

Background

The Forest Service's transportation policy, adopted in 2000, requires that road management decisions that may affect access or generate adverse environmental effects be informed by a "roads analysis." The Shawnee National Forest (Forest) is conducting the required roads analysis because there may be decisions resulting from revision of its land and resource management plan (Plan), or from the future analysis of proposed projects, that could affect roads and public access. The analysis will consider only those roads under Forest Service jurisdiction considered drivable with a passenger car, roads that the Forest Service identifies as "maintenance levels 3, 4, and 5." The Forest will not include lower maintenance-level roads in this analysis; but will consider these during the environmental analysis of specific recreation or vegetation-management projects as they are proposed.

This roads analysis is an assessment of conditions, issues, and needs. It does not include decisions, but provides information that can be used in the environmental analysis of the Forest Plan revision as well as other projects that may be proposed in the future.

The Forest-scale roads analysis considers environmental and social issues, rights-of-way acquisition needs, transportation improvement needs, current and likely future funding levels, and the relationship of the Forest's road system to other transportation systems (i.e., state, county, municipality, etc.). The analysis report includes an inventory of all maintenance level 3, 4, and 5 roads; develops guidelines for addressing road-management issues and priorities; identifies significant issues, concerns, and opportunities; and documents coordination efforts.

Analysis Area

The Forest is comprised of the Shawnee Purchase Units, established by law on October 1, 1933, and is situated across extreme southern Illinois, with its east side extending southward near the Ohio River, and its west side paralleling the Mississippi River. The southern extremity of the west side lies north of the confluence of these rivers at Cairo. The area is rich in history, reflecting both the historically important economic influence of the two major rivers—both conduits of trade and transportation—as well as the westward migration of American settlers.

The Forest lies in the rough areas untouched by the Wisconsin Glacier of some 25,000 years ago, the glacier that created the typical level or gently rolling farmlands of most of Illinois. With the razorback ridges of the Ozark Uplift on the west side of the Forest, the area known as the Illinois Ozarks, and the broader ridges associated with the Shawnee Hills on the east side, the Forest offers a spectacular and divergent landscape, with numerous stone bluffs and overlooks transitioning to lowland areas. Topography ranges from the floodplains of the Mississippi and Ohio Rivers, at about 325 feet above sea level, to 1,064 feet at Williams Hill in Pope County.

The geologic processes that formed the landscape are partially responsible for the presence of important mineral resources, including some of national significance. Plant life is extremely diverse and ranges from sun-loving species to those that grow in dense shade. The central hardwood type is the major vegetative association, although pine was planted on many acres in the past. More than 500 wildlife species can be found within the Forest. The climate and beauty of the area are especially charming during the spring and fall seasons with the spring bringing an abundance of blooming dogwoods, redbuds, and wildflowers. The fall is saturated with color, as the leaves turn brilliant red, gold and yellow. Spring weather can occur in March and fall weather can extend into November. During the spring and fall seasons, the climate and beauty of the area is especially compelling. The summers are warm and humid and the winters are mild.

The unique character of the landscape and abundant natural wonders make the Forest an oasis in the midst of agricultural lands, a destination vacation-point for many city dwellers. Approximately thirty-two percent of the acreage within the existing purchase unit boundary (870,000 acres) is national forest system land (277,506 acres). In spite of this low percentage, the Forest contains seven congressionally-designated wilderness areas, one additional area recommended for wilderness study, six candidate wild and scenic rivers, four national natural landmarks, ten research natural areas, and more than 80 designated natural areas considered important for botanical, ecological, geological or zoological reasons. As the single largest publicly owned body of land in the state, the Forest is important in meeting the outdoor recreation demands of citizens of the region. The Forest is within a day's drive (350 miles) of 40 million people, about fifteen percent of the U.S. population (based on 2000 census). This includes the major urban centers of St. Louis, Missouri; Memphis and Nashville, Tennessee; Louisville, Kentucky; Indianapolis, Indiana; and Chicago, Illinois.

Key Analysis Results and Findings

Since this analysis is at the Forest scale, specific roads or units were not addressed. The interdisciplinary team reviewed the road system as a whole, deciding that the Forest will analyze at the project scale any site-specific improvements that may be proposed in the future. In general, the team found that the transportation system on the Forest currently meets the strategic intent of the Forest Plan; although improvement is possible. The main issues are budget-related. Increased budgets would enable improvements to Forest roads as well as the provision of road-maintenance financial assistance to state, county, and other federal agencies. The improvement of road conditions could help alleviate some resource concerns by, for example, reducing sediment delivery into waterways. Specific results and findings are:

- On average, the Eastern Region of the USDA Forest Service has allocated \$916,000 to the Forest for road maintenance and construction/reconstruction since 1992. The estimate of the most efficient budget levels is \$1,150,000 per year. The Forest cannot meet maintenance requirements of its existing road system with current budgets.

- Only 28 percent of the roads on the Forest are Forest Service system roads; 56 percent are under county, state, private or other federal jurisdiction.
- Roads that could pose an unacceptable risk to ecosystem sustainability on the Forest are non-Forest Service roads with gravel or soil surfaces.
- The Forest is currently following the strategic intent of the Forest Plan. Management decisions at the project, watershed, and forest-scale meet guidance in the Forest Plan.
- An extensive transportation network serves the Forest. The existing road system is meeting current access needs.
- The Forest has received several applications for special-use road permits.
- Closure of unneeded roads is often controversial because, in general, local residents oppose road closures.

Process

Forest Service Manual (FSM) Requirements

The following information is required for a forest-scale roads analysis and is identified in FSM 7712.13b. Roads analysis at the forest scale is critically important as it provides a context for road management in the broader framework of managing all forest resources.

1. Consider the following at this scale:
 - a. Environment
 - b. Social Issues
 - c. An evaluation of the transportation rights-of-way acquisition needs
 - d. The interrelationship of state, county, tribal, and other federal agency transportation facility effects
 - e. Transportation investments
 - f. Current and likely finding levels
2. Prepare a report with accompanying map(s) that documents the information and analysis methods used to identify access and environmental priorities, issues, and guidelines for future road management and the key findings. At a minimum, the report will:
 - a. Inventory and map all classified roads, and display how these roads are intended to be managed
 - b. Provide guidelines for addressing road management issues and priorities related to construction, reconstruction, maintenance, and decommissioning
 - c. Identify significant social and environmental issues, concerns, and opportunities to be addressed in project-level decisions

d. Document coordination efforts with other government agencies and jurisdictions

The interdisciplinary team addressed all of the requirements in FSM 7712.13b. Many of the items in section one were specifically addressed during Step 4 and Step 5 of the roads analysis process. Two of the requirements in section two were addressed in responses to the 67 questions recommended in Forest Service guidance. However, all the requirements of FSM 7712.13b were satisfied as a result of this analysis. During Step 4, the interdisciplinary team utilized other Forest staff specialists to respond to the 67 questions. For specific responses to the 67 questions, please refer to the Step 4 section.

1(a) Environment: This was addressed during Step 4 and Step 5. Most of the questions in Step 4 respond to environmental effects. Please refer to Step 4 and question 1 in Step 5.

1(b) Social Issues: This was addressed during Step 4. Please refer to questions SI 1- SI 10 and CR 1.

1(c) Evaluation of the transportation rights-of-way acquisition needs: This was addressed during Step 4. Please refer to questions GT 1 – GT 4.

1(d) Interrelationship of state, county, tribal, and other federal agency transportation facility effects: This was addressed during Step 4. Please refer to questions GT 1 – GT 4 and AQ 1 – AQ 14.

1(e) Transportation investments: This was addressed during Step 4 and Step 5. Please refer to questions EC 1 – EC 3 and question 2 in Step 5.

1(f) Current and likely finding levels: This was addressed during Step 4 and Step 5. Please refer to questions EC 1 – EC 3 and question 2 in Step 5.

2(a) Inventory and map all classified roads, and display how these roads are intended to be managed: The Forest inventoried and mapped all classified roads. The INFRA database displays how all these roads are intended to be managed. (INFRA is an integrated inventory of and financial data for its constructed features, including buildings, dams, bridges, water systems, roads, trails, developed recreation, range improvements, administrative sites, heritage sites, general forest areas, and others). The engineering staff maintains the maps and INFRA database.

2(b) Provide guidelines for addressing road management issues and priorities related to construction, reconstruction, maintenance, and decommissioning: The interdisciplinary team determined that the guidelines in the Forest Plan for reconstruction, maintenance, and decommissioning communicate accurate needs and priorities.

2(c) Identify significant social and environmental issues, concerns, and opportunities to be addressed in project-level decisions: This was addressed in answering the 67

questions. The interdisciplinary team identified questions that were outside the scope of this analysis and would be more appropriate for a smaller-scale analysis.

2(d) Document coordination efforts with other government agencies and jurisdictions:

The team coordinated preparation of the analysis internally and externally. Appropriate representatives were consulted from all counties in and around the Forest regarding the preparation of the analysis. Without exception, none expressed any concerns or issues to be addressed during preparation. Upon completion of the analysis, copies of the document will be made available to the other agencies and jurisdictions. The names of these agencies and their responses are available in the project file.

The roads analysis was completed in six steps aimed at producing the needed information:

Step 1 - Setting up the analysis. The analysis had to be designed to produce an overview of the road system. Output from this step included the appointment of interdisciplinary team members, a list of information needs, and a plan for the analysis.

Step 2 - Describing the situation. The interdisciplinary team described the existing road system in relation to current Forest Plan direction. Products from this step include a map of the existing road system, descriptions of access needs, and information about physical, biological, social, cultural, economic, and political conditions associated with the road system.

Step 3 – Identifying issues. The interdisciplinary team, in conjunction with Forest Service employees, outside jurisdictions, and the public identified important road-related issues and the information needed to address these concerns. The output from this step includes a summary of key road-related issues, a list of screening-questions to evaluate them, a description of the status of relevant available data, and what additional data is needed to conduct the analysis.

Step 4 – Assessing benefits, problems, and risks. After identifying the important issues and associated analytical questions, the interdisciplinary team systematically examined the major uses and effects of the road system, including environmental, social, and economic effects and the values and sensitivities associated with roadless areas. The output from this step is a synthesis of the benefits, problems, and risks of the current road system and the risks and benefits of building roads in roadless areas.

Step 5 – Describing opportunities and setting priorities. The interdisciplinary team and line officers identified management opportunities, established priorities, and formulated technical recommendations that respond to the issues and effects. The output

from this step includes a map and descriptive ranking of management options and technical recommendations.

Step 6 – Reporting. The interdisciplinary team produced a report and maps that describe management opportunities and supporting information important for making future decisions about the characteristics of the road system. This information provides the context for developing future actions to improve the road system and for possible amendment or revision of the Forest Plan.

Public Involvement

On October 23, 2002, the general public was invited to an “open house” meeting for introduction to the roads analysis. (Forest employees had met previously and expressed their views on the analysis for the record). Individuals attending the open house stated clearly that their major concern was the condition of the Forest trails system and not the roads that are the focus of the analysis. A county road engineer expressed no concerns regarding the roads included in the analysis. Appendix C contains the material distributed to the public.

Products

The product of the analysis is a report for the information of future decision-makers and the public that documents the information and process employed to identify opportunities and set priorities for the Forest road system. The report includes a map of the road system for the analysis area, including all roads that provide access to Forest land. All the access roads that lie within the proclamation boundary of the Forest were included in this report. A complete list of all maps used in the analysis is included in the project file.

This Report

This report documents the roads analysis procedure used for the Forest. It is a “living” document that reflects the conditions of the analysis area at the time of preparation. The document will be updated as the need arises and conditions warrant. (Note: The “analysis area” referenced in this document corresponds to the Forest proclamation boundary).