

# **Caddo - LBJ National Grasslands Roads Analysis Report**

## **1. The Roads Analysis Process (Step 1)**

### **1.1 Introduction**

Roads analysis is an integrated interdisciplinary approach to transportation planning, addressing both existing and proposed roads. It makes no decisions nor does it allocate resources for specific purposes. Roads analysis provides information for decision making by examining important issues related to roads. Road analysis helps develop project plans by identifying road management issues, concerns, and opportunities to be addressed. The analysis process can also identify any necessary changes in proposed project plans.

A roads analysis can be conducted at various scales, ranging from the grasslands scale (this analysis) to the smaller watershed and project scales. The results of each level of analysis, in terms of the issues addressed, the information sources used, and the scope of the recommendations offered, will differ in detail, but should be consistent and integrated across analysis scales.

Since this analysis is a broad grasslands scale analysis, individual roads were not analyzed. The grasslands roads system as a whole was reviewed. Site-specific road issues, concerns, and opportunities will be identified and addressed during smaller project-scale analyses. The issues, concerns, and recommendations identified at the grasslands scale serve as a guide for analyses conducted at the smaller project scales.

This grasslands scale analysis will help identify issues, concerns, and opportunities for proposed management actions that may be considered in subsequent site-specific project-scale analyses. The goal of this roads analysis is to evaluate the existing road system on the Caddo-LBJ National Grasslands (NG), to update the road atlas and associated road data, and to determine internal and external issues from an ecological, social, and economic perspective. This analysis was based on the existing transportation system, existing *Plan* resource allocations and direction, and current budget trends.

This grasslands scale roads analysis provides a guide for more site-specific project-scale analyses.

#### **1.1.1 Background**

In 1999, the Washington Office of the USDA Forest Service (FS) 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, provide for resource management needs, are responsive to public needs, are affordable, and minimize adverse environmental effects.

On January 12, 2001, the Forest Service adopted a final policy governing the national grasslands transportation system. The intended effects of this final policy, and accompanying amended 7700 Manual direction, are to ensure that decisions to construct, reconstruct, or decommission roads will be better informed by using a roads analysis, as described in Miscellaneous Report FS-643. A roads analysis may be completed at different scales, but generally begins with a broad grasslands scale analysis to provide a framework for future analyses.

## **1.2 The Process**

The roads analysis process described in Miscellaneous Report S-643 includes six steps for producing information and maps for decision-makers. Although the analysis consists of six sequential steps, the process may necessitate revisiting steps as information is compiled during the analysis process. The amount of time and effort spent on each step will differ, based on site-specific situations and available information. The six steps in the process are:

- Step 1. Setting up the analysis.
- Step 2. Describing the situation.
- Step 3. Identifying issues.
- Step 4. Assessing benefits, problems, and risks.
- Step 5. Describing opportunities and setting priorities.
- Step 6. Reporting.

## **1.3 Scope of the Analysis**

A roads analysis can be conducted at multiple scales, ranging from the grasslands scale to the smaller watershed and project scales. The issues generated and the recommendations offered are to be commensurate with the level of the detail at which the analysis is conducted. It is important to emphasize that roads analysis in itself does not result in a decision, but provides information to support decisions by disclosing important social, economic, and ecological issues and effects relevant to road management proposals. Actual road management decisions made by responsible officials must be disclosed in appropriate National Environmental Policy Act (NEPA) documents.

This grasslands scale analysis focuses on the public road system serving the Caddo-LBJ NG including Federal, State, and County roads. The term “Forest Service Road”, as used throughout this report, is synonymous with the term “National Forest System Road”<sup>2</sup> (see Appendix L *Glossary* for definitions). In addition, a “public road” refers to roads which are open to public use. Forest Service (FS) roads maintained to Maintenance Level (ML) 3, 4, or 5 are suitable for public travel in a low-clearance vehicle (passenger car). Only FS roads are assigned a maintenance level. See the 2.2.2 *Maintenance Levels* section and Appendix E *Maintenance Levels* table for more information. This national grasslands scale analysis will only address the public State, County, and ML-2, 3, 4, and 5 FS roads within the proclaimed boundaries of the national grasslands.

The ML-1 and unclassified FS roads will be analyzed during subsequent site-specific project-scale planning. The individual ML-1 roads will be evaluated to determine if the Road Management Objective is appropriate and if the road should be maintained, reconstructed, relocated, or decommissioned. The unclassified roads will be inventoried and evaluated to determine whether the roads should be classified as ML-1 or ML-2 roads or obliterated. The individual ML-2, 3, 4, and 5 FS roads may also be re-evaluated at this time.

### **1.3.1 Analysis Area Boundaries**

The boundaries of this roads analysis will be the transportation planning boundaries for the Caddo-LBJ NG. The boundaries will encompass the State highways, County roads, and FS roads serving the national grasslands, adjacent private grasslands and associated public and private developments. There are separate transportation planning boundaries for each of the separate national grasslands areas. The boundaries will be as follows,

LBJ NG: Starting at Decatur, TX, the boundaries will be State Highway FM 51 on the southeast, State Highway FM 455 on the northeast, State Highway FM 1749 on the northwest, State Highway TX-101 on the west and US Highway US-380 on the south.

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<sup>2</sup> A classified forest road under the jurisdiction of the Forest Service. The term “National Forest System Roads” is synonymous with the term “forest development roads” as used in 23 U.S.C. 205.

Caddo NG: The Caddo NG is located in three separate areas with different boundaries,

- Bois d'Arc Unit
- Ladonia Unit
- Lake Fannin Unit

Bois d'Arc Unit: Starting at Monkstown, TX, the boundaries will be County Road CR 2405 and State Highway FM 273 on the north, County Road CR 2275 on the west, State Highway FM 1396 and County Roads CR 2715 and CR 2800 on the south, and the County Line Road on the east.

Ladonia Unit: Starting at Ladonia, TX, the boundaries will be State Highway FM 2990 on the east, the North Sulphur River on the north, State highways FM 68 and TX-34 on the west, and various County Roads between Wolfe City, TX and Ladonia, TX on the south.

Lake Fannin Unit: The boundaries will be the Red River on the west, County Road CR 2025 on the south, and State highways FM 273 and FM 2554 on the east.

### 1.3.2 Analysis Objectives and Reporting

The objective of this roads analysis is to provide a report for planners and decision-makers with accompanying maps. The report provides information, identifies issues, and describes opportunities to consider in subsequent project-scale decisions.

This grasslands scale roads analysis report will provide the following information:

- An inventory (INFRA) and atlas (GIS) of the grasslands roads<sup>3</sup> system including State, County, and ML-2, 3, 4, and 5 FS roads on the Caddo-LBJ NG.
- Identify grasslands roads system issues to be addressed in project-scale analyses.
- Identify grasslands roads system opportunities within the context of existing land and resource management direction for the Caddo-LBJ NG.
- Identify significant social and environmental issues, concerns, and opportunities to be addressed in subsequent project-level decisions.
- Document coordination efforts with other government agencies and jurisdictions.

This report contains the following sections:

Executive Summary

Road Analysis Report

1. The Roads Analysis Process (Step 1)
2. The Existing Roads System (Step 2)
3. Identification of Significant Issues (Step 3)
4. Assessment of Issues (Step 4)
5. Recommendations, Opportunities, and Priorities (Step 5)
6. References

Appendices

- A. Maps of Grasslands Roads (State, County, and ML-2, 3, 4, and 5 Roads)
- B. State Highways
- C. Forest Highways
- D. County Road Cooperative Agreements
- E. Forest Service ML-3, 4, and 5 Roads
- F. Forest Service ML-2 Roads Open to Public Use
- G. Forest Service ML-2 Oil & Gas Special Use Roads
- H. Forest Service Decommissioned Oil & Gas Special Use Roads
- I. Forest Service ML-2 Roads

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<sup>3</sup> "Forest Roads" as defined in Title 23, Section 101 of the United States Code (23 U.S.C. 101), are any roads wholly or partially within, or adjacent to, and serving National Forest System lands and which are necessary for the protection, administration, and utilization of National Forest System lands and the use and development of its resources. (See Appendix L *Glossary* for definitions.)

- J. Road Maintenance Levels
- K. Traffic Service Levels
- L. Road Management Objectives
- M. Summary of Current *Plan* Direction
- N. Assessment of Issues (Step 4)
- O. Assessment of Road Stream Crossings (October 29, 2000 2600 Memo)
- P. Public Involvement
- Q. Glossary

## **1.4 Information Needs**

This analysis will use existing sources of information. The Geographic Information System (GIS) spatial information and corresponding INFRA (Infrastructure) descriptive road information will be reviewed, updated, and corrected to include all State, County, and ML-2, 3, 4, and 5 FS roads within the proclaimed boundaries of the national grasslands.

### **1.4.1 Public Involvement**

A letter was mailed to Federal, State and County government agencies, and other interested parties to solicit comments during this process. See Appendix K *Public Involvement* for a copy of the letter and a list of the government agencies and other interested parties to whom the letter was mailed.

Since many of the roads serving national grasslands and adjacent private lands are County roads, County Commissioners were identified as important contacts for public involvement. County Commissioners conduct the County road management and maintenance. Those whose precincts contain national grasslands were contacted. The County Judges of those counties were also contacted. Both officials have the knowledge needed to identify mutual concerns and opportunities.

Since many State roads also serve as arterial roads for the grasslands roads system, the Texas Department of Transportation (TXDOT) was contacted to solicit comments.

### **1.4.2 Interdisciplinary Team (IDT) Members and Participants**

The members of the IDT and their duties are:

- |                       |                            |
|-----------------------|----------------------------|
| 1. Don Benner         | Team Leader                |
| 2. Steven Lewis       | Transportation Planner     |
| 3. LaDonna Buhlig     | GIS Specialist             |
| 4. Debra Hooks        | GIS Assistant              |
| 5. Garry Bible        | Engineering Technician     |
| 6. Jimmy Dickerson    | Range Conservationist      |
| 7. Joel Shepard       | Range Conservationist      |
| 8. Tom Palmer         | Forest Technician          |
| 9. Terry Terry        | INFRA Specialist           |
| 10. Dave Peterson     | Fisheries Biologist        |
| 11. Rodney Peters     | Soil Scientist             |
| 12. Bill Bartush      | Wildlife Biologist         |
| 13. Catherine Albers  | Recreation Program Manager |
| 14. Nancy Snoberger   | Landscape Architect        |
| 15. Stephen Clarke    | Entomologist               |
| 16. Converse Griffith | Botanist                   |
| 17. Holly Erimias     | Geologist                  |
| 18. Belinda Yount     | Special Uses               |
| 19. John Ippolito     | Archeologist               |
| 20. Ron Haugen        | Fire Management Officer    |

## 2. The Existing Roads System (Step 2)

### 2.1 The Existing Road System

The road system on the Caddo-LBJ NG is composed of State, County, and FS roads and serves as access for a variety of public, private, and national grasslands management needs. The roads are needed,

- for access to the national grasslands,
- for access to adjoining range lands, and
- for access to adjoining residential areas and developments,

and are considered part of the grasslands roads system. As footnoted earlier, Title 23, Section 101 of the United States Code (23 U.S.C. 101), defines “grasslands roads” as any road wholly or partially within, or adjacent to, and serving national grasslands and which is necessary for the protection, administration, and utilization of national grasslands and the use and development of its resources. See Appendix L *Glossary* for definitions.

The Final Environmental Impact Statement (FEIS) for the 1996 Revised Land and Resource Management Plan (the *Plan*) states (p136),

“With State, County, and Forest Service routes, a transportation system now exists that meets the need for access into most areas. The transportation system varies in its ability to meet expected needs and demands on the current condition of each facility and its intended use. The current inventory contains all arterial and collector roads needed for administration on the NFGT. However, some of these roads exist at a standard lower than needed to meet safety requirements and access needs of the NFGT and rural and urban neighbors.”

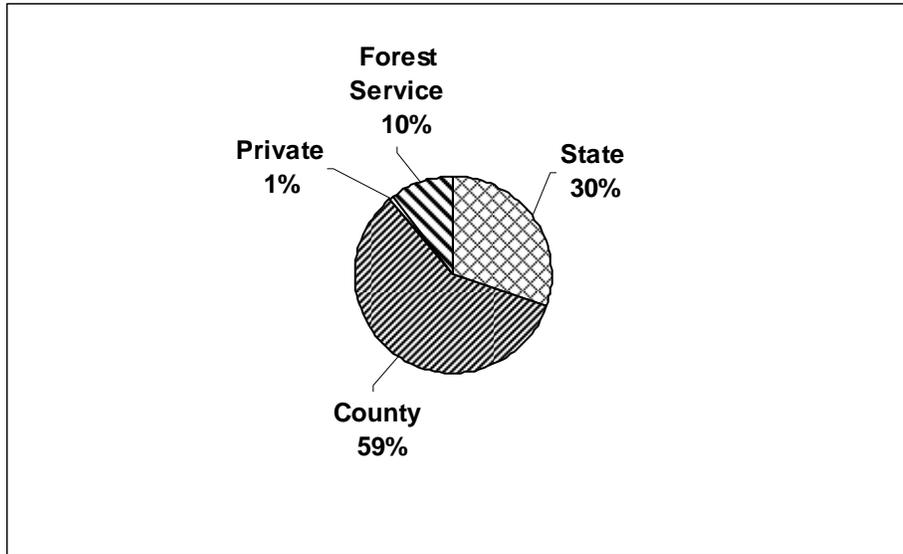
The grasslands roads system varies in its ability to provide for different traffic and demands depending on the current condition of the roads and the type of traffic use. Road standards vary from four-lane high-speed State highways to single-lane dirt roads barely passable with low-clearance passenger cars.

The open public roads that are maintained for public use by low-clearance passenger cars as well as high clearance pick-up trucks are the focus of this roads analysis. These include the State highways, County roads and ML-2, 3, 4, and 5 FS roads open to public use within the proclaimed boundaries of the national grasslands.

Most of these roads are State highways and County roads. The State highways and County roads comprise almost all (89 percent) of the grasslands roads system addressed in this analysis. See Table 1 and Figure 1.

**Table 1. Composition of Grasslands Roads System (C-LBJ NG)**

Jurisdiction	Miles	Percentage
State	177	30%
County	<b>342</b>	<b>59%</b>
Private	6	1%
Forest Service (ML-2, 3, 4, 5)	59	10%
<b>Total</b>	<b>584</b>	<b>100%</b>



**Figure 1. Roads by Jurisdiction (C-LBJ NG)**

### 2.1.1 History of Road Development

The Caddo-LBJ National Grasslands (Caddo-LBJ NG) lie in Fannin, Wise, and Montague Counties in north Texas. The Caddo-LBJ NG are composed of two separate national grasslands – the LBJ NG in Wise and Montague Counties northwest of Ft. Worth, TX and the Caddo NG in Fannin County northeast of Dallas, TX. The LBJ NG was named in honor of Lyndon B. Johnson, the thirty-sixth President of the United States (1963-1969).

The Caddo-LBJ NG lands are scattered and intermingled with private lands. The national grasslands comprise only about 21% of the lands within the Caddo-LBJ NG proclaimed boundaries.

Most of the major roads serving the national grasslands are State highways or County roads that existed before the Caddo-LBJ NG were established. The primary State highways and County roads serving the national grasslands serve as a skeletal base on which the system of development roads necessary for the administration, protection, and use of the grasslands was constructed. Over the past century, an extensive roads system has developed to serve public, private, and national grasslands resource management and administrative needs; as well as provide access to adjacent private lands.

Historical accounts of the grasslands indicate that herds of grazing animals such as bison and antelope were common, but were generally in smaller numbers than in the more extensive shortgrass plains to the west. However, there were periodic intrusions of large herds, influenced perhaps by broad scale prairie fires<sup>4</sup>. This cycle of grazing and natural disturbance had a major influence on the natural plant communities that dominated these areas.

During the latter half of the 1800s, the grassland prairies of north Texas underwent dramatic changes. The Chisholm Trail (1867-1884) passed through the grasslands, which slowly gave way to ranches and farms. In the mid to late 1800s, sporadic cattle ranches were started in the grasslands. Open rangeland was gradually phased out after warfare with the hostile Indians subsided in the 1880s<sup>5</sup>. This loss of open rangeland combined with the post Civil War agricultural

<sup>4</sup> Journey et al. 1989.

<sup>5</sup> Haley. 1985.

boom, led to the rapid development of cash-crop farming. Cattle ranching and subsistence farming gave way to cash crop farming, and by 1900 most of the acreage was under cotton cultivation. By 1920, this over-reliance on cotton farming was resulting in depleted soil fertility, as evidenced by dramatic declines in production and population.<sup>6</sup> As the Great Depression deepened in the early 1930s, this depleted and over-cultivated landscape was further decimated by the onset of extreme drought conditions. The dry and bare soil was exposed to the natural elements. Dust storms and flash floods caused soil erosion and forced landowners and tenant farmers to seek new livelihoods for basic subsistence. Abandoned farms and ranches were commonplace, and much of the topsoil was lost. This “dust bowl” era led to emergency relief programs to remedy the situation. Thus, reclamation and recovery, of both the land and the people became the principle goals of the New Deal era public works programs implemented in the area.

The New Deal era programs implemented in the area included,

- CCC: Civilian Conservation Corps
- RA: Resettlement Administration
- WPA: Works Progress Administration

One of the actions taken by the federal government to alleviate the economic hardships was a land purchase program initiated in 1935 under authority of the *National Recovery Act*. This program led to the purchase of 17,796 acres in Fannin County which later became the Caddo National Grasslands (NG). The purchased lands were designated “land utilization projects”.

The RA implemented two land utilization projects in Fannin County, Lake Fannin and Lake Davy Crockett, designed to help put the unemployed to work while rehabilitating and restoring highly eroded and sub-marginal agricultural lands. These RA projects pulled their workforce entirely from the county relief rolls with an emphasis on providing work for displaced and unemployed tenant farmers.

The early roads were referred to as “truck trails”. In 1938, the Bonham Daily Favorite newspaper reported,

“The only drawback to the delightful (Lake Fannin) resort is the lack of good roads. In wet weather, it is almost impossible to get to the lake. In dry weather the roads are good.”

The *Bankhead-Jones Farm Tenant Act of 1937* provided the Secretary of Agriculture with broad authority to implement a program of land conservation and utilization. This included the retirement of lands which were submarginal or not suited for cultivation. The act provided authority for the federal purchase and development of submarginal lands (including those purchased earlier under the *National Recovery Act*). The purpose of this legislation was to stabilize the land and the local economies. Under the *Bankhead-Jones Act*, 20,332 acres were purchased in Wise and Montague counties. These lands eventually became the LBJ National Grasslands.

In 1938, in a major reorganization of New Deal agencies under the *Bankhead-Jones Act*, the Soil Conservation Service (SCS) acquired the “land utilization projects”, including Lake Fannin.

The abandoned ranches and farm lands were revegetated with grass seed. Under the administration of the Soil Conservation Service (SCS), the Caddo NG was divided into grazing allotments and the fencing of the exterior boundaries was started. In 1941, the fencing was completed and grazing was first permitted on the Caddo NG. In 1945, the LBJ NG was divided into gazing allotments and grazing was also permitted as fencing and other structural range improvements were completed.

In 1954, the USDA transferred management of the National Grasslands (NG) from the SCS to the Forest Service. The LBJ NG and the Caddo NG were administratively assigned to the Southwestern Region (R3) headquartered in Albuquerque, New Mexico.

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<sup>6</sup> *Cultural Resources Overview of the National Grasslands in North Texas.*

In 1971, the administration of the LBJ NG and the Caddo NG was transferred to the Southern Region (R8) headquartered in Atlanta, GA and was combined with the National Forests in Texas.

In the 1960s, the Secretary of Agriculture established the lands as National Grasslands for the promotion of grassland agriculture and the sustained yield management of forage, fish and wildlife, timber, water and recreational resources.

In the 1970s, the Forest Service discussed right-of-way needs and road maintenance responsibilities with the Counties. The Forest Service requested that the Counties legally describe their road system so that the roads used for access by the Forest Service would be on a public road system. Since that time, the counties have passed resolutions declaring the County roads as public roads and, thereby, guaranteeing the Forest Service access. Also discussed with the Counties, were possible cooperative agreements concerning road maintenance. Roads were identified, both County and FS roads, that provide access to national grasslands. In 1979, the first road cooperative agreement was signed with Fannin County. The cooperative agreement enabled the Forest Service and the County to assist one another with the improvement and maintenance of roads not under their jurisdiction. Due to continuing changes occurring over the years, in 2001, an updated cooperative agreement reflecting the current road names, numbers, and lengths was signed with Fannin County.

Limited road maintenance funds have made the maintenance of existing FS roads a challenge. The limited funds have usually been inadequate to maintain the entire grasslands road system to desired standards.

In the past, the local population derived their livelihood primarily from ranching and farming. However, this situation is changing. The population and the land use are becoming more urban. The overwhelming influence on the area is the growth of the Dallas-Fort Worth metropolitan area. Some of the intermingled private land is being developed for subdivisions. An increasing number of residents live adjacent to the national grasslands and commute to jobs in the metropolitan area.

### **2.1.2 The Transportation Atlas**

The Transportation Atlas is a dynamic collection of geo-spatial, tabular and other data for roads, trails, and airfields to support analysis needs for resource management objectives identified in land management plans. The Road Atlas is a component of the Transportation Atlas dealing with roads.

The Roads Atlas consists of electronic road data including GIS geo-spatial information and associated INFRA descriptive information. The tables and maps in this report were derived from this GIS and INFRA road data.

Road data can exist in many forms including:

- maps of roads (paper or digital electronic format)
- databases such as descriptive INFRA road data
- surveys such as road condition surveys
- road right-of-way easements or other court records
- road use agreements or permits
- road maintenance plans (annual or deferred road maintenance plans)
- road maintenance cost records
- transportation plans and roads analyses RAP reports
- Road Management Objectives.

### 2.1.3 The Minimum Grasslands Road System

An important part of roads analysis is to identify the minimum grasslands road system that is necessary for the protection, administration, and utilization of national grasslands and the development and use of national grasslands resources. However, the minimum grasslands road system can not be completely identified during this grasslands scale roads analysis because ML-1 and future ML-2 FS roads will be addressed during more site-specific project-scale analysis. The FEIS for the *Plan* says (p136),

“With State, County, and Forest Service routes, a transportation system now exists that meets the need for access into most areas.”

The minimum grasslands road system consists of the existing State, County, and ML-2, 3, 4, and 5 FS roads addressed in this grasslands scale roads analysis; as well as, the ML-1 and future ML-2 FS roads which will be addressed in more site-specific project-scale roads analyses. However, subsequent site-specific project-scale roads analyses may determine that certain existing roads are no longer needed or that certain additional roads are needed.

To reiterate, the analysis of the balance of the grasslands roads system (including ML-1 and future ML-2 FS roads) will be addressed during more site-specific project-scale planning.

### 2.1.4 Forest Highways

The Forest Highway System includes major State, County, and FS roads that provide access to the proclaimed national grasslands and the intermingled private lands. There are 9 Forest Highways designated under the *Public Lands Highways Program of the Transportation Equity Act for the 21<sup>st</sup> Century* (TEA21) on the Caddo-LBJ NG roads system. The Federal Highway Administration (FHWA), FS, TXDOT and, where appropriate, Counties jointly designate Forest Highways. There are about 75 miles of Forest Highways on the Caddo-LBJ NG roads system and most, about 39 miles (52 percent), of these Forest Highways are State highways. See Table 2 for a list of the Forest Highways. These Forest Highways qualify for federal funding for improvement and enhancement. The FHWA, FS, and TXDOT jointly select projects to be included in the Forest Highway program. Forest Highway funding can be used for the planning, design, and reconstruction of these designated routes. Other work can include parking areas, interpretive signing, acquisitions of scenic easements or sites, and sanitary and water facilities.

Our review of the Forest Highways on the national grasslands resulted in the following two recommendations.

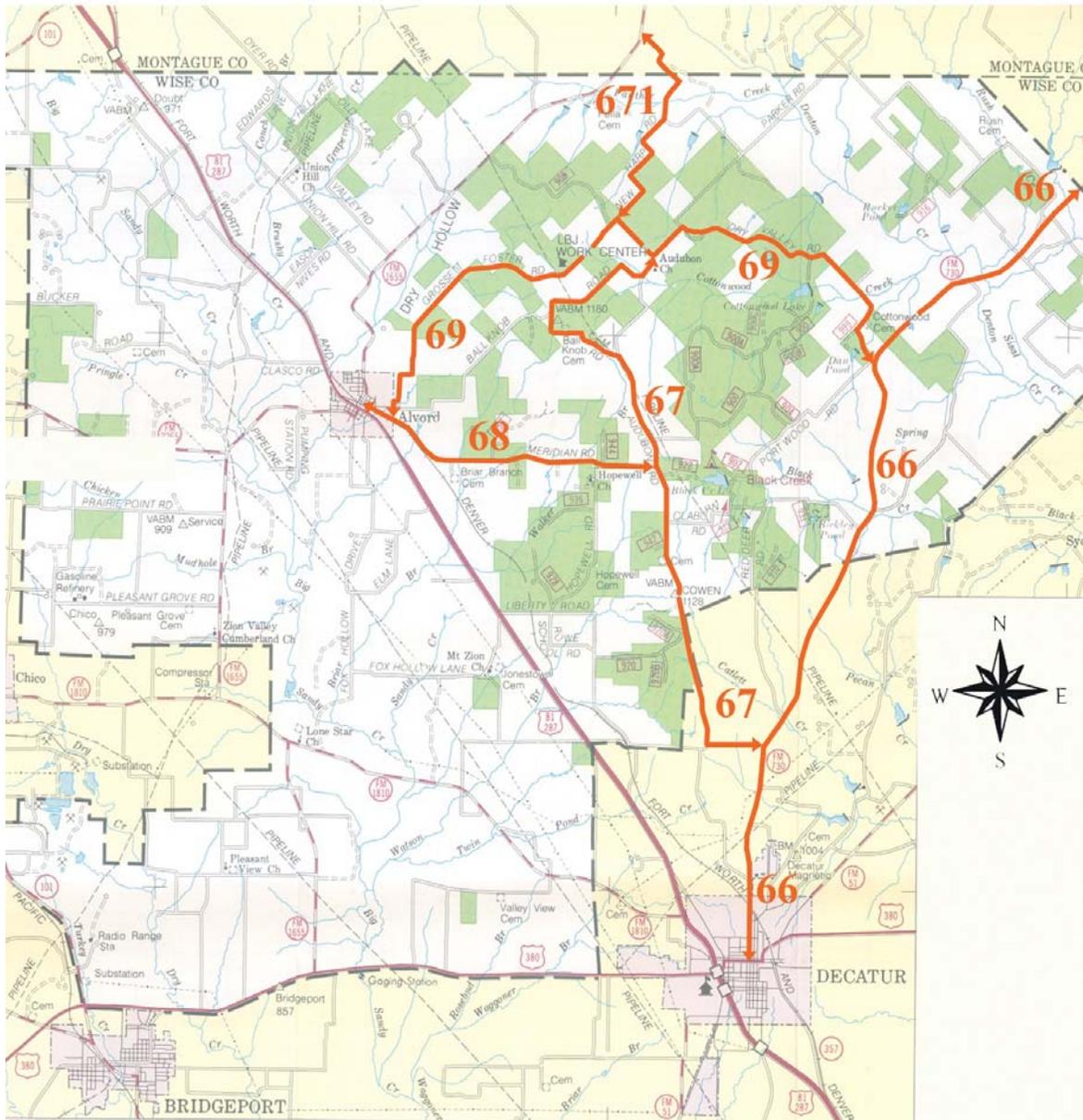
#### Caddo National Grasslands

- Consider adding 2.9 miles of roads between FM 273 and FM 2554 leading to Lake Fannin. The Forest Highway would follow 0.4 miles of TX-P34 from FM 273 west to FAN-2024, 1.7 miles of FAN-2024 from TX-P34 north to FAN-2035, and 0.8 miles of FAN-2035 from FAN-2024 east to FM 2554. Improvements to the Forest Highway would improve access to the historic Lake Fannin Camp. (Note: The current Fannin County road maps show County Road 2024 includes the section from TX-P34 (Park Road 34) to the Lake Fannin entrance gate on FS 923. This was considered a section of FS 923 in the past.)

#### LBJ National Grasslands

- Consider adding 5.0 miles of roads between FM 730 and WSE-Old Decatur Road. The Forest Highway would follow 3.5 miles of WSE-2461 from FM 730 to WSE-2372 and 1.5 miles of WSE-2372 from WSE-2461 west to WSE-Old Decatur Road. This Forest Highway would connect three Public Forest Service Roads, 900, 904, and 902, to a major County road, the Old Decatur Road, and to a major State highway, FM 730. Improvements to the Forest Highway would improve access to,
  - the Black Creek Lake Recreation Area on FS 902,
  - the TADRA Point Trailhead and the Cottonwood Lake Recreation Area on FS 900,
  - and to the Cross Timbers RNA.

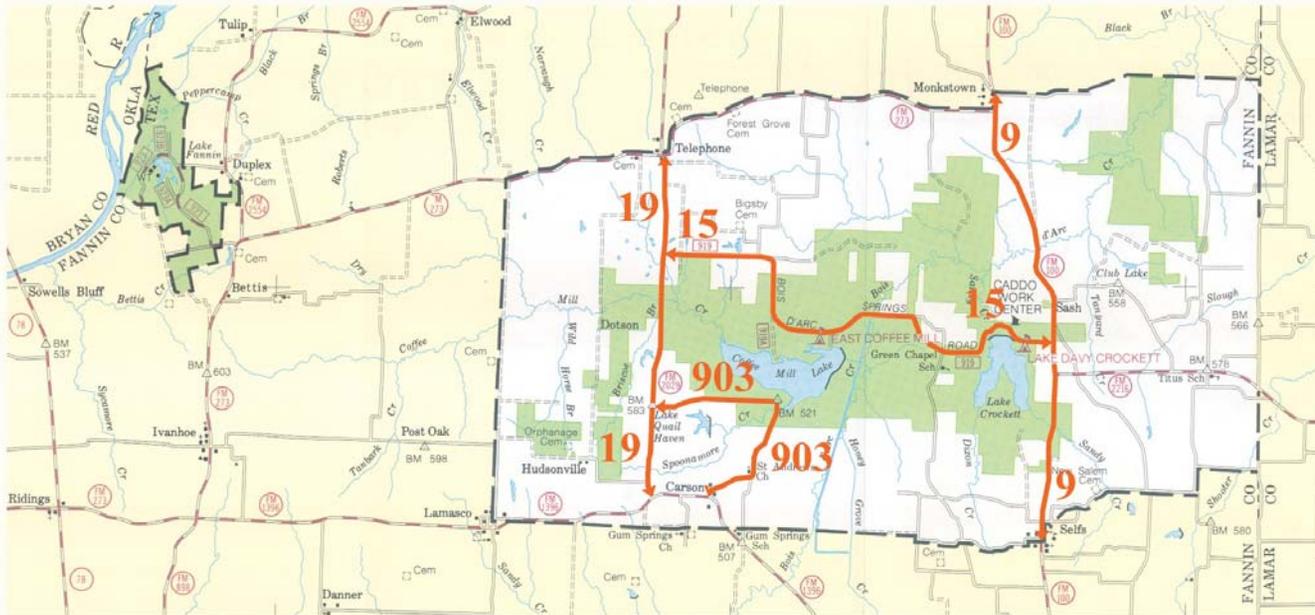
## LBJ National Grasslands Forest Highways



Lyndon B. Johnson NG

Texas

## Caddo National Grasslands Forest Highways



Caddo NG  
Texas

**Table 2. Forest Highways (Caddo-LBJ NG)**

<b>Forest Highway No.</b>	<b>Road ID</b>	<b>Road Name</b>	<b>Begins</b>	<b>Ends</b>	<b>Length</b>	<b>Jurisdiction</b>
9	FM 100		FAN-2405	FAN-2730	7.5	State
15	FM 409		FM 2029	FM 100	8.0	State
19	FM 2029		FM 273	FM 1396	5.6	State
66	FM 730		US 380	FM 455	17.5	State
67	WSE-2675		WSE-2677	WSE-2585	0.4	Wise Co.
	WSE-2585		WSE-2675	WSE-2475	1.9	Wise Co.
	WSE-2475		WSE-2585	WSE-Old Decatur Rd	3.4	Wise Co.
	WSE-Old Decatur Rd	Old Decatur Rd	WSE-2475	WSE-2175	4.4	Wise Co.
	WSE-2175		WSE-Old Decatur Rd	FM 730	0.9	Wise Co.
671	WSE-2690	New Harp Rd	WSE-2677	WSE-Roberts Rd	2.2	Wise Co.
	WSE-Roberts Rd	Roberts Rd	WSE-2690	FM 1655	1.7	Wise Co.
68	WSE-Old Decatur Rd	Meridian Rd	FM 1655	WSE-2475	5.1	Wise Co.
69	WSE-2690		WSE-2590	WSE-2677	5.6	Wise Co.
	WSE-2677		WSE-2690	WSE-2675	0.8	Wise Co.
	WSE-2675		WSE-2677	WSE-2560	0.6	Wise Co.
	WSE-2560		WSE-2675	WSE-2461	4.7	Wise Co.
	WSE-2461		WSE-2560	FM 730	0.1	Wise Co.
903	FAN-2700	Spoonamore Rd	FM 2029	FM 1396	4.4	Fannin Co.

## 2.1.5 Public Forest Service Roads (PFSR)

Some FS roads “open to public traffic” appear similar to County roads. These FS roads have a similar function and accommodate similar traffic volumes as the lower standard single and double-lane County roads. Many of the County roads are eligible to receive funding from the Highway Trust Fund and other state or local funds. However, most FS roads do not meet the funding criteria of these funding programs.

As a public road agency, the Forest Service is designating FS roads that,

- will be open to public traffic on a regular and consistent basis, and
- provide critical access to recreation sites and areas

as Public Forest Service Roads (PFSR). These roads will meet all the requirements for “public roads” as defined in 23 U.S.C. 101.<sup>7</sup>

The goals of the PFSR program are to:

1. Provide safe and efficient access to destinations in the National Forests and Grasslands;
2. Provide a seamless road system between State or County roads and sites on the National Forests and Grasslands;
3. Reduce soil erosion and improve water and air quality; and
4. Encourage economic development of rural communities through development of roads.

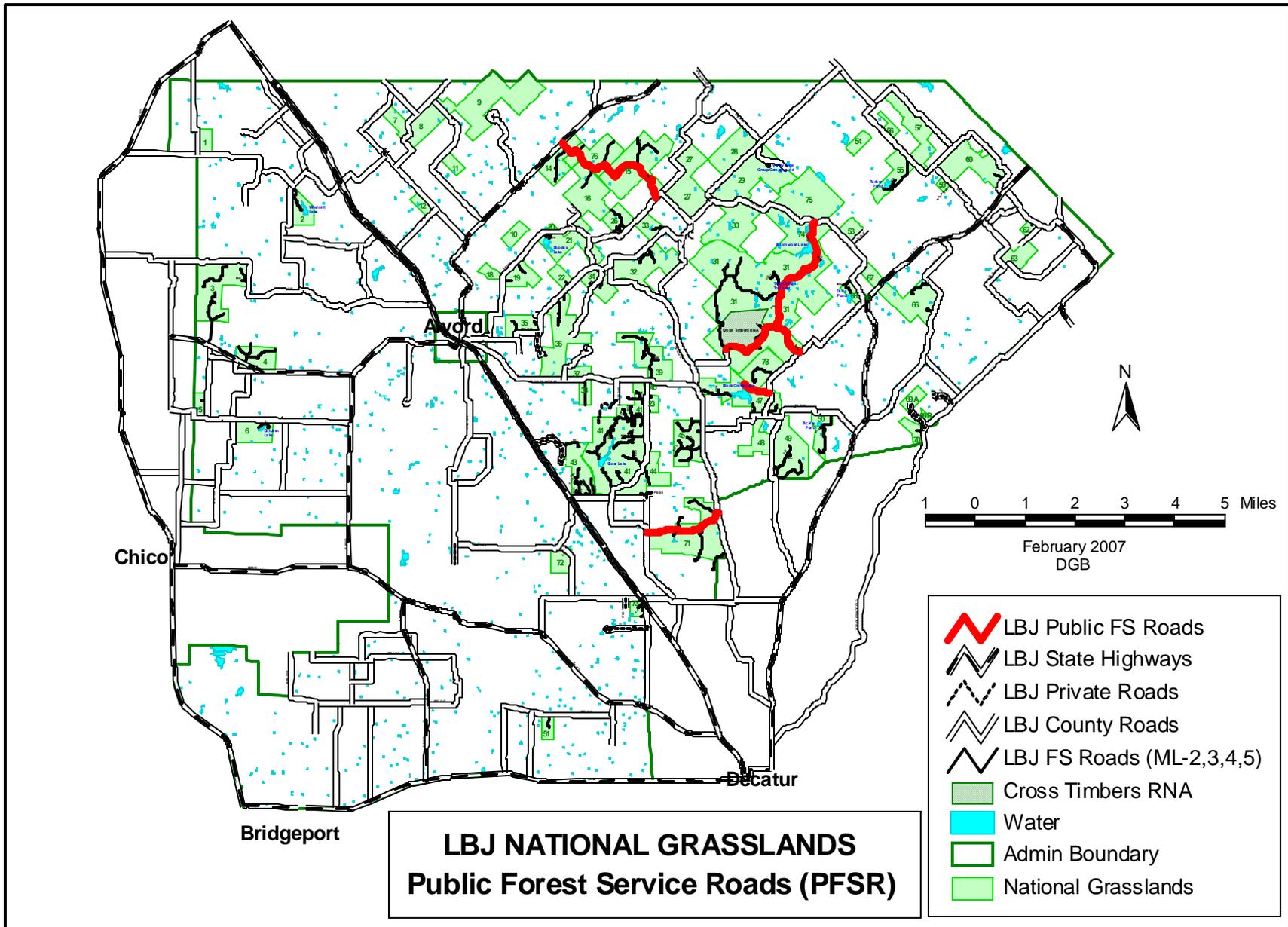
The PFSR program will complement the Forest Highway program and provide public access to places on the national grasslands beyond the Forest Highways. Most Forest Highways are State highways; however, most Public Forest Service Roads are Forest Service roads. The Forest Service PFSR program identifies roads meeting PFSR criteria and estimates the amount of road work and funding needed to bring individual roads up to safe and environmentally healthy standards. There are 10 PFSR roads designated on the grasslands roads system. See Table 3 below for a list of the Public Forest Service Roads on the Caddo-LBJ NG. Note that the reconstruction of FS Roads 900 and 904 is the top PFSR priority on the Caddo-LBJ National Grasslands in Texas.

**Table 3. Public Forest Service Roads (C-LBJ NG)**

Road ID	Road Name	Length	Estimated Cost	NFGT Priority
900	Mesa	3.5	\$ 3,410,000	5
904	Gravel Pit			
902	Black Creek Lake	0.6	\$ 530,000	27
905	West Lake Crockett	0.2	\$ 220,000	22
908	Miller	2.9	\$ 1,970,000	38
915	East Lake Crockett	0.1	\$ 400,000	28
917	Coffee Mill Lake	0.3	\$ 360,000	33
920	Overlook Bluff	1.7	\$ 1,356,000	35
923	Lake Fannin	3.0 *	\$ 2,730,000	31
923A	Lake Fannin Boat Ramp	0.5	\$ 640,000	41

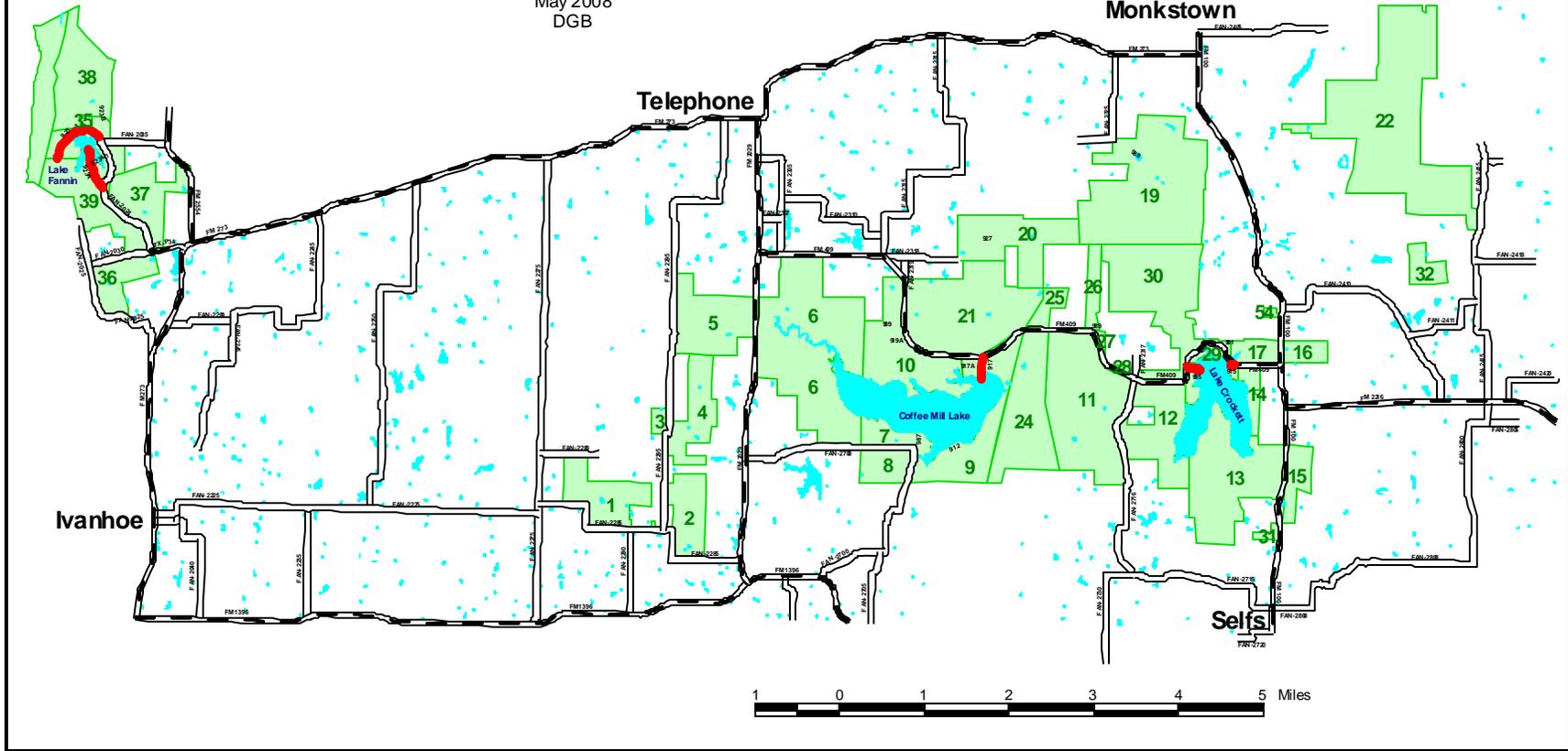
\* Note: The current Fannin County road maps show County Road 2025 includes the section from TX-P34 (Park Road 34) to the Lake Fannin entrance gate on FS 923. This was considered a section of FS 923 in the past.

<sup>7</sup> U.S. Department of Agriculture, Forest Service. Public Forest Service Roads. 2000. Washington, DC.



# CADDO NATIONAL GRASSLANDS Public Forest Service Roads (PFSR)

-  Caddo State Highways
-  Caddo County Roads
-  Caddo FS Roads (ML-2,3,4,5)
-  Caddo Public FS Roads (PFSR)
-  Water
- 19** Range Allotment Number
-  Range Allotment Boundary
-  National Grasslands



## **2.2 Road Attributes**

### **2.2.1 Functional Classification**

Roads can function as arterial, collector, or local roads. The classification of a road as arterial, collector, or local is dependent on the scope of the analysis. For example, if the scope of the analysis were nationwide, only interstate highways would be classified as arterial roads. The FSH 7709.54 - Forest Transportation Terminology Handbook defines these functional classes as follows:

**Arterial Road:** A road that serves as access to and through large land areas. Arterial roads are usually State highways or public roads.

**Collector Road:** A road that serves smaller land areas than an arterial road. Collector roads serve all types of traffic and usually connect arterial roads to local roads or terminal sites.

**Local Road:** A road that connects terminal sites with collector or arterial roads. Local roads are generally shorter roads and usually serve specific users or activities.

The FEIS for the *Plan* says (p136),

“The current inventory contains all arterial and collector roads needed for administration on the NFGT.”

The **Arterial** roads are primarily State highways; the **Collector** roads are a combination of State, County and FS roads; and the **Local** roads are primarily County and FS roads.

Of the ML-2, 3, 4, and 5 FS roads on the Caddo-LBJ NG, none (0 percent) are **Arterial** roads, about 14 percent are **Collector** roads, and about 86 percent are **Local** roads. Most of the FS roads addressed in this analysis are Local roads. See Table 4 and Figure 2 below. **Arterial** roads are typically two-lane paved roads connected to State highways. **Collector** roads are typically two-lane gravel roads connected to State highways or County roads. **Local** roads typically connect sites on the national grasslands (e.g., recreation sites, trailhead parking, and hunter camps) with Collector roads or Arterial roads.

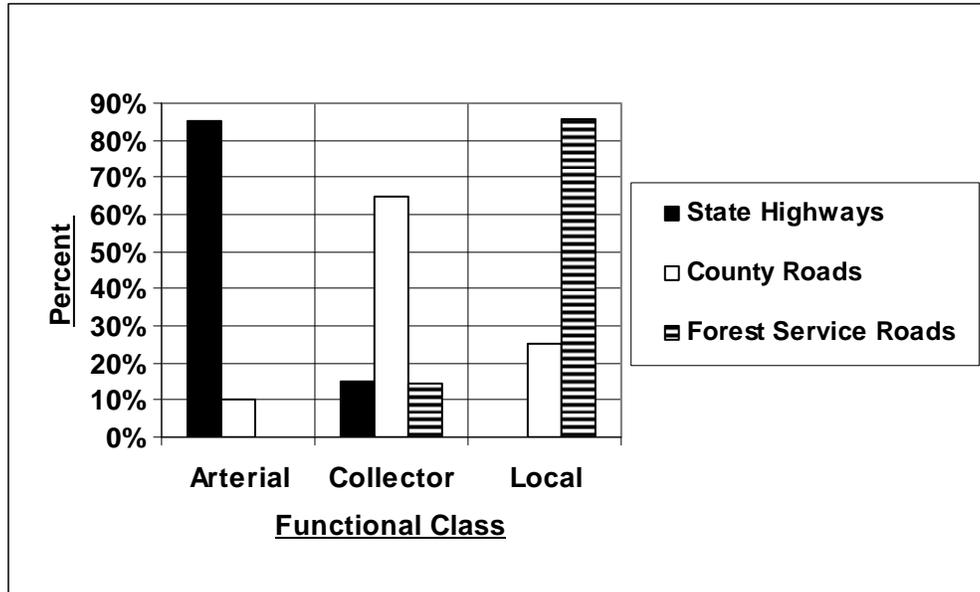
**Table 4. Functional Class of Roads by Jurisdiction (C-LBJ NG)**

<b>Jurisdiction</b>	<b>Functional Class</b>			
	<b>Arterial</b>	<b>Collector</b>	<b>Local</b>	<b>Total</b>
State	<b>85%</b>	15%	0%	100%
County	10%	<b>65%</b>	25%	100%
Forest Service (ML-2, 3, 4, & 5)	0%	14%	<b>86%</b>	100%

The following FS Roads are classified Collector roads,

- FS 900 Mesa Road
- FS 908 Miller Road
- FS 920 Overlook Bluff (or Hogge) Road

The other FS Roads are all classified Local roads.



**Figure 2. Functional Class of Roads by Jurisdiction (C-LBJ NG)**

The three principal attributes of FS roads are,

- the road maintenance level,
- the road surface type, and
- the road closure status.

These attributes best characterize a road in terms of its suitability for public and administrative use and the degree of user safety and user comfort associated with its use.

### 2.2.2 Maintenance Levels (ML)

Roads are maintained to different levels depending on land and resource management objectives; user safety; volume and composition of traffic; traffic speed; road surface type; and user comfort. Maintenance levels describe the level of maintenance service provided and required for a specific road, and must be consistent with Road Management Objectives (RMO). Maintenance levels are determined from information provided in the RMO established for each road. Note that Road Management Objectives and Maintenance Levels are established for only Forest Service roads.

Road Management Objectives are discussed in detail under [2.3 Road Management Objectives](#).

Roads may be maintained at one level, but planned to be maintained at a different level in the future. The maintenance levels can be either “operational” maintenance levels or “objective” maintenance levels.

**Operational Maintenance Level:** The maintenance level currently assigned to a road considering the current traffic, road condition, budget constraints, and environmental concerns. In other words, it is the level to which a road is currently being maintained.

**Objective Maintenance Level:** The maintenance level to be assigned at a future date considering future road management objectives, anticipated traffic, budget constraints, and environmental concerns.

The **objective maintenance level** may be lower than, the same as, or higher than the **operational maintenance level**. Roads may be currently maintained at one level, while planned for maintenance at a different level at a future date.

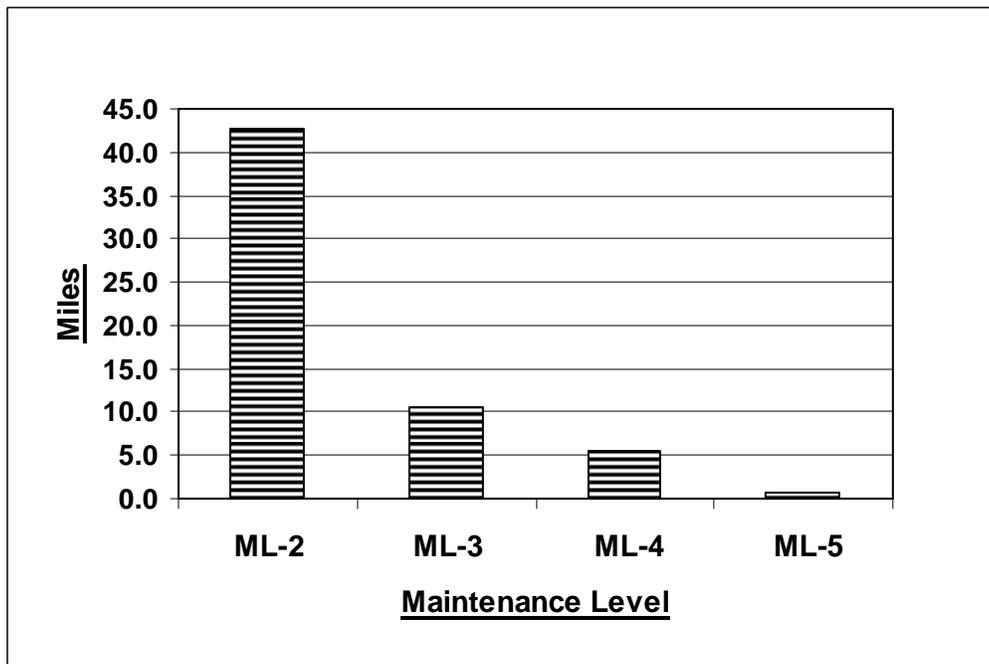
The transition from an **operational maintenance level** to an **objective maintenance level** may be dependent on completion of road improvements, disinvestments (e.g. removal of improvements such as culverts), or activities (e.g. timber sales).

Maintenance levels are not assigned to State or County roads.

There are five maintenance levels (FSH 7709.58 – Transportation System Maintenance Handbook). See Appendix J *Road Maintenance Levels* for a tabular description of the general relationship between maintenance levels. Maintenance Level (ML) 2, 3, 4, and 5 roads provide access for all types of traffic from high-clearance pick-up trucks to low-clearance passenger cars and large commercial vehicles. ML-2 roads are suitable for use by only high-clearance vehicles and may be seasonally closed. ML-3, 4, and 5 roads are suitable for low-clearance passenger cars. Table 5 and Figure 3 display the miles of ML-2, 3, 4, and 5 roads under Forest Service jurisdiction. Most of the FS roads addressed in this analysis are ML-2 roads.

**Table 5. Functional Class of FS Roads by Maintenance Level (C-LBJ NG)**

Forest Service Roads Functional Class	Maintenance Level				Total
	2	3	4	5	
Arterial	0.0	0.0	0.0	0.0	0.0
Collector	0.0	4.6	4.0	0.0	8.6
Local	<b>42.7</b>	5.9	1.6	0.6	<b>50.8</b>
<b>Total Miles</b>	<b>42.7</b>	10.5	5.6	0.6	59.4
<b>Total Percent</b>	72%	18%	9%	1%	100%



**Figure 3. Miles of Maintenance Level 2, 3, 4, & 5 FS Roads (C-LBJ NG)**

## **Maintenance Level 5**



**Figure 4. FS Road 917 – Coffee Mill Lake Road (Caddo-LBJ NG)  
Public Forest Service Road  
Bituminous Surface Treatment  
Local Road**

**Level 5** is assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double-lane, paved roads; but some may be aggregate surfaced.

The appropriate traffic management strategy is to "encourage" traffic. See Appendix J *Road Maintenance Levels* table. These roads are usually associated with the more developed recreation areas and would not be considered for decommissioning. On the Caddo-LBJ NG, these roads provide access to developed recreation facilities and administrative sites. These Maintenance Level 5 roads comprise about 1 percent of all the ML-2, 3, 4, and 5 FS roads.

The following FS Roads are classified Maintenance Level 5 roads,

- FS 901 Caddo Workcenter Road
- FS 911 LBJ Workcenter Road
- FS 915 East Lake Crockett Road

## **Maintenance Level 4**



**Figure 5. FS Road 900 – Mesa Road (Caddo-LBJ NG)  
Public Forest Service Road  
Aggregate Surfaced  
Collector Road**

**Level 4** is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double-lane and aggregate surfaced; however, some roads may be single-lane. Some roads may be dust abated or paved.

The most appropriate traffic management strategy is to "encourage" motor vehicle traffic. However, traffic management strategy may "prohibit" specific classes of vehicles or users at certain times. See Appendix J *Road Maintenance Levels* table. These roads are often collector roads serving the general public and used as mail and school bus routes. These roads may be considered for transfer to County (or State) jurisdiction. On the Caddo-LBJ NG, these Maintenance Level 4 roads comprise about 9 percent of the ML-2, 3, 4, and 5 FS roads.

These roads would not normally be considered for decommissioning.

The following FS Roads are classified Maintenance Level 4 roads,

- FS 900 Mesa Road
- FS 902 Black Creek Lake
- FS 904 Gravel Pit Road
- FS 905 West Lake Crockett Road
- FS 917 Coffee Mill Lake RA Road

### **Maintenance Level 3**



**Figure 6. FS Road 908 – Miller Road (Caddo-LBJ NG)  
Public Forest Service Road  
Aggregate Surfaced  
Collector Road**

**Level 3** is assigned to open roads maintained for public use by a prudent driver in a standard (low clearance) passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single-lane roads with turnouts and spot surfacing. Some roads may be fully surfaced with either native material or aggregate.

Appropriate traffic management strategies are either "encourage" or "accept" motor vehicle traffic. However, traffic management strategy may "discourage" or "prohibit" specific classes of vehicles or users at certain times. See Appendix J *Road Maintenance Levels* table.

These Maintenance Level 3 roads comprise about 18 percent of the ML-2, 3, 4, and 5 FS roads. These are the primary access roads to most national grasslands and used by the majority of national grasslands visitors and range permittees. Some of these roads are seasonally closed to public motorized traffic by gates. These roads would only rarely be considered for decommissioning.

## Maintenance Level 2



**Figure 7. FS Road 927 (Caddo-LBJ NG)  
Native Material  
Local Road**

**Level 2** is assigned to roads suitable for use by high clearance (pickup truck) vehicles. Low clearance (passenger car) vehicles are not a consideration. Traffic use usually consists of one or a combination of dispersed recreation, administrative, permittees, or other specialized uses. On the Caddo-LBJ NG, range and oil & gas well traffic usually occurs on roads in this maintenance level. Many of these roads are oil & gas well access roads closed to public use by gates. The appropriate traffic management strategies are to either discourage or prohibit passenger cars or to accept high clearance vehicles. Maintenance Level 2 roads account for most of the roads on the Caddo-LBJ NG addressed in this analysis. About 72 percent of all the ML-2, 3, 4, and 5 FS roads on the Caddo-LBJ NG are maintained at this level. Some of these roads may be considered for decommissioning in the future.

Although ML-1 roads are not addressed in this analysis, their description follows.

**Level 1** is assigned to roads during the time the roads are closed to motorized traffic for longer periods. The planned closure period exceeds one year. Basic custodial maintenance is performed to minimize damage to adjacent resources and to protect the road to facilitate future management activities. Emphasis is given to maintaining drainage structures. Planned road deterioration may occur at this level. The appropriate traffic management strategies are to "prohibit" and "eliminate" traffic.

Roads receiving ML-1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at ML-1, roads are closed to motorized traffic; but may be open and suitable for non-motorized uses. About 13 percent of all ML-1, 2, 3, 4, and 5 FS roads on the Caddo-LBJ NG are currently maintained at this ML-1 level. When not needed to provide access to accomplish specific objectives, roads may be maintained at this level in order to reduce road maintenance costs or open road densities for wildlife habitat. Some of these roads may be considered for decommissioning in the future.

### 2.2.3 Type of Surfacing

Closely related to operational maintenance level are the types of surfacing found on grasslands roads. Road surface type is also an indicator of user comfort and, to a lesser degree, user safety. Road surfaces may consist of asphalt pavement, bituminous chip seal, crushed aggregate, improved native materials (pit-run aggregate), or native materials (dirt). Roads may be surfaced with other than native material for a variety of reasons. These include minimizing the potential for surface erosion and sediment production, stabilizing the road surface for all weather use, providing for increased user comfort or user safety, improving economy of operations, or any combination of these.

Sources of crushed aggregate for surfacing roads on the Caddo-LBJ NG are readily available and are not as limited as on the National Forests in east Texas.

Table 6 displays the miles of different surface types on FS roads on the Caddo-LBJ NG. Note that most ML-5 roads have a paved or bituminous chip seal surface, while most ML-3 roads have a crushed aggregate surface, and most ML-2 roads contain a native materials surface.

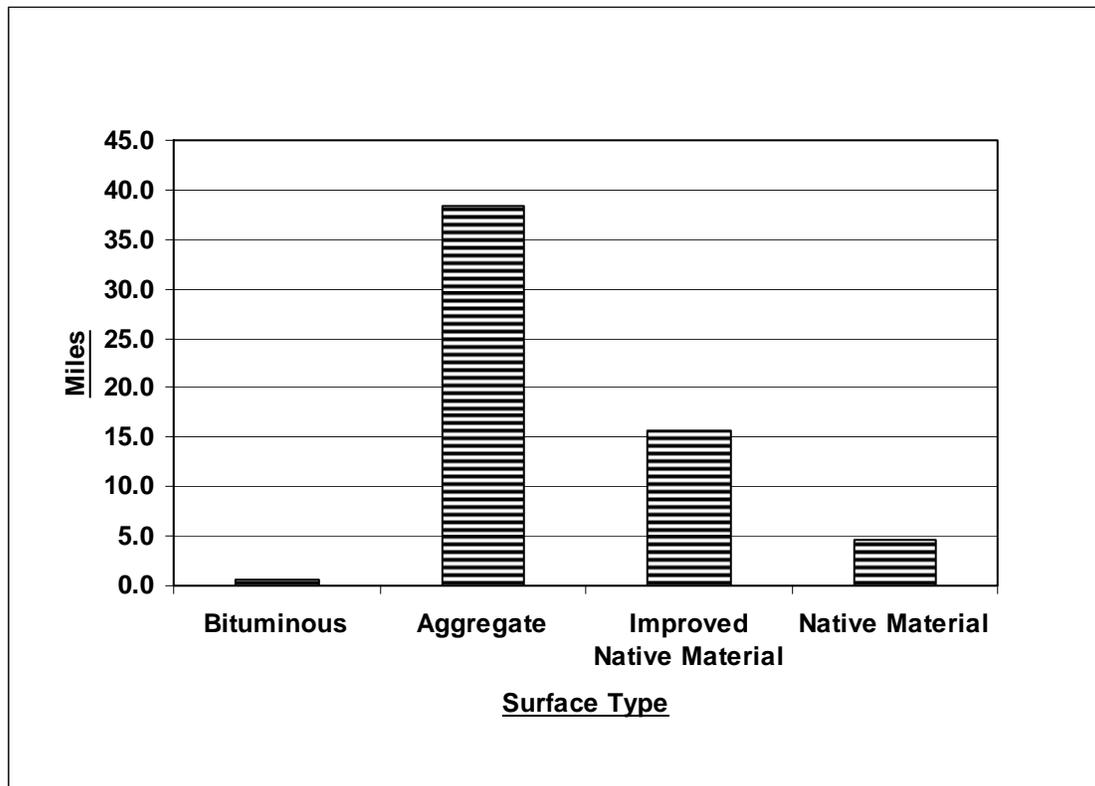
**Table 6. Miles of Surface Type on ML-2, 3, 4, & 5 FS Roads (C-LBJ NG)**

Forest Service Roads	Maintenance Level				
	2	3	4	5	Total
Bituminous Treatment				0.6	0.6
Crushed Aggregate or Gravel	<b>24.0</b>	9.7	4.8		<b>38.5</b>
Improved Native Material	14.1	0.8	0.8		15.7
Native Material	4.6	0.1			4.7
<b>Total Miles</b>	<b>42.7</b>	10.5	5.6	0.6	59.4

As shown in Table 7 and Figure 8, most of the FS roads addressed in this analysis are ML-2 roads with crushed aggregate surfacing.

**Table 7. Percent of Surface Type on ML-2, 3, 4, & 5 FS Roads (C-LBJ NG)**

Forest Service Roads Surface Type	Maintenance Level				
	2	3	4	5	Total
Bituminous Treatment				1%	1%
Crushed Aggregate or Gravel	40%	16%	8%		65%
Improved Native Material	24%	1%	1%		26%
Native Material	8%	<1%			8%
<b>Total Percent</b>	<b>72%</b>	<b>18%</b>	<b>9%</b>	<b>1%</b>	<b>100%</b>



**Figure 8. Miles of Surface Type on ML-2, 3, 4, & 5 FS Roads (C-LBJ NG)**

### 2.2.4 Road Closures

Road closures and road use restrictions are instituted when road use conflicts exist. These conflicts may include user safety, road surface erosion prevention and control measures, wildlife habitat protection, and other public safety or resource protection concerns. Closure periods may last anywhere from a few hours to years. Maintenance Level 1 roads, which are associated with intermittent periods of use, are usually closed year-round with gates or earthen barriers between periods of use. Maintenance Level 2 and 3 roads can be closed seasonally with gates. Maintenance Level 4 and 5 roads are not normally closed.

## 2.2.5 Traffic Service Levels (TSL)

Traffic Service Levels (TSL) describe the road traffic characteristics and operating conditions. These levels are identified as a result of transportation planning activities.

Appendix K contains descriptions of the four different TSL for FS roads. The four TSL are:

- A. Free Flowing with Mixed Traffic.
- B. Congested during Heavy Mixed Traffic.
- C. Flow Interrupted or Slowed by Mixed Traffic or Road Conditions.
- D. Single Use - Not Suitable for Mixed Traffic.

These TSL reflect traffic characteristics that influence the selection of road design criteria and describe the operating conditions for the road.

The TSL reflect a number of factors, such as speed, travel time, traffic interruptions, freedom to maneuver, user safety, user comfort, and operating cost. These factors, in turn, affect design elements, such as type of surface, number of lanes, lane widths, curve widening, sight distances, turnout spacing, design speed, horizontal and vertical alignment, and turnarounds.

Table 8 displays the percentage of Traffic Service Levels of all FS roads on the Caddo-LBJ NG.

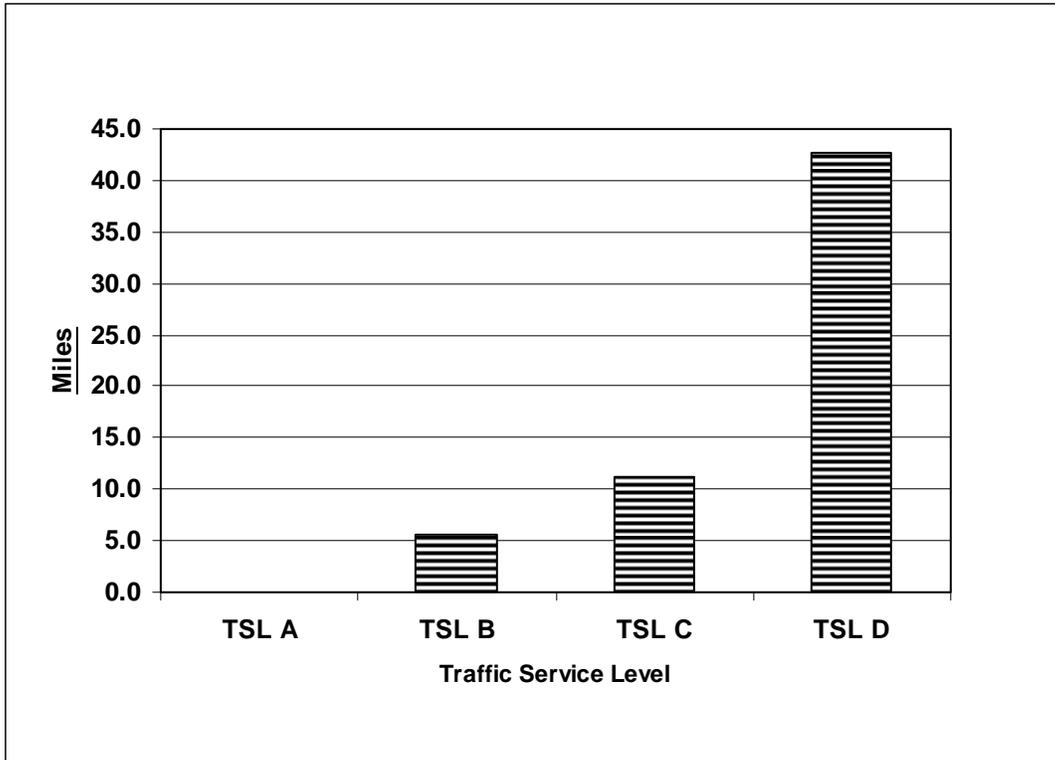
**Table 8. Miles of Traffic Service Levels for FS Roads (C-LBJ NG)**

Forest Service Roads Traffic Service Level	Maintenance Level				Total
	2	3	4	5	
A – Free Flowing Mixed Traffic					
B – Congested During Heavy Traffic			5.0	0.6	5.6
C – Flow Interrupted or Slowed		10.5	0.6		11.1
D – Single Use	42.7				42.7
<b>Total Miles</b>	<b>42.7</b>	10.5	5.6	0.6	59.4

Table 9 and Figure 9 display the miles of TSL of ML-2, 3, 4, and 5 FS Roads on the Caddo-LBJ NG. Most of the ML-2, 3, 4, and 5 FS roads addressed in this analysis are ML-2 TSL-D roads.

**Table 9. Percent of Traffic Service Levels for FS Roads (C-LBJ NG)**

Forest Service Roads Traffic Service Level	Maintenance Level				Total
	2	3	4	5	
A – Free Flowing Mixed Traffic					0%
B – Congested During Heavy Traffic			8%	1%	9%
C – Flow Interrupted or Slowed		18%	1%		19%
D – Single Use	72%				72%
<b>Total Miles</b>	<b>72%</b>	18%	9%	1%	100%



**Figure 9. Traffic Service Levels of ML-2, 3, 4, & 5 FS Roads (Caddo-LBJ NG)**

The above descriptions of road attributes shows that most of the ML-2, 3, 4, and 5 FS roads addressed in this analysis are,

- ML-2 (suitable for use by only high clearance vehicles),
- surfaced with crushed aggregate, and
- TSL-D (single use – not suitable for mixed traffic).

### **2.3 Road Management Objectives (RMO)**

A challenge for land and resource management is to provide adequate road access for various purposes while protecting the resources. Road Management Objectives (RMO) are developed to protect resources, provide for resource management access, and meet user needs. These needs are determined through the planning process and the objectives are approved by Line Officers (Forest Supervisor or District Ranger). The RMO describe the specific purpose of a road and provide design criteria for planned roads, as well as establish operation and maintenance criteria for planned or existing roads. The Forest Service road system is planned, managed, and maintained on the basis of the RMO established for each road.

Road Management Objectives (RMO) should be reviewed and re-evaluated during project-scale road analyses.

The RMO establish how we will endeavor to manage a road. The NFGT have established four generic RMO to use. See Appendix L for copies of the four generic RMO. However, the actual RMO developed for each road are based on site-specific resource requirements and may differ from established generic standards. The four generic RMO have been established for the following four groups of roads:

1. Maintenance Level 4 and 5 - Traffic Service Level A, B, and C Roads.
2. Maintenance Level 3 - Traffic Service Level C Roads.
3. Maintenance Level 2 - Traffic Service Level C and D Roads.
4. Maintenance Level 1 - Traffic Service Level D Roads.

The RMO is developed from land and resource management direction, *Plan* standards and guidelines, data concerning the type and extent of traffic to be served by the road, environmental constraints, and mitigating measures to be employed. This information is used to prepare specific objectives that define the purpose of the road and describe how the road will be designed, used, and maintained.

## **2.4 Road Maintenance Funding**

Generally, the Caddo-LBJ NG is receiving inadequate road maintenance funds. The road maintenance funds allocated are only about 20 percent of the estimated amount of funds needed.

The NFGT annually conducts road condition surveys on the ML-2, 3, 4, and 5 FS roads to determine annual and deferred maintenance needs based on existing conditions. The average Western Gulf Coastal Plains (Texas, Louisiana, Mississippi) annual maintenance costs/mile were used to determine \$/mile needed by maintenance level. Table 10. *Road Maintenance Funds Needed Annually* shows that about \$200,000 is needed annually to totally maintain the ML-2, 3, 4, and 5 FS roads on the Caddo-LBJ NG. This is the average annual funding needed to totally maintain the roads at the “objective” maintenance level, not at the current “operational” maintenance level. See Appendix Q *Glossary* for an explanation of terms. The costs include road maintenance activities such as surface blading, ditch cleaning, culvert cleaning, road surfacing repair and replacement, signing, vegetation removal, hazard tree removal, down tree removal, and road closure device repair. The costs also include other direct project costs, such as project management, contracting, and contract administration, and other indirect project costs.

**Table 10. Road Maintenance Funds Needed Annually (C-LBJ NG)**

<b>Caddo-LBJ NG</b>			
<b>Objective Mntc Level</b>	<b>Needed / Mile <sup>1</sup></b>	<b>Miles</b>	<b>Total Needed</b>
Maintenance Level 2	\$ 338	21.6 <sup>2</sup>	\$ 7,301
Maintenance Level 3	\$ 8,381	11.9	\$ 99,734
Maintenance Level 4	\$ 10,777	8.3	\$ 89,449
Maintenance Level 5	\$ 15,092	0.8	\$ 12,074
<b>Total</b>		<b>42.6</b>	<b>\$ 208,557</b>
<b>NFGT</b>			
<b>Objective Mntc Level</b>	<b>Needed / Mile <sup>1</sup></b>	<b>Miles</b>	<b>Total Needed</b>
Maintenance Level 2	\$ 338	1,105.8	\$ 373,760
Maintenance Level 3	\$ 8,381	417.2	\$ 3,496,553
Maintenance Level 4	\$ 10,777	92.8	\$ 1,000,106
Maintenance Level 5	\$ 15,092	28.0	\$ 422,576
<b>Total</b>		<b>1,643.8</b>	<b>\$ 5,292,995</b>

<sup>1</sup> Average Western Gulf Coastal Plains Annual Maintenance costs/mile (Texas, Louisiana, Mississippi)

<sup>2</sup> Excludes 20.1 Miles of Objective ML-2 OGM Roads under Special Use

Table 11. *Road Maintenance Funds Available Annually* displays the amount of road maintenance funds spent annually on the ML-2, 3, 4, and 5 FS roads for the Caddo-LBJ NG as compared to the NFGT as a whole.

**Table 11. Road Maintenance Funds Available Annually (C-LBJ NG)**

<b>Caddo-LBJ NG</b>			
<b>Fiscal Year</b>	<b>Fund Code</b>	<b>Allocation <sup>1</sup></b>	<b>% of Funds Needed</b>
2003	CMRD	\$ 40,000	20 %
2004	CMRD	\$ 40,000	20 %
2005	CMRD	\$ 40,000	20 %
2006	CMRD	\$ 40,000	20 %
<b>Average</b>		<b>\$ 40,000</b>	<b>20 %</b>
<b>NFGT</b>			
<b>Fiscal Year</b>	<b>Fund Code</b>	<b>Allocation <sup>2</sup></b>	<b>% of Funds Needed</b>
2003	CMRD	\$ 1,159,514	22 %
2004	CMRD	\$ 1,307,565	25 %
2005	CMRD	\$ 1,817,408	34 %
2006	CMRD	\$ 1,182,798	22 %
<b>Average</b>		<b>\$ 1,366,821</b>	<b>26 %</b>

<sup>1</sup> Caddo-LBJ allocations and expenditures were not split-out as separate accounts from NFGT accounts.

<sup>2</sup> Excludes "Cost Pool" expenditures

Deferred maintenance is work that can be deferred without loss of road serviceability until such time as the work can be economically or efficiently performed. Deferred maintenance is most often associated with road surface replacement and drainage maintenance, but also includes roadside brushing and signing maintenance. Based on the recent condition surveys, FS roads have culverts to be replaced, culverts to be cleaned, and ditches to be cleaned and reshaped. This road maintenance work should be given top priority to protect streams and associated aquatic ecosystems.

Due to reduced budgets and increased workloads due to reductions in the workforce, road signing has become a low priority and has developed a big backlog of deferred work.

Table 12. *Deferred Road Maintenance Funds Needed* shows that about \$1,000,000 is needed to complete the backlog of deferred maintenance to upgrade the ML-2, 3, 4, and 5 FS roads to a standard that meets the "objective" maintenance levels. Most of this deferred road maintenance work involves,

- resurfacing roads for public safety, for resource protection, or for preserving road prism
- replacing culverts that are failing, that are too small, or that are prohibiting fish passage
- signing, and
- removing encroaching vegetation.

**Table 12. Deferred Road Maintenance Funds Needed (C-LBJ NG)**

<b>Caddo-LBJ NG</b>			
<b>Objective Mntc Level</b>	<b>Needed / Mile <sup>1</sup></b>	<b>Miles</b>	<b>Total Needed</b>
Maintenance Level 2	\$ 4,205	21.6 <sup>2</sup>	\$ 90,828
Maintenance Level 3	\$ 36,148	11.9	\$ 430,161
Maintenance Level 4	\$ 47,568	8.3	\$ 394,814
Maintenance Level 5	\$ 84,064	0.8	\$ 67,251
<b>Total</b>		<b>42.6</b>	<b>\$ 983,055</b>
<b>NFGT</b>			
<b>Objective Mntc Level</b>	<b>Needed / Mile <sup>1</sup></b>	<b>Miles</b>	<b>Total Needed</b>
Maintenance Level 2	\$ 4,205	1,105.8	\$ 4,649,889
Maintenance Level 3	\$ 36,148	417.2	\$ 15,080,946
Maintenance Level 4	\$ 47,568	92.8	\$ 4,414,310
Maintenance Level 5	\$ 84,064	28.0	\$ 2,353,792
<b>Total</b>		<b>1,643.8</b>	<b>\$ 26,498,937</b>

<sup>1</sup> Average Western Gulf Coastal Plains Annual Maintenance costs/mile (Texas, Louisiana, Mississippi)

<sup>2</sup> Excludes 20.1 Miles of Objective ML-2 OGM Roads under Special Use

This indicates that there is a backlog of deferred road maintenance to bring ML-2, 3, 4, and 5 FS roads up to the “objective” maintenance level standards.

The Forest Supervisor or District Ranger has authority to take different actions to deal with inadequate road maintenance budgets, such as establishing road maintenance priorities, reprogramming funds, entering cost-sharing agreements, transferring roads to other public agencies, reducing road maintenance levels, and closing or decommissioning roads. A decision to either reduce the current maintenance level or close the road should provide for public safety.

### **2.5 Road Right-of-Ways**

The 1996 Revised Land and Resource Management Plan (the *Plan*) states (p.46), "Acquire rights-of-way to provide public access to isolated National Forest System lands."

Road right-of-way needs will be identified during project-scale analyses. However, there are several tracts of national grasslands where access is restricted because no road right-of-way or easement exists. In some cases, reciprocal agreements may be appropriate to acquire access to land-locked government tracts.

A 5460/7700 memo dated August 7, 2003 from District Ranger James Crooks to the Forest Supervisor identified tracts on the national grasslands without a permanent road right-of-way for access. The tracts on the LBJ NG in Wise County are in Units 10, 54, and 69A; and the tracts on the Caddo NG in Fannin County are in Units 32, 45, 46, 48, and 49.

A 5460 memo dated June 22, 1999 from Acting District Ranger Ruben Natera to the Forest Supervisor documented that Unit 9 on the LBJ NG in Wise County needed a permanent road right-of-way for access.

Private landowners have put gates on the county roads shown in Table 13.

**Table 13. Gated County Roads (C-LBJ NG)**

County	Road Number	National Grasslands Blocked
Fannin	3380	Ladonia Units 45, 46, 48
Fannin	2025	Lake Fannin Unit 39

These gates block public access to national grasslands.

The gate on the Fannin Co 3380 road blocks public access to national grasslands on the Ladonia Units 45, 46, and 48. The FS has a verbal agreement with the landowner to use the old county road for administrative purposes, but public access is blocked.

The gate on the Fannin Co 2025 road blocks access from the south to national grasslands on the Lake Fannin Unit 39; however,

- the Forest Service can access the area from the north using the FS 923 entrance road.
- Public access to the Lake Fannin Camp is currently blocked by a gate on the FS 923 entrance road. The Lake Fannin Camp is open to the public under an administrative permit to the Lake Fannin Wilderness Park of Texas, Inc., and
- On January 31, 2008, District Ranger James Crooks issued a decision closing the FS 923 road from the Lake Fannin Camp south to the national grasslands boundary to prevent unmanaged recreation use.

## **2.6 Road Density**

The spatial distribution and arrangement of roads on the landscape determines their effects on a number of resources. Road density, usually expressed in terms of miles of road per square mile of landscape, can be an indicator of such effects as the potential for wildlife disturbance, habitat fragmentation, recreation opportunities, and the cumulative potential for erosion and sedimentation from road surfaces. Road density information is useful, but is also very, very difficult to interpret. For example, the physical characteristics of roads vary. State highway right-of-ways are considerably wider than Forest Service road right-of-ways. State highways are paved whereas FS roads are usually surfaced with crushed rock or native material. Further, some effects are associated with road use rather than the mere physical presence of roads. For example, State highways carry more traffic traveling at higher speeds than FS roads. Confining the analysis to open roads may account for some of this difference, but road use characteristics can change seasonally or periodically. In addition, it is often impossible to separate the effects of roads from the effects of changes in land uses that roads support. Road density information at the grasslands scale should be regarded as interesting and suggestive, but tenuous. Road densities are more properly evaluated at the project scale, where detailed information may be gathered pertaining to physical road characteristics and road use patterns. In order to maximize the validity of interpretations, the information gathered must be tailored very closely to the specific effects or issue being addressed.

Table 14 displays the current road densities of State, County, Private, and ML-2, 3, 4, and 5 FS roads on the Caddo-LBJ NG including the Cross Timbers RNA. Please note that the tables do not include the ML-1 FS roads, unclassified FS roads, and private roads on the national grasslands. The road density is highest on the LBJ NG.

**Table 14. Road Density on National Grasslands (C-LBJ NG)**

<b>Caddo-LBJ NG</b>			
<b>Jurisdiction</b>	<b>Miles</b>	<b>Acres</b>	<b>Miles / Square Mile</b>
FS (ML-2, 3, 4, 5)	<b>58.5</b>	38,186	<b>1.0</b>
Private	0.1	38,186	0.0
County	58.3	38,186	1.0
State	12.2	38,186	0.2
<b>Totals</b>	<b>129.1</b>		<b>2.2</b>

<b>LBJ NG</b>			
<b>Jurisdiction</b>	<b>Miles</b>	<b>Acres</b>	<b>Miles / Square Mile</b>
FS (ML-2, 3, 4, 5)	<b>52.2</b>	20,313	<b>1.6</b>
Private	0.1	20,313	0.0
County	46.3	20,313	1.5
State	3.0	20,313	0.1
<b>Totals</b>	<b>101.6</b>		<b>3.2</b>

<b>Caddo NG</b>			
<b>Jurisdiction</b>	<b>Miles</b>	<b>Acres</b>	<b>Miles / Square Mile</b>
FS (ML-2, 3, 4, 5)	6.3	17,874	0.2
Private	0.0	17,874	0.0
County	<b>12.0</b>	17,874	<b>0.4</b>
State	9.2	17,874	0.3
<b>Totals</b>	<b>27.6</b>		<b>1.0</b>

### 3. Identification of Significant Issues (Step 3)

Issues were generated from public responses during the revision of the *Plan*, from the awareness and knowledge of those on the Roads Analysis IDT, from public responses to project proposals, and from discussions with public agencies like the Federal Highway Administration and TXDOT. Some issues will be addressed in this grasslands scale analysis; however, issues concerning specific roads or site-specific circumstances will be addressed during project-scale planning.

#### 3.1 Forest Plan Issue Summary

The issue of Roads and Trails was one of fifteen identified during the scoping process conducted for the revision of the *Plan*. The *Plan EIS* (page 51) described the issue as follows:

“Road reconstruction may cause an increase in erosion, sedimentation, and water yield. Mitigation measures for these actions are included within the standards and guidelines to maintain sediment and water quality within acceptable levels. Road reconstruction may include relocating portions of the road bed, surfacing with gravel, constructing dips, and installing culverts, all of which will reduce the sediment yield once in place.”

#### 3.2 Significant Issues Identified

The following issues were identified during this grasslands scale roads analysis. Issues concerning specific roads or site-specific situations will be addressed during more site-specific project-scale analyses.

- Does the current grasslands road system adequately serve users and protect resources?
  - The most important concern is public safety.
  - The protection of natural resources is the next most important concern.
- County roads are critical to accomplishing the Forest Service mission. More than one-half (59 percent) of the roads addressed in this analysis are County roads.

In the 1970s, the Forest Service first discussed road maintenance responsibilities with the Counties. A cooperative agreement concerning road maintenance was proposed. In 1979, the first cooperative agreement was signed with Fannin County. The original cooperative agreement with Fannin County was amended over the years and, in 2001, an updated cooperative agreement was signed with Fannin County reflecting the current road numbers, names, and lengths. The current cooperative agreement covers 17 County roads. See Table 15 below.

**Table 15. Road Cooperative Agreements (C-LBJ NG)**

Current Cooperative Agreements			
County	FS Roads	County Roads	Total Roads
Fannin County (Caddo NG)	0	17	17
Wise County (LBJ NG)	--	--	--
<b>Total Roads</b>	0	17	17

There is no road cooperative agreement on the LBJ NG with Wise County.

- There are no Forest Service roads that provide public access for rural communities, residential areas, or private lands; serve as school bus or mail routes; or have other features that require regular and emergency maintenance to provide for public use.

The Forest Service roads on the Caddo-LBJ NG are generally short, “dead-end” roads; however, a few Forest Service roads are longer thru roads such as 900, 908, and 920 which provide access thru large tracts of national grasslands.

- Generally, the Caddo-LBJ NG is receiving inadequate road maintenance funds. The road maintenance funds received are only about 20 percent of the estimated funds needed. However, the Forest Supervisor and District Ranger have authority to take actions to deal with inadequate road maintenance budgets, such as establishing road maintenance priorities, reprogramming funds, entering cooperative agreements, transferring roads to the county or other public agencies, reducing road maintenance levels, and closing or decommissioning roads to more effectively use limited road maintenance funds.
- Drainage from roads that cross streams or streamside riparian areas can affect water quality and alter stream structure. Drainage from roads can introduce sediment and other contaminants. The stream crossing structure can alter stream structure.
- A 5460/7700 memo dated August 7, 2003 from District Ranger Jim Crooks to the Forest Supervisor identified “land-locked” tracts on the national grasslands without a permanent road right-of-way for access. The tracts on the LBJ NG in Wise County are in Units 10, 54, and 69A; and the tracts on the Caddo NG in Fannin County are in Units 32, 45, 46, 48, and 49.

A 5460 memo dated June 22, 1999 from Acting District Ranger Ruben Natera to the Forest Supervisor documented that tracts in Unit 9 on the LBJ NG in Wise County needed a permanent road right-of-way for access.

- Private landowners have put gates on old county roads. These gates block public access to the national grasslands.

The gate on the Fannin Co 3380 road blocks public access to national grasslands on the Ladonia Units 45, 46, and 48. The Forest Service has a verbal agreement with the landowner to use the old county road for administrative purposes, but public access is blocked.

The gate on the Fannin Co 2025 road blocks access from the south to national grasslands on the Lake Fannin Unit 39; however,

- the Forest Service can access the area from the north using the FS 923 entrance road.
  - Public access to the Lake Fannin Camp is currently blocked by a gate on the FS 923 entrance road. The Lake Fannin Camp is open to the public under an administrative permit to the Lake Fannin Wilderness Park of Texas, Inc.
  - On January 31, 2008, District Ranger James Crooks issued a decision closing the FS 923 road from the Lake Fannin Camp south to the national grasslands boundary to prevent unmanaged recreation use.
- The ML-1, ML-2, and unclassified Forest Service roads will be assessed and issues addressed during subsequent site-specific project-scale analyses. The individual Forest Service roads will be evaluated to determine if the Road Management Objective is appropriate and if the road should be maintained, reconstructed, relocated, or decommissioned. The unclassified roads will be inventoried and evaluated to determine whether the roads should be classified as ML-1 or ML-2 roads or obliterated.

## 4. Assessment of Issues (Step 4)

This section addresses issues associated with the management of roads serving the Caddo-LBJ NG and is included as Appendix N *Assessment of Issues (Step 4)*.

## 5. Recommendations, Opportunities, and Priorities (Step 5)

### 5.1 Introduction

The Identification (Step 3) and Assessment (Step 4) of the roads issues addressed in this national grasslands scale analysis provide a basis to make recommendations, identify opportunities, and set priorities for management of the Caddo-LBJ NG roads system. In accordance with the FS-643 "Roads Analysis" process, this information was used to make the following recommendations, identify the following opportunities and set priorities.

### 5.2 Recommendations and Opportunities

#### **5.2.1 Grasslands Scale Recommendations and Opportunities**

The first priorities for road management are providing for public safety; maintaining roads to provide satisfactory surfacing, drainage, and signs; and protecting resources. The following recommendations and opportunities were developed during this roads analysis process.

1. Road maintenance funding is not always sufficient to maintain roads to desired standards. However, the Forest Supervisor and District Ranger have authority to take actions to deal with inadequate road maintenance budgets, such as reviewing and setting road maintenance priorities, reprogramming funds, entering cooperative agreements, transferring roads to the county or other public agencies, reducing road maintenance levels, and closing or decommissioning roads to more effectively use limited road maintenance funds.
2. Periodically review the road cooperative agreement with Fannin County Commissioners. Consider including FS Roads that the County can more easily or better maintain.  
  
Consider proposing a road cooperative agreement with Wise County Commissioners.
3. Acquire permanent road right-of-ways to access tracts in Units 9, 10, 54, and 69A on the LBJ NG in Wise County and in Units 32, 45, 46, 48, and 49 on the Caddo NG in Fannin County.
4. Our review of the Forest Highways resulted in the following two recommendations.

#### Caddo National Grasslands

Consider adding 2.9 miles of roads between FM 273 and FM 2554 leading to Lake Fannin. The Forest Highway would follow 0.4 miles of TX-P34 from FM 273 west to FAN-2024, 1.7 miles of FAN-2024 from TX-P34 north to FAN-2035, and 0.8 miles of FAN-2035 from FAN-2024 east to FM 2554. Improvements to the Forest Highway would improve access to the historic Lake Fannin Camp. (Note: The current Fannin County road maps show County Road 2024 includes the section from TX-P34 (Park Road 34) to the Lake Fannin entrance gate on FS 923. This was considered a section of FS 923 in the past.)

### LBJ National Grasslands

Consider adding 5.0 miles of roads between FM 730 and WSE-Old Decatur Road. The Forest Highway would follow 3.5 miles of WSE-2461 from FM 730 to WSE-2372 and 1.5 miles of WSE-2372 from WSE-2461 west to WSE-Old Decatur Road. This Forest Highway would connect three Public Forest Service Roads, 900, 904, and 902, to a major County road, the Old Decatur Road, and to a major State highway, FM 730. Improvements to the Forest Highway would improve access to,

- the Black Creek Lake Recreation Area on FS 902,
  - the TADRA Point Trailhead and the Cottonwood Lake Recreation Area on FS 900,
  - and to the Cross Timbers RNA.
5. Review and use standard road construction designs, drawings, and specifications to implement the *Plan* Forest Wide (FW) 053 Standard, “Design and construct roads... to minimize siltation and maintain to provide surface drainage away from streams and into vegetated buffer strips or other filtering system.”
    - Consider establishing silt fencing specifications to protect streams from siltation during ground disturbing activities.
  6. Road wing ditches concentrate water flows. The water run-off from one wing ditch can combine with the run-off from other wing ditches to further concentrate water flows in natural drainages. On-the-ground inspections reveal the run-off from road wing ditches can start and increase soil erosion, especially where the run-off reaches stream banks. Review and use standard road construction designs, drawings, and specifications to implement the *Plan* FW-053 Standard, “to provide surface water drainage away from streams and into vegetated buffer strips or other filtering system”. To reduce water flows and run-off from wing ditches, consider,
    - spacing wing ditches closer together,
    - reducing the run-off from wing ditches by constructing a “J” hook at the outlet end of wing ditches to slow water flow and provide for percolation in a settling basin, and
    - other actions as necessary.
  7. Review and use standard road construction designs, drawings, and specifications to implement the *Plan* FW-055 Standard, “Provide road... design and construction that allows unrestricted fish passage”, for appropriate streams as necessary. To provide unrestricted fish passage, culverts should be designed and installed to,
    - provide for a natural stream bed substrate,
    - not increase stream flow velocity to the rate that turbulence creates a cavity at the end of the culvert or erodes the stream banks, and
    - not spread low stream flows to the point that the streams are no longer navigable by fish.

Consider partially burying oversized culverts.

8. Review proposed special use roads on-the-ground with interdisciplinary specialists for their recommendations on road location, construction, and maintenance requirements before approving special use permit. Periodically inspect existing special use roads to ensure road maintenance practices protect grasslands resources and provide for public safety.

## 5.2.2 Project-Scale Recommendations and Opportunities

Although project-scale issues are not addressed in detail in this report, the following list of issues may be reviewed during site-specific project-scale analyses. This is not an all-encompassing list; other issues pertaining to individual roads may arise during project-scale analyses.

### 5.2.2.1 General

1. The road stream crossings should be examined during site-specific project-scale analyses to identify stream sedimentation and fish passage problems. This includes State, County, and Forest Service road stream crossings on the grasslands roads system.
2. Identify roads that,
  - need resurfacing, reconstruction, or relocation to provide for public safety, protect grasslands resources, and provide for anticipated traffic associated with project proposals,
  - consistently contribute sediment to streams at stream crossings, and
  - have stream crossing structures that prohibit fish passage.
3. Review RMO (Road Management Objectives) for FS roads.
  - Are road maintenance levels appropriate for current and anticipated traffic?
  - Are special resource considerations appropriate?
4. Identify road right-of-ways needed to access national grasslands.
  - Pursue the acquisition of permanent right-of-ways.
  - Pursue the acquisition of temporary right-of-ways where,
    - access will not be needed again in the future, and
    - a permanent right-of-way can not be acquired.
5. Cooperate with Counties,
  - to maintain, resurface, or reconstruct County roads to provide for public safety, protect grasslands resources, and provide for anticipated traffic associated with project proposals,
  - to construct and maintain drainage ditches to minimize stream sedimentation and to provide surface drainage away from streams and into settling basins, vegetated buffer strips, or other filtering systems,
  - to repair or reconstruct stream crossings that prohibit fish passage,
  - to assist counties in maintenance, resurfacing, or reconstruction of roads through cost-share agreements, and
  - to seek funds such as Capital Improvement or Road & Trail Deposit Funds (10 Percent Funds) to assist counties in road maintenance, resurfacing, and reconstruction.
6. Road maintenance funding is not always adequate to maintain roads to desired standards. Consider ways to reduce road maintenance costs, such as,
  - Are there roads appropriate for transfer to the County?
  - Are there roads where the maintenance level can be reduced?
  - Are there roads which are no longer needed and can be decommissioned?
7. Review the GIS road location and INFRA road data during site-specific project-scale analyses and during the Motor Vehicle Use Map (MVUM) review..
  - Are FS roads needed for current and future access?
  - Are FS roads needed for public use, permittee use, or administrative use?
    - Plan to decommission and obliterate FS roads no longer needed.

8. Locate and assess unclassified roads.
  - o Are unclassified roads needed for current and future access?
  - o Are unclassified roads no longer needed?
    - Plan to decommission and obliterate such roads.
9. Inventory and evaluate FS road signs.
  - o Install signs that provide for public safety and meet established standards.

### **5.2.2.2 Specific**

No specific project-scale issues were identified.

## **5.3 Questions to Address during Project-Scale Analyses**

The *Assessment of Issues* (see Appendix N) addressed the 71 questions from Appendix 1 of the FS-643 Miscellaneous Report “*Roads Analysis: Informing Decisions about Managing the National Forest Transportation System*” (USDA 1999) as well as 11 other questions addressing local issues. The questions from the FS-643 Miscellaneous Report focus on general ecological, social, and economic concerns associated with roads. The other questions focus on other local concerns raised during the analysis of this grasslands roads system.

Most of the questions are adequately addressed in this document and do not require further consideration. However, the following questions need to be addressed during project-scale analyses when the issues arise. Where identified as an issue, the following questions should be addressed during project-scale analyses.

### **5.3.1 FS-643 Roads Analysis Questions**

#### **Ecosystem Functions and Processes (EF)**

**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?

#### **Aquatic, Riparian Zone, and Water Quality (AQ)**

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

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

**AQ (6):** How and where is the road system “hydrologically-connected” to the stream system? How do the connections affect water quality and quantity?

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

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

**AQ (12):** How and where does the road system contribute to direct habitat loss for at-risk aquatic species?

**AQ (14):** To what extent does the road system overlap with areas of exceptionally high aquatic diversity or productivity or with areas containing threatened, endangered, or sensitive aquatic species or species of interest?

### **Terrestrial Wildlife (TW)**

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

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

### **Mineral Management (MM)**

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

### **Range Management (RM)**

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

### **Water Production (WP)**

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

### **Special Forest Products (SP)**

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

### **Special Uses (SU)**

**SU (1):** How does the road system affect managing special use permit sites (concessionaires, communication sites, utility corridors, etc)?

### **General Public Transportation (GT)**

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

### **Administrative Use (AU)**

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

### **Roaded Recreation (RR)**

**RR (5):** What are these participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?

### **Passive-Use Value (PV)**

**PV (1):** Do areas planned for road building, closure, or decommissioning have unique physical or biological characteristics, such as unique natural features and threatened or endangered species (see TW4)?

**PV (2):** Do areas planned for road building, closure, or decommissioning have unique cultural, traditional, symbolic, sacred, spiritual, or religious significance?

**PV (3):** What, if any, groups of people (ethnic groups, subcultures, and so on) hold cultural, symbolic, spiritual, sacred, traditional, or religious values for areas planned for road entry or road closure?

**PV (4):** Will building, closing, or decommissioning roads substantially affect passive-use value?

### **Social Issues (SI)**

**SI (4):** How does the road system affect cultural and traditional uses (such as plant gathering, and access to traditional and cultural sites) and American Indian treaty rights?

**SI (5):** How are roads that constitute historic sites affected by road management?

**SI (6) and SI (7):** How is the social and economic health of communities affected by road management and management of unroaded areas (for example, lifestyles, businesses, tourism industry, infrastructure maintenance)?

**SI (9):** What are traditional uses of animal and plant species in the area of analysis?

### **5.3.2 Other Questions**

**4.2.1** Does the existing system of roads create an unacceptable risk to ecosystem sustainability?

**4.2.2** Are there opportunities to reconstruct, relocate, close, or decommission roads on the grasslands roads system to resolve problems or be more consistent with *Plan* direction?

**4.2.4** Are there opportunities to change road maintenance practices to provide for public safety, better care for natural resources, or reduce costs?

**4.2.6** Are there opportunities to improve County roads under cooperative agreements?

**4.2.8** Should any roads be considered for designation as Forest Highways?

**4.2.9** Are existing FS roads no longer needed for future access?

**4.2.10** Are road improvements or additional roads needed to provide adequate access for national grasslands users, resource management, or protection?

**4.2.11** Are road right-of-ways needed to provide access to national grasslands for use, management, or protection?

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