

# **Roads Report for Gila National Forest**

## **Travel Management Rule Implementation**

**DEIS**

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# Roads

## Laws, Regulation, Policy

Direction relevant to transportation facilities includes:

**Title 36, Code of Federal Regulations, Part 212 (36 CFR 212)** includes portions of the Travel Management Rule published in the Federal Register on November 9, 2005. Subpart B describes the requirements for designating roads, trails, and areas for motor vehicle use and for identifying designated roads, trails, and areas on a motor vehicle use map (MVUM).

**Forest Service Manual (FSM) 7700** establishes the authority, objectives, policy, responsibility, and definitions for planning, construction, reconstruction, operation, and maintenance of forest transportation facilities and for management of motor vehicle use on National Forest System (NFS) lands. **FSM 7710 and Forest Service Handbook (FSH) 7709.55** contain agency policy for travel analysis, travel management, and designation of roads, trails, and areas for motor vehicle use. The policy requires the development of road management objectives (RMOs). The RMOs document the purpose of each road. The purpose for the road sets the parameters for maintenance standards needed to meet user needs, resource protection and public safety. **Forest Service Handbook (FSH) 7709.59** provides direction on management and maintenance standards needed to meet road management objectives (RMOs) for the road system including considerations for public safety.

**Executive Order 11644** (“Use of Off-Road Vehicles on the Public Lands”), dated February 8, 1972, as amended by Executive order 11989, dated May 24, 1977. Provides for developing regulations governing use of off-road vehicles on federal lands to protect natural resources, promote public safety, and minimize conflicts among uses.

**State of New Mexico Laws** regulate the use of motor vehicles in New Mexico, including motor vehicles used on the national forests. The laws establish requirements for operator qualifications (including age limits) and personal protective equipment. They are designed to protect the safety of the public and ensure responsible use by authorized motor vehicle operators. New Mexico Statutes 66-3-1001 to 66-3-1020 (Title 18 of the New Mexico Administrative Code [http://law.justia.com/newmexico/codes/nmrc/jd\\_ch66art3-17d75.html](http://law.justia.com/newmexico/codes/nmrc/jd_ch66art3-17d75.html)) establishes requirements for off-highway motor vehicles. The statutes define an “off-highway motor vehicle” as a motor vehicle designed by the manufacturer for operation exclusively off the highway or road. This includes:

- “All-terrain vehicles” which means a motor vehicle fifty inches or less in width, having an unladen dry weight of one thousand pounds or less, traveling on three or more low-pressure tires and having a seat designed to be straddled by the operator and handlebar-type steering control; or

- “Off-highway motorcycle” which means a motor vehicle traveling on not more than two tires and having a seat designed to be straddled by the operator and handlebar type steering control.

New Mexico Off-Highway Motor Vehicle Law (Section 66-3-1011) prohibits operation of off-highway motor vehicles on any paved street or highway except to cross a paved street or highway after coming to a complete stop and yielding to traffic.

### **Gila National Forest Land and Resource Management Plan (Forest Plan)**

The Gila National Forest Land Management Plan (1986) states the forest-wide goals for NFS road facilities as follows:

Maintain the Forests transportation system to support resource goals. Construct, maintain, and regulate use of Forest Service facilities to protect natural resources, correct safety hazards, reduce disinvestments, and support management activities.  
(LRMP Page 12)

Forest-wide goals are met by applying standards and guidelines for management of resources. The Standards and Guidelines for roads include the following:

- a. Provide for the forest-wide transportation planning, preconstruction engineering, and construction engineering on arterial roads, collector roads, local roads, bridges, and major culverts. (LRMP Page 38)
- b. Construct or reconstruct arterial roads, collector roads, local roads, bridges, and major culverts to assure user safety and to a level commensurate with the use and need. (LRMP Page 38)
- c. Continue cooperative agreement activities with local, county, State, and Federal Agencies. (LRMP Page 39)
- d. Motorized off-road use is prohibited in the following areas:
  - Wilderness areas (LRMP)
  - Tularosa Wetlands (LRMP management area 6A, Page 173)
  - Gila River Bird Management Area (LRMP management area 7A, Page 201)
  - Fort Bayard (LRMP management area 7C, Page 211 & 212)
  - Silver City Watershed (LRMP management area 7D, Page 215-217)

- Funny Rocks Area (LRMP management areas 9A, Page 252 & 253 & 9B, Page 259)
- San Francisco River – area below Mule Creek will be closed to motorized vehicle use year round. (LRMP management areas 4B, Page 131 and 4C, Page 139)

### **Transportation Specific Assumptions:**

- 1) Motor vehicle use authorized by state law is occurring on NFS roads unless there are Forest specific prohibitions.
- 2) There is some cost for maintenance that will have to be borne by the Forest Service for any NFS road open to motor vehicle use by the public.
- 3) There will be implementation costs regardless of the alternative selected.

### **Transportation Sources of Information**

Additional information is part of the project record. All sources used for this report are referenced, and included in the project record.

**Infra and GIS databases** – The forest is required to develop and maintain a travel management atlas to display the system of roads, trails and airfields of the Gila National Forest. Forests are to use the Forest Service Infrastructure database and the transportation layer of the geographic information system (GIS) for the storage and analysis of information in a forest transportation atlas (FSM 7700).

**Economic Sustainability** – 36 CFR 212.55 requires consideration of the need for maintenance and administration of the designated NFS roads. Costs for NFS roads include costs for needed maintenance work that has not been completed for various reasons (deferred maintenance) and costs of maintenance that should be performed routinely to maintain the facility to its current standard (annual maintenance).

## **NFS Road Management Issues**

### **Public Safety**

#### **Motorized Mixed Use (MMU)**

National Forest System (NFS) roads are managed primarily for use by highway-legal vehicles (motor vehicles that are licensed or certified for general operation on public roads within the State) such as a passenger car or log truck. Some NFS roads also provide recreational access for all-terrain vehicles and other non-highway legal off-highway vehicles.

The use of motor vehicles on NFS roads is subject to State traffic law where applicable, except when in conflict with motor vehicle designations (36 CFR 212.51) or with the rules at

Title 36, Code of Federal Regulations, Part 261 (36 CFR 212.5(a)(1)). State traffic law includes State laws pertaining to motor vehicle operation, as well as insurance and license requirements, motor vehicle registration, and motor vehicle length, height, width, and weight. The State of New Mexico prohibits the operation of off-highway motor vehicles on paved streets or highways. The Gila National Forest considers operation of off-highway vehicles on Forest roads that are not paved (i.e. roads that have a native material or gravel surface) to be consistent with State law, with a few exceptions (Table 1). The roads listed in this table propose to restrict motorized use to highway legal vehicles only to improve public safety concerns and to minimize user conflicts.

**Table 1. Proposed NFS Roads open to highway legal vehicles only (all action alternatives)**

Road #	BMP <sup>1</sup>	EMP	Description	Ranger District
13	0.0	2.5	Within Quemado Lake Recreation Area boundary	Quemado
13 B	0.0	0.4	Within Quemado Lake Recreation Area boundary	Quemado
13 C	0.0	0.5	Within Quemado Lake Recreation Area boundary	Quemado
13 E	0.0	0.2	Within Quemado Lake Recreation Area boundary	Quemado
13 F	0.0	0.2	Within Quemado Lake Recreation Area boundary	Quemado
13 G	0.0	0.2	Within Quemado Lake Recreation Area boundary	Quemado
13 H	0.0	0.1	Within Quemado Lake Recreation Area boundary	Quemado
13 I	0.0	0.1	Within Quemado Lake Recreation Area boundary	Quemado
21 A	0.0	0.0	Ranger District Office access	Reserve
21 B	0.0	0.1	Ranger District and facilities access	Reserve
40 D	0.0	0.2	Emory Pass Vista point	Black Range
59	0.0	0.1	Ranger District office parking	Wilderness
95	0.0	0.1	Catwalk parking area	Glenwood
129	0.0	0.3	Ranger District office parking	Glenwood
141	0.6	18.8	State Law prohibits off-highway (ATV, UTV) vehicles on paved roads	Reserve
319	0.0	0.2	Ranger District office parking	Quemado
363	0.0	0.2	Gomez Peak picnic area	Silver City
506 A	0.0	0.3	Little Walnut Picnic Grounds	Silver City
610	0.0	0.7	Mesa Campground	Wilderness
627	0.0	0.3	Lake Roberts boat ramp access	Wilderness
630	0.0	0.1	State Law prohibits off-highway (ATV, UTV) vehicles on paved roads	Wilderness
819	0.0	0.8	Forest has right-of-way through Oak Grove subdivision - No ATVs to reduce noise conflict	Silver City
970	0.0	0.6	Gila Visitor Center access	Wilderness

970 B	0.0	0.1	Gila Visitor Center parking area	Wilderness
971	0.0	0.1	Vista Village Day Use & parking	Wilderness
973	0.0	0.0	Lower Scorpion Campground	Wilderness
973 A	0.0	0.1	Upper Scorpion Campground	Wilderness
973 B	0.0	0.1	Parking Lot for Gila Cliff Dwellings/West Fork Trail Head	Wilderness
974	0.0	0.3	Upper End Campground	Wilderness
981	0.0	0.4	Aldo Leopold picnic area and vista point	Glenwood
4187 K	0.0	0.3	Within Quemado Lake Recreation Area boundary; El Caso Campground	Quemado
4187 L	0.0	0.2	Within Quemado Lake Recreation Area boundary; El Caso Campground #2	Quemado
4187 M	0.0	0.1	Within Quemado Lake Recreation Area boundary; El Caso Campground #3	Quemado
4187 N	0.0	0.2	Throw down campsite	Quemado
4206 P	0.0	0.2	Day Use area and picnic Area	Wilderness
4318 K	0.0	0.0	Accesses airstrip	Reserve

<sup>1</sup> BMP is beginning mile post

<sup>2</sup> EMP is ending mile post

“Motorized mixed use” is defined as designation of a NFS road for use by both highway-legal and non-highway-legal motor vehicles (EM-7700-30, pg 10). Authorizing motorized mix use on roads or road segments, where it would otherwise be prohibited by state law, requires that the decision be advised by an engineering analysis conducted by a qualified engineer as described in EM-7700-30. The analysis involves a technical evaluation of the road or road segment and recommendations regarding motorized mix use of the road including mitigation measures that would reduce the risk associated with designating the road for motorized mixed use.

District Rangers had questions concerning the safety of existing motorized mixed use condition on NFS roads 111, 119, 150, and 209. Analyses, in the form of Engineering Judgments, were completed on segments of NFS roads 111, 119, 150, and 209. The Engineering Judgments determined there would be a low risk to public safety by allowing non-highway legal motorized vehicle use to continue (See Appendix E of the GNF TAP May 2010 for complete results).

Alternatives C through G propose 28 miles of roads for use by highway-legal vehicles only. This reduces the potential of full size vehicles like cars or trucks interacting with all-terrain (ATV) or utility type (UTV) vehicles on roads at the same time. All action-alternatives would reduce safety concerns on these roads and remove the chance of conflict between the different motor vehicle types.

### Highway Safety Act

The Forest Service works under the authority of the Highway Safety Act of 1966 (23 U.S.C. 402) to make travel on the National Forest System roads as safe as practicable. Forest Service Handbook (FSH) 7709.59-41 requires roads “open to public travel”, i.e., passable by four-wheel

standard passenger cars and open to the general public, meet certain standards of the Highway Safety Act associated with design, construction, maintenance, signing and traffic accident surveillance. NFS roads managed as Operational Maintenance Level (OML) 3, 4 or 5 are subject to the Highway Safety Act. The Gila National Forest has completed Traffic Engineering Studies on all its arterial and collector OML 3, 4 and 5 roads and is in the process of implementing the recommendations by way of MUTCD signing. The New Mexico Department of Transportation Programs & Infrastructure Traffic Safety Bureau Traffic Records Section collects data from the New Mexico Uniform Crash Reports (UCR) from all law enforcement agencies (state police, municipal police, tribal police, campus police, and county sheriffs). The total number of reports analyzed is approximately 70,000 annually. Due to their guidelines, approximately 49,000 reports meet the criteria and are entered into the master database annually ( <http://www.nmshtd.state.nm.us/main.asp?secid=14478> ). In 2007, the Gila National Forest requested accident data for the previous five years and found no reportable accidents have occurred on Gila NFS roads between 2002 and 2007. Forest Law Enforcement Officers (LEOs) also track accidents in a database called LEIMARS. According to local LEOs, the primary contributing factors to accidents they've investigated on NFS roads are related to operators over driving the roads (traveling at unsafe speeds) and/or operators under the influence of alcohol.

Based on both these databases, the safety concerns are relatively low for the current road system under Alternative B. Safety related concerns for all Action Alternatives (C through G) would be the same as Alternative B. The designation process does not change the speed that vehicles travel on routes nor does the Forest expect the volume, composition or traffic patterns to change after designation. Operator's behavior, i.e., speeding, driving carelessly or under the influence, isn't subject to change under any alternative.

### **Affected Environment**

A majority of national forest visitors travel on National Forest System roads. In 2006, there were approximately 359,400 visitors (National Visitor Use Monitoring Study, 2006 Data) on the Gila National Forest. Forest roads are also an integral part of the transportation system for rural counties. They provide access for research, fish and wildlife habitat management, range management, timber harvesting, fire protection, mining, insect and disease control, and private land use.

There are approximately 2,244 miles of roads accessing the Gila National Forest, which are under other federal, state, county, or private jurisdiction (Table 2). These roads provide travel routes through the national forest, and also provide local access.

**Table 2. Roads under other jurisdiction within or access Gila National Forest**

Road Jurisdiction <sup>a</sup>	Miles
<b>Bureau of Land Management</b>	1.8
<b>County</b>	802.6
<b>Other Forest Service</b>	23.8
<b>Private</b>	391.4
<b>State Highway</b>	686.5
<b>US Highway</b>	337.5
<b>Total Miles</b>	<b>2243.6</b>

a - Source: INFRA, GIS, roads\_other\_021209.xls

National Forest System roads are not intended to meet the transportation needs of the public at large. Instead, they are managed only for the use and administration of National Forest System lands. Although generally open and available for public use, that use is at the discretion of the Secretary of Agriculture. Through authorities delegated by the Secretary, the Forest Service may restrict or control traffic to meet specific management direction (USDA Forest Service, Forest Service Manual 7731). Roads in the National Forest Transportation System are not public roads in the same sense as roads that are under the jurisdiction of State and county road agencies. The National Forest System roads are designed, constructed, and maintained to provide access for the utilization and management of the national forest. The design and maintenance standards for these roads were developed to provide for public safety (see glossary for specific definitions from FSH 7709.58, 10 & 12.3). NFS roads are each managed in one of three ways: as closed long-term to motor vehicles (closed roads), roads maintained for high-clearance vehicles only (high-clearance roads), and roads maintained for passenger car vehicles.

Many of the roads on the Gila were constructed for timber harvest activities in the 1980's. Those same programs assisted with the maintenance and improvements of roads. As the number of timber sales declined, so did the supplemental road work. As a result, forest's ability to meet the maintenance needs of their road systems was reduced. In order to manage the road system more efficiently and effectively, the forest would need to update its road inventory as the current inventory had significant integrity issues.

In late 1991, the Forest made a decision to use GPS technology to update its transportation plan. At that time, FSM 7700 (1991 Amendment No. 7700-91-2) required Forests to "prepare and keep current a forest development transportation plan for each National Forest." The manual defined the transportation plan as "the official description of the forest development transportation system and consists of a base map or series of base maps showing locations of each facility and an inventory record defining their characteristics. These documents shall also serve as the forest development road system plan." The "inventory record" documenting the facilities characteristics was the Transportation Inventory System (TIS). The Gila's "series of base maps" was a compilation of quadrangle Mylar sheets. The road locations shown on the Mylar sheets had been generated by digitizing roads off aerial photography. The common perception by those who used the TIS database and the Mylar sheets was that neither resource was very reliable.

In early 1992, the Gila National Forest initiated its GPS road inventory effort. The objective was to GPS all roads found on Gila National Forest lands in order to update both the digitized line-work in the map series and the corresponding characteristic data housed in the TIS database. A road was defined as “A general term denoting a facility for the purposes of travel by vehicles greater than 50 inches in width (FSM 2355.05)” (FSH 7709.54, 10/12/1990). Any route meeting the definition of a road was GPSed, updating both the “inventory record” and the map line-work. The Forest completed the inventory process in 1998. Shortly thereafter, a new national database called Infra Travel Routes replaced TIS. The Infra database introduced some new terms and tools to assist forests with managing their road systems and to comply with the new road policies. The newly GPSed line-work would become a GIS coverage which would be linked road-by-road to its “inventory record” in the new Infra Travel Routes database. Forests were required to migrate the TIS data into Infra by February 1, 1999.

Some of the road characteristics tracked in TIS were no longer supported in Infra. One such characteristic was a field called origin. Origin was intended to track how the road came to be in existence. The options were “u” for created by use, “c” for constructed and “n” for not known. During the GPS inventory process, the Forest had populated the origin field with “u” in an attempt to identify those roads that were user created. These same roads were also coded as Operation Maintenance Level (OML) 2 roads on the Forest Development Road (FDR) System. When the TIS data was migrated into Infra, the origin data was lost and the user created roads simply became an OML 2 FDR. In 2001, the new road policy became law. The new policy removed the emphasis on transportation development by replacing “forest transportation plan” with “forest transportation atlas” and replacing “forest development road” (FDR) with “National Forest System road” (NFS Road). As a result, all FDR roads became NFS Roads.

The Gila continues to refine both the GIS line-work and the associated Infra Travel Routes data. Many updates and corrections have occurred during the course of the Travel Management (TM) process and through public involvement. These technical corrections also explain the discrepancies between the mileages shown in the Gila National Forest TAP (November 2009) and Alternative B (Table 3).

The TM process addresses the roads under the jurisdiction of the Gila National Forest. The Gila National Forests has approximately 4,613 miles of NFS roads open to motor vehicle use by the public (Table 3). Roads are defined as motor vehicle travel ways over 50 inches wide, except those designated and managed as a trail.

**Table 3. Existing Gila NFS roads by operational maintenance level**

Operational Maintenance Level	Miles
1 - Basic Custodial Care (Closed or Decommissioned)	1169
2 - Open to high-clearance vehicles	4196.3
3 - Suitable for Passenger Cars at lower speeds, typically single lane with turnouts	261.7
4 - Moderate Degree of User Comfort, typically double lane with aggregate surfacing	130.7
5 - High Degree of User Comfort, typically a paved double lane road	24.2
<b>Total Miles</b>	<b>5781.9</b>

## NFS Roads Maintenance Costs

Maintenance of NFS roads is performed and funded from three sources. First, the Gila National Forest receives an annual appropriation for road maintenance. Secondly, cooperators such as special use permittees and private landowners are given written authorization to use NFS roads. These cooperators contribute funds and/or perform maintenance on the roads they use commensurate with their level of use. Lastly, timber sale purchasers perform maintenance on the roads they use to remove the timber from the sale area. Table 4 shows the past four years of funding and miles of maintenance accomplished by the Gila National Forest with its annual appropriation. The amount of maintenance accomplished by cooperators and timber purchasers is insignificant and is not included in Table 4.

**Table 4. Funds spent on road maintenance**

Year	Miles of Road Maintained	Percent of Road System Maintained	Road Maintenance Cost - All Sources
2006	560	10.7%	\$883,000
2007	498	9.6%	\$1,023,000
2008	525.3	10%	\$1,243,000
2009	509.7	9.8%	\$1,035,000

The forest is completing basic custodial maintenance (grading the road surface, maintaining ditch lines, select sign replacement, minor brushing of roadside vegetation, etc.) on approximately 10% of the existing roads on an annual basis; all OML 3, 4 and 5 roads and approximately 140 miles of OML 2 roads. The majority of the miles maintained would not meet the criteria of fully maintained to standard, i.e., correcting all deficiencies to ensure the road and all its appurtenances are fully functional. Examples include replacing culverts, cattle guards, surfacing and signs based on their life cycle or when needed and removing all roadside vegetation encroaching into the roadway or that which is limiting site distances. The result of the forests inability to perform full maintenance is a maintenance backlog known as deferred maintenance. An estimate of the current deferred maintenance for NFS roads on the Gila National Forests is \$272,265,429. This number is based on Region 3 (Southwestern Region) 2005 Roads Deferred Maintenance summaries which were compiled from random surveys across various NFS roads within Region 3. The costs are based on a random sample of NFS roads which were then extrapolated across the

rest of the road miles to be used as an indicator of maintenance needs for the existing road system. The costs have been adjusted to account for inflation.

Using forest's road condition survey data, the Southwestern Regional Office developed average costs per mile that would be needed to fully maintain each mile of road. The average road maintenance costs per mile are shown in Table 5 below. These unit costs were applied to the mileages in each alternative to calculate the estimated total costs needed to maintain those NFS roads identified in the respective alternative (Appendix A). The average costs per mile take into account the frequency of maintenance appropriate for each operational maintenance level. The unit costs associated with OML 3, 4 and 5 roads are substantially greater than that of OML 1 and 2 roads. OML 3, 4 and 5 roads generally receive higher traffic volumes at higher speeds and therefore need maintenance more frequently. These roads have also received more investment in the way of drainage structures and features, cattle guards, and signing. In addition, OML 4 and 5 roads typically have some form of aggregate or bituminous surfacing that requires routine maintenance. The associated unit costs include amortized costs for the replacement of these features based on the features life cycle. Generally, OML 2 roads currently receive little or no maintenance; the majority of the road maintenance budget focuses on the higher standard OML 3, 4 and 5 roads. OML 2 roads are maintained for high-clearance vehicles such as pickup trucks and 4-wheel drive vehicles. OML 2 roads receive much lighter traffic volumes. Costs associated with closed OML 1 NFS roads include inspection of the road for resource damage and the costs to correct the identified deficiencies and to maintain closure devices. Even though current funding levels don't support maintaining all NFS roads, the economic comparison of alternatives assumes all designated NFS roads would be maintained fully to prevent resource damage and ensure public safety.

**Table 5. Annual maintenance cost per mile by operational maintenance level<sup>1</sup>**

<b>Operational Maintenance Level</b>	<b>Annual Maintenance Cost \$/Mile</b>
<b>1</b>	\$55
<b>2</b>	\$350
<b>3</b>	\$8,282
<b>4</b>	\$10,294
<b>5</b>	\$6,597

<sup>1</sup> Region 3 Engineering: R3\_FY05\_Lev1-5\_budget\_estimator1\_20061003.xls

If the Forest were to use its entire road maintenance budget for on the ground maintenance activities, the Forest would be able to fully maintain approximately 21% of its existing road system (Table 6). This is assuming an average road maintenance budget of approximately \$1.1 million and the costs per mile developed by the Regional Office. Road maintenance funds are also used to pay for salary, supplies, equipment maintenance, etc., in the form of support services associated with transportation planning, road maintenance, and construction. The portion of the budget that remains to maintain NFS roads is approximately \$0.56 million which the Gila uses to accomplish basic custodial maintenance on approximately 10% of its roads (Table 4).

**Table 6. Costs to maintain existing NFS roads fully to standard**

Operation Maintenance Level	# of Miles	Forest Annual Mtc Needs (per mile)	Forest Annual Mtc Impact to Forest Budget
5	24.2	\$ 6,597	\$ 159,647
4	130.7	\$ 10,294	\$ 1,345,426
3	261.7	\$ 8,282	\$ 2,167,399
2	4196.3	\$ 350	\$ 1,468,705
1	527.3	\$ 55	\$ 29,002
<b>Total:</b>	<b>5,140.2</b>		<b>\$ 5,170,179</b>

The Gila National Forest reviewed the public comments received on the proposed action and identified issues that were used to create the alternatives to the original proposed action. Appendix A is a comparison of all the alternatives to the existing condition (Alternative B, Table 6). The first table in Appendix A (A-1) portrays a comparison based on today's situation. The second table (A-2) takes into account the reduction in mileage associated with proposed Sierra County road conveyances (approximately 19 miles) and those roads proposed for written authorization. These are opportunities which will be pursued after an alternative is selected. Along with these opportunities, the forest will also reduce maintenance needs on any roads placed under seasonal restriction (Table 7) by keeping traffic off these roads during the rainy season.

**Table 7. The following road segments are proposed to be designated seasonally open**

Road No.	BMP <sup>2</sup>	EMP <sup>3</sup>	Total Miles	Description	Ranger District	Dates Seasonally Open	ALT B	ALT C	ALT D	ALT E	ALT F	ALT G
38	3.3	4.3	0.9	Eagle Peak Lookout	Reserve	April 1 through September 1	X <sup>1</sup>		X	X	X	X
154	6.9	7.1	0.2	Signal Peak Lookout	Silver City	April 1 through September 1	X <sup>1</sup>		X	X	X	X
770	5.3	5.6	0.3	Fox Mountain Lookout	Quemado	April 1 through September 1	X <sup>1</sup>	X	X	X	X	X
11 M	0.0	0.5	0.5	Mangas Mountain Lookout	Quemado	April 1 through September 1	X <sup>1</sup>	X	X	X	X	X
119 A	0.0	0.9	0.9	Bearwallow Lookout	Glenwood	April 1 through September 1	X <sup>1</sup>		X	X	X	X
4043 J	0.0	6.1	6.1	Resource Protection	Reserve	September 1 through February 28			X			
4172 O	0.0	1.1	1.1	Resource Protection	Reserve	September 1 through February 28			X			
4307 K	0.0	0.9	0.9	Resource Protection	Reserve	September 1 through February 28			X			

<sup>1</sup> Currently these roads are seasonally open from approximately April 1 through September 1

<sup>2</sup> BMP is beginning mile post

<sup>3</sup> EMP is ending mile post

The mileages shown under OML 2 in each of the alternatives in Appendix A include the proposed additions of both unauthorized roads and re-opening closed and decommissioned roads (Table 8). There will be some implementation costs associated with the addition of these roads.

**Table 8 Additional proposed roads by alternative**

Type of addition	Alt B	Alt C	Alt D	Alt E	Alt F	Alt G
<b>Proposed unauthorized routes added</b>	0.0	11.2	10.3	6.6	8.6	9.8
<b>Proposed closed or decommissioned roads to be re-opened</b>	0.0	9.1	6.0	6.0	6.1	6.1

Referring to the annual maintenance needs (maintained fully to standard) by alternative (Appendix A), it is apparent no alternative identifies a road system that can be fully maintained with the current funding level. Further, it is highly unlikely that the funding will be increased to the extent that all the roads in any of the proposed alternatives would see the basic custodial maintenance that is currently being performed on the 500 or so roads today (Table 4). Designating a road system that matches available funding levels would result in a system that would not meet administrative or public access needs. All of the proposed alternatives reduce the number of NFS road miles. Table 9 gives a breakdown of the actual miles that would be reflected on the MVUM for public access.

**Table 9. Miles of NFSRs to be shown on MVUM**

Operational Maintenance Level (OML)	NFTS Alt B Miles	Alt C Miles	Alt D Miles	Alt E Miles	Alt F Miles	Alt G Miles
decommissioned	641.7	637.7	638.2	638.2	638.2	638.2
1	527.3	702.3	1,820.8	2,383.3	1,505.5	1,527.3
2	4,196.3	4,036.5	2,917.2	2,351.0	3,230.6	3,210.1
3	261.7	261.7	261.2	261.2	261.3	261.3
4	130.7	130.7	130.7	130.7	130.7	130.7
5	24.2	24.2	24.2	24.2	24.2	24.2
Total NFSR Miles (OML 2 thru 5) <sup>1</sup>	4,612.9	4,453.1	3,333.3	2,767.1	3,646.8	3,626.3
% change from Alt B (OML 2-5 open roads)	0.0%	-3.5%	-27.7%	-40.0%	-20.9%	-21.4%
Administrative Use Only or Written Authorization	0.0	178.0	346.8	426.7	294.0	294.8
Total NFSR Miles shown on MVUM <sup>2</sup>	4,612.9	4,275.1	2,986.5	2,340.4	3,352.8	3,331.5
% change from Alt B (NFS Roads shown on MVUM)	0.0%	-7.3%	-35.3%	-49.3%	-27.3%	-27.8%

<sup>1</sup>National Forest System Roads (NFSR) receiving motorized use and administered by the Gila National Forest.

<sup>2</sup>NFSRs open to public travel.

Referring to Table 9 (mileage comparison) and Appendix A (cost comparison), Alternative C reduces the overall mileage of the no action alternative B by 3.5%, providing a reduction of 0.9% in budget needs. Alternative F and G are very similar in that they both reduce the number of NFS road miles by approximately 21% which translates to a budget needs reduction of approximately 6%. The largest mileage reductions are in Alternative E with a mileage reduction of 40% and a needs reduction of nearly 11%. Alternative D has a reduction in mileage of 28% and 7% in budgetary needs. In the end, the fewer miles of NFS roads designated will result in less miles requiring maintenance, i.e., moving OML 2 roads to an OML 1(closed) or decommissioned status. All the forests OML 3, 4 and 5 are retained throughout all the alternatives as these are the primary roads on the forest.

# Glossary

**All-Terrain Vehicle (ATV).** A type of off-highway vehicle that travels on three or more low-pressure tires; has handlebar steering; is less than or equal to 50 inches in width; and has a seat designed to be straddled by the operator (FSM 2353.05, FSH 2309.18.05, FSM 7705).

**Annual Maintenance.** Work performed to maintain serviceability, or repair failures during the year in which they occur. Includes preventive and/or cyclic maintenance performed in the year in which it is scheduled to occur. Unscheduled or catastrophic failures of components or assets may need to be repaired as a part of annual maintenance. (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998).

**Arterial Road (1).** A road that provides for relatively high travel speeds and minimum interference to through movement. (AASHTO, 2001, A Policy on Geometric Design of Highways and Streets)

**Arterial Road (2).** A NFS road that provides service to large land areas and usually connects with other arterial roads or public highways. (FSM 7705)

**Collector Road (1).** A road that serves predominant travel distances shorter than arterial roads at more moderate speeds. (AASHTO, 2001, A Policy on Geometric Design of Highways and Streets)

**Collector Road (2).** A NFS road that serves smaller areas than an arterial road and that usually connects arterial roads to local roads or terminal facilities. (FSM 7705)

**Deferred Maintenance.** Maintenance that was not performed when it should have been or when it was scheduled and which, therefore, was put off or delayed for a future period. When allowed to accumulate without limits or consideration of useful life, deferred maintenance leads to deterioration of performance, increased costs to repair, and decrease in asset value. Deferred maintenance needs may be categorized as critical or non-critical at any point in time. Continued deferral of non-critical maintenance will normally result in an increase in critical deferred maintenance. Code compliance (e.g. life safety, ADA, OSHA, environmental, etc.), Forest Plan Direction, Best Management Practices, Biological Evaluations, other regulatory or Executive Order compliance requirements, or applicable standards not met on schedule are considered deferred maintenance. (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998)

**Closed road.** A road placed in storage between intermittent uses. The period of storage must exceed 1 year. These roads are not shown on motor vehicle use maps. They are closed to all vehicular traffic but may be available and suitable for non-motorized uses. A closed road is not

the same as an obliterated or decommissioned road. A closed road may be opened again for use at some time in the future. (Region 3 Transportation Glossary)

**Coincident route:** Where a road and trail overlap; that is, they are located in the same path. (Santa Fe National Forest)

**Engineering Judgment** The evaluation of available information and the application of appropriate principles, standards, guidance, and practices as contained in these guidelines (EM-7700-30) and other sources for the purpose of considering motorized mixed use designation for a NFS road. Engineering judgment must be exercised by a qualified engineer or by an individual working under the supervision of a qualified engineer, through the application of procedures and criteria established by the qualified engineer. (EM-7700-30, December 2005)

**Fixed distance “corridor.”** A specified distance within certain designated routes solely for the purposes of dispersed camping or retrieval of a downed big game animal by an individual who has legally taken that animal. (Santa Fe National Forest)

**Forest road or trail.** A road or trail wholly or partly within or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources. (Travel Management Rule)

**Forest Transportation Atlas.** A display of the system of roads, trails and airfields of an administrative unit. (36 CFR 212.1, FSM 7705)

**Forest Transportation Facility.** A forest road or trail or an airfield that is displayed in a forest transportation atlas, including bridges, culverts, parking lots, marine access facilities, safety devices, and other improvements appurtenant to the forest transportation system. (36 CFR 212.1, FSM 7705)

**Highway-Legal Vehicle.** Any motor vehicle that is licensed or certified under State law for general operation on all public roads within the State. Operators of highway-legal vehicles are subject to State traffic law, including requirements for operator licensing. (FSM 7705)

**Interdisciplinary team:** A team of people having different specialties, such as wildlife or recreation, that work together on the design and analysis of a project. (Santa Fe National Forest)

**Local Road (1).** A road that primarily provides access to land adjacent to collector roads over relatively short distances at low speeds. (AASHTO, 2001, A Policy on Geometric Design of Highways and Streets)

**Local Road (2).** An NFS road that connects a terminal facility with collector roads, arterial roads, or public highways and that usually serves a single purpose involving intermittent use. (FSM 7705)

**Maintenance (1).** The preservation of the entire highway, including surface, shoulders, roadsides, structures and such traffic-control devices as are necessary for safe and efficient utilization of the highway. (23 USC 101, 23 CFR 460.2)

**Maintenance (2).** The upkeep of the entire forest transportation facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization. (36 CFR 212.1)

**Maintenance (3).** The act of keeping fixed assets in acceptable condition. It includes preventive maintenance normal repairs; replacement of parts and structural components, and other activities needed to preserve a fixed asset so that it continues to provide acceptable service and achieves its expected life. Maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than those originally intended. Maintenance includes work needed to meet laws, regulations, codes, and other legal direction as long as the original intent or purpose of the fixed asset is not changed. (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998)

**Maintenance Levels.** Defines the level of service provided by, and maintenance required for, a specific road, consistent with road management objectives and maintenance criteria. (FSH 7709.59, 62.32)

**LEVEL 1.** These are roads that have been placed in storage between intermittent uses. The period of storage must exceed 1 year. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate" all traffic. These roads are not shown on motor vehicle use maps. Roads receiving level 1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic but may be available and suitable for nonmotorized uses.

**LEVEL 2.** Assigned to roads open for use by high clearance vehicles. Passenger car traffic, user comfort, and user convenience are not considerations. Warning signs and traffic control devices are not provided with the exception that some signing, such as W-18-1 "No Traffic Signs," may be posted at intersections. Motorists should have no expectations of being alerted to potential hazards while driving these roads. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either to:

- a. Discourage or prohibit passenger cars, or
- b. Accept or discourage high clearance vehicles.

**LEVEL 3.** Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. The Manual on Uniform Traffic Control Devices (MUTCD) is applicable. Warning signs and traffic control devices are provided to alert motorists of situations that may violate expectations. Roads in this maintenance level are typically low speed with single lanes and turnouts. Appropriate traffic management strategies are either "encourage" or "accept." "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users.

**LEVEL 4.** Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. Manual on Uniform Traffic Control Devices is applicable. The most appropriate traffic management strategy is "encourage." However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times.

**LEVEL 5.** Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. Manual on Uniform Traffic Control Devices is applicable. The appropriate traffic management strategy is "encourage."

**Motorized big game retrieval:** Driving off a route to retrieve a legally killed elk or mule deer. (Santa Fe National Forest)

**Motorized cross-country travel.** Driving off a designated road or trail for any purpose. (Santa Fe National Forest)

**Motorized dispersed camping.** Driving off a road and parking to camp. (Santa Fe National Forest)

**Motor vehicle.** Any vehicle that is self-propelled, other than: (1) A vehicle operated on rails; and (2) Any wheelchair or mobility device, including one that is battery powered, that is designed solely for use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area. (Travel Management Rule)

**Motor Vehicle Use Map.** A map reflecting designated roads, trails, and areas on an administrative unit or a Ranger District of the National Forest System. (36 CFR 212.1, FSM 7705)

**Motorized Mixed Use.** Designation of an NFS road for use by both highway-legal and non-highway-legal motor vehicles. (FSM 7705)

**Off-highway vehicle (OHV)** includes any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural

terrain. (Travel Management Rule) This, for example, includes pickup trucks, cars with four-wheel drive, and motorcycles. (Santa Fe National Forest)

**Off-Highway Vehicle (1).** Any motor vehicle designed for or capable of cross county travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. (36 CFR 212.1, FSM 2353.05, FSH 2309.18.05, FSM 7705,)

**Off-Highway Vehicle (2).** Any motorized vehicle designed for or capable of cross county travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain; except that term excludes (A) any registered motorboat, (B) any fire, military, emergency or law enforcement vehicle when used for emergency purposes, and any combat or combat support vehicle when used for national defense purposes, and (C) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract. (EO 116-44 as amended by EO 11989). See also FSM 2355. 01 - Exhibit 01.

**Open road or trail.** A forest system road or trail designed and managed for motorized use. (Santa Fe National Forest)

**Open to Public Travel (1).** The road section is available, except during scheduled periods, extreme weather or emergency conditions, passable by four-wheel standard passenger cars, and open to the general public for use without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight, or class of registration. Toll plazas of public toll roads are not considered restrictive gates. (23 CFR 460.2)

**Open to Public Travel (2).** 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. (23 CFR 660.103)

**Open to vehicles legal on paved highways:** A road open to vehicles with licenses to drive on highways. At the time of this writing in New Mexico, most ATVs and some kinds of motorbikes are not allowed to drive on paved highways, but they are allowed on dirt roads. Some highways in New Mexico are dirt. This designation would not allow most ATVs and motorbikes to drive on the road. (Santa Fe National Forest)

**Operational Maintenance Level.** The maintenance level currently assigned to a road considering today's needs, road condition, budget constraints, and environmental concerns. It defines the level to which the road is currently being maintained. (FSH 7709.59, 62.3)

**Road.** A motor vehicle route over 50 inches wide, unless identified and managed as a trail. (36 CFR 212.1, FSM 7705)

**Road decommissioning:** (1) Activities that result in the stabilization and restoration of unneeded roads to a more natural state (36 CFR 212.1). (2) Activities that result in restoration of unneeded roads to a more natural state (FSM 7705, FSM 7734).

**Road Maintenance.** Ongoing upkeep of a road necessary to maintain or restore the road in accordance with its road management objectives. (FSM 7705, FSM 7714)

**Road Management Objectives (RMO).** RMOs document the intended purpose of an individual road in providing access to implement a land and resource management plan as well as decisions about applicable standards for the road. RMOs should be based on management area direction and access management objectives. RMOs contain design criteria, operation criteria, and maintenance criteria. (FSM 7709.59.11)

**Road Subject to the Highway Safety Act.** An NFS road that is open to public use in a standard passenger car, including a road with access restricted on a seasonal basis and a road closed during extreme weather conditions or for emergencies, but which is otherwise open to public travel. (FSM 7705)

**Road obliteration:** To deconstruct, decommission, deactivate, or dismantle a road; the denial of use, elimination of travelway functionality, and removal of the road from the forest development road system; return of the road corridor to resource production by natural or designated means (“A Guide for Road Closure and Obliteration in the FS,” June 1996, T and D Publication 9677 1205).

**Route:** A road or a trail. (FSM 7705, 2350.05)

**Routine Maintenance.** Work that is planned to be accomplished on a continuing basis, generally annually or more frequently. (FSH 7709.59.60)

**Other than Routine Maintenance.** Work that can be deferred without loss of road serviceability, until such time that the work can be economically or efficiently performed. The frequency of such work is generally longer than a year. FSH 7709.59.60

**Unauthorized road or trail.** A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas. (Travel Management Rule)

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**LISA, THE REFERENCE SECTION NEEDS HELP!!!!!!**