

Transportation Planning

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Introduction

As used in this section “Transportation Planning” means any planning activities involving new road construction, road improvement or road maintenance. This section is intended to guide Oregon Department of Forestry managers of state-owned forest lands (unit foresters, forest engineering supervisors, road specialists, and foresters) in the transportation planning effort for state forest roads. It may also serve to explain the basic transportation planning approach of the department to other interested parties. The levels of transportation planning as well as the goals, objectives and strategies for transportation planning are described.

Goals of Transportation Planning

1. Provide plans for a road system that will facilitate the implementation of Forest Management Plans.
2. Provide plans for a road system that is efficiently, effectively, and environmentally constructed and maintained.

Objectives of Transportation Planning

1. Develop a vision of the desired forest road system.
2. Know and evaluate the condition of the existing forest road system.
3. Develop efficient, effective, and environmentally sound plans that can be used to move from the existing condition of the road system toward the vision or desired condition.

Levels of Planning

Transportation planning for state-owned forest lands will occur at three levels:

Level I This is a broad level, long range planning effort that establishes long term goals and determines strategies for achieving the goals. Road management goals and strategies need to be consistent with legal requirements and the goals and strategies for the management of other forest resources. Specific operations are not identified. Level I planning usually occurs in the development of forest management plans, watershed assessments and similar documents.

Example: The forest management plan provides a broad, general description of the current condition of forest roads on state-owned forest lands, establishes broad, general goals for the access system and describes the strategies for achieving the goals.

Level II This is a mid level, moderate range planning effort that describes the vision for the forest road system of the future, determines the current condition of the road system, and identifies the general needs to move from the current condition to the vision. This level of planning usually does not span more than a decade and needs to be updated periodically. Major activities such as mainline and primary spur road construction and significant road improvements are identified. The Level II plan will be consistent with the goals and strategies determined in Level I planning. Level II planning usually occurs in the development of implementation plans and similar documents. Guidance on the development of Level II transportation plans may be a part of the overall guidance for the development of these documents.

Example: A district implementation plan calls for significant timber harvesting in a given basin in the next decade. A road system is needed to facilitate the harvesting activities. A transportation plan would be developed that would supplement and support the implementation plan for the basin. The transportation plan would describe the vision for the road system in the basin and determine the current condition of the road system. It would then identify any new construction of mainline or primary spur roads that are needed, any significant reconstruction of existing roads, and any road improvement needs such as replacement of stream crossing structures. Approximate locations of activities may be identified on maps or photos. Approximate scheduling of individual projects may also be included.

Level III This is a detailed level of planning that considers specific projects or operations over a relatively short time frame, usually two years or less. Projects or operations must be consistent with Level II planning for the geographic area. Oftentimes the need for the project or operation and a general location has been identified in the Level II plan. In the Level III plan the projects are site-specific and locations are identified on the ground. Some design criteria and specifications may be included in the Level III plan. Projects often are associated with other operations such as timber sales. Level III planning usually occurs as part of the development of annual operations plans, annual road maintenance plans, timber sale contracts, service contracts and similar documents.

Example: A planned timber sale requires access to facilitate harvesting operations. A plan must be developed that will identify the location and standards for roads, landings, waste areas, road surfacing rock, and any other items needed to facilitate the harvesting operations. Alternatives may need to be developed and evaluated. Aerial photos, maps, and reconnaissance on the ground are used to determine the general location of the project. Information from the Level III planning effort is included in the pre-sale plan report.

Transportation Planning Strategies

Transportation planning strategies are the specific actions that will be taken to achieve the goal(s) of transportation planning and move towards the vision for forest roads on state-owned forest land. These strategies will be applied at all levels of transportation planning. As the planning moves from Level I to Level III the strategies will become more detailed and more specific.

Develop a Vision of the Transportation System

Successful planning of a transportation system requires the planner to have a vision of the desired system. This manual describes a vision for the road system across all state-owned forest land. That broad scale vision will be supplemented with a vision that is specific for the local planning area and that is commensurate with the level of planning that is being performed. For example, transportation planning is being done as part of a district implementation plan for a specific basin. A vision statement for the transportation system for the basin will be developed. The vision will include the elements of the vision statement in this manual and then add the details that are needed to describe the desired condition for that specific basin.

Visions are usually written statements that describe the desired condition. They should provide enough detail to provide a clear image of what is desired so that the vision can be used throughout the development and implementation of the transportation plan. For example, the vision statement for a specific road construction project would be used in determining the design specifications and construction standards for the project.

Visions will be consistent with the goals and strategies in the appropriate resource management plans and consider the physical conditions in the planning area. Resource management plans include forest management plans (Level I), implementation plans (Level II), annual operations plans (Level III), etc. The resource management plan that is considered will depend upon the level of transportation planning. Physical conditions include those items that will affect the desired road system. Physical conditions to consider in developing a vision statement include topography, soils, streams, geologic hazards and risks, sensitive resources, special habitats, etc. Before developing a vision for the transportation system in a given area, the planner should have an understanding of the appropriate resource management plans and the physical conditions. Consultation with natural resource specialists (biologists, geotechnical specialists, engineers, etc.) will be used to supplement the planner's knowledge base and understanding.

Inventory and Describe the Current Conditions

The current conditions of roads on state-owned forest lands are the result of weather and other natural processes and of a variety of road construction techniques, road maintenance efforts, and uses over time. There are roads that are in good condition and suitable for continued use. And, there are roads that are not in a desired condition and need improvement work or need to be considered for vacation.

The current conditions and needs of roads on state-owned forest lands will be inventoried. Each district will maintain an intensive inventory of the road network on state-owned lands in the district. The inventory will categorize roads, identify drainage

systems (culverts, ditches, waterbars, outsloping, etc.) and rate their condition, identify and assess road-related slope stability problems, identify barriers to fish passage where roads cross streams, and gather other information that is needed for planning road improvement, road maintenance, or vacation of roads.

As of January 2000 the minimum level inventory system that will be used for roads on state-owned forest land will be the **Road Hazard Inventory Protocol** (see Appendix 1) developed as part of the Oregon Coastal Salmon Recovery Initiative. This inventory system gathers information related to fish passage barriers where roads cross streams, information related to road drainage systems and their condition, and information related to slope stability problems. This information will be useful in describing some but not all of the current conditions of roads. In the future, a more comprehensive inventory system will be developed and added to this manual. Until the new inventory system is in place, districts may gather additional information on the current condition of roads that the district determines to be necessary to efficiently and effectively manage the district road system.

Upon completion of the inventory, the information that was gathered will be processed and/or displayed in a way that will provide a description of the current condition of the road system. As of January 2000 a standard approach for processing and displaying the information was not available. Along with the development of a more comprehensive road inventory system a method for processing and displaying the information will be developed.

Until a methodology is developed, districts will utilize a local system for describing the current condition of the state forest roads in their district. As a minimum the description will include a brief narrative supported by data from the inventory that show the needs related to road drainage, fish passage, and slope stability. Districts may also choose to use GIS to record inventory information and to describe, through maps and tables, the current condition of roads.

Inventories are only valuable if they are current. The inventory of the current condition of roads will be updated as changes are made to the road system and/or new information is obtained. Information in the inventory that is more than five years old should be reviewed and updated or deleted if it is no longer current.

Develop Transportation Plans Consistent With the Planning Level

Transportation plans will describe the means of moving from the current condition to the desired condition (Vision). The amount of detail in the plan will depend upon the level of planning. This will generally mean less detail in Level I planning, more in Level II and the most in Level III. The amount of detail in the plan will also vary with the geographic scope of the plan. In general, plans covering a large geographic area (a district e.g.) will have less detail than plans covering a small geographic area (a timber sale area e.g.).

As mentioned in the discussion of the levels of planning, Level I transportation plans are broad, long-range plans for large geographic areas. They establish goals for moving from the current condition to the desired condition and strategies for achieving the goals.

These plans are generally in a narrative form and will not involve the use of maps or photos. Specific activities or projects are not identified.

Level II transportation plans will describe how the desired condition will be achieved over a span of time for a given area. Generally, these plans are associated with district implementation plans and are developed for a decade of time in a given basin. These plans will have a combination of a narrative description and a graphic display (usually maps and/or photos). These plans provide a description of the vision for the road system, the current condition of the road system, and what is planned to achieve the desired condition. The narrative will describe the amount and type of road maintenance that is planned, the amount and character of minor spur road construction that is planned, and the amount and nature of minor sections of road that will be vacated or closed. Mainline road construction, collector spur roads, significant road improvement projects and closure or vacation of large sections of road should be located on maps or photos. Input from resource specialists (biologists, engineers, geotechnical specialists, etc.) and the use specific resource information (soils maps, fish presence surveys, endangered species surveys, etc.) may be needed in the development of these plans. Level II plans should be updated as new information is obtained or as specific projects are accomplished. As a minimum, these plans will be updated once a decade.

Level III plans describe how the desired condition will be achieved in the near future for a specific area. Many of these plans are site specific and deal with an individual project or a series of projects related to a specific objective. Examples of a Level III plan would be a transportation plan for a proposed timber sale or a specific road maintenance project. A lengthy narrative is not required. However, the objective of the plan and any critical decision points in the implementation of the plan should be described. These plans will generally contain enough detail that the design of specific projects can be started. Projects are located on maps or photos and critical portions are "ground truthed". Specifications and standards will be identified and recommended in the plan. District budgets will be developed to include funding for projects not accomplished through timber sale project requirements. A high level of input from resource specialists and site specific resource information will be used to develop the plan.

*Footnote

As noted in the Northwest Oregon State Forests Management Plan (July 2000 draft) pg. 4-72, "Initial district implementation plans will not contain all of the transportation planning elements described in this Roads Manual. Following completion of watershed assessments and as district implementation plans are subsequently revised and updated the complete transportation planning process will be applied."