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# Part 4—Transportation Plan



The Proclamation (Clinton 2000) states:

The management plan shall contain a transportation plan for the monument that provides for visitor enjoyment and understanding about the scientific and historic objects in the monument, consistent with their protection. For the purposes of protecting the objects included in the monument, motorized vehicle use will be permitted only on designated roads, and non-motorized mechanized vehicle use will be permitted only on designated roads and trails, except for emergency or authorized administrative purposes or to provide access for persons with disabilities. No new roads or trails will be authorized within the monument except to further the purposes of the monument. Prior to the issuance of the management plan, existing roads and trails may be closed or altered to protect the objects of interest in the monument, and motorized vehicle use will be permitted on trails until but not after December 31, 2000 (Clinton 2000, p. 24098).

Current management of the Monument complies with the Proclamation direction to limit motorized vehicles to designated roads, with the exception of Trails 27E04 and 27E05 in the Kings River Special Management Area (KRSMA). Designated road maps were published in 2001 and with the 2003 Monument Plan Final EIS, and motor vehicle use maps (MVUMs) were published in 2008 to reflect this management of the transportation system in the Monument (the two MVUMs covering the Monument are included in the Map Packet for this Monument Plan).

Because the Giant Sequoia National Monument Plan is a programmatic level decision and does not directly authorize any project level site specific actions, the transportation plan also does not make any site specific changes to the transportation system. Instead it provides a framework by which to manage the transportation system and make future decisions concerning changes to it that support the management intent of the Monument Plan. Changes to the existing transportation system will only be made after appropriate site-specific environmental analysis.

## Desired Conditions

Roads are safe and fully-maintained to minimize adverse resource effects while providing public and administrative access to National Forest System lands and facilities within the Monument. The road system is properly sized to provide needed access to the objects of interest for their proper care, protection, and management, as well as visitor enjoyment of the Monument. Roads that are no longer needed have been decommissioned to restore natural drainage and vegetation, or converted to other uses.

## Strategies and Objectives for the Transportation System

The transportation system will provide high levels of access for public and management use, consistent with protection and restoration of the Monument. New roads may be constructed to meet management goals, such as to provide access to new recreation facilities, to provide access to the objects of interest, to provide access to new administrative sites, to replace roads that have unacceptable resource effects, or to provide access for scientific research.

### Strategies

1. Size and maintain the road system to minimize adverse resource effects, while providing appropriate public and administrative access to National Forest System lands and facilities in the Monument.
2. Promote aquatic organism passage at road stream crossings where needed.
3. Maintain roads with effective road drainage and erosion controls to conserve existing soil and to reduce effects to adjacent riparian and aquatic systems.
4. Complete 6<sup>th</sup>-field watershed analysis, and review the transportation system in the Monument using forest-scale travel analysis to inform future opportunities for changes in road status, including changes in maintenance level, decommissioning, or conversion to trails.

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5. Consult with local tribal governments and Native Americans to provide for transportation and access needs, including access to culturally important sites and resources for use by Native Americans.
6. Coordinate transportation planning, management, and road decommissioning with Sequoia and Kings Canyon National Parks; other federal, state, and county agencies; and the Tule River Indian Tribe, to reduce traffic congestion and safety hazards, especially along major travelways.
7. Partner with state and local agencies to operate and maintain roads for four-season use where appropriate.
8. Provide parking facilities to meet projected use, as determined through site-specific project analysis.
9. Base proposals for new roads on the need to provide access for recreation opportunities, other public use, or management activities, as appropriate to the purposes of the Monument.
10. Convert roads to trails or other uses, or decommission roads not needed to meet management objectives.
11. Emphasize opportunities for creating loop roads where feasible and appropriate.
12. Provide and maintain regulatory, warning, directional, and information signing on roads for travelers' use.
13. Manage the road system to allow:
  - a. Both highway legal use and off-highway vehicle (OHV) use on designated roads.
  - b. Over-snow vehicles (OSV) use on designated roads.
  - c. Non-motorized mechanized vehicles (such as bicycles) on designated roads and trails.

### Objectives

1. Within 2 years, complete travel analysis to determine the minimum necessary Transportation System (Subpart A of the Travel Management rule, 36 CFR 212.5) for the Monument.
2. Within 2 years, complete a Monument-wide watershed improvement needs inventory (WINI) to identify adverse effects to watersheds from roads.
3. During the life of the Monument Plan, establish a sustainable and desirable off-highway vehicle (OHV) and over-snow (OSV) route system (on the existing road system), including loop opportunities where feasible and appropriate.

## Current Transportation System

### Road System

The road system in the Monument consists of approximately 822 miles of classified roads, ranging from single-lane dirt roads to paved-double lane roads. The miles of road by their assigned maintenance level (ML) are shown in the following table. These data are derived from the forest corporate tabular database for infrastructure (INFRA). The *operational* maintenance level is the maintenance level currently assigned to a road, considering today's needs, road condition, budget constraints, and environmental concerns; in other words, it defines the level to which the road is currently being maintained. The *objective* maintenance level is the desired maintenance level to be assigned at a future date, considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, or higher or lower than, the operational maintenance level. Both maintenance levels may change in the future.

**Table 51 Miles of Roads in the Monument by Maintenance Level**

Maintenance Levels (ML)	Objective ML	Operational ML
1 (closed to motorized traffic)	313	71
2 (managed for high-clearance vehicles)	255	515
3 (low standard, passenger vehicle traffic)	134	127
4 (moderate standard, passenger vehicle traffic)	69	72
5 (two-lane paved, passenger vehicle traffic)	51	37
<b>Total miles</b>	<b>822</b>	<b>822</b>

Each road has a functional designation as an arterial, collector, or local road, as shown in the following table (data from INFRA database). Arterial roads (typically maintenance levels 4-5) are the main roads that traverse the forest and connect to major state highways or county roads. They are paved and designed for higher-speed travel. Collector roads (typically maintenance level 3) connect the arterial roads to local roads and balance access needs with construction and maintenance costs. Local roads (typically maintenance levels 1-2) are at the ends of collector roads, tend to be low standard, and serve a small land area.

**Table 52 Miles of Road by Functional Class**

Functional Class	Objective Class	Operational Class
Arterial	120	109
Collector	134	127
Local	568	586
<b>Total miles</b>	<b>822</b>	<b>822</b>

Approximately 265 miles of road are designated for OHV use in the northern portion of the Monument. The southern portion has OHV recreation opportunities on approximately 250 miles of unpaved, designated roads.

The road system in the Monument that is currently designated for motorized use is shown on the MVUMs for the Hume Lake and Western Divide Ranger Districts (see the map packet). These maps are published as required by the Travel Management Rule; they display the entire districts, including land outside the Monument, because they cannot be published for areas smaller than an administrative unit.

### Trail System

The trail system within the Monument currently consists of approximately 196 miles of system trails, including about 12 miles of the Summit National Recreation Trail. Twelve developed trailheads offer parking, information, and restrooms; and 10 other trailheads provide only parking for trail users.

Some trail facilities are located within the current administrative boundaries of giant sequoia groves. Two interpretive trails, the Indian Basin Trail and

the Trail of 100 Giants (about 2.5 miles combined) and seven trailheads (Chicago Stump, Boole Tree, Cherry Gap, Evans, Little Boulder, Freeman Creek, and Needles) are located in groves. OHV use is still allowed on about 3.8 miles of trail in the Kings River Special Management Area, which was designated under Public Law 100-150. This public law takes precedence over the Proclamation (Clinton 2000). This motorized use is shown on the MVUM for the Hume Lake Ranger District (see the map packet).

### Snowmobile Use

In the northern portion of the Monument, 39 miles of marked routes are available for over-snow vehicles, 21 of which are groomed; an additional 50 miles of unmarked roadbeds are open to snowmobiles. These routes offer opportunities for all levels of riding experience, from easy, groomed routes to very difficult, deep-powder routes. Facilities include four winter trailheads with parking, two of which have restrooms. Montecito Lake Resort, authorized under special use permit, offers 20 miles of groomed trails used exclusively by cross-country skiers.

The southern portion of the Monument features approximately 114 miles of primary groomed and marked roads, 68 miles of secondary groomed and marked roads, a warming hut located north of the junction of State Highway 190 and the Western Divide Highway, and three trailheads. Cross-country skiing commonly occurs along the groomed snowmobile routes with some adventure trail-breaking occurring off-road. Volunteers commonly mark approximately four miles of ungroomed ski trails in the Quaking Aspen/Ponderosa and Parker Pass areas.

## Transportation System Management

### Maintenance Strategy

Currently available funding is insufficient to fully maintain the existing road system. The following strategies will be used to prioritize needed maintenance and to improve the ability to complete all needed maintenance:

1. Public safety and natural resource protection would be the highest priorities for maintenance.

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2. Maintenance levels 3 through 5 roads would be higher priority for maintenance than maintenance levels 1 and 2 roads, due to the higher potential loss of investment, generally higher traffic volumes and speeds, and resulting safety risks and liabilities.
3. Submit appropriate projects for maintenance, reconstruction, or rehabilitation funding when opportunities are available (agency funding, state grants, partnerships, and other sources).
4. Seek additional sources of funding to reduce the maintenance backlog and keep the road system in acceptable condition. Potential sources include Federal Highway Trust Fund funding through the national transportation bill and appropriated funding specifically for specially designated areas such as monuments.
5. Partner with user groups, permittees, and other entities to accomplish needed road maintenance.
6. Consider reducing the assigned maintenance level of individual roads based on access needs, resource risks, and costs to improve the ability to maintain the entire road system.
7. Consider closing roads not currently needed for resource management activities or significant recreation access to reduce maintenance costs, while retaining the road prism for expected future access needs.
8. Consider opportunities to reduce the size of the road system by decommissioning individual roads or converting them to non-motorized trails.

### Road System Changes

Changes to the road system may include actions such as changes of assigned maintenance levels for individual roads, construction of new roads, removal of roads from the system through decommissioning, and conversion of roads to trails. New roads could be constructed to meet management goals to provide access to new recreation facilities or opportunities; to provide access to the objects of interest; to provide access to administrative sites (ranger stations, work centers, etc.); to replace roads producing unacceptable resource effects; or to provide access for scientific research.

The priority for road retention emphasizes retaining road access for public use and for management activities similar to current access levels. For public access, emphasis should be on maintaining roads to recreation sites, concentrated use areas used for dispersed recreation, sites authorized by special use permits, and private land. The road system will also be available for recreation driving and for off-highway vehicle use on roads designated for such use. For management access, emphasis should be on ecosystem restoration and fire protection.

Roads with high risks for causing unacceptable effects to natural resources should be repaired, relocated, closed, or decommissioned to reduce effects. Road decommissioning should focus on roads producing unacceptable effects where repair or relocation are unreasonable, roads where the potential for resource effects and high maintenance costs outweigh the need for access for resource management or recreation, and any unauthorized motorized routes remaining after the road system was designated in 2000, as required by the Proclamation.

Changes to the road system will be made through the travel analysis process and site-specific project analysis. The objective of travel analysis is to provide decisionmakers with critical information to develop road systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions. Travel analysis is required to inform decisions related to identification of the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands; and to inform decisions related to the designation of roads for motor vehicle use.

An analysis of the entire designated road system in the Monument was completed in 2003, following the roads analysis process (RAP), which was agency direction at the time. The process was very similar to the current travel analysis direction, except that it was expanded to include motorized trails and areas. Since motorized travel is limited to designated roads in the Monument, the RAP completed in 2003 is still a valid tool to help inform decisions about the road system.

In the completed RAP, evaluation criteria were created based on specific topic areas described in the FS-643 miscellaneous report (agency direction at the time). These topics included ecosystem functions and processes; aquatic, riparian zones, and water quality; terrestrial wildlife; economics; minerals and range management, water production, and special forest products; special use permits; general public transportation; administrative uses; protection; road-related and unroaded recreation; passive use values; social issues; and civil rights and environmental justice. Similar criteria would be appropriate to evaluate the need for future changes in the trail system.

The evaluation criteria developed for the Monument RAP were:

- Aquatic risk factors
  1. Geologic hazard
  2. Stream crossing density
  3. Riparian zone–stream proximity
- Terrestrial risk factors
  1. Heritage resources
  2. Road density effects on wildlife habitat
  3. Scenic resources
- Access factors
  1. Private/non-recreation public access
  2. Public access (recreation)
  3. Administrative site access
  4. Vegetation management
  5. Fire protection
- Social factors
  1. Lifestyle, attitudes, beliefs and values
  2. Economics

The aquatic and terrestrial risk factors were combined into a consolidated “risk equivalent” with a rating of low, medium, or high. The access and social factors were also combined into a consolidated “need equivalent” with a rating of low, medium, or high.

This resulted in a combined potential risk versus need equivalent rating for each road in the system. The nine potential combined ratings are displayed in the following table.

**Table 53 Potential Risk and Need Equivalent Combination Ratings**

	Need Equivalent		
Risk equivalent	Low/low	Low/moderate	Low/high
	Moderate/low	Moderate/moderate	Moderate/high
	High/low	High/moderate	High/high

Based on the combined rating, roads could be considered for the following changes:

1. Roads rarely used by the public or Forest Service (i.e., low need equivalent) and with high risk equivalent could be considered for decommissioning.
2. Roads rarely used by the public or Forest Service (i.e., low need equivalent) and with low resource risk equivalent could be considered for decommissioning or storm-proofing.
3. Roads accessing vegetation that has reached desired condition may be evaluated for decommissioning or storm-proofing.
4. Roads frequently used by the public or Forest Service (i.e., moderate to high need equivalent) with moderate to high resource risk equivalent could be evaluated to relocate portions of the roads away from resource risks or create alternate access routes with fewer resource risks.
5. Where two or more roads access the same area, traffic could be directed onto the more stable road and the less stable road(s) could be decommissioned.

The complete RAP can be found in Appendix A of the transportation report and listing of roads is in Appendix B of the transportation report, which is available in the project file at the Supervisor’s Office of the Sequoia National Forest.

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Some topic areas are best evaluated at the site-specific scale, rather than at the forest or Monument-wide scale. Some data can become diluted at the broad scale, so that areas appear to have low effects, whereas negative effects can be seen and evaluated more readily at the site-specific scale. The Monument RAP was conducted at a broad, forest scale to identify overall trends. Travel analysis can be conducted at multiple scales, as required to adequately inform proposed actions.

When changes are proposed to the road system to further the purposes of the Monument, the decisions made will be informed by travel analysis and site-specific project analysis. Evaluation criteria for the travel analysis will include criteria similar to the criteria described for the RAP, as well as other criteria appropriate to the specific proposed action.