

**GEORGE WASHINGTON &
JEFFERSON NATIONAL FORESTS**

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ROADS ANALYSIS REPORT

Jefferson National Forest

Forest-Scale Road Analysis (FSM 7712.13b)



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ROADS ANALYSIS REPORT

CHAPTER 1: INTRODUCTION

Abstract: Roads analysis is an integrated ecological, social, and economic science based approach to transportation planning that addresses existing and future road management options. This roads analysis reviews the existing condition of the road system on the Jefferson National Forest. This analysis pertains to only Forest Roads in maintenance levels 3, 4, or 5. However maintenance level 1 and 2 roads may be used for some specific analysis or to give the reader the complete picture of the Forest Road System. Resource issues, budget concerns, and other local management problems were addressed in this analysis to determine a variety of possible opportunities to better maintain and improve the road system on the forest.

Responsible Official:

/s/ Bill Damon
WILLIAM E. DAMON, JR.
Forest Supervisor

January 31, 2003
Date

Background

In August 1999, the Washington Office of the USDA Forest Service published Miscellaneous Report FS-643 titled "Roads Analysis: Informing Decisions about Managing the National Forest Transportation System". The objective of roads analysis is to provide decision makers with critical information to develop road systems that are safe, responsive to public needs, affordable and efficiently managed.

On January 12, 2001, the Forest Service adopted a final policy governing the National Forest transportation system. The intended effects of this final policy, and accompanying amended 7700 Manual direction, are to ensure that decisions to construct, reconstruct, or decommission roads will be better informed by using a roads analysis, as described in Report

FS-643. Roads analysis may be completed at a variety of different scales, but generally begins with a broad forest-scale analysis to provide a context for future analyses.

Objectives of the Forest Scale Analysis

- Inventory and map all classified roads on the Jefferson National Forest and display the planned management of these roads.
- Identify road system opportunities and needs within the context of existing land and resource management direction for the Jefferson National Forest.
- Develop guidelines (or criteria) for addressing road management issues and priorities related to construction, reconstruction, maintenance, and decommissioning.
- Identify significant social and environmental issues, concerns, and opportunities to be addressed in project-level decisions.
- Document coordination efforts with other government agencies and jurisdictions.

Information Needs

This analysis will use existing sources of information. No new information will be collected.

This Report

The product of a forest-scale roads analysis is a report with accompanying maps(s). This report, worked on by the following Forest Service employees, Nancy Ross, Forest Planner; Dick Patton, Forest Hydrologist; Tom Bailey, Soil Scientist; Dawn Kirk, Fisheries Biologist; Dave Plunkett, Forest NEPA Coordinator; Ken Landgraf, Planning, Computers and Budget Staff; and various engineering personnel including Shamina Dillard, Tom Poulin, Terry Smith, Steve Woods, and Wayne Johnson; documents the roads analysis procedure used for the Jefferson National Forest. It contains the following Chapters:

1. Introduction;
2. Description of the existing transportation system;
3. Current Road Management Objectives;
4. Summary of current Forest Plan direction;
5. Identification of significant social and environmental issues, concerns, and opportunities to be addressed in project-level decisions;
6. Road system opportunities and needs within the context of existing management direction;
7. Criteria for addressing road management issues and priorities;
8. An inventory and map of all classified roads including how the Forest intends to manage these roads. The maps and inventory are located in the Supervisor's Office in Roanoke, VA.

CHAPTER 2: EXISTING TRANSPORTATION SYSTEM OVERVIEW (STEP 1)

The transportation system on the Jefferson National Forest serves a variety of resource management and access needs. Most roads on the Forest were originally constructed for access purposes including recreational and timber harvesting needs. Many of these roads were built by the CCCs. Over the past 90+ years, an extensive road network has been developed and continues to serve the recreation, commercial, fire suppression and administrative purposes and provide access to private lands.

This analysis area contains 89 Federally designated Forest Highways under the Public Lands Highways Program of the Transportation Equity Act for the 21st Century (TEA21). The total number of Forest Highway miles designated on the Forest is 406.4 miles. These routes are State roads qualifying for Federal funding for improvement or enhancement. They provide access to and within the National Forest. There is a total of 407.7 miles of roads with state jurisdiction on the Jefferson National Forest. See Appendix A for a list of these roads. Forest Highway funding can be used for planning, design, and reconstruction of these designated routes. Other work can include parking areas, interpretive signing, acquisitions of scenic easements or sites, sanitary and water facilities.

There are 1202 miles of inventoried, classified National Forest System (NFS) roads within the Jefferson National Forest, including collector, and local roads (See Table 1). Of this total 399 are Maintenance Level (ML) 3, 4, and 5 roads. **(The mileage figures in this Report will change as updates are made to the transportation system and only reflect current status of the road system as of 12/31/02.)** Collector roads are typically two-lane gravel roads connected to state roads or public highways. Local roads connect forest facilities or activities (e.g., campgrounds, trailheads, and logging sites) with collector roads, state roads, or public highways. Except for those serving recreation sites, most local roads are built for high-clearance vehicles (e.g., pickups and trucks). To protect the public and/or the environment and to reduce maintenance costs, local roads may be closed to traffic or obliterated (decommissioned) after the principal use is completed. Decommissioned roads are tracked in the road inventory as indicated in Table 2. In addition, timber purchasers may build temporary roads to meet their needs for harvesting and removing the timber.

Table 1 - JeffNF Roads by Functional Class

FUNCTIONAL CLASS	Miles	Percent of Miles
C - Collector	317	26.37%
L - Local	885	73.63%
Grand Total	1202	100.00%

Table 2 - Status of JeffNF Roads as of Sept. 30, 2002

ROUTE STATUS	Miles
Decommissioned	13
Existing	1202
Grand Total	1215

Table 3 displays how the roads on the Jefferson National Forest are currently maintained and shows the relationship between level of maintenance and route status. This “operational maintenance” is divided into 5 levels.

Table 3 - Operational Maintenance Level of JeffNF Roads

OPERATIONAL MAINTENANCE LEVEL	Miles	Percent of Miles
1 - Basic Custodial Care (Closed)	96	7.99%
2 - High Clearance Vehicles	707	58.81%
3 - Suitable for Passenger Cars	367	30.53%
4 - Moderate Degree of User Comfort	31	2.58%
5 - High Degree of User Comfort	1	0.08%
Grand Total	1202	100.00%

Level 1 is assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate". Roads receiving Level 1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be open and suitable for non-motorized uses.

Following construction, and when not needed to accomplish specific objectives, new system roads are often maintained at this level in order to reduce open road densities for wildlife habitat security. Some of these roads may be considered for decommissioning in the future.

Level 2 is assigned to roads 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. Log haul may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars or (2) accept or discourage high clearance vehicles.

The majority of roads on the Jefferson National Forest are maintained at this level. Many of them are seasonally restricted to public motorized travel by gates. Some of these roads may be considered for decommissioning in the future.

Level 3 is assigned to roads, open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept". "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users. These are the primary access roads across the forest, used by the majority of forest visitors. These roads would rarely be considered for decommissioning.

Level 4 is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is "encourage". However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times. This level of maintenance accounts for only 2.5% of the forest's road system. These roads are often used for public access not related to the national forest and would not be considered for decommissioning.

Level 5 is assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage." Level 5 roads account for less than 0.1% of forest roads. They are usually associated with highly developed recreation areas and would not be considered for decommissioning.

Table 4 displays how the Jefferson National Forest plans to maintain the road system. This “objective maintenance” is divided into the same categories as described above. A comparison of Tables 3 and 4 indicates that the roads on the Jefferson National Forest are currently maintained at or near the objective maintenance levels. Projected maintenance funding shortfalls will likely result in a divergence of these two indicators within the coming years.

Table 4 – Objective Maintenance Level of JNF Roads*

OBJECTIVE MAINTENANCE LEVEL	Miles	Percent of Miles
1 - Basic Custodial Care (Closed)	96	7.99%
2 - High Clearance Vehicles	707	58.81%
3 - Suitable for Passenger Cars	367	30.53%
4 - Moderate Degree of User Comfort	31	2.58%
5 - High Degree of User Comfort	1	0.08%
Grand Total	1202	100.00%

Closely related to operational maintenance level are the types of surfacing found on forest roads as can be seen in Table 5. Level 5 roads usually have a paved or bituminous surface while the majority of Level 2 roads are surfaced with native materials. Level 3 roads have a variety of surfaces, but are predominately gravel roads. Table 5 displays the miles of different surfaces across the roads of the Jefferson National Forest and Table 6 shows the relationship between road surface and the level of maintenance.

Table 5 - Types of Surface on JeffNF Roads

SURFACE TYPE	Miles
AGG - Crushed Aggregate or Gravel	610
BIT - Bituminous Treatment	28
IMP - Improved Native Material	139
NAT - Native Material	425
P - Paved	0.4
Grand Total	1202

Table 6 - Surface Type by Operational Maintenance Level

SURFACE TYPE	OPERATIONAL MAINTENANCE LEVEL	Percent of Miles
AGG - Crushed Aggregate or Gravel	1 - Basic Custodial Care (Closed)	.80%
	2 - High Clearance Vehicles	20.52%
	3 - Suitable for Passenger Cars	29.03%
	4 - Moderate Degree of User Comfort	0.29%
	5 - High Degree of User Comfort	0.07%
AGG - Crushed Aggregate or Gravel Total		50.71%
BIT - Bituminous Treatment	2 - High Clearance Vehicles	0.06%
	3 - Suitable for Passenger Cars	0.06%
	4 - Moderate Degree of User Comfort	2.24%
BIT - Bituminous Treatment Total		2.36%
IMP - Improved Native Material	1 - Basic Custodial Care (Closed)	1.04%
	2 - High Clearance Vehicles	9.91%
	3 - Suitable for Passenger Cars	0.58%
IMP - Improved Native Material Total		11.53%
NAT - Native Material	1 - Basic Custodial Care (Closed)	6.14%
	2 - High Clearance Vehicles	28.35%
	3 - Suitable for Passenger Cars	0.87%
NAT - Native Material Total		35.36%
P - Paved	3 - Suitable for Passenger Cars	0.03%
	4 - Moderate Degree of User Comfort	0.01%
P - Paved Total		0.04%
Grand Total		100.00%

Another way to consider the Jefferson National Forest road system is by Traffic Service Level. Traffic Service Level (TSL) describes a road's significant traffic characteristics: such as speed, travel time, traffic interruptions, freedom to maneuver, safety, driver comfort, convenience. These characteristics, in turn, influence the road's design, operating conditions, and maintenance. Traffic Service Levels are identified during transportation planning.

Traffic Service Levels reflect a number of factors including: number of lanes, turnout spacing, lane widths, type of driving surface, sight distances, design speed, clearance,

horizontal and vertical alignment, curve widening, and turnarounds. Table 7 displays the mix of Traffic Service Levels across the Jefferson National Forest, while Table 8 shows the relationship of TSL to functional class, and Table 9 shows the relationship of TSL to operational maintenance level.

Table 7 - Traffic Service Level for JeffNF Roads

TRAFFIC SERVICE LEVEL	Miles
A - Free Flowing Mixed Traffic	1
B - Congested During Heavy Traffic	44
C - Flow Interrupted - Use Limited	525
D - Slow Flow or May Be Blocked	632
Grand Total	1202

Table 8 - Traffic Service Level by Functional Class

FUNCTIONAL CLASS	TRAFFIC SERVICE LEVEL	Percent of Miles
C - Collector	A - Free Flowing Mixed Traffic	0%
	B - Congested During Heavy Traffic	1.75%
	C - Flow Interrupted - Use Limited	23.65%
	D - Slow Flow or May Be Blocked	0.99%
C - Collector Total		26.39%
L - Local	A - Free Flowing Mixed Traffic	0.07%
	B - Congested During Heavy Traffic	1.91%
	C - Flow Interrupted - Use Limited	20.03%
	D - Slow Flow or May Be Blocked	51.59%
L - Local Total		73.61%
Grand Total		100.00%

Table 9 - Traffic Service Level by Operational Maintenance Level

TRAFFIC SERVICE LEVEL	OPERATIONAL MAINTENANCE LEVEL	Miles
A - Free Flowing Mixed Traffic	5 - High Degree of User Comfort	1
A - Free Flowing Mixed Traffic Total		1
B - Congested During Heavy Traffic	3 - Suitable for Passenger Cars	13
	4 - Moderate Degree of User Comfort	31
B - Congested During Heavy Traffic Total		44
C - Flow Interrupted - Use Limited	2 - High Clearance Vehicles	173
	3 - Suitable for Passenger Cars	352
C - Flow Interrupted - Use Limited Total		525
D - Slow Flow or May Be Blocked	1 - Basic Custodial Care (Closed)	96
	2 - High Clearance Vehicles	535
	3 - Suitable for Passenger Cars	2
D - Slow Flow or May Be Blocked Total		632
Grand Total		1202

CHAPTER 3: ROAD MANAGEMENT OBJECTIVES

Road management objectives (RMO), such as purpose of the road, design and maintenance criteria, and road standards have been established for each road on the National Forest Road System. See Appendix B for a list of roads on the Jefferson National Forest by RMO.

Following is a description of each of these objectives and a summary of mileages on the JNF for each of the objective classes.

ROAD MANAGEMENT OBJECTIVE - A

Intended Purpose Of Road

This road exists to provide access to the National Forest. This road is open to public traffic and a mix of users can be expected at any given time. Commercial use is allowed. This road may or may not be located adjacent to a perennial stream or may or may not be located on excessively erosive soils.

The Jefferson National Forest has 1 mile of road with RMO A.

Table 10 – Road Management Objective A Standards

Width	18-20 feet plus 2-4 feet of shoulder
Surfacing	Asphalt surfaced
ADT	>100
Design Speed	20 MPH
Highway Safety Act	Does Apply
Estimated Traffic Mix	Timber – 5% Recreation – 75% Administrative 20%

Design, Operation, And Maintenance Criteria

This Road Management Objective (RMO) depicts our objectives in managing roads that reflect:

- Traffic Service Level "A"
- Maintenance Level 5
- Functional Class: Collector or Arterial

This road is expected to be open to the public. Extreme weather or soil conditions may make it necessary to temporarily close this road.

Design, Operation, And Maintenance Standards

1. The road has ditches and culverts.
2. The roadside is mowed at least annually and the banks are brushed using an articulating arm bush hog to insure good sight distance as needed.

3. This road is subject to the Highway Safety Act and is signed to meet the Manual of Uniform Traffic Control Devices (MUTCD) standards. Special signing may be required for commercial and/or timber haul.
4. The pavement is patched as potholes develop to remove the hazard, to insure the investment is protected, and to assure user comfort. Ditches are cleaned using an excavator and the material loaded and hauled away for disposal. Culvert inlets are cleaned annually.
5. Safety considerations are addressed in the overall maintenance plans and hazards are dealt with as they are discovered.
6. Environmental Constraints and Physical Environmental Factors are typical for these terrain types and locations and include various soils types and the interrelationship of the road with stream courses.

ROAD MANAGEMENT OBJECTIVE - B

Intended Purpose Of Road

This road exists to provide access to the National Forest and its administrative sites. This road is open to public traffic and a mix of users can be expected at any given time. Commercial hauling may be allowed. This road may or may not be located adjacent to a perennial streams or may or may not be located on excessively erosive soils.

The Jefferson National Forest manages 44.1 miles of road with RMO B.

Table 11 - Road Management Objective B Standards

Width	13-18 feet plus 2 feet of shoulder
Surfacing	Fully surfaced with graded aggregate or asphalt
ADT	20-100
Design Speed	10-15 MPH
Highway Safety Act	Does Apply
Estimated Traffic Mix	Timber – 20% Recreation – 60% Administrative 20%

Design, Operation, And Maintenance Criteria

This Road Management Objective (RMO) depicts our objectives in managing roads that reflect:

- Traffic Service Level "B"
- Maintenance Levels 3 and 4

- Functional Class: Local or Collector

This road is expected to be open to the public except for the following reasons:

1. Roads accessing recreation areas may be closed when the recreation area is closed.
2. Roads accessing administrative sites are only open to the general public during normal business hours Monday through Friday.
3. Extreme weather or soil conditions may make it necessary to temporarily close this road.

Design, Operation, And Maintenance Standards

1. The road has ditches and culverts.
2. Aggregate surfaced roads are bladed 2-3 times each year. On paved roads the pavement is patched as potholes develop to remove the hazard, to insure the investment is protected, and to assure user comfort. Ditches are either pulled annually or cleaned using an excavator and the material loaded and hauled away for disposal. Culvert inlets are cleaned annually.
3. The roadside is mowed at least annually and the roadside banks are brushed as needed using an articulating arm bush hog to insure good sight distance.
4. This road is subject to the Highway Safety Act and is signed to meet the MUTCD standards. Special signing may be required for commercial and/or timber haul.
5. Safety considerations are addressed in the overall maintenance plans and hazards are dealt with as they are discovered.
6. Environmental Constraints and Physical Environmental Factors are typical for these terrain types and locations and include various soils types and the interrelationship of the road with stream courses.

ROAD MANAGEMENT OBJECTIVE – C1

Intended Purpose Of Road

This road exists to provide access for various resource activities and access to administrative sites. This road is open to public traffic and a mix of users can be expected at any given time. Commercial hauling may be allowed. This road may or may not be located adjacent to a perennial stream or may or may not be located on excessively erosive soils.

The Jefferson National Forest manages 352.2 miles of road with RMO C1.

Table 12 - Road Management Objective C1 Standards

Width	13 - 18 feet plus curve widening
Turnouts	May not all be intervisible

Surfacing	Fully surfaced or spot surfaced with graded aggregate
ADT	5-20
Design Speed	5-10 MPH
Highway Safety Act	Does Apply
Estimated Traffic Mix	Timber – 20% Recreation – 60% Administrative 20%

Design, Operation, And Maintenance Criteria

This Road Management Objective (RMO) depicts our objectives in managing roads that reflect:

- Traffic Service Level "C"
- Maintenance Levels 3 and 4
- Functional Class: Local or Collector

This road is managed as open to the public, but may be closed for periods of time for the following reasons:

1. Roads accessing recreation areas may be closed when the recreation area is closed.
2. Roads accessing administrative sites are only open to the general public during normal business hours Monday through Friday.
3. Extreme weather or soil conditions may make it necessary to temporarily close this road.

Design, Operation, And Maintenance Standards

1. It is normally fully surfaced, but may have sections of spot surfacing.
2. The road has ditches and culverts, but occasionally may have sections that are outsloped and dipped.
3. The road is bladed 1-2 times annually to insure drainage patterns are maintained and the investment is protected. Ditches are pulled and culvert inlets cleaned annually.
4. This road is brushed using an articulating arm bush hog to insure good sight distance every two years or more often as needed.
5. This road is subject to the Highway Safety Act and is signed to meet the Manual of Uniform Traffic Control Devices (MUTCD) standards. Special signage may be required for commercial and/or timber haul.
6. Safety considerations are addressed in the overall maintenance plans and hazards are dealt with as they are discovered.

7. Environmental Constraints and Physical Environmental Factors are typical for these terrain types and locations and include various soils types and the interrelationship of the road with stream courses.

ROAD MANAGEMENT OBJECTIVE – C2

Intended Purpose Of Road

This road exists to provide access to the National Forest via High Clearance Vehicles (HCVs). It is generally open to the public but may be seasonally closed for resource protection. This road may or may not be located adjacent to perennial stream(s) or may or may not be located on erosive soils.

The Jefferson National Forest manages 172.9 miles of road with RMO C2.

Table 13 - Road Management Objective C2 Standards

Width	13 feet plus curve widening
Turnouts	Not intervisible
Surfacing	Normally native but may be spot surfaced
ADT	<1
Design Speed	0-5 MPH
Highway Safety Act	Does Not Apply
Estimated Traffic Mix	Timber – 0% Recreation – 99% Administrative 1%

Design, Operation, And Maintenance Criteria

This Road Management Objective (RMO) depicts our objectives in managing our lowest standard road. They reflect:

- Traffic Service Level "C"
- Maintenance Level 2
- Functional Class: Local

Design, Operation, And Maintenance Standards

1. Road is normally outsloped with dips with very few or no ditches existing. Culverts are normally only used at stream crossings. These are inspected annually to assure debris is not blocking or limiting flow.
2. Silt traps are employed to assure protection of water quality.

3. The road is maintained by use of a crawler tractor and/or backhoe. Maintenance is done with recreation funds and/or by user groups.
4. The travelway is rough and irregular with exposed rock and water filled holes occurring often.
5. The travelway is signed and may have entrance features to alert the public of the nature of the road conditions they will encounter.
6. Safety considerations are minimal and those expected by HCV users.

ROAD MANAGEMENT OBJECTIVE - D1

(Closed To Vehicular Traffic By Physical Barrier)

Intended Purpose Of Road

This road exists to provide access for various resource activities. It currently has no on-going intense management activities or uses and its entrance is physically blocked with large boulders and/or a trench/berm. This road is being allowed to revegetate with no current plans to remove the trees growing in the roadbed. This road is closed to vehicular traffic except for extreme circumstances such as access for forest fire or emergency evacuation. This road may or may not be located adjacent to perennial stream(s) or may or may not be located on erosive soils.

The Jefferson National Forest manages 95.8 miles of road with RMO D1.

Table 14 - Road Management Objective D1 Standards

Width	13 feet plus curve widening
Turnouts	Not intervisible
Surfacing	May once have been spot surfaced, currently grassed
ADT	0
Design Speed	5 MPH
Highway Safety Act	Does Not Apply
Estimated Traffic Mix	Timber – 0% Recreation – 0% Administrative 0%

Design, Operation, And Maintenance Criteria

This Road Management Objective (RMO) depicts our objectives in managing our lowest standard road. They reflect:

- Traffic Service Level "D"

- Maintenance Level 1
- Functional Class: Local

When resource activities require the use of this road, its RMO will change to D2 while the activity is occurring. Some reconstruction is expected to provide resource access such as removing trees in the roadbed, opening drainages, removing slide material, and adding surfacing.

Design, Operation, And Maintenance Standards

1. The road is physically blocked at its entrance using large rocks and/or excavated trench(es) and berms.
2. Even though this road is physically blocked, the roadbed was dressed (bladed) and the drainage patterns and grass cover established prior to closure.
3. It typically has remnants of some spot surfacing covered with a mix of native and planted grasses and often has trees growing in the roadbed.
4. Road is normally outsloped with dips with very few or no ditches existing. Culverts are normally only used at stream crossings. These are inspected annually to assure debris is not blocking or limiting flow.
5. Small slides that do not affect water quality and only have minimal effect on drainage patterns are acceptable and are allowed to remain in place. This may make the road impassable, but is not doing any damage to adjacent resources.
6. Safety considerations are minimal and include what is necessary to protect Forest Service personnel and/or contractors while conducting condition surveys and/or maintenance activities.
7. Environmental Constraints and Physical Environmental Factors are typical for these terrain types and locations and include various soils types and the interrelationship of the road with stream courses.

ROAD MANAGEMENT OBJECTIVE - D2

(Closed To Vehicular Traffic By Gate)

Intended Purpose Of Road

This road exists to provide access for various resource activities. It currently has on-going intense management activities or use. This road is normally closed to vehicular use to the public, by a gate or similar device and traffic is limited to administrative needs and use by contractor/purchaser(s). Note: This road may be opened to allow seasonal use by hunters, wood gatherers, etc. This road may or may not be located adjacent to perennial stream(s) or may or may not be located on erosive soils.

The Jefferson National Forest manages 536 miles of road with RMO D2.

Table 15 - Road Management Objective D2 Standards

Width	13 feet plus curve widening
Turnouts	Not intervisible
Surfacing	Spot surfaced
ADT	0-5
Design Speed	5 MPH
Highway Safety Act	Does Not Apply
Estimated Traffic Mix	Timber – 70% Recreation – 15% Administrative 15%

Design, Operation, And Maintenance Criteria

This Road Management Objective (RMO) depicts our objectives in managing one of our lowest standard road. They reflect:

- Traffic Service Level "D"
- Maintenance Level 2
- Functional Class: Local

When resource activities are complete, its RMO will change to D1 unless seasonal use is allowed. Some closure activities may be accomplished such as seeding the roadbed prior to closure.

Design, Operation, And Maintenance Standards

1. Road is normally outsloped with dips with very few or no ditches existing. Culverts are normally only used at stream crossings. These are inspected annually to assure debris is not blocking or limiting flow.
2. Safety considerations are minimal and include what is necessary to protect Forest Service personnel and/or contractors while doing resource activities, conducting condition surveys and/or maintenance activities.
3. Environmental Constraints and Physical Environmental Factors are typical for these terrain types and locations and include various soils types and the interrelationship of the road with stream courses.

CHAPTER 4: CURRENT FOREST PLAN DIRECTION (STEP 2)

The current Jefferson Land and Resource Management Plan is under revision. This Chapter summarizes the standards and desired future condition statements that are related to roads and access in the Draft Revised Plan.

Forest-wide Direction for Roads and Travel Management

The road system of the Jefferson National Forest is an integral and critical component for management of Forest and adjacent private lands. Most of the roads on the Jefferson National Forest were originally constructed for access to recreation sites and for timber harvesting. Many were originally built by the Civilian Conservation Corps (CCC). Currently, these roads and their more recent counterparts serve a variety of resource management and access needs including recreational access, timber and wildlife resources management, and access to private land inholdings, among numerous other uses.

The majority of road construction currently performed on the Forest consists of reconstruction of existing roads. New roads are sometimes required (averages less than 4 miles per year), but typically, existing roads are reconstructed if their location and layout are suitable for the currently existing need and the existing layout provides for minimal risk of resource damage. It is also necessary, at times, to decommission roads that are no longer required. This is desirable as it brings the road bed to a natural condition and eliminates or significantly curtails potential damage to other natural resources. The Jefferson National Forest has been decommissioning about 3 miles of roads per year.

Several roads on the Jefferson National Forest are also used predominantly for other than Forest access. These roads are often used to travel through the Forest from a destination off the Forest to another location, also off Forest. Common examples include work and school commuters who use these roads as shortcut access to jobs or to school locations. In these cases, it is often more desirable to bring the road to minimum State standards and turn the road over to the respective State Departments of Transportation for maintenance. Without exception, the State Departments of Transportation are better equipped and better funded to provide a higher level of maintenance and service for these roads. This maximizes efficiency of application for the limited funding received by the Forest Service for road maintenance and allows for better maintenance of those access routes, which are predominantly used for Forest access. If more than half of the traffic on a road is other than Forest related, that road is considered a candidate for this process. Road rights-of-way across private land are acquired when opportunities exist. Priority is given to existing system roads, which cross private land with no existing right-of-way.

Forest Plan Goals And Objectives for Roads

GOAL 30 Provide a transportation system that supplies safe and efficient access to roaded portions of the Jefferson National Forest for forest users while protecting forest resources.

OBJECTIVE 30.01 Maintain to standard, a minimum of 75 miles of passenger car roads (OML 3-5) and a minimum of 105 miles of high clearance vehicle (OML 1-2) roads on an annual basis.

OBJECTIVE 30.02 Conduct condition surveys on at least 25% of passenger car roads (OML 3-5) per year. Annually survey a representative sample of high clearance vehicle roads (OML 1-2) to provide for a forest wide indication of OML 1-2 road conditions.

OBJECTIVE 30.03 Turn approximately 24 miles of forest development roads over to the State Department of Transportation, where the majority of traffic is for other than national forest uses.

GOAL 31 Decommission unneeded roads (classified and unclassified).

OBJECTIVE 31.01 Analyze transportation system within one watershed per year through watershed analysis, and identify roads to be decommissioned. (See also Objective 10.01).

Selected Forest-wide Standards

FW-223: Constructed transportation routes inventoried in the Forest Transportation System (roads and trails) should remain open for public travel unless any of the following occurs:

- the road is unsafe for motorized public travel;
- there is unacceptable resource damage;
- closures or restrictions are needed to meet other resource needs.
- Follow Criteria for Road Closure and Decommissioning when planning for seasonal or temporary closure or decommissioning of roads or trails.

FW-224: Maintenance, reconstruction to a higher standard, and relocation of an existing road is allowed to reduce environmental damage, to improve user safety, and where agreed, to be turned over to the State.

FW-225: Permanent vegetation, non-invasive and preferably native to the mid-Appalachian area, is established and maintained on roadbeds of roads when they are closed.

FW-226: Roads are designed and constructed to the standard necessary to meet management prescription desired conditions and visitor safety.

FW-227: Use staged revegetation during seeding seasons on construction sites where slopes are higher than 3 feet. (Riparian prescription talks about stream crossings but not the fill slope near streams).

FW-228: All new and reconstructed roads will blend into the landscapes to the extent practical.

FW-229: Apply the level of maintenance needed to protect the investment, facilitate resource management, and provide for user safety.

Selected Direction and Standards by Management Prescription

0.B. Custodial Management - Small, Isolated Land Areas

The desired future condition of these tracts is conveyance to private ownership.

Roads

0B-011 Road construction is generally prohibited, subject to valid existing rights or leases. Limit road reconstruction and/or decommissioning, including betterment and relocation, to (a) improvement of soil and water, (b) maintenance of existing special uses and mineral leases, (c) access to private rights, and (d) protection of property or public safety.

0B-012 Road construction, reconstruction, and decommissioning are informed by a site-specific road analysis.

1.A. Designated Wilderness

The emphasis is to allow ecological and biological processes to progress naturally with little to no human influence or intervention.

Roads

1A-036 Do not permit road construction and reconstruction, subject to valid existing rights or leases.

1A-037 Favor natural revegetation of closed roads. Plant with native species only if the area is not expected to revegetate naturally in a reasonable time.

1.B. Recommended Wilderness Study Area

These areas are managed to protect their wilderness characteristics pending legislation as to their classification and provide for existing uses where compatible with protecting wilderness character.

Roads

- 1B-011 Do not permit road construction and reconstruction, subject to valid existing rights or leases.
- 1B-012 Decommission all roads. Motorized equipment use is allowed to decommission roads. Prior to decommissioning, manage all roads as closed.

2.C.1. Eligible Wild River

Access to the area is limited to roads outside of the corridor, except reasonable access necessary to exercise development of private mineral rights. Motorized recreation and mountain bikes are not compatible in this area.

Roads

- 2C1-030 Do not permit road construction and reconstruction, subject to valid existing rights or leases.

2.C.3. Eligible Recreational River

The river is readily accessible by roads and may be accessed by railroads as well. Transportation facilities may parallel the river for long stretches. Motorcycles and/or all-terrain vehicles may be permitted on designated trails.

OHV Routes

- 2C3-011 Allow designated routes for licensed OHVs only.

Roads

- 2C3-017 Road construction, reconstruction, and decommissioning are informed by a watershed-scale or site-specific road analysis.
- 2C3-018 Allow road construction to provide recreational access or to salvage timber. Allow road reconstruction to improve recreational access, to improve soil and water, or to protect property or public safety.
- 2C3-019 Decommission roads when causing environmental damage, or when degrading outstandingly remarkable resources, or to manage visitor use and access.

4.A. Appalachian National Scenic Trail Corridor

Motorized recreation, bicycles, horses, and pack stock are not allowed on the Appalachian Trail footpath, although there are some rare exceptions (see Standards). Roads within ½ mile of the Appalachian Trail are managed with hiker security, safety, and Appalachian Trail values in mind. Roads may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate.

Roads

- 4A-022 Authorize new roads within the Appalachian Trail prescription area only if entering the prescription area is the only feasible and prudent location.

4.C.1 Geologic Areas

Safe, barrier-free public access designed to protect sensitive geologic resources is provided, both road and trail. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape.

Roads

4C1-017 Do not permit road construction, subject to valid existing rights and leases.

4C1-018 Road reconstruction and minor relocation are permitted after full consideration of effects on geologic resources and ecological values.

4.D. Botanical - Zoological Area

Access to these areas may be limited. New roads are managed as closed. Recreation opportunities are limited to interpretation, bird watching, wildlife viewing, nature photography, and hiking on non-motorized, non-mechanized foot trails.

Roads

4D-021 Road construction or reconstruction is informed by a site-specific road analysis considering the needs and values of the specific special biological area. Density of open roads and/or motorized vehicle trails remains near the current level throughout the planning period, with only small increases or decreases.

4.E. Cultural/Heritage Areas

Cultural/Heritage Areas are managed to highlight and protect unique historic resources as well as to develop public understanding of, and appreciation for, the influence of human history on the forest ecosystem. Safe, barrier-free public access designed to protect sensitive historic resources is provided, both road and trail.

Roads

4E-023 Road construction and reconstruction are allowed to provide visitor access and manage resources within these areas.

4.F. Scenic Areas

Other than the trail, no facilities are present within the Devil's Fork area. Devil's Fork is underlain by private mineral rights. At some point in the future, it is possible that roads, wells, and other necessary infrastructure associated with these rights may be observed within the area if reasonable access cannot be provided outside of this prescription area.

Roads

4F-020 Do not permit road construction and reconstruction, subject to valid existing rights.

4.J. Urban/Suburban Interface

The goal of this prescription (to reduce wildfire risk to neighboring communities) involves regularly scheduled vegetation management activities. Other elements of the strategy may include signing, adequate roads, water sources, and public education programs to inform communities of the need for the proposed actions.

4.K.1 North Creek Special Area

High quality forest roads and well-marked trails through these areas provide moderate to difficult access for seniors, urban visitors, and recreationists with special access needs. The North Creek Road, FDR 59, provides the primary access into the interior of this area. The Colon Hollow Road (FDR 782), Thomas Mountain Road (FDR 768), and Apple Tree Road (FDR 3034) are also important access points leading to dispersed camping areas and trailheads. These roads and the Blue Ridge Parkway, Jennings Creek, Middle Creek and Parker Gap Roads, which surround the perimeter of the area, are maintained and improved to meet the growing demands for pleasure driving and to showcase the high quality scenery maintained throughout the area.

Roads

4K1-032 New permanent road construction is not allowed, subject to valid existing rights or leases, except:

- To access approved mineral activities;
- Where the new road is the only prudent alternative to serve resource needs in adjacent areas and will minimally impact this area;
- To relocate existing roads;
- To provide access to trailheads;
- To provide access to private land, including reserved or outstanding mineral rights, when other routes are not feasible or more deleterious to the environment; or
- To protect public health and safety in the case of a catastrophic event.

4K1-033 New road construction is not allowed in the area managed as semi-primitive non-motorized, subject to valid existing rights or leases.

4K1-034 Open road density will be maintained at 1.2 miles per 1000 acres.

4K1-035 Closed system roads are planted with native or desirable non-native wildflowers, forbs, shrubs, and/or grasses. Closed system roads and wildlife linear strips may continue to be used for administrative and emergency access.

4.K.2 Hoop Hole Special Area

Primary access to this area's lower boundary is by State Route #615, a paved secondary road. In addition, Forest Development Road #740 (Roaring Run), accesses the developed picnic area by branching off of State Route #621 for a quarter mile to the parking areas. There is also a small parking area for the Hoop Hole trailhead off of State Route #615. Other than the

previously mentioned roadways, the access to the remainder of this area is by foot travel. These roadways not only provide access to the recreational opportunities within this area, but they also provide a color corridor for motorists during the peak of the fall foliage season. The vehicle traffic is light in this area while in contrast the scenic qualities are very high. The public open road density will remain at the present seven-tenths of a mile per 1,000 acres. The Hoop Hole/Roaring Run trail system is limited to foot travel only. No horses or mountain bikes allowed. In addition, off-road vehicle use is prohibited within this entire Special Area in order to protect the quality of wildlife habitat, along with maintaining the non-motorized setting of the core area.

Roads

- 4K2-022 Motorized access is limited to currently existing roads. Off-road and all-terrain vehicles are not permitted.
- 4K2-023 New permanent or temporary road construction is not allowed, subject to valid existing rights or leases.
- 4K2-024 Existing open public roads are maintained at current levels to provide for public access and parking safety.

4.K.3 Mount Rogers Crest Zone Special Area

The Mount Rogers Crest Zone is managed to 1) maintain outstanding vistas and natural scenery; 2) protect the high elevation rare communities and species that inhabit this area; 3) retain the unique mix of high elevation spruce/fir forest, northern hardwood forest, rhododendron, blueberries, open grasslands, bogs, and seeps; and 4) provide a large tract of backcountry recreation opportunities.

Roads

- 4K3-039 New road construction is not allowed.
- 4K3-040 Only two U.S. Forest Service roads are in this area – FDR 613 & FDR 4033. FDR 613 will be maintained as a primitive road to access the Scales. FDR 4033 will be an administrative use road only.

4.K.4 Whitetop Mountain Special Area

Visitors will access the Whitetop Mountain Special Area via FSR 89, State Routes 600, 601 and 783 for a variety of dispersed recreation activities. FSR 89 is the highest elevation road in Virginia accessing the summit of Whitetop Mountain and has the highest visitor use of any road on the Mount Rogers National Recreation Area. It provides a unique opportunity for motorized access to a high elevation bald with outstanding views for visitors that are unable or unwilling to hike or ride a horse into the Mount Rogers high country. It is a spur off the Mount Rogers Scenic Byway. FSR 89 remains open in its' current location and maintained to accommodate the demand for safe visitor access to Whitetop Mountain except approximately ¼ mile of the west end of the road is decommissioned. Attractive stonewalls or wooden fences are evident along sections of FSR 89 to prevent vehicles from traveling off the road and damaging rare plant communities.

Roads

4K4-026 No new road construction or reconstruction is planned for this area.

4K4-027 FSR 89 will be maintained annually for heavy visitor access. Additional culverts are needed to spread peak storm flows and prevent cutting of the ditches and the road.

4.K.5 Whitetop Laurel Creek Special Area

The majority of the recreation is categorized as dispersed use except for the scenic byway, two visitor centers, and several trailhead parking facilities on the Virginia Creeper Trail which are fairly highly developed. The Mount Rogers Scenic Byway within this Special Area affords close foreground views of the cascading Whitetop Laurel Creek. Structures, signs, appurtenances and other facilities associated with recreation are designed and maintained to blend in with and be complementary to the surrounding landscape or support an established, historic image. Forest roads and well-marked trails through these areas provide easy to moderate access for the public.

Roads

4K5-028 Motorized access is limited to currently existing roads. Off-road and all-terrain vehicles are not permitted, except in cases where cooperating rescue organizations need access.

4K5-029 New permanent or temporary road construction is not allowed, subject to valid existing rights or leases.

4K5-030 Existing open public roads are maintained at current levels to provide for public access and parking safety.

4K5-031 All signs and other features associated with roads are designed to blend in with surroundings.

4.K.6 North Fork of Pound Special Area

This area provides large tracts of backcountry recreation opportunity with a semi-primitive emphasis. Closed roads are available for both non-motorized uses as well as administrative access. Road density is less than ½ mile per 1000 acres, with closed roads serving as fire breaks, wildlife linear strips, hiking trails, and administrative access. An existing federal oil and gas lease, as well as reserved and outstanding mineral rights, exist within this watershed. Access and facilities necessary to exercise these leases and rights are engineered to prevent contamination of drinking water sources and managed as closed to public motorized travel. Other than associated with these existing lease and rights, new roads are not constructed.

Roads

4K6-022 Do not construct new system roads or temporary roads, subject to valid existing rights or leases.

4K6-023 New roads needed for access to mineral leases or rights are engineered to prevent contamination of drinking water sources and managed as closed to public motorized travel.

4K6-024 Existing roads are closed to all but occasional administrative use which may include the following: 1) Maintenance and inspection of gas well pads, roads, and pipelines, 2) Maintenance of existing and creation of new wildlife openings, 3) Access required for implementation of prescribed burning, and 4) Access required for wildfire suppression.

4K6-025 Roads are decommissioned if not needed for administrative access.

5.A. Administrative Sites

Administrative sites are readily accessed by road, although some are accessed by trails.

6.A. Old-Growth Forest Communities Not Associated with Disturbance

A non-motorized trail system will provide the predominant means of access. Closed roads are available for non-motorized uses.

Roads

6A-026 Do not increase current system road density levels.

6A-027 Do not permit temporary or system road construction, subject to valid existing rights or leases.

6A-028 Decommission unneeded roads.

6.B. Old-Growth Forest Communities Dependant on Fire

A non-motorized trail system will provide the predominant means of access. Closed roads are available for non-motorized uses.

Roads

6B-027 Maintain a transportation system adequate for frequent prescribed fire activities.

6B-028 Road construction and reconstruction are allowed to manage resources within these areas.

6B-029 Construct and maintain roads to the standard necessary for protection of rare plants, soil, water, and user safety.

6B-030 Manage new roads as closed.

6.C. Old-Growth Forest Communities Associated with Disturbance

A non-motorized trail system will provide the predominant means of access. Closed roads are available for non-motorized uses.

Roads

6C-024 Strive to maintain current road density, however, new roads may be constructed through these areas when they are situated on the landscape in such a way that going around them is not an option.

- 6C-025 Design roads to minimize impact to the old growth community.
- 6C-026 Unneeded roads may be decommissioned, however, it is important to maintain a transportation system adequate for frequent prescribed fire activities.

7.A. Scenic Byway Corridor

The area provides exceptional opportunities for motorized recreation, especially scenic driving. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. The prescription area is easily accessed. Maintaining a good road surface and providing informational signs for protection of the natural and cultural resources as well as the safety and comfort of visitors minimize impacts of visitors within the prescription area.

Roads

- 7A-022 Design and construct access roads to meet the scenic integrity of high. Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways. Density of open roads and/or motorized vehicle trails remains near the current level throughout the planning period, with only small increases or decreases.
- 7A-023 All roads, facilities, and signing are designed to blend in with surroundings.

7.B. Scenic Corridors

The area provides exceptional opportunities for motorized recreation, especially scenic driving. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. The prescription area is easily accessed. Maintaining a good road surface and providing informational signs for protection of the natural and cultural resources as well as the safety and comfort of visitors minimize impacts of visitors within the prescription area. Hiking, mountain biking, and horse trails are present throughout the prescription area. OHV trails may be present, but new trails are not constructed except where desired to link existing trail systems

Roads

- 7B-024 Design and construct access roads to meet the scenic integrity of high. Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways. Density of open roads and/or motorized vehicle trails remains near the current level throughout the planning period, with only small increases or decreases.
- 7B-025 All roads, facilities, and signing are designed to blend in with surroundings.

7.C. OHV Routes and ATV Use Areas

OHV routes and use areas are managed to provide a variety of motorized recreation opportunities on identified routes in natural appearing settings. Routes are maintained,

improved, or expanded to meet local demands. Support facilities including trailheads, parking lots, restrooms, water access, and information boards are well designed to meet or exceed the needs of the visitor. These areas provide primarily motorized recreation opportunities. Maintenance is performed to protect the routes and minimize effects to soil and water resources. Routes may be closed seasonally or during inclement weather to protect resources. Off route and other unauthorized OHV use is not allowed. When such use occurs to a chronic degree, the routes are closed permanently or until the situation is corrected. New routes are considered for development only when there is a demonstrated need, interest, and a developed partnership with user groups.

Recreation
Trail Design

- 7C-019 Design and locate the trail network to discourage illegal access to areas off the designated routes. Full advantage is taken of natural and man-made features to use as physical barriers to illegal use.
- 7C-020 Prioritize new route locations as follows: 1) Existing open or closed system roads, 2) Closed or obliterated roads, 3) New construction.
- 7C-021 Construct trail and road systems that include both single-track, narrow trails for the motorcycle and ATV user as well as roads that may be used for larger four-wheel drive vehicles and for timber removal.
- 7C-022 Minimize user conflicts and safety hazards that may exist with other recreation users and between full size four-wheel drive vehicle users and ATV and motorcycle users, through trail design, layout, and signing.
- 7C-023 Minimize adverse effects on the land and resources, through trail design, layout, and management. Minimize damage to soil, watershed, vegetation, wildlife habitat, or other natural, heritage, and historical resources, and disturbance of wildlife on the public lands.

Trail Management

- 7C-024 Actively recruit volunteer organizations through the Adopt-A-Trail program to become involved in the long-term construction and maintenance of trail systems.
- 7C-025 Relocate or close routes when unacceptable adverse effects occur or are likely to occur. The routes or trails remain closed until the adverse effects are eliminated and until measures are implemented to prevent recurrence.
- 7C-026 Relocate or close existing routes located in or adjacent to sensitive areas. Restore unneeded old routes to their natural profile and revegetated.
- 7C-027 Trail system designs with a series of loops are encouraged. This results in a more compact trail system that confines impacts.

Public Safety and Law Enforcement

- 7C-028 Promote public safety and effective law enforcement.
- 7C-029 Provide sanitary facilities in ATV areas.

- 7C-030 Within ATV areas, provide public information that, as a minimum, includes maps showing open, closed, and restricted routes and areas, as well as the conditions of such use.

Monitoring

- 7C-031 The effects of vehicle use, noise levels, enforcement of restrictions and closures are closely monitored and evaluated.

Roads

- 7C-033 Roads managed for licensed off-highway vehicles are open year round or seasonally with a C2 road management objective.
- 7C-034 Designated roads remain open to public use unless unacceptable resource damage occurs.
- 7C-035 Favor repair, reconstruction, and relocation of portions of routes receiving unacceptable resource damage over closing the entire route. When chronic problems occur the entire route may need to be closed.
- 7C-036 Plan roads for timber removal concurrently with possible ATV/OHV route locations and opportunities.
- 7C-037 In ATV areas, obliterate decommissioned routes through restoration to their natural profile and revegetate to prevent continued use.
- 7C-038 Include consideration of possible licensed OHV routes in the roads analysis process.

7.D. Concentrated Recreation Zone

Facilities that provide for user convenience, as well as protect resources, are constructed and/or maintained in the developed recreation areas. Motorized access and their support facilities (i.e. roads, parking lots, or water access) are emphasized, although non-motorized experiences (i.e. walking and viewing nature) are also often present.

OHVs

- 7D-024 New ATV areas are not designated within these zones, although trailheads and connecting trails to adjacent ATV areas are allowed.
- 7D-025 Licensed OHV routes along existing roads may be designated in these areas.

Roads

- 7D-026 The standard of road is commensurate with the recreation development level.
- 7D-027 Existing open public roads are maintained at or above current levels to provide for public access and parking safety.
- 7D-028 Road construction and reconstruction are allowed to provide visitor access and manage resources within these areas.
- 7D-029 All roads, facilities, and signing are designed to blend in with surroundings.
- 7D-030 Road decommissioning is informed by a site-specific roads analysis.

7.E.1. Dispersed Recreation Areas

Dispersed recreation demand is managed to provide the public with a variety of recreation opportunities in a setting that provides quality scenery, trails, and limited facilities. These are frequently areas of low recreation use, low hunting use, and poor access. Limited motorized access may be available in some parts of these areas.

Roads

- 7E1-013 Existing open public roads are maintained at or above current levels to provide for public access and parking safety.
- 7E1-014 Road construction and reconstruction are allowed to provide visitor access and manage resources within these areas.
- 7E1-015 All roads, facilities, and signing are designed to blend in with surroundings.
- 7E1-016 Road decommissioning is informed by a watershed-scale or site-specific roads analysis.

7.E.2. Dispersed Recreation Areas

These areas are characterized by easy access and are capable of sustaining a relatively high number of recreationists in a manner that protects the surrounding water, soil, vegetation, and wildlife. High quality forest roads and well-marked trails through these areas provide easy access for seniors, urban visitors, and recreationists with special access needs. Recreation opportunities in this area usually include driving for pleasure, day hiking, mountain biking, horseback riding, dispersed camping, backpacking, hunting, fishing, nature study, and nature photography. Some areas may also provide off-highway vehicle driving, rock climbing, river running, hang gliding, or a variety of other nature-based outdoor recreation activities. Roads are generally open to motorized activities. Non-motorized and motorized trails are maintained, improved, or expanded to meet local demands provided watershed and ecosystem health are not negatively affected.

Roads

- 7E2-016 Existing open public roads are maintained at or above current levels to provide for public access and parking safety.
- 7E2-017 Road construction and reconstruction are allowed to provide visitor access and manage resources within these areas.
- 7E2-018 All roads, facilities, and signing are designed to blend in with surroundings.
- 7E2-019 Road decommissioning is informed by a watershed-scale or site-specific roads analysis.

7.F. Blue Ridge Parkway Visual Corridor

The Blue Ridge Parkway visual corridor provides exceptional opportunities for motorized recreation, including scenic driving. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these man-made alterations fit well with the character of the surrounding landscape. Forest management activities are not evident to

the average visitor. The Parkway itself provides the primary access through the area, with several Forest development roads terminating at, or crossing, the Parkway.

Roads

- 7F-029 Design and construct access roads to meet the scenic integrity of high. Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travelways. Density of open roads and/or motorized vehicle trails remains near the current level throughout the planning period, with only small increases or decreases.
- 7F-030 All roads, facilities, and signing are designed to blend in with surroundings.

7.G. Pastoral Landscapes

Human cultural modification is evident in the form of pastures, hedgerows, fencelines, farm paths, paved roads and dirt travelways, an occasional outbuilding, springhouse or barn all complementing the desirable pastoral landscape attributes of the rural setting. Recreation uses include pleasure driving, photography, watching wildlife, and participating in dispersed recreation such as picnicking, strolling, horseback riding, hunting, and fishing. These areas are typically accessible by motor vehicle and some may have small parking areas or pullouts to allow visitors to stop and walk through the area. Facilities though minimal, are designed to fit the character of the specific sites where they are located. Facilities might include pullouts, small parking areas, trailheads, bulletin boards, interpretive signage, fence stiles, rail, and other fences. Trails, if present, are generally of a low development scale and do not have hardened surfaces.

OHV Routes

- 7G-005 Existing designated OHV routes may be maintained if cross-country use can be controlled.
- 7G-006 New routes are not designated in these areas.

Roads

- 7G-011 Road construction and reconstruction are allowed to provide visitor access and manage resources within these areas.
- 7G-012 All roads, facilities, and signing are designed to blend in with surroundings.

8.A.1. Mix of Successional Habitats in Forested Landscapes

Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Roads

- 8A1-022 Do not increase current open system road density levels calculated across each prescription block.

8A1-023 Density of open roads decreases over time as roads and/or trails that are unneeded or are causing undesirable resource impacts are closed.

8A1-024 Use of off-highway motorized vehicles is limited to designated areas and open roads where otherwise legal.

8.B. Early Successional Habitat Emphasis

Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Roads

8B-022 Do not increase current open system road density levels calculated across each prescription block.

8B-023 Density of open roads decreases over time as roads and/or trails that are unneeded or are causing undesirable resource impacts are closed.

8B-024 Use of off-highway motorized vehicles is limited to designated areas and open roads where otherwise legal.

8.C. Black Bear Habitat Management

Although roads are necessary to create and maintain habitat diversity and to effectively manage bear populations by distributing hunting pressure; to ensure secluded habitats, less than .8 miles of open roads per 1,000 acres is desired. Higher densities may be accommodated if traffic volumes are low and if motorized use is restricted during spring to late summer to reduce disturbance of females with cubs. Roads management may also be used as a population regulation tool in cooperation with state wildlife management agencies. Controls on access may be tightened or loosened depending on the trend in local bear numbers, desired harvest levels, bear nuisance complaints in surrounding areas, etc. Access is provided through portions of these areas on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use is prohibited in order to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Roads

8C-027 Road construction, reconstruction, and decommissioning are informed by a watershed-scale or site-specific road analysis.

8C-028 Do not increase current open system road density levels calculated across each prescription block. Strive to maintain an open road density at or below .8 miles per square mile.

8C-029 Use of off-highway motorized vehicles is limited to open roads where otherwise legal.

8.E.1. Ruffed Grouse/Woodcock Habitat Emphasis

The recreation experience in this area is not considered remote, although open road densities may be fairly low. Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicle use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Roads

- 8E1-025 Use of off-highway motorized vehicles is limited to designated areas and open roads where otherwise legal.
- 8E1-026 Do not increase current open system road density levels calculated across each individual contiguous prescription block.
- 8E1-027 Density of open roads decreases over time as roads and/or trails that are unneeded or are causing undesirable resource impacts are closed.

8.E.2.a Peaks of Otter Salamander Primary Habitat Conservation Area

Open grassy areas and areas without vegetation, like roads, trails, and utility rights-of-way are minimized. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-road vehicle use is prohibited. Limited access is provided through portions of the area on Forest Service and State roads with gravel, native, and occasionally paved surfaces. No new permanent roads are constructed. New trail and temporary road construction only occurs when it is necessary to provide access to areas outside the primary habitat conservation area that could not otherwise be accessed. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Peaks of Otter salamander populations.

8.E.2.b Peaks of Otter Salamander Secondary Conservation Area

Areas without vegetation, like roads, trails, and utility rights-of-way are minimized. Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-road vehicle use is prohibited. Limited access is provided through portions of the area on Forest Service and State roads with gravel, native, and occasionally paved surfaces. No new permanent roads are constructed. New trail and temporary road construction are permitted. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Trail and road reconstruction, minor relocation, and new parking facilities are permitted.

Road Construction and Reconstruction

- 8E2-046 New permanent road construction is not allowed, subject to valid existing rights or leases.

- 8E2-047 Decommission roads not needed for recreation access or administration, fire suppression, or vegetation management.
- 8E2-048 Road improvements, minor relocation, and development of parking facilities are permitted after full consideration of effects on Peaks of Otter salamander populations.
- 8E2-049 Keep felling and removal of roadside vegetation to the minimum needed for public safety.
- 8E2-050 Within the primary habitat conservation area, limit temporary road construction to occasional short crossings to provide access to areas outside the primary habitat conservation area that could not otherwise be accessed.
- 8E2-051 Within the **secondary habitat conservation area**, allow temporary road construction after full consideration of effects on Peaks of Otter salamander populations. Following use, temporary roads are scarified, reseeded with native or desirable non-native vegetation, and cover objects (logs or rocks) are dragged into the road.

8.E.4.A. Indiana Bat Primary Cave Protection Area

Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-road vehicle use is prohibited. No new permanent roads are constructed. New trail and temporary road construction rarely occurs. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Canopy closure along road rights-of-way is common. All activities are conducted with full consideration of effects on Indiana bat populations.

8.E.4.B. Indiana Bat Secondary Cave Protection Area

Existing trails and roads are used for access to specified areas for these activities, although decommissioning of existing roads may occur. Off-road vehicle use is prohibited. No new permanent roads are constructed. New trail and temporary road construction rarely occurs. Restoration of canopy and cover along temporary and decommissioned roads occurs quickly. Canopy closure along road rights-of-way is common. Trail and road reconstruction, minor relocation, and new parking facilities are permitted. All activities are conducted with full consideration of effects on Indiana bat populations.

Road Management

- 8E4-041 Within the **primary cave protection area**, do not permit road construction and reconstruction, subject to valid existing rights or leases.
- 8E4-042 New construction and reconstruction are allowed in the **secondary cave protection area**.
- 8E4-043 Decommission roads when adversely affecting caves, their hydrology, or Indiana bat habitat security.

8.E.6. Old Field Habitat Emphasis

The recreation experience in this area is not considered remote, although open road densities may be fairly low (less than 1.5 miles per 1000 acres). Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Roads

- 8E6-014 Do not increase current open system road density levels calculated across each prescription block.
- 8E6-015 Density of open roads decreases over time as roads and/or trails that are unneeded or are causing undesirable resource impacts are closed.
- 8E6-017 Use of off-highway motorized vehicles is limited to designated areas and open roads where otherwise legal.

9.A.1. Source Water Protection Watersheds

Existing roads, trails, developed and dispersed recreation sites, and areas of concentrated recreation use are examined and problems mitigated. Off-road vehicle use is prohibited. Access is provided through portions of these areas on well-maintained Forest Service and State roads. Public access is coordinated with municipalities in regard to security of water supply.

Roads

- 9A1-021 Road construction and reconstruction are allowed to manage resources within these areas. Density of open roads decreases over time as roads that are unneeded or are causing undesirable resource impacts are closed.
- 9A1-022 Road construction or reconstruction is informed by a watershed-scale road analysis.
- 9A1-023 New roads needed for vegetation management, mineral leases or special uses are engineered to prevent contamination of drinking water sources and managed as closed to public motorized travel.
- 9A1-024 Motorized access is limited to currently existing roads. Off-road and all-terrain vehicles are not permitted.
- 9A1-025 Roads identified as problems are reconstructed, relocated, or decommissioned.
- 9A1-026 Decommission roads when they are no longer needed. Roads and trails identified as potential sources of drinking water contamination are reconstructed, relocated, or decommissioned.

9.A.3. Watershed Restoration Areas

In order to achieve the desired conditions, short-term measures such as resting a grazing allotment, planting trees, decommissioning roads/trails, or recontouring the land may be necessary. These areas provide a variety of motorized and non-motorized recreation opportunities and experiences. Access is provided through portions of these areas on well-maintained Forest Service and State roads. Roads identified as problems are reconstructed, relocated, or decommissioned. Roads needed for vegetation management or special use maintenance are engineered to minimize soil and water impacts.

OHVs

9A3-010 Do not allow new designated OHV trails.

Roads

9A3-012 Require roads analysis in conjunction with the watershed-specific analysis.

9A3-013 Roads identified as problems are reconstructed, relocated, or decommissioned.

9A3-014 New roads are engineered to mitigate impacts to water and aquatic resources and managed as closed to public motorized travel.

9.A.4. Aquatic Habitat Areas

Existing roads, trails, developed and dispersed recreation sites, and areas of concentrated recreation use are examined and problems mitigated. Access is provided through portions of these areas on well-maintained Forest Service and State roads. Roads identified as potential sources of water quality degradation are reconstructed, relocated, or decommissioned. Roads needed for vegetation management or special use maintenance are engineered to prevent adverse impacts to aquatic species and managed as closed to public travel. Closed roads serve as wildlife linear strips, hiking trails, and emergency access. Off-road vehicle use is prohibited to protect water quality and to maintain the non-motorized settings where they exist.

OHVs

9A4-011 Do not allow new designated OHV routes.

Roads

9A4-016 Road construction or reconstruction is informed by a watershed-scale road analysis.

9A4-017 Road construction and reconstruction are allowed to provide visitor access and manage resources within these areas.

9A4-018 New roads are engineered to mitigate impacts to water and aquatic resources and managed as closed to public motorized travel.

9A4-019 Roads identified as problems are reconstructed, relocated, or decommissioned.

9A4-020 Off-road and all-terrain vehicles are not permitted.

9.F. Rare Communities

Recreational access is limited to existing roads and trails generally outside the perimeter of the area. Recreation opportunities are limited to interpretation, bird watching, wildlife viewing, nature photography, and hiking on non-motorized, non-mechanized foot trails.

Roads

- 9F-026 Do not permit road construction and reconstruction, subject to valid existing rights and leases.
- 9F-027 Motorized access is limited to currently existing roads. Off-road and all-terrain vehicles are not permitted.
- 9F-028 New roads needed for mineral access are engineered to minimize impacts to the rare community and managed as closed to public motorized travel.

9.G.1. Maintenance And Restoration Of Bottomland Hardwoods

Since these sites occur along large creeks and rivers, access is provided on state roads.

Standards

Standards for Management Prescription 11 – Riparian Corridors apply to this management prescription.

9.H. Management, Maintenance And Restoration Of Forest Communities

The recreation experience in this area is not considered remote, although open road densities are fairly low (less than 1.25 miles per 1000 acres). Access is provided through portions of the area on Forest Service and State roads with a gravel or native surface. Roads may occasionally be paved. Unlicensed off-road vehicles use may occasionally occur on designated trails in the area, but is generally discouraged to provide wildlife habitat security. Challenging opportunities may exist for high-clearance and 4-wheel drive vehicles on open roads.

Roads

- 9H-017 Road construction and reconstruction are allowed to manage resources within these areas.
- 9H-018 Roads constructed for timber harvesting may be managed as open, closed, or restricted to protect resources.

11. Riparian Corridors – Streams, Lakes, Wetlands, and Floodplains

Riparian corridors reflect the physical structure, biological components, and ecological processes that sustain aquatic, riparian, and associated upland functions and values. The preferred management for riparian corridors is one that maintains, or moves toward, the restoration of processes that regulate the *environmental and ecological components of riparian areas*. However, due to the high value that these areas have for many uses, evidence

of human activity (developed recreation areas, roads and trails, dams and reservoirs, and pastoral areas) may be present.

Recreation

- 11-028 New motorized trails are prohibited within the riparian corridor except at designated crossings or where the trail location requires some encroachment; for example, to accommodate steep terrain.
- 11-029 Motorized and non-motorized trail reconstruction and relocation within the riparian corridor are allowed to reduce impacts to riparian and aquatic resources.

Roads

- 11-042 New roads within the corridor are designed to minimize impacts on the riparian resource. Roads are constructed or reconstructed to mitigate impacts to water and aquatic resources.
- 11-043 Plan construction so it can be completed in the shortest practicable time.
- 11-044 Where risks of resource damage are high, each road segment is constructed and stabilized prior to starting another segment. High-risk areas include landslide prone areas, steep slopes, and highly erosive soils. High-risk streams include streams containing sensitive aquatic species such as trout and mussels, or any threatened or endangered species.
- 11-045 To minimize the length of streamside disturbance, ensure that approach sections are aligned with the stream channel at as near a right angle as possible. Locate riparian corridor crossings to minimize the amount of fill material needed and minimize channel impacts.
- 11-046 Design structures (culverts, bridges, etc.) to accommodate storm flows expected to occur while the structures will be in place. Use scientifically accepted methods for calculating expected storm flows.
- 11-047 Design crossings so stream flow does not pond above the structure during normal flows in order to reduce sediment deposition immediately above the crossing and maintain the channel's ability to safely pass high flows.
- 11-048 Design the crossing so that stream flow will not be diverted along the road if the structure fails, plugs with debris, or is over-topped.
- 11-049 If culverts are removed, stream banks and channels must be restored to a natural size and shape. All disturbed soil must be stabilized.
- 11-050 Establish fords only under conditions that will not cause significant streambank erosion.
- 11-051 All new stream crossings are constructed so that they do not adversely impact the passage of aquatic organisms. Exceptions may be allowed in order to prevent the upstream migration of undesired species.

12.A. Remote Backcountry Recreation--Few Open Roads

These areas provide large tracts of backcountry recreation opportunities with a semi-primitive emphasis that allow limited motorized access. Limited motorized activities are also available including dispersed camping, pleasure driving, and in some areas all-terrain vehicle or motorcycle trails if this use existed prior to this Forest Plan Record of Decision. New motorized uses are not provided. Closed roads are available for both non-motorized uses as well as administrative access. Road density is less than ½ mile per 1,000 acres, with closed roads serving as fire breaks, wildlife linear strips, hiking trails, and administrative access. New permanent roads are not constructed, although temporary roads and road reconstruction may be necessary to accomplish stewardship objectives.

OHVs

- 12A-015 Existing motorized roads and trails are monitored for impacts to soil and water quality and problems mitigated. Roads and motorized trails identified as problems are reconstructed, relocated, or decommissioned.
- 12A-016 Maintain existing licensed and unlicensed OHV routes. Allow reconstruction and relocation of existing routes. Building a new trail on the ridge or side slope and closing a trail in the riparian area qualifies as relocation for the purposes of this standard.
- 12A-017 New routes will not be designated.
- 12A-018 Seasonal closures are used to protect soil, water, and wildlife habitat security. (See 7C)

Roads

- 12A-024 Do not increase current system road density levels (opened or closed).
- 12A-025 Do not construct new permanent roads, subject to valid existing rights or leases. Temporary road construction to facilitate reduction of fuels and damage from insects and diseases is allowed.
- 12A-026 Road reconstruction activities are limited to those open roads existing at the time of this Forest Plan Revision Record of Decision.
- 12A-027 Decommission any roads not needed for recreational or administrative access.

12.B. Remote Backcountry Recreation - Non-Motorized

These areas provide large tracts of backcountry recreation opportunities with a semi-primitive emphasis. Closed roads are available for both non-motorized uses as well as administrative access. Road density is less than ½ mile per 1,000 acres, with closed roads serving as fire breaks, wildlife linear strips, hiking trails, and administrative access. New permanent roads are not constructed, although temporary roads and road reconstruction may be necessary to accomplish stewardship objectives.

OHVs

- 12B-013 OHV use prohibited except for administrative use.

Roads

- 12B-019 Existing roads are closed to all but occasional administrative use which may include the following: (1) Utility maintenance, (2) Existing wildlife opening maintenance, (3) Prescribed fire, with a minimal amount of fire line construction, is permitted to reduce wildfire potential due to high fuel loadings, improve or maintain wildlife habitats, or to benefit certain floral species such as table mountain pine, box huckleberry, and Peters Mountain mallow, (4) Access required for wildfire suppression, and (5) Maintenance of the Audie Murphy Monument.
- 12B-020 Roads are decommissioned if not needed for administrative access.
- 12B-021 Do not construct new system or temporary roads, subject to valid existing rights or leases.

12.C. Natural Processes In Backcountry Remote Areas

These areas retain a natural, forested appearance shaped primarily by natural processes. Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited. Trailheads at surrounding roads are designed with sensitivity to scale and character to set the tone for experiencing a primitive recreation experience. Travel is strictly non-motorized, although mountain bikes and horse are permitted.

OHVs

- 12C-013 OHV use prohibited except for administrative use.

Roads

- 12C-019 Decommission existing roads.
- 12C-020 Do not construct new system or temporary roads, subject to valid existing rights or leases.

CHAPTER 5: IDENTIFICATION OF SIGNIFICANT SOCIAL AND ENVIRONMENTAL ISSUES, AND CONCERNS, TO BE ADDRESSED IN PROJECT-LEVEL DECISIONS (STEP 3&4)

Issues were generated from public response during the Revision of the Jefferson National Forest Plan, local knowledge of the roads analysis ID team, public response to a variety of project proposals, and discussion with other public agencies like the Federal Highway Administration and the Virginia Dept. of Transportation.

Current Forest Plan Issue Summary

ISSUE 1 - TERRESTRIAL PLANTS AND ANIMALS AND THEIR ASSOCIATED HABITATS

Issue Statement: How should the national forests retain or restore a diverse mix of terrestrial plant and animal habitat conditions, while meeting public demands for a variety of wildlife values and uses?

Fragmentation. The revised forest plan considers the patterns of communities across the landscape and the fragmentation of species habitats. Research indicates that large landscapes with at least 70-80% forest cover offer high potential as quality habitat for forest interior species, where adverse effects of edge are reduced to levels compatible with productive populations. Analysis indicates the great majority of the Jefferson National Forest occurs within a landscape that is more than 70 to 90 percent forested. In the short-term, adverse effects of edge are most likely to occur in the areas shown by analysis to be within landscapes less than 70 percent forested. Edge created on the majority of the forest is not expected to have significant short-term effects due to the current landscape context.

Forest fragmentation is a function of patch size, isolation of patches, total reserve area, and linkages among patches. Patch size and age requirements vary by species. Many species tolerate or prefer a mixture of forest age classes, but some species are restricted to young (early successional) or mature (late successional) forest communities only. The Revised Plan will provide large, unfragmented blocks of forested land, mostly in later successional stages. These areas are allocated primarily to Management Prescriptions 1A, 1B, 12A, 12B, and 12C that are unsuitable for timber production. These forested and riparian areas are located in a manner that provides opportunities for the movement of plants and animals resulting in long-term viability of species.

Fragmentation of late successional habitats are usually caused by openings in the forest canopy. Edge effects occur when distinct habitat boundaries are created by timber harvest or other activities. These effects may be permanent or temporary depending on whether the disturbed area is allowed to proceed through vegetative succession. Species composition and

community structure may change in areas where light and wind can extend into the exposed forest edge. This creates habitat suitable for some species and unsuitable for others.

Habitat for species benefiting from early successional vegetation is provided to a lesser extent in the Revised Plan. Early successional habitat is provided primarily in Management Prescriptions 8B, 8A1, 8E1, and (to a lesser extent) 8C which are suitable for timber production. This habitat will, primarily be located in timber harvest units (0-10 age class), wildlife clearings, utility rights-of-way, and along closed system roads and in prescribed burn areas.

Bear Habitat Management. Several species groups and individual species were named comments. This included black bear and a concern about road management in relation to maintaining suitable bear habitat. Levels of human access within bear habitat determine the degree of negative effects on bears. Generally, high bear population densities are associated with areas of low open road density (SAMAB 1995:87). Low-traffic roads and trails are used by bears as travel ways and provide the benefit of additional edge and associated soft mast, whereas high traffic volumes have a negative impact. Effects vary based the duration and time of year the road or trail is open for use and the number and type of recreation users present. Recreation trails (hiking, mountain biking, ATV, or horseback) can potentially provide similar disturbance.

Road density standards have been incorporated into the Management Prescription (8C) for bear habitat management. In addition, remote habitat will be provided in Management Prescriptions 1A, 1B, 12A, 12B, and 12C.

ISSUE 2 - ACCESS/ROAD MANAGEMENT

Issue Statement: How do we balance the rights of citizens to access their national forests with our responsibilities to protect and manage the soil and water resources, wildlife populations and habitat, aesthetics, forest health, and desired vegetative conditions?

System Roads. System roads are the primary means of national forest access, however, they are also a source of many concerns. These concerns predominantly center around the environmental effects of roads.

Some people would like to see the motorized access to the national forests increased, especially during hunting seasons for big game, for other recreational uses, or to meet forest management needs. Other people, however, feel that road construction should be limited and some existing roads obliterated. Other comments were made that new roads should not be constructed for the purposes of logging or for OHV use. The amount of motorized access must be balanced with wildlife habitat needs, the need to provide both motorized and non-motorized recreational opportunities, the need to protect the soil and water resources, and the need to have management access.

The revised forest plans identifies what, if any, are the appropriate road density standards and seasonal restrictions needed to meet the desired conditions established in the forest plan.

Under the Revised Plan, a road system will be maintained to serve the public, meet management needs, and protect resources in a cost-effective manner. New roads will be constructed as needed and to the standard to meet the desired future condition identified in each management prescription. System roads of the Jefferson National Forest currently total 1,202 miles and serve a variety of resource management and access needs. Over the past several years, the system has been fairly stable with regards to total mileage.

Under the Revised Plan, Alternative I, road construction and reconstruction would be prohibited on 209,300 acres of Jefferson National Forest land with construction prohibited and reconstruction limited on an additional 22,200 acres. Alternative I would allow limited construction and reconstruction on 135,100 acres and would allow construction and reconstruction on an additional 218,900 acres with no increase in open road density allowed under the latter provision. Construction and reconstruction would be allowed on the remaining 137,700 acres of land.

For the most part, future road management practices will emphasize maintenance, reconstruction, and (where appropriate) relocation of existing roads. The greatest potential for new road construction and reconstruction over the next 10 years is in the areas of mineral development (primarily on the Clinch District) and timber management. Under Alternative I, the potential need for timber-related roads over the next 10 years is approximately 34 miles. The potential need for minerals-related roads is 44 miles over that period. Under this Alternative, new road construction for recreation and related activities is expected to average approximately 0.5 to 1 mile per year with approximately 1.5 to 2.0 miles of road decommissioned per year. Thus, it is anticipated that road construction and reconstruction mileage for recreation and related activities over the next 10 years would be offset by the mileage of roads being decommissioned. In summary, there is potential for a net increase of Forest roads under this Alternative for all activities of 63 to 73 miles over the plan period. The vast majority of these roads would have a limited time span of use, and most would be obliterated after that use.

There is an aggressive effort currently ongoing with regards to management of the Forest road system. This effort is aimed at identification of opportunities for increased resource protection, eliminating the backlog of deferred maintenance, optimal performance of maintenance, and better service to Forest users. One initiative includes identification of roads which would be better and more efficiently maintained by the Virginia Department of Transportation (VDOT). These include current Forest roads, which have a primary function of other than Forest access and use. Examples include roads, which primarily function as commuter routes for work and school. Currently, 24 miles of Jefferson National Forest roads have been identified as possible candidates for VDOT maintenance. It is anticipated that at least a portion of the 24 miles of road will be upgraded and turned over to VDOT within the current Plan period.

Another initiative includes the extensive use of project level roads analysis for decisions regarding changes to the road system. These analyses will be conducted to provide managers with data to make informed decisions concerning road system changes, additions, and deletions. Analyses will be conducted in accordance with current Forest Service Guidelines. A completed analysis will inform future management decisions on the merits and risks of

building new roads in previously unroaded areas; relocating, upgrading, or decommissioning existing roads; managing traffic; and enhancing, reducing, or discontinuing road maintenance.

Management of the Forest's roads will also include intensive on-the-ground field condition surveys followed by clear and concise reporting of the existing condition. This process will include condition surveys on one quarter of the Forest's Operational Maintenance Level (OML) 3, 4, and 5 roads each year. Level 1 and 2 roads will be inventoried on a random sample basis, with any immediate need noted and corrected as funding allows.

ISSUE 3 - RECREATION OPPORTUNITIES/EXPERIENCES

Issue Statement: How should the increasing demand for recreational opportunities and experiences be addressed on the national forests while protecting forest resources? This includes considering a full range of opportunities for developed and dispersed recreation activities (including such things as nature study, hunting and fishing activities, and trail uses.)

The national forests provide a variety of dispersed and developed recreational opportunities. The forest plan revision considers actions which are responsive to a wide array of forest visitors and the variety of experiences they desire. The economic benefits of these recreation opportunities to local communities and local commercial outfitters are considered.

Congestion in recreation use tends to occur on the shores of lakes and streams because these settings are in high demand. Some users are concerned with the lack of trail-head facilities. In those areas where developed sites and recreation facilities are congested, and the facilities and the resources are being damaged from overuse, opportunities for providing additional facilities need to be explored. Comments were made that the Forest Service should emphasize providing for recreational opportunities which are not generally available on private land. Other comments have been made to the effect that before the Forest Service builds new facilities, there should be an emphasis on maintaining and upgrading the existing facilities.

For some people, the quality of the recreation experience often goes down as the number of users goes up. Additional user control may become necessary to limit the number of people in overcrowded areas or in biologically sensitive areas. Some people are also concerned that timber harvesting activities or concentrated recreational use may result in a reduction of habitats for various huntable wildlife species, or a reduction in water quality that will affect fishing opportunities. Others feel that timber harvesting has a beneficial effect on huntable wildlife.

Remote Recreation. In the Southern Appalachian Assessment area, for example, currently only around 8 percent of the land (including the Great Smokey Mountain National Park) can provide "remote" recreation settings. Many people feel that the national forests should be the principle provider of these "remote" or semi-primitive non-motorized experiences. The Draft 1995 RPA Program reports that recreation demand levels will increase significantly on national forests, making it increasingly difficult to manage recreation sites at an acceptable quality standard.

The Revised Plan allocates 116,000 acres to Semi-Primitive Non-Motorized recreation, 20,660 acres to Semi-Primitive Motorized recreation, and 84,010 acres to a buffer along Semi-Primitive areas to protect against further erosion of settings due to the potential for permanent road construction.

Motorized Recreation. People are using trails today for much more than backpacking. Mountain biking, horseback riding, and off-highway vehicles are all used on national forest trails. Due to the limited sources of supply, these trails are often congested and have become sources of conflict between users. In many cases, there is a strong interest in increasing the trail networks for all these uses. Increases in the trail miles would increase trail use opportunities and reduce the congestion on existing trails. The challenge would be with developing a trail system that recognizes conflicting uses and minimizes resource damage. Of particular concern is a policy for managing OHV use.

Motorized trails appropriate for OHVs are currently limited to about 16 miles of designated motorcycle/ATV trails within the Patterson Mountain ORV area on the New Castle Ranger District. The Revised Plan allows for the addition of another OHV area on the southern end of the Forest. A decision on a new OHV area would be contingent upon site-specific analysis assuming certain screening criteria are met.

Currently there are about 38 miles of roads providing a degree of challenge for street legal 4WD vehicles and motorcycles. There is only a moderate potential for additional 4WD roads to be added under the Revised Plan. There are about 46 additional miles of trail available to use by licensed motorcycles and this is not expected to increase.

Under the Revised Plan, as under current management direction, the remainder of the Forest is closed to vehicles that are not licensed by the state.

ISSUE 4 - ROADLESS AREAS/WILDERNESS MANAGEMENT

Issue Statement: Should any of the roadless areas on National Forest System lands be recommended for wilderness designation? For any roadless areas not recommended for wilderness, how should they be managed? How should areas recommended for wilderness designation be managed? How should the patterns and intensity of use, fire, and insects and disease be managed in the existing wilderness areas?

The sufficiency of the existing wilderness areas continues to be debated. A wide spectrum of feelings and values for more, less, or the same exists among the national forests community of interests. Some people have indicated that all roadless areas should be recommended for wilderness designation, while others have expressed that there is enough wilderness already and that the roadless areas should be managed to achieve other resource objectives.

People have expressed concern over the fate of any roadless areas not recommended for wilderness. Some have proposed that these areas be used to mitigate habitat fragmentation, or managed as scenic areas, or managed to provide a "remote" or "semi-primitive non-

motorized" recreation experience. Others feel that an area does not have to be labeled as "roadless" or "wilderness" in order to provide biological diversity. They feel that in order to provide high-quality wildlife habitat, different types of disturbances are needed in order to create a variety of successional stages. Others would like to see the lands in roadless areas available for timber production.

Comments were received that even if certain areas do not meet the criteria for inclusion in the roadless area inventory, these areas should still be considered for inclusion in the Wilderness system. Other commentors indicated that the Forest Service should consider obliterating roads within Forest Service jurisdiction in order to "create" areas that will eventually contain roadless characteristics.

An updated Roadless Area Inventory was done as part of the 1996 Southern Appalachian Assessment. Over 100 areas forest wide were considered, including the six remaining RARE II areas, additions to existing wildernesses, and new areas. The Jefferson National Forest Roadless Area Inventory was finalized on 12/17/99 (see 12/17/99 Process Paper). The inventory includes 37 areas totaling 153,119 acres that could be recommended for wilderness study. Three of the areas are shared with the Cherokee National Forest, which administers the majority of all three. Appendix C of the Final Environmental Impact Statement contains an evaluation report on each of the roadless areas. Federal legislation is needed to establish wilderness. These roadless areas would be valuable additions to the National Wilderness Preservation System. This recommendation is a preliminary administrative recommendation that will receive further review and possible modification.

Fifteen percent of the inventoried roadless areas are allocated to the prescription for recommendation for wilderness designation. Prescriptions on 82 percent of the areas will maintain the roadless characteristics of the areas. Prescriptions maintaining roadless character include: 4A, 4.B.2, 4.K.2, 4.K.3, 4.K.4, 6.A, 6.B, 6.C, 9.F, 12.A, 12.B, and 12.C. Three percent of the roadless areas have prescriptions that would not retain their roadless characteristics.

Before any project is scheduled in a roadless area, site-specific analysis and appropriate disclosure will be completed. This site-specific disclosure will include discussion of the effects of the project on the roadless nature of the particular area as described in Appendix C of the FEIS.

Additional Issues

ISSUE 1 – ROAD MAINTENANCE FUNDING IS NOT ADEQUATE TO MAINTAIN ROADS TO STANDARD

One of the objectives of the Road Analysis process is to identify the minimum road system needed for public access and land management purposes. Congressionally appropriated road maintenance funding is approximately 35% of what is needed for the current system.

With limited funding, we need to focus on high priority areas such as, acquiring rights-of-way, performing road maintenance including restoration, and conducting project or watershed scale roads analysis to identify unneeded roads and maintenance opportunities.

ISSUE 2 – PUBLIC INVOLVEMENT

The public was concerned that decisions about reducing or changing the Forest's transportation system might be made without the benefit of public involvement. Forest roads are an integral part of the entire public road system. People rely on them to drive to their jobs, recreation areas, favorite hunting and fishing areas, hiking trailheads, and other dispersed areas on the Forest. Decisions that will change the existing system or how it is managed will occur through public involvement and a site-specific analysis that considers effects on any roads on the system now or proposed in the future.

ISSUE 3 –LEGAL PUBLIC ACCESS

Many National Forest Roads that provide access to National Forest Lands cross privately owned lands. The Forest Service does not have legal rights-of-way on many of these roads. Therefore, access to National Forest Land is often unavailable to individuals who do not have permission to travel on the sections of road that cross private land. Even if the public does have permission to use the road the Forest Service does not have the right to reconstruct the road even if it is needed. Rights-of-way should be acquired on existing National Forest Roads where the Forest Service has none, on a willing seller basis.

CHAPTER 6: ROAD SYSTEM OPPORTUNITIES AND NEEDS WITHIN THE CONTEXT OF EXISTING DIRECTION & ISSUES (STEP 5) TRANSPORTATION ANALYSIS PROCEDURE

A transportation analysis procedure for the Jefferson National Forest was completed prior to the 1985 Jefferson Forest Plan, but the numbers are outdated and were inadequate for purposes of the current study.

For the current plan, the Forest transportation system was extensively reviewed through the “Southern Appalachian Process for Including Watershed Direction in Revised Forest Plans”, March 2000. Steps one and two of this process were conducted on the Jefferson National Forest from February 2001 through April 2001. Each 6th level watershed across the Forest was analyzed including the overall road density of the watershed (public and private roads), the density of Forest Service roads in the watershed, the condition of Forest Service roads in the watershed, and identification of any problem roads in terms of erosion, sedimentation, illegal off-road vehicle use, illegal dumping, proximity to streams, proximity to streams containing threatened, endangered, and sensitive species, proximity to impaired streams identified by the State of Virginia, and any other pertinent information or concerns regarding roads in the watershed.

As with most interdisciplinary team meetings for the Jefferson revised Forest Plan, these meetings were open to the public. Groups represented at all or most of the meetings included the Citizen’s Task Force on National Forest Management, the Pacific Rivers Council, the Friends of the Rivers of Virginia, the Virginia Rural Water Association, and the Virginia Department of Health, source water specialist.

The documentation of this analysis is available in table format by watershed in the process record for the revised Forest Plan. The analysis resulted in goals, objectives, and standards related to the transportation system as well as watershed direction in the proposed revision of the Jefferson Land and Resource Management Plan.

Monitoring and Evaluation of Existing Road System

Additional monitoring items are discussed in the Fiscal Year 1999 and 2000 Monitoring and Evaluation Report, dated March 2001. No changes to plan direction related to the transportation system or travel management were recommended as a result of forest-wide monitoring in this report.

GUIDELINES

Decommissioning

Road decommissioning results in the elimination of all vehicle use on that particular road. The road is still carried on the inventory but as “Decommissioned”. The impacts of the road on the environment are eliminated or reduced to an acceptable level. To accomplish this, a number of techniques can be used, such as posting the road closed and installing waterbars, posting and installing barriers and barricades, ripping the roadbed and seeding it, converting the road to a trail, and full reclamation by restoring the original topography. There is a different cost associated with each of these techniques and their effectiveness for deterring unauthorized motorized use also varies.

Decommissioning maintenance level (ML) 1 and 2 roads can consist of removing the few culverts, ripping the roadbed and seeding it, posting with closed signs, and installing waterbars to discourage unauthorized motorized vehicle use and provide for proper drainage. Decommissioning maintenance level 3, 4, and 5 roads are usually more expensive to decommission than ML 1 and 2 roads, because they have more culverts, are ditched, have larger cuts and fills, and are usually wider. Given the cost, it may be cheaper to maintain ML 3, 4, and 5 roads than to decommission them. However, future maintenance costs may not be the only factor to consider; other resource considerations may outweigh the costs.

Deleted: ¶

Guidelines:

Balance cost with the resource risk and effectiveness of the treatment when selecting methods for decommissioning.

Convert roads to trails as a decommissioning method when analysis of recreation demand indicates a need to expand, connect or improve the existing trail system in the area. Provide adequate trailhead parking as part of this treatment method.

Capital Improvement

This analysis does show there is a need to reconstruct existing roads to correct deferred maintenance work items or to improve some roads to meet the increasing use and traffic requirements. Funding limitations require prioritization of reconstructing work. The following guidelines are to be used when selecting, prioritizing and implementing road reconstruction and construction projects.

Guidelines

Conduct road location reviews prior to all new construction and road relocations. Assure the location meets public and agency needs while mitigating environmental

impacts identified in the analysis. Line officers, resource specialists and engineering specialists should participate in the review.

Establish a traffic counting program to identify high use roads and traffic patterns.

Use motor vehicle accident safety investigations and reports to help identify road safety hazards.

Use the following categories to prioritize road investments planned to reduce deferred maintenance backlog on roads: 1) Critical Health and Safety, 2) Critical Resource Protection, 3) Critical Forest Mission. Data for these work items can be found in the INFRA database.

Road Management

Guidelines

If a roads condition has deteriorated to the point it needs to be restored, consider the need for the road and the historic use.

Consider reducing the maintenance level on low value, low use ML 3, 4, and 5 roads being analyzed in project or watershed scale roads analysis.

It is important for travelers to have the information necessary to make a decision about the road on which they are traveling. When appropriate, utilize entrance, information, and warning signs, route markers, and information bulletin boards to advise travelers of conditions ahead.

Do not post speed limit and other regulatory signs on roads under Forest Service jurisdiction without a Forest Supervisor's order.

To reduce annual maintenance costs, implement seasonal travel restrictions on roads susceptible to damage during wet or freeze/thaw conditions.

Collect road maintenance deposits as appropriate on all road use permits and special use permits.

Rights-of Way

Many National Forest Roads that provide access to National Forest Lands cross private land. The Forest Service does not have legal rights-of-way on some of these roads. Therefore, access to National Forest Lands may be unavailable to individuals who do not have permission to travel on the portions of these roads that cross private land. Even if the public does have permission to use these roads, the Forest Service has no right to reconstruct them if needed. So rights-of-way should be obtained on all National Forest Roads, on a willing seller basis.

Guidelines

1. See FSM 5460.3 for direction.

2. Acquire rights-of-way easements except in those cases where the landowner will only sell in fee.
3. When applicable, consider State road right-of-way width requirements to facilitate future assignment to the State DOT.
4. Rights-of-way priorities: a.) Acquire rights-of-way on existing roads where existing easement language does not cover road location or needed width or length; or no evidence exists that an easement was ever acquired. b.) acquire easements for planned roads.

Identification and treatment of unroaded areas

Unroaded areas are defined in the 2000 Planning Regulations (65 Federal Register, November 9, 2000, 67581) as “any area, without the presence of a classified road, of a size and configuration to protect the inherent characteristics associated with its roadless condition”.

As previously discussed, a new inventory of roadless areas was completed as part of the Revision process. No other “unroaded” areas have been identified on the Forest. However, a number of management prescriptions do have prohibitions on road construction to achieve management objectives for specific areas. These are noted in Chapter 4 of this document.

FUNDING LEVELS

Road funding levels, for both the George Washington and Jefferson National Forests, including maintenance, reconstruction and construction dollars have decreased and then risen over the last 5 years. Projections are that the funding for roads will increase slightly with the possibility that a new program, Public Forest Service Roads, could be started as part of the next Highway Bill. This program if passed by Congress as part of the next Highway Bill in 2003, could mean up to an additional \$1.0 MM dollars on the Forest to restore and improve our more important maintenance level 3, 4 and 5 roads. The Forest submitted a list of approximately 375 miles of these ML 3-5 roads to be included in the Public Forest Service Road program. Included in that list of Public Forest Service Roads were 19 projects totaling about \$37.0 MM. These will be prioritized regionally and funded based on direction and language of the 2003 Highway Bill.

In addition, we have funded several projects with the Forest Highway Program, which has been part of the Highway Bill since the late 1950's. The projects funded include Crabtree Falls parking area, bridge, and accessible trail on the Glenwood/Pedlar District, and Bark Camp Recreation Area access on the Clinch District. Forest roads that we improve using Forest Highway funds are generally turned over to the State, which assumes maintenance responsibility for them. The only exception to this, of the above projects, is Crabtree Falls Recreation area access which remains under Forest Service jurisdiction for maintenance.

We also work with Federal Highway Administration and the Virginia Dept. of Transportation on the Forest Highway program that deals with State Secondary roads. There are 406.4 miles of State Secondary roads on the Jefferson National Forest that are on the Forest Highway inventory. Appendix C contains minutes from the last Public Lands Highway meeting with

VDOT and the Federal Highway Administration. Appendix D contains similar notes from the last WVDOH and FHWA Public Lands Highway meeting. Jefferson National Forest projects planned for funding over the next four years by this program include:

Forest Highway	St Route	County	Project	Cost
FH 526	600	Smyth	Rd Reconst.	\$7.5MM
FH 539	601	Smyth	Road	.2MM
FH 536	622	Smyth	Rd Reconst.	2.6MM
FH 509	653	Scott	Bridge	1.5MM
FH 601	614	Botetourt	Bridges(4)	1.0MM
FH 579	677	Giles	Bridge	.5MM
FH 558	625	Wythe	Bridges(2)	1.0MM

Funding of road maintenance, reconstruction and construction on the GW/Jeff over the last 5 years is as follows:

FY 98	\$2,117,000
FY 99	2,032,000
FY 00	1,757,000
FY 01	2,088,000
FY 02	2,269,000

From 1999 through 2002 the Forest conducted road condition surveys to determine the actual needs (\$) of maintaining the National Forest System roads to standard. Work items were recorded to determine the cost of road maintenance work deferred in previous years due to lack of funding. Finally, road restoration work necessary to bring the roads to the desired objective was identified and documented. Upon analysis of the data collected, it became obvious that the Forest is substantially under-funded for the size of the road system it manages.

Funding Alternatives and Effects of the Current Funding Situation

1. Current funding is not adequate to maintain the existing road system nor address the existing backlog of deferred maintenance.
2. Decommissioning of Level 1 and Level 2 roads to reduce the inventory would not save a significant amount of money as very little road maintenance money is currently expended on roads that are not open to the public.

3. There does not appear to be a significant amount of support to close roads that are currently open to the public. This is true for permanent and seasonally open roads.
4. With State budget shortfalls, the Virginia Department of Transportation will likely be more hesitant to assume maintenance responsibility of roads, even if the roads are upgraded to State road standards. Current State standards are expensive to meet and limited funding is available to reconstruct roads to this standard.
5. The forthcoming public transportation bill could provide some Forest Service funding for higher maintenance level roads and alleviate a portion of the existing deferred maintenance backlog.
6. Roads will continue to deteriorate causing fewer roads to be traversable by passenger car.

***Summary of Needed Funds for Road Maintenance**

Maintenance Level	Total Miles	Annual Maintenance per Mile	Annual Maintenance Total	Deferred Maintenance per Mile	Deferred Maintenance Total	Capital Improvements per Mile	Capital Improvements Total
1	338	\$803	\$271,414	\$2,252	\$761,176	\$1,401	\$473,538
2	1696	\$556	\$942,976	\$2,711	\$4,597,856	\$2,601	\$4,411,296
3	817	\$3,861	\$3,154,437	\$10,536	\$8,607,912	\$3,196	\$2,611,132
4	141	\$4,594	\$647,754	\$12,815	\$1,806,915	\$6,450	\$909,450
5	9	\$229	\$2,061	\$6,696	\$60,264	\$8,639	\$77,751
Totals	3001	\$10,043	\$5,018,642	\$35,010	\$15,834,123	\$22,287	\$8,483,167

***George Washington & Jefferson NF's Included**

These figures do not include \$1,422,751 for the backlog of deferred maintenance on forest bridges and major culverts.

Management Recommendations

1. Review the current operational and objective road maintenance levels of OML 3-5 roads and compare with condition survey results to determine the approximate level of degradation. Associated with this analysis, determine whether any additional OML 3-5 roads can be managed and maintained as OML 2 roads. This could be accomplished through watershed analyses or through project level roads analyses as appropriate.
2. Develop a prioritized list of roads where full rights-of-way do not exist and initiate acquisition of these rights-of-way as funding allows.

3. Develop road maintenance objectives based on current and anticipated funding. The decision on these objectives would be informed by priority analysis. High priority areas should include public safety, reduction of resource damage, and acquisition of rights-of-way.

CHAPTER 7: CRITERIA FOR ADDRESSING ROAD MANAGEMENT ISSUES AND PRIORITIES (STEP 6)

Introduction

Roads analysis below the forest-scale is not automatically required, but may be undertaken at the discretion of the Responsible Official (FSM 7712.13c). The objective of this Chapter is to provide criteria for when a watershed or project scale roads analysis will be needed.

Previous Chapters described our current transportation system, summarized how our roads are currently managed, Forest Plan direction regarding access and transportation needs, and issues related to these subjects. Chapter 6 identified road system opportunities and needs within the context of existing management direction, as well as a discussion regarding the identification and treatment of unroaded areas.

Criteria

Based on the information as presented in this report, consider the need for a watershed or project scale roads analysis within watersheds where classified road construction or reconstruction is proposed when one or more of the following exists:

- Within watersheds where impaired or water quality limited streams exist two miles downstream of the proposal and the source of the problem has been identified as non-point source sediment or other factors which, may be influenced by roads.
- Within watersheds where threatened, endangered or proposed aquatic organisms are known to reside within two miles of National Forest System lands.
- Within Management Prescriptions where open road density exceeds forest plan standards and improvements are possible.
- Within Management Prescriptions 0B, 2C3, 7D, 7E1, 7E2, 8C, 9A1, 9A3, 9A4.