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Resources, Community, and
Economic Development Division

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May 27, 1997

The Honorable John R. Kasich
Chairman, Committee on the Budget
House of Representatives

Subject: Forest Service: Construction of National Forest
Roads

Dear Mr. Chairman:

As agreed with your office, we are providing you with information on the Forest Service's road-building program. We briefed your office on the results of our work on May 21, 1997.

Our objectives were to (1) describe how the Forest Service determines the need for and the types of roads to be constructed in national forests, (2) determine how and why the Forest Service's road-building costs differ from those of other timber sellers, and (3) identify actions the Forest Service could take to reduce these costs. These issues are discussed below and in enclosure 1, which includes the presentation provided at our briefing. We reviewed the Forest Service's policies, procedures, and plans to determine how the Forest Service identifies the need for and the types of forest roads to construct. We also compared the Forest Service's policies, procedures, and plans with similar information obtained from the Bureau of Land Management, the Bureau of Indian Affairs, three Indian tribes, and six states to identify differences in the treatment of road construction costs. In addition, we interviewed purchasers of federal timber, timber industry representatives, and members of the environmental community to identify actions that the Forest Service could take to reduce its forest road construction costs.

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SUMMARY

The Forest and Rangeland Renewable Resources Planning Act of 1974 (Public Law 93-378), as amended, requires that the national forests construct an adequate and safe system of forest roads. To comply with this requirement and to determine the need for permanent forest roads, each national forest prepares a forest management plan. Forest plans, which cover a period of up to 15 years, are designed to, among other things, identify forest road needs on the basis of such factors as public access, the location of planned timber sales, programmed wildlife management activities, and efforts to improve timber stands, such as thinning and fertilizing. However, forest plans, most of which were prepared and approved 10 to 15 years ago, may be outdated because the conditions on national forests, such as the volume of timber that can be harvested, may have changed significantly—perhaps negating the need for some or all of the roads identified in the plans.

There are three primary differences in road construction costs between the Forest Service and other federal and state timber sellers. Specifically:

- Harvesting timber often requires that a timber purchaser construct access roads to move logging equipment into and out of timber harvest areas and to transport harvested logs. The Forest Service and most of the other federal and state timber sellers we reviewed generally use similar guidelines to estimate the costs of the access roads to be constructed by a timber purchaser. However, in accordance with the National Forest Roads and Trails Act of 1964 (Public Law 88-657), the Forest Service may give "road credits" to a timber purchaser equal to the estimated costs of constructing forest roads. The timber purchaser can use the road credits instead of cash to pay for some of the harvested timber. On the other hand, other federal and state timber sellers generally do not give road credits to timber purchasers. They require that the purchasers factor road construction costs into their bids for the timber, and it is generally assumed that purchasers lower their bids to account for these costs. However, whether there is a dollar-for-dollar reduction in the bids is not known.
- Of the timber sellers we reviewed that give road credits, only the Forest Service is required by law to treat road credits as receipts even though no cash is actually received for the timber. The federal government is required by the 1908 Twenty-Five Percent Fund Act to pay the states in which national forests are located 25 percent of all Forest Service receipts derived each year from each national forest. In 1976, the National Forest Management Act required that Forest Service road credits be included as

receipts in calculating the 25-percent payment to the states. In fiscal year 1996, about \$41 million in road credits were used by timber purchasers to pay for timber. As a result, the federal government paid more than \$10 million to the states.

- Although the Forest Service and most of the other federal and state timber sellers we reviewed use similar cost guidelines to construct roads, road costs are not entirely comparable because, in some cases, the Forest Service constructs roads to a higher safety standard. The Forest Service's policy provides that some national forest roads remain open after timber harvesting has been completed so that Forest Service employees can continue to perform their forest management responsibilities and the public can access forest resources for such activities as hunting, camping, and fishing. The Forest Service roads that remain open cost more because they must be designed to higher standards to ensure the public's safety and protect the resources. While some of the other federal and state timber sellers permit public access to some roads, this access is more limited than that of the Forest Service, thus allowing the other sellers to have fewer roads designed to higher safety standards.

Timber industry representatives, environmentalists, and purchasers of federal timber suggested to us various actions that the Forest Service could take to reduce its forest road costs and still improve public safety on forest roads, reduce the impact of forest roads on the environment, and improve the ability of the Forest Service to fully maintain the national forest road system. For example, although the Forest Service already does some cost sharing, it could enter into more cost-sharing agreements with other federal, state, and private agencies that benefit from the roads. Also, because many forest road plans may be outdated—some roads may no longer be needed—it was suggested that the Forest Service could defer further construction of new roads except for those roads already approved and those roads needed to protect sensitive areas, pending the completion of a detailed review of the current resource and management needs in the national forests. In addition, it was suggested that the Forest Service could eliminate road credits and require timber purchasers to construct roads as part of the timber sale contract. However, it is assumed that this action would lower timber receipts because the purchasers would reduce their bids to account for some or all of the estimated road costs. In addition, the Forest Service would not pay 25 percent of the purchasers' road credits to the states, a requirement that was authorized by the National Forest Management Act of 1976.

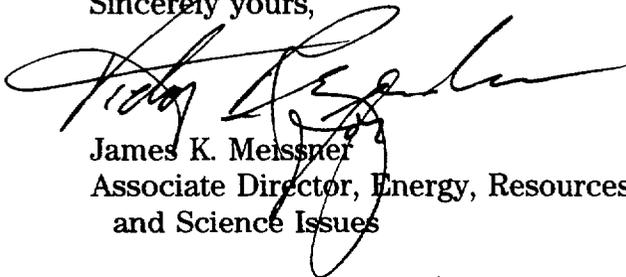
AGENCY COMMENTS

We provided the Department of Agriculture, the Forest Service, the Department of the Interior, the Bureau of Land Management, and the Bureau of Indian Affairs with a draft of this report for comment. We met with Forest Service officials, including the Acting Director and other members of the National Forest System engineering staff. These officials agreed with the information presented in the draft report and suggested clarifications to our report that we incorporated as appropriate. Department of the Interior, Bureau of Land Management, and Bureau of Indian Affairs officials did not have any comments on the draft report.

We performed our work from September 1996 through April 1997 in accordance with generally accepted government auditing standards.

Please call me at (206) 287-4810 if you or your staff have any questions. Major contributors to this report were Edward M. Zadjura, John S. Kalmar, Jr., Araceli Contreras, June M. Foster, Hugo H. Wolter, Jr., and Robert B. Arthur.

Sincerely yours,



James K. Meissner
Associate Director, Energy, Resources,
and Science Issues

Enclosure

**GAO Resources, Community, and Economic
Development Division**

**Review of the Forest Service's road-
building program**

GAO **FOREST SERVICE ROADS**
Objectives

- How does the Forest Service determine its need for forest roads?
- How and why do the Forest Service's road-building costs differ from other timber sellers'?
- What changes could be made to reduce the Forest Service's road-building costs?

GAO FOREST SERVICE ROADS
Scope

- **Agencies contacted**
 - **Forest Service: HQ; Regions 1,3,6; Lolo, Coconino, and Umpqua NFs**
 - **Bureau of Land Management: Arizona, Oregon, and Montana**
 - **Bureau of Indian Affairs/Native American Tribes: Confederated Salish and Kootenai, White River Ft. Apache, Warm Springs**
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GAO **FOREST SERVICE ROADS**
Scope

- Other groups contacted
 - Congressional Research Service, industry trade groups, timber purchasers, environmental groups

GAO **FOREST SERVICE ROADS**
Background

- About 380,000 miles of roads in FY '96
 - Forest Service estimates that road system is about 90% completed
 - 5 maintenance levels generally represent the quality and drivability
 - 5--highest level, paved, high speed
 - 4--paved or gravel surface, lower speed for cars
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GAO **FOREST SERVICE ROADS**
Background

- 3--gravel or natural surface, suitable for cars
 - 2--rough, natural surface, high clearance vehicles
 - 1--closed to vehicular traffic
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- 70% of FS roads are level 1 or 2
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GAO FOREST SERVICE ROADS
Background

Since FY '90, road building has declined

	FY '90	FY '96
Miles built	1,924	435
Miles rebuilt	4,436	2,801

GAO FOREST SERVICE ROADS
Background

Expenditures (\$mil)	FY '90	FY '96
Appropriated	\$147.0	\$84.3
Purchaser credit	119.3	41.3
Subtotal	\$266.3	\$125.6
Payments to states ²	29.8	10.3
Total	\$296.1	\$135.9

1. Timber purchasers are required to build any roads specified in timber sale contracts. In return, the Forest Service grants them a credit against the timber sale price equal to the estimated cost of the roadwork.

2. By law, states receive 25 percent of all receipts generated on national forest lands. Since 1976, purchaser road credits have been included as receipts in calculating the 25-percent payment.

GAO FOREST SERVICE ROADS
Background

Maintenance expenditures have also declined

	FY '90	FY '96
Dollars spent (\$mil)	\$96.9	\$77.1
Miles		
fully maintained	172,100	152,800
not fully maintained	190,900	227,400

GAO FOREST SERVICE ROADS
How does the FS determine road needs?

- Forest plans identify the need for roads based on timber sales, resource management, and public access needs.
 - Forest plans cover a 10-15-year period and can take up to 10 years to develop; most plans, which were approved over 10 years ago, may be outdated because conditions have changed significantly.
 - Roads are planned/designed by forest staff, including engineers.
-

GAO FOREST SERVICE ROADS
How does the FS determine road needs?

- Road construction and reconstruction are funded by appropriations and timber sale purchaser road credits (PRC).
 - Timber sale PRCs are based on FS' estimate of road construction and reconstruction costs using regional cost guides. The estimate includes a profit margin for purchasers.
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GAO **FOREST SERVICE ROADS**
Differences between FS and others

- Since 1964, FS has used PRCs to pay for road construction and reconstruction.
 - FS credits the cost of the road against the purchaser's cost of the timber.
 - No direct accountability for the accuracy of FS' PRC cost estimates because purchasers are not required to report actual costs of construction and reconstruction.
-

GAO **FOREST SERVICE ROADS**
Differences between FS and others

- BLM and BIA do not use PRCs. Their purchasers construct and reconstruct roads as part of the timber sale contract; it is believed that purchasers lower their bids by the amount of road costs.
 - Construction & maintenance costs vary.
 - Construction costs should be similar if the same road is built in the same geographic area, since all agencies generally use similar cost guides.
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GAO FOREST SERVICE ROADS
Differences between FS and others

- FS roads may be built to a somewhat higher standard, since they may be left open for recreation and other uses and may be subject to applicable Federal Highway Administration (FHWA) safety standards.
 - Since FS leaves roads open, maintenance is higher, especially to meet safety and resource protection needs.
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GAO FOREST SERVICE ROADS
Differences between FS and others

- By law, the federal government pays an amount equal to 25% of PRCs to states in which national forests are located.

GAO **FOREST SERVICE ROADS**
Changes that could lower road costs

- Because of concerns about safety, the environment, and FS' ability to maintain its existing road system, suggestions have been made to us that FS could
 - Defer construction of new roads except for those already approved and those needed to protect sensitive areas, pending a detailed review of current forest needs

GAO FOREST SERVICE ROADS
Changes that could lower road costs

- Include road construction and reconstruction in timber sale contracts as BLM and BIA do (reduces FS' timber sale receipts and 25% payment to states)
 - Enter into more cost-sharing agreements with other federal, state, and private agencies that benefit from the roads
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GAO FOREST SERVICE ROADS
Changes that could lower road costs

- Reduce the category of roads and the associated usage, thus lowering the amount of maintenance needed
- Close or obliterate roads that do not provide access to recreation areas or are no longer needed to manage forest resources

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