway Improvements:**

a. **Describe any other improvements** planned or programmed on this Forest Highway currently or in the next 20 years.

b. **What, if any improvements have been made in the past 10 years on this road?** Indicate when, if known. Identify funding sources, if known.

7. Project Coordination:

a. Who are the key partners in this project?

b. What role have these partners played on this project to date?

c. Describe the support or opposition that this proposed project may receive from outside organizations or the public. Also, include Forest Service, State, and community coordination efforts completed to date.

8. Describe how or why this project is consistent with each approved plan as applicable. (e.g., *Forest Land Management Plan, Local Comprehensive Plan, Regional Transportation Plan, State Regional Tourism Plan, Scenic Byway, or other Corridor Management Plan*)

Arizona Forest Highway Project Application

- 11. To what extent does this project improve or provide linkages to alternative modes?** Explain in detail. Alternative mode improvements could include transit, bicycles, pedestrians, equestrians, park-and-rides, etc.
Note: This will not apply to most projects.

Safety and Condition

- 12. How will this project improve safety?**

13. Condition Data

- a. **Provide existing road surface condition using standard pavement condition ratings** (these are available at <http://www.cflhd.gov/FHRoadInv/index.cfm>). If aggregate road, provide inches of aggregate remaining.

- b. **Provide other condition information** such as unstable slopes, fish passage, retaining walls, culverts, etc.

- c. **List structure(s) and condition included in this improvement project, if any** (bridge condition information can be found at <http://nationalbridges.com/>):

National Bridge Inventory Structure #	Bridge Dimension <i>Length x Width</i>	Bridge Inventory Sufficiency Rating <i>(1-100)</i>	Structurally Deficient?	Functionally Obsolete?

Arizona Forest Highway Project Application

17. Proposed Contribution to Project (include cost sharing and in-kind donations): (Cost share, leveraging commitment to build adjacent project, etc.) What year are these contributions committed?

- | | |
|---|------------------|
| <input type="checkbox"/> Surface Transportation Program | Amount: \$ _____ |
| <input type="checkbox"/> High Priority Project Program | Amount: \$ _____ |
| <input type="checkbox"/> Public Lands Highway – Discretionary Program | Amount: \$ _____ |
| <input type="checkbox"/> Sarbanes Transit in Parks Program | Amount: \$ _____ |
| <input type="checkbox"/> Safety Set-Aside | Amount: \$ _____ |
| <input type="checkbox"/> Bridge Set-Aside Program | Amount: \$ _____ |
| <input type="checkbox"/> National Scenic Byways Program | Amount: \$ _____ |
| <input type="checkbox"/> Aquatic Organism Passage | Amount: \$ _____ |
| <input type="checkbox"/> State/Local (including local bonds, or partnerships through MPOs) | Amount: \$ _____ |
| <input type="checkbox"/> Earmark | Amount: \$ _____ |
| <input type="checkbox"/> Enhancement | Amount: \$ _____ |
| <input type="checkbox"/> In-kind donations (including ROW donations, utility relocation, traffic control, etc.) | Amount: \$ _____ |
| <input type="checkbox"/> Other: _____ | Amount: \$ _____ |

Estimated Total Contribution to Supplement Project: \$ _____ (A)

Estimated Total Project Construction Cost *(from page 4)*: \$ _____ (B)

Estimated Percentage Leveraged Funds: _____ % ((A/B) x 100)

Arizona Forest Highway Project Application

Natural and Cultural Resource Protection

18. Resource Impacts

- a. Identify all natural or cultural resource issues associated with this project from the list below.

Check all that apply.

Negative Impact	Positive Impact	Resource
<input type="checkbox"/>	<input type="checkbox"/>	Wetlands/Water Resources
<input type="checkbox"/>	<input type="checkbox"/>	<u>Threatened & Endangered Species</u>
<input type="checkbox"/>	<input type="checkbox"/>	Sensitive Species
<input type="checkbox"/>	<input type="checkbox"/>	Other biological resources (fisheries, wildlife, species of concern, etc)
<input type="checkbox"/>	<input type="checkbox"/>	Wild & Scenic River
<input type="checkbox"/>	<input type="checkbox"/>	Non-attainment areas (air quality)
<input type="checkbox"/>	<input type="checkbox"/>	Historic & archaeological resources
<input type="checkbox"/>	<input type="checkbox"/>	Native American areas/concerns
<input type="checkbox"/>	<input type="checkbox"/>	Wilderness or roadless areas
<input type="checkbox"/>	<input type="checkbox"/>	Parks & recreation areas/wildlife refuge (Section 4(f)/6(f))
<input type="checkbox"/>	<input type="checkbox"/>	Hazardous materials
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____

- b. Provide narrative explaining the extent of potential impacts or improvements resulting from the proposed project on all the following environmentally sensitive resources that apply (e.g., project will replace historic bridge, project goes through critical habitat, project involves a unique wetland complex, etc.)

- c. Describe any opportunities to address existing environmental concerns (reduction in road-related sedimentation, fish passage improvements, air quality improvements, managing visitor access, directing vehicles away from sensitive natural resources, etc.)

Arizona Forest Highway Project Application

19. Describe any coordination that has occurred with Forest Service resource specialists, regulatory, or other land management agencies (e.g., Army Corps of Engineers, Fish and Wildlife Service, State Fish and Game, State Lands, Tribal Lands, State Historic Preservation Office) with regard to specific resource concerns.

20. Other Remarks:

APPENDIX G

REVISED 2011 FOREST HIGHWAY PROGRAM

ARIZONA

SEVEN-YEAR-PLA

\$0

Appendix G

PROJECT	ROUTE NAME	TYPE OF WORK	FISCAL YEAR	FY11	FY12	FY13	FY14	FY15	FY16	FY17
			ALLOCATION	\$9,335,905	\$8,800,000	\$8,800,000	\$8,800,000	\$8,800,000	\$8,800,000	\$8,800,000
			*ACTUAL/PROP. BAL. BORROW/(LOAN)S							
			**ACTUAL LOANS or (REPAYMENTS)	\$1,820,000	\$0	\$0	\$0	\$0	\$0	\$0
			CARRYOVER & ROLLUP	\$1,173,000	\$848,158	(\$1,842)	\$73,158	\$73,158	\$73,158	\$73,158
			TOTAL AVAILABLE	\$12,328,905	\$9,648,158	\$8,798,158	\$8,873,158	\$8,873,158	\$8,873,158	\$8,873,158
ALL ROUTES ALL ROUTES AZ PFH 51-1(2) AZ PFH 34-1(3) AZ PFH 3-1(1) AZ PFH 43-1(3) AZ PFH 43-1(4) ALL ROUTES	STATEWIDE STATEWIDE CONTROL ROAD SWIFT TRAIL FLAGSTAFF-CLINTS WELL SUNRISE PARK-BIG LAKE SUNRISE PARK-BIG LAKE STATEWIDE	PE/Planning-11 CE-11 BRIDGE REPLACEMENTS SPOT IMPROVEMENTS CONSTRUCTION DEOBLIGATION CONSTRUCTION DEOBLIGATION CONSTRUCTION MOD. CONTINGENCIES		\$2,265,016 \$1,252,246 \$5,997,030 \$1,994,000 (\$345,000) (\$420,000) \$675,000 \$62,455						
ALL ROUTES ALL ROUTES AZ PFH 3-1(2) ALL ROUTES	STATEWIDE STATEWIDE FLAGSTAFF-CLINTS WELL STATEWIDE	PE-12 CE-12 3R CONTINGENCIES			\$850,000 \$900,000 \$7,600,000 \$300,000					
ALL ROUTES ALL ROUTES AZ FH 51-1(3) AZ FH 52-1(1) AZ FH 12-1(3) ALL ROUTES	STATEWIDE STATEWIDE CONTROL ROAD HOUSTON MESA RD. REYNOLDS CRK. STATEWIDE	PE-13 CE-13 VENTED FORD and ROAD REALIGNMENT 2 BRIDGE REPLACEMENTS of LOW WATER CROSSINGS BRIDGE REPLACEMENT or CBC CONTINGENCIES				\$700,000 \$750,000 \$2,000,000 \$4,100,000 \$825,000 \$350,000				
ALL ROUTES ALL ROUTES AZ FH 42 ALL ROUTES	STATEWIDE STATEWIDE Alpine-Big Lake STATEWIDE	PE-14 CE-14 4R CONTINGENCIES					\$700,000 \$750,000 \$7,000,000 \$350,000			
ALL ROUTES ALL ROUTES AZ FH7A(SR89A) ALL ROUTES	STATEWIDE STATEWIDE OAK CREEK STATEWIDE	PE-15 CE-15 4R - PH. I CONTINGENCIES						\$700,000 \$750,000 \$7,000,000 \$350,000		
ALL ROUTES ALL ROUTES AZ FH 42 ALL ROUTES	STATEWIDE STATEWIDE Alpine-Big Lake STATEWIDE	PE-16 CE-16 Surfacing Project (TBD if Paving or Gravel) CONTINGENCIES							\$700,000 \$750,000 \$7,000,000 \$350,000	
ALL ROUTES ALL ROUTES STATEWIDE ALL ROUTES	STATEWIDE STATEWIDE TBD STATEWIDE	PE-17 CE-17 TBD CONTINGENCIES								\$700,000 \$750,000 \$7,000,000 350000
**ACTUAL LOANS or (REPAYMENTS): CA & CO Paid back FY 10 Loans			TOTAL SPENT	\$11,480,747	\$9,650,000	\$8,725,000	\$8,800,000	\$8,800,000	\$8,800,000	\$8,800,000
CARRYOVER-->			\$1,173,000 FY10	\$848,158 FY11	(\$1,842) FY12	\$73,158 FY13	\$73,158 FY14	\$73,158 FY15	\$73,158 FY16	\$73,158 FY17

← Scalable to fill possible FY13 need if Bridges proj. delayed

\$7M FH Funds + \$4M contrib. from ADOT=\$11M-->