

22. Maintenance of Roads (PRACTICE: 2-22)

- a. Objective: To maintain roads in a manner which provides for water quality protection by minimizing rutting, drainage failures, side-casting material, and blockage of drainage facilities, while considering maintenance equipment operator and road user safety, other affected resources, and funding availability.
- b. Explanation: Every road requires some level of maintenance, due to deterioration from use and weather. The rate of deterioration varies greatly, depending on numerous factors: volume and type of vehicle traffic, amount, type and duration of precipitation, soil characteristics, road grade, number and type of drainage features, topography, adjacent vegetation, and frequency of maintenance operations. There is no such thing as a "self maintaining road" as even the most properly designed and constructed road needs the occasional maintenance, however minor. Roads that appear to be "self maintaining" most likely possess drainage features that are properly located and installed to address expected use and weather, or are located in areas where impacts are negligible. Roads that appear to be "maintenance nightmares" most likely are located in areas susceptible to erosion regardless of use, and regular heavy maintenance may be necessary to keep them available for use. Road management objectives include the objective and operational maintenance level of each road.

The decision to keep or decommission a road requiring heavy maintenance is influenced by meeting land management objectives and project specific travel analysis. An annual road maintenance plan is prepared each year, based in part from: road condition surveys; historical maintenance needs; response to natural events (plugged culvert or downed trees); in conjunction with specialists and program managers. The plan is discussed with and submitted for Line Officer approval. The plan reflects forest priorities for roads to receive maintenance within expected funding availability. Approved road maintenance plans provide the general guidance for the annual activities, while at the same time acknowledging that unforeseen events may require deviation from the approved plan, such as landslides, fire, washout, etc.

Minimum goals of road maintenance are to keep drainage features working properly, allow for safe and efficient use, protect water quality and other forest resources, and protect the road investment. Higher levels of maintenance are implemented when use activity and forest management goals dictate them, such as stabilizing surfaces for resource extraction, or maintaining a smooth surface for high levels of passenger vehicle use.

- c. Implementation: Road maintenance funds are not sufficient to allow for annual maintenance on every road every year. Typical maintenance may include clearing debris, grading roadway surface and dips, cleaning lead-off ditches and culverts, hazard tree removal, brush clearing for safe sight distance, replacement of failed traffic controls, placement of spot rock, and filling potholes. These tasks are reflective of road management objectives and the assigned operational maintenance level. Forest scale travel analysis may provide opportunities to modify the assigned operational

maintenance level while still meeting land management objectives, providing for safe use, and minimizing resource impacts.

Road maintenance plans are implemented through contract, cooperators, force account, and active timber sale or other authorized activities. Contract, timber sale, and other authorized/permited operations are bound by specifications and drawings. The COR is responsible for assuring compliance by contractors; ER, TSA, or FSR assures compliance by cooperator, purchaser or permitted operator. Project manager and crew supervisor assures compliance for force account work. Optimally, the forest hydrologist works with the Forest quality assurance personnel to determine if approved maintenance tasks are completed with minimal resource impacts. Adjustments to future maintenance plans and methods are considered when previous methods fail to prevent significant impacts.

Regardless of whether road maintenance is accomplished with force account crew, contractor, permittee, or cooperator, the road maintenance plan requires Best Management Practices. They are incorporated as specifications, contract or sale clauses, operating plan requirements, permit clauses, and are often shown in the drawings. Where monetary compensation is exchanged for maintenance work, failure to adhere to BMP's can result in withheld payment. Other leverage could be a revoked permit. Adherence to BMP's could be included in road maintenance personnel performance standards.

Reference: Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects , FP-03 Edition
Timber Sale – Road Maintenance T-800 Specifications
FSM 7730 – Road Operation and Maintenance
FSH 7709.59, Chapter 60 – Road Maintenance
Manual on Uniform Traffic Control Devices – 2009 Edition