

CORONADO NATIONAL FOREST

DRAGOON MOUNTAINS

ECOSYSTEM MANAGEMENT AREA

Transportation Analysis Plan



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References

- Coronado National Forest, Forest Level Roads Analysis Report, January 13, 2003.
Prepared by Melissa D. Shafiqullah, P.E.

Introduction

Travel planning in the Forest Service was traditionally split between the engineering program for road management and the recreation program for trails management. A recently revised federal regulation now combines the analysis of the motorized use of trails and roads under the travel analysis process. This process is intended to identify opportunities for the Coronado National Forest transportation system to meet current or future management objectives, and to provide information that allows integration of ecological, social, and economic concerns into future decisions. This report is tailored to local situations and site conditions as identified by forest staffs and collaborated with public input. The outcome of this analysis is a set of recommendations for the forest transportation system. A thorough Travel Analysis supports subsequent National Environmental Policy Act (NEPA) process, allowing individual projects to be more site-specific and focused, while still addressing cumulative impacts.

On January 12, 2001, the Forest Service issued the final National Forest System Road Management Rule. This rule revised regulations concerning the management, use, and maintenance of the National Forest Transportation System. The final rule is intended to help ensure that additions to the National Forest System road network are essential for resource management and use; that construction, reconstruction, and maintenance of roads minimize adverse environmental impacts; that unneeded roads are decommissioned; and that restoration of ecological processes is initiated.

This Ecosystem Management Area level Transportation Analysis Plan (TAP) addresses existing open National Forest System Roads (NFSR) as well as non-system roads located in the Dragoon Mountains Ecosystem Management Area. This Transportation Analysis is not a NEPA document but supports NEPA Planning. It is an integrated ecological, social, and economic approach to transportation planning, addressing both existing and future roads. 36 CFR 212.5 requires that the forest identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands.

The Transportation Analysis process is described in Report FS-643, Roads Analysis: *Informing Decisions About Managing the National Forest Transportation System*. The Transportation Analysis requirements for Forest, Area, Watershed and Project Scale are described in *FSM 7700 - Transportation System: Chapter 7710 - Transportation Atlas, Records, and Analysis*; also see Interim Directives that may be policy at the time of the report. Below is the link to the complete FSM 7700 - Transportation System.
<http://fswb.wo.fs.fed.us/directives/fsm/7700/7710.rtf>

Objectives

The objective of this analysis is to provide the Forest Service Line Officer with critical information to ensure that existing and future road systems are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, are in balance with available funding for needed management actions, and are consistent with road management objectives FSM 7712.5. This analysis will not change or modify any existing NEPA decisions, but information generated by this analysis might cause the line officer to reconsider, and perhaps at some future date revise previous NEPA decisions.

Transportation Analysis Overview

This analysis is intended to identify changes to the national forest transportation system that may be needed to meet current or future management objectives, and to provide information that allows integration of ecological, social, and economic concerns into future decisions about areas. The process is intended to complement, rather than replace or preempt, other planning and decision processes.

Six Step Process

The analysis process is a six-step progression, regardless of scale, customized to local situations; landscape and site conditions coupled with public issues, forest plan land allocations, and management constraints. The process provides a set of possible road-related issues and analysis questions. Only those relevant questions and any additional suggestions on information needs and research findings that might apply to the project need to be addressed. The six steps are:

- Step 1. Setting up the Analysis
- Step 2. Describing the Situation
- Step 3. Identifying Issues
- Step 4. Assessing Benefits, Problems and Risks
- Step 5. Describing Opportunities and Setting Priorities
- Step 6. Reporting

The amount of time and effort spent on each step differs by the complexity of the issues, specific situations and available information particular to the project. Details about these steps can be found in FS-643 titled *Roads Analysis: Informing Decisions about Managing the National Forest Transportation System*.

Transportation Analysis Products

This report is a product of the analysis process and documents the information and analyses used to identify opportunities and priorities for future national forest road and motorized trail systems (where applicable). Included in this report is a transportation map displaying the existing/recommended road system and where applicable the existing/recommended motorized trail system and the needs and/or recommendations for each. This report will:

- Identify needed and unneeded roads;
- Identify road related social, environmental and public safety risks;
- Identify site-specific priorities and opportunities for road improvements and decommissioning;

- Identify areas of special sensitivity or any unique resource values.

This report will help managers address questions on road access related to ecosystem health and sustainability, commodity extraction, recreation, social and cultural values, and administrative uses.

This report may help to inform future management decisions on the merits and risks of building new roads; relocating, upgrading, or decommissioning existing roads; managing traffic; and enhancing, reducing, or discontinuing road maintenance. This analysis is based upon:

- Use of the best available scientific information;
- Economics;
- Social and economic costs and benefits of roads; and
- Contribution of existing and proposed roads to management objectives.
- Input from resource specialists

Step 1 – Setting Up the Analysis

Purpose, Scope and Objectives:

The purpose of the project is to identify the minimum road system needed to administer and utilize National Forest System (NFS) resources within budget constraints. This TAP will support the Forest Plan.

The scope of this analysis includes the area bounded by the Dragoon Ecosystem Management Area on the Douglas Ranger District. This is an Ecosystem Management Area level TAP with boundaries indicated on the map in Appendix F. A complete inventory of user-created routes is not required in order to complete a TAP. However, new routes are continually being created during the inventory process and therefore this report will only reflect user-created routes as of the date of this report. Some user-created routes are well located, provide excellent opportunities for outdoor recreation by motorized and non-motorized users alike, and would enhance the system of designated routes and areas. Other user-created routes are poorly located and cause unacceptable environmental impacts. The Coronado National Forest is committed to working with user groups and others to identify such routes and consider them on a site-specific basis. (36 CFR 212.2) This analysis will include recommendations where appropriate to add user-created routes to the forest transportation system or recommend prohibition or restriction of motor vehicle use on identified system roads.

The objective of this Transportation Analysis is to provide critical information for a minimum road system that is safe and responsive to public needs and desires, is affordable, conforms to the Coronado National Forest Plan, is efficiently managed, has minimal negative ecological effects on the land, and is sustainable with available funding for needed management actions. All existing system roads, additional motorized travel routes and

proposed roads within the project area, as well as access roads to the Forest Boundary are included in this Transportation Analysis Plan. This analysis provides a comprehensive look at the network of NFS roads and motorized NFS trails as well as all other user-created roads located in the EMA and will be used during the NEPA process. The TAP is intended to be a broad scale comprehensive look at the transportation network. The main objectives of the TAP are:

- Balance the need for access while minimizing risks by examining important ecological, social, and economic issues related to roads and trails;
- Furnish maps, tables, and narratives that display transportation management opportunities and strategies that address future access needs, and environmental concerns;
- Identify the need for changes by comparing the current road and motorized trail system and areas to the desired condition;
- Make recommendations to inform travel management decisions in subsequent NEPA documents.

This document provides information for the Forest Plan Revision and the Travel Management Rule as it relates to the Coronado National Forest. This analysis will look at the options concerning access issues and needs, proliferation of non-system roads, un-needed roads, user-created routes, mixed use, and OHV use where applicable.

Analysis Plan

The following items were specifically investigated in this analysis:

- Verify current road conditions and drivability.
- Verify accuracy of road locations on maps.
- ID Team and Line Officer identify preliminary access and resource issues, concerns and opportunities.
- Identify additional issues, concerns and opportunities through internal resource staffs.
- Recommend changes to the existing road system based on the findings of this roads analysis.

Information Needs

Information needs were identified and the IDT worked to gather as much information as available about the following items:

- Accurate location and condition of all system roads and motorized trails within the project area. A complete inventory of all unauthorized (user-created) routes is not required but the IDT felt it provided valuable information about what the public and other agencies were doing on the forest.
- Assessment of opportunities, problems and risks for all roads and motorized trails in the project area.
- Public access and recreational needs and desires in the area including access to private landowners.
- Areas of special sensitivity, resource values, or both.
- Best management practices for the area.
- Current forest plan and management direction for the area.

- Agency objectives and priorities.
- Interrelationship with other governmental jurisdictions for roads and motorized trails.
- Public and user group values and concerns.

Potential Key Issues, Concerns, and Opportunities

The following items were considered in this analysis:

- Mineral access
- Access to grazing allotments and improvements
- Special Uses
- OHV Recreation Use
- Cultural resources and Archaeological sites within the study area
- Motorized Trail and Vehicles route sharing
- Private property blocking federal land access
- Excessive roads in the study area

Step 2- Describing the Situation

Regional Setting

The Dragoon Mountains Ecosystem Management Area (EMA) is located within the Basin and Range physiographic province (Fenneman 1931) in southwestern Arizona. The spectacularly rugged Dragoon EMA contains 54,211 acres of the Dragoon Mountains and adjoining semi-desert grasslands and savannahs. Elevations range from 4,600 feet to the 7,519-foot Mt. Glenn. The slopes and valleys are bisected by intermittent riparian tributaries. The Dragoon Mountains, and specifically Cochise Stronghold (both East and West Stronghold Canyons), have long been recognized as a special place for the descendants of the Chiricahua Apaches (including Mescalero, San Carlos, and Chiricahua-Warm Springs-Fort Sill Apache Tribes).

The natural fortress of Cochise Stronghold’s granite domes and rock formations invite modern-day rock climbers, photographers, wildlife-viewers, and hikers from around the country to recreate in the scenic landscape. East Stronghold Canyon offers developed recreation opportunities while West Stronghold Canyon features a more dispersed recreational experience. Access throughout much of the EMA is via unpaved roads.

The following watersheds may be traversed by the alternative corridors being considered within the EMA:

- Noonan Canyon
- Grapevine Canyon
- Stronghold Canyon East
- Middlemarch Canyon
- Henry Canyon
- Mary A Canyon

- Slavin Gulch
- Stronghold Canyon West
- Fourr Canyon
- Jordan Canyon
- Wood Canyon
- Kerwin Canyon
- Carlink Canyon

The prominent vegetation within the Dragoon EMA can be characterized as Upper Sonoran (Lowe 1964). The vegetation types vary between desert, desert grassland, woodland, riparian and forest communities in response to changes in elevation, precipitation, and temperature.

The following communities are located in proximity:

- Dragoon
- Benson
- Tombstone
- Sunsites
- Pearce
- St. David

The Interdisciplinary Team (Appendix C) convened and examined the existing transportation system in relation to current forest plan direction. This required a description of the road system; its location, ownership, condition, and current forest plan direction. A description of the physical, biological, social, cultural, economic and political aspects of the analysis area was discussed and generated by the team.

A map of the area's transportation system was developed to facilitate this description. (See Appendix F).

The products of this step are:

- A map or other descriptions of the existing road system defined by the current forest plan, and
- Basic data needed to address transportation analysis issues and concerns.

The following table provides existing data such as length of road within the Forest Boundary, current maintenance level and route status as listed in the INFRA database. The table also provides data on user-created routes that were GPS'd using a Trimble GeoXT handheld unit. The table provides data above and beyond what is required by a TAP. The information provided in the table was also used to generate existing densities for the EMA.

Existing Direction for Roads and Motorized Trails

Travel analysis is focused on identifying needed changes to the forest transportation system; identifying the existing direction is an important first step. In general terms, the existing direction includes the National Forest System roads, trails and areas currently managed for

motor vehicle use. Restrictions, prohibitions, and closures on motor vehicle use are also part of the existing direction on the forest.

Existing direction from laws and regulations, official directives, forest plans, forest orders, and forest wide or project specific roads decisions, determine the motorized routes and areas open to public motorized travel. This information about a unit's managed system is often documented in road and motorized trail management objectives, maps, Recreation Opportunity Guides, tabular databases, and other sources.

Open Authorized Road (OA)

Existing roads open to the public for motorized use are forest system roads, which are currently in the Forest's INFRA database with attributes reflecting an existing, National Forest System Road under the jurisdiction of the Forest Service with an operational maintenance level between 2 and 5.

Closed Authorized Road (CA)

Closed roads have been closed to vehicle traffic for at least a year but are necessary for future activities. If there is a future need for the road but no immediate need, then it is placed in the system as a closed (ML1) road. They appear in the INFRA database with an operational maintenance level of 1. If there is no compelling administrative or public need for the road in the long-term, then it should be decommissioned.

Open Unauthorized Road (OU)

An unauthorized road is not included in a forest transportation atlas or database. These roads are usually established by various users over time. They were not planned, designed, or constructed by the Forest Service.

Decommissioned Road (D)

Decommissioned roads have some type of physical closure at their entrance or may be completely obliterated. They appear in the INFRA database with a route status of decommissioned. In order to return a decommissioned road to service as a system road, the NEPA process must be followed even when no physical work is required to allow motorized traffic back on the road.

Table 2.1 – Existing Transportation System

Existing System	Road Classifications						Dragoon EMA	
	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
84	1.93						3	Cochise Stronghold - 9.31 mi long w/ 7.38 miles off Forest
84-Equestrian Pkng			0.10					Access to equestrian parking lot- never added to INFRA
84-Schilling			0.06					Schilling House - Rd never added to INFRA; historical site
84-Brophy			0.14					Brophy House - Rd never added to INFRA; part of cabin rental program
84-Pvt Dr			0.26					Nonsystem Rd - Leads to private land; all on forest
345	6.65						3	Middle March Pass - 20.60 mi long w/ 13.95 miles off Forest
345-10.34R-1			0.31					Nonsystem Rd
345-11.37R-1			0.29					Nonsystem Rd
345-11.37R-2			0.26					Nonsystem Rd
345-15.02L-1			0.61					Nonsystem Rd
345-4838						1.55		Proposed new route
345 A	3.82						2,3	Sorin - 0.33 miles are ML 3
345 A-1.35R-1			0.64					Nonsystem Rd - 4842 is wrong number
687	7.29						2	Slavin -

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OJ - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
687-2.36R-1			0.33					Nonsystem Rd - previously labeled 687 E; system rd
687-2.36R-2			0.03					Nonsystem Rd - previously labeled 687 E; system rd
687-2.36L-1			0.02					Dispersed camping area
687-2.50L-1			0.05					Dispersed camping area
687-5.14R-1			0.09					Un-named- Dispersed Campground access; 487 ft off road
687-5.44L-1			0.22					Nonsystem Rd - 0.22 miles on forest; 2.25 mi off forest
687-5.81R-1			0.15					Nonsystem Rd - previously labeled 687-5.74R-1
687-6.50R-1			0.24					Nonsystem Rd - previously labeled 687 K
687 B		0.34					1	Un-named - no evidence of road on ground
688	2.50						2	West Stronghold -
688-Disp CG 1			0.05					Dispersed camping area
688 A		0.33					1	Un-named
688 B	0.49						2	Un-named
689	2.05						2	Quarry Road - Alpha Calcit Mine access. 2.72 mi. long with 0.67 mi off FS. Road placed in Roadless Area by mistake.
689-4217			0.51					Nonsystem Rd - Powerline road 1.95 mi long; 1.44 miles off Forest.

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
697	2.92						2	China Camp Road
697-0.55L-1			0.13					Nonsystem Rd
698	0.63						2	Little Spring - Road access to private land; 0.99 miles long with 0.36 mi off Forest
795	6.48						2	Blacktail Hill - 8.42 mi long w/ 1.94 miles off Forest
795-7.72L-1			1.14					Nonsystem Rd - May have need for future Forest access
2002	0.96						2	Prospect
4212	0.43						2	Un-named -
4216	1.07						2	Wood Canyon -
4217	0.22						2	Marmobello - 1.20 mi long w/ 0.98 miles off Forest. Easement goes thru State Trust Land
4218	0.36						2	Marmo
4218 A	0.08						2	Marmobel
4219	0.16						2	Bello - 0.33 mi long w/ 0.16 miles on Forest
4220	0.40						2	Guzzler
4221	0.19						2	Marble
4226		0.43					1	Un-named - Correct road number is 4226
4227	0.15	0.35					2,1	White House Ruins - partly on private

Existing System	Road Classifications							Dragoon EMA
	Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OJ - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	
4227 A	0.22						2	Grave - Begins on Private; no visible sign of road on aerial
4227 B		0.05					1	Un-named - 0.22 mi long w/ 0.17 mi off FS; leads to Pvt
4228				1.15			D	Packard - Road has been decommissioned sometime in the past
4229		0.17		0.62			1,D	Head -
4230		0.95					1	Duran - route not where shown on RATM; part of road previously labeled as 4805-0.41L-1
4230-0.53R-1			1.35					Nonsystem Rd - previously labeled as part of 4805
4230-0.53R-2			0.44					Nonsystem Rd - previously labeled as part of 4805-0.97L-1
4231		0.81					1	West -
4232	1.39						2,3	Dragoon Spring - 2.09 mi long w/ 0.70 miles off Forest
4233				0.89			D	Un-named - Correct road number is 4233; previously obliterated
4235	1.49						2	Cave Spring
4235-0.83R-1			0.08					Nonsystem Rd - leads to water tank
4236	3.91						2	Fourr Canyon - leads to tank; No public access off 687; 4.14 mi long w/ 0.23 mi off forest
4236-0.29R-1			0.44					Nonsystem Rd - reroute for 4236 near water tank

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
4237				1.44			D	Raney - previously decommissioned
4238				0.23			D	Fellow - No visible evidence of road on ground
4239	0.57						2	Little - correct road number is 4239
4240	0.16						2	Council Rock - 0.50 mi long w/ 0.34 mi off FS; Road does not exist anymore
4376	0.87						2	Stock
4377	1.36						2	Glenn - leads to private
4377-0.51R-1			0.52					Nonsystem Rd
4377-1.19R-1			0.05					Nonsystem Rd - Leads to private land; 0.14 mi long w/ 0.09 mi off forest; previously labeled as part of 4377
4378	0.81						2	St. Francis
4378-0.57R-1			0.62					Nonsystem Rd - Leads to private land - Requires authorization with easement; 0.65 mi long w/ 0.03 mi off forest
4378-0.80R-1			0.42					Nonsystem Rd
4379	0.55						2	Un-named -Correct Rd number is 4379
4380	0.16						2	Ron - 0.51 mi long w/ 0.35 mi off FS; only traces of Rd left;
4381	0.00						2	Vine - Entire road is on private land; 0.61 mi
4381-4382			0.22					Nonsystem Rd - connects 4381 and 4382; 0.24 mi long w/ 0.02 mi off forest

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OJ - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
4382	0.95						2	Grapevine - 1.71 mi long w/ 0.76 miles off Forest; District to investigate possible decommission
4382-0.21L-1			0.11					Nonsystem Rd; 0.17 mi long w/ 0.06 mi off forest
4382-reroute						0.24		Proposed new route - reroute around private land
4383	0.26						2	Charley - 0.56 mi long w/ 0.30 miles off Forest - access is thru private
4382-4383						0.83		Proposed new route - reroute around private land
4384	0.91						2	Noonan - 0.96 mi long w/ 0.05 mi on private
4383-4384			0.14					Nonsystem Rd - connects 4383 and 4384; previously labeled as part of 4384
4385				0.70			D	Noon - Road has been decommissioned sometime in the past
4386				1.43			D	Dick - Road has been decommissioned sometime in the past
4387	2.48						2	Searle - Legal Access from FR 345 only; 3.09 mi long w/ 0.61 mi on private
4387-0.37L-1			0.29					Nonsystem Rd
4388	2.01						2	Cobra Loma Mine - access road
4388-0.30L-1			0.18					Nonsystem Rd
4388-0.96R-1			0.18					Nonsystem Rd

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
4388-1.00L-1			0.71					Nonsystem Rd - leads to mine shaft and adit
4388-1.26R-1			1.16					Cobra Loma Mine access and leads to Trail 276
4388-1.26R-2			0.50					Nonsystem Rd - old mine road
4388-1.64R-1			0.16					Nonsystem Rd
4389	0.19						2	Gordon - No Forest Access; 0.22 mi long w/ 0.03 mi off forest
4390	0.72						2	Un-named
4391	1.78						2	Black Diamond - Locked gate at Private. 4.68 miles long w/ 2.90 mi off FS
4392	0.82						2	Walnut Spring - No access to this road available - Rd is 0.86 mi long w/ 0.04 mi off FS
4393	1.40						2	Escapule
4393-0.40L-1			0.13					Nonsystem Rd - redundant road to mine site
4394	2.27						2	Majo - Locked gate at Private
4396	4.27						2	Mary and Henry - 7.70 mi long w/ 3.43 mi off FS; leads to mine site
4396-spur			0.63					Nonsystem Rd - previously labeled as part of 4396
4396 A		0.43					1	Mary's Mine - Road has been abandoned; correct rd number is 4396 A

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
4397	0.84						2	Henry Canyon
4398	0.53						2	Pinon Spring - Locked gate at private. No access available. 1.18 mi long w/ 0.65 mi off forest
4803				0.77			D	Comstock - No evidence of road on ground. Decommissioned.
4804	0.42						2	Flat - Correct road number is 4804.
4805	1.51						2	Smith Hill - no visible sign of road on imagery
4806	0.43						2	Tenneco
4806-0.38L-1			0.08					Nonsystem Rd
4807		0.41					1	Maryland - Road closed at intersection with FR 4387
4809	0.73						2	Prude Loop - correct rd number is 4809
4809-0.67R-1			0.28					Nonsystem Rd - was 84 C in last report incorrectly
4810	0.55						2	Carlisk Spring
4812	0.06						2	Turkey - 0.27 mi long w/ 0.21 mi of road on private - no access
4822	0.13						2	John's Windmill - Correct road number is 4822
4823		1.80					1	Smith Wash - 1.83 mi long w/ 0.03 mi off forest; Correct Rd number 4823
4824	0.53						2	Buckshot - 0.54 mi long w/ 0.01 mi off forest
4825				0.22			D	Mine Shaft - previously obliterated

Existing System	Road Classifications						Dragoon EMA	
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
4826				0.53			D	Smith Well - previously obliterated
4827	0.35						2	Lisa - Correct road number is 4827; 0.11 mi on the loop may be gone
4828	0.48						2	Smith Mine
4829	0.75						2	Mary A Canyon
4830	0.19						2	Silver Cloud - Road passes thru private land; 0.52 mi long w/ 0.33 mi off forest
4835	0.16						2	Majo Spring - Locked gate at private. No access available.
4836	0.13						2	Hunter - Locked gate at private. No access available.
4837	0.81						2	Goodrich Spring - Locked gate at private. No access available.
4838	1.00						2	Seep - Locked gate at Private. ROW acquisition needed. (Rd is 2.54 mi long w/ 1.54 miles off Forest)
4849	0.59						2	Tank Road -
4861	0.33						2	Hunt - 0.70 mi long w/ 0.37 mi off FS
4863	0.12						2	Arrowhead Camp - entrance to private- 0.22 mi long w/ 0.10 mi off FS
4870		0.20					1	Tungsten
Orange St.			0.00					Nonsystem Rd - all on private (previously labeled 4380)

Existing System	Road Classifications							Dragoon EMA
Road Number	OA - Open Authorized (Miles) on Forest	CA - Closed Authorized; ML1 (Miles)	OU - Open Unauthorized (Miles)	Route Status Decommissioned (miles)	OHV Routes (Miles)	New Proposed Routes (Miles)	Operational Maintenance Level	Comments
S. Cochise Stronghold Rd.			0.00					Nonsystem Rd - all on private (previously labeled 4387)
W. Lightning Rd			0.00					Nonsystem Rd - all on private
TOTALS	78.97	6.27	14.32	7.98	0.00	2.62		

Table 2.1. Legend

* Road Classifications:

OA = Open Authorized Road on the Forest Road System
OU = Open Unauthorized Road, not on the Forest Road System
CA = Closed Authorized Road on the Forest Road System
CU = Closed Unauthorized Road, not on the Forest Road System
D = Identified for Decommissioning

Functional Classes: (*Functional Class applies only to roads under Forest Service jurisdiction*)

A = Arterial – Provides service to large land areas and usually connects with other arterials or public highways.
C = Collector – Provides service to smaller land areas than an arterial road, usually connects arterial roads to local roads or terminal facilities.
L = Local – Connects terminal facilities with forest collector or arterial roads or public highways, usually single purpose transportation facilities.
T = Trail – Convert back to Trail (not an official designation in the data dictionary, used for this document only and applies to one road)

Maintenance Level Descriptions:

1 = Basic custodial care (closed)	5 = High degree of user comfort
2 = High clearance vehicles	C = Convert use
3 = Suitable for passenger cars	D = Decommission
4 = Moderate degree of user comfort	

Maintenance levels only apply to roads under Forest Service jurisdiction. For unauthorized roads, the maintenance levels are recommended; they would not be implemented until the recommendations are adopted.

- *Operational Mtc. Level = How the road is maintained on-the-ground.*
- *Objective Mtc. Level = Maintenance level the road would be maintained to if funding permitted. Reconstruction may be required before the road could be maintained to this level.*

Decommissioning Methods:

- Reestablish former drainage patterns, stabilize slopes, and restore vegetation.
- Block the entrance to a road, install water bars and/or outslope. Entrance treatment can include earthen barriers or hide with brush or woody debris.
- Remove culverts, reestablish drainage-ways, remove unstable fills, pull back road shoulders, and scatter slash on the roadbed.
- Completely eliminate the roadbed by restoring natural contours and slopes.
- Gate and closure order to eliminate all human uses.
- Abandon and monitor for motorized use.
- Other methods designed to meet the specific conditions associated with the unneeded roads.

Table 2.2 - Existing Road Classifications

Road Classification	Existing Miles of Road
OA = Open Authorized	78.97
CA = Closed Authorized (ML1)	6.27
OU = Open Unauthorized (Non-system)	14.32
OHV	0.00
Total Miles, All Existing Roads	99.56
Previously decommissioned roads not counted in total miles	7.98

Step 3- Identifying Issues

The following issues are addressed in this analysis and described in more detail in Step 4:

- Mineral access
- Private land access
- Special Uses
- Range Management
- OHV Recreation Use
- Archaeological sites within the study area
- Trail and Vehicles route sharing
- Private property blocking federal land access
- Excessive roads in the study area
- Dispersed camping and user created routes
- Fire Protection and Safety

The purpose of this step is to:

- Describe resource concerns and issues
- Identify the key questions and issues affecting road-related management

The products of this step are:

- A summary of key road-related issues, including their origin and basis, and
- A description of the status of the current data

The interdisciplinary team met in September 2008 and again in February 2010 and identified preliminary issues. A review of the questions in FS-643 titled *Roads Analysis: Informing Decisions about Managing the National Forest Transportation System* was also used in order to identify any issues not previously made aware for this project.

Answers to the following questions helped the IDT to identify the most important road-related issues in the analysis area.

- What are the primary public issues and concerns related to roads and access?
- What are the primary management concerns (internal issues) related to roads and access?
- What are the primary legal constraints on roads and roads management?
- What additional information will be needed to better understand and define the key issues?
- What resources and skills are available to complete an effective analysis?

Road Maintenance

The Forest Service objective for system roads is to operate and maintain National Forest System Roads (NFSR) roads in a manner that meets road management objectives (RMOs) and that provides for:

1. Safe and efficient travel;
2. Access for the administration, utilization, and protection of its lands; and
3. Protection of the environment, adjacent resources, and public investment.

The Forest Service (FS) is responsible for maintenance of NFSRs resulting from traffic associated with:

- a. Administration of FS lands,
- b. Noncommercial uses and activities,
- c. Incidental noncommercial use related to ownership or occupancy of isolated parcels of private land served by an NFS road,
- d. Commercial road use that is not subject to cost recovery, and
- e. Incidental public use.

The amount and frequency of maintenance is subject to: availability of funding, obligations, agreements, and protecting the FS's investment.

Road Maintenance Levels

Maintenance levels are defined by the Forest Service Handbook (FSH) 7709.58 as the level of service provided by and maintenance required for, a specific road. The maintenance level must be consistent with RMOs, and maintenance criteria.

The maintenance level is determined by the Line Officer by considering the following factors:

- Resource program needs
- Environmental and resource protection requirements
- Visual quality objectives
- Recreation spectrum classes
- Road investment protection requirements
- Service life and current operational status

- User safety
- Volume, type, class, and composition of traffic.

The RMO identifies the current maintenance level or operational maintenance level and desired maintenance level or objective maintenance level for each road. The operational and objective maintenance level may or may not be the same for a road depending on the current needs, road condition, budget constraints, and environmental concerns and those forecasted for the future.

The following are the five maintenance levels classified by the FSH 7709.58:

Road Maintenance Level 5 (ML5) – 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. These roads are subject to the Highway Safety Act (HSA) and Manual of Uniform Traffic Control Devices (MUTCD). These roads have the following characteristics:

- Highest traffic volume and speeds
- Typically connect to State and county roads
- Usually arterial and collector roads
- Drainage addressed by use of culverts.

Road Maintenance Level 4 (ML4) – roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most are double-lane and aggregate surfaced. These roads are also subject to the HSA and MUTCD and have the following characteristics:

- Moderate traffic volume and speeds
- May connect to county roads
- Usually a collector road
- Drainage addressed by use of culverts

Road Maintenance Level 3 (ML3) – roads that are open and maintained for travel by prudent drivers in a standard passenger car. User comfort and convenience are low priorities. These roads are typically low speed, single lane with turnouts, and spot surfacing. These roads are also subject to the HSA and MUTCD and have the following characteristics:

- Moderate to low traffic volume
- Typically connect to arterial and collector road, and/or are collector roads
- Combination of grade dips and culverts provide drainage
- Potholing or washboarding may occur.

Road Maintenance Level 2 (ML2) – roads are open for use by high-clearance vehicles; passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses.

The following characterize these roads:

- Low traffic volume and speed
- Typically local roads
- Typically connect collector or other local roads
- Grade dips are the preferred drainage treatment
- Surface smoothness is not a consideration
- Not subject to HSA

Road Maintenance Level 1 (ML1) – roads that are closed to vehicular traffic intermittently for periods that exceed 1 year. Basic custodial maintenance is performed to protect adjacent resources and enable the road to facilitate future management activities. Planned road deterioration may occur at this level; may be open and suitable for non-motorized uses. Roads in this category 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. ML1 roads have the following attributes:

- Vehicular traffic is eliminated, including administrative traffic
- Entrance is physically blocked or disguised
- No maintenance other than a condition survey may be required so long as no potential exists for resource damage
- Not subject to HSA

Annual Maintenance is the performance of one or more work activities needed to preserve or protect a roadway including surface, shoulders, roadside, structures and such traffic-control devices as are necessary for its safe and efficient use to the standard provided through construction, the most recent reconstruction, or other condition as agreed.

Unpaved roads require much more frequent maintenance than paved roads, especially after wet periods and when accommodating increased traffic. Wheel motion shoves material to the outside (as well as in-between travelled lanes), leading to rutting, channelizing of water, reduced water-runoff to ditch line, and eventual road damage if unchecked. As long as the process is interrupted early enough simple re-grading is sufficient for several years, with material being pushed back into shape.

Another problem with well-used higher-speed unpaved roads is washboarding — the formation of corrugations across the surface at right angles to the direction of travel. They can become severe enough to cause vibration in vehicles so that bolts loosen or cracks form in components. Grading removes the corrugations. Good quality surface materials can help prevent corrugations from re-forming.

Deferred maintenance is the practice of postponing needed maintenance activities such as grading for one or more maintenance cycles in order to save money and/or labor. The failure to perform needed repairs leads to road deterioration and ultimately road impairment. Sustained deferred maintenance may result in higher eventual maintenance costs, road failure, and in some cases, road safety implications.

The accounting standard-setter for the U.S. Government defines deferred maintenance in this way, *“Deferred maintenance” is maintenance that was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed for a future period. For purposes of this standard, maintenance is described as 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 the asset so that it continues to provide acceptable services 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.

An example of deferred maintenance for a system road is not performing recommended routine maintenance or repairs as recommended in road condition surveys: the road will not remain at its recommended standard or serviceability and will be more likely to degrade and become damaged over time.

Maintenance competes for funding with other programs and is often deferred because appropriations are insufficient or were redirected to other priorities or projects. Deferred maintenance is not routinely reported, however awareness of the implications of deferred road maintenance exists in the Forest Service.

Operating a road system and attempting balance between resource protection and public wishes is a challenging task. This travel analysis helps to fulfill two major requirements of 36 CFR 212, Subpart A – *Administration of the Forest Transportation System* and Subpart B- *Designation of Roads, Trails, and Areas for Motor Vehicle Use*:

- **212.5** Road System Management - Identify the minimum road system.
- **212.55 & 212.56** - Identify and subsequently designate a system of roads, motorized trails, and areas for motor vehicle use.

In so far as feasible there is a need to get more financially in balance with road maintenance funding versus road maintenance needs. The forest's authorized road network will continue to degrade and have access impacts as well as environmental impacts as long as needs exceed funded maintenance efforts. Decreasing Forest maintenance costs and increasing road maintenance funding should continue to be our overall goal. Reducing costs, balancing resource needs and meeting access needs are major components of our operation and maintenance efforts. Strategies that reduce road maintenance costs include:

- Lower road maintenance levels (e.g. ML3 to ML2).
- Decrease mileage by closing or decommissioning system roads (abandonment or obliteration).
- Transfer jurisdiction (ownership) or maintenance responsibilities to other maintenance entities (including private land owners and home owner associations) as appropriate.
- Convert open and/or closed roads to motorized trails recognizing this will increase trail maintenance costs (class 1, 2, or 3 which is basically a minimally maintained, natural surfaced trail).
- Reduce mileage of paved roads.
- Work cooperatively with other public road agencies and associations for material and equipment/labor sharing opportunities.
- A combination of the above strategies.

The Coronado National Forest **Annual Road Maintenance Plan** provides a list of roads that will receive maintenance during the current fiscal year. Roads on each District receiving maintenance are prioritized by District Ranger and staff and known critical road safety needs

receive the highest priority. The entire Coronado National Forest has approximately 1715 miles of ML 2 roads, approximately 289 miles of ML 3 roads, about 24 miles of ML 4 roads, and about 4 miles of ML 5 roads. Therefore there are a total of about 2100 miles of National Forest System Roads on this forest.

Forest wide Operational Maintenance Level Miles:

District	ML 1 (miles)	ML 2 (miles)	ML 3 (miles)	ML 4 (miles)	ML 5 (miles)
Douglas	12.94	285.024	76.834	1.402	0.00
Nogales	2.91	458.355	69.466	1.450	0.00
Sierra Vista	18.02	633.353	83.599	0.063	3.93
Safford	18.89	207.157	12.118	0.775	0.00
Santa Catalina	15.94	130.8985	47.0944	19.9194	0.00
Forest Total	68.70	1714.7875	289.1114	23.6094	3.93
*Percent receiving annual maintenance	0%	8.28%	60.9%	8.47%	0%

*Based on FY2010 Road Accomplishments

As noted in the table above, not all roads receive maintenance every year. In 2010, a total of 320 miles out of 2100 miles of roads were maintained, which represents about 15.24% of the total forest total miles. This is about average for a typical year on the Coronado with a 3 man road crew. Based on the FY2010 road accomplishment report, only 142 miles of ML 2 roads or 8.3% of all forest ML 2 road miles received maintenance. Also during FY2010, 176 miles of ML 3 road received maintenance which represents approximately 61% of all ML 3 roads. Since very few ML4 and ML 5 roads receive maintenance only 8.5 % ML 4 roads and 0% ML 5 roads received maintenance in FY 2010. The lion's share of the annual road maintenance is concentrated on maintenance level 3 roads.

The Coronado has conducted required annual road condition surveys since 1999 to determine the maintenance and associated funding needed to maintain roads to the required safety standards and assigned maintenance levels. Condition surveys describe the features of the road (e.g. surfacing material, ditches, culverts, signs, etc.) and their current condition. Deferred and annual maintenance costs for those roads are then calculated using a regional standard cost guide.

Maintenance Level 2 Roads

The only standards for a ML 2 road are for route marker signing. Most high road density areas are attributable to ML 2 roads. In most cases nonsystem roads are contributing to the road density in the EMA and are good candidates for decommissioning in order to reduce that density.

Maintenance Level 3, 4, 5 Roads

The Highway Safety Act requires maintenance level 3-5 roads to meet the standards for directional, regulatory, and warning signs. Clearing for sight distance and safety is not occurring as often as needed due to limited funding. Therefore with limited funding, the focus must be on high-priority roads which are identified in the Annual Maintenance Plan which is approved by

the line officer. High priority roads are often maintenance level 3-5 roads and almost always have higher traffic volumes than maintenance level 2 roads.

Although the initial remedy may be to decommission roads to provide a sustainable system, the expense of decommissioning would need to include both the planning cost of conducting the appropriate environmental analysis as well as the physical implementation cost of achieving the desired objective. Such costs may include provision for new road construction, or adoption of a non-system road to access a portion of the area served by a decommission-candidate road.

Shared or exchanged road maintenance is occurring primarily on maintenance level 3-5 roads, but could be increased overall. Road maintenance agreements with surrounding counties in which the Forest has roads have expired but are still in place. Agreements with other governments and entities need to be investigated in the future. Counties are also attempting to shed road maintenance costs and responsibilities for similar reasons. Efficiencies which serve all public road agencies are actively sought.

Legal public motorized access on or to system roads is lacking in many locations, often on roads which are currently being used by the public. Closure of such access is often sudden, difficult and time consuming to resolve—if possible at all—and fully within the rights of private property owners who own lands needed for such access. Resolving access problems often consumes funding otherwise used for road maintenance. Conversely, unequivocal lack of legal public access with no probable solution is an opportunity to decommission authorized roads and thereby save maintenance funds for roads which provide the public with legal access to their public land. Such decommissioning actions can also be an inducement for private landowners who might otherwise close public access routes across their land to cooperatively work toward a mutually acceptable legal motorized public access route across and/or adjacent to their land in order to retain designated system roads further inside the National Forest behind their property.

Road Maintenance Frequency

The quantity and frequency of maintenance is subject to: availability of funding, obligations under agreements, and protecting the FS’s investment. In accordance with the maintenance levels described above the following table displays the cyclic activities required to properly maintain roads:

Activity	As Needed		Annually		
	ML 1	ML 2	ML 3	ML 4	ML 5
Maintain traveled way for protection of investment, resource values, and to provide some degree of user comfort			Low	Moderate	High
Maintain road prism to provide for passage of high clearance vehicles		X			
Maintain shoulder for structural integrity of roadway and drainage functionality		X	X	X	X

Activity	As Needed		Annually		
	ML 1	ML 2	ML 3	ML 4	ML 5
Keep drainage structures/features functional and prevent unacceptable resource damage	X	X	X	X	X
Vegetation removal to provide for sight distance			X	X	X
Vegetation removal for access and to control resource damage		X			
Alleviate erosion or sedimentation on or from roadway	X				
Remove roadside hazard trees			X	X	X
Maintain structures to provide for passage of planned traffic and preserve structure and to protect natural resources		X	X	X	X
Install/maintain warning, regulatory, and guide signs and other traffic devices to provide for existing traffic			X	X	X

Road Maintenance Costs

Federally appropriated funds used for road operation and maintenance on the Coronado National Forest (CNF) have ranged from about \$750,000 to \$1,100,000 per year over the last five years, with the average funding being approximately \$850,000 per year.

Besides the on-the-ground performance of maintenance related work, all road systems have fixed costs associated with management of the systems. Management includes:

- Oversight of the road system.
- Establishing and maintaining road management systems required by law (e.g., pavement management, bridge management, safety management, sign management, and congestion management).
- Collecting and maintaining data about the road system (e.g., conducting road condition surveys, gathering traffic count and vehicle accident information, etc).
- Providing information services (e.g., maps, road condition reporting, etc).
- Out-year project planning (e.g., specialist surveys/reports, agreements with other entities, etc).
- Office support (contracting officers, utilities, equipment, etc.)

Over the last five years, fixed costs accounted for approximately **30 percent** of the appropriated funds leaving the other 70 percent for on-the-ground maintenance. The table below lists the existing forest-wide average annual maintenance cost per mile per maintenance level for roads on the CNF. The costs were calculated based on an average road maintenance budget of \$850,000 per year.

Road maintenance costs for entire Forest

Operational Maintenance Level	Annual Cost per Mile	AVG Miles Maintained	Annual Cost
5*	\$ 0	0	\$ 0
4	\$4250	2	\$ 8,500
3	\$2656	176	\$467,456
2	\$2634	142	\$374,028
1*	\$ 0	0	\$ 0
Totals		320	\$849,984

*The Coronado rarely performs maintenance on ML 5 and ML 1 roads and has no average maintenance costs available.

Step 4- Assessing Benefits, Problems and Risks of the Existing Road System

The purpose of this step is to:

- Assess the benefits, problems and risks of the current road system and whether the objectives of the Forest Plan are being met

The products of this step are:

- A synthesis of the benefits, problems and risks of the current road system,
- An assessment of the ability of the road system to meet management objectives

Roads analysis is a science-based process and the interdisciplinary team (Appendix C) used and interpreted relevant scientific literature to identify issues which may cause potential impacts. Any assumptions made during the analysis, and limitations of the information on which the analysis is based will be described.

Specific questions were used to assess benefits, problems, and risks. Benefits are the potential uses and socioeconomic gains provided by roads and related access. Problems are conditions for certain environmental, social, and economic attributes that managers deem to be unacceptable. Risks are likely future losses in environmental, social, and economic attributes if the road system remains unchanged. The questions were used as a checklist to scan the range of possible benefits, problems, and risks and to screen them for those relevant to roads in the area under consideration.

The relevant questions were then used to guide more in-depth assessment and link to the science base for each of the identified benefits, problems, and risks. These questions were not intended to be prescriptive, but were used to assist the interdisciplinary team in developing questions and approaches appropriate to each analysis area. Which questions are appropriate for a particular analysis area and which warrant deep or cursory treatment will depend on the particular area and

the issues being addressed. Some questions may need to be addressed at several scales. Addressing these and other road-related questions was done with maps, GIS, statistical summaries, or other information that contributed to understanding the benefits, needs, risks, and effects of the roads. These indicators did not answer questions directly but assisted in discerning and quantifying important interactions.

Lands

- *How does the road system connect large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, inholdings, and so on)?*
- *How does the road system affect managing roads with shared ownership or with limited jurisdiction? (Federal Revised Statute 2477, cost-share, prescriptive rights, FLPMA easements, FRTA easements, DOT easements)?*
- *How does the road system connect to public roads and provide primary access to communities?*
- *How does the road system affect managing special-use permit sites (concessionaires, communications sites, utility corridors, and so on)?*
- *What are people's perceived needs and values for access?*

The ±54,000-acre Dragoon Ecosystem Management Area (EMA) is within the Douglas Ranger District and is surrounded by several incorporated communities (Benson, Douglas, Tombstone, and Willcox) and unincorporated communities (Dragoon, Elfrida, McNeal, Pearce, St. David, Sunizona, and Sunsites) in southeastern Arizona.

The EMA is somewhat rural in nature with limited permanent legal public access. Public access to the Dragoon EMA has become increasingly restricted over the last several decades. Long established access routes into and through the EMA, where a legal right (written or unwritten title) of public access does not exist, have been blocked from public use by private landowners. Public access issues often become controversial, particularly when dealing with differing opinions towards public access and appropriate uses of National Forest System (NFS) lands, and generate issues far more complex and controversial than in the past.

The Forest Land and Resource Management Plan (LRMP) provides direction to "ensure public access to various parts of the Forest on state, county, or permanent Forest Service roads" and "obtain necessary public access for all permanent roads and trails within the National Forest boundary". However, many landowners are very hesitant to grant right-of-way for perpetual public access across their private lands for a variety of reasons including: impacts from off-highway vehicle use and undocumented aliens, litter and vandalism, privacy issues, perceived potential liability (Arizona Revised Statute 33-1551 limits a private landowner's liability in regards to recreational and educational access), fair market value of the easement, and in many cases, a desire for exclusive use and control of the adjacent NFS lands.

In addition, Arizona State Trust lands are not "public lands" as are BLM and NFS lands. State trust lands are managed for the benefit of trust beneficiaries. Trust management responsibilities include requiring a permit, lease, or right-of-way and charging a fee for use of trust lands including public access to NFS and other public lands as well as state trust lands. Exceptions to this requirement are licensed hunters and fishers, actively pursuing game or fish, in-season, and certain archaeological activities permitted by the Arizona State Museum.

How does the road system connect to public roads and provide primary access to communities?

The Dragoon EMA is generally bounded on the north by Interstate 10, on the east by U.S. Highway 191, on the west by State Highway 80, and on the south by the Gleeson Road (an unpaved Cochise County road). Several Cochise County and other local roads along with the system of roads under Forest Service jurisdiction provide the surrounding rural communities and a variety of public land users primary access to and through the EMA from the surrounding Interstate and State Highways. These roads also provide the sole or primary access to the numerous parcels (20) of non-federal (private) land scattered within and adjoining the EMA.

Interstate 10 (Rural Principal Interstate) connects the Tucson metropolitan area to Benson, Dragoon, and Willcox, the Dragoon Road (a paved Cochise County road), State Highway 80 (Rural Minor Arterial), and U.S. Highway 191 (Rural Major Collector). The Dragoon Road connects Interstate 10 to Dragoon, the Old Ranch Road, Lizard Lane, Butterfield Lane, and Cochise Stronghold Road, which are unpaved Cochise County roads, Road 4217, and U.S. Highway 191 (southwest of Willcox and Interstate 10). Lizard Lane, Road 4217, and Butterfield Lane provide public access into the north end of the EMA. The Cochise Stronghold Road connects the Dragoon Road to the Ironwood Road (Road 84--shared ownership with Cochise County--refer to table below).

U.S. Highway 191 (Rural Major Collector) is a primary north-south artery which connects Sunsites, Pearce, Sunizona, Elfrida, McNeal, and Douglas (near the International Boundary with Mexico) to Interstate 10 and Willcox, and Ironwood, Pearce, and Gleeson Roads, which are unpaved Cochise County roads. Ironwood Road (Road 84--shared ownership with Cochise County--refer to table below) is a primary access road (east-west) to the one developed recreation site (Cochise Stronghold Campground) and non-federal (private) land within the EMA in the East Stronghold Canyon area. The Pearce Road (Road 345--shared ownership with Cochise County--refer to table below) provides access from U.S. Highway 191 to the Middlemarch Road (Road 345--shared ownership with Cochise County--refer to table below).

State Highway 80 (Rural Minor Arterial) is a north-south artery which connects St. David, Tombstone, Bisbee, and Douglas to Interstate 10 and Benson, and Middlemarch (Road 345--shared ownership with Cochise County--refer to table below) and Gleeson Roads (an unpaved Cochise County road). The Middlemarch Road is the major arterial and primary access road to and through the southern end of the EMA from State Highway 80 in the Tombstone area to the Pearce Road in the Pearce area.

It is important to understand, that in addition to the numerous forest roads where a legal right (written or unwritten title) of public access may not exist across private and state trust lands, there are county roads essential to getting public land users from the state highways to the EMA and the forest's transportation system (roads and trails) where a legal right of public access (written or unwritten title) may not exist either. State-wide, an increasing number of county-maintained roads (where written title may or may not exist) have either been blocked or have had private landowners threaten to block, gate and lock them. A single landowner, with a minimal amount of private land (5 acres or less), can challenge a road's ownership status, close the road to public use, and block or control access to thousands of acres of public and state trust lands.

These roads were constructed by and/or maintained for decades by their respective counties at the public's expense and long considered public roads by the public. Many have provided public access through and to private, state trust, and federal lands as far back as the late 1800s. To further complicate the public access situation, it is also very difficult for public road agencies (local, county, and state) to assert prescriptive rights for a county-maintained road in Arizona. Since territorial days, the Arizona Courts have consistently held that no public highway or road can be created by prescription and all public highways must be established in strict compliance with the provision of Arizona statute.

In addition, because of limited budgets and staffing, Counties are very reluctant to enter the legal arena to assert any ownership interest to closed roads or exercise their power of eminent domain to restore traditional access routes (even though they may have constructed and/or maintained them for decades at the public expense). Especially if the public use is access to public lands and they can divest themselves of maintenance responsibilities. Local politicians are also reluctant to engage public access issues because they perceive a majority of the public land users affected by blocked access are not their local constituents.

Currently, of the ±20 traditional access points (county and Forest Service) to the EMA, only 2 have documented (written title) permanent legal public access. Recent trends indicate the ownership of many more traditional access routes (county and Forest Service) will be challenged, and then closed to administrative and public use.

As traditional access points are closed to public use, the public land has essentially become National Forest "back yards" for adjacent and adjoining landowners and their guests, providing little benefit to the general public. Although it is a private landowner's right and prerogative to block and control access across their private land, county, state, and federal agencies, to best serve the interests of all its citizens, have a responsibility to provide reasonable permanent legal access to public land.

How does the road system connect large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, inholdings, etc.)?

As stated previously, the Dragoon EMA is surrounded by several rapidly developing incorporated communities and unincorporated communities in southeastern Arizona.

A majority of the land adjacent to and adjoining the EMA on the eastern and western sides is in private ownership. Large blocks of state trust lands (with smaller blocks of private lands intermingled) are adjacent to the southern and northern sides of the EMA. In addition, there are ±20 scattered parcels of private land of various shapes and sizes within the proclaimed boundaries of the EMA. The results is a complex and intermingled landownership pattern both within, adjoining, and adjacent to the Dragoon EMA.

The Ironwood (Road 84--shared ownership with Cochise County--refer to table below) and Middlemarch Roads (Road 345--shared ownership with Cochise County--refer to table below) are the primary access roads to the EMA from U.S. Highway 191 and State Highway 80 and connect to numerous local roads adjoining and adjacent to the EMA and NFS Roads (NFSR) and other permitted roads within the EMA.

Depending on the location of the private land, either a National Forest System Road (NFSR) or a non-system road [local, county, state, or private (under special-use authorization)] may be used (or constructed) for access to the private land. Unless otherwise required by an order, the use of an existing NFSR does not require a special-use authorization; however, any such use is subject to compliance with all federal and state laws governing the road used (36 CFR 251.50(d)).

Where ingress and egress to private land is via an existing NFSR, which is open and available for general public use, the private landowner is permitted to use the road without a written authorization. However, the use of a NFSR for ingress and egress to private lands does not include the right to relocate, construct, reconstruct, or maintain the existing roadway, clear any vegetation, or perform any other ground disturbing activities.

In those cases where a landowner's ingress or egress to private land via a NFSR requires surface disturbance or maintenance at a higher road maintenance level, or the use or construction of a road across NFS land not on the forest road system or open to general public use, the landowner must apply for and receive a special-use or road-use authorization. The special-use or road-use authorization documents the occupancy and use authorized on NFS lands or facilities and identifies the landowner's rights, privileges, responsibilities, and obligations (36 CFR 251.110(d)).

When access is tributary to or dependent on a NFSR, and traffic over these roads arising from the use of landowner's lands exceeds their safe capacity or will cause damage to the roadway, the landowner(s) may be required to obtain a special-use or road-use authorization to perform such reconstruction and maintenance as necessary to bring the road to a safe and adequate standard to accommodate such traffic in addition to the Government's traffic.

When a private parcel has been split or subdivided into several smaller parcels, it is Forest policy to require the landowners to create an association or some type of consolidated organization to represent all of the landowner interests. This eliminates the need for the Forest to enter into road use or special-use authorization with each individual landowner or create multiple private access roads. Responsibilities for improvements and maintenance are determined through a commensurate share process between the parties in the association or consolidated organization.

When larger developments or subdivisions occur and in-holding traffic is expected to exceed that generated by the users of the National Forest, agency policy is to pursue turning jurisdiction of the forest road over to a public road authority such as the county or state. These roads would also be open and available to the traveling public on a regular and consistent basis.

It is Forest Service policy to provide access across NFS land to private land that is adequate to secure the owners thereof reasonable use and enjoyment of their land without unnecessarily reducing the management options of the Forest Service or damaging NFS lands or resources. Access needs to private inholdings are addressed on an individual basis as requests are received (application for special or road use authorization).

The application for special or road use authorization is then analyzed through the NEPA process to determine possible environmental effects and the level of reasonable access required. If access to the private land within the EMA is being provided by a public road agency such as county or state, or is available through non-federal (state and private), then the Forest Service is not obligated to provide any additional access over NFS lands.

How does the road system affect managing roads with shared ownership or with limited jurisdiction (Federal Revised Statute 2477, cost-share, prescriptive rights, FLPMA easements, FRTA easements, DOT easements)?

The amount of private land within or bordering the EMA combined with population growth in southeastern Arizona and the resulting complex and intermingled landownership pattern indicate there is a need to increase road management cooperation and refine road jurisdictions and maintenance responsibilities. Many roads within the EMA call for a higher level of maintenance and construction or reconstruction for the private lands they access or the access they provide for the general public. Use and management of the National Forest often requires only access by high clearance vehicles (Maintenance Level 2), while access to private lands may necessitate a need for passenger car access (Maintenance Level 3 or higher). When desirable, cooperative agreements are established to share road improvement and maintenance responsibilities.

This analysis also recognizes that individuals or entities may have established valid outstanding rights (both known and unknown to the Forest Service at this time) to occupy and use National Forest lands and roads. These outstanding access rights were perfected on acquired land prior to acquisition by the United States, acting by and through the Forest Service, Department of Agriculture (reservations in deeds, easements, or agreements made at the time of acquisition of the land) or granted by the United States prior to the establishment of the National Forest (RS 2477). The Forest works closely with the holder of these outstanding rights to preserve their access rights while protecting the natural resources and ensuring the underlying or/and adjoining NFS lands do not suffer unnecessary degradation as a result of any actions by the holder.

Although the holder may exercise those rights without obtaining a special use authorization, unless the document creating the rights provides for an additional authorization, such rights are limited to the rights existing at the time of acquisition, and the holder cannot enlarge or expand them without a special-use authorization. Valid outstanding rights are also subject to some federal regulation. Activities within a valid outstanding right-of-way, which may potentially

affect the servient estate (NFS lands), are subject to the National Environmental Policy Act (Tenth Circuit Court of Appeals ruling in *Sierra Club v. Hodel*, 848 F.2d 1068).

How does the road system affect managing special-use permit sites (concessionaires, communications sites, utility corridors, and so on)?

Many of the roads in this analysis are also needed to access special-use authorizations permitting various types of activities within the EMA. In addition to power and phone lines, the roads are utilized by the film industry, a communications site owner, as well as numerous commercial outfitter/guides under permit who use the road system for various permitted activities (hunting, ecological, tours, etc) and could be affected if and when roads are closed or decommissioned. Closure and decommissioning of any authorized and unauthorized roads will remain an important issue to special-use permit holders as well as private landowners and public land users. It is important to understand the Forest Service doesn't necessarily build, retain or close roads because of special use activities.

The Coronado National Forest has been closed to cross-county motorized travel since 1986, except for 300 feet from the designated system for dispersed camping. Special-use authorizations holders who have cross-county motorized access needs (off the designated system and/or off routes which are under authorization to them) will be required to request in writing what the specifics of their cross-country travel needs are, and obtain written approval for that motorized cross-country travel. Generally, cross-county motorized travel will only be authorized in the cases of utility companies needing to access their facilities or by contractors during boundary management activities.

In addition, as stated above, there are numerous county and forest roads to and through the EMA where a legal right (written or unwritten title) of public access may not exist across private land and may be closed or controlled by a private landowner at any time and without notice affecting the permit holder's ability to access the permit site.

What are people's perceived needs and values for access?

As stated previously, there are many important long established roads through private lands both within and adjoining the EMA (county, forest, and other local roads) that are currently open and relied on by the public where a legal right of public access (written or unwritten title) may not exist and can be closed at any time and without notice that are shown as open authorized. Although it is a private landowner's right and prerogative to block and control access across their private land where no legal right of public access exists, the public believes the Forest Service as well as other agencies (county, state, and federal) also has a responsibility to provide reasonable public access to NFS and other public lands to best serve the interests of all public land users, not just a privileged few.

Public land users have become extremely frustrated with government agencies (county, state, and federal) failure to restore public access where traditional access points or routes to public (BLM and NFS) lands have been closed to public use by a private landowner. Many public land user and landowner conflicts as well as user-created roads are due to attempts by public land users to

access NFS lands via private, state trust, and other public (BLM) lands after a traditional access route has been blocked from public use by adjoining or adjacent private landowners.

There is nothing more frustrating to public land users than the inability to access NFS lands via a traditional access route that has been blocked by an adjoining or adjacent landowner, especially where they perceive the landowner has a private exclusive use of the public land. This is particularly true when the blocked road had been maintained for decades and/or built by a county at the public’s expense and they believe the landowner is benefiting economically by blocking and controlling access to NFS land.

As public land users multiply and squeeze through the remaining access points and routes, there is a “domino effect” of more locked gates and blocked access further restricting public access and limiting dispersed recreational opportunities. The public land essentially becomes National Forest "back yards" for the adjoining landowners and their guests, providing little benefit to the general public, while escalating the public’s perception of private exclusive use of those lands.

There are important roads that provide physical access into the EMA that are currently open and used by public land users through the adjacent non-federal (private and state trust) land that may not have legal right-of-way (written or unwritten title). Therefore, because no legal right of public access exists for these roads, they may also be closed by a private landowner at any time and without notice.

Therefore, it is recommended when long established access routes (local, county, and forest roads) through private or other non-federal lands adjacent to, adjoining, or within the CNF shown as open authorized in INFRA and on the Motor Vehicle Use Maps (MVUM) that are closed or controlled by private landowners and unavailable for use by the general public where no documented right-of-public access exists be changed to open authorized restricted (OAR) in INFRA and removed from MVUM until open for use by the general public. Use of roads not shown on the MVUM will be limited to Forest Service administrative purposes or when specifically authorized under the terms of a permit. Ancillary uses of roads not shown on the MVUM outside the terms of a permit will not be allowed.

Road Number	Comment/Recommendation
Ironwood Rd (Cochise County)/ Cochise Stronghold Rd (INFRA) (Road 84):	<p>Road 84 is a major arterial and a primary access road to NFS and non-federal (private) lands on the east side of the EMA from U.S. Highway 191 and the unincorporated community of Sunsites. Shared ownership and maintenance with Cochise County. From U.S. Highway 191 to the EMA, Road 84 is a Cochise County Maintained Road entitled "Ironwood Road". From the proclaimed forest boundary to the Cochise Stronghold Campground (± 1.89 miles), developed recreation site, is a NFSR entitled "Cochise Stronghold Road" in INFRA.</p> <p>Recommendation: No change from open authorized. <u>It is also recommended</u> the road be entitled the "Ironwood Road" in</p>

Road Number	Comment/Recommendation
	INFRA and the forest pursues turning jurisdiction and maintenance of the portion of Road 84 within the EMA to Cochise County via a FRTA Right-of-Way Easement.
Road 84-Pvt Dr	<p>Road 84-Pvt Dr is a non-system road that provides access to private access to private land surrounded by acquired NFS lands.</p> <p>Recommendation: <u>Designate as an open authorized (OA) non-system road. Research records to determine whether an outstanding access right was perfected (reservation in deed, easement, or agreement) through the acquired land prior to acquisition by the United States, acting by and through the Forest Service, Department of Agriculture. If a prior access right does exist, designate the road as open authorized restricted (OAR). If no prior access right exists, pursue issuance of a FLPMA Private Road Easement to the affected landowner(s). Once an easement is issued, designate as open authorized restricted (OAR).</u></p>
Pearce Rd (Cochise County)/ Middlemarch Rd (Cochise County)/ Middlemarch Pass Rd (INFRA) (Road 345):	<p>Road 345 is a major arterial and a primary access road to and through NFS and non-federal (private and state trust) lands at the southern end of the EMA from U.S. Highway 191 and the unincorporated community of Pearce to State Highway 80 north of the incorporated community of Tombstone. Shared ownership and maintenance with Cochise County.</p> <p><u>Note:</u> Although Road 345 is shown as one continuous road from U.S. Highway 191 to State Highway 80 in INFRA, the road is actually 2 separate roads in the Cochise County road system. From U.S. Highway 191 west to the "Middlemarch Road", Road 345 is a county-maintained road entitled the "Pearce Road". From the "Pearce Road" southwesterly to the east side of the EMA, Road 345 is a county-maintained road entitled the "Middlemarch Road".</p> <p>From the proclaimed forest boundary on the east side of the EMA southwesterly through the EMA to the proclaimed forest boundary on the west side of the EMA (\pm 6.6 miles), Road 345 is a NFSR entitled the "Middlemarch Pass Road" in INFRA. From the proclaimed forest boundary on the west side of the EMA southwesterly to State Highway 80, Road 345 is a county-maintained road entitled the "Middlemarch Road".</p> <p>Recommendation: No change from open authorized. <u>It is also recommended Road 345 be entitled the "Middlemarch Road" in</u></p>

Road Number	Comment/Recommendation
	<p>INFRA and the forest pursues turning jurisdiction and maintenance of the portion of Road 345 through the EMA to Cochise County via a FRTA Right-of-Way Easement.</p>
<p>Slavin Rd (Road 687):</p>	<p>Road 687 (Slavin Road) is a major arterial and primary public and administrative access route on the western side of the EMA from Road 345 (Middlemarch Pass Road) to Road 688B (unnamed) at the mouth of West Stronghold Canyon. The portion of Road 687 from Road 345 (Middlemarch Pass Road) to the south boundary of the private land in the mouth of West Stronghold Canyon is a NFSR (\pm 7.32 miles). Road 687 also provides public and administrative access to Roads 688B (Unnamed), 4227 (White House Ruins Road), 4230 (Duran Road), 4804 (Flat Road), 4805 (Smith Hill Road), 4806 (Tenneco Road), and 4827(Lisa Road), which are all currently NFSRs.</p> <p>During the late 1970s and 1980s, the portions of Road 687 through private land within and outside the EMA from Road 345 to the Dragoon Road, a paved Cochise County Road, were closed to public use by private landowners. Shortly thereafter, to restore public access into the West Stronghold Canyon area the portions of Road 687 located on private land both outside and within the EMA from Road 345 to the mouth of West Stronghold Canyon were relocated and constructed entirely on NFS lands. At the same time, Road 688 B, was constructed around the private land at the mouth of West Stronghold Canyon entirely on NFS lands in a gap between private land parcels from Road 687 to Road 688.</p> <p>Although portions of Road 687 from the Dragoon Road south to the Road 688 across non-federal (private and state trust) outside the EMA still exist, the portions of Road 687 through private land are closed to public use by private landowners and no longer connect to the portion of Road 687 from Road 345.</p> <p>Recommendation: <u>No change from open authorized from Road 345 to the Road 688 B. Change from an open authorized (OA) NFSR to an open authorized restricted (OAR) non-system road from Road 688B (Unnamed Road) to the south boundary of the private land within the EMA at the mouth of West Stronghold Canyon and authorize use under in the livestock grazing permit (0.06 miles).</u></p>

Road Number	Comment/Recommendation
West Stronghold Rd (Road 688)	<p>Road 688 is an important public land user and administrative access route from Road 688B to the trailhead for Cochise Trail No. 279 in West Stronghold Canyon (± 2.55 miles). Road 688 from the east side of the private land at the mouth of West Stronghold Canyon end to the end of the road is currently a NFSR.</p> <p>During the late 1970s and 1980s, the portions of Road 688 through private land within and outside the EMA were gated, locked, and closed to public use by private landowners. Shortly thereafter, to restore public access into the West Stronghold Canyon area, the portions of Road 687 from Road 345 that traverse private land to the mouth of West Stronghold Canyon were relocated and constructed entirely on NFS lands. At the same time, Road 688 B, was constructed entirely on NFS lands in a gap between private land from Road 687 to Road 688.</p> <p>Recommendation: <u>No change from open authorized</u> from Road 688 B to the trailhead for Cochise Trail No. 279 in West Stronghold Canyon. <u>Decommission and remove</u> the portion of Road 688 from Road 688 B to the east boundary of the private land within the EMA at the mouth of West Stronghold Canyon from the forest road system <u>and add</u> Road 688 B to Road 687 (0.13 miles).</p>
Road 688 B (Unnamed)	<p>Road 688 B is an important public land user and administrative access route from Road 687 (Slavin Road) to Road 688. Road 688 B is a NFSR (± 0.48 miles).</p> <p>Recommendation: <u>No change from open authorized.</u> However, it is recommended Road 688 B be added to and become a part of <u>Road 687.</u></p>
Access to the Whitehouse Ruins Parcel (private land south of 688 B and east of 687) at the mouth of West Stronghold Canyon.	<p>There appears to be at least 2 roads that provide access to the Whitehouse Ruins Parcel (private land south of 688 B and east of 687) at the mouth of West Stronghold Canyon. The 2 access routes are from Road 687 east (4227) and south across Road 688 B from the private land north of the Whitehouse Ruins Parcel. [Road across 688 B is too small a scale to show on map.]</p> <p>Recommendation: Open Authorized Restricted (OAR) non-system road and pursue issuance of a FLPMA Private Road Easement (± 50 ft.) to the affected landowner(s) from the Horse Ranch parcel (on the north) to the Whitehorse Ruin parcel (on the south).</p>

Road Number	Comment/Recommendation
Quarry Rd (Road 689)	<p>Road 689 (Quarry Road) is an important public land user and administrative access route from Dragoon Road, a paved county-maintained road and the unincorporated community of Dragoon into the EMA and Limestone Quarries. Shared ownership and maintenance with Cochise County. The portion of Road 689 from the Dragoon Road to the EMA boundary is a Cochise County road entitled the "Lizard Lane". The portion of Road 689 from the Dragoon Road to the EMA boundary to the Limestone Quarries is currently a NFSR (\pm 2.10 miles).</p> <p>Recommendation: No change from open authorized.</p> <p>Note: The portion of Road 689 from the EMA boundary to the Limestone Quarries is incorrectly located in an inventoried roadless area (IRA).</p>
Little Spring Rd (Road 698)	<p>Road 698 (Little Spring Road) is the primary access road from the Old Ranch Road (local road) to non-federal (private) lands within the EMA in Little Spring Canyon.</p> <p>Note: The portion of Road 687 from the Dragoon Road and the unincorporated community of Dragoon to Road 4236 (Fourr Canyon Road) and Road 698 (Little Spring Road) is a local road also known as the Old Ranch Road. The portions of the Old Ranch Road that traverse private land is closed to public use by private landowners.</p> <p>Recommendation: <u>Change from an open authorized (OA) NFSR to an open authorized restricted (OAR) non-system road and pursue issuance of a FLPMA Private Road Easement to the affected landowner(s).</u></p>
Blacktail Hill Rd (Road 795):	<p>Road 795 (Blacktail Hill Road) is an important public land user and administrative access route and the primary access to the northeastern side of the EMA from Road 84 (Ironwood Road) to the Dragoon Road, a paved county-maintained road. Road 795 is a NFSR (\pm 7.64 miles).</p> <p>Note: Although the portions of Road 795 through the non-federal (private and state trust) land outside the boundaries of the EMA is currently open to the public use and has been for decades, there are no known documented easements or right-of-ways (written title) for those portions of roadway. The portions of Road 795 on private land can may be closed without notice</p>

Road Number	Comment/Recommendation
	<p>and at anytime by private landowner(s).</p> <p>Road 795 also provides public and administrative access to Roads 4863 (Arrowhead Camp Road), 4378 (St. Francis Road), 4377 (Glenn Road), 4376 (Stock Road), 4822 (John's Windmill Road), 4849 (Tank Road), and 4827(Lisa Road), which are all currently NFSRs and Road 795-7.72L-1.</p> <p>Recommendation: No change from open authorized.</p>
<p>Fourr Canyon Rd (Road 4236):</p>	<p>Road 4236 (Fourr Canyon Road) is an important public land user and administrative access route from the Old Ranch Road (local road) into the EMA into Fourr Canyon and the primary access road to non-federal (private) lands within the northwest portion of the EMA. Road 4236 is a NFSR (\pm 3.91 miles).</p> <p><u>Note:</u> The portion of Old Ranch Road that traverse private lands from the state trust lands is currently closed to public use. However, the Arizona Game and Fish Department (AGFD) are attempting to restore public access into Fourr Canyon through the Landowner Relation Program via the Old Ranch Road (local road) and Road 4236.</p> <p>Recommendation: <u>Decommission \pm 0.34 mile portion of Road 4236 and replace the decommissioned portion of roadway with Road 4236-0.29R-1. No change from open authorized.</u></p>
<p>Glenn Rd (Road 4377):</p>	<p>Road 4377 (Glenn Road) is the primary access road from Road 795 to Road 4377-1.19R-1, a non-system road that provides access to private land. Road 4377 is a NFSR (\pm 1.35 miles).</p> <p>Recommendation: No change from open authorized.</p>
<p>Road 4377-1.19R-1</p>	<p>Road 4377-1.19R-1, is a non-system road and the primary access road from Road 4377 to private land.</p> <p>Recommendation: <u>Designate as an open authorized restricted (OAR) non-system road and pursue issuance of a FLPMA Private Road Easement</u> to the affected landowner(s).</p>
<p>St. Francis Rd (Road 4378):</p>	<p>Road 4378 is the primary access road from Road 795 to Road 4378-0.57R-1, a non-system road that provides access to private land. Road 4378 is a NFSR (\pm 0.81 miles).</p> <p>Recommendation: No change from open authorized.</p>

Road Number	Comment/Recommendation
Road 4378-0.57R-1	<p>Road 4378-0.57R-1 is a non-system road and the primary access road from Road 4377 to private land.</p> <p>Recommendation: <u>Designate as an open authorized (OA) road</u></p>
Vine Rd (Road 4381)	<p>Road 4381 (Vine Road) connects the Cochise Stronghold and Highlands Roads, which are both county-maintained roads, to Road 4381-4382 and Road 4382 (Grapevine Road). Road 4381 (Vine Road) is located entirely on private land and has been closed to public use by private landowner(s) who is unwilling to grant right-of-way easements for perpetual public access for said road.</p> <p>Recommendation: Because Road 4381 (Vine Road) is located entirely on private land there is no recommendation.</p>
Road 4381-4382	<p>Road 4381-4382 connects Road 4381 (Vine Road) to Road 4382 (Grapevine Road). The portion of Road 4381-4382 on private land has been closed to public use by the private landowner(s) who is unwilling to grant a right-of-way easement for perpetual public access for said road.</p> <p>Recommendation: Change to <u>open authorized restricted (OAR) ML2</u>. Once public and administrative access has been restored into Grapevine Canyon via the Grapevine Canyon Reroute (Road 4382- Reroute), Road 4381-4382 will no longer be needed for administrative purposes. Therefore, it is recommended Road 4381-4382 be decommissioned once public and administrative access has been restored into Grapevine Canyon. Refer to Grapevine Canyon Reroute (Road 4382- Reroute) below.</p>
Grapevine Rd (Road 4382)	<p>Road 4382 (Grapevine Road) is a public land user and administrative access road that connects to Road 4381 (Vine Road), Road 4381-4382, and Road 4387 (Searle Road). The portion of Road 4382 (Grapevine Road) that traverses private land has been closed to public use by the private landowner(s) who is unwilling to a grant right-of-way easement for perpetual public access for said road. Road 4382 is a NFSR (\pm 0.92 miles).</p> <p>Recommendation: No change from open authorized. Road 4382 (Grapevine Road) is one of several existing roads needed to restore public access into the Grapevine Canyon Area. Refer to Grapevine Canyon Reroute (Road 4382- Reroute) below.</p>

Road Number	Comment/Recommendation
Road 4382-0.21L-1	<p>Road 4382-0.21L-1 is an unauthorized road that accessed a mobile home that was erroneously located on NFS system lands. The mobile home has been removed.</p> <p>Recommendation: Decommission. Road 4382-0.21L-1 is not needed for administrative or public access.</p>
Grapevine Canyon Reroute (Road 4382-Reroute)	<p>The current landowner in Grapevine Canyon area is unwilling to grant right-of-way easements for perpetual public access for the portions of Roads 4381 (Vine Road), 4382 (Grapevine Road), Demand 4381-4382 across their private land, which they have closed to public use.</p> <p>Recommendation: Because private landowners are unwilling to grant right-of-way easements for perpetual public access for the portions of Road 4381 (Vine Road), Road 4382 (Grapevine Road), and Road 4381-4382 across their private lands, <u>it is recommended a reroute into Grapevine Canyon be located entirely on NFS lands in the general location of Road 4382-Reroute using as much of the existing road system as possible and analyzed (NEPA).</u></p> <p>If a decision is made to relocate and construct a route entirely on NFS lands into Grapevine Canyon, <u>it is also recommended the reroute be added to the forest road system as Road 4382 (Grapevine Road) open authorized (OA) ML2.</u> During any analysis to restore public access into Grapevine Canyon, it may also be determined that portions of the existing road system in the area are no longer needed and can be decommissioned.</p>
Charley Rd (Road 4383)	<p>Road 4383 (Charley Road) is a public land user and administrative access road that connects to Road 4384 (Noonan Road), Road 4383-4384, and Road 4387 (Searle Road). The portion of Road 4383 (Charley Road) that traverses private land has been closed to public use by the private landowner(s) who is unwilling to grant a right-of-way easement for perpetual public access for said road. Road 4383 (Charley Road) is a NFSR (\pm 0.27 miles).</p> <p>Recommendation: No change from open authorized. Road 4383 (Charley Road) is one of several existing roads that may be needed to restore public access to the Noonan and Grapevine Canyon Area. Once public and administrative access has been restored into Grapevine Canyon via the Noonan/Grapevine</p>

Road Number	Comment/Recommendation
	<p>Canyon Reroute (Road 4382-4388 reroute), it is recommended Road 4383 (Charley Road) status be changed to open authorized restricted (OAR) and added to the livestock grazing permit. Refer to Noonan/Grapevine Canyon Reroute (Road 4382-4383 Reroute) below.</p>
Road 4383-4384	<p>Road 4383-4384 is a public land user and administrative access road that connects Road 4384 (Noonan Road) to Road 4383 (Charley Road).</p> <p>Recommendation: <u>Add to Forest Road System as open authorized (OA) ML2.</u> Road 4383-4384 is one of several existing roads needed to restore public access to the Grapevine Canyon Area. Refer to Noonan/Grapevine Canyon Reroute (Road 4382-4383 Reroute) below.</p>
Noonan Rd (Road 4384)	<p>Road 4384 (Noonan Road) is a public land user and administrative access road that connects to Roads 4384 (Noonan Road) and 4385 (Noon Road). The portion of Road 4384 (Noonan Road) that traverses private land has been closed to public use by the private landowner(s) who is unwilling to grant right-of-way easements for perpetual public access for said road. Road 4384 is a NFSR (\pm 0.94 miles).</p> <p>Recommendation: Decommission the portion of Road 4384 (Noonan Road) from the west line of the private land to Road 4383-4384.</p> <p>This portion of Road 4384 (Noonan Road) duplicates Road 4383 (Charley Road) and is not needed for public or administrative purposes. Road 4384 (Noonan Road) is one of several existing roads needed to restore public access into the Noonan and Grapevine Canyon Area. Refer to the Noonan/Grapevine Canyon Reroute (Road 4382-4383 Reroute) below.</p>
Noon Rd (Road 4385)	<p>Road 4385 (Noon Road) is a public land user and administrative access road that connects Road 4386 (Dick Road) to Road 4384 (Noonan Road). Road 4385 is a NFSR (\pm 0.70 miles) located entirely on NFS lands and was previously decommissioned.</p> <p>Recommendation: Change the road status for Road 4385 (Noon Road) to open authorized (OA) and reopen. Road 4385 (Noon Road) is needed to restore public access to the Noonan and Grapevine Canyon Area. Once public and administrative access has been restored from Road 4386 (Dick Road) to Road 4384 (Noonan Road) and Noonan Canyon using Road 4385</p>

Road Number	Comment/Recommendation
	<p>(Noon Road), the portion of Road 4387 (Searle Road) from Road 4386 (Dick Road) north to Road 4383 (Charley Road) will no longer be needed for public or administrative purposes and can be decommissioned. Refer to the Noonan/Grapevine Canyon Reroute (Road 4382-4383 Reroute) below.</p>
Dick Rd (Road 4386)	<p>Road 4386 (Dick Road) is a public land user and administrative access road that connects Searle Rd (Road 4387) to Road 4385 (Noon Road) and upper Noonan Canyon. Road 4386 is a NFSR (\pm 1.40 miles) located entirely on NFS lands.</p> <p>Recommendation: No change from open authorized. Road 4386 (Dick Road) is one of several existing roads needed to restore public access into the Noonan and Grapevine Canyon Area. Refer to the Noonan/Grapevine Canyon Reroute (Road 4382-4383 Reroute) below.</p>
Searle Rd (Road 4387)	<p>Road 4387 (Searle Road) is an important public land user and administrative access route from Road 345 (Middlemarch Road) and Palm Road, a county-maintained road and connects to Roads 4382 (Grapevine Road), 4383 (Charley Road), and 4386 (Dick Road) in the Noonan Canyon area. The portion of Road 4387 (Searle Road) that traverses private land within and adjacent to the EMA from Palm Road has been closed to public use by the private landowner(s) who is unwilling to a grant right-of-way easement for perpetual public access for said road. Road 4387 (Searle Road) is a NFSR (\pm 2.48 miles).</p> <p>Recommendation: Road 4387 (Searle Road) is one of several existing roads needed to restore public access into the Noonan and Grapevine Canyon Area. Once public and administrative access has been restored from Road 4386 (Dick Road) to Road 4384 (Noonan Road) and Noonan Canyon using Road 4385 (Noon Road), the portion of Road 4387 (Searle Road) from Road 4386 (Dick Road) north to Road 4383 (Charley Road) will no longer be needed for public or administrative purposes and can be decommissioned. Refer to the Noonan/Grapevine Canyon Reroute (Road 4382-4383 Reroute) below.</p>
Noonan/Grapevine Canyon Rd Reroute (Road 4382-4383 Reroute)	<p>The current landowner(s) in the Noonan/Grapevine Canyon area is unwilling to grant right-of-way easements for perpetual public access across their private lands for several roads that are currently closed to public use. The closed roads include Roads 4381 (Vine Road), 4381-4382, 4382 (Grapevine Road), 4383 (Charley Road), and portions of Road 4387 (Searle Road).</p>

Road Number	Comment/Recommendation
	<p>Recommendation: Because the private landowner(s) are unwilling to grant right-of-way easements for the existing roadways to restore public access to the Noonan/Grapevine Canyon area, <u>it is recommended a reroute around the private land in Noonan Canyon be located entirely on NFS lands in the general location of Road 4382-4383 Reroute using as much of the existing road system as possible and analyzed (NEPA).</u></p> <p>If a decision is made to reconstruct and construct a route <u>around the private land in Noonan Canyon be located entirely on NFS lands in the general location of Road 4382-4383 Reroute, it is also recommended the route be added to the forest road system as ML2 open authorized.</u> During any analysis to restore public access, it may also be determined that portions of the existing road system in the Noonan/Grapevine Canyon area is no longer needed and can be decommissioned.</p>
Gordon Rd (Road 4389)	<p>Road 4389 (Gordon Road) is a public land user and administrative access road from Road 4391 (Black Diamond Road). Road 4389 is a NFSR (\pm 0.22 miles).</p> <p>Recommendation: No change from open authorized. Road 4389 (Gordon Rd) is one of several existing roads that may be needed to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute below.</p>
Black Diamond Rd (Road 4391):	<p>Road 4391 (Black Diamond Road) is an important public land user and administrative access route from Road 345 (Middlemarch Road) through non-federal (private and state) lands to NFS and private lands in the southeastern corner of EMA (Black Diamond Area). The portions of Road 4391 that traverse private land within and adjacent to the EMA have been closed to public use by private landowner(s). Road 4391 is a NFSR (\pm 1.80 miles).</p> <p>Recommendation: No change from open authorized. Road 4391 (Black Diamond Road) is one of several existing roads that may be needed to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute below.</p>

Road Number	Comment/Recommendation
Black Diamond Road Reroute	<p>The current landowner(s) along Road 4391 (Black Diamond Road) are unwilling to grant right-of-way easements for perpetual public access across their private lands for the existing roadway from Road 345 (Middlemarch Road) to NFS lands in the Black Diamond Area. Therefore, Road 4391 (Black Diamond Road) remains closed to the general public.</p> <p>Recommendation: Because private landowners are unwilling to grant right-of-way easements for the existing roadway to restore public access into the Black Diamond Area, <u>it is recommended a route from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road) be located entirely on NFS lands using as much of the existing road system as possible and analyzed (NEPA).</u></p> <p>If a decision is made to reconstruct and construct a route from Road 345 (Middlemarch Road) into the Black Diamond Area entirely on NFS lands using as much of the existing road system as possible, it is also recommended the route will be added to the forest road system as ML2 open authorized. During any analysis to restore public access, it may also be determined that portions of the existing road system in the Black Diamond Area is no longer needed and can be decommissioned.</p>
Walnut Spring Rd (Road 4392)	<p>Road 4392 (Walnut Spring Road) provides administrative access from the Gleeson-Pearce Road. Road 4392 has been closed to public use by private landowner(s) adjacent and adjoining the EMA. Road 4392 is a NFSR (\pm 0.86 miles).</p> <p>Recommendation: No change from open authorized. Road 4392 is one of several existing roads that may be used to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute above.</p>
Majo Rd (Road 4394)	<p>Road 4394 (Majo Road) provides public land user and administrative access from Road 4391 (Black Diamond Road) and is the primary access road to the southeastern corner of the EMA. Road 4394 is a NFSR (\pm 2.26 miles).</p> <p>Recommendation: No change from open authorized. Road 4394 (Majo Road) is one of several existing roads that may be used to restore public access around private land to NFS land in</p>

Road Number	Comment/Recommendation
	the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute above.
Mary and Henry Rd (Road 4396):	<p>Road 4396 (Mary and Henry Road) is the primary public and administrative access route into southwestern corner of EMA from Road 345 (Middlemarch Road) across non-federal (private and state trust) and NFS lands (± 4.28 miles) to the Bennett Ranch Road, a county-maintained road (± 7.72 miles total).</p> <p>Road 4396 connects to Road 4397 (Henry Canyon Road), Road 4824 (Buckshot Road), Road 4829 (Mary A Canyon Road), Road 4830 (Silver Cloud Road), which provides access to private land, and Road 4396 Spur.</p> <p>Recommendation: <u>Add Road 4396 Spur</u> (± 0.63 miles) to Road 4396 (Mary and Henry Road) and <u>designate as open authorize (OA)</u>. <u>Decommission the portion of Road 4396</u> (± 0.40 miles) in between. <u>No change from open authorized for the remaining portion of Road 4396.</u></p>
Majo Spring Rd (Road 4835)	<p>Road 4835 (Majo Spring Road) provides public land user and administrative access from Road 4394 (Majo Road). Road 4835 is a NFSR (± 0.16 miles).</p> <p>Recommendation: No change from open authorized. Road 4835 (Majo Spring Road) is one of several existing roads that may be used to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute above.</p>
Hunter Road (Road 4836)	<p>Road 4836 (Hunter Road) provides public land user and administrative access from Road 4394 (Majo Road). Road 4836 is a NFSR (± 0.13 miles).</p> <p>Recommendation: No change from open authorized. Road 4836 (Hunter Road) is one of several existing roads that may be used to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute above.</p>
Goodrich Spring Rd (Road 4837)	Road 4837 (Goodrich Spring Road) provides public land user and administrative access from Road 4394 (Majo Road). Road

Road Number	Comment/Recommendation
	<p>4837 is a NFSR (\pm 0.81 miles).</p> <p>Recommendation: No change from open authorized. Road 4837 (Goodrich Spring Road) is one of several existing roads that may be used to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute above.</p>
Seep Rd (Road 4838):	<p>Road 4838 (Seep Road) provides public land user and administrative access from Road 4391 (Black Diamond Road). The portions of Road 4838 (Seep Road) that traverse private land within and adjacent to the EMA have been closed to public use by private landowner(s). Road 4838 is a NFSR (\pm 1.00 miles).</p> <p>Recommendation: No change from open authorized. Road 4838 (Seep Road) is one of several existing roads that may be used to restore public access around private land to NFS land in the southeastern corner of EMA (Black Diamond Area) from Road 345 (Middlemarch Road) to Road 4392 (Walnut Spring Road). Refer to Black Diamond Rd Reroute above.</p>
Broken Arrow Rd (Road 4863)	<p>Road 4863 (Broken Arrow Road) is the primary access road from NFSR 795 to private land.</p> <p>Recommendation: <u>Designate as an open authorized restricted (OAR) non-system road and pursue issuance of a FLPMA Private Road Easement</u> to the affected landowner(s).</p>

FUTURE CONSIDERATIONS

The current public access situation to and within the EMA will continue to deteriorate, solutions will become quite expensive and complicated, while the use of NFS lands will increase. Private landowner will continue to challenge the ownership status of important roads long considered public roads (both county and forest), close them to public use, then block or control access to thousands of acres of public land, including roads into and through the Dragoon EMA. As stated previously, recent trends indicate many more traditional access routes (both county and forest) will be closed to public use.

The continued loss of traditional forest access routes may require construction of new roads, relocation of portions of existing roads that have been closed to public use by private landowners, or recommissioning of decommissioned roads to meet both administrative and

public access needs. New, relocated, and or reconstructed roads may also be needed for future activities not currently planned for. Therefore, access needs identified in the current or future Forest Land and Resource Management Plans (LMRP) or in this analysis may not be fully met by the existing EMA transportation system.

Soil, Water, Air, and Forestry

- *How and where does the road system modify the surface and subsurface hydrology of the area?*
- *How and where does the road system generate surface erosion?*
- *How and where do road-stream crossings influence local stream channels and water quality?*
- *How and where does the road system create potential for pollutants, such as chemical spills, oils, or herbicides to enter surface waters?*
- *How and where is the road system 'hydrologically connected' to the stream system?*
- *How do the connections affect water quality and quantity (such as delivery of sediments, elevated peak flows)?*
- *What downstream beneficial uses of water exist in the area?*
- *What changes in uses and demand are expected over time?*
- *How are they affected or put at risk by road-derived pollutants?*
- *How and where does the road system affect wetlands?*
- *How does the road system alter physical channel dynamics, including isolation of floodplains; constraints on channel migration; and the movement of large wood, fine organic matter, and sediment?*
- *How does the road system affect riparian plant communities?*

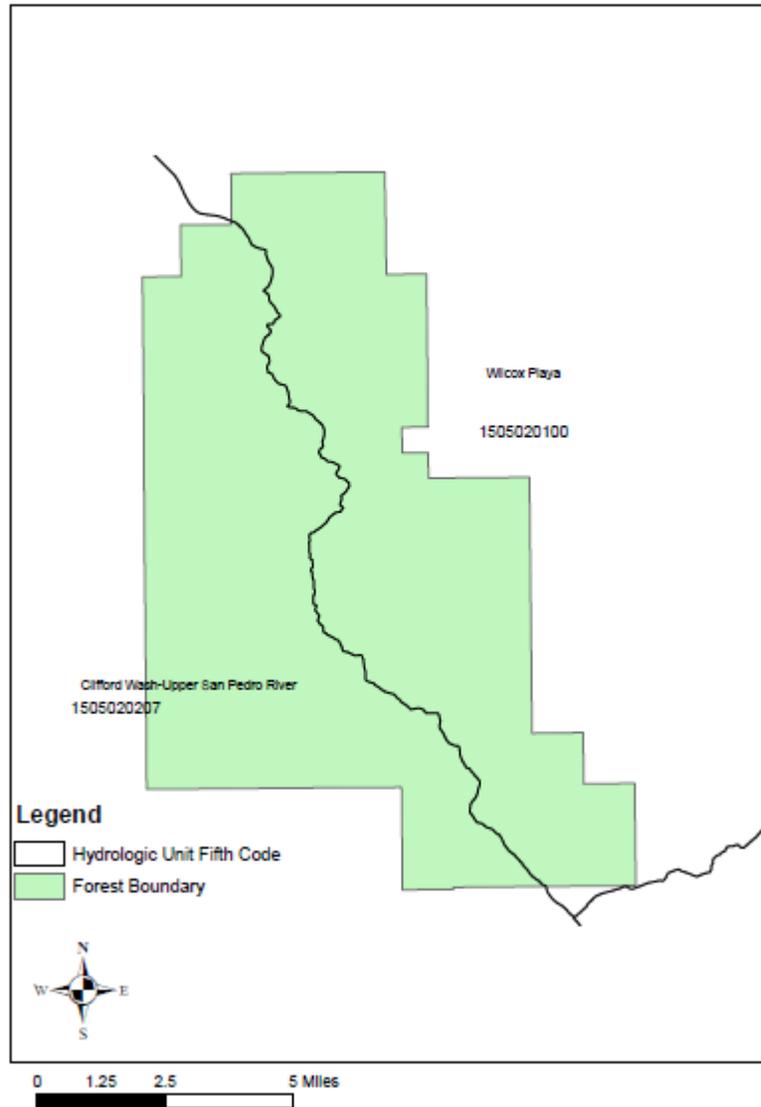
These questions are restated in the text below within the sections that provide the answers.

General

Roads in the Dragoon Ecosystem Management Area (EMA) occur in the following watersheds: Clifford Wash-Upper San Pedro (HUC 1505020207) and Willcox Playa (HUC 1505020100). Figure 4.1 shows the general location of these watersheds.

Figure 4.1 Dragoon Watersheds

Dragoon Watersheds



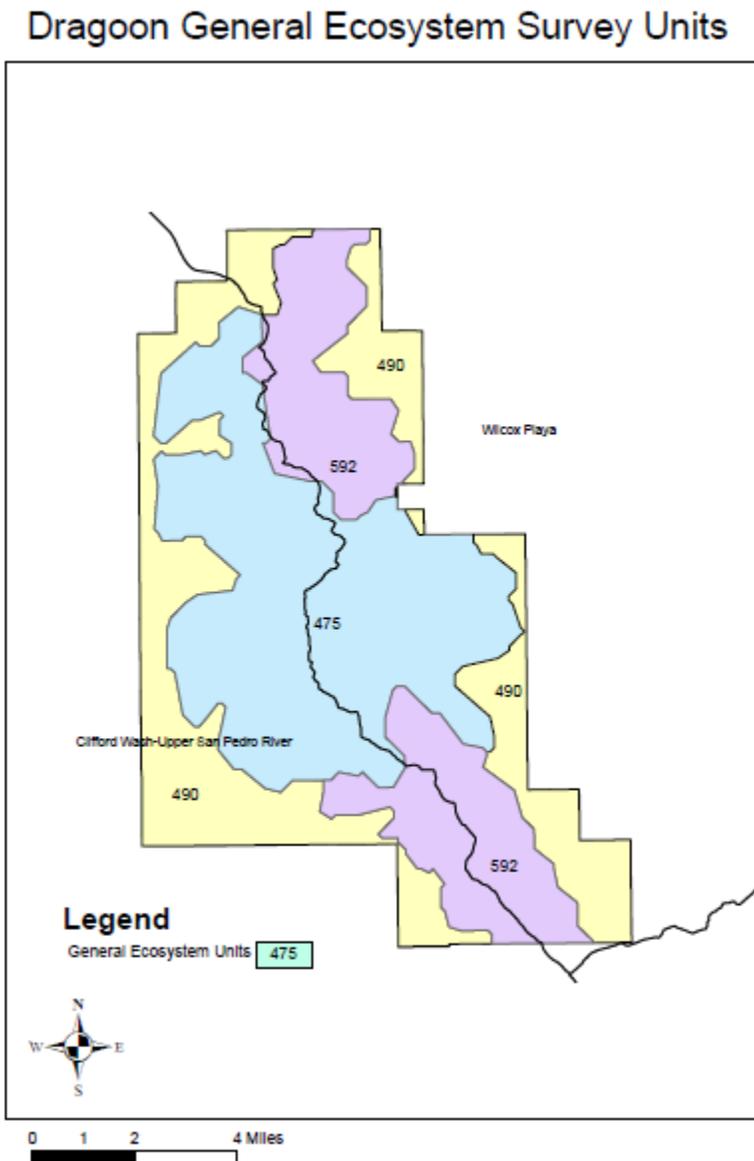
Roads affect soil, water, and air by accelerating erosion, diverting water, providing access for various polluting agents, and creating dust. The roads in these watersheds are having these affects, but have not been identified as causing significant negative effects on water quality at the sample points, or air quality at any monitoring location. However, local effects on soil, water (including riparian areas), and air may be important. Roads affect forestry resources by providing access for management of fuels and forest products. Following is the background information about the area.

Large areas of this EMA are not roaded or are accessible only by the poorest of roads. This is due in large part to the steep nature of the central portion of the EMA. No routes are found that traverse the range from north to south. Only the Middlemarch Road traverses the range from east to west.

Soil

Both Clifford Wash-Upper San Pedro (HUC 1505020207) and Willcox Playa (HUC 1505020100) watersheds are identified to contain GES Units 475, 592, and 490. Unit 475 is characterized as a shallow, very cobbly soil formed on granite. It is generally steep (greater than 60%) and consequently a poor location for roads. Unit 592 is shallow, extremely cobbly, and formed on limestone. It is generally steep (60%) and consequently a poor location for roads. Unit 490 is deep, very gravelly, and formed on conglomerate. Slopes are moderate (4% to 25%). Unit 490 is a poor location for roads because the soil erodes readily. Figure 4.2 shows the distribution of these GES units.

Figure 4.2 Dragoon General Ecosystem Survey Units



- *How and where does the road system generate surface erosion?*

The IDT recommends that the unauthorized roads listed in Table 4.1 which are in locations that are generally very steep and/or highly erodible and are not needed be decommissioned.

Table 4.1 Nonsystem Roads Located on Soils that are Generally Steep or Highly Erodible to be Decommissioned

Road Number	GES Unit	Erosion Hazard	SLOPE in %
345-15.02L-1	592	severe	0 - 15, 15 - 40
4230-0.53R-2	490	severe	0-15, 15 - 40
4378-0.80R-1	592	severe	0 - 15, 15 - 40, >40
4387-0.37L-1	475	moderate	0 - 15
4388-0.30L-1	592	severe	0 - 15
4388-1.00L-1	592	severe	15 - 40
4388-1.26R-2	475, 592	moderate, severe	0-15, 15 - 40
4388-1.64R-1	592	severe	
4393-0.40L-1	592	severe	0-15, 15 - 40

The IDT also recommends that the National Forest System Roads listed in Table 4.2 which are in locations that are generally steep or highly erodible and are not needed be decommissioned.

Table 4.2 National Forest System Roads Located on Soils that are Generally Steep or Highly Erodible to be Decommissioned

Road Number	GES Unit	Erosion Hazard	SLOPE in %
687 B	490	severe	0 - 15
697 (portion)	475	moderate	15-40, >40
4226	475	moderate to severe	0 - 15
4227	490	severe	0 - 15
4227 A	490	severe	0 - 15

Road Number	GES Unit	Erosion Hazard	SLOPE in %
4227 B	490	severe	0 - 15
4229	490	severe	0 - 15
4230	490	severe	0 - 15
4231	475	moderate to severe	0-15, 15-40
4235	475	moderate to severe	0 - 15
4236	475	moderate to severe	0 - 15
4240	475	moderate to severe	0-15
4823	490	severe	0-15
4828	592	severe	15 - 40
4870	592	severe	> 40

The IDT also recommended that the unauthorized roads listed in Table 4.3 in locations that are generally very steep and/or highly erodible should be designated Maintenance Level 1 and closed for at least one year because of potential resource damage.

Table 4.3 Nonsystem Roads Located on Soils that are Generally Steep or Highly Erodible Recommended to be Classified Maintenance Level 1 (ML1)

Road to be Changed to ML 1	GES Unit	Erosion Hazard	SLOPE in %
345 A-1.35R-1	475	moderate to severe	0 - 15, 15-40

The IDT also recommends that the National Forest System Roads listed in Table 4.4 in locations that are highly erodible be classified and added to the system but restricted to permittees, Forest Service, or Border Patrol because it is needed for access to the EMA and the soil issues can be mitigated.

Table 4.4 National Forest System Roads Located on Soils that are Generally Steep or Highly Erodible Recommended to be Classified Maintenance Level 1 (ML1)

Road to be Changed to ML 1	GES Unit	Erosion Hazard	SLOPE in %
2002	475	moderate to severe	0 - 15
4220	490	severe	0 - 15,15-40
4221	592	severe	15 - 40

Road to be Changed to ML 1	GES Unit	Erosion Hazard	SLOPE in %
4380	490	severe	15 - 40

The IDT also recommends that the unauthorized road listed in Table 4.5 in locations that are highly erodible be classified and added to the system but restricted to permittees, Forest Service, or Border Patrol because it is needed for access to the EMA and the soil issues can be mitigated.

Table 4.5 Nonsystem Roads Recommended to be Added to the System, with Restricted Access (OAR)

Road to be added as OAR	GES Unit	Erosion Hazard	SLOPE in %
689-4217	490	severe	0-15,15-40
4377-1.19R-1	592	severe	15-40,> 40

The IDT also recommends that unauthorized roads listed in Table 4.6 in locations that are highly erodible be classified and left open because they are needed for access to the EMA and the erosion issues can be mitigated.

Table 4.6 Roads Recommended to be Added to the System (OA)

Road to be Added to the System (OA)	GES Unit	Erosion Hazard	SLOPE in %
345-10.34R-1	490	severe	0 - 15
345-11.37R-1	490	severe	0 - 15
345-11.37R-2	490	severe	0 - 15
4230-0.53R-1	490	severe	0 - 15
4235-0.83R-1	490	severe	0 - 15
4236-0.29R-1	490	severe	0 - 15
4377-0.51R-1	592, 490	severe	0-15,15 - 40
4378-0.57R-1	592	severe	0-15,15 - 40
4396 - spur	490	severe	0-15,15 - 40

Road to be Added to the System (OA)	GES Unit	Erosion Hazard	SLOPE in %
4809-0.67R-1	475	moderate	0 - 15
687-2.36R-1	490	severe	0 - 15
687-2.36R-2	490	severe	15 - 40
687-5.14R-1	490	severe	15 - 40
687-5.44L-1	490	severe	0 - 15
687-5.81R-1	490	severe	0 - 15
687-6.50L-1	490	severe	0 - 15
795-7.72L-1	490	severe	0 - 15

NFSR 4827 is located in GES unit 490, a unit with severe erosion potential. Due to the fragile soils in this area, dispersed camping impacts tend to be more noticeable. A dramatic increase in these impacts has been observed in the past several years. Campsites are increasing in size and vegetation, once removed, is not regenerating. The demand for opportunities for motorized dispersed camping continues to grow. If the 300 foot dispersed camping corridor were to be eliminated along NFSR 4827, the Forest could designate dispersed campsites.

Water

- *What downstream beneficial uses of water exist in the area?*
- *What changes in uses and demand are expected over time?*
- *How are they affected or put at risk by road-derived pollutants?*

Arizona Department of Environmental Quality (ADEQ) assesses water quality for streams and natural channels throughout the State. Downstream water uses for all the watersheds listed above include aquatic and wildlife warm water community species habitat, full body contact, fish consumption, and livestock watering. In addition, Clifford Wash-Upper San Pedro has irrigation listed as a use. The Arizona Department of Environmental Quality report for 2008 (“The Status of Water Quality in Arizona – 2006/2008”) indicates the San Pedro River from the Babocomari River confluence north to the confluence with Dragoon Wash to be impaired due to exceedances of the e.coli bacteria standards.

- *How do the connections affect water quality and quantity (such as delivery of sediments, elevated peak flows)?*

Roads could be associated with elevated bacteria if the source of bacteria can be traced to dispersed recreation. The source of bacteria pollution in the San Pedro River has not been documented. The source of nitrates in the San Pedro River has been determined to be the Apache Nitrogen Products site.

- *How and where does the road system modify the surface and subsurface hydrology of the area?*
- *How and where do road-stream crossings influence local stream channels and water quality?*
- *How and where does the road system create potential for pollutants, such as chemical spills, oils, or herbicides to enter surface waters?*
- *How and where is the road system 'hydrologically connected' to the stream system?*
- *How and where does the road system affect wetlands?*
- *How does the road system alter physical channel dynamics, including isolation of floodplains; constraints on channel migration; and the movement of large wood, fine organic matter, and sediment?*
- *How does the road system affect riparian plant communities?*

Riparian areas are extremely important everywhere on the Coronado National Forest, and they occupy only about 4% of the watersheds in the Dragoon EMA. Roads can alter riparian areas by physically occupying the area, diverting water, providing access to people and vehicles that in turn destroy riparian vegetation, and by generating erosion that degrades the site.

The IDT recommendation is that the unauthorized and system roads listed in Table 4.7 located in or near watercourses should be decommissioned to protect the channels.

Table 4.7 Roads Near Channels Recommended to be Decommissioned

Road Number	Channel Name
4226	Stronghold Canyon West
4236	Fourr Canyon
4387-0.37L-1	Middlemarch Canyon
4388-1.64R-1	Clifford Wash

The IDT recommendation is that the unauthorized and system roads listed in Table 4.8 located in or near watercourses should be added to or left on the system but restricted to permittees, Forest Service, or Border Patrol because it is needed for access to the EMA and the channel and riparian issues can be mitigated.

Table 4.8 Roads Near Channels Recommended to have Restricted Access (OAR)

Road Number	Channel Name
84-Brophy	Stronghold Canyon East, Clifford Wash
689-4217	Wood Canyon

The IDT also recommends that unauthorized roads listed in Table 4.9 located in or near watercourses be classified and left open because they are needed for access to the EMA and the channel and riparian issues can be mitigated. When the opportunities present themselves, the Forest Service should consider relocating roads out of riparian areas.

Table 4.9 Roads Recommended to be Added to the System (OA)

Road Number	Channel Name
84-Pvt Dr	Stronghold Canyon East
687-5.14R-1	Stronghold Canyon West
4235-0.83R-1	Fourr Canyon
4388-1.26R-1	Middlemarch Canyon

Air

None of the Dragoon EMA watersheds are located in a Class I air quality area. None of the Dragoon EMA is located in a non-attainment area for air quality. In general, dust from roads is an air pollutant and should be minimized where possible. No roads are proposed for closure for air quality purposes at this time.

Forestry

The Dragoon EMA watersheds have provided limited firewood-gathering opportunities for personal use fuelwood permit holders. Even though no other forest products are readily available in this EMA, fuels management and other forest management activities use access by roads. No new roads are proposed, and no roads are proposed for closure for forest management purposes at this time.

Reference

2008. 2006-2008 Status of Ambient Surface Water Quality in Arizona.

<http://www.azdeq.gov/environ/water/assessment/assess.html>

Arizona Department of Environmental Quality. 2010. Air Quality Plans: Nonattainment Areas and Attainment Areas with Maintenance Plans.

<http://www.azdeq.gov/environ/air/plan/notmeet.html>

Recreation

- *Is there now or will there be in the future excess supply or excess demand for roaded/unroaded recreation opportunities?*
- *Is developing new roads into unroaded areas, decommissioning existing roads, or changing maintenance of existing roads causing significant changes in the quantity, quality or type of roaded/unroaded recreation opportunities?*
- *What are the adverse effects of noise and other disturbances caused by constructing, using and maintaining roads on the quantity, quality, or type of roaded/unroaded recreation opportunities?*
- *Who participates in roaded/unroaded recreation in the areas affected by road constructing, maintaining, or decommissioning.*
- *What are these participant's attachments to the area, how strong are their feelings and are alternative opportunities and locations available.*

The Dragoon EMA is an attractive area for hiking, horseback riding, hunting, off-highway driving (OHV), mountain biking, developed camping, dispersed camping and miscellaneous activities such as Group events and Outfitter Guide riding permits. Currently most of these activities occur on the east side of the Dragoon Mountains off Forest Road (FR) **84** which leads to the Stronghold Campground or on the west side of the mountains off FR **687**. Access across the mountain range is off FR **345** Middlemarch Road. There is some access from a few roads to the south which comes off of State Trust Land and these also need confirmation that there is legal access to the forest. There are several access points to the north but questions have come up whether we need all of these routes to access an area that was inadvertently inventoried as a roadless area. FR **689** was identified as needed for the Alpha Calcit Mine Site (claims under a different name) and microwave site. Several roads in the area which had been closed, but not shown this way in INFRA, will be adjusted in INFRA as decommissioned due to the fact the road is no longer visible on the ground.

Hiking trails in the area include the Cochise Trail # 279 which connects FR **84** and FR **688**, Cochise Horse Trail # 279A, connecting the Stronghold Equestrian Trailhead to Trail 279, Slavin Gulch Trail # 332 originating off FR **687**, and Middlemarch Canyon Trail connecting Trail 279 to FR **277**. There is also a primitive trail off FR **4240** which leads to the Council Rock Interpretive site. Trailhead parking is adequate at both the East and West Stronghold Trailheads but needs improvement at the Slavin Gulch Trailhead and Middlemarch Canyon Trailhead.

1. Is there now or will there be in the future excess supply or excess demand for roaded/unroaded recreation opportunities?

The towns nearest the Dragoon EMA are Dragoon, Pearce/Sunsites, Tombstone and St. David, with a population of about 12,500 combined. Adjacent to the Forest Boundary you may find thousands of acres of undeveloped land which is checker boarded with Private and State Trust land. Most of the areas around the Dragoons are developed or are proposed for development within Cochise County jurisdiction. In addition, with its proximity to Tucson and Sierra Vista, Bachman Springs development adjacent to NFS land, and with the populations of these cities, as well as Pima and Cochise Counties, continuing to grow rapidly, it is expected demands for all

types of recreation will increase dramatically in coming years. The increasing popularity of off-highway vehicles (OHVs), particularly all terrain vehicles (ATVs), means places to ride and drive are more and more in demand. The Dragoon EMA has not suffered the impact of such use compared to other areas of the Forest, such as the east side of the Santa Rita Mountains however, the historic problem in the Slavin area is resurfacing. As popular parts of the Coronado receive more use and, subsequently, more enforcement activity, OHV use occurs in the Dragoon Mountain area but is limited by the terrain, this use may increase with the population but not as dramatically as other areas which have flat terrain. With the population growth in the area surrounding the Dragoon EMA, pressure for access will be greatly increased to meet community recreation needs and development of illegal access points will become more prevalent.

With most of the Coronado receiving rapidly increasing use by OHV enthusiasts and others, there is still an opportunity to preserve much of the Dragoon EMA for more primitive types of recreation while at the same time preserving the unique natural resources and ecology of the area. Placement of new trailheads or improvements to existing trailheads will play a role in where most of the use will occur on this mountain range. Transportation planning done now will play a large role in the type of recreation area this EMA becomes in the future.

2. Is developing new roads into unroaded areas, decommissioning existing roads, or changing maintenance of existing roads causing significant changes in the quantity, quality or type of roaded/unroaded recreation opportunities?

Any new construction of roads or improvement of existing roads would likely be associated with private, State, or BLM land due to the lack of access into the Dragoon EMA. Illegal activities, hunters and OHV users create “wildcat roads” on which other recreationists can ride or drive but most of these are dead-end routes and do not substantially enhance the recreation experience. The noise and dust from roads can detract from other recreation uses such as hiking, hunting and bird watching; while at the same time new roads increase access for these activities.

3. What are the adverse effects of noise and other disturbances caused by constructing, using and maintaining roads on the quantity, quality, or type of roaded/unroaded recreation opportunities?

The abundance of granite formations rising above the roads that access the Dragoons magnifies the sounds of ATVs and other vehicles. Currently, the EMA is isolated enough that other noise is not an issue, except for helicopter operations by the Department of Homeland Security and military jet overflights.

If primitive roads are upgraded or maintained to a higher standard this will increase accessibility for more types of vehicles and could increase recreational activities in certain areas. For example, changing a road from a maintenance level 2 to maintenance level 3 could make it more accessible to vehicles pulling trailers loaded with ATVs, thus introducing more of that type of use to the area. The more types of activities and the more users there are, the more likely there are to be conflicts. Examples include OHVs vs. equestrian use, or camping and hiking vs. target shooting. The improvement of roads is not always welcomed by OHV users either, who sometimes prefer to have opportunities to drive on challenging jeep trails as opposed to better maintained 2-wheel drive roads. The noise and dust from OHVs can spoil the quiet and solitude of the natural environment which is

attractive to users such as hikers and birders. There is also a visual impact where off-loading sites become denuded of vegetation and roads are widened by use.

4. Who participates in roaded/unroaded recreation in the areas affected by road constructing, maintaining, or decommissioning?

Recreational uses in this area include hiking, rock climbing, camping, mountain biking, off-highway vehicle use, equestrian use, hunting, collecting, bird watching, historic/interpretive site visit, and sightseeing. Most recreational use is by dispersed groups or individuals, and some organized Outfitter Guide Groups. Permitted uses include several equestrian recreation Outfitter/Guide Permits. The granite bluffs that dominate the landscape are especially attractive to rock climbers.

5. What are these participant's attachments to the area, how strong are their feelings and are alternative opportunities and locations available?

Rockfellow Dome is of national interest and is a destination point for rock climbers. Other strong interests will need to be answered through the public participation process. Other similar recreation opportunities lie in the Santa Catalina (Rincon Mountains), Whetstone and Huachuca EMAs, and in the BLM's Las Cienegas Natural Resource Conservation Area. Of particular interest to historians are Council Rocks FR 4240 and the Dragoon Springs Stage Station FR 4232. Keeping several of these historic trailheads along with several of the other trailheads through Cochise Stronghold Canyon open, will keep most of the users happy that their favorite areas will continue to be available for their recreation use.

There are several land owners, on all sides of the Dragoon Mountains who use their private land parcels to access the National Forest for OHV use, equestrian use or hiking, creating an illegal access issue that will increase as more development occurs.

Off-Highway Vehicle Management

The increasing popularity of off-highway vehicles (OHVs), particularly all terrain vehicles (ATVs), means places to ride and drive are more and more in demand. The Dragoons EMA receives a significant increase in traffic from this type of use, but the majority of traffic is confined by terrain to existing roads and trails. The impacts here are not extreme as compared to other areas of the Forest, such as the east side of the Santa Rita EMA, Redington Pass in the Santa Catalina EMA or Providencia Canyon in the Huachuca EMA. As the more popular parts of the Coronado NF continue to receive more recreation use and become more crowded, it is likely OHV use will increase in the Dragoons. Locally, due to the presence of private gates being locked around the Forest boundary and available State land surrounding the Dragoons EMA, pressure for access to meet community recreation needs is increasing and development of illegal access points may become more prevalent. Use by Border Patrol vehicles is also contributing to an increase in off-road use.

The rough terrain of the Dragoons EMA makes it unsuitable for the development and maintenance of high density road networks that would support high OHV use. The existing primitive routes lead to trailheads, stock tanks, and areas where dispersed camping and hunting may occur.

Roads classified as unauthorized currently provide more areas for motorists to ride or drive; some of these are dead-end routes and do not substantially enhance the motorized recreation experience, while others provide access to trails and other recreation. Non-system roads that are classified as “unauthorized” in the transportation analysis may have been formed through legal, permitted uses such as range improvement projects or fuel wood cutting, and in some cases the roads then became useful roads for forest access. Some “unauthorized” roads are historic roads that were never added to the road system. These non-system roads have been used as though they were part of the road system, some for many years. Many non-system roads in this EMA have been identified as highly desirable for continued recreation and hunter access.

Dispersed Motorized Camping

The Forest Land and Resource Management Plan (pp. 27, 28) provides for motorized dispersed camping as follows: “Vehicles may pull off roads or trails up to 300 feet for parking or camping.” Along many roads, parking and camping spots are limited by terrain, vegetation and rockiness. Frequently used motorized dispersed campsites, where evidence of camping such as fire rings can be seen, are usually readily identifiable. Some dispersed campsites are occupied only during hunting season and may not be obvious at other times of the year. The demand for opportunities for motorized dispersed camping continues to grow. The forest road system is used to access these dispersed campsites. If the 300 foot dispersed camping corridor were to be eliminated on some roads the only way access with vehicles could be allowed to campsites is by the designation of spur roads.

Responses to Specific Road Comments

While not officially Forest System roads, some non-system roads classified as unauthorized are currently being used by both the Forest Service and other agencies for administrative purposes and by the public. AGFD and Douglas Ranger District personnel have recommended that some of these be evaluated for addition to the forest road system based on their value for purposes such as hunter and general recreation access, contingent upon appropriate environmental and social analysis. The following unauthorized roads are recommended to be added to the Forest road system as open-authorized (OA) roads (open to the public):

687-5.14R-1	4377-0.51R-1
687-5.81L-1	4378-0.57R-1
795-7.72L-1	4388-1.26R-1
4230-0.53R-1	4809-0.67R-1

Range Management

- *How does the road system affect access to range allotments?*

The Dragoon Ecosystem Management Area has 10 grazing allotments with structural range improvements that have been constructed for the purpose of improving range management and

the flexibility and functionality of the individual ranching operations. Most of these improvements need to be maintained on a regular basis, and the roads that service these improvements are crucial to the activity of ranching on these allotments. Many of these roads were developed in the past to either install or service certain range improvements, and have developed into a significant portion of the EMA transportation system. These roads are not only used by the permittees of the individual allotments, but in many cases are used by the public to access a great deal of the EMA where access is increasingly being locked off by private land accesses.

Properly managed livestock grazing is a sustainable and legitimate use of National Forest System lands. The roads described below are also used by the Forest Service to administer the grazing permits. Due to the remote nature and rough topography of the Dragoon mountain range, these roads are crucial to access important areas of the allotments. Grazing activities must be aggressively monitored throughout the grazing season to ensure resource protection and compliance with the grazing permit, NEPA decisions, ESA section 7 consultations, and annual operating instructions to permittees.

Activities or reasons that these roads are needed for range management purposes include, but are not limited to the following:

- Access to range improvements (fences, corrals, cattleguards, pipelines, water delivery systems, earthen tanks) which must be checked, maintained, and repaired on a regular basis.
- The anticipated need for construction of new structural and non-structural range improvements identified through adaptive management and the NEPA process related to grazing authorizations and the development of Allotment Management Plans (AMPs).
- The past and current level of cross-country travel as demonstrated over the past 10- 20 years for general range management and permit compliance purposes.
- The type and complexity of grazing management and frequency of livestock movements for range management purposes.
- The type of fences needing to be maintained (e.g., electric fences as opposed to traditional barbed wire fences).
- The need for checking the functionality of fences and the logistics involved in the transport of repair materials to fence line locations.
- The need and logistics for repair and maintenance of wildlife and other types of enclosures which are the responsibility of the grazing permit holder.
- The need for placing or staging supplements in strategic locations for livestock and grazing management purposes.
- The need to check gates potentially left open by other national forest users (e.g., recreationists and hunters).
- The need to attend to sick or injured livestock.

Though many of the roads within the Dragoon EMA provide access for multiple uses, some only access certain range improvements or other areas of interest that only pertain to the grazing permittee. Those roads that are either locked off from the public due to private land access or that access areas only needed for permit activities should be authorized on a restricted basis to personnel that need access.

Conversely, there are a number of roads in the EMA that originate or cross privately owned land before reaching Forest Service land. These routes, once open public accesses, are increasingly being locked by the landowner and the public is deprived of access to the areas the route serviced. To mitigate losing public access to these portions of public land, a diligent effort needs to be made to maintain access, either through agreements with the landowner or re-routing of roads around private land.

In one particular area of the Dragoon EMA, a small section of road crosses private land and inhibits access to thousands of acres of Forest Service lands. This lack of access prompted a site visit by several specialists, and a new route was proposed that is entirely on Forest Service land. The route would be approximately 1 ¼ miles long, and is currently suspected to be drivable with a 4x4 vehicle. It is recommended that this potential route be explored to allow public access to a large area of currently unavailable public land.

Changes from historic patterns of travel should not impair management of the allotment or substantially impact the operator’s economic viability. Permittee access to manage allotments would be provided through a combination of the designated forest system roads and other access needs identified in their Term Grazing Permit. If not currently described in a Term Grazing Permit, access needs other than the designated system will be spelled out as a special provision in Part 3 of the Term Grazing Permit (either in the Allotment Management Plan (AMP), or directly as a special provision of the permit in Part 3) as presently being practiced. Since travel activities associated with Term Grazing Permits are on-going with a long history, additional NEPA and a formal decision would not be required.

The following table provides a list of recommendations for system roads to be left “as is” or **No Change (NC)** and non-system roads to be added to the system as either **Open Authorized (OA)** or **Open Authorized Restricted (OAR)**; maintenance level 2 (except where noted). These roads are currently being used to administer or implement grazing on National Forest lands.

Road Number	NC	OA	OAR	Proposed New	Reasons / Recommendations
345	X				accesses majority of the south end of the EMA
345-11.37R-1		X			Needed to access range improvements; permit administration
345-11.37R-2		X			Needed to access range improvements; permit administration

Road Number	NC	OA	OAR	Proposed New	Reasons / Recommendations
345 A	X				Keep entire road for recreation and range improvement access. Access to Slavin Gulch trail from top.
345 A-1.35R-1					Needed for future range improvement; Pipeline installation, ML1
687-5.44L-1		X			Permittee's main ranch road. Used for allotment management.
688 B	X				Public access to West Stronghold Canyon. Recommend change number to 687.
689	X				Needed to access range improvements; permit administration
689-4217			X		Needed to access range improvements; permit administration
698			X		Needed to access range improvements; permit administration. Change to OAR
795	X				Needed to access entire allotment; range improvements; permit administration.
795-7.72L-1		X			Permittee access to state lease adjacent with the Forest.
2002					Convert to ML1
4212	X				Accesses Solar well; pipeline. Needed for permit administration.
4216	X				Needed to access range improvements; permit administration.
4217	X				Needed to access range improvements; permit administration.

Road Number	NC	OA	OAR	Proposed New	Reasons / Recommendations
4218	X				Needed to access range improvements; permit administration.
4218 A	X				Needed to access range improvements; permit administration.
4219	X				Needed to access range improvements; permit administration.
4230-0.53R-1		X			Needed to access range improvements; permit administration.
4235-0.83R-1		X			Accesses spring. Needed for permit administration also.
4236-0.29R-1		X			Accesses storage tank system for Fourr allotment. Also re-routes road out of riparian area.
4377-0.51R-1		X			Accesses spring and storage system; pipeline. Needed for permit administration also.
4380					Convert to ML1
4381 – 4382			X		Convert to OAR
4382 reroute				X	New construction to access range improvement and recreational access point for Grapevine Canyon.
4382-0.21L-1					Recommend Decommission portion from private land on the east to the junction of 4385.
4382-4383				X	New construction to access road system currently restricted by private land.
4383	X				Accesses range improvements; also needed for permit administration.
4383-4384		X			Convert existing road on the ground to OA.

Road Number	NC	OA	OAR	Proposed New	Reasons / Recommendations
4384					Recommend Decommission
4385		X			Faintly visible on ground. Fenced across. May be re-instated in the future as public access around private land (would access 4383 and 4384)
4386		X			Faintly visible on ground. Fenced across. May be re-instated in the future as OA for public access. Also accesses range improvements.
4387					Accesses entire south end of Noonan Allotment. Re-Route needed for permit administration, public use. Recommended to Decommission.
4388	X				Accesses spring and storage system; pipeline. Needed for permit administration also.
4388-1.26R-1		X			OA to trailhead. Decommission from trailhead to end.
4389	X				Needed to access range improvements; permit administration. Also will be used as a re-route around private land.
4391	X				Portions will be used as a re-route around private land.
4392	X				Needed to access range improvements; permit administration. Only access into large expanse of FS land.
4393	X				Accesses range improvements; also needed for permit administration.

Road Number	NC	OA	OAR	Proposed New	Reasons / Recommendations
4394	X				Needed to access range improvements; permit administration
4396	X				Needed for permittee access to entire Reppy Allotment. Public access from FR345.
4396-spur		X			Add OA. Replace 4396.
4397	X				Needed to access range improvements; permit administration
4398			X		Needed to access range improvements; permit administration
4806	X				Needed to access Tenneco Well (Range improvement)
4807	X				Needed to access range improvements; ML1
4810	X				Needed to access Carlink Spring and Pipeline (Range improvement)
4822	X				Needed to access John's well and storage system (Range improvement). Also corral.
4824	X				Permittee's access to private well and water system; permit administration.
4825	X				Needed to access range improvements; ML1
4829	X				Accesses spring and range improvements. Permit administration
4835	X				Access spring and pipeline.
4837	X				Access spring and pipeline.
4838	X				Needed to access range improvements; permit administration. Also will be used as a re-route around private land.
4849	X				Accesses earthen tank,

Road Number	NC	OA	OAR	Proposed New	Reasons / Recommendations
					steel storage tanks, trough and pipeline. Long term range monitoring site.
New Route 345-4838				X	Proposed new route to connect FR 345 to FR 4838 without crossing private land. Route would be possible currently with a 4x4 vehicle. Would allow public access to a large section of Forest Service land that is currently unavailable to the public due to a private land access.

Biology

1. What ecological attributes, particularly those unique to the region, would be affected by the roading of current unroaded areas?

Based on a review of District records and files, the following federally threatened, endangered, proposed and/or R-3 Forest Service, sensitive species may be either directly or indirectly affected by the roading of unroaded areas:

Common Name	Scientific Name	Status	Habitat Concerns
AMPHIBIANS			
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	Threatened	Recent surveys (2003 & 2004) reflected only single population in Middlemarch Canyon is surviving on Forest in Dragoon EMA
BIRDS			
American peregrine falcon	<i>Falco peregrinus anatum</i>	Region-3 Forest Service - Sensitive	Only single known nesting eyrie within Rockfellow Dome Park; Dragoon EMA; site annually monitored
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Region-3 Forest Service - Sensitive	Species observed spring 2000 in vicinity of West Cochise Stronghold in riparian habitat
MAMMALS			

Common Name	Scientific Name	Status	Habitat Concerns
Lesser long-nosed bat	<i>Leptonycteris curasoae</i>	Endangered	1-known migratory day roost; 1-known night roost; Palmer agave concentrations provide important foraging habitats throughout Dragoon EMA
Mexican wolf	<i>Canis lupus baileyi</i>	Endangered	No confirmed sightings since 1971
INSECTS			
Arynxa Giant Skipper	<i>Agathymus arynxa</i>	Region-3 Forest Service Sensitive	Associated with <i>Agave palmeri</i>
PLANTS			
Sedge	<i>Carex ultra</i>	Region-3 Forest Service Sensitive	Only known single population at Goodrich Spring

2. To what degree do the presence, type, and location of roads increase the introduction and spread of exotic plant and animal species, insects, diseases, and parasites?

Roads can provide corridors for either the direct or indirect, introduction and spread of non-native species. Plant material and insects generally are the primary forms transported. Since the higher elevations in the Dragoons and the more unique habitats are not readily accessible, it is unlikely that non-native plants/animals introductions will be a concern for the central portions of the EMA.

Lehmann lovegrass (*Eragrostis lehmanniana*) introduced into the southwest in the early 1930s, has invaded low-elevation (3000 to 5000 feet) grassland habitats within the Dragoons. Right-of-way seeding along roads and power-lines etc. has been the primary avenues of ingress. Lehmann lovegrass population expansion also maybe stimulated by wildfire.

In addition, non-native organisms have been a major factor implicated in declines of native amphibians throughout western North America. Chiricahua leopard frogs are nearly always absent from sites supporting bullfrogs and nonnative predatory fish. While state and federal agencies no longer intentionally introduce bullfrogs in Arizona, well-intentioned private individuals who are unaware of the repercussions of their actions still move bullfrogs about as well as panfish such as green sunfish. Existing roads accessing springs and riparian areas may facilitate the release of bullfrogs and other non-native organisms into leopard frog habitat. In addition, bullfrogs have been known to move themselves up to 5-miles. So once a foothold is established, this species could further expand on its own.

Also, a fungal skin disease, chytridiomycosis, first identified in Arizona in 1998, has been linked to amphibian decline in many parts of the world, including the leopard frogs in Arizona. Although the transmission mechanism of this fungus is not well known, vehicles are a possible means for this disease/parasite. People may also carry the fungus on their boots or other belongings between sites. The possible introduction of chytrid fungus to the Middlemarch Mine Tunnel site is always a concern.

3. What are the potential effects of such introductions to plant and animal species and ecosystem function in the area?

Not all nonnative species are a problem while some aggressively out-compete native species. Lehmann lovegrass dominates low-elevation grassland communities to the near exclusion of native species. This dominance is augmented by various land management practices i.e. livestock grazing.

Also, while the lovegrass species may act as nesting/cover habitat for many species, the abundant herbage, when dry, will provide fuel for wildfires. Unfortunately, Lehmann lovegrass development or control may be stimulated by fire.

The potential impacts from bullfrog introductions range from introducing chytrid fungus into aquatic habitats to outright predation on native aquatic species such as Chiricahua leopard frogs. Currently, bullfrogs' introductions within the Dragoons do not seem to be a problem. However, with increased development of private residences or other commercial endeavors such as golf courses peripheral to the Forest, the potential for invasion is increased.

4. To what degree do the presence, type, and location of roads contribute to the control of insects, diseases, and parasites?

Similar to the non-native plant or wildlife species issues, roads can provide avenues for either the direct or indirect, introduction and spread of insects, diseases and parasites. Plant material and insects generally are the primary forms transported by vehicles or their occupants. Roads within or immediately adjacent to "riparian" areas may have a greater impact on wildlife species in general since typically wildlife activity is more concentrated in riparian habitats. Since the higher elevations in the Dragoons where the more unique habitats occur are not readily accessible, it is unlikely that these alien introductions will be a concern for the central portions of this EMA.

No known control of or surveys of insects, diseases, and parasites have occurred in the Dragoons. In addition, the existing road system, within the southwestern perimeter of the Range appears to be more extensive than that needed for monitoring and control of these problems. The more remote portions of the range are best accessed on horseback or hiking.

5. How does the road system affect ecological disturbance regimes in the area?

The primary ecological disturbance factors in the Dragoons are drought and wildfire. Although roads have no effect on drought, their existence may increase the incidence of wildfire by providing access to areas of dense fuel which are then ignited by the various forms of road traffic. Also, numerous camping sites and fire rings exist along the road. Although the road system increases the potential for human-caused fire, it also allows for rapid response by suppression. Currently, the lack or infrequency of fires in the Dragoons is influencing this EMA's ecology.

6. What are the adverse effects of noise caused by developing, using, and maintaining roads?

Wildlife response to noise varies with species. The results are determined by noise level, frequency, timing and duration. Some species can habituate to traffic noise, particularly if the noise is predictable and relatively consistent, for example traffic along a paved main road. Traffic patterns that are more erratic and infrequent have a greater impact on the effectiveness of habitat use by resident and transient wildlife species.

Within the Dragoons, wildlife may avoid areas during the noise generating activity and return to normal behavior within a relatively short period of time. It is not felt that there are any existing roads in the Range that receive a high enough level of use to cause wildlife to avoid the area for a significant amount of time. Also, there are no known bat day roosts nor peregrine falcon eyrie sites that are directly affected by noises caused by developing, using and maintaining area roads.

7. What are the direct affects of the road system on terrestrial species habitat?

Roads alter vegetative structure, alter habitat microclimate, reduce the size of various vegetative zones (habitat fragmentation), impact water quality and outright destroy wildlife habitat. While the physical presence of roads can and do alter wildlife habitat and disrupt species movements (i.e. certain butterfly species) to a certain/limited extent, it is the type and frequency of the traffic that may significantly affect habitat use or adversely influence the effectiveness of habitat use by wildlife.

Fortunately, for the Dragoon EMA, the “unique” wildlife habitats occur within the more central, roadless portions of the Range from China Peak through Rockfellow Dome to Dragoon Peak.

8. How does the road system facilitate human activities that affect habitat?

The current road “system” facilitates several legitimate uses of the EMA. Livestock grazing and grazing allotment management is the primary human use. This use is responsible for the majority of the existing roads and the road density levels associated with the northern and southern “thirds” of the Range. Mining, although primarily a historic activity, mineral exploration and fuelwood gathering are a few other human uses that have had an influence on road density levels as well as habitat condition. Historically, the harvesting of oak for mining had a major affect on today’s habitat quality/structure for that vegetative type. Recreational camping has also contributed significantly to extensions of the original “roads”.

However, it is primarily recreational uses such as sightseeing, hunting, camping, ATV use, and wildlife watching that contribute to the majority of the legal “traffic” encountered on these roads. The majority of this use occurs within the southern and southwestern, accessible areas of the Dragoons. The proximity of the forest roads to human communities (i.e. Tombstone) also contributes a fair amount to the “traffic” dilemma.

9. How does the road system affect legal and illegal human activities (including trapping, hunting, poaching, harassment, road kill, or illegal kill levels)? What are the effects on wildlife species?

The road system is a link between two somewhat “isolated”/small communities within a rather “remote” area of southwestern Arizona and has been utilized as a travel route for the transportation of undocumented aliens from Mexico as well as the transportation of illegal drugs over these roads. While these types of activities are often not taken into consideration as having an effect on wildlife species and/or habitats, the potential for unintentionally transporting in totally foreign/non-native vegetative material, insects, diseases on clothing/shoes exists. No surveys have been conducted as of yet to determine whether or not such a problem exists. Poaching of wildlife and livestock for food in association with these illegal activities also has occurred.

While access to the more remote areas of the Dragoons is limited, Middlemarch Canyon, Blacktail Hill, Slavin Canyon and East/West Cochise Stronghold areas appear to receive the majority of the “legal” activities. Illegal collecting pressure on some amphibian and reptile species has occurred and is a concern. Poaching of game animals also has occurred to a limited degree. Decreases in these activities are not felt to be directly proportional to road density/type. This is more a problem of access in general and human nature etc. rather than the existing road system.

The bottom line effect of all of these various forms of human activities is that the various wildlife habitats are not effectively utilized by the species which inhabit them. Also, wildlife diversity is influenced toward species that are more tolerant of human activities.

10. How does the road system directly affect unique communities or special features in the area?

With the exception of a portion of FR 687 that crosses West Stronghold Canyon (2-3 times over 3-miles), the current system does not directly affect the most unique communities or special features of this EMA.

11. Do areas planned for road constructing, closure, or decommissioning have unique physical or biological characteristics, such as unique features and threatened or endangered species?

The areas planned for closure or decommissioning are primarily within foraging areas for the endangered lesser long-nosed bat and to a limited extent the peregrine falcon. It is not anticipated that these species will be significantly benefited nor impacted by changes in the current road system. Known bat roost habitat will not be adversely nor beneficially affected.

12. How and where does the road system facilitate the introduction of non-native aquatic species?

It is not felt that the existing road system facilitates the introduction of non-native aquatic species since the area has very little to essentially no naturally occurring aquatic habitat.

13. How and where does the road system overlap with areas of exceptionally high aquatic diversity or productivity or areas containing rare or unique aquatic species or species of interest?

While the current road system does not overlap with areas of exceptionally high aquatic diversity, roads within the southeastern, Black Diamond area of the Range did provide limited access to habitats utilized by Chiricahua leopard frogs. However, this was before the drought of 2003 and 2004 significantly impacted several man-made features (livestock waters) and the species. This was also before the area was locked out to public access and to a certain degree to Forest management personnel by private landowners.

14. What are the traditional uses of animal and plant species within the area of analysis?

There are 10 grazing allotments within this EMA. These operations directly and indirectly influence habitat structure, quality/quantity to varying degrees. Although the EMA is relatively accessible either on-foot/horseback or by vehicle (in the flats), given the lack of unique or quality habitat, wildlife viewing does not play a major role. Big/small game hunting is the primary consumptive use of area wildlife. In addition and to a very limited extent, Native Americans have collected native plants (i.e. yuccas species and beargrass) for use in basket weaving and other cultural crafts from within the Black Diamond area.

15. How and where does the road system restrict the migration and movement of aquatic organisms?

Since aquatic habitats within the Dragoons are associated with widely scattered, small, man-made features such as livestock waters, the existing road system plays an insignificant to negligible role in the restriction of aquatic organism migration and movements.

16. What aquatic species are affected and to what extent?

There is very little perennial, aquatic habitat in the Dragoon EMA. What “permanent” water does exist, involves man-made structures such as stock tanks or spring developments. The primary aquatic species of concern for this EMA is the Chiricahua leopard frog. Currently, based on recent species surveys, the only known, remaining population for the Dragoons is located within a flooded mine entrance within Middlemarch Canyon area and the Shaw Tank, accessible only by foot trail. This species is not directly nor adversely affected by area roads.

Forest Roads 4863, 4392, and 795 are located within 0.5 miles of historic Chiricahua leopard frog habitat. However, these sites are currently not occupied and should have no effect to leopard frogs. Should frogs be reintroduced into these areas, road use can be adjusted at that time.

Minerals Issues

- *How does the road system affect access to locatable, leasable, and salable minerals?*

Objectives:

1. Minimize human access to dangerous abandoned mine workings, especially as private land within and surrounding the Forest in the Dragoon Mountains is developed
2. Maintain access into the current operating plan, Alpha Calcit Arizona, Ltd. (ACAL) quarry area (also known as the Ligier, Tapia or Godfather Claims) and
3. Maintain access into areas with potential future exploration and/or mining in Wood Canyon (accessed by Forest Roads 4216 and 4215) and the Black Diamond Peak area (accessed by Forest Roads 4393, 4397 and 4829).

Benefits:

1. Minimizing access to dangerous abandoned mines will help to insure human safety.
2. Retaining access into the Ligier, Tapia or Godfather Claims will allow ACAL (holds current Operating Plan) to carry out their proposed drilling activity and to later mine the site if drilling results are favorable, and will also allow exploration and/or mining by any future interests, and
3. Retaining access into Wood Canyon and into the Black Diamond Peak area will allow for future mineral exploration and development.

Problems:

There are no foreseeable problems with retaining access into the Ligier, Tapia or Godfather Claims nor into Wood Canyon and Black Diamond Peak. Concerning problems with abandoned mines, the following mines are a threat to human safety because they are located either adjacent to a Forest road or within easy walking distance of a road; the referenced roads should be closed.

Mulheim, San Juan and White Tail Mines – at the end of Forest Roads 697 and 4390 in T18S, R23E, Section 26, center and SE ¼ of the NE1/4; these mines contain adits (tunnels) and a shafts (vertical openings) that are either adjacent to or within easy walking distance of the roads.

Unnamed Prospects – accessed by Forest Road 2002 in T18S, R23E, Section 11, NW1/4 of the SW1/4: there is an adit at the end of the road.

Black Diamond Mine – accessed by Forest Road 4870 in T18S, R23E, Section 13, SE1/4 of the SE1/4; the mine contains several shafts and dangerous underground workings, all of which are either next to the road or within easy walking distance of the road.

Standard Tungsten Mine – accessed by Forest Road 4825 in T18S, R23 E, in the corner of Sections 13, 14, 23 and 24; the mine contains a shaft and an adit located at the end of the road.

Festerling Mine – accessed by Forest Road 4828 in T18S, R23E, Section 24, NE1/4 of the NE1/4; the mine contains shafts that are very accessible from the end of the road.

Garnet and Moonlight Mines – at the end of Forest Road 4393 in T18S, R23E, Section 24, center of the SE1/4; workings include shafts and adits readily accessible from the end of the road.

Risks:

There are no known risks in retaining access into the Ligier, Tapia or Godfather Claims, Wood Canyon or Black Diamond Peak. Keeping roads that access dangerous abandoned mine workings open would allow the risk of human injury associated with the workings to persist. The risk could increase if development of private land in and adjacent to the Forest continues, and local population increases.

Effect to management of the Dragoon Mountains road system with regard to the Ligier, Tapia or Godfather Claims quarry operations, Wood Canyon and Black Diamond Peak, and to human safety around abandoned mine workings:

Ligier, Tapia or Godfather Claims quarry operations – as long as access into the quarry area remains as it is and is not increased, there will be no effect.

Wood Canyon and Black Diamond Peak – as long as access into these areas remains, and is not increased, there will be no effect.

Abandoned mines – as long as the mines remain accessible by road the threat to human safety will persist. If any new access to abandoned mines is created, the threat to human safety will increase.

Cultural Resource Issues

The three units of the Douglas Ranger District contain a wide range of cultural resource sites, ranging from Native American habitations, artifact scatters, rock art sites, rock shelters, and quarries, to historic –period military sites, ranches, infrastructure developments, and Forest Service administrative facilities. As of March, 2010, a total of 94 cultural-resource sites within the Dragoon Mountains EMA had been recorded and entered into the Forest’s geographic information system (GIS) database. Eight sites are listed on the National Register of Historic Places. These include the seven Native American rock art sites comprising the Council Rocks Archaeological District, and the mid-19th century Dragoon Springs Stage Station at the north end of the Dragoon Mountains.

Guidelines for conducting a Travel Analysis are given in the Forest Service publication *Roads Analysis: Informing Decisions about Managing the National Forest Transportation System* (Misc. Rep. FS-643, 1999). That report suggests three questions pertinent to cultural uses and heritage resources:

- *How does the road system affect access to paleontological, archaeological, and historical sites?*

- *How does the road system affect cultural and traditional uses (such as plant gathering, and access to traditional and cultural sites) and American Indian treaty rights?*
- *How are roads that are historic sites affected by road management?*

The Roads Analysis (p.25) guidelines note that these are examples of questions that can be asked, and that “These questions and associated information are not intended to be prescriptive, but they are here to assist interdisciplinary teams in developing questions and approaches appropriate to each analysis area.” Given this direction, an additional question is added to help evaluate the effects of the roads on cultural-resource sites, that is:

- *How does the road system affect the physical condition and stability of cultural resource sites located in or adjacent to roads?*

Each of these questions will be addressed in turn:

- *How does the road system affect access to paleontological, archaeological, and historical sites?*

At a general level, the road system provides access to all of the sites in the Dragoons Ecosystem Management Area. Access provided by the road system in the area can affect paleontological, archaeological and historical sites both positively and negatively. The primary positive affect of road system is the access provided for authorized visitation and site maintenance of a small number of sites. Without road access, many sites would be rarely visited by either the public or Forest Service personnel. It would be much more difficult to monitor sites and ascertain whether any damage is occurring. On the other hand, road access exposes sites to damage by unauthorized artifact collectors and vandalism.

In the Dragoon Mountains EMA, no known paleontological sites rely on Forest roads for access. Access to two historic sites in East Stronghold Canyon -- the Shaw or Brophy House (AR03-05-01-11) and the Schilling House (AR03-05-01-364) -- is provided by roads with use restricted by gates with Forest Service locks. Neither of these short access roads has previously been designated as a system road; they were inventoried as “84-Brophy” and “84-Shilling.” It is recommended that these three be added as Open Authorized Restricted roads; no change in access or use is proposed.

A short road segment from NFSR 687 provides access to the Council Rocks Archaeological District. This road was marked on older Primary Base Series maps as NFSR 4240, a number that was duplicated elsewhere. This road is marked by a sign post as 687K and was inventoried as 687-6.50R-1. In about 1990 the Forest Service closed the eastern portion of this road with a wire fence and created a small parking area to serve as a trailhead for visitors to the rock art sites of the Council Rocks Archaeological District. It is recommended that 687-6.50R-1 be added to the road system with Open Authorized status.

- *How does the road system affect cultural and traditional uses (such as plant gathering, and access to traditional and cultural sites) and American Indian treaty rights?*

As with heritage-resource sites, in a general sense, the road system provides to all areas of traditional and cultural use. The Dragoon Mountains were an important part of the homeland of the Chiricahua Apaches in the 1800s and included with the Chiricahua Apache Reservation from 1872-1876. The forced removal of Chiricahua Apaches from Arizona in 1886 and their subsequent prisoner-of-war status in Florida, Alabama, and Oklahoma brought an abrupt and long-lasting halt to use of the mountain ranges by the Chiricahua Apaches. The descendants of the Chiricahua Apaches, now members of the Mescalero Apache Tribe in New Mexico and the Ft. Sill Apache Tribe in Oklahoma are now interested in re-establishing connections with their traditional homelands. Two areas specifically recognized for their traditional importance and that have been used in recent years for traditional ceremonies are the East and West Cochise Strongholds. Access to these areas is via Forest roads (NFSR 84 and NFSR 687). In previous consultations, representatives of Ft. Sill and Mescalero have expressed concern about the apparent trend in reduced access to the Forest lands from surrounding private lands, especially to the Dragoon Mountains.

Neither the Chiricahua Apache descendants nor any other Native American tribes with traditional ties to the Dragoon Mountains EMA has any recognized treaty rights pertaining to Forest-administered lands.

- *How are roads that are historic sites affected by road management?*

No roads within the Dragoon Mountains EMA have been designated as cultural-resource sites. One of the very few roads that might warrant recognition as a historic site, if it retains appreciable historic features and sufficient integrity in the Sorin Camp Road (NFSR 345A) which in the late 1800s was at one time a toll road approved by Cochise County. The historic Butterfield Stage route from the mid-1800s passed through the north end of the EMA, but no contemporary road follows the route.

- *How does the road system affect the physical condition and stability of cultural resource sites located in or adjacent to roads?*

Although not included in the three suggested questions for TAP, it is important to consider the impacts the road system has had, continues to have, and could have in the future on heritage resource sites in the area. In general road systems affect paleontological, archaeological and historical sites both positively and negatively. The primary positive affect of road is the access provided for authorized visitation and site maintenance of a small number of sites. On the other hand a large number of archaeological sites have been adversely affected through physical damage to sites and the greater access by unauthorized artifact collectors.

Decommissioning unneeded roads will in several cases have a beneficial effect on the long-term stability and preservation of cultural resource sites by making them less susceptible to damage by vehicular traffic, road maintenance or improvement activities, and less readily accessible to at least some potential artifact collectors and looters. In the Dragoons EMA, roads that decommissioning would likely result In improved protection of cultural resource sites include NFSR 4227A and 4229 on the west side of the mountains near NFSR 687.

Fire Protection & Safety

- *How does the road system address the safety of road users?*
- *How does the road system affect investigative or enforcement activities?*
- *How does the road system affect fuels management?*
- *How does the road system affect the capacity of the Forest Service and cooperators to suppress wildfires?*
- *How does the road system affect risk to firefighters and to public safety?*

The goal of transportation analysis is to retain those roads necessary to meet the multiple use management objectives of the analysis area and retain the ability to access the area for fire suppression and use of roads as a possible control feature for planning purposes. The retention of roads is especially important in the wildland urban interface, not only as possible holding and control features, they may also be important to public and firefighter safety because of their use as ingress and egress routes to and from private property. Road access is a major issue for all emergency resources. Most roads on the Douglas Ranger District do not provide access to large fire trucks. Firefighters are challenged by narrow roads and limited access. Most Forest Service engines lack the clearance for most maintenance level 2 roads, although these existing roads may provide adequate control lines for burnout operations. Roads that access trailheads should be kept. Existing roads may also provide access to desirable recreational areas and are also necessary. The major problem for this area is the lack of permanent legal access to get to the existing roads on the forest lands, which in some cases have been locked off by adjacent private land owners.

All roads will be analyzed for possible uses that meet management objectives and may include access to range improvements, dispersed camp sites, access to private land and other recreational sites. There are legitimate reasons behind decisions to close roads in the analysis area. These include, but are not limited to, the following reasons:

- An excessive number of roads have emerged and must be reduced to meet management objectives.
- There are more roads than funding to manage them.
- Some roads are creating soil and water issues due to severe erosion problems.
- Where more than one road arrives at the same destination, only one is needed. Unnecessary dead end spur roads with no purpose will be targeted for closure and obliteration.
- Crossover or shortcut roads must also be eliminated.
- Wildcat roads, or roads created by illegal off road activity that result in resource damage and will be closed.
- Roads that now exist and are not system roads will be considered for retention if their existence is necessary to meet management objectives.

The following table provides a list of recommendations for roads that currently exist. System roads that are not mentioned in the list should remain in the system as open authorized (OA).

Currently existing non-system roads that may be recommended for retention and added to the system are considered to be the minimum roads system for the EMA and may be listed as (OA) or open authorized restricted (OAR). All are maintenance level 2 unless otherwise noted.

Road Number	Recommendation	Notes
84-Equestrian Pkng	OA	Helipad moved to new location. Recommend as OA for recreation. Trailhead parking.
84-Schilling	OAR	Recommend as OAR. FS admin access.
84-Brophy	OAR	Recommend as OAR. FS admin access. Road continues to water tank.
84-Pvt Dr	OA	Landowner may have easement. If not, grant easement.
345-11.37R-1	OA	Recommend as OA for permittee and recreation access.
345-11.37R-2	OA	Recommend as OA for permittee and recreation access.
345-15.02L-1	Decommission	Leads to adit. Recommend to Decommission.
345 A	NC	Keep entire road for recreation and range improvement access. Access to Slavin Gulch trail from top. Road existed before IRA established
687	See Notes	Recommend as OAR south of private land and change 688 B and 688 to the 687 road.
687-5.44L-1	See notes	No public access from west. Locked gates at forest boundary. Recommend as OA on south end. Recommend to decommission north end but no sign of road on imagery.
687-6.50R-1	OA	Council Rocks. Add to system. Parking for access to heritage sight.
687-5.81R-1	OA	Dispersed campsite. Recommend as OA
687-5.14R-1	OA	Dispersed campsite. Recommend as OA
687-2.36R-1	OA	Dispersed campsite. Recommend as OA
688	See Notes	Need for trailhead and recreation, camping access. Decommission part from junction with 688 B west to private. Renumber 688 to 687.
688 A	NC	Not in riparian area. Need for dispersed camping and future range improvement.
688 B	NC	Renumber to 687

Road Number	Recommendation	Notes
689-4217	OAR	OAR for powerline and permittee access.
697	See Notes	Recommend to decommission last 0.33 mile. Find logical place to end and turn around.
697-0.55L-1	OA	OA for dispersed recreation.
698	OAR	Road is washed out in parts. Recommend as OAR
2002	ML1 See Notes	Recommend change to ML1. Illegal ATV access beyond end of road.
4212	No Change	Range improvement and recreation access.
4216	No Change	Wood Canyon. Range improvement, quarry, and recreation access.
4220	ML1 See Notes	AGFD guzzler. Recommend to change to ML1.
4221	ML1 See Notes	Goes to marble quarry. Recommend to change to ML1.
4226	Decommission	Cow trail. Not a road.
4227	Decom See Notes	Decommission east of private land. 0.35 miles
4227 A	Decommission	Recommend to decommission 0.22 miles.
4227 B	Decom See Notes	Recommend to decommission 0.05 mile.
4228	No Change	Obliterated. Not on ground.
4229	Decommission	Connects to 4823. Traffic is coming off private land on 4823 around closure. Archaeology concerns. Decommission. Avoid impacts to arch sites when closing.
4230	See Notes	Keep first 0.35 miles open for recreation, hunter, permittee access. Decommission last leg from fork to 4230-0.53R-2.
4230-0.53R-1	OA	Recommend to add as OA for recreation, hunter, permittee access. Renumber it as extension of 4230.
4230-0.53R-2	Decommission	Recommend to decommission.
4231	Decommission	Recommend to decommission.
4233	No Change	Road does not exist on ground. NC. Previously Obliterated.
4235	Decom See Notes	Concur with decommissioning last 0.65 miles.
4235-0.83R-1	OA	Renumber as 4235 for access to spring.

Road Number	Recommendation	Notes
4236	Decom See Notes	Need for permittee access and public recreation access the Fourr Canyon. Bob address riparian issue. Recommend to Decommission 0.36 mi of road (Replace w/ 4236-0.29R-1)
4236-0.29R-1	OA	Recommend to add as OA; ML2
4237	No Change	Road does not show on imagery. Previously decommissioned. Decommission if it exists on the ground.
4240	Decommission	Recommend to decommission 0.19 miles.
4377-0.51R-1	OA	OA for dispersed recreation and range improvement access. (Check on ground)
4377-1.19R-1	OAR	Goes to private land owner who has been moving rocks and maintaining the road on forest. Recommend as OAR. Need to have easement.
4378-0.57R-1	OA	Add as OA for recreation, hunter, permittee access. Provides access to the other side of an otherwise nearly impassable canyon.
4378-0.80R-1	Decommission	Recommend to decommission.
4379	Decommission	Concur with decommission. Currently closed and does not connect to 345.
4380	ML1 See Notes	Recommend to change to ML1. 0.16 miles
4387-0.37L-1	Decommission	Recommend to decommission.
4388-0.30L-1	Decommission	Recommend to decommission.
4388-1.00L-1	Decommission	No purpose for this road. Dangerous. Needs to be decommissioned.
4388-1.26R-1	OA See Notes	OA to trailhead. Decommission from trailhead to end.
4388-1.26R-2	Decommission	Recommend to decommission.
4388-1.64R-1	Decommission	Recommend to decommission.
4390	Decommission	Recommend to Decommission. Steep and dangerous.
4391	No Change	Need to keep open until access issues are resolved.
4392	No Change	Connects to 4391. Need to keep open until access issues are resolved. Leave OA.
4393-0.40L-1	Decommission	Recommend to decommission.
4394	No Change	Need to keep open until access issues are resolved.

Road Number	Recommendation	Notes
4396	Decommission	Need most of road for permittee access to state pasture and for public access. Decom short segment and replace with the north part of 4396-spur
4396-spur	OA	Add OA. Replaces short segment of 4396.
4396 A	Decommission	Recommend to Decommission.
4398	OAR	OAR for range permit access only.
4803	No Change	Obliterated. Not on ground.
4805	Decommission	Not on ground. Decommission.
4807	No Change	Keep MLI.
4809	No Change	Need for campground overflow dispersed camping area.
4809-0.67R-1	OA	Add for dispersed camping access.
4810	No Change	Need for dispersed camping access.
4812	Decommission	Decommission part on forest. Not on ground.
4823	Decommission	No lock on gate and traffic is coming off private land. Obliterated east of junction with 4229. Decommission. Erosion issues.
4826	No Change	Road previously obliterated. NC
4827	Decommission	Road should not be loop. Illegally punched through. (Recent observations: Severe erosion on right fork and two bypass roads have developed, one on each side. Also erosion problem on left fork)
4828	Decommission	Concur with Decommission.
4863	OAR	Goes to church camp.
4870	Decommission	Recommend to decommission.

Minerals

The objective is to assure the Coronado National Forest provides adequate access for commercial mineral prospecting, and exploration while minimizing damage to natural resources and meeting forest wide transportation requirements.

- 1) Minimize human access to dangerous abandoned mine workings, especially as private land within and surrounding the Forest in the Dragoon Mountains is developed
- 2) Maintain access into the current operating plan, Alpha Calcit Arizona, Ltd. (ACAL) quarry area (also known as the Ligier, Tapia or Godfather Claims) and

3) Maintain access into areas with potential future exploration and/or mining in Wood Canyon (accessed by Forest Roads 4216 and 4215) and the Black Diamond Peak area (accessed by Forest Roads 4393, 4397 and 4829).

All mineral projects on Forest lands must be operated under an approved plan of operations which would provide for access across Forest system roads designated as open and available, and may grant use of restricted routes under the terms of the approved plan. User-created or other non-system routes, maintenance level 1 roads, and temporary, low standard temporary access routes constructed for the proposed project may be considered for use under an approved plan if that use is compatible with other Forest objectives provided that the operator assumes responsibility for final closure and reclamation if that is desired by the Forest.

Benefits:

- 1) Minimizing access to dangerous abandoned mines will help to insure human safety,
- 2) Retaining access into the Ligier, Tapia or Godfather Claims will allow ACAL (holds current Operating Plan) to carry out their proposed drilling activity and to later mine the site if drilling results are favorable, and will also allow exploration and/or mining by any future interests, and
- 3) Retaining access into Wood Canyon and into the Black Diamond Peak area will allow for future mineral exploration and development.

The Dragoon EMA has been an area of ongoing mining activity and mineral exploration since pioneer days. There have been several plans of operations for both exploration and mining recently within that area and there are a significant number of active mining claims in this EMA. Currently there is a proposal under review for long term mining operations producing high quality marble from mining claims at the northern end of the EMA.

Throughout the EMA there are a number of roads which are sufficient to provide general access while mineral projects requiring vehicle access to a specific project may be permitted under the provisions of a Plan of Operations which may require that the non-system or user-created roads be reclaimed at the end of the project.

FR 698 is recommended for retention in its entirety. The road is located in an Inventoried Roadless Area (IRA) which was designated without consideration of the presence of a county maintained Forest System road within the boundaries of the IRA. The road has served mining activities as well as providing access into the Dragoon Mountains for many years and is actively used by the mineral operator as well as for recreational purposes by local residents. FR 698 was recommended for retention, unchanged, in the TAP review.

Problems:

There are no foreseeable problems with retaining access into the Ligier, Tapia or Godfather Claims nor into Wood Canyon and Black Diamond Peak. Concerning problems with abandoned mines, the following mines are a threat to human safety because they are located either adjacent to a Forest road or within easy walking distance of a road; the referenced roads should be closed.

Mulheim, San Juan and White Tail Mines – at the end of Forest Roads 697 and 4390 in T18S, R23E, Section 26, center and SE ¼ of the NE1/4; these mines contain adits

(tunnels) and a shafts (vertical openings) that are either adjacent to or within easy walking distance of the roads.

Unnamed Prospects – accessed by Forest Road 2002 in T18S, R23E, Section 11, NW1/4 of the SW1/4: there is an adit at the end of the road.

Black Diamond Mine – accessed by Forest Road 4870 in T18S, R23E, Section 13, SE1/4 of the SE1/4; the mine contains several shafts and dangerous underground workings, all of which are either next to the road or within easy walking distance of the road.

Standard Tungsten Mine – accessed by Forest Road 4825 in T18S, R23 E, in the corner of Sections 13, 14, 23 and 24; the mine contains a shaft and an adit located at the end of the road.

Festerling Mine – accessed by Forest Road 4828 in T18S, R23E, Section 24, NE1/4 of the NE1/4; the mine contains shafts that are very accessible from the end of the road.

Garnet and Moonlight Mines – at the end of Forest Road 4393 in T18S, R23E, Section 24, center of the SE1/4; workings include shafts and adits readily accessible from the end of the road.

Risks:

There are no known risks in retaining access into the Ligier, Tapia or Godfather Claims, Wood Canyon or Black Diamond Peak. Keeping roads that access dangerous abandoned mine workings open would allow the risk of human injury associated with the workings to persist. The risk could increase if development of private land in and adjacent to the Forest continues, and local population increases.

Effect to management of the Dragoon Mountains road system with regard to the Ligier, Tapia or Godfather Claims quarry operations, Wood Canyon and Black Diamond Peak, and to human safety around abandoned mine workings:

Ligier, Tapia or Godfather Claims quarry operations – as long as access into the quarry area remains as it is and is not increased, there will be no effect.

Wood Canyon and Black Diamond Peak – as long as access into these areas remains, and is not increased, there will be no effect.

Abandoned mines – as long as the mines remain accessible by road the threat to human safety will persist. If any new access to abandoned mines is created, the threat to human safety will increase.

None of the proposed changes to the forest road system in this report will adversely impact mineral related activity in the Dragoon EMA.

Step 5- Describing Opportunities and Setting Priorities

The purpose of this step is to:

- Describe the minimum road system
- Describe modifications to the existing road system that would achieve desirable or acceptable conditions

The Products of this step are:

- A map of the current and proposed road system

The Minimum Road System

36 CFR 2.2.5 (b) a portion of the Travel Management Rule states:

“...b) Road system—(1) Identification of road system. For each national forest, national grassland, experimental forest, and any other units of the National Forest System (Sec. 212.1), the responsible Official must identify the minimum road system (MRS) needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands. In determining the minimum road system, the responsible Official must incorporate a science-based travel analysis at the appropriate scale and, to the degree practicable, involve a broad spectrum of interested and affected citizens, other state and federal agencies, and tribal governments. The minimum system is the road system determined to be needed to meet resource and other management objectives adopted in the relevant land and resource management plan (36 CFR part 219), to meet applicable statutory and regulatory requirements, to reflect long-term funding expectations, to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance.”

This step compares the current condition to a desired future condition to help identify the opportunities and need for change. This step provides the information to develop the Forest’s strategic intent for road management; that is, to balance the need for decommissioning or retaining unauthorized and authorized roads with the need to minimize risk to public safety and damage to natural resources. Before implementing any proposed actions the Forest will complete the NEPA process. During the NEPA process, however, roads may be added or deleted from the recommended system.

Another consideration in developing the minimum road system is maintenance. However, some maintenance level 2 roads only need routine maintenance every few years rather than annually. Creating a road system to match the available funds by simply closing roads will not result in a road system that meets the access needs for public or for administrative purposes.

The IDT analyzed the extent and current condition of roads on national forest system lands within the project area. The IDT recommended the minimum road system for this EMA using the direction in 36 CFR 212.5 (b). The recommendations and issues associated with the identified roads and motorized trails on this EMA are described in the table below.

Table 5.1 – Recommended Minimum Transportation System

Road Number	NC - No Change	PROPOSED RECOMMENDATIONS									DESCRIPTION / RECOMMENDATIONS
		OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	
84	X										Cochise Stronghold
84-Equestrian Pkng		0.10									Access to equestrian parking lot - Recommend to add as OA; ML2
84-Schilling			0.06								Schilling House - Recommend to add as OAR; ML 2
84-Brophy			0.14								Brophy House - Recommend to add as OAR; ML 2
84-Pvt Dr		0.26									Nonsystem Rd - Recommend adding as OA; ML 2; If prior access right exists then add as OAR.
345	X										Middle March Pass
345-10.34R-1		0.31									Nonsystem Rd - Recommend as OA; ML2
345-11.37R-1		0.29									Nonsystem Rd - Recommend as OA; ML 2
345-11.37R-2		0.26									Nonsystem Rd - Recommend to add as OA; ML 2
345-15.02L-1						0.61					Nonsystem Rd - Recommend Decommission
345-4838							1.55				Proposed reroute around private land

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
345 A	X										Sorin - Recommend changing roadless area around existing road
345 A-1.35R-1				0.64							Nonsystem Rd - Recommend to add as ML1
687			0.06								Slavin - Recommend to change to OAR north portion of road leading to private; remainder no change
687-2.36R-1		0.33									Nonsystem Rd - Recommend to add as OA; ML2
687-2.36R-2		0.03									Nonsystem Rd - Recommend to add as OA; ML2
687-2.36L-1		0.00								X	Nonsystem Rd - located in 300 ft corridor
687-2.50L-1		0.00								X	Nonsystem Rd - located in 300 ft corridor
687-5.14R-1		0.09									Dispersed CG - Recommend to add as OA; ML2
687-5.44L-1		0.05				0.17					Non-system Rd - Recommend to add 0.05 mi on FS as OA; ML2 and Decommission 0.17 mi on FS
687-5.81R-1		0.15									Nonsystem Rd - Recommend to add as OA; ML2
687-6.50R-1		0.24									Non-system Rd - Recommend to add as OA; ML2
687 B					0.34						Un-named - Recommend to Decommission

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
688					0.13						West Stronghold - Recommend to Decommission 0.13 miles; remainder no change
688-Disp CG 1		0.00								X	Nonsystem Rd - located in 300 ft corridor
688 A	X										Un-named - recommend to change number to 687 A
688 B	X										Un-named - recommend to change number to 687
689	X										Quarry Road
689-4217			0.51								Nonsystem Rd - Recommend to add as OAR; ML2
697					0.30						China Camp Road - Recommend to Decommission last 0.30 miles of road; remainder no change
697-0.55L-1		0.13									Nonsystem Rd - Recommend to add as OA; ML2
698			0.63								Little Spring - Recommend to change to OAR
795	X										Blacktail Hill
795-7.72L-1		1.14									Nonsystem Rd - Recommend to add as OA; ML2
2002				0.96							Prospect - Recommend change to ML 1
4212	X										Un-named

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4216	X										Wood Canyon
4217	X										Marmobello
4218	X										Marmo -
4218 A	X										Marmobel -
4219	X										Bello -
4220				0.40							Guzzler - Recommend change to ML 1
4221				0.19							Marble - Recommend change to ML 1
4226					0.43						Un-named - Recommend to Decommission
4227					0.35						White House Ruins- Recommend to Decommission 0.35 mi on FS (east of Private)
4227 A					0.22						Grave - Recommend to Decommission 0.22 mi on FS
4227 B					0.05						Un-named - Recommend to Decommission
4228	X										Packard - previously obliterated
4229					0.17						Head - Recommend to Decommission
4230					0.42						Duran - Recommend to Decommission 0.41 mi of road

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4230-0.53R-1		1.35									Nonsystem Rd - Recommend to add as OA; ML2 and renumber as part of 4230
4230-0.53R-2						0.44					Non-system Rd - Recommend to Decommission
4231					0.81						West - Recommend to Decommission
4232	X										Dragoon Spring
4233	X										Un-named - previously obliterated
4235					0.65						Cave Spring - Recommend to Decommission 0.65 mi of road from spur to EOR
4235-0.83R-1		0.08									Nonsystem Rd - Recommend to add as OA; ML2 (re-number as 4235)
4236					0.34						Fourr Canyon - Recommend to Decommission 0.34 mi of road (Replace w/ 4236-0.29R-1); remainder no change
4236-0.29R-1		0.44									Nonsystem Rd - Recommend to add as OA; ML2
4237	X										Raney - previously obliterated
4238	X										Fellow - previously obliterated
4239	X										Little

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4240					0.16						Council Rock - Recommend to Decommission 0.18 mi of road on forest
4376	X										Stock
4377	X										Glenn
4377-0.51R-1		0.52									Nonsystem Rd - Recommend to add as OA; ML2
4377-1.19R-1			0.05								Nonsystem Rd - Recommend to add as OAR; ML2
4378	X										St. Francis
4378-0.57R-1		0.62									Nonsystem Rd - Recommend to add as OA; ML2
4378-0.80R-1						0.42					Nonsystem Rd - Recommend to Decommission
4379					0.55						Un-named - Recommend to Decommission
4380				0.16							Ron - Recommend change to ML1
4381	X										Vine - Off Forest - Not Analyzed
4381-4382			0.22								Nonsystem Rd - Recommend to add as OAR; ML2
4382	X										Grapevine -
4382-0.21L-1						0.11					Nonsystem Rd - Recommend to Decommission
4382-reroute							0.24				Proposed reroute around private land

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4383	X										Charley
4382-4383							0.83				Proposed reroute around private land
4384					0.23						Noonan - Recommend to Decommission short section from private land to proposed reroute 4383-4384
4383-4384		0.14									Nonsystem Rd - Recommend to add as OA; ML2
4385		0.70									Noon - Recommend to recommission this road as OA; ML2
4386		0.40									Dick - recommend to reopen 0.40 mi of road as OA;ML2
4387					0.58						Searle - Recommend to Decommission portion on forest from 4386 northeast to private land when 4385 gets thru NEPA
4387-0.37L-1						0.29					Nonsystem Rd - Recommend to Decommission
4388	X										Cobra Loma Mine
4388-0.30L-1						0.18					Nonsystem Rd - Recommend to Decommission
4388-0.96R-1		0.00								X	Nonsystem Rd - located in 300 ft corridor
4388-1.00L-1						0.71					Nonsystem Rd - Recommend to Decommission

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4388-1.26R-1		1.16									Cobra Loma Mine Access - Recommend to add as OA; ML2
4388-1.26R-2						0.50					Nonsystem Rd - Recommend to Decommission
4388-1.64R-1						0.16					Nonsystem Rd - Recommend to Decommission
4389	X										Gordon -
4390					0.72						Un-named - Recommend to Decommission
4391	X										Black Diamond - ROW acquisition needed.
4392	X										Walnut Spring -
4393	X										Escapule
4393-0.40L-1						0.13					Nonsystem Rd - Recommend to Decommission
4394	X										Majo
4396					0.40						Mary and Henry - Recommend to decommission 0.40 mi of road on FS; remainder no change
4396-spur		0.63									Recommend to add as OA; ML2 as part of 4396 reroute
4396 A					0.43						Mary's Mine - Recommend to Decommission
4397	X										Henry Canyon

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4398			0.53								Pinon Spring - Recommend to add as OAR; ML2
4803	X										Comstock - previously obliterated
4804	X										Flat
4805					1.51						Smith Hill - Recommend to Decommission
4806	X										Tenneco
4806-0.38L-1						0.08					Nonsystem Rd - Recommend to Decommission
4807	X										Maryland - currently ML1
4809	X										Prude Loop
4809-0.67R-1		0.28									Nonsystem Rd - Recommend to add as OA; ML2
4810	X										Carlink Spring
4812					0.06						Turkey - Recommend to Decommission part on FS
4822	X										John's Windmill
4823					1.80						Smith Wash - Recommend to Decommission
4824	X										Buckshot
4825	X										Mine Shaft - previously obliterated

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
4826	X										Smith Well - previously obliterated
4827					0.04						Lisa - Recommend to Decommission part of road
4828					0.48						Smith Mine - Recommend to Decommission.
4829	X										Mary A Canyon
4830	X										Silver Cloud
4835	X										Majo Spring
4836	X										Hunter
4837	X										Goodrich Spring
4838	X										Seep - ROW acquisition needed
4849	X										Tank Road
4861	X										Hunt
4863			0.12								Arrowhead Camp - Recommend to change to OAR
4870					0.20						Tungsten - Recommend to Decommission
Orange St.		0.00									Off Forest - Not Analyzed
S. Cochise Stronghold Rd.		0.00									Off Forest - Not Analyzed

Road Number	PROPOSED RECOMMENDATIONS										Dragoon EMA
	NC - No Change	OA - Open Authorized (Miles)	OAR - Restricted Use (Miles)	ML1 - Maintenance Level 1 (Miles)	D - Decommission (System Miles)	D - Decommission (Non-system Miles)	Proposed New Construction	Convert to OHV Trail	Convert to Non-Motorized Trail	Located in 300 Ft corridor	DESCRIPTION / RECOMMENDATIONS
W. Lightning Rd		0.00									Off Forest - Not Analyzed
TOTALS		9.70	2.32	2.35	11.37	3.80	2.62	0.00	0.00		

Step 6- Reporting

The Purpose of this step is to report the key findings of the analysis.

The products of this step are:

- A written report for this EMA and a Transportation Atlas showing existing routes and recommendations for the minimum road system.

Report

This report is available to the public, if requested and will become part of the EMA file. A map depicting all recommendations is in Appendix F.

Key Findings and Recommendations

The key findings and recommendations of this analysis which are based on Interdisciplinary Team (IDT) discussion, specialist expertise, and public input, include:

Open Authorized (OA)

The following roads are recommended to be added to the system as Open Authorized (OA) roads. It is recommended to add 5.40 miles of roads to the system. Note: Road numbers in brackets were previous report numbers.

Road Number	OA - Open Authorized (Miles)
84-Equestrian Pkng	0.10
84-Pvt Dr	0.26
345-10.34R-1	0.31
345-11.37R-1	0.29
345-11.37R-2	0.26
687-2.36R-1	0.33
687-2.36R-2	0.03
687-5.14R-1	0.09
687-5.44L-1	0.05
687-5.81R-1	0.15
687-6.50R-1	0.24
697-0.55L-1	0.13
795-7.72L-1	1.14
4230-0.53R-1	1.35
4235-0.83R-1	0.08
4236-0.29R-1	0.44
4377-0.51R-1	0.52
4378-0.57R-1	0.62

Road Number	OA - Open Authorized (Miles)
4383-4384	0.14
4385	0.70
4386	0.40
4388-1.26R-1	1.16
4396-spur	0.63
4809-0.67R-1	0.28

Open Authorized and Restricted (OAR)

The following system roads are recommended to be changed to Open Authorized and Restricted (OAR) roads. The roads shall be restricted to the public and only government officials or Special Use Permittees will be allowed use.

Road Number	OAR- Restricted Use (Miles) from System Roads
687	0.06
698	0.63
4398	0.53
4863	0.12
TOTALS	1.34

The following system roads are recommended to be added to the system as Open Authorized and Restricted (OAR) roads. The roads shall be restricted to the public and only government officials or Special Use Permittees will be allowed use.

Road Number	OAR - Restricted Use (Miles) from Non-system Roads
84-Schilling	0.06
84-Brophy	0.14
689-4217	0.51
4377-1.19R-1	0.05
4381-4382	0.22
TOTALS	0.98

Maintenance Level 1 (ML 1)

The following roads are recommended to be added to the system as Maintenance Level 1 (ML 1) roads. These roads have future use but currently are not being used. No public funding will be expended for maintenance on these roads. Road numbers in brackets were previous report numbers.

Road Number	Maintenance Level 1 (Miles)
345 A-1.35R-1	0.64
2002	0.96
4220	0.40
4221	0.19
4380	0.16
TOTALS	2.35

Decommission

The following system roads are recommended to be **decommissioned**.

Road Number	D - Decommission (System Miles)
687 B	0.34
688	0.13

Road Number	D - Decommission (System Miles)
697	0.30
4226	0.43
4227	0.35
4227 A	0.22
4227 B	0.05
4229	0.17
4230	0.42
4231	0.81
4235	0.65
4236	0.34
4240	0.16
4379	0.55
4384	0.23
4387	0.58
4390	0.72
4396	0.40
4396 A	0.43
4805	1.51
4812	0.06
4823	1.80
4827	0.04
4828	0.48
4870	0.20
TOTALS	11.37

The following non-system roads are recommended to be **decommissioned**.

Road Number	D - Decommission (Non-system Miles)
345-15.02L-1	0.61
687-5.44L-1	0.17
4230-0.53R-2	0.44
4378-0.80R-1	0.42
4382-0.21L-1	0.11

Road Number	D - Decommission (Non-system Miles)
4387-0.37L-1	0.29
4388-0.30L-1	0.18
4388-1.00L-1	0.71
4388-1.26R-2	0.50
4388-1.64R-1	0.16
4393-0.40L-1	0.13
4806-0.38L-1	0.08
TOTALS	3.80

Appendix A: Definitions

Road Definitions (36 CFR 212.1)

Authorized Road - Roads wholly or partially within or adjacent to National Forest system lands that are determined to be needed for long-term motor vehicle access, including state roads, county roads, privately owned roads, national forest system roads and other roads authorized by the Forest Service.

Unauthorized Road - Road on national forest system lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways and off-road vehicle tracks that have not been designated and managed as a trail and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization.

Temporary Roads - Roads authorized by contract, permit, lease, other written authorization or emergency operation not intended to be a part of the forest transportation system and not necessary for long-term resource management.

Road Decommissioning - Activities that result in the stabilization and restoration of unneeded roads to a more natural state or conversion to other non-road uses.

Road Reconstruction - Activities that result in improvement or realignment of an existing authorized road as defined below:

Road Improvement - Activity that results in an increase of an existing road's traffic service level, expansion of its capacity or a change in its original design function.

Road Realignment - Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway.

Access Rights: A privilege or right of a person or entity to pass over or use another person's or entity's travel way. (36 CFR 212.1, FSM 5460.5 - Rights of Way Acquisition)

Arterial Road: An NFS road that provides service to large land areas and usually connects with other arterial roads or public highways (7705 – DEFINITIONS).

Collector Road: An NFS road that serves smaller areas than an arterial road and that usually connects arterial roads to local roads or terminal facilities (FSM 7705 – DEFINITIONS).

Forest Road or Trail: A road or trail wholly or partly within or adjacent to and serving the NFS that the Forest Service determines is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources (36 CFR 212.1 – FSM 7705 – DEFINITIONS).

Local Road: 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 – DEFINITIONS).

National Forest System Road: A forest road other than a road which has been authorized by a legally documented right-of-way held by a state, county, or local public road authority (FSM 7705 – DEFINITIONS – 36 CFR 212.1).

Public Road: A road under the jurisdiction of and maintained by a public road authority and open to public travel (23 U.S.C. 101(a) – (FSM 7705 – DEFINITIONS)).

Private Road: A road under private ownership authorized by an easement granted to a private party or a road that provides access pursuant to a reserved or outstanding right (FSM 7705 – DEFINITIONS).

Route: A road or trail (FSM 7705 – DEFINITIONS).

Appendix B: Best Management Practices

Federal agency compliance with pollution control is addressed through section 313 of the Clean Water Act, Executive Order 12580 (January 23, 1987), National Non-point Source Policy (December 12, 1984), USDA Non-point Source Water Quality Policy (December 5, 1986) and the Environmental Protection Agency (EPA) in their guidance "Non-point Source Controls and Water Quality Standards" (August 19, 1987). In order to comply with State and local non-point pollution controls the Forest Service will apply Best Management Practices (BMPs) to all possible non-point sources which may result from management activities proposed in any future decision document. These BMPs are described in the Region 3 Soil and Water Conservation Handbook 2509.22.

Best Management Practices are the primary mechanism for achievement of water quality standards (EPA 1987). This appendix describes the Forest Service BMP process in detail and lists the key Soil and Water Conservation Practices that may be employed when in the implementation of a selected action is determined in a Record of Decision.

Best Management Practices include but are not limited to structural and non-structural controls, operations, and maintenance procedures. BMPs can be applied before, during, or after pollution producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2, EPA Water Quality Regulation). Usually, BMPs are applied as a system of practices rather than a single practice. BMPs are selected on the basis of site-specific conditions that reflect natural background conditions and political, economic, and technical feasibility.

BMP IMPLEMENTATION PROCESS

In cooperation with the State, the Forest Service's primary strategy for the control of non-point source pollution is based on the implementation of preventative practices (i.e., BMPs). The BMPs for this project have been designed and selected to protect the identified beneficial uses of the watershed.

The Forest Service non-point source management system consists of the following steps:

1. **BMP SELECTION AND DESIGN** - Water quality goals are identified in the Forest Plan. These goals meet or exceed applicable legal requirements including State water quality regulations, the Clean Water Act, and the National Forest Management Act. Environmental assessments for projects are tiered to Forest Plans using the National Environmental Policy Act (NEPA) process. The appropriate BMPs are selected for each project by an interdisciplinary team. In each new location, there is flexibility to design different BMPs depending on local conditions and values and downstream beneficial uses of water. The BMP selection and design are dictated by the proposed action, water quality objectives, soils, topography, geology, vegetation, and climate. Environmental impacts and water quality protection options are evaluated, and alternative mixes of practices considered. Final collections of practices are selected that not only protect water

quality but meet other resource needs. The final sets of selected practices constitute the BMPs for the project.

2. BMP APPLICATION - The BMPs are translated into contract provisions, special use permit requirements, project plan specifications, and so forth. This ensures that the operator or person responsible for applying the BMP actually is required to do so. Site-specific BMP prescriptions are taken from plan-to-ground by a combination of project layout and resource specialists (e.g., hydrology, soils, etc.). This is when final adjustments to fit BMP prescriptions to the site are made.
3. BMP MONITORING - When an activity begins (e.g., road building, mining, timber harvesting, etc.), engineering representatives, resource specialists, and others ensure that BMPs are implemented according to plan. BMP implementation monitoring is done before, during, and after resource activity implementation. This monitoring answers the question: "Did we do what we said we would do?" Once BMPs have been implemented, further monitoring is done to evaluate if the BMPs are effective in meeting management objectives and protecting beneficial uses. If monitoring indicates that water quality standards are not being met or that beneficial uses are not being protected, corrective action will consider the following:
 - o Is the BMP technically sound? Is it really best or is there a better practice which is technically sound and feasible to implement?
 - o Was the BMP applied entirely as designed? Was it only partially implemented? Were personnel, equipment, funds, or training lacking which resulted in inadequate or incomplete implementation?
 - o Do the parameters and criteria that constitute water quality standards adequately reflect human induced changes to water quality and beneficial uses?
4. FEEDBACK - Feedback on the results of BMP evaluation is both short- and long-term in nature. Where corrective action is needed, immediate response will be undertaken. This action may include modification of the BMP, modification of the activity, ceasing the activity, or possibly modification of the State water quality standard. Cumulative effects over the long-term may also lead to the need for possible corrective actions.

All roads will be maintained using Best Management Practices to reduce watershed impacts.

1. Use Best Management Practices with specific practices identified and implemented for specific sites.
2. Control sediment, particularly resulting from soil movement caused by roads.

Under both Alternative B and C, improved road miles through reconstruction and maintenance would be accomplished utilizing Best Management Practices to bring these miles to minimum Forest standards. Best management practices are a practice or a combination of practices that is determined by a State (or designated area-wide planning agency) after problem assessment, examination of alternative practices and appropriate public participation to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by non-point sources to a level

compatible with Federal and State water quality goals and standards. Non-point source pollutants are generally carried over, or through, the soil and ground cover via stream flow processes.

Soil and Water Conservation Practices in the form of Best Management Practices (BMPs) will be implemented and monitored as directed in the Forest Plan. Through the use of BMPs the adverse effect of planned activities will be mitigated.

The following BMPs are applicable to all action alternatives:

Erosion Control Plan. Minimize erosion and sedimentation through effective planning prior to initiation of construction activities and through effective contract administration during construction.

Timing of Construction Activities. Schedule operations during periods when the probabilities for rain and runoff are low. Equipment shall not be operated when ground conditions are such that unacceptable soil compaction or displacement results. Erosion control work must be kept current when construction occurs outside of the normal operating season.

Road Slope Stabilization. Prevent on-site soil loss from exposed cut slopes, fill slopes, and spoil disposal areas. The level of stabilization effort needed must be determined on a case-by-case basis. Surface stabilization measures shall be periodically inspected, as necessary, to determine effectiveness. In some cases, additional work may be needed to ensure that the vegetative and/or mechanical surface stabilization measures continue to function as intended.

Dispersion of Subsurface Drainage from Cut and Fill Slopes. Minimize the possibilities of cut or fill slope failure and the subsequent production of sediment. Dispersal of collected water should be accomplished in an area capable of withstanding increased flows.

Control of Road Drainage. Minimize the erosive effects of concentrated water flows caused by road drainage features.

Timely Erosion Control Measures on Incomplete Roads and Stream Crossing Projects. Minimize erosion and sedimentation from road construction sites where final drainage structures have not been completed. Apply protective measures to all areas of disturbed, erosion-prone, unprotected ground that is not to be further disturbed in the present year. When conditions permit operations outside of the Normal Operating Season, erosion control measures must be kept current with ground disturbance to the extent that the affected area can be rapidly "closed" if weather conditions deteriorate. Do not abandon areas for the winter with remedial measures incomplete.

Construction of Stable Embankments (Fills). Construct embankments with materials and methods which minimize the possibility of failure and subsequent water quality degradation.

Control of Side Cast Material. Minimize sediment production from side cast material during road construction, reconstruction, or maintenance. Side casting is not an acceptable construction alternative in areas where it will adversely affect water quality. Prior to commencing

construction or maintenance activities, waste areas should be located where excess material can be deposited and stabilized.

Servicing and Refueling of Equipment. Prevent pollutants such as fuels, lubricants, bitumens, raw sewage, wash water, and other harmful materials from being discharged into or near rivers, streams, and impoundments, or into natural or man-made channels leading thereto. Selecting service and refueling areas well away from wet areas and surface water, and by using berms around such sites to contain spills. Spill prevention, containment, and countermeasures (SPCC) plans are required if the volume of fuel exceeds 660 gallons in a single container or if total storage at a site exceeds 1320 gallons. Any SPCC needs to be reviewed and certified by a registered professional engineer.

Controlling In-Channel Excavation. Minimize sedimentation and turbidity resulting from excavation for in-channel structures, so as to comply with state and Federal water quality standards.

Disposal of Right-of-Way and Roadside Debris. Construction debris and other newly generated roadside slash developed along roads near streams shall not be deposited in stream channels (including ephemeral and intermittent).

Maintenance of Roads. Maintain roads in a manner that provides for water quality protection by minimizing rutting, failures, side casting, and blockage of drainage facilities (all of which can cause sedimentation and erosion).

Road Surface Treatment to Prevent Loss of Materials. Minimize sediment production and erosion from road surface materials to comply with state and Federal water quality standards. Road surface treatments are prescribed based on traffic levels, road design standards, soils, and geology.

Decommissioning of Roads. Reduce sediment generated from unneeded roads, roads that run in streambeds and roads that are located in streamside zones by closing them to vehicle use and restoring them to productivity.

APPENDIX C – INTERDISCIPLINARY TEAM

SO – SUPERVISOR’S OFFICE		
Curiel,	Eli	Engineering, Editor & ID Core Team Leader
Gillespie	William	Cultural Resources
Makansi	Kathy	Cultural Resources
Lefevre,	Bob	Soils, Water, Air & Forestry
Emmett	Tami	Public Access Program Manager
McKay	George	Forest Lands Program Manager
White	Laura	Travel Management Coordinator
Ahern	Richard	Minerals Program Manager

D1- DOUGLAS RANGER DISTRICT		
Morales	Morales	Fire Management Officer
Harris	Joseph	Range/Watershed Staff
Klingler	Klingler	Wildlife Biologist
Arvizu	Arvizu	Recreation Manager
Martinez	Martinez	Engine 11 Foreman
Callard	Christopher	Field GPS Tech

Arizona Game & Fish Department		

APPENDIX D – Interdisciplinary Team Discussion Notes

The notes in this section are included in an effort to provide a brief summary of why the TAP recommendations for changes to the road system were made. They do not replace the discussion in under Step 4 of the TAP document. While discussing the recommendations, the Interdisciplinary Team (IDT) reviewed comments that were collected during public meetings and from letters and e-mails submitted by many interest groups, individuals and other agencies. These comments were used to identify issues that needed to be weighed, along with many other factors, in the formation of the recommendations.

The TAP is a living document and therefore will be updated regularly. Line officers and IDTs will continue to consult the TAP as they are planning future projects. Since the TAP contains only recommendations, future projects will continue to receive public input that pertains to the Forest transportation system and may recommend decisions which are not consistent with the initial recommendations of the TAP. Modifications to the TAP's recommendations as a result of final decisions will be incorporated, after the appropriate NEPA procedures have been completed.

Dragoon EMA Interdisciplinary TAP Team Discussion Notes

Road Identification	Notes
84	No change.
84-heli pad	Helipad moved to new location. Needed for trailhead parking. Add OA .
84-Schilling	Add OAR . FS administrative access.
84-Brophy	Add OAR . FS administrative access. Road continues to water tank.
84-Pvt Dr	Landowner may have easement. If not, grant easement. Do not add to NFS.
345	No change.
345-10.34R-1	Recommend decommission.
345-11.37R-1	Valuable for permittee and recreation access. Add OA .
345-11.37R-2	Valuable for permittee and recreation access. Add OA .
345-15.02L-1	Goes to adit. Decommission .
345 A	Valuable for recreation and range improvement access. Access to Slavin Gulch trail from top.
345 A-1.35R-1	Check with Border Patrol.
345 B	CC (Closed) in original RAP
687	Does not exist between Fourr Ranch (4236) and junction with West Stronghold road except on private land and there is no public access. Cut off south of private land and make 687B and 688 the 687 road. Eliminate the part of 687 between junction with 687B and 4236. From 4236 north change 687 to 688.
687-2.36R-1	Access to several dispersed campsites. OA
687-2.36R-2	Dispersed campsite access. OA
687-5.14R-1	Dispersed campsite access. OA
687-5.44L-1	No public access from west. Locked gates at forest boundary. Recommend OA on south end. Check north end but no sign of road on imagery.
687-5.81R-1	Dispersed campsite access. OA
687-6.50R-1	Access parking for Council Rocks heritage sight. Add to system.
687 B	Not being used. Concur with decommission. Change to 687 because original 687 off forest is no longer accessible.
688	Need for trailhead and recreation, camping access. Decommission part from junction with 687B to private. Change to 688 to 687. Verify 4237 does not exist.
688 A	Not in riparian area. Need for dispersed camping and future range improvement.
688 B	Change to 687.

Dragoon EMA Interdisciplinary TAP Team Discussion Notes

689	Goes to Alpha Calcit. No change.
689-4217	Recommend OAR for powerline and permittee access.
697	Concur with decommission last 0.33 mile. Find logical place to end and turn around.
697-0.55L-1	Valuable for dispersed recreation. Recommend OA.
698	Road is washed out. Keep as ML1 in case there is a future access need to private land.
795	No change. Address frog issue in wildlife report.
795-7.72L-1	Valuable for hunter, recreation access and connection to state land.
2002	Concur with ML1. Illegal ATV access beyond end of road.
4212	Valuable for range improvement and recreation access.
4216	Wood Canyon. Range improvement, quarry, and recreation access.
4217	No change.
4218	Valuable for recreation, dispersed camping access. Recommend keep OA.
4218 A	Valuable for recreation, dispersed camping access. Recommend keep OA.
4219	No change.
4220	Access to AGFD guzzler. Concur with ML1.
4221	Goes to marble quarry. Concur with ML1.
4226	Cow trail. Not a road.
4227	Decommission east of private land.
4227 A	Concur with decommission.
4227 B	Concur with decommission .05 mile.
4228	Obliterated. Does not exist on ground.
4229	Connects to 4823. Traffic is coming off private land on 4823 around closure. Archaeology concerns. Decommission. Avoid impacts to arch sites when closing.
4230	Keep OA for recreation, hunter, permittee access. Decommission last leg from fork to 4230-0.53R-2.
4230-0.53R-1	Add OA for recreation, hunter, permittee access. Make it extension of 4230.
4230-0.53R-2	Concur with decommission.
4231	Concur with decommission.
4232	No change.
4233	Road does not exist on ground. No change. Obliterated.
4235	Concur with decommission end.
4235-0.83R-1	Ad OA and renumber 4235. Needed for access to spring.

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4236	Need for permittee access and public recreation access to Fourr Canyon. Address riparian issue in Soils/Water/Air report.
4236-0.29R-1	Recommend add OA.
4237	Road does not show on imagery. Decommission unless it exists on the ground and there is a compelling reason to keep it.
4238	No evidence on ground. Obliterated.
4239	This road exists on ground. Recreation, range access. No change.
4240	Concur with decommission.
4376	No change.
4377	No change.
4377-0.51R-1	Need for dispersed recreation and range improvement access. Add OA.
4377-1.19R-1	Goes to private land whose owner who has been moving rocks and maintaining the road on forest. Recommend establish an easement.
4378	Needed for range improvement access.
4378-0.57R-1	Valuable for recreation, hunter, permittee access. Provides access to the other side of an otherwise nearly impassable canyon. Add OA.
4378-0.80R-1	Concur with decommission.
4379	Concur with decommission. Currently closed and does not connect to 345.
4380	Concur with ML1.
4381	Off Forest - Not Analyzed
4381-4382	Concur with decommission. Not needed. No legal access.
4382	Concur with decommission. Not needed. No legal access.
4383	No change.
4384	Decommission.
4383-4384	Decommission.
4385	Obliterated. Not on ground.
4386	NC
4387	AGFD recommends keep. Only public access into area. Keep OA.
4387-0.37L-1	Concur with decommission.
4388	Road used to get to spring to maintain for livestock water.
4388-0.30L-1	Concur with decommission.
4388-0.96R-1	Within 300 ft dispersed camp area.
4388-1.00L-1	No purpose for this road. Dangerous. Needs to be decommissioned.
4388-1.26R-1	OA to trailhead. Decommission from trailhead to end.
4388-1.26R-2	Concur with decommission.
4388-1.64R-1	Concur with decommission.

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4389	No change.
4390	Decommission. Steep and dangerous.
4391	Need to keep open until access issues are resolved.
4392	Connects to 4391. Need to keep open until legal access issues are resolved. Leave OA.
4393	No change. Need for access to range improvements.
4393-0.40L-1	Recommend decommission.
4394	Need to keep open until legal access issues are resolved.
4396	No change. Need for permittee access to state land pasture and for public access. Close, replace with the north part of 4396-spur
4396-spur	Add OA. Replace 4396.
4396 A	Decommission. Access on 4396A
4397	Valuable for permittee and recreation access.
4398	Recommend OAR for range permit access only.
4803	Obliterated. Not on ground.
4804	No change
4805	Obliterated. Not on ground. Decommission.
4806	No change
4807	Keep ML1.
4809	Need for campground overflow dispersed camping area.
4809-0.67R-1	Add for dispersed camping access.
4810	Add for dispersed camping access.
4812	Decommission part on forest. Does not exist on ground.
4822	Keep for access to well.
4823	No lock on gate and traffic is coming off private land. Obliterated east of junction with 4229. Decommission. Erosion issues.
4824	No change
4825	No change. ML1
4826	Road obliterated. No change
4827	Fix because it should not be loop. Illegally punched through.
4828	Concur with Decommission.
4829	No change.
4830	No change
4835	No change
4836	No change
4837	No change

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4838	No change
4849	Need for recreation, hunter and permittee access.
4861	No change
4863	Goes to church camp. Address frog issue in wildlife report.
4870	Concur with decommission.
Orange St.	Off Forest - Not Analyzed
S. Cochise Stronghold Rd.	Off Forest - Not Analyzed

APPENDIX E – FSM 7700

APPENDIX F – FOREST TRANSPORTATION ATLAS