

**Cherokee National Forest
Watauga Ranger District**

**Travel Analysis Process
Report**

Scioto Assessment Area

August 2010

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 and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions.

In January 2001, the agency published the Transportation Final Rule and Administrative Policy authorizing units to use, as appropriate, the road analysis procedure embodied in FS-643 to assist land managers making major road management decisions.

The Federal Register Notice (73 FR 74689) for the **final travel management directives** was published on December 9, 2008. The directives become effective January 8, 2009 (Forest Service Manual (FSM) 7700 – Travel Management). FSM 7703.25 changes the term “roads analysis” to “travel analysis”. Consequently, the terms are changed in this document to reflect the current direction unless there are references from previous documents using the term “roads analysis.”

These directives require that a travel analysis is conducted to inform decisions related to:

- a. Identification of the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System (NFS) lands per 36 CFR 212.5(b)(1).
- b. Designation of roads, trails and areas for motor vehicle use per 36 CFR 212.51.

PROCESS

Travel analysis is a six-step process. The steps are designed to be sequential with the understanding the process may require feedback among steps over time as an analysis matures. The amount of time and effort spent on each step differs by project, based on specific situations and available information. The process provides a set of possible issues and analysis questions for which the answers can inform choices about travel management. Decision makers and analysts determine the relevance of each question, incorporating public participation as deemed necessary.

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

The analysis is an integrated ecological, social, and economical approach to transportation planning that addresses both the existing and future transportation system (USFS,1999a). This analysis follows the process outlined in the document “Roads Analysis: Informing Decisions About Managing The National Forest Transportation System,” (USFS, 1999a). ***This is not a NEPA document***, but rather a site specific NFMA analysis for the Scioto Project Area. This area encompasses approximately 13,406 acres of National Forest ownership within Compartments 308-312, 335-341, 346-348, and 357 on the Watauga Ranger District, Cherokee National Forest, Tennessee. This NFMA analysis defines the existing and desired conditions of the transportation system, and opportunities are identified to move towards the desired condition.

This analysis provides a framework to identify travel related concerns and management opportunities that can be incorporated into subsequent projects being evaluated through the NEPA process. This analysis will assist in the decisions involving transportation systems in the Scioto Assessment Area.

PRODUCTS

The product of an analysis is a report for decision makers and the public that documents the information and analyses used to identify opportunities and set priorities for future national forest travel management. Included in the report is a map displaying the known transportation system for the analysis area, and the needs and opportunities for each road and trail, or segment of road or trail. A complete list of all the maps is included in Step 6. This report will:

- Identify needed and unneeded roads, trails, and areas for motor vehicle use;
- Identify road-associated environmental and public safety risks;
- Identify site-specific priorities and opportunities for transportation system improvements and decommissioning;
- Identify areas of special sensitivity or any unique resource values.

THIS REPORT

This report documents the travel analysis procedure used for the Scioto Assessment Area (wherever analysis area is referenced in this document, it corresponds to the Scioto Assessment Area boundary). This report is a “living” document and reflects the conditions of the analysis area at the time of writing. The document can be updated as the need arises and conditions warrant. Any future updates will be reflected in the title (e.g., version 2.0).

STEP 1 SETTING UP THE ANALYSIS

PURPOSE AND PRODUCTS

The purposes of this step are to:

- Identify the geographic scale or scales for the analysis,
- Develop a process plan for conducting the analysis, and
- Clarify the roles of technical specialists and line officers in the team.

The products of this step are:

- A statement of the objectives of the analysis,
- A list of interdisciplinary team members and participants,
- A list of information needs, and
- A plan for the analysis.

OBJECTIVES OF THE ANALYSIS

This analysis is specific to the project scale; it is being completed for the Scioto Assessment Area. Unless otherwise stated, the boundary for this analysis will match the Scioto Project Area boundary (similar to the 6th field watershed). (See maps in Appendix A.)

This report analyzes the transportation system in the analysis area – including the system, temporary, and unauthorized roads, trails, and areas for motor vehicle use (see Step 2 for definitions). It will describe opportunities and set priorities; and some of these opportunities will be carried forward in the Scioto EA.

INTERDISCIPLINARY TEAM MEMBERS AND PARTICIPANTS

Member	Title	Role for Travel Analysis
Terry Bowerman	District Ranger	
Vern Maddux	NZ NEPA	Scioto Analysis
Gary Watson	Civil Engineering Technician	Analysis Team Leader
Tom Rowe	Forester	Gis Support
Joe McGuinness	Zone Wildlife Biologist	Team Consultant
Marcia Carter	Zone Fisheries Biologist	Team Consultant
Cheryl Summers	District Resource	Team Consultant
Quentin Bass	Forest Archaeologist	Team Consultant
Jason Jennings	Forest Hydrologist	Team Consultant
Delce Dyer	Zone Landscape	Team Consultant

Guy Street	Zone Fire Management	Team Consultant
Jim Stelick	Zone Vegetation	Team Consultant
Scotty Myers	Zone Wildlife	Team Consultant
Bill Woody	Wildlife Technician	Team Consultant
Frank Lege	Special Uses Program	Team Consultant
James Ehrlich	Information Tech Specialist	

Individuals from this Interdisciplinary team were utilized for the analysis as needed. At critical points, Line Officers established sideboards, identified issues, and summarized management recommendations.

The Cherokee National Forest’s Revised Land and Resource Management Plan (RLRMP) and amendments provide the management objectives, baseline information, and standards and guidelines to meet legal requirements. Additional information was obtained through field surveys, knowledge of forest personnel, and database queries. The analysis incorporates the best available scientific information as summarized in the document “Forest Service roads: a synthesis of scientific information” (USFS, 2001). This information was the foundation for determining impacts to different resources and identifying recommended management actions.

A Forest Wide Roads Analysis was completed in December 2002 (CNF RAP 2002). This analysis will tier to that document.

INFORMATION NEEDS

The data currently housed in the geographic information system (GIS) will be the information used for this analysis. Updates will be made as new information becomes available. Extensive GIS maps are needed for the various resource fields and are discussed in Step 2 and displayed in Appendix A.

ANALYSIS PLAN

Review of the document will occur on the Cherokee NF (Forest Service specialists); and, the report will be available for other Forests as well. Once finalized, the document will be available to the public if requested. It will be part of the administrative record for the Scioto EA, for much of the information and many of the opportunities identified may be carried forward in the EA. The Scioto Team conducted the analysis using GIS data, field data, and public involvement. The interdisciplinary (ID) team developed issues related to travel management and reviewed all the questions in Step 4 to determine which were applicable to the analysis area. In Step 5 the team brought together all the resource information and made recommendations and set priorities.

STEP 2 DESCRIBING THE SITUATION

PURPOSE AND PRODUCTS

The purpose of this step is to:

- Describe the existing transportation system in relation to current forest plan direction.

The products of this step are:

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

EXISTING TRANSPORTATION SYSTEM DESCRIPTION

The Scioto study area lands are approximately 50/50 private vs. National Forest System land, and of the transportation system assessed in and near the boundary of this study area, the routes are roads which are under the jurisdiction and maintenance of the other Governments (County, State, etc.) . There are approximately 24 miles of Forest Service jurisdiction roads within the analysis area. Approximately 23 miles of the Forest Service roads are closed to motor vehicle use by the public. These roads are gated, vegetated, and closed seasonally or throughout the year. The remaining 1 mile of road is open to public motor vehicle use. Most of the NFSRs are in fair to good condition, but all have annual routine maintenance needs. Deferred maintenance needs exist for just about all roads.

There is approximately 1 mile(s) of unauthorized roads.

There are no trails or areas for motor vehicle use in this area.

LAND AND RESOURCE MANAGEMENT PLAN EMPHASIS

The Scioto Assessment Area covers approximately 13,406 acres of National Forest Lands. This acreage is contained within Management Area 10 and is allocated into the following Management Prescriptions:

7.D (<1%) - Concentrated Recreation Zone (Developed Recreation Areas). Concentrated recreation zones are managed to provide the public with a variety of recreation opportunities in visually appealing and environmentally healthy settings. Facilities are provided to enhance the quality of the recreational experience and/or to mitigate damage to the affected ecosystems.

7.E.2 (58.8%) - Dispersed Recreation Areas

These areas receive moderate to high recreation use and are managed to provide a variety of dispersed recreation opportunities, improve the settings for outdoor recreation, and enhance

visitor experiences, in a manner that protects and restores the health, diversity, and productivity of the land. They often serve as gateways between the national forest and local communities. Portions of these areas provide a sustained yield of timber products, however timber harvest practices are modified to recognize the recreational and aesthetic values of these suitable lands.

12.B (40.9%) - Remote Backcountry Recreation – Non-motorized

Recreation opportunities are provided in large remote areas where users can obtain a degree of solitude and the environment can be maintained in a near-natural state. There will be little to no evidence of humans or human activities other than recreation use and non-motorized trails.

11 – Riparian Corridors

Within these Prescription areas there are unmapped areas of Prescription Area 11-Riparian Corridors.

DEFINITIONS (36 CFR 212.1)

As mentioned above, the Federal Register published the Final Rule and Administrative Policy December 9, 2008; this established new definitions for travel management on the National Forests. Listed below are the definitions that pertain to this report.

Area. A discrete, specifically delineated space that is smaller, and in most cases much smaller, than a ranger district (36 CFR 212.1).

Designated Road, Trail, or Area. An NFS road, an NFS trail, or an area on NFS lands that is designated for motor vehicle use pursuant to 36 CFR 212.51 on an MVUM (36 CFR 212.1).

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

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

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

Forest Transportation System. The system of NFS roads, NFS trails, and airfields on NFS lands (36 CFR 212.1).

Forest Transportation System Management. Travel planning, analysis, designation of roads, trails and areas for motor vehicle use, recordkeeping, scheduling, construction, reconstruction, maintenance, decommissioning, and other operations undertaken to achieve environmentally sound, safe, and cost-effective access for the use, enjoyment, protection, administration, and management of NFS lands.

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

Jurisdiction Over a Forest Transportation Facility. The legal right to control or regulate use of a forest transportation facility derived from title, an easement, an agreement, or other similar source.

Motor Vehicle. Any vehicle which is self-propelled, other than:

- a. A vehicle operated on rails; and
- b. Any wheelchair or mobility device, including one that is battery-powered, that is designed solely for use by a mobility-impaired person for locomotion and that is suitable for use in an indoor pedestrian area (36 CFR 212.1).

Motor Vehicle Use Map (MVUM). A map reflecting designated roads, trails, and areas on an administrative unit or a ranger district of the NFS (36 CFR 212.1).

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

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

Non-Highway-Legal Vehicle. Any motor vehicle that is not licensed or certified under state law for general operation on all public roads within the state. Operators of non-highway-legal vehicles are subject to state requirements, if any, for licensing and operation of the vehicle in question.

Private Road. A road under private ownership authorized by an easement granted to a private party or a road that provides access pursuant to a reserved or outstanding right.

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

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

Road Construction or Reconstruction. Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road (36 CFR 212.1).

Road Decommissioning. Activities that result in restoration of unneeded roads to a more natural state (FSM 7734).

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

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

Route. A road or trail.

Temporary Road or Trail. A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or a forest trail and that is not included in a forest transportation atlas (36 CFR 212.1).

Trail. A route 50 inches or less in width or a route over 50 inches wide that is identified and managed as a trail (36 CFR 212.1).

Unauthorized Road or Trail. A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas (36 CFR 212.1).

BASIC DATA NEEDS

Basic data needs are listed below for the Scioto Travel Analysis; these were data needed to adequately address the issues. Some of the data are displayed in this report, and other data was used to help answer questions in Step 4, but are located on file at the Nolichucky/Unaka Ranger District.

- GIS layer of existing transportation system.
- INFRA Road Database
- GIS layer of linear and spot wildlife openings
- GIS layer of potential unroaded areas
- GIS layer of NNIP
- Classification of the transportation system by type and level of use, season of use and maintenance needs.
- GIS Layer of RLRMP Management Prescriptions
- Identification of unauthorized routes and garbage dumping sites within the analysis area
- Map of wetlands and streams within the analysis area.
- GIS layer TES species
- The location of the transportation system relative to riparian boundaries and the intersections that influence riparian vegetative communities.
- Wildfire occurrence map
- GIS Layer of Rx burn blocks
- GIS layer of special use permits
- GIS trails layer
- Fish distribution layer and aquatic species database

STEP 3 IDENTIFYING ISSUES

PURPOSE AND PRODUCTS

The purpose of this step is to:

- Identify the key questions and issues affecting travel management, and
- Describe the origin of the issues.

The products of this step are:

- A summary of key travel-related issues, including their origin and basis, presented by general categories of environmental, socio-cultural and economic, and
- A description of the status of current data, including sources, availability, and methods of obtaining information.

ISSUE SUMMARY

The following were identified as issues, by the interdisciplinary team, for this analysis.

Issue 1 – Private Property/Special Use Access

Private property access and special use permit access are issues in this analysis. They are factors in deciding the management of roads in all Management Prescriptions in the Scioto Analysis area. Roads they need for access are retained on the road system.

Issue 2 – Use of roads for wildfire suppression and prescribed burning.

Existing system roads serve an important role in safe and efficient wildfire suppression operations. Timely access for suppression personnel and equipment is dependent upon an adequate road system.

Existing roads often serve as the primary control lines. This allows for suppression with minimal ground disturbance and minimal exposure of personnel to hazards. In addition to wildfire suppression, system roads serve as the primary containment sources for the Zone's Hazardous Fuels Reduction.

Issue 3 – Access for Vegetation Management

Ongoing vegetative treatments exist, as well as proposed vegetation treatments in the Scioto Assessment area. The current road system can access a large majority of the area; however, there may be a need in the future to access stands for silvicultural treatments that currently do not have adequate access. If there was not adequate access for vegetation management then new roads would be proposed. When considering access for vegetation management, the Forest Service analyzes all current roads in the area to minimize any new road construction (e.g., looks at potential for using existing FS roads).

Issue 4 – Access/Use for Wildlife Management

The current road system provides access for wildlife management in the Scioto area. Some roads are maintained as wildlife openings and some access wildlife openings.

STATUS OF CURRENT DATA

The roads in the analysis area are in the GIS system, and their condition/status is current as of the spring of 2008. The road number, name, length, and other data are detailed in Table 1 below.

Field inventories were conducted to locate unauthorized roads in the Scioto Project Area. From this inventory, a grouping of the different types of unauthorized roads was made. The groupings are explained in *Table 4*. There are 3 unauthorized roads of varying lengths to consider.

OR01 – OR3 are existing roads presently being used and will be managed as shown in *Table 4*.

Table1. Sciota Assessment Area Roads - Current Condition February 2009													
ROAD #	BMP	EMP	NAME	ROUTE STATUS	CLOSURE DEVICE	MILEAGE IN WATERS HED	Miles of road within 100' of stream	Status (as defined by Travel Management Rule)	OBJ_ML	JURISDICTION	SURFACE_TYPE	SYSTEM	REMARKS
SYSTEM ROADS:													
313	0	3.41	IRISHMAN BRANCH	EX	Gate	2.98	0.40	Seasonal	2	FS	IMP	NFSR	
313A	0	0.65	IRISHMAN BR. SPUR	EX	TANK	.6	0.02	Closed	1	FS	IMP	NFSR	
340	0	0.2	LIMESTONE REC.NORTH	EX	Gate	0.16		Seasonal	5	FS	BST	NFSR	
359	0	0.25	LITTLE MOUNTAIN	EX	Gate			Open	3	PVT	AGG	NFSR	
359	0.25	0.59	LITTLE MOUNTAIN	EX	Gate		3.27	Open	2	FS	AGG	NFSR	
359	0.59	3.8	LITTLE MOUNTAIN	EX	Gate			Seasonal	2	FS	IMP	NFSR	
359A	0	0.28	LITTLE MTN. SPUR	EX	Gate			Open	2	FS	NAT	NFSR	
359A	0.28	1.49	LITTLE MTN. SPUR	EX	Gate	.92	.06	Closed	1	FS	NAT	NFSR	
362	0	0.06	THE LAURELS REC. AREA	EX	Gate	.12	0.00	Seasonal	5	FS	BST	NFSR	
362A	0	0.05	THE LAURELS REC. AREA	EX	Gate	.08	0.02	Seasonal	5	FS	BST	NFSR	
51	0	0.19	BLEY SPECIAL USE	EX	TANK	.19		Closed	1	FS	NAT	NFSR	
5310	0	1.2	GAP CREEK	EX	Gate	1.2		Closed	2	FS	AGG	NFSR	
53102	0	2.32	JENKINS MOUNTAIN	EX	Gate	2.12		Closed	2	FS	IMP	NFSR	
5311	0	1.14	GUM HOLLOW	EX	Gate	.95	0.10	Closed	2	FS	IMP	NFSR	
53351	0	3.22	PINEY GROVE RT	EX	Gate	3.03	0.68	Seasonal	2	FS	NAT	NFSR	
53352	0	1	PINEY GROVE LT	EX	Gate	1.12	0.42	Closed	2	FS	IMP	NFSR	
53354	0	0.35	EAST STONE MT	EX	Gate	.27	0.03	Closed	1	FS	NAT	NFSR	
5337	0	0.1	DRY CREEK-LYONS RW	EX				Open	3	FS	AGG	NFSR	
5337	0.1	0.59	DRY CREEK-LYONS	EX	Gate	0.59		Closed	1	FS	IMP	NFSR	
533801	0	1.95	POWDER BRANCH	EX	Gate	1.88	0.14	Closed	2	FS	AGG	NFSR	
533802	0	1.2	POWDER BR. SPUR	EX	Gate	1.16		Closed	1	FS	NAT	NFSR	
5340	0	0.18	HONEYCOMB MTN.	EX	Gate	.48	.07	Closed	2	FS	AGG	NFSR	
5340	0.18	0.72	HONEYCOMB MTN.	EX	Gate			Closed	2	FS	NAT	NFSR	
53481	0	0.11	LEDFORD	EX		.11	0.02	Closed	2	PVT	NAT	NFSR	
53571	0	0.12	SCIOTO RIFLE RANGE	EX		.09	0.06	Open	5	FS	AGG	NFSR	
Road #	BMP	EMP	Proposed Name & Number	ROUTE STATUS	CLOSURE DEVICE	MILEAGE IN WATERS HED	Miles of road within 100' of stream	Status (as defined by Travel Management Rule)	OBJ_ML	JURISDICTION	SURFACE_TYPE	SYSTEM	REMARKS
UNAUTHORIZED ROADS:													
OR01	0	0.74	Irishman Branch Spur B #313B	EX					2	FS	IMP	NFSR	
OR02	0	0.10	Gaddy R.O.W.- A #53482	EX					2	PVT	NAT	NFSR	
OR03	0	0.15	Gaddy R.O.W.-B #53483	EX					2	PVT	IMP	NFSR	
COUNTY & STATE ROADS:													
TN107	0	78.62	TN107	EX			0.19		5	S	BST	SH	
TN173	0	11.68	LIMESTONE-SIMERLY	EX		9.71			5	S	BST	SH	
TN36	0	12.82	TN36	EX		.11			5	S	BST	SH	
TN361	0	8.88	THREE MOUNTAIN	EX		1.13	0.57		5	S	BST	SH	
TN67-1	0	33.62	TN67/US321	EX		.28			5	S	BST	SH	
US19E	0	16.92	ROAN MTN.HWY.	EX		.05			5	S	BST	SH	
TN107-2													
TN107-2													
CH1415	0	5.86	SCIOTO CREEK	EX		1.5	0.54		4	C	BST	C	
CH521	0	0.6	PINEY GROVE	EX					5	C	BST	C	
CH53353	0	0.52	OLD MOUNTAIN RD.	EX		.23			4	C	BST	C	

STEP 4 ASSESSING BENEFITS, PROBLEMS, AND RISK

PURPOSE AND PRODUCTS

The purpose of this step is to:

- Assess the various benefits, problems, and risks of the current transportation system and whether the objectives of Forest Service policy and forest plans are being met.

The products of this step are:

- A synthesis of the benefits, problems, and risks of the current transportation system,
- An assessment of the risks and benefits of entering any unroaded areas, and
- An assessment of the ability of the road system to meet management objectives.

CURRENT TRANSPORTATION SYSTEM BENEFITS, PROBLEMS, AND RISKS

ASSESSMENT OF EFFECTS

To Assess the effects of transportation system in the analysis area, the process described in Step 4 and Appendix 1 in “Roads Analysis: informing decisions about managing the National Forest transportation system” (USFS, 1999a) was used. The ID team discussed the 75 questions for their relevance to this analysis.

Although the questions specifically address the road system, in answering the questions, the transportation system was considered.

Table 2. Documentation for Roads Analysis Process Step 4.

Question Number	Addressed in Analysis?	Rationale For Questions Not Addressed
EF (1)	Yes	
EF (2)	Yes	
EF (3)	Yes	
EF (4)	Yes	
EF (5)	Yes	
AQ (1)	Yes	
AQ (2)	Yes	
AQ (3)	Yes	
AQ (4)	Yes	
AQ (5)	Yes	
AQ (6)	Yes	
AQ (7)	Yes	
AQ (8)	Yes	
AQ (9)	Yes	
AQ (10)	Yes	
AQ (11)	Yes	
AQ (12)	Yes	
AQ (13)	Yes	
AQ (14)	Yes	
TW (1)	Yes	
TW (2)	Yes	
TW (3)	Yes	
TW (4)	Yes	
EC (1)	Yes	
EC (2)	Yes	
EC (3)	Yes	
TM (1)	Yes	
TM (2)	Yes	
TM (3)	Yes	
MM (1)	Yes	
RM (1)	Yes	
WP (1)	Yes	
WP (2)	Yes	
WP (3)	Yes	
SP (1)	Yes	
SU (1)	Yes	
GT (1)	Yes	
GT (2)	Yes	
GT (3)	Yes	
GT (4)	Yes	
AU (1)	Yes	
AU (2)	Yes	
PT (1)	Yes	
PT (2)	Yes	
PT (3)	Yes	
PT (4)	Yes	
UR (1)	Yes	
UR (2)	Yes	
UR (3)	Yes	

Table 2. Documentation for Roads Analysis Process Step 4.

Question Number	Addressed in Analysis?	Rationale For Questions Not Addressed
UR (4)	Yes	
UR (5)	Yes	
RR (1)	Yes	
RR (2)	Yes	
RR (3)	Yes	
RR (4)	Yes	
RR (5)	Yes	
PV (1)	Yes	
PV (2)	Yes	
PV (3)	Yes	
PV (4)	Yes	
SI (1)	Yes	
SI (2)	Yes	
SI (3)	Yes	
SI (4)	Yes	
SI (5)	Yes	
SI (6)	Yes	
SI (7)	Yes	
SI (8)	Yes	
SI (9)	Yes	
SI (10)	Yes	
CR (1)	No	Addressed in Forest RAP

Ecosystem Functions and Processes (EF)

EF (1): What ecological attributes, particularly those unique to the region, would be affected by roading of currently unroaded areas?

There are no proposed roads in unroaded areas.

EF (2): To what degree do the presence, type, and location of roads increase the introduction and spread of exotic plant and animal species, insects, diseases, and parasites? What are the potential effects of such introductions to plant and animal species and ecosystem function in the area?

Exotic plants represent the greatest threats. Any additional permanent roads would provide opportunities for existing exotic plants to spread. Most existing exotics in the area are associated with disturbance. Exotic plants along roads in the Scioto area include tree of heaven, Nepal grass, lespedeza, white sweet clover, crown vetch, Queen Anne’s lace, Japanese honeysuckle, multiflora rose, Japanese knotweed, and bull thistle.

EF (3): To what degree do the presence, type, and location of roads contribute to the control of insects, diseases, and parasites? EF (4): How does the road system affect ecological disturbance regimes in the area?

Timber management roads provide avenues for needed ecological disturbance in order to promote forest health and improve wildlife habitat. Historically, roads have not increased the incidence of arson fires, but are used as fire control lines. This results in fire patterns being governed by the location of roads. Roads could also be used for insect and disease control.

EF (5): What are the adverse effects of noise caused by developing, using, and maintaining roads?

This is not considered a significant issue and was not raised during scoping. Within the analysis area the majority of traffic stems from private vehicles using the open road system for recreational ventures. Heavy truck traffic is minimal and occurs mostly in conjunction with vegetation management and road maintenance. There are no communities within the analysis area that would be affected by noise from the road system.

Aquatic, Riparian Zone, and Water Quality (AQ)

AQ (1): How and where does the road system modify the surface and subsurface hydrology of the area?

The roads have three primary effects on hydrologic processes. They intercept rainfall directly on the road surface and cut banks, and intercept subsurface water moving down the hillslope; they concentrate flow, either on the surface or in an adjacent ditch or channel; and they divert or re-route water flow from paths that it would otherwise take if the road were not present. Roads can affect peak streamflows depending upon the size of the watershed involved. In extreme cases they can capture or re-route water, dewatering a small stream. As a general rule, however, roads extend the drainage network of a watershed and result in quicker flood peaks. In the Scioto Project Area, roads constitute a small proportion of the land surface and have relatively insignificant effects on peak flow. Roads do not appear to alter annual water yields within the watershed.

AQ (2): How and where does the road system generate surface erosion?

By their nature, all native or aggregate surfaced roads will generate some surface erosion. The amount depends on factors such as soil type, road surface type, road gradient, road prism, the spacing and effectiveness of drainage structures, traffic use, and maintenance activity. Sandy textured soils in the project area are particularly prone to water erosion when exposed to disturbance on moderate to steep slopes. The extent of surface erosion occurring on road cutbanks depends on the steepness, slope length, soil type, and vegetative cover. Road ditches concentrate water flow which generates surface erosion and also increase sediment delivery to streams from road surfaces and road cutbanks. Ditches and culverts that are blocked create surface erosion issues by diverting water flow onto road surfaces. Roads open to public use provide a continual opportunity for surface erosion, but effective mitigation described in AQ1 will limit surface erosion. Any road opened and used for commercial use (such as logging traffic), would result in an increased potential for surface erosion, but reconstruction or maintenance activities

associated with this kind of use would mitigate erosion during use and result in a road with less erosion potential after its use. Surface erosion would also be a concern on any newly constructed permanent or temporary road until the road is closed and re-vegetated or otherwise stabilized with mitigation measures.

AQ (3): How and where does the road system affect mass wasting?

Mass wasting is generally not a problem in the analysis area. Fill slope failure is primarily related to areas where concentrated surface water is turned off of roadbeds at relief culverts and turnouts or where uncontrolled surface drainage spills over fill slopes. Inadequate sized culverts or plugged culverts may blowout during high flow periods and initiate soil slides. Proper sizing and location of drainage culverts can reduce this potential, as well as, armoring the outfall areas associated with drainage structures, as needed. Road cutbanks propose a problem in steep areas where soils are coarse in texture, shallow, and where unstable colluvium material occurs.

Mass wasting has occurred along the fill slope of FSR 313.

AQ (4): How and where do road-stream crossings influence local stream channels and water quality?

There is an estimation of 41 stream crossings found within the analysis area. This estimation is based partially on field survey and partially on evaluation of maps and other information. These crossings represent direct interaction of roads and streams and serve as a primary conduit for road-related erosion and storm drainage to reach streams. Road-stream crossings can physically change the alignment of stream channels for short distances. Long-term contributions of sediment into streams can result in geomorphic changes to channel alignment and substrate condition. Increases in storm runoff associated with roads can also result in channel alignment and substrate changes such as downcutting.

In most cases culverts have more of an influence on stream channels and water quality than do bridges or bottomless culverts. Culverts concentrate and accelerate water flow causing soil displacement to occur at the outfalls and cause stream banks to undercut. Over time the stream channel adjusts to the change in flow by becoming deeper and/or wider for a short distance below the culvert. Piping occurring under or around culverts is usually a minor source of sediment; however, high sediment loading can occur from a culvert blowout due to piping. Blowouts can also occur from plugged culverts. Road surfacing, eroded materials and pollutants are usually deposited into streams by ditches that empty directly into streams at road-stream crossings.

Bank erosion is occurring on Dry Creek below the lower bridge at the Laurels.

AQ (5): How and where does the road system create potential for pollutants, such as chemical spills, oils, deicing salts, or herbicides, to enter surface waters?

A variety of road jurisdictions and surface types occur within the analysis area. These

vary from native-surface woods roads to large Federal highways. Chemical pollutants such as accidental spills, oils, deicing salts and herbicides are more likely to be associated with paved county, state and federal roads than the typical aggregate surface Forest Service road. On national forest lands within this analysis area there is little concern that roads may contribute to chemical pollution of streams.

A portion of State Highway 107 is located adjacent to North Indian Creek, and State Highway 361 is located along a portion of Dry Creek. Gap Creek road (county road) is adjacent to Gap Creek.

AQ (6): How and where is the road system "hydrologically connected" to the stream system? How do the connections affect water quality and quantity (such as the delivery of sediments and chemicals, thermal increases, elevated peak flows)?

The road system is connected to streams at stream crossings, roadside ditches that empty directly into streams, drainage turnouts, and at some locations, by road surfaces that lie adjacent to streams and direct runoff and sediment from roadbed/fill surfaces to streams. Stream crossings and insloped roads with drainage ditches are the principle means of hydrologic connectivity within the analysis area. Hydrologic connectivity can result in an increase in the density of streams in the landscape, and as a consequence, change the amount of time required for water to enter a stream channel (Gucinski et. al, 2000). This hydrologic change can alter the timing of peakflows and can alter the shape of a watershed's hydrograph. Based on studies of small watersheds, however, the effect of roads on peak flow is detectable but relatively modest for most storms (Gusinski et. al, 2000). The primary consideration (on national forest lands) of hydrologic connectivity on water quality is the input and transport of sediment (See AQ (1) and AQ (4)

AQ (7): What downstream beneficial uses of water exist in the area? What changes in uses and demand are expected over time? How are they affected or put at risk by road-derived pollutants?

The analysis area is a portion of the French Broad River basin, which includes North Indian Creek, Dry Creek, and Gap Creek. North Indian Creek supports wild trout fisheries, and provides fishing opportunities for regional and local residents. Designated uses also include domestic water supply, industrial water supply, fish and aquatic life, livestock watering and wildlife, irrigation source, and recreation. Use classifications for Dry Creek and Gap Creek include fish and aquatic life, recreation, livestock watering and wildlife, and irrigation (TDEC 2007). The demand for industrial and domestic water supply should increase.

AQ (8): How and where does the road system affect wetlands?

There are no known locations where the road system is affecting wetland conditions or function.

AQ (9): How does the road system alter physical channel dynamics, including isolation of floodplains, constraints on channel migration, and the movement of large wood, fine organic matter, and sediment?

The road system can alter physical channel dynamics by increasing runoff and sediment delivery to affected streams. Sediment entering streams can reduce pool depths and contribute to changes in channel substrate (i.e. embeddedness). Stream crossings can retard or prohibit the movement of large woody debris, fine organic matter and sediment. Areas located within the riparian corridor tend to isolate the floodplain associated with streams and impede or prevent natural channel migration.

AQ (10): How and where does the road system restrict the migration and movement of aquatic organisms? What aquatic species (i.e. fish and amphibians) are affected and to what extent?

The road system in the Scioto project area does not restrict the movement of any aquatic organisms.

AQ (11): How does the road system affect shading, litterfall, and riparian plant communities?

A portion of Gap Creek Road is within 50 feet of Gap Creek, but the riparian area is intact and does not affect these features. Scioto Road follows Scioto Creek, reducing the amount of shading and interfering with riparian plant communities, but Scioto Creek does not flow year round, particularly in the summer when shading would be an issue.

AQ (12): How and where does the road system contribute to fishing, poaching, or direct habitat loss for at-risk species?

State Highway 107 contributes to the ease of public fishing for trout in North Indian Creek. Access for fishing provides opportunities for poaching, but the road system does not necessarily increase poaching of fish. Direct habitat loss for at-risk species from the road system is unlikely.

AQ (13): How and where does the road system facilitate the introduction of non-native aquatic species?

No concerns

AQ (14): To what extent does the road system overlap with areas of exceptionally high aquatic diversity or productivity or areas containing rare or unique aquatic species or species of interest?

No streams with exceptionally high diversity or productivity occur in the watershed. No rare or unique aquatic species occur.

Terrestrial Wildlife (TW) Marcia TW1 – TW4

TW (1): What are the direct effects of the road system on terrestrial species habitat?

For smaller species of wildlife; such as salamanders, and invertebrates, open roads can act as barriers to movement. However, road banks also can provide habitat for these types of wildlife, particularly for some salamanders. Night time surveys along forest

roads have revealed a considerable amount of salamanders in burrows along road banks.

Roads are often associated with human disturbance. Species such as bear, bobcat, and turkeys tend to avoid these areas, during periods of human activity. However, closed roads are utilized as travel routes and hunting and foraging areas. Seeded roads are highly sought after in early spring as these are the first to green up. Use by deer and bear has been documented on Little Mountain Road. Water that collects in road ruts is utilized by bats, frogs, salamanders, and other wildlife species. Bat surveys along Little Mountain road have documented this use in the Scioto area.

TW (2): How does the road system facilitate human activities that affect habitat?

The road system allows access for habitat management activities (timber harvest, prescribed burning, wildlife opening maintenance). It also serves as sites for illegal activities, such as garbage dumping, take-off places for off-road driving, creating unauthorized roads, and creating new dispersed campsites.

TW (3): How does the road system affect legal and illegal human activities (including trapping, hunting, poaching, harassment, road kill, or illegal kill levels)? What are the effects on wildlife species?

Roads provide means for humans to disperse throughout the area easily. Road systems allow for greater utilization of the area for both legal and illegal activities. The greatest impacts to wildlife are from increased human disturbance.

TW (4): How does the road system directly affect unique communities or special features in the area?

No rare communities in the watershed are negatively impacted by roads. The Diana fritillary (Sensitive) can often be found feeding along road corridors where flowering plants are abundant. Eastern small-footed bats (Sensitive) utilize the road corridors. Road corridors provide habitat for viability concern plant species *Lycopodium clavatum* and *Eupatorium steelii*.

Economics (EC)

EC (1): How does the road system affect the agency's direct costs and revenues? What, if any, changes in the road system will increase net revenue to the agency by reducing cost, increasing revenue, or both?

COSTS/REVENUES

Direct costs to the agency include road maintenance costs due to motor vehicle use and any needed restoration or protection costs to stabilize roads near resources such as streams.

Road maintenance costs fit into two categories:

- **Annual Maintenance.** Work performed to maintain serviceability, or repair failures during the year in which they occur. Includes preventive and/or cyclic maintenance performed in the year in which it is scheduled to occur. Unscheduled or catastrophic failures of components or assets may need to be repaired as a part of annual maintenance.

This amount will vary depending on the road’s operational maintenance level which is the maintenance level currently assigned to a road considering today’s needs, road condition, budget constraints, and environmental concerns. It defines the level to which the road is currently being maintained.

- **Deferred Maintenance.** Maintenance that was not performed when it should have been or when it was scheduled and which, therefore, was put off or delayed for a future period. When allowed to accumulate without limits or consideration of useful life, deferred maintenance leads to deterioration of performance, increased costs to repair, and decrease in asset value. Deferred maintenance needs may be categorized as critical or noncritical at any point in time. Continued deferral of noncritical maintenance will normally result in an increase in critical deferred maintenance.

A critical need is a requirement that addresses a serious threat to public health or safety, a natural resource, or the ability to carry out the mission of the organization.

The objective maintenance level is the maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, or higher or lower than, the operational maintenance level.

The operational maintenance level is the maintenance level currently assigned to a road considering today’s needs, road condition, budget constraints, and environmental concerns. It defines the level to which the road is currently being maintained.

The following table shows the amount of funding needed for annual and deferred maintenance to maintain the roads to their objective maintenance levels and the actual annual and deferred maintenance expenditures (CMRD) in the study area.

Table 3. Road Work Needed in Sciota Assessment Area														
ROAD #	NAME	LENGTH	OBJ_ML	ANNUAL COSTS	DEFERR ED COSTS	MACHINE GRADE	GRAVEL	DITCH	PAVE	BRUSH	BRIDGE MAINT.	CULVERTS	SURFACE TYPE	REMARKS
SYSTEM ROADS:														
313	IRISHMAN BRANCH	2.98	2	560	13,410					X		X	IMP	
313A	IRISHMAN BR. SPUR	.6	1	113	2,700		X	X					IMP	Decommission
340	LIMESTONE REC.NORTH	0.16	5	1,104	1,552				X	X			BST	
359	LITTLE MOUNTAIN	.25	3	1,725	2,425		X			X		X	AGG	2 trash piles to remove
359	LITTLE MOUNTAIN	.34	2	64	1,530		X	X		X		X	AGG	
359	LITTLE MOUNTAIN	3.02	2	568	13,590		X	X		X		X	IMP	
359A	LITTLE MTN. SPUR	0.28	2	53	1,260		X	X		X		X	NAT	
359A	LITTLE MTN. SPUR	1.21	1	227	5,445			X		X		X	NAT	
362	THE LAURELS REC. AREA	.12	5	828	1,164				X				BST	
362A	THE LAURELS REC. AREA	.08	5	552	776				X				BST	
51	BLEY SPECIAL USE	.19	1	36	855		X	X		X		X	NAT	Change to Powder Br. Spur B.
5310	GAP CREEK	1.2	2	226	5,400		X	X		X		X	AGG	Trash in front of gate
53102	JENKINS MOUNTAIN	2.12	2	399	9,540		X			X		X	IMP	
5311	GUM HOLLOW	.95	2	179	4,275		X			X		X	IMP	
53351	PINEY GROVE RT	2.70	2	508	12,150		X			X		X	NAT	Decommission, 0.33 miles where it enters 12b.
53352	PINEY GROVE LT	1.12	2	211	5,040		X			X		X	IMP	Has ATV Traffic on it
53354	EAST STONE MT	.27	1	51	1,215					X			NAT	
5337	DRY CREEK-LYONS R/W	0.10	3	690	970			X	X			X	AGG	
5337	DRY CREEK-LYONS	0.59	1	111	2,655		X			X		X	AGG	Add to system
533801	POWDER BRANCH	1.88	2	353	8,460		X			X		X	AGG	
533802	POWDER BR. SPUR	1.16	1	218	5,220							X	NAT	
5340	HONEYCOMB MTN.	0.18	2	34	810		X	X		X		X	AGG	
5340	HONEYCOMB MTN.	.48	2	90	2,160								NAT	
53481	LEDFORD	.11	2	21	495							X	NAT	Ex. R.O.W.
53571	SCIOTO RIFLE RANGE	.09	5	621	873	X	X		X	X			AGG	
UNAUTHORIZED ROADS:														
ROAD #	PROPOSED NAME NUMBER	LENGTH	OBJ_ML	ANNUAL COSTS	DEFERR ED COSTS	MACHINE GRADE	GRAVEL	DITCH	PAVE	BRUSH	BRIDGE MAINT.	CULVERTS	SURFACE TYPE	REMARKS
OR01	Irishman Branch Spur B #313B	0.74	2	139	3,330					X				Add to System
OR02	Gaddy R.O.W.- A #53482	0.10	2	19	450		X	X		X				Add to System Ex R.O.W.
OR03	Gaddy R.O.W.-B #53483	0.15	2	28	675		X			X				Add to System Ex R.O.W.

Expenditures have decreased due to decreased funding. It is hard to predict future funding, but the trend in recent years is a decrease in road maintenance funding.

The need to provide forest visitors with safe and environmentally friendly roads seems to have become an important issue to many legislators. This concern may reverse the recent downward trend.

When funding is below the amount needed, priorities are set concerning which roads will have which maintenance activities (grading, brushing, gravel, etc.) performed.

Consideration is given to changing the objective maintenance level if a reduction in funds continues, e.g. maintenance level 3 (suitable for passenger car) is changed to maintenance level 2 (high clearance vehicles). Also, funds other than those specifically designated for road maintenance (CMRD) are often available for road maintenance. These include K-V Trust Fund - Special Legislation (CWK2), 10% Roads and Trails for States Fund (TRTR), Vegetation Management (NFVW), Wildlife Management (NFWF), Recreation Fee Revenue Program (FDFD), road maintenance deposits from timber purchasers, road permits that require the user to perform maintenance, and road legacy funds.

The road system provides for potential revenues to the agency in the following ways:

- Timber sales
- Recreation use fees
- Fees for special use and road use permits:

Presently, direct costs exceed direct revenues, but many resource management targets could not be met or would cost more to accomplish without the current road system, so reducing the number of roads and/or reducing the amount of maintenance on roads could result in a net decrease in revenue. For example, roads that provide access to areas for prescribed burns which are needed to reduce hazardous fuels.

CHANGES

Changes to the road system that could increase net revenue:

- Manage the suitable timber base that can be accessed by existing roads and/or new roads that are low cost and would not harm resources. Any new classified roads would likely have an objective maintenance level of 1 or 2 which reduce the long-term funding needs. New roads would be built to reduce annual maintenance costs. This would be done by the construction features including broad-based dips and the stabilization of the roadbed with gravel or vegetation. Some of the costs associated with this include planning, design, and contract administration. The forest would collect road maintenance deposits from the purchasers and/or the purchaser would perform the necessary maintenance on roads not open to the public. It could also provide an opportunity to perform deferred maintenance work on roads open to the public if the work is also needed to accommodate log trucks. Such work would be done so that long-term impacts of a road to adjacent resources are reduced.

- Close roads to motor vehicle use by the public. This could require the following costs: planning, enforcement, and mitigating unacceptable environmental effects such as sedimentation from roads adjacent to streams. Possible consequences of closure: decreases in revenues from commodities such as timber (if road is no longer used to access timber), recreation fees, and other services such as special-use permits. Reduced maintenance costs and reductions in costs to mitigate unacceptable environmental effects would likely increase in net revenues. Some roads were built prior to FS ownership and were considered “public” access with an established historical use. Changes that prevent the public from using roads that they feel they have a “right” to use could increase costs to the agency due to the need for enforcement of the closure and an increase in the amount of time spent responding to complaints.
- Decommissioning is the demolition, dismantling, removal, obliteration and/or disposal of a deteriorated or otherwise unneeded road, including necessary cleanup work. Decommissioning would be done so that the road no longer needs maintenance. Costs include planning, monitoring, repairing or mitigating any unacceptable impacts to resources, and the actual decommissioning work. Possible consequences include decreases in revenues from commodities such as timber, recreation fees, and other services such as special-use permits. This work would reduce maintenance costs and reduce costs to mitigate any unacceptable impacts to resources. This work could make some areas harder to access for resource management which could increase costs.
- Encourage individuals who use Forest Service roads to access private land to form homeowner associations and/or to approach the county road department to maintain those roads. This would reduce the agency’s road maintenance cost.
- Maintain some or all of the maintenance level 3 or 4 roads as maintenance level 2 roads. The maintenance level 3 and 4 roads in this area are:

ROAD NAME	ROAD NO.
Little Mountain Road	#359
Dry Creek-Lyons R/W	#5337
Scioto Rifle Range	# 53571

EC (2): How does the road system affect priced and non-priced consequences included in economic efficiency analysis used to assess net benefits to society?

The management of the road system involves decisions to build new roads, reconstruct roads, perform maintenance on some roads and not others, decommission roads, or temporarily close them if they are no longer needed or are causing resource damage.

Construction of new roads, although improving access to the area (a benefit to some), may diminish the desired natural and remote character associated with the area and would reduce its passive use value to some visitors.

Passive use values include features society values simply because they exist without actually using them or they expect them to be preserved for others to use and enjoy (a scenic landscape, wilderness, or an endangered plant or animal). They are also features valued for preservation (cultural resources and historic sites).

Decommissioning and/or closing roads may be necessary to meet budget and funding constraints or to prevent resource damage, but may diminish access to areas that are important to certain users of forest resources. People with a strong attachment to a place, activity, or road may consider it a loss in value unless they are willing and able to find, and adapt, to substitute experiences.

The road users that contribute the most significant economic benefits are those who visit the area for recreation-related activities such as:

Driving for pleasure

Road #313 and #359 in the Irishman's Branch and Little Mountain area are popular for sightseers.

Hunting

All the roads listed above provide access for hunting.

Shooting Range

Road #53571 accesses the Scioto Shooting Range

Hiking/ Mountain Biking

All roads have the potential for use as hiking and mountain biking routes, but current use is low. A portion of the Overmountain Victory National Historic Trail is being developed in the northern part of the analysis area. This trail will cross FSR #53102, but this road will not be a major access point for this trail. There are no other designated trails in the area.

Fishing

State Highway 107, and FSR #340 at Limestone Cove picnic area provide fishing access to North Indian Creek. There is little other fishing opportunity in the area.

Wildlife viewing

The open roads listed above are used by visitors for this activity throughout the analysis area

Special use areas

There are two powerlines, two waterlines, and 1 telephone line special use permits along the sides of State Highways 107 and 361. There are three springbox permits. None of these require the use of Forest Roads. The TN State Forestry Tool House and the Unicoi County Garbage Convenience Center likewise do not require the use of the Forest Roads. Access to these facilities are from State Highway 107 and 361.

Visiting historical sites/areas

The Overmountain Victory National Historic Trail is the only known historical site in the area. It is discussed above, under Hiking/Mountain Biking

Based on the activities that the road system accommodates, the following consequences are realized:

Priced:

- Sale of commodities such as timber
- Less cost due to convenient access for research, inventory, and monitoring
- Road development and maintenance
- Liability
- Maintenance of trails and recreation-related sites
- Fire suppression
- Resource management
- Control of invasive species
- Mitigation of resource damage from roads

Non-priced:

- Resource protection such as fire suppression, wildlife and watershed management to preserve the “passive” value that the public assigns to natural resources.
- Access to public land and its resources
- Noise and air pollution
- Water quality
- Fish habitat
- Effect of road density on wildlife
- Litter

Typically, the road system increases the value of both priced and non-priced commodities, because without access these items have less value or cost more to obtain. The most notable exception to this is commodities that have an intrinsic value because they are difficult to access, such as a wilderness or areas with low road densities.

The type of experience society desires in the study area and its associated value depends in large part on whether or not there are roads, their density, their condition, and whether or not they are open to motor vehicle use. The consequence may be a net benefit or a cost depending on what value the public assigns to the type of experience they desire.

Road management activities that benefit some members of society by enhancing their quality of life, may negatively impact resources that other members value for their quality of life. These may include impacts to resources such as soil, water, habitat, scenic beauty, or a reduction in value that people assign to an area such as limited accessibility or solitude. Public input is needed to provide information to evaluate the tradeoffs being considered and will help assign “value” to non-priced consequences.

EC (3): How does the road system affect the distribution of benefits and cost among affected people?

The accessibility to resources in the study area is important to the local economy and commerce associated with forest visitors also has an economic influence on Unicoi County and the towns of Unicoi & Hampton TN. Since counties do not collect property taxes on federal land, activities that generate other tax revenue such as sales tax are beneficial to the community.

Forest roads are the primary means of access to forest resources. Changes to the road system and/or in road management can affect long-established access and use patterns, lifestyles, recreation activities, forest resource-related businesses, the collection of forest products, fire suppression, and the distribution of recreational opportunities available to users. These effects can change the distribution benefits and costs for all users.

Construction, maintenance, or decommissioning of roads in the area is not likely to have a significant long-term impact on the economic benefits derived from recreation activities unless there is a significant reduction in the total mileage of roads that provide access for this use.

The road system distributes the following economic benefits to businesses of various sizes as well as individuals:

- Income from the sale of gas, food, lodging, supplies, and souvenirs.
- Employment under Government contracts for:
 - road maintenance
 - control of invasive species
 - vegetation management
 - trail maintenance
 - watershed management
 - fire suppression
 - maintenance of recreation sites

The road system creates different benefits and costs to people who use vehicles for travel within the area than to visitors who travel on foot or by other non-motorized methods. For those who choose non-motorized forms of transportation, the economics of the road system may cost more in terms of aesthetic values, air and noise pollution, and conflicts with motorized vehicle use.

Reduced road mileage and/or maintenance can lead to unbalanced recreation opportunities among users and directly affect the distribution of economic benefits and costs to the region. Closing roads would limit or eliminate access to those who are unable or unwilling to walk long distances and could increase the cost of resource removal, which usually requires mechanized equipment. This could have economic impacts for the local communities, which may depend on convenient access for employment opportunities.

In contrast, improved road access can increase the efficiency and effectiveness of fire-suppression activities, but can also contribute to an increase in the number of human-caused fires in the area. Closing or restricting roads to minimize traffic could be a benefit by reducing fires and keeping the road in a condition that facilitates use by fire fighting equipment.

State and county roads between communities affect how the benefits and costs associated with use of the area are distributed beyond the immediate communities.

As previously stated in EC (2), the type of experiences and their associated values are dependent upon whether or not there are roads, how the roads are managed, and the desires of the user groups or individual. This may be a benefit or a cost depending on what value the public assigns to the type of experience they desire.

Commodity Production - Timber management (TM)

TM (1): How does road spacing and location affect logging system feasibility? TM (2): How does the road system affect managing the suitable timber base and other lands? TM (3): How does the road system affect access to timber stands needing silvicultural treatment?

Transportation planning has been a key component of timber sale planning in this area. Most of the transportation network has been built for and through timber sales so the system serves the timber resource well. Planning has considered future needs as well as immediate sale needs. Timber sales may require the construction of roads, and/or the addition of existing roads, or sections of roads, to the Forest Road System. Overall, there should be no net increase in open road densities.

Commodity Production - Minerals Management (MM)

MM (1): How does the road system affect access to locatable, leaseable, and salable minerals?

There are no locatable, leaseable, or salable mineral claims in the analysis area.

Commodity Production - Range Management (RM)

RM (1): How does the road system affect access to range allotments?

There are no range allotments within the assessment area.

Commodity Production - Water Production (WP)

WP (1): How does the road system affect access, constructing, maintaining, monitoring, and operating water diversions, impoundments, and distribution canals or pipes?

N/A

WP (2): How does road development and use affect water quality in municipal watersheds?

N/A

WP (3): How does the road system affect access to hydroelectric power generation?

N/A

Commodity Production - Special Forest Products (SP)

SP (1): How does the road system affect access for collecting special forest products?

There are a few permits let for rhododendron, grapevine, and firewood. The classified road system is adequate to meet demand for special forest products in this area.

Special-Use Permits (SU)

SU (1): How does this road system affect managing special-use permit sites (concessionaires, communication sites, utility corridors, and so on)?

No effect.

General Public Transportation (GT)

GT (1): How does this road system connect to public roads and provide primary access to communities?

Primary accesses into and out of the analysis area for recreation, F.S. administration, commodity production, and access for private land owners is provided by several County, State or other Federal Hwy's. These roads are open year-round and designed for both passenger cars and trucks. The primary purpose for the National Forest System Roads in the analysis area is to provide access for resource management and recreation.

GT (2): How does the road system connect large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, in holdings, and so on)?

The Forest Service Road system in the analysis area has no effect on the connecting lands in other ownership.

GT (3): How does the road system affect managing roads with shared ownership or with limited jurisdiction (RS 2477, cost-share, prescriptive rights, FLPMA easements, FRTA easements, DOT easements)?

N/A

GT (4): How does the road system address the safety of road users?

The National Forest System Roads in the analysis area are maintained and signed in accordance with their maintenance and traffic service levels and are considered adequate for use under normal operating conditions. Any management activity, which increases use or considerably alters normal traffic use, should be mitigated. Additional road

maintenance may be required to safely accommodate heavier volume.

Administrative Uses (AU)

AU (1): How does the road system affect access needed for research, inventory, and monitoring?

The current road system is more than adequate for these uses. Also, is utilized for bird, bat, salamander, butterfly, snail and botanical surveys.

AU (2): How does the road system affect investigative or enforcement activities?

The road provides opportunities for road blocks, drop-off points, surveillance activities, and patrolling. The existence of the road creates the need for more law enforcement.

Protection (PT)

PT (1): How does the road system affect fuels management? PT (2): How does the road system affect the capacity of the Forest Service and cooperators to suppress wildfires? PT (3): How does the road system affect risk to firefighters and to public safety?

Roads, both classified and unauthorized are often used as firebreaks and control lines for prescribed burns and wildfire control. Using roads as firebreaks can be a particularly effective, efficient and low cost method of addressing the issues of wildfire hazards, and in the management of fuels. Most roads are adequate for firefighting equipment to travel on and some communities are using roads as firebreaks as part of their community planning. Closed and gated classified roads may need minimal dozer work to be utilized for equipment movement; this lessens the risk to firefighters and the public. Roads can also be used by arsonists to set fires.

PT (4): How does the road system contribute to airborne dust emissions resulting in reduced visibility and human health concerns?

Scioto Project Area roads and other open roads do get dusty, but traffic is generally light enough for it not to be a major visibility hazard

Recreation – Unroaded Recreation (UR)

UR (1): Is there now or will there be in the future excess supply or excess demand for unroaded recreation opportunities? UR (2): Is developing new roads into unroaded areas, decommissioning of existing roads, or changing the maintenance of existing roads causing substantial changes in the quantity, quality, or type of unroaded recreation opportunities? UR (3): What are the adverse effects of noise and other disturbance caused by developing, using, and maintaining roads, on the quantity, quality, and type of unroaded recreation opportunities? UR (4): Who participates in unroaded recreation in the areas affected by building, maintaining, and decommissioning roads? UR (5): What are these participants’

attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?

A goal in CNF's RLRMP is to "manage areas to provide 'backcountry' (semi-primitive motorized and non-motorized/remote) recreation experiences that are generally not available on other land ownerships."

The current road system in the Scioto Watershed Study Area includes State Highways, County Road and Forest Service Roads. The Forest Service Road system contains linear (not connecting) roads that provide limited access for Forest Users.

The long narrow watershed area is surrounded by the Interstate Highway and State Highways, thus vehicle traffic from these roads can cause noise disturbance from Forest Visitors seeking solitude. Unaka Mountain Wilderness is close to the Study Area and can provide a substitute for visitors seeking solitude.

Developing new roads in areas currently unroaded will diminish those areas' intrinsic unroaded characteristics. Decommissioning existing roads could increase the unroaded characteristics. Significantly lowering maintenance levels of existing roads (i.e., into non-motorized trails for horses, bicycles, or hiking) would increase the area's non-motorized characteristics. Significantly raising maintenance levels of existing roads would diminish the remote character by potentially bringing more people and vehicles more frequently into the backcountry.

Recreation - Road Related Recreation (RR)

RR (1): Is there now or will there be in the future excess supply or excess demand for roaded recreation opportunities? RR (3): What are the adverse effects of noise and other disturbances caused by building, using, and maintaining roads on the quantity, quality, or type of roaded recreation opportunities? RR (4): Who participates in road-related recreation in the areas affected by road building, changes in road maintenance, or road decommissioning? RR (5): What are these participants attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?

Public land ownership in this area is generally two parallel ridges surrounded by privately-owned and inhabited land. There are no "through" roads or "loop" roads under FS jurisdiction, and few outstanding physical features, so there is limited opportunity for driving the backcountry for pleasure. Visitors using forest roads in this area are mostly local hunters. These lands and the road system do offer an opportunity for remoteness and solitude; and recreation in the form of hunting, in an area very close to densely populated areas and rapidly urbanizing lands. Alternatives to find these opportunities elsewhere are limited due to the increasing population if roads were to be reduced. Increasing the number of roads and/or their current maintenance levels would diminish the backcountry character of existing roads, but would also increase the access and opportunities for hunting and rural experiences for some.

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

dispersed recreation opportunities. Adding new roads in currently unroaded areas would increase access into portions of the backcountry and could provide a roaded yet remote experience for forest users, but would diminish those areas' unroaded characteristics. Decommissioning roads would further restrict the already limited access into the Stone and Little Mountain area.

PASSIVE USE VALUE, SOCIAL ISSUES, CIVIL RIGHTS, AND ENVIRONMENTAL JUSTICE (PV, SI, CR)

PV 1-4, SI 1-10: What are people's perceived needs and values for access? How does road management affect people's dependence on, need for, and desire for access?

The primary social demand for roads in the analysis area is access for hunting adjacent to the road system. The road system is used by all groups of people. Changes in road management including closing or decommissioning of any of the roads would have the same effect on all groups of people including minorities and different cultures.

CR (1): How does the road system, or its management, affect certain groups of people (minority, ethnic, cultural, racial, disabled, and low-income groups)?

Addressed in Forest Wide RAP

ABILITY OF THE TRANSPORTATION SYSTEM TO MEET OBJECTIVES
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To meet the objective of determining needed and unneeded roads (minimum road system), trails, and areas for motor vehicle use, each route segment was examined to determine its uses. These uses are displayed on Table 4 below.

STEP 5 DESCRIBING OPPORTUNITIES AND SETTING PRIORITIES

PURPOSE AND PRODUCTS

The purpose of this step is to:

- compare the current transportation system with what is desirable or acceptable, and
- describe options for modifying the transportation system that would achieve desirable or acceptable conditions.

PROBLEMS AND RISKS POSED BY THE CURRENT ROAD SYSTEM

Overall Priorities for Scioto Assessment Area

The priorities listed below in the table and in the site-specific descriptions are prioritized by resource area. The Team analyzed the individual resource priorities in order to develop larger, overall priorities for the assessment area. These priorities are:

1. Address all High and Medium Forest Service roads identified for Water Quality.
2. Access for Vegetation Management.
3. Close or restrict access in key wildlife habitat areas.
4. Address blocking all High and Medium Illegal OHV.

Road Maintenance Needs

During the course of completing maintenance surveys of the Forest Service roads within this assessment area, a large amount of data was gathered on work that needed to be completed on the FS road system. Maintenance surveys were also completed on existing unauthorized roads that have the potential to be added to the system. These can be identified on Tables 3 & 4 as unauthorized roads with a proposed road number and name shown. The table below and map in Appendix A display the road opportunities for the project area.

OPPORTUNITIES FOR TRAVEL MANAGEMENT

Table 4 summarizes recommendations in response to the issues identified in Step 3 and the questions answered in Step 4. A more detailed narrative follows the table, and priorities are listed above. Maps are included in Appendix A to assist in tracking the recommendations. Each specialist identified recommendations based on how the transportation system affected their resource; therefore, conflicting recommendations may exist between resource areas due to differing needs.

Table 4. Summary of Road Recommendations by Issues (Y or N answers)

ROAD #	BMP	EMP	NAME	WITHIN 100' OF STREAM ?	ROUTE STATUS	CLOSURE DEVICE	OBJ_ML	JURISDICTION	SURFACE TYPE	SYSTEM	MILEAGE IN WATERS HED	Private Access	WildFire Suppression Use	Recreation/Heritage Use	Wildlife / Fish Use	Vegetation Management	Environmental Risk	Recommendation to be considered
SYSTEM ROADS:																		
313	0	3.41	IRISHMAN BRANCH	0.38	EX	Gate	2	FS	IMP	NFSR	2.98		x	x	x	x	M	
313A	0	0.65	IRISHMAN BR. SPUR	0.02	EX	TANK	1	FS	IMP	NFSR	.6		x		x	x	L	Decommission
340	0	0.2	LIMESTONE REC.NORTH		EX	Gate	5	FS	BST	NFSR	0.16			x	x		L	
359	0	0.25	LITTLE MOUNTAIN		EX	Gate	3	FS	AGG	NFSR		x	x		x	x	L	2 trash piles to remove
359	0.25	0.59	LITTLE MOUNTAIN	0.29	EX	Gate	2	FS	AGG	NFSR								
359	0.59	3.8	LITTLE MOUNTAIN		EX		2	FS	AGG	NFSR								
359A	0	0.28	LITTLE MTN. SPUR		EX	Gate	2	FS	NAT	NFSR		x	x		x	x		
359A	0.28	1.49	LITTLE MTN. SPUR	0.06	EX	Gate	1	FS	NAT	NFSR	.92				x			
362	0	0.06	THE LAURELS REC. AREA		EX	Gate	5	FS	BST	NFSR	.12			x				
362A	0	0.05	THE LAURELS REC. AREA	0.02	EX	Gate	5	FS	BST	NFSR	.08							
51	0	0.19	BLEY SPECIAL USE		EX	TANK	1	FS	NAT	P	.19		x			x	M	Change to Powder Br. Spur B
5310	0	1.2	GAP CREEK		EX	Gate	2	FS	AGG	NFSR	1.2		x			x		Trash in front of gate
53102	0	2.32	JENKINS MOUNTAIN		EX	Gate	2	FS	IMP	NFSR	2.12		x	x	x	x		
5311	0	1.14	GUM HOLLOW	0.10	EX	Gate	2	FS	IMP	NFSR	.95		x	x				
53351	0	0.52	PINEY GROVE RT	0.68	EX	Gate	2	FS	NAT	NFSR	3.03		x		x	x		Decommission, 0.33 miles where it enters 12b.
53352	0	1	PINEY GROVE LT	0.42	EX	Gate	2	FS	IMP	NFSR	1.12		x		x	x		Has ATV Traffic on it
53354	0	0.35	EAST STONE MT	0.03	EX	Gate	1	FS	NAT	NFSR	.27		x		x	x		
5337	0	0.1	DRY CREEK-LYONS RW		EX		3	FS	AGG	NFSR		x	x		x	x		
5337	0.1	0.59	DRY CREEK-LYONS	EX	Gate	TANK	1	FS	IMP	NFSR	0.59		x		x	x		Add to system
533801	0	1.95	POWDER BRANCH	0.14	EX	Gate	2	FS	AGG	NFSR	1.88		x		x	x		
533802	0	1.2	POWDER BR. SPUR		EX	Gate	1	FS	NAT	NFSR	1.16		x		x	x		
5340	0	0.18	HONEYCOMB MTN.	0.07	EX	Gate	2	FS	AGG	NFSR			x	?				
5340	0.18	0.72	HONEYCOMB MTN.		EX	Gate	2	FS	NAT	NFSR	.48							
53481	0	0.11	LEDFORD	0.02	EX		2	PVT	NAT	NFSR	.11	x	x					Ex. R.O.W.
53571	0	0.12	SCIOTO RIFLE RANGE	0.06	EX		5	FS	AGG	NFSR	.09							
UNAUTHORIZED ROADS:																		
ROAD #	BMP	EMP	PROPOSED NAME & #	WITHIN 100' OF STREAM ?	ROUTE STATUS	CLOSURE DEVICE	OBJ_ML	JURISDICTION	SURFACE TYPE	SYSTEM	MILEAGE IN WATERS HED	Private Access	WildFire Suppression Use	Recreation/Heritage Use	Wildlife / Fish Use	Vegetation Management	Environmental Risk	Recommendation to be considered
OR01	0	0.738	Irishman Branch Spur B #313B		EX	NONE	2	FS	NAT	NFSR		X	X			X		Add to System
OR02	0	0.10	Gaddy R.O.W.- A #53482		EX	NONE	2	PVT	IMP	NFSR		X	X			X		Add to System Ex R.O.W.
OR03	0	0.15	Gaddy R.O.W.-B #53483		EX	NONE	2	PVT	IMP	NFSR		X	X			X		Add to System Ex R.O.W.

RECOMMENDATIONS

Aquatic, Riparian and Water Quality

Surface drainage can be improved by additional aggregate surfacing, additional drainage dips, cross drain culverts, berms and outsloping. These mitigation measures can reduce the impacts associated with the roads, including effects to surface and subsurface hydrology and erosion/sediment rates.

Create ditch turnouts so that ditchlines do not empty directly into stream channel, repair or replace culverts that are not functioning properly. Monitor the bank erosion on Dry Creek and determine methods for reducing impacts.

Create ditch turnouts so that ditchlines do not empty directly into stream channel. Determine roads where ditchlines may be eliminated and other types of water control structures such as coweeta dips may be use.

NEPA ANALYSIS NEEDS

Many opportunities identified in this report can be incorporated into the Scioto EA process. If there are some opportunities identified that will not be incorporated into the EA, they will require a site-specific NEPA analysis in the future when the decision is made to implement them (activities other than maintenance and administrative decisions).

STEP 6 REPORTING

PURPOSE AND PRODUCTS

The purpose of this step is to:

- report the key findings of the analysis.

The products of this step are:

- a report including maps, analyses, and test documentation of the analysis, and
- maps that show the data and information used in the analysis, and the opportunities identified during the analysis.

REPORT

This report will be reviewed by the Cherokee NF, and shared with other offices in the Forest Service that are also working on travel analysis. This report is available to the public if requested, and will be part of the Scioto project file.

Appendix A

MAPS

All maps used for this report are included in Appendix A.

Map 1 Roads within Scioto Analysis area

Map 2 Roads within 100 feet of Streams

Map 3 Roads recommended for management status changes: potential for decommissioning, added to system, changes in jurisdiction, and changes in open/closed status.

REFERENCES

Gucinski, Hermann; Furniss, Michael J.; Ziemer, Robert R.; Brookes, Martha H. 2001. Forest roads: a synthesis of scientific information. Gen. Tech. Rep. PNWGTR-509. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 103 p.

USFS 1999a: Roads Analysis: informing decisions about managing the National Forest Transportation System. USDA Forest Service Washington Office FS-643, August 1999.

USDA Forest Service. 2004. Revised Land and Resource Management Plan for the Cherokee National Forest. Cleveland, Tennessee.

Cherokee National Forest Roads Analysis Report (CNF RAP) December 2002.

ATTACHMENTS

RMO's

Pertinent Maps

Additional Attachments as needed

Glossary

Scioto Road Grouping

Authorized Roads

NFSR's

Public Roads:

Unauthorized Roads

WL01- WL03 are roads being maintained as linear wildlife openings or are roads to wildlife openings which will be used for other resource management activities in the future. OUT12, are user-created roads. OR01 – OR11 are existing roads presently being used future use explained on tables above.

Unauthorized Roads Legend:

OR: Old Road, Used
OUT: Outlaw Unplanned Road
WL: To Wildlife Opening

Uninventoried roads coming from private land:

These roads will be classified as outlaw unplanned roads and dealt with on a case-by-case basis as they are discovered.

Attachment 2

Road Classifications in Current Use

Functional Class	Traffic Service Level	Maintenance Level
<p>Arterial: Provides service to large land areas. Connects with other arterials or public highways.</p> <p>Collector: Serves smaller land areas than arterials. Connects arterials to local roads or terminal facilities.</p> <p>Local: Single purpose road. Connects terminal facilities with collectors or arterials.</p>	<p>A: Free flowing, mixed traffic; stable, smooth surface; provides safe service to all traffic.</p> <p>B: Congested during heavy traffic, slower speeds and periodic dust; accommodates any legal-size load or vehicle.</p> <p>C: Interrupted traffic flow, limited passing facilities, may not accommodate some vehicles. Low design speeds. Unstable surface under certain traffic or weather.</p> <p>D: Traffic flow is slow and may be blocked by management activities. Two-way traffic is difficult, backing may be required. Rough and irregular surface. Accommodates high clearance vehicles. Single purpose facility.</p>	<p>Level 1 Closed more than 1 year.</p> <p>Level 2 High-clearance vehicles.</p> <p>Level 3 Passenger vehicles— surface not smooth.</p> <p>Level 4 Passenger vehicles— smooth surface.</p> <p>Level 5 Passenger vehicles—dust free; possibly paved.</p>

Road Management Objectives are to:

- Establish the specific intended purpose of a road based on management needs as determined through land and resource management planning;
- Contain operation and maintenance criteria for existing roads; and
- Contain design criteria and operation and maintenance criteria for new roads.

Road Management Objectives (RMO's)

RECOMMENDED BY: Gary Watson

Date: February 2009

APPROVED BY: _____

DATE: February 2009

ROAD MANAGEMENT OBJECTIVE
Cherokee National Forest
D1
313A, 359A, 53354, 5337, 533802

Intended Purpose of Road

The purpose of this road is to provide access for various resource activities on an intermittent basis. There currently is no management activity that requires vehicular access. The road is physically blocked to prevent all vehicular traffic. It will be opened when there is a management need for vehicular traffic. A different Road Management Objective will be in effect during the period of use.

Design, Operation and Maintenance Criteria

Traffic Service Level	D
Maintenance Level	1
Functional Classification	Local
Traffic Volume	Zero
Traffic Classification	Timber 0%, Recreation 0%, Administrative 0%
Traffic Management	Closed to all vehicular traffic
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils
Design Vehicle	
•For curve widening	•Depends on next management activity
•For surfacing	•Same
•For grade	•Same
•For travel way width	•Same
•For sight distance	•Pickup/SUV
Critical Vehicle	Depends on next management activity
Subject to Highway Safety Act	No

Design, Operation and Maintenance Standards

Width	10-15 feet
Turnouts	Not necessarily intervisible
Surfacing	May have been spot surfaced; currently grassed or trees growing
ADT	0
Design Speed	5 mph
Highway Safety Act	Does not apply
Maintenance Level 1 requirements	<ul style="list-style-type: none"> •Do annual inspection (condition survey) •Repair only where damage is occurring to adjacent resources •Allow grass, brush to grow up

Recommended: Gary Watson	Date: February 2009
Approved: _____	District Ranger Date: _____

ROAD MANAGEMENT OBJECTIVE
Cherokee National Forest
D2-HC

Intended Purpose of Road

The purpose of this road is to provide access for the recreation use of 4WD and high clearance vehicles.

Design, Operation and Maintenance Criteria

Traffic Service Level	D
Maintenance Level	2
Functional Classification	Local
Traffic Volume	Low
Traffic Classification	Timber 0%, Recreation 100%, Administrative 0%
Traffic Management	Limited to 4WD/high clearance vehicles
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils
Design Vehicle	
•For curve widening	•N/A
•For surfacing	•Same
•For grade	•Same
•For travel way width	•Same
•For sight distance	•Same
Critical Vehicle	N/A
Subject to Highway Safety Act	No

Design, Operation and Maintenance Standards

Width	10-15 feet
Turnouts	Not necessarily intervisible
Surfacing	May have been spot surfaced; currently probably native
ADT	Low
Design Speed	5 mph
Highway Safety Act	Does not apply
Maintenance Level 2 requirements	<ul style="list-style-type: none"> •Do annual inspection (condition survey) •Repair where damage is occurring to adjacent resources •No scheduled blading, drainage, surfacing work •Clear out blowdown as needed for access and mow every 5 years

Recommended:	Date:
Approved: Ranger	District Date:

ROAD MANAGEMENT OBJECTIVE
Cherokee National Forest
D2-WL
533802

Intended Purpose of Road

The purpose of this road is to provide access for various resource activities on an as-needed basis. In the meantime it serves as a linear wildlife opening. Public traffic is restricted by means of a gate or similar device and access is limited to administrative traffic including contract wildlife maintenance traffic.

Design, Operation and Maintenance Criteria

Traffic Service Level	D
Maintenance Level	2
Functional Classification	Local
Traffic Volume	Low
Traffic Classification	Timber 0%, Recreation 0%, Administrative 100%
Traffic Management	Limited to administrative traffic
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils
Design Vehicle •For curve widening •For surfacing •For grade •For travel way width •For sight distance	•Depends on next management activity •Same •Same •Same •Pickup/SUV
Critical Vehicle	Depends on next management activity
Subject to Highway Safety Act	No

Design, Operation and Maintenance Standards

Width	10-15 feet
Turnouts	Not necessarily intervisible
Surfacing	May have been spot surfaced; currently grassed - wildlife mixture
ADT	Low
Design Speed	5 mph
Highway Safety Act	Does not apply
Maintenance Level 2 requirements	•Do annual inspection (condition survey) •Repair where damage is occurring to adjacent resources •No scheduled blading or drainage work •Clear out blowdown as needed for access and mow annually

Recommended:		Date:
Approved: Ranger	District	Date:

ROAD MANAGEMENT OBJECTIVE

Cherokee National Forest

D2-FS

313, 359, 359A, 51, 5310, 53102, 5311, 53351, 53352, 533801, 5340

Intended Purpose of Road	
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The purpose of this road is to provide access for various resource activities on an as-needed basis. Public traffic is restricted by means of a gate or similar device and access is limited to administrative traffic including Forest Service, Special Use/Road Easement or other authorized traffic. Road may be open seasonally during certain hunting seasons.

Design, Operation and Maintenance Criteria	
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Traffic Service Level	D
Maintenance Level	2
Functional Classification	Local
Traffic Volume	Low
Traffic Classification	Timber 0%, Recreation low%, Administrative high%
Traffic Management	Limited to administrative traffic (FS, SU, etc.)
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils
Design Vehicle •For curve widening •For surfacing •For grade •For travel way width •For sight distance	<ul style="list-style-type: none"> •Depends on next management activity •Same •Same •Same •Pickup/SUV
Critical Vehicle	Depends on next management activity
Subject to Highway Safety Act	No

Design, Operation and Maintenance Standards	
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Width	10-15 feet
Turnouts	Not necessarily intervisible
Surfacing	May have been spot surfaced; could be grassed or other vegetation
ADT	Low
Design Speed	5 mph
Highway Safety Act	Does not apply
Maintenance Level 2 requirements	<ul style="list-style-type: none"> •Do annual inspection (condition survey) •Repair where damage is occurring to adjacent resources •No scheduled blading or drainage work •Clear out blowdown as needed for access and mow every three years

Recommended:	Date:
Approved: Ranger	District Date:

ROAD MANAGEMENT OBJECTIVE
Cherokee National Forest
C3
359, 5337

Intended Purpose of Road
The purpose of this road is to provide access for various resource activities . The road is open to public traffic in standard 4-wheel passenger cars and, thus, is subject to the Highway Safety Act. Road may be closed seasonally or for periods of freeze-thaw conditions.

Design, Operation and Maintenance Criteria

Traffic Service Level	C
Maintenance Level	3 (or 4)
Functional Classification	Collector
Traffic Volume	Moderate - High
Traffic Classification	Timber Moderate%, Recreation high%, Administrative low%
Traffic Management	Open to all legal traffic (commercial traffic by permit only)
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils
Design Vehicle	<ul style="list-style-type: none"> •Generally tractor trailer
<ul style="list-style-type: none"> •For curve widening •For surfacing •For grade •For travel way width •For sight distance 	<ul style="list-style-type: none"> •Same •Same •Same •Pickup/SUV
Critical Vehicle	Low boy
Subject to Highway Safety Act	Yes

Design, Operation and Maintenance Standards
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Width	12 - 16 feet plus curve widening
Turnouts	Intervisible
Surfacing	Fully surfaced with approximately 4 inches crushed aggregate
ADT	Moderate - High
Design Speed	10 - 15 mph
Highway Safety Act	Signed to meet MUTCD
Maintenance Level 3 requirements	<ul style="list-style-type: none"> •Do annual inspection (condition survey) •Make repairs as soon as need is recognized •Scheduled blading 2 times per year; dips and/or ditches/culvert inlets cleaned once per year •Clear out blowdown as it occurs and mow every year to maintain safe sight distance •Maintain 4 inches of crushed aggregate •Maintain signs and other safety considerations

Recommended:	Date:
Approved: Ranger	District Date:

ROAD MANAGEMENT OBJECTIVE

Cherokee National Forest

B4

Intended Purpose of Road	
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The purpose of this road is to provide access for various resource activities . The road is open to public traffic in standard 4-wheel passenger cars and, thus, is subject to the Highway Safety Act. User convenience is more of a concern than for TSL C roads. Road may be closed seasonally or for periods of freeze-thaw conditions.

Design, Operation and Maintenance Criteria	
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Traffic Service Level	B
Maintenance Level	4 (or 5)
Functional Classification	Collector (or local)
Traffic Volume	Moderate - High
Traffic Classification	Timber Low%, Recreation high%, Administrative low%
Traffic Management	Open to all legal traffic (commercial traffic by permit only)
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils
Design Vehicle •For curve widening •For surfacing •For grade •For travel way width •For sight distance	<ul style="list-style-type: none"> •Generally tractor trailer •Same •Same •Same •Pickup/SUV
Critical Vehicle	Low boy
Subject to Highway Safety Act	Yes

Design, Operation and Maintenance Standards	
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Width	Generally 16 - 18 feet plus curve widening
Turnouts	Intervisible, if needed
Surfacing	Fully surfaced - approximately 6 inches crushed aggregate (or paved)
ADT	Moderate - High
Design Speed	10 - 15 mph
Highway Safety Act	Signed to meet MUTCD
Maintenance Level 4 requirements	<ul style="list-style-type: none"> •Do annual inspection (condition survey) •Make repairs as soon as need is recognized •Scheduled blading 3 times per year (or pavement repair as needed); ditches/culvert inlets cleaned annually •Clear out blowdown as it occurs and mow every year to maintain safe sight distance •Maintain 6 inches of crushed aggregate (or repave on a 10-12 year cycle) •Maintain signs and other safety considerations

Recommended:	Date:
Approved: Ranger	District Date:

ROAD MANAGEMENT OBJECTIVE
Cherokee National Forest
A5
340, 362, 362A, 53571

Intended Purpose of Road
The purpose of this road is to provide access for various resource activities . The road is open to public traffic in standard 4-wheel passenger cars and, thus, is subject to the Highway Safety Act. User convenience is more of a concern than for TSL C roads. Usually paved. Road may be closed seasonally or for periods of freeze-thaw conditions.

Design, Operation and Maintenance Criteria

Traffic Service Level	A	
Maintenance Level	5	
Functional Classification	Arterial (or collector or local)	
Traffic Volume	Moderate - High	
Traffic Classification	Timber Low%, Recreation high%, Administrative low%	
Traffic Management	Open to all legal traffic (commercial traffic by permit only)	
Environmental Consideration	May or may not be adjacent to streams and/or have erosive soils	
Design Vehicle	<ul style="list-style-type: none"> •For curve widening •For surfacing •For grade •For travel way width •For sight distance 	<ul style="list-style-type: none"> •Generally tractor trailer •Same •Same •Same •Pickup/SUV
Critical Vehicle	Low boy	
Subject to Highway Safety Act	Yes	

Design, Operation and Maintenance Standards
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Width	Generally 18 feet plus curve widening
Turnouts	N/A
Surfacing	Paved
ADT	Moderate - High
Design Speed	10 - 15 mph
Highway Safety Act	Signed to meet MUTCD
Maintenance Level 5 requirements	<ul style="list-style-type: none"> •Do annual inspection (condition survey) •Make repairs as soon as need is recognized •Pavement repairs as needed; ditches/culvert inlets cleaned annually •Clear out blowdown as it occurs and mow every year to maintain safe sight distance •Repave on a 10-12 year cycle) •Maintain signs and other safety considerations

Recommended:	Date:
Approved: _____ Ranger	District _____ Date:

