TRAVEL MANAGEMENT

Abstract: Travel management consists of providing safe and adequate access for administration, various forms of recreation, hunting, access to private lands, grazing, fire suppression, and extraction of oil, gas, minerals and timber. The goal of successful travel management is to provide this broad spectrum of travel opportunities in response to identified needs and demands while balancing resource protection needs.

In the 1984 *Forest Plan*, analysis of travel management was too general to establish priorities for best meeting the needs of most Forest and Grassland users. Since then, demand for all travel modes has increased and new ones have arisen. This Revision process analyzes the suitability of roads and trails in response to management area direction. Some of the impacts analyzed in response to public demand and need are wildlife conflicts, soil and watershed damage potential, historical use, adjacent land use, right-of-way needs, safety, travelway condition, and costs to manage and maintain the transportation system.

Summaries of mileages and opportunities are shown in Tables 3.148 and 3.149 near the end of this section.

Travel management in itself is a key *revision topic*, and is linked to other *revision topics* or items as well.

LEGAL FRAMEWORK

FSM 7700 (Transportation System Manual) contains objectives, policies, responsibilities, and requirements for transportation planning and for documenting system roads. Direction for forest development trails (FDTs) is in *FSM 2350* (Trail, River and Similar Recreation Opportunity Manual) and *FSH 2309.18 (Trails Management Handbook)*. The objectives of transportation planning are:

1. to efficiently provide facilities that will achieve Forest management direction and that are appropriate for their intended purpose;

2. to direct the orderly development and management of the transportation system and to ensure the documentation of decisions affecting the system.

INTRODUCTION

The Arapaho and Roosevelt National Forests and Pawnee National Grassland transportation inventory consists of all travelways under Forest Service jurisdiction and other jurisdication (federal, state, county, private). Travelway mileage summaries were produced for three types of land basis depending on impacts to resources. For example, the wildlife analysis was generated

from miles of all travelways (FS and all other jurisdictions) within NFS lands, the soils and water analysis used all travelways (FS and all other jurisdictions) within the watershed analysis area and finally, travel management analysis consisted of travelways under FS jurisdiction within the Forest boundary. Each resource analyzes the transportation inventory differently, yet expected changes in the Forest Service jurisdiction system (FDRs, FDTs and ways) were consistent across the resources.

Travel is an important part of a Forest user's recreational experience. Travel occurs on highways, gravel roads, primitive roads, designated trails, crosscountry over snow and on waterways.

Table 3.143 Travelway Types and Mileages on the ARNF-PNG

Type	Description	Miles
Primary Highways	All Interstate, State, or Federal Highway systems (Non Forest Service Jurisdiction)	168
Secondary Highways	All paved County Roads (Non Forest Service Jurisdiction)	21
Light-duty, Paved	All paved Forest Development Roads (FDRs) (Forest Service Jurisdiction)	15
Light-duty, Gravel	All gravel FDRs	302
Light-duty, Dirt	FDRs with pickup trucks as a prime travel mode and cars as acceptable mode	242
Unimproved Road	Native surfaced FDRs with moderate to high challenge to 2-wheel drive traffic	797
4-wheel Drive Road	FDRs with 4-wheel drive as a prime mode and no other 2-wheel drive traffic as prime or acceptable	1,191
Trail - Motorized	Forest Development Trails (FDTs) open to off highway vehicles (OHVs)	65
Trail - Nonmotorized	Forest Development Trails (FDTs) closed to OHVs	656
"Way," Nonsystem Route	Nonsystem travel routes (ways) which exist but were created by both nonmotorized and motorized users traveling off FDRs and FDTs	690

Modes of travel vary from large commercial trucks, high- and low-clearance personal vehicles, off-highway vehicles (OHVs), to foot and horse travel, mountain bicycles, crosscountry skis and snowshoes, snowmobiles, rafts, kayaks and just about any other type of overland or water-surface travel.

The key to proper travel management planning is to achieve a balance of uses on a landscape basis. As shown in Table 3.143, the current Forest and Grassland Transportation Inventory reflects the variety of travelway classes and associated mileages which provide access to and through the Forests and Grassland.

The impacts of increased use are becoming more noticeable to both users and resources. The diversity of Forest users and the experiences that are expected and demanded of the Forests and Grassland are increasing. This is largely due to the Forests' proximity to nearly two million people along Colorado's Front Range and to the ease of access from major highways. Each individual has a preferred form(s) of travel and a perceived recreation experience related to travel to and through the Forests or Grassland.

The Forests have exceeded their fiscal capability to maintain all existing travelways. Any significant increase in roads and trails would require corresponding increases in funding or partnerships to maintain travelways in appropriate condition. Priorities have been established to provide a travel system that balances user needs, funding capabilities, and resource protection. Forestwide standards and guidelines describe conditions under which newly constructed roads would be closed to public motorized use, managed for seasonal closure or obliterated. Site-specific environmental analysis will incorporate forestwide standards and guidelines, and management area and geographic area guidance in developing each Ranger District's travel management plans.

Travel management must be cost effective and provide for needs of dispersed recreationists, including differing challenge levels for motorized and nonmotorized uses while protecting wildlife habitat and soil and water resources. Sometimes the values of Forest users conflict when it comes to their preferred modes of travel and the experiences they expect. Any time a particular type of travel is restricted, some users will gain and others will lose. For instance, when an area restricts motorized travel to protect wildlife, there is a secondary effect on people: the closure not only shuts out motorized travel, but it also limits access for persons with disabilities, limits firewood gathering, and may reduce some forms of recreation. On the other hand, the closure to motorized travel provides increased solitude for hikers and crosscountry skiers.

Impacts to both users and resources are becoming more noticeable and conflicts are occurring. Management of the transportation system includes analyzing the suitability of roads and trails for their diverse use by identifying the public's desires and considering associated resource impacts, all in the context of management area direction. Some of the impacts analyzed are wildlife conflicts, soil and watershed damage potential, recreation setting, safety, public demand and need, historical use, adjacent land use, right-of-way needs, travelway condition and cost to manage and maintain. Since the 1984 *Forest Plan* was prepared, demand for all travel modes, both motorized and nonmotorized, in different settings with different challenge levels, has

increased on the Forests and Grassland. Foot and horse travel have continued to be popular travel modes for nonmotorized use, but the use of mountain bicycles and OHVs has increased dramatically on the Forests.

Probably the most difficult task in travel management planning is to find an acceptable balance of uses on a landscape basis. In a multiple use Forest, it is not appropriate to provide all uses on every acre, but to allocate the land base to the best combination of uses each area can support, while still looking "holistically" at all uses. Geographic area descriptions focus on a few key priorities in order to provide effective guidance to project level decisions. This includes but is not limited to travel management.

CURRENT USE AND MANAGEMENT

Many existing roads lie in the lower-elevation areas of the Forests. Prior to the 1984 *Forest Plan*, roads constructed for management activities were left open for motorized public use. Since that time, some roads have been obliterated or closed and use restricted. Permanent or seasonal restrictions provide alternative recreation opportunities, reduce disturbances to wildlife, reduce damage to roads, protect soil and water resources, and reduce maintenance costs.

Current management direction is to provide the minimum road facilities to accommodate the expected traffic. Maintenance has been reduced to the minimum levels suitable for the intended use and site conditions. Local road departments are encouraged to take over maintenance of roads serving private developments. Landowners and landowner groups are required to maintain roads serving their lands. Recreational groups, such as four-wheel-drive and trail clubs, have been encouraged to enter into partnerships to "adopt" roads and trails of specific interest to their organizations.

The Forests and Grassland currently have six designated scenic byways, some of which are also Forest Highways. These are the Peak-to-Peak, Cache la Poudre-North Park, Colorado River Headwaters, Pawnee Pioneer Trails, Mt. Evans, and Guanella Pass Byways. Under the 1984 *Forest Plan*, two existing roads crossing the Roosevelt National Forest have been included in the Forest Highway System by the Federal Highway Administration and will receive consideration for future Forest Highway funding for upgrading. They are the Deadman Road from Colorado Highway 14 at Rustic to the Laramie River Road at Four Corners (County Road 162), and the Laramie River Road from Colorado Highway 14 at Chambers Lake north to the Wyoming state line (County Road 103).

About five miles of road have been constructed or reconstructed annually, usually as a result of intensive rehabilitation of developed recreation facilities.

The Forest Development Trail System consists of 656 miles of nonmotorized trails and 65 miles of motorized trails on the Forests and Grassland. Approximately half of the total mileage occurs in wilderness, which includes about 23 percent of the Forests' area. The majority of the current trail system are old routes that were developed to travel to specific locations rather than for

recreation opportunities. Many are poorly located with little or no drainage and show the wear of many decades of hard, heavy use.

Use of existing lower-elevation trails for hiking and mountain biking in the spring and fall, and the use of higher-elevation trails for crosscountry skiing is increasing rapidly. Most trails are located at the higher elevations and tend to be at the easy end of the challenge scale. Only a few trails provide a more or most difficult challenge. There are few loop trails for day hikes and they are associated with developed or dispersed recreation facilities. Some new low-elevation trails have been constructed in the Boulder, Estes Park, and Redfeather areas, but trail mileage near the Front Range cities remains insufficient to satisfy the State's recommendations and public demand.

Four trails (Mount Evans, Grays Peak, Greyrock, and Round Mountain) are designated National Recreation Trails. The proposed Continental Divide National Scenic Trail corridor, a portion of which already exists on the Sulphur District, runs through the western side of the Forests.

In conformance with the *Forest Plan* and as part of the Forests and Grassland travel management efforts, the Ranger Districts have inventoried all nonsystem "ways". This "way" category is considered a "holding category." Ways have been preliminarily analyzed at the geographic area level as to whether they may have potential to be converted to the transportation system or obliterated. Specific decisions will be made at the project level and ultimately, all "ways" not converted to the transportation system as FDRs or FDTs will be scheduled for obliteration so that disturbed areas may return to vegetative production. Many of these "way" routes are merely short dead-end spurs that parallel nearby system roads and trails.

DEMAND TRENDS

There is a high level of demand for access to the ARNF. Travel congestion occurs mostly at the beginnings and ends of weekends. Sightseers want improved roads with good driving surfaces. Owners of private inholdings want access to their properties. OHV users want more opportunities for use of primitive road and trails. Four-wheel drive users want differing challenge levels on high-clearance roads which require specially-equipped vehicles and experienced drivers. Against these demands, many nonmotorized recreationists want fewer roads.

Projected demand for trails of all types is expected to increase along with the demand for dispersed recreation opportunities. Mountain bicycling use on the ARNF has almost doubled every other year. Much of the existing trail system restricts motorized use and most of the trails outside wilderness are open to mountain bicycles. The only "exclusive use" trails on the Forests exist on a few wilderness trails where horse use has been excluded and only foot traffic is allowed. There are no trails designated exclusively for horse, mountain bicycle or motorized use. Ties to county and state trail systems are needed. Trail use will be managed according to the desired future condition of the area, resource needs, and the expectations of users.

The ARNF-PNG, unlike National Parks and most State Parks, provides opportunities for OHV experiences. Currently on National Forest System lands, OHVs are permitted on maintenance level 2 roads, which are primarily light duty dirt, unimproved and four-wheel-drive roads. OHV use is also allowed on designated (signed) light duty paved and gravel roads, on 65 miles of designated (signed) trails and on a limited area open to use on the Pawnee National Grassland. Crosscountry travel by motorized vehicles is not permitted, except for snowmobiles operating on snow, where motorized use is allowed. Decisions to designate or restrict use on a given road or trail are based on the goals for the specific management and geographic areas, and specific resource concerns for each travelway. OHV use on the Forests was very low and not mentioned in the 1984 *Forest Plan*. Since then, OHV use of the Forests has increased dramatically. At the geographic area level, each District has proposed areas which currently provide or can potentially provide a variety of OHV opportunities. Specific OHV challenge and loop routes will be considered as district travel management plans are developed.

About 19 percent of the inventoried transportation system is maintained at minimally acceptable levels each year, while the total need is 50 percent or more. In 1994, 54 miles of FDRs were maintained with Forest funds and local counties maintained approximately 294 additional miles. Many trails are maintained by user groups and volunteers, and this is expected to increase in the future. In 1994, nine miles of trail were reconstructed by the Forest Service and ten miles were reconstructed by volunteer groups; 439 miles of trail had some type of minimal maintenance performed. Most roads and trails are maintained on a periodic basis, with the frequency determined by use and weather conditions. The current maintenance budget has been insufficient to properly maintain the entire transportation system without a significant drop in standards. Due to lack of funds, maintenance has not always been performed to standard or within the scheduled maintenance interval. As a result, much of the road and trail system now requires significant maintenance or reconstruction. All alternatives emphasize heavy road and trail maintenance and some reconstruction of existing roads and trails to meet this deficit.

ENVIRONMENTAL CONSEQUENCES AT EXPERIENCED BUDGET LEVEL

In the following discussion the "cumulative" effects of travel management are covered by each resource. The comparison of alternatives shows how the achievement and manipulation of the proposed trasnsportation system for each of the six alternatives produce a range of combinations of diverse travel opportunities expected by Forest users.

ROADS

The major high standard access roads, known as arterial and collector roads, make up about 12 percent of the FDR system. This system is now in place with little or no new construction of roads anticipated. Approximately one mile of arterial/collector road is reconstructed per year and is the same in all alternatives, under experienced budget levels. It is assumed that all other federal, state and county roads will remain open to public travel (except those subject to seasonal closures) regardless of the land allocation theme in each alternative. Improvements along federal, state and county highways will be done in accordance with corridor management plans

for these roads. Opportunities for transportation enhancements along these corridors will be pursued through Federal Highway, Colorado Department of Transportation (CDOT) and other funding programs. Corridors identified for funding enhancements and currently undergoing project-specific NEPA analysis include Guanella Pass and Cameron Pass. Designated scenic byways such as Peak-to-Peak and Cache la Poudre-North Park have management plans that will provide recreation visitor enhancements consistent with all alternatives.

Local roads provide access from arterial and collector roads to specific areas of the National Forests and Grassland. These roads range from light-duty dirt and gravel roads for truck or passenger car to roads managed at high challenge levels for high-clearance four-wheel-drive vehicles. Local roads comprise about 88 percent of the Forest Development Roads and are the roads most influenced by differences between the alternatives. Local road management decisions such as construction, reconstruction, conversions of "ways," restrictions and obliteration are developed at the project level planning stage for the following purposes: (1) access to developed recreation and administrative sites; (2) access necessary for resource development and vegetation treatments; (3) stabilization and protection of the various resources; (4) reduction in maintenance costs. All of these must conform with the *Forest Plan.*

The local road system will be analyzed at the project level for type and volume of use and will be managed under guidance from forestwide standards and guidelines and from desired conditions stated in individual geographic area descriptions. A preliminary analysis was performed at the geographic area level comparing existing and future travel opportunities against resource impacts. Alternative B's travel management emphasis allowed an extensive analysis which resulted in an increase of approximately 202 miles of local road to the Forest Development System. The majority of these miles are existing "ways" that have potential for conversion to the system as FDRs, under experienced budget levels, and would be managed with either yearlong or seasonal restrictions. Alternative B provides for aggressive funding of travel management implementation during the first decade, including significant conversions, obliterations, reconstruction and maintenance. Most other alternatives have given higher priorities to other activities which has resulted in a less aggressive travel management program. In all alternatives, "way" miles not converted to the transportation system will be scheduled for obliteration as funding allows. Partnerships and special project funding will be aggressively sought to assist with obliteration of the remaining "ways". All "ways" will be managed as closed to public motorized use until obliterated. This will be accomplished by signing, by education and by enforcement. It is anticipated that programs such as the watershed assessment program will identify site-specific areas and associated "ways" that will be prioritized for obliteration to assist in stabilization and protection of soil and water resources. Road maintenance and traffic service levels needed to prevent impacts may change based on the *Forest Plan*, geographic area and project-level decisions.

All alternatives would provide necessary road access for resource development, utilization, and vegetation treatments. Minimal construction of new timber roads falls under three categories. One category would become part of and add to the FDR system and at this level of planning, would most likely have about 30 percent of these miles be managed for motorized use after timber activity has taken place. The other category of new road should be considered

"replacement" road because roads will be strategically located to replace existing FDRs that are in bad locations. For every new "replacement" mile built, a mile of existing FDR will be obliterated, so that the category results in no net FDR system increase. Finally, the last category of new roads is called "temporary" roads which are built specifically for timber removal and obliterated after timber activity has taken place. Specific travel managment strategies for FDRs

Table 3.144 "Way" Miles, Experienced/Full Budget Levels, ARNF-PNG, First Decade

Class	Alternative[a]					
	A	B	C	E	H	I
Inventoried Way Miles	690	690	690	690	690	690
Way Conversion to Roads	89/120	190/190	112/160	104/260	0/0	128/160
Way Conversion to Trails	11/11	30/60	17/22	17/22	10/10	18/23
Way Obliteration	150/210	360/440	170/250	170/250	233/334	170/250
Remaining Way Miles	440/349	110/0	391/258	399/158	447/346	374/257

[a] These miles are *approximate*, based on preliminary analysis at the geographic area level. Decisions on specific "ways" will be made as Ranger District travel management plans are developed.

will be determined at the project-level planning stage. New construction of roads and reconstruction of existing roads to support experienced and full budget levels of timber extraction during the first decade would vary by alternative as shown in the tables below.

Table 3.145 Timber Road Construction and Reconstruction Miles, Experienced/Full Budget Levels, ARNF-PNG, First Decade

New Construction	Alternative					
	A	B	C	E	H	I
Light Duty, Dirt - FDR	17/22	12/16	27/34	3/5	0.3/0.4	25/32
Replacement	23/30	17/22	11/14	2/3	3/4	15/19
Temporary	17/22	12/16	16/21	1/2	0/0.1	10/13
Reconstruction	180/230	100/130	170/200	20/30	10/10	150/190

Alternatives A, C and I provide for more suitable timber acreage and thus more construction of roads, while Alternative B would provide for fewer opportunities. Alternative E focuses on recreation management with less emphasis on timber, while Alternative H would focus on closing and obliterating roads to protect sensitive ecosystems, areas, and habitats. Project level administrative decisions will allow manipulation of the expected local road system to address seasonal managements for various types of motorized and nonmotorized use.

TRAILS

Like the road system, the existing trail system will be analyzed at the geographic area level for type and volume of use, whether trails should either remain open year-long or seasonally and be relocated or obliterated based on wildlife and resource impacts.

Aggressive management of the trail system is planned and may incorporate some change of user mix to eliminate conflicts or mitigate resource damage. There will be emphasis on creating managed trail opportunities and partnerships for mountain bicycles and motorized users. Major trail corridors such as the Continental Divide National Scenic Trail will be managed to preserve the scenic quality along the trail. Prioritization for trail projects will consider: connecting existing trails to other portions of the FDT system or other local systems, completing the Continental Divide National Scenic Trail; upgrading National Recreation Trails; bringing other high-use trails to standard; and improving dispersed recreation opportunities by constructing trail access and trailheads.

As displayed in the table below, the Forest is planning an active trail management program with emphasis on responding to geographic area direction. This program will manage the motorized and nonmotorized trail system that has suffered due to lack of signing, maintenance and enforcement. Aggressive funding and partnerships will be sought to meet funding needs. Demands, capacities, and existing opportunities will be considered when finalizing the trail management program to emphasize the highest priority needs and widest range of the users' desires. At experienced budget levels emphasis will lean towards reconstruction of existing trails for all alternatives. In addition to trail reconstruction, Alternatives A and B focus on creating connector trails and conversion of "ways" to trails. Alternative B allows for the greatest emphasis on performing heavy maintenance on the existing trail system which includes drainage work, safety and regulatory signage, treadwork, removing slough and brushing by accelerating this work to the first decade.

Alternatives C, A and I would provide the most opportunity for timber harvesting acres and thus would consist of more acres that may detract from the nonmotorized recreation experience until regeneration and revegetation take place. On the other hand, high-clearance roads constructed for timber harvesting may restrict motorized use after harvest activities and thus allow for increased nonmotorized recreation, if left open. Alternative H places less emphasis on harvesting, yet also discourages dispersed recreation use to protect sensitive ecosystem areas.

OHV ROUTES

Effects from other resource management actions and uses for OHV routes closely parallel those outlined in the roads and trails sections.

As previously stated, OHVs are currently permitted on all level 2 roads open to motorized use, which are primarily light duty dirt, unimproved and four-wheel-drive roads. The Arapaho and Roosevelt National Forests have opted to require all OHV routes be designated (signed) open to

Table 3.146 Miles of Trail Construction, Reconstruction, Conversion of Ways at Experienced/Full Budget Levels, ARNF-PNG, First Decade

	Alternative					
	A	B	C	E	H	I
Construction of Trails	25/50	20/20	0/0	0/47	10/20	0/0
Conversion of Existing Ways to Trails	11/11	30/60	17/22	17/22	10/10	18/23
Net FDT Mileage Increase	36/61	50/80	17/22	17/69	20/30	18/23
Reconstruction of Trails	144/288	30/90	154/308	574/574	213/426	154/308
Trail Maintenance[a]	349/759	430/895	366/776	372/782	390/799	397/806

[a] Includes approximately 200 miles by volunteer groups

OHV use. This Forest feels that this signing policy will clearly communicate intended uses, enable management of the OHV system by concentrating appropriate maintenance procedures before resource damage occurs and enforce inappropriate use. This will also allow user groups to apply for and obtain grant money to assist us with our management. At this level of planning, it is difficult to identify specific FDRs and FDTs which would represent the designated OHV system mileage projected to be available by the end of the *Forest Plan* period. Currently OHV use occurs on 984 miles of FDRs, 65 miles of FDTs and 221 miles of nonsystem "ways". Geographic areas have been analyzed as to which combination of uses each area can support. These strategies were developed from both a holistic and geographic area perspective by considering various existing travel modes and expected demand, potential higher end challenge level opportunities and potential concerns about critical resources.

The majority of potential OHV mileage consists of "designation" of roads and trails that are currently being used as OHV routes, as well as some mileage added by the conversion of "ways" which have the greatest potential for designation as OHV system routes. Emphasis on creation of OHV route connector and loop route opportunities will be considered for year-round and seasonal use and will conform to *Forest Plan* direction. Several key "connector" and "high challenge" routes have been identified. Final determination of specific OHV opportunities is subject to guidance of the *Forest Plan* as travel management plans, budgets and partnerships with user groups are developed.

TRAVELWAY MAINTENANCE

The Forest road maintenance program follows a maintenance schedule interval of approximately three years, although some roads require and receive more frequent maintenance based on extreme weather conditions or use. Most restoration or improvement of primary Forest roads is done in accordance with resource needs and in cooperation with county agreements. As roads are constructed or obliterated over time, they will add to or decrease the total miles to be operated

and maintained. Road maintenance and traffic service levels to protect impacts may change based on geographic area and project level decisions. The travelway maintenance portion of travel management is an important issue because managing the Forest and Grassland travelways on an insufficient maintenance budget requires proper planning, implementation and enforcement.

Managing roads for motorized recreation enthusiasts who drive for pleasure or seek high challenge routes while still providing the proper resource protection requires the incorporation of effective seasonal closures. Some local roads that offer opportunities for differing challenge levels lie within areas that have sensitive wildlife and soil and water resource elements. These roads would be seasonally restricted from public vehicle access in order to meet needs of the wildlife resource during critical periods, to reduce soil and water degradation and to minimize annual maintenance costs. Alternatives A and B have the most miles of road that would likely require this type of management, while Alternative E would have the next most, and Alternatives C and I would follow closely. In Alternative H, most local roads would be restricted from motorized use or obliterated for protection and restoration of sensitive areas. This requires road management in the form of effective road closures, obliterations, education and enforcement. In all alternatives, road management partnerships with user groups will be aggressively sought.

Roads associated with timber harvests would either remain open or be closed depending on the management area direction, harvest prescription, standards and guidelines (particularly those related to wildlife habitat effectiveness), potential recreation opportunities and road operation budget considerations. This is consistent direction in all alternatives.

Table 3.147 Miles of Road Maintained Annually by Maintenance Level at Experienced/Full Budget Levels

Maintenance Level[a]	Alternative					
	A	B	C	E	H	I
1	0/0	0/0	0/0	0/0	0/0	0/0
2	72/108	360/365	100/151	72/108	72/108	100/151
3, 4, 5	302/306	334/334	305/311	302/306	302/306	305/311

[a] Road maintenance performed includes 294 miles maintained by local counties. Maintenance level 1 roads are spot maintained only when resource damage occurs beyond closure.

DISTRIBUTION OF TRANSPORTATION SYSTEM AND TRAVEL OPPORTUNITIES

It is important to note that the following tables represent the expected travel opportunities present at the end of the first decade, at the experienced budget level. It is also important to understand that over time, these numbers will further change, specifically in relation to the alternative emphasis. Rate of implementation for travel management is clearly reflected herein too, as Alternative B through Chapter 1 of the *Forest Plan*, has raised this effort to a high priority. This

same emphasis is not present in all alternatives. It is also important to note thattransportation inventory mileages have changed, as expected, as the result of additional field work performed between the *DEIS* and this *FEIS*.

THE ARAPAHO AND ROOSEVELT NATIONAL FORESTS TRAVELWAYS

The following tables represent the various travel opportunities related to the existing system that can be expected under each of the revised *Forest Plan* alternatives. As stated before, management of the travelway system must provide various opportunities to best suit the public's demands and expectations. A *Travel Management Map* was developed which depicts on a landscape basis, expected summer and winter travel opportunities for various modes of each geographic area during the next *Plan* period. Locations of these travelways would be determined by existing travelway conditions and site-specific project analysis.

Low-clearance vehicle roads are generally higher standard, two lanes, hardened or stable-surfaced, for use by passenger cars and all other vehicles. These roads provide primary access and opportunities for sight-seeing and driving for pleasure. There will be very little change in the miles of low-clearance vehicle roads, and access on major routes will not be changed from the current situation for users of this type of road in all alternatives.

High-clearance, two-wheel-drive roads are usually single lane with turnouts whose surface is rutted, rough and irregular. The surface is not maintained for passenger car use and may present low to high challenge to drivers of two-wheel-drive, high-clearance vehicles; high challenge to drivers of low-clearance vehicles; and low to moderate challenge to drivers of four-wheel-drive, high-clearance vehicles. Total mileages in each alternative consist of losses of existing miles and gains of new miles for a net change shown below. Variation in mileages of these types of road miles range from no net change in Alternative A to a gain of 4 percent in Alternatives B and I. Alternative H would show a loss of 3 percent from the existing system due to emphasis on road obliteration. Losses of existing miles are due to obliteration associated with wildlife habitat areas, protection of soil and water, and miles which currently lie in new areas designated for nonmotorized uses. Gains in miles are associated with new roads constructed for timber harvesting. Any new high-clearance, two-wheel-drive road miles would be strategically placed for timber utilization and for dispersed recreation use after timber activity (with some motorized and some nonmotorized, depending on area emphasis).

Four-wheel-drive roads are generally primitive and often appear to be two tracks. The surface is rough and irregular with very rocky sections and deep ruts. These roads are intended for use by standard four-wheel-drive, high-clearance vehicles and may present moderate to high challenge to drivers. Users of four-wheel-drive roads will notice a net change in this type of road ranging from about 23 percent increase in Alternative B to a 17 percent loss in Alternative H. All remaining alternatives show an increase in current mileage by approximately 13 percent. Reductions in road miles are generally due to obliteration for protection of wildlife habitat, protection of soil and water and new areas designated for nonmotorized recreation. Most of the mileage is gained by potential conversion of nonsystem ways to system roads and roads constructed for timber harvesting. The remaining ways not converted to the transportation

system will be scheduled for obliteration. Alternative B reflects the largest road system increase due to the fact that aggressive travel management will be undertaken in this alternative at experienced levels. All other alternatives have prioritized other activities over travel management; at experienced budget levels, it cannot, therefore, fund such an extensive effort.

OHV travelways consist of motorized trails and low-clearance, high-clearance and four-wheel-drive type roads that are designated for OHV use. Most of the increase in OHV opportunities is due to the designation (legalization) of system roads and trails that are currently being used by OHV. The mileage increase also includes potential "way" conversions and new routes strategically located to link existing routes. Alternative B produces an estimated increase of 49 percent (once again due to aggressive travel management efforts), while Alternatives C, E and I reflect an increase of about 15 percent, and Alternative A shows a slight increase of 7 percent. Alternative H decreases the existing system by about 27 percent.

Nonmotorized routes include all nonmotorized trails and all types of roads which restrict motorized use. While Alternatives A, B and H reflect a slight increase in nonmotorized trail miles, all alternatives have prioritized trail reconstruction and maintenance of existing trails over the construction of new trails (at experienced budget). All alternatives show an increase in nonmotorized travelways due to an increase of system roads in which public motorized use is restricted. This mileage increase is due to restriction of some roads in management areas which emphasize nonmotorized recreation and in management areas which promote wildlife habitat. Some new four-wheel-drive roads associated with timber harvests would be closed to motorized use, increasing the opportunities for nonmotorized recreation.

Current Forest direction is to not allow motorized wheeled vehicles off travelways; this direction will continue under all alternatives.

Groomed snowmobile routes will remain the same in Alternatives A and H and increase about 15 percent in the remaining alternatives.

Snowmobile travel allowed on snow is allowed whenever snow cover permits oversnow travel and wherever motorized oversnow opportunities are allowed on the Forest. The areas common to all alternatives which eliminate motorized use by law are wildernesses. Other areas which eliminate this type of use and vary by alternative are those areas proposed for wilderness, research natural areas, core habitats, wild rivers and a few others. The greatest percentage of ARNF area which allows this type of use falls under Alternatives B, C and I. Snowmobile users would generally feel an increase in opportunities in all alternatives except Alternative H, which would close more of the Forest to winter motorized use.

Table 3.148 Travel Opportunities by Alternative, Experienced Budget Level, ARNF

Travel Opportunities	Unit	Existing System	Alternatives					
			A	B	C	E	H	I
Low-Clearance Vehicle Roads	Miles	310	309	310	312	312	308	308
	Percent of Roads	16	15	14	15	15	17	14
High-Clearance Two-Wheel-Drive Roads	Miles	972	972	1,012	1,002	992	947	1,012
	Percent of Roads	49	47	47	47	48	52	48
Four-Wheel-Drive Roads	Miles	691	798	853	798	782	574	806
	Percent of Roads	35	38	39	38	37	31	38
TOTAL SYSTEM ROAD MILES		**1,973**	**2,079**	**2,175**	**2,112**	**2,086**	**1,829**	**2,126**
Nonmotorized Trails	Miles	656	681	672	656	656	701	656
	Percent of Trails	91	90	87	88	88	95	88
Motorized Trails	Miles	65	76	99	82	82	40	83
	Percent of Trails	9	10	13	11	11	5	11
TOTAL SYSTEM TRAIL MILES		**721**	**757**	**771**	**738**	**738**	**741**	**739**
TOTAL SYSTEM TRAVELWAYS (FDRs and FDTs)		**2694**	**2836**	**2945**	**2858**	**2832**	**2565**	**2872**
System Roads with Motorized Administrative Use Only	Miles	540	674	623	702	604	748	653
	Percent of Roads	27	32	29	33	29	41	31
Nonmotorized Travelways (NM trails and system roads with motorized Admin. Use only)	Miles	1,196	1,355	1,295	1,358	1,260	1,444	1,309
	Percent of Travelways	44	48	44	48	44	56	46
Designated OHV Travelways (Includes potential OHV routes for other than existing)	Miles	1049	1,070	1,263	1,135	1,135	751	1,152
	Percent of Travelways	39	38	43	40	40	29	40

Motorized Wheeled Vehicles Allowed off Travelways	Acres	0	0	0	0	0	0	0
	Percent of Forest	0	0	0	0	0	0	0
Groomed Snowmobile Routes	Miles	62	62	71	71	71	62	71
	Percent of Travelways	2	2	2	2	2	2	2
Snowmobile Travel Allowed on Snow	Percent of Forest	43	65	76	73	66	42	78

PAWNEE NATIONAL GRASSLAND TRAVELWAYS

The following tables represent travel opportunities related to the existing system that can be expected under each of the revised *Forest Plan* alternatives.

Low-clearance vehicle roads are generally high-standard double lane, hardened and stable-surfaced roads for use by passenger cars and all other vehicles. These roads provide primary access and opportunities for sightseeing and driving for pleasure. There is no change in the miles of low-clearance vehicle roads, and access on major routes would not be changed from the current situation for users of this type of road.

High-clearance, two-wheel-drive roads are usually single lane whose surface is rutted, rough and irregular. The surface is not maintained for passenger car use and may present low to high challenge to drivers of two-wheel-drive, high-clearance vehicles; high challenge to drivers of low-clearance vehicles; and low to moderate challenge to drivers of four-wheel-drive, high-clearance vehicles. There is no change in the miles of low-clearance vehicle roads and access on major routes would not be changed from the current situation for users of this type of road.

Four-wheel-drive roads are generally primitive and often appear to be two tracks. The surface is rough and irregular with very deep ruts. These roads are intended for use by standard four-wheel-drive, high-clearance vehicles and may present low to moderate challenge to drivers. **Approximately 70 percent of the roads in this category are closed to public motorized use in an attempt to control and manage a minimum road system on the Grassland.** Loss of miles is the result of the obliteration of duplicate road systems. An example would be to obliterate two of three roads that lead to the same stock tank. Roads on this inventory include roads that lead to stock tanks and windmills, run along fence lines, etc. Roads are closed to use to protect the soil and water resource and to protect wildlife habitat.

OHV travelways consist of motorized trails designed for unlicensed vehicles and roads ranging from low-clearance to four-wheel-drive roads. The current Grassland inventory does not provide this type of use and would stay the same under all alternatives. (See also the paragraph below which discusses motorized wheeled vehicles allowed off travelways.)

Nonmotorized routes include all nonmotorized trails and all types of roads which restrict motorized use. Alternatives A, B, and C would decrease the amount of nonmotorized travelways by approximately 19 percent. Alternatives E and I would decrease nonmotorized travelways by approximately 21 percent. Alternative H would have the most effect by decreasing nonmotorized travelways by approximately 26 percent. This decrease will result from management of multiple roads which have been easily created on the Grassland. For example, many range improvements have more than one access road. At project-level planning, one access road would be designated and all others would be obliterated to protect all resources. Additional decrease in Alternative H is due to an increased emphasis on managing the minimum road system needed for access, administration, and fire protection.

The current Grassland direction is to allow motorized wheeled vehicles off travelways in a limited area. Alternatives A and H do not promote this type of use; Alternative B will not change current management and Alternatives C, E, and I will increase this area very slightly.

The Grassland has no groomed snowmobile routes and will continue as is under all alternatives.

Snowmobile travel is allowed whenever snow cover facilitates oversnow travel and wherever motorized oversnow opportunities are allowed. Areas which eliminate this type of use and vary by alternative are research natural areas, core habitats, and a few others. The greatest percentage of Grassland area which allows this type of use falls under Alternatives A, C, E and I. Alternative B allows this type of use on 94 percent of Grassland acres and Alternative H allows this type of use on 73 percent of Grassland acres. Snowmobile users will generally not feel much of an impact to opportunities in any alternative except Alternative H, which closes more of the Grassland to motorized use.

Table 3.149 Travel Opportunities by Alternative, Experienced Budget Level, PNG

Travel Opportunities	Unit	Existing System	Alternatives					
			A	B	C	E	H	I
Low-Clearance Vehicle Roads	Miles	7	7	7	7	7	7	7
	Percent of Roads	1	1	1	1	1	1	1
High-Clearance Two-Wheel-Drive Roads	Miles	66	66	66	66	66	66	66
	Percent of Roads	12	13	13	13	13	13	13
Four-Wheel-Drive Roads (these roads require 4WD vehicles for access only)	Miles	500	443	443	443	435	420	435
	Percent of Roads	87	86	86	86	86	85	86
TOTAL SYSTEM ROAD MILES		**573**	**516**	**516**	**516**	**508**	**493**	**508**
TOTAL SYSTEM TRAIL MILES		**1.6**	**2.6**	**4.6**	**1.6**	**1.6**	**4.6**	**1.6**
Closed to Public, Administrative Use Only	Miles	385	385	385	385	385	385	385
	Percent of Travelways	67	75	75	75	76	78	75
OHV Travelways	Miles	0	0	8	0	8	0	8
	Percent of Travelways	0	0	2	0	2	0	2
Nonmotorized Travelways	Miles	387	316	316	316	306	287	306
	Percent of Travelways	68	61	61	61	60	58	60
Motorized Wheeled Vehicles Allowed off Travelways	Acres	345	0	345	600	600	0	600
	Percent of Grassland	.2	0	.2	.3	8	0	.3
Groomed Snowmobile Routes	Miles	0	0	0	0	0	0	0
	Percent of Travelways	0	0	0	0	0	0	0
Snowmobile Travel Allowed on Snow	Percent of Grassland Acres	Not Available	99	94	99	98	73	99