Flathead National Forest
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Draft

Travel Analysis Report
For
Flathead National Forest

Last updated: July 1, 2014

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Background

The Flathead National Forest (NF) expects to maintain an appropriately sized and environmentally sustainable road system that is responsive to ecological, economic, and social concerns. The national forest road system of the future must continue to provide needed access for recreation and resource management, as well as support watershed restoration and resource protection to sustain healthy ecosystems.

The Travel Management Rule (Rule) was published in the *Federal Register* on November 9, 2005.[1] The Rule updates the regulations pertaining to Forest Service management of motor vehicle use and road and trail infrastructure. Subpart A of the Rule pertains to Administration of the Forest Transportation System. Subpart A requires each unit of the NFS to: 1) identify the minimum road system (MRS) needed for safe and efficient travel and for protection, management, and use of NFS lands (36 *Code of Federal Regulations* (CFR) 212.5(b)(1)); and 2) identify roads that are no longer needed to meet forest resource management objectives (36 CFR 212.5 (b)(2)). In determining the MRS, the responsible official must incorporate a science-based travel analysis at the appropriate scale. Travel analysis serves as the basis for developing proposed actions, but does not result in decisions. Therefore, travel analysis does not trigger requirements of the National Environmental Policy Act (NEPA).

Purpose

The travel analysis process (TAP) is a science-based approach that is used to inform future road-related travel management decisions. This travel analysis report (TAR) documents a broad-scale analysis that encompasses all existing National Forest System (NFS) roads (NFSRs) on the Flathead NF. The report provides a course assessment of the road infrastructure and a set of proposals for change to the forest transportation system that can be evaluated when subsequent site-specific NEPA is undertaken. This report will not change or modify any existing NEPA decisions, but should help to inform decision makers with future NEPA assessments related to the road infrastructure.

Process

In general, the purpose of a TAP is to provide the responsible official with appropriate information related to the existing road system. Travel analysis informs travel management decisions by examining key issues related to the portion of the forest transportation system under analysis, as well as management options and priorities. Travel analysis is not a decision-making process.

The TAP has six steps that are outlined in Chapter 20 Travel Analysis, FSH 7709.55 – Travel Planning Handbook. The analysis is tailored to local situations and landscape conditions by Forest staff and will consider public/partner agency input. The six-step process includes:

- Step 1. Setting up the Analysis
- Step 2. Describing the Situation
- Step 3. Identifying Issues
- Step 4. Assessing Benefits, Problems and Risks

[1] Travel Management; Designated Routes and Areas for Motor Vehicle Use (*Federal Register* Vol. 70, No. 216, pg. 68264)

- Step 5. Describing Opportunities and Setting Priorities
- Step 6. Reporting.

The analysis is a science-based process, considering social and environmental risks and benefits of the road system, a financial review, and contribution of the road system to the land management objectives and desired condition. The amount of time and effort spent on each step differs by the complexity of the issues, specific situations and available information particular to the analysis area.

Products

The results of the TAP are documented in a TAP report (i.e., TAR). The TAP and TAR are important first steps towards the development of the MRS. The TAR documents the information and analysis used to identify opportunities and set priorities for future National Forest transportation systems. This report will include:

1. Information about the analysis as it related to the criteria found in 36 CFR 212.5(b)(1), and
2. A map displaying the roads that can be used to inform the proposed action for identifying the MRS and unneeded roads.

The report provides the basis for developing proposed actions that include travel management and/or transportation system changes. Actual project proposals are examined in the NEPA process that provides a project specific, detailed basis for making decisions. Site-specific environmental analysis should build on and incorporate relevant information developed during travel analysis.

Step 1—Setting Up the Analysis

Scale of the Analysis

The TAP analysis area includes the entire Flathead NF. Flathead NF and Regional Office resource specialist staff developed a framework in which information on all existing NFS roads on the Flathead NF could be evaluated, documented and displayed in a TAR.

Scope of the Analysis

The scope of this travel analysis is to evaluate the existing NFSRs in order to provide information that can be used to inform a proposed action for identifying the MRS (36 CFR 212.5(b)(1)) and unneeded roads (36 CFR 212.5 (b)(2)).

Available Data

The Flathead NF utilizes two primary tools to maintain data about the existing NFSRs. One tool is a geographic information system (GIS), which is a geospatial data system. In addition to providing spatial data on roads, this system stores spatial data on other resources across the forest, including recreation, wildlife, water resources, archeology, vegetation, and fire history. The second tool is the infrastructure database (I-web) that contains geo-referenced road-specific infrastructure data (i.e., engineering data). This analysis utilized existing information in these two data systems to evaluate road segments.

Step 2—Describing the Situation

The transportation system for the Flathead NF is defined as the system of NFSRs, NFS trails, and airfields on NFS lands (36 CFR 212.1). This section covers the existing condition of the NFSRs.

NFSRs are roads, under the jurisdiction of the Forest Service, wholly or partly within or adjacent to and serving the NFS that the Forest Service determines is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources. Roads managed by public road agencies such as States, counties and municipalities that help provide for access to NFS lands are also part of the overall transportation system, though are not under the jurisdiction or direction of the National Forest.

NFSRs are designated by their intended use. The intended use helps define the design and maintenance standards for each road. Roads are generally constructed and maintained wide enough (>12 feet) for typical cars and trucks. Because many of the roads were initially designed and constructed for use in achieving vegetation management objectives, design-basis vehicles were lowboys or logging trucks. Roads are built to grades usually less that 12 percent to allow grade-ability for most highway vehicles. The Forest Service uses five maintenance levels (MLs) to define the general use and type of maintenance. A map of the NFSRs by ML is provided in Appendix A. In general, the five MLs can be described as:

- ML 1. These are roads that have been placed in storage between intermittent uses. The period of storage must exceed 1 year. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Roads managed at this maintenance level are described as being in basic custodial care.
- ML 2. Assigned to roads open for use by high clearance vehicles. Passenger car traffic, user comfort, and user convenience are not considerations. Warning signs and traffic control devices are generally not provided. Motorists should have no expectations of being alerted to potential hazards while driving these roads. Traffic is normally minor, usually consisting of one or more of a combination of administrative, permitted, dispersed recreation, or other specialized uses. Roads managed at this ML are described as high clearance vehicles.
- ML 3. Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this ML are typically used at low speeds and have single lanes and turnouts.
- ML 4. Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated.
- ML 5. Assigned to roads that provide a high level of user comfort and convenience. The roads are normally double lane and paved. Some roads may be aggregate surfaced and dust abated.

ML 3-5 roads are collectively maintained assuming travel/use by prudent drivers in standard passenger vehicles. These roads fall under the requirements of the National Highway Safety Act and the Manual of Uniform Traffic Control Devices. Warning signs and traffic control devices are provided to alert motorists of situations that may violate expectations.

The Flathead NF has 3,519 miles of roads. Twenty seven percent of the roads are managed for passenger vehicles. An additional 14 percent are managed for high clearance vehicles, but still open for the public. The remaining 59 percent of the NFSRs are in custodial care (ML 1, closed to public motorized use). Tables 1, 2 and 3 provide information related to the distribution of roads in the different geographic areas

(GAs) by ML grouping (basic custodial care, high clearance vehicles, and passenger car) and availability for public motor vehicle use. Most of the road miles lie within Flathead County (2,514 miles) with the remainder in Lake County (406 miles), Missoula County (401 miles), and Lincoln County (46 miles).

Table 1. Percentage of total roads by GA and maintenance categories on the Flathead NF.

Geographic Area	Basic custodial care (%)	High Clearance vehicles (%)	Passenger Car (%)
Hungry Horse	57	12	31
Middle Fork	51	22	27
North Fork	52	20	29
South Fork	56	9	35
Salish Mountain	50	22	28
Swan Valley	75	3	21

Compiled from Infrastructure Database (INFRA) 12/2/13

Table 2. Roads open to the public by maintenance level and geographic area on the Flathead NF.

Operational Maintenance Level	Hungry Horse (miles)	Middle Fork (miles)	North Fork (miles)	Salish Mountains (miles)	South Fork (miles)	Swan Valley (miles)	Total Miles
High Clearance Vehicles	55	17	93	266	12	30	473
Passenger Car	170	21	144	345	46	225	951
Total Miles	225	38	237	611	58	255	1,424

Compiled from INFRA 12/2/13

Table 3. Roads closed to the public by maintenance level and geographic area on the Flathead NF.

Operational Maintenance Level	Hungry Horse (miles)	Middle Fork (miles)	North Fork (miles)	Salish Mountains (miles)	South Fork (miles)	Swan Valley (miles)	Outside Area* (miles)	Total Miles
Basic Custodial Care (closed)	316	39	260	607	74	768	1	2,065
High Clearance Vehicles	13	0	6	6	0	4	0	29
Total Miles	329	39	266	613	74	772	1	2,094

* Roads may go off forest or through private land easement

The total number of NFSRs on the Flathead NF has steadily been decreasing since 1995. A total of about 711 miles of NFSRs have been decommissioned during this time. (See Table 4 for a summary of the miles of system roads decommissioned over the last 10 years.) Most of this decommissioning has taken place in grizzly bear recovery areas. However, there have been additions to the NFSRs. These additions included new local roads constructed for vegetation management, acquisition of roads related to cooperative road right-of-way agreements with the Montana Department of Natural Resource Conservation and Plum Creek Timber Company, NFSR database cleanup, and mostly from the acquisition of previously Plum Creek Timber Company lands located in the Swan Valley (approximately 411 miles).

The Flathead NF implements State of Montana water quality best management practices (BMPs) along with numerous other project design features and resource protection measures when implementing vegetation management projects. Use of the water quality BMPs ensures compliance with the Clean

Water Act. Forestry activities within the state are audited every 2 years. Summaries of these audits are available from the state.

Table 4. Decommissioned roads from 2003 to 2013 on the Flathead NF.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Roads Decommissioned (miles)	37	42	28	47	42	48	22	55	12	13	4

Application of BMPs on Montana timber lands has grown from 78 percent successful in 1990 to 98 percent successful in 2012. Percentages of these BMPs providing adequate protections for soil and water resources has improved from 80 percent in 1990 to 99 percent in 2012. The Flathead NF continues to support these monitoring efforts (i.e., success of BMPs) by providing sales for audit as well as technical assistance to the audit teams.

Step 3—Identifying the Issues

The following list is a synopsis of the road-related issues identified in past decisions or brought forward in recent meetings regarding the Flathead NF's Forest Plan revision. In addition to the list items, the Forest Service has obligations to maintain access to private property and other agency lands, as well as to maintain roads that provide access under long-term special use permit.

- Need increased opportunities for motorized recreation on the National Forest, including loop routes and high-elevation access
- Need less motorized recreation
- Should remove road mileage because the Forest Service cannot afford to maintain the existing road system
- Need to provide motorized access to high use, dispersed recreation areas
- Too many roads have been removed for the public to actively harvest game animals or obtain forest products
- Need to reduce the maintenance level on some roads to contain costs
- Need to actively manage the land for forest health—do not decommission more roads
- Need to decommission more roads to provide habitat security for wildlife and clean water for fish
- Need to improve maintenance on roads providing access to private homes and developed recreation areas
- Forest roads are a critical component of cooperative Forest Service, state and county wildland fire protection plans for the wildland urban interface (WUI)
- Adapting to climate change may drive a need for more or less road access.

Some of these issues are related to designation of roads for motor vehicle use. Designation of roads for motor vehicle use has been completed on the Flathead NF and was not evaluated for this analysis. Additionally, management of unauthorized roads also was not evaluated in this analysis. It is generally assumed that unauthorized routes are not part of the managed transportation system.

Public/Partner Collaboration Process

This draft report will be shared with the public in an open house as well as electronically and this section will be updated after receiving additional public input**.**

Step 4—Assessing Benefits and Risks of the Existing Road System

Development of Risk/Benefit Assessment Questions

Regional and forest subject-matter/category experts were asked to develop questions that are effective at making distinctions between risk and benefits of a forest road system, using available data and tools. They reviewed previous analysis questions for roads to see if they could be used as part of this analysis. The previous analysis questions reviewed by the Regional subject-matter/category experts were from the following sources:

- Road Analysis Process (FS-643)
- Watershed Condition Framework (FS-977)
- Previously completed Travel Analysis Processes by other forests
- Travel Analysis Questions developed by Region 9.

The subject-matter/category experts were provided a set of selection criteria that were used as a guideline as they developed risk/benefit assessment questions. The selection criteria were developed by the Regional technical team.

a. Overarching Selection Criteria:
   1) Questions reflect requirements of law, regulation, Forest Service policies or Forest land management plans.
   2) Questions use best available data sources.
   3) Questions lend themselves to answers that are objective, quantifiable and repeatable (different investigators applying the same question to the same data would come up with the same answers).
   4) Questions can be answered based on accepted science.
   5) Questions are matched to an appropriate scale of analysis.
   6) Questions are effective at making distinctions between necessary and unnecessary roads, making use of previous analysis work.
   7) Questions are answered with existing geographic information system (GIS) layers to the maximum extent possible.

b. Risk Selection Criteria: (Addressed by specific questions)
   1) Does the road contribute to an adverse regulatory finding (e.g., Clean Water Act impairment)?
   2) Does the road violate Forest Service Manual or Handbook requirements?
   3) Does the road violate a Forest Plan standard or guideline?

c. Benefit Selection Criteria: (Addressed by specific questions)
   1) Is the road necessary to meet Forest Plan direction?
   2) Is the road necessary to maintain a capital investment?

3) Is the road necessary to access a long-term special use?
4) Is the road necessary to access a reserved or outstanding interest in land or resources?

The risk and benefit questions were used to determine numeric, consolidated assessment values of specific road segments across the forest. The initial risk/benefit assessment values are used in conjunction with the cost analysis, public/partner involvement, and previous commitments (such as road cost-share agreements or long-term special use permits) to identify opportunities to change the Forest or Grasslands road system. Some of the road-related issues identified by the public and other agencies can be addressed by risk/benefit questions relative to specific road segments, while others would be more appropriately addressed during forest plan revision or during implementation of site-specific projects.

The following analysis questions are designed to quantify the level of environmental risk and benefit for specific road segments. The interdisciplinary team eliminated questions that were duplicative and combined questions that had the same overall intent.

Benefit Analysis Questions

Access Category Questions

There are three questions related to required access benefits for non-Forest Service lands, Forest Service administrative facilities, and permit holders.

Benefit Question (Q)1

Does the road provide access to private or other non-NFS lands?

Background

By law (Alaska National Interest Lands Conservation Act [ANILCA]), the Forest Service cannot deny or eliminate reasonable legal access to private lands completely surrounded by NFS lands. Each inholding must have reasonable access by at least one route. A private road permit or easement may be granted to the private land owner, who then has the primary jurisdiction of the road and is responsible for its maintenance. In cases where an easement is granted to a county or other public road agency, the road would no longer be an NFSR or subject to this assessment.

Tools/Data Resources

- GIS roads layer
- Lands layer (NFS and non-NFS lands within NFS boundary)
- Lands Status Records System (LSRS)

Available Values/Definitions

- 5 = Yes – the road provides access to private or non-NFS lands
- 0 = No – the road does not provide access to private or non-NFS lands

Benefit Q2

Does the road access Forest Service administrative facilities?

Background

Administrative sites represent an investment, either by the Forest Service or partners, such as other governmental entities. Eliminating access to these facilities may reduce or eliminate the value of the investment. It is important to know if roads or trails provide the only access to such investments. Consider sites such as administrative sites, fire lookouts, cabins, stream gages, communication sites, etc.

Tools/Data Resources

- GIS roads layer
- Administrative facilities site map and spatial data
- INFRA database

Available Values/Definitions

- 5 = Yes – the road accesses an administration site or non-recreation improvements.
- 0 = No – developed administration facilities or non-recreation improvements are accessed by the road.

Benefit Q3

Is the road the primary access to areas or sites under a long-term special use permit authorization?

Background

Access via system roads may be necessary to allow the customer and/or special use authorization holder to access areas authorized for long-term use including, but not limited to, ski hills, utility corridors, range allotments, mineral leases, and areas requiring recreation-related permits that do not include a developed site.

Tools/Data Resources

- GIS land status, Forest Service Activity Tracking System (FACTS) activity layer/INFRA/Timber Information System (TIM)/Special Use Permit (SUP) locations and boundaries
- Special Uses Data System (SUDS) database
- GIS roads layer
- Local knowledge of recreation and lands SUP administrator.

Available Values/Definitions

If available, overlay locations of all designated areas currently under a special use authorization on the roads/trails layer using GIS. Examine the proposed routes to the designated sites and render a value rating according to the following scale:

- 5 = Road the only access to designated area under a special use authorization
- 0 = Road access not necessary to designated areas under special use authorization

Vegetation Management Questions

Benefit Q4

Does the road provide access for vegetation management treatments on all suitable lands, and on all non-suitable lands that are within the WUI?

Background

The long-term need for continued access to lands for future vegetative treatments, including commercial or service contract treatments, must be recognized. Activities designed to reduce hazardous fuels, restore ecosystem function, and/or improve forest health occur on both suitable and non-suitable lands and often require multiple entries. Sufficient access to successfully implement these activities should be considered, as well as NFMA requirements following treatments. Such access could be reasonably managed as closed for public entry between management entries. (Some silvicultural entries may be >20 years apart.)

Tools/Data Resources

- GIS land status
- INFRA roads data
- Forest Plan Suitable Base Lands
- WUI delineations.

Available Values/Definitions

Examine the proposed routes against the suitable lands and WUIs and render a value rating according to the following scale:

- 5 = Veg management value high (road provides access to suitable lands or non-suitable WUI lands)
- 0 = Veg management value low (no suitable lands or non-suitable WUI lands accessed).

Benefit Q5

Does the road allow continuing access to conduct on-going research related to silviculture, forest health and climate change?

Background

There are a variety of ecological studies that exist on NFS land. Some have been in place for over 50 years and rely on periodic re-measurements. Access to these studies is critical in order to maintain their integrity. In some cases the road is actually a part of the study so eliminating it would have impacts as well. Future studies should be designed with travel management in mind or incorporate the possibility that long-term road access many not be realistic.

Tools/Data Resources

- GIS land status
- FACTS activity layer
- INFRA/TIM /National Resources Information System (NRIS)
- Forest Plan management areas (e.g., experimental forests or research natural areas [RNAs])
- Forest Health Protection (FHP) risk map Northern Research Station (NRS) active and needed research data bases
- NRS research needs identified by activity unit
- FHP risk rating
- GIS roads layer.

Available Values/Definitions

- 5 = Yes – the road provides direct access to a long-term study area
- 0 = No – no known research plots are accessed.

Recreation Category Questions

There is one question specifically related to recreation access benefits. Questions related to other access benefits may also indirectly provide recreation benefits.

Benefit Q6

Does the road access a trailhead, developed recreation site or designated recreation area?

Background

Certain recreation sites represent agency capital or labor investments. To maintain the value of these sites and for the public to receive value from these areas, access must be provided.

Tools/Data Resources

- GIS roads layer
- INFRA Database
- Developed Recreation INFRA Database
- Land Management Plan Management Areas.

Available Values/Definitions

- 5 = Yes – road is necessary to access developed trailheads or recreation sites/areas
- 0 = No – no developed sites/areas are accessed by the road.

Wildfire Hazard Response Category Questions

There is one question related to access benefits for emergency response within the WUI.

Benefit Q7

Does the road provide access to WUI?

Background

Forest roads are often used for emergency evacuation routes or during fire suppression operations around WUI areas. Local communities are required to develop emergency fire response plans for WUI areas. The long-term need for continued access by all emergency response partners, including wildfire and structure fire response needs to be recognized. Responder and public safety, location, situation and access are considered. This question is intended to inform decisions with regard to existing roads in the context of emergency response, and be used in conjunction with professional knowledge, experience, and response needs relevant to the Flathead NF.

Tools/Data Resources

- Fire management plans, pre-suppression attack plans
- GIS roads layer.

Available Values/Definitions

- 5 = Yes – road is specifically listed in a community fire plan or mapped WUI
- 0 = No – road is not used at all.

Risk Analysis Questions

Watershed and Aquatic Biota Category Questions

Forest transportation systems have the potential to impact water quality, aquatic habitat, and aquatic biota. Impacts can be highly variable and may include mass wasting, sediment delivery, loss of woody material, channel and riparian encroachment, and/or blockage of aquatic organism passage. The spatial and temporal magnitude of are strongly driven by the proximity of roads to stream networks and/or unstable soils. Therefore, the following four analysis questions are meant to focus on the location of roads in relation stream networks and other water bodies, unstable landforms or soils, and 303(d) waters.[2] The degree of aquatic organism blockage is also addressed.

Risk Q1

What is the road length within 150 feet of the stream[3] network and/or other water bodies?

Background

Roads in close proximity to water bodies can have a wide range of direct and indirect effects on riparian ecosystems, water quality, and aquatic habitat. Roads that parallel streams have the potential to effect floodplain function, riparian vegetation, stream temperature, and are a common source of sediment. Roads within 150 feet may have direct impacts on channel morphology which can lead to a variety of other impacts.

Tools/Data Resources

- INFRA Roads Module
- National Hydrography Dataset (NHD)
- Administrative boundary for land ownership.

Available Values/Definitions

- 5 = Road is among top 1/3 of greatest total distance within 150 feet of the stream[2] network or water bodies
- 0 = Road is among bottom 1/3 of total distance within 150 feet of the stream network or water bodies

High, moderate, and low values would be generated using Jenks Natural Breaks, as opposed to an arbitrary threshold number. It essentially minimizes variance within groups and maximizes variance among groups.

Risk Q2

What is the total number of stream crossings?

[2] As defined by the 2012 303(d) list of sediment-impaired waters.
[3] Include perennial, intermittent, and ephemeral.

Background

Road-stream crossings have been shown to be major source of risk. Crossings are a common source of sediment, pose a potential for failure, and are potential barriers to aquatic organism passage. Sum the number of intersections between the road and stream network for a total number of stream crossings.

High, moderate, and low values would be generated using Jenks Natural Breaks, as opposed to an arbitrary threshold number. It essentially minimizes variance within groups and maximizes variance among groups.

Tools/Data Resources

- INFRA roads module
- NHD
- Administrative boundary for land ownership.

Available Values/Definitions

- 5 = Roads among the top 1/3 of greatest number of stream crossings
- 0 = Roads among bottom 1/3 of total number of stream crossings.

High, moderate, and low values would be generated using Jenks Natural Breaks, as opposed to an arbitrary threshold number. It essentially minimizes variance within groups and maximizes variance among groups.

Risk Q3

Does the road cross unstable soils?

Background

Roads crossing unstable soils are prone to mass failure, debris flows, and/or accelerated erosion.

Tools/Data Resources

- INFRA Roads Module
- NFS lands inventory and land types designated as sensitive
- Administrative boundary for land ownership.

Available Values/Definitions

- 5 = Top 1/3 of road distance across unstable soil types
- 0 = Bottom 1/3 of road distance across unstable soil types.

High, moderate, and low values would be generated using Jenks Natural Breaks, as opposed to an arbitrary threshold number. It essentially minimizes variance within groups and maximizes variance among groups.

Risk Q4

Does the road create barriers to aquatic organism passage (i.e., habitat fragmentation)?

Background

Road-related structures, mostly in the form of culverts, can create barriers to fish passage. These structures may also inhibit the movement of amphibians.

Tools/Data Resources

- INFRA road data
- Administrative boundary and land ownership
- NHD
- Culvert inventory data from NRIS Aquatic Surveys, R1 Fish Barrier Database, Flathead NF Access Database.

Available Values/Definitions

- 5 = Aquatic habitat fragmentation due to blockages – More than two inventoried unwanted barriers including both total and partial barriers
- 0 = Fragmentation of habitat is not a serious concern.

Terrestrial Ecology Category Questions

There are two questions related to access risks related to wildlife: Risk Q5 and Risk Q6.

There are several ways that transportation routes and their uses affect wildlife. They can include direct, indirect and cumulative impacts to habitat, individuals and populations including:

- Direct road mortality due to vehicle collision
- Indirect mortality through facilitated access for hunting and trapping.
- Habitat loss (directly or indirectly due to factors such as snag loss adjacent to a road, displacement due to human activity on the road, etc.).
- Reduced connectivity (because a road bisects grizzly bear security core habitat, elk security area, or large old growth block, for example).

Impacts of forest roads on wildlife are assessed using two basic frameworks: 1) analysis of road or open road density and 2) analysis of key habitats as affected by roads. The impact of highways on connectivity in linkage areas is a separate issue not addressed in this analysis.

Risk Q5

Does the road bisect larger blocks of habitat that can provide grizzly bear security core or elk security?

Background

When conducting travel management assessment, Forest Service staff is encouraged to first consider the wildlife species most vulnerable or sensitive to the effects of motorized roads or trails, particularly the most limiting species. The effects of roads and wildlife have been most thoroughly studied for species such as elk and grizzly bears, so Forest Plan direction is often related to these two species. However, road management that provides elk and grizzly bear security may also benefit many other wildlife species. On the Flathead NF, Forest Plan Amendment 19 defines grizzly bear security core habitat as contiguous areas at least 2,500 acres in size more than 500 meters (about 0.3 miles) from an open or gated road. If applicable, grizzly bear security core habitat will be analyzed since it is more limiting than elk security. If an area does not have grizzly core habitat, elk security areas will be analyzed. Elk security areas are defined as areas more than 0.5 mile from an open road with a block of hiding cover at least 250 acres in size (Hillis et al. 2001).

Tools/Data Resources

- Roads GIS layer
- INFRA roads data
- A19 grizzly bear layer
- Wildlife species conservation management area layer.

Available Values/Definitions

- 5 = Yes – route accesses grizzly core or elk security habitat.
- 0 = No – road does not access grizzly core or elk security habitat.

In determining the scale of the analysis area and wildlife species evaluated, consider use of 6th code hydrologic unit code (HUC, Watershed Condition Framework scale) and/or a specific analysis area defined by threatened and endangered species (TES) conservation strategies, Forest Plan direction, or the analysis area for wildlife species most vulnerable or sensitive to the effects of motorized roads and trails.

Risk Q6

Does road density in the area of evaluation exceed any obligatory standard/threshold?

Background

Conservation management for some wildlife species relates to open or total road density thresholds and many NF plans have direction or standards to mitigate for adverse impacts from roads based upon thresholds or metrics that are most relevant for the selected wildlife species (see wildlife literature section). On the Flathead NF, for lands outside the grizzly bear recovery area, there are density standards specific to each GA.

Tools/Data Resources

- Roads GIS layer
- INFRA roads data Forest Plan Management Areas, grizzly bear subunits, or GAs with road density standards for wildlife species.
- Available Values/Definitions5 = Yes – Road densities in the area of evaluation exceed a forest plan standard, wildlife species conservation standard or any obligatory threshold. (All standards must be listed.)
- 0 = No – Road densities in the area of evaluation do not exceed standards or road is not in a conservation management area.

The risk rating for all roads within a conservation management evaluation area will be the same; either a 0 or 5. For example: a geographic analysis area is 43 square miles and the road density standard is 1.5 miles per square mile. It is calculated that the road density within this analysis area is 2.1 mi/mi^2, which is above the established conservation standard determined by a linear road density analysis. In this case, all roads within the analysis area would receive a risk rating of 5. Another example: an analysis area does not meet one of the two grizzly bear access density standards; open road density or total road density, as determined by a moving window analysis. All roads within the analysis area would receive a risk rating of 5.

Botany Questions

There are 2 questions related to access risks related to plants: Q7 and Q8.

Non-native invasive plant species (NNIS) are a significant threat to the Flathead NF. NNIS management activities are conducted under the program elements: prevention; early detection and rapid response; control and management; restoration and rehabilitation as identified in the National Strategy and Implementation Plan for Invasive Species Management; 2004 National Strategy; and regional NNIS management frameworks, plans, and strategies. NNIS are managed to protect, restore, and improve the health and function of terrestrial and aquatic ecosystems; ecological functions and values; the production of forest and rangeland products and services; improve and protect public recreational opportunities and wilderness integrity. The framework for risk assessment includes two approaches; control of existing infestations and prevention of infestation in areas with key ecological significance.

Risk Q7

Does the road pass through high priority non-native invasive plants for control and management?

Background

Roads can be vectors for the introduction and spread of NNIS. The extent of infestation along roads is an index of both the extent of current infestations, and the potential for future spread. Well established populations of NNIS that inhabit a relatively small area are good candidates for a control and management strategy.

Tools/Data Resources

- FACTS NNIS database
- NRIS NNIS database
- Wildlife and Fisheries Reporting Program (WFRP) report
- INFRA roads data.

Available Values/Definitions

- 5 = Road passes populations of high priority non-native invasive plants for control and management (refer to state-specific list of NNIS)
- 0 = No high priority populations of non-native invasive plants are present along the road prism.

Risk Q8

Is the road providing access to an ecologically significant area such as wilderness, RNAs, experimental forests, and rare plant communities? (Prevention)

Background

NNIS spread is facilitated by vehicle and pedestrian passage. The presence of NNIS along roads leading to ecologically sensitive areas elevates the risk to such areas, which are often of more value to the continued survival of rare species than the general forest environment. Preventing the introduction of NNIS into such communities is usually more efficient than attempting to eliminate or control invasive plants that have become established.

Tools/Data Resources

- Administrative boundaries
- Wilderness, RNAs, experimental forests
- FACTS database

- NRIS TES plants
- INFRA roads data
- State Heritage databases.

Available Values/Definitions

- 5 – Road provides direct access to or lies within an area of ecological significance, of priority NNIS control.
- 0 – Road does not provide access to areas of ecological significance.

Summary of Risk/Benefit Questions

Each NFS road received a "raw" score for each of the analysis questions above. Long roads were broken into segments where they changed travel management. Risk and benefit ratings were plotted on maps by analysis question and review by the interdisciplinary team for reasonableness. Refer to Appendix B for risk and benefit ratings for each question.

Scores for risk and benefit were aggregated and the Jenks natural breaks classification method was used to differential the values into low, medium, and high classes. See Appendix C for the summary risk and benefit maps.

Step 5—Describing Opportunities and Setting Priorities

The science-based risk/benefit analysis must be integrated with three other components as the interdisciplinary team considers logical opportunities to change the existing road system. The next three components are:

- a financial analysis,
- public/partner involvement, and
- management area direction.

This integration process is intended to help Forest staff make informed recommendations for their forest transportation system.

Financial Analysis

The Flathead NF receives annual roads funding (Construction and Maintenance of Roads, CMRD) for the operation and maintenance (O&M) of NFSRs. For fiscal years 2012 and 2013, the road O&M budget averaged $895,000. The 3 years prior averaged $1,520,000. This is a reduction of approximately 56 percent in O&M funding over the last 5 years. Approximately 55 percent of this amount is reserved for timber sale engineering support and planning, while the remaining 45 percent is available for all road inventory, monitoring, analysis, contract administration, construction, operations, and maintenance.

The Flathead NF may also receive roads construction and maintenance funding for capital investment projects (e.g., campground road improvement, bridge rehabilitation/replacement, aquatic organism passage projects), or for other national priority initiatives (e.g., flood response, aquatic organism passage, road decommissioning). There are limited opportunities to make capital improvements to the road system

through the Regional Capital Investment Program (CIP) or through the Federal Lands Transportation Program. Each of these programs is highly competitive for funding. Integrated restoration projects and commercial timber sales represent some of the better opportunities to implement changes to the road system. The total CMRD roads appropriation for the last five years is provided in Table 5.

Table 5. Summary of CMRD Roads Appropriations for Fiscal Years 2009–2013.

CMRD Roads Appropriation Fund Type	Year				
	2009	2010	2011	2012	2013
O&M ($)	1,900,000	1,465,000	1,194,000	932,000	859,000
CIP ($)	–	75,000	164,000	557,000	–
CMRD Road Appropriations Total ($)	1,900,000	1,540,000	1,357,000	1,489,000	859,000

Timber sales and integrated resource projects conducted under stewardship authority also directly perform road maintenance and reconstruction on NFSRs. For example, stewardship retained receipts have been used for implementing road best management practices and providing aquatic organism passage. A majority of work on roads with ML 1 and 2 (i.e., receiving basic custodial care or maintenance for high clearance vehicles) are accomplished through these projects. Collections through timber sales related to road maintenance, aggregate surface replacement, and Knutson-Vandenberg (KV) funds also provide funding for road-related activities. Table 6 provides a summary of timber/stewardship road-related funding.

Table 6. Summary of Timber/Stewardship Sale Road-Related Maintenance, Reconstruction, and Collections for Fiscal Years 2009–2013.

Timber/Stewardship Sales Fund Type	Year				
	2009	2010	2011	2012	2013
Road Maintenance ($)	76,000	12,000	25,000	30,000	65,000
Road Reconstruction ($)	688,000	206,000	205,000	182,000	50,000
Road-Related Collections ($)	340,000	170,000	254,000	111,000	287,000
Timber/Stewardship Sales Total ($)	1,104,000	387,000	484,000	323,000	402,000

Other specialized funds may be available for road-related project work, such as:

- Southwest Crown of the Continent CFLR funding
- Legacy Roads and Trails funding for implementing road best management practices, providing aquatic organism passage, and replacing bridges
- American Recovery and Reinvestment Act (ARRA) funding
- Federal Highway Administration (FHWA) funding
- Rural Area County (RAC) funding
- Cooperator deferred maintenance funds
- The Emergency Response Federally Owned (ERFO) program (requires a match of funds and requires the Forest Service to repair eligible sites with our appropriated funds).

Table 7 provides a summary of funding to the roads program from these other funding sources over the last 5 years.

Table 7. Summary of Other Roads-Related Funding for Fiscal Years 2009–2013.

Other Road Fund Types	Year				
	2009	2010	2011	2012	2013
Other FS Appropriations ($)	856,000	311,000	658,000	531,000	530,000
ARRA ($)	1,348,000	11,980,000	325,000	0	0
Stewardship Retained Receipts ($)	–	–	–	334,000	290,000
FHWA ($)	420,000	0	7,000	1,000	0
Other ($)	94,000	10,000	393,000	23,000	82,000
Other Roads Funding Total ($)	2,718,000	12,301,000	1,383,000	889,000	902,000

Table 8 provides a summary of total road-related funding available from all funding sources for fiscal years 2009–2013.

Table 8. Total Available Road-Related Funding For Fiscal Years 2009–2013.

Fund Type	Year				
	2009	2010	2011	2012	2013
CMRD Roads Appropriation ($)	1,900,000	1,540,000	1,357,000	1,489,000	859,000
Timber/Stewardship Sales Total ($)	1,104,000	387,000	484,000	323,000	402,000
Other Roads Funding Total ($)	2,718,000	12,301,000	1,383,000	889,000	902,000
Total Road-Related Funding ($)	5,722,000	14,228,000	3,224,000	2,701,000	2,163,000

Much of the other roads funding (noted in Tables 7 and 8) has gone to high-expense projects, such as road decommissioning. Of all the funding types shown in the tables, CMRD appropriations and road-related maintenance and collections from timber/stewardship sales are the primary sources for annual road maintenance. Over the past 3 years, approximately $590,000 of approximately $2.7 million in annual average road-related funds are related to annual maintenance (e.g., surface grading, roadside brushing, drainage structure cleaning and repair, and sign maintenance). The remaining funds go toward transportation planning, road management, road reconstruction and capital improvement projects (though these may also accomplish maintenance simultaneously).

In order to compare the need for road maintenance funds with funds actually obtained over the last 5 years, the Flathead NF has used the Regional Average Road Maintenance Costs to estimate the annual cost of maintaining their road network (see Appendix D). These costs were derived by identifying road maintenance work items and frequencies appropriate for each maintenance level. These costs are intended to reflect the actual cost of maintaining a road to its designated standard and may not reflect common practices carried out within budget constraints. The estimated funding needed to maintain roads to standard is approximately $1,300,000 annually. The Flathead NF currently receives approximately 42 percent of the funds needed to maintain the road system to standard. This includes resurfacing all surfaced roads (gravel and asphalt), replacing all culverts past their useful lives, eliminating fish barriers to meet objectives, brushing all roads to the edges of the clearing limits, ensuring all surface drainage is appropriately installed, and having all regulatory and warning signs replaced within their life cycle.

Because the Flathead NF has not received adequate road maintenance funds over the last 3 years, it has had to prioritize work. Currently, road maintenance funds are prioritized for roads open to public travel that access administrative sites and high use recreation sites. The primary maintenance items are regulatory and warning signage, surface blading, and roadside brushing. Maintenance of closure devices is also a priority and occurs consistently across the forest. Table 9 provides a summary of the number of

NFSRs that received some type of maintenance (i.e., surface blading, road side brushing, down tree removal, and sign maintenance); percentage of the passenger car miles that received maintenance; and the percentage of non-passenger car miles that received maintenance, over the previous 5 years.

Table 9. Miles of NFSR receiving maintenance, percentage of passenger car system and non-passenger car system receiving maintenance, on the Flathead NF for the last 5 years.

Year	NFSR Receiving Maintenance (miles)	Passenger Car System Receiving Maintenance (%)	Non-Passenger Car System Receiving Maintenance (%)
2013	690	62	4
2012	691	62	2
2011	1,446	99	22
2010	1,454	99	20
2009	1,359	99	17

There has been a great deal of discussion on how to reduce the funding burden created by the existing road system. Some people have proposed decommissioning of more roads to reduce the funding burden. While decommissioning roads may be a very good investment for environmental reasons, it is not a good investment for economic reasons. A simple financial analysis of the present net cost of decommissioning a mile of road, compared to the present net value of maintenance for a road in storage into perpetuity, shows that reduced road maintenance is a much better financial decision than road decommissioning. See Appendix D for the reference calculations.

Reducing road maintenance levels has been widely considered as the primary method to reduce costs. However, putting roads in a lower maintenance class can actually reduce the road maintenance funding allocated to the Flathead NF, because roads in the ML 1 or 2 categories no longer qualify for some funding sources. For example, high clearance or closed roads are not eligible for funds from the Federal Lands Access Program. The Flathead NF maintains only 27 percent of its road system for passenger car use (ML 3 or greater).

Converting roads to other uses, such as trails, has been considered as a method to maintain some Flathead NF access without the economic burden of road maintenance. Trail managers are concerned that this treatment simply shifts the cost from one program to another. Others feel it shifts the cost burden to the users of “roads in storage” that are primarily receiving trail use. In either case, both roads and trails programs are underfunded to maintain the respective systems to standard.

Transferring road jurisdiction to another agency has also been suggested as a method to reduce the cost burden. Forest Service Manual 7732.23 actually directs the agency to work with public road agencies to transfer jurisdiction when the road use and traffic mix is no longer predominantly forest-generated. Counties have a history of cooperating with the Flathead NF and accepting the jurisdiction of numerous roads serving county residents. However, the counties have very limited capacity to accept additional road mileage from the Forest Service.

Management Direction

In addition to the 15 risk and benefit questions providing a scientifically-based analysis, the *Flathead National Forest Land and Resource Management Plan* (1986, as amended) was utilized for management direction. This was accomplished by identifying management areas (MAs) that access suitable timberlands (MAs 5, 7, 7A, 8, 9, 11C, 13, 13C, 15, 15A-E, 16, 16A-C, 17) and the Coram Experimental

Forest (MA 14). If roads exist in these MAs, they were identified as likely needed for future vegetation management activities. In addition, MAs 1, 2, 2A-F, 3, 3A, 9B, 11, 11A, 12, 12A, 13A, 13D, 18, 19, 21, and 22 were identified as generally prohibiting/discouraging roads on the landscape. If roads exist in these MAs they were identified as likely not needed for future management activities.

This travel analysis was completed at a Flathead NF-wide, coarse scale. As such, finer scale/project level travel analyses and subsequent NEPA decisions may differ for some road segments. Implementation of opportunities identified in this TAR will follow the appropriate level of public involvement/NEPA requirements. Where discrepancies between opportunities identified in this TAR and project level travel analyses exist, the existing corresponding NEPA will take precedent, or additional NEPA analysis will be completed at the project level to evaluate appropriate road-related actions.

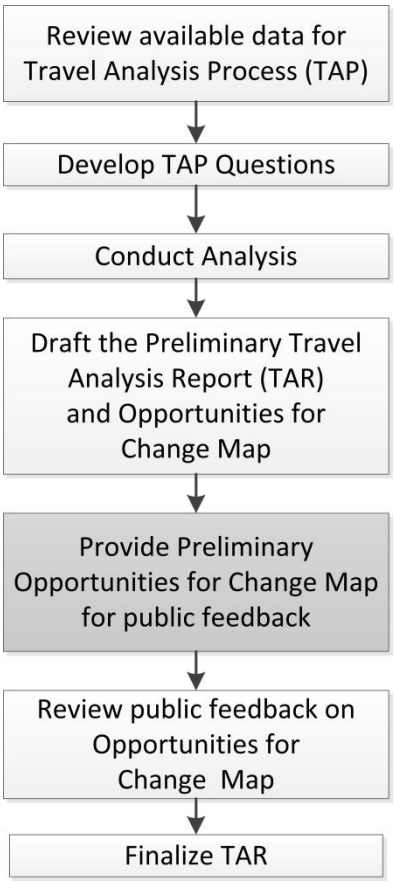

Figure 1. Overview of the TAP, highlighting the Public and Partner Agency Input stage.

Public and Partner Agency Input

Figure 1 shows an overview of the TAP/TAR process, showing where the point where the public is asked to review the opportunity map and provide feedback. At the conclusion of the feedback period, the information will be reviewed and this section of the TAR and the opportunity map revised accordingly.

Assessment Integration

The assessment integration is the process of blending the four sub-processes that make up the TAP. These are the Risk/Benefit Questions, the Financial Analysis, Management Direction, and the Public/Partner Involvement process. Together, they will provide the information the Flathead NF leadership can use to identify an MRS in subsequent analysis.

For the assessment integration, the risk and benefit scores for each road segment were summed to determine a total score. The analysis team felt it was useful to evaluate risks and benefits for all NFSRs within the Flathead NF even if previous decisions limited the scope of reasonable recommendations.

This cumulative evaluation approach for the risks/benefits sets the context for recommended changes on those roads with greater management flexibility.

Not all risks and benefits are adequately addressed at a landscape scale using existing GIS data. Some assessments requiring fine-scale information, or social issues that are difficult to map, are better identified in more detailed analysis or through project-level NEPA analysis. Existing decisions and associated fine-scale/project-level travel analyses that differ from this TAR do not invalidate the possible opportunities identified herein. Similarly, risk and benefit ratings and opportunities identified in this TAR do not invalidate fine scale/project level travel analyses. It is our intent to identify the more obvious opportunities that might be evaluated within the next 5 to 10 years.

A rule set was applied to each road segment based on the aggregate risk/benefit rating to determine preliminary opportunities. The preliminary opportunities would be modified as the other three

components of the TAP are integrated. The preliminary rule set was based on a matrix of calculated road risk and benefit, ranging from high risk/high benefit roads to low risk/low benefit roads. The preliminary opportunity spectrum includes three scenarios: storage, reconstruction, or maintenance; removal, storage, or conversion; no change. Table 10 shows the preliminary rule set used.

Table 10. Preliminary rule set applied to road segments.

Risk/Benefit Rating	Preliminary Opportunity Spectrum
High Risk and High Benefit	Storage, Reconstruction, or Maintenance
High Risk and Medium Benefit	Storage, Reconstruction, or Maintenance
High Risk and Low Benefit	Removal, Storage, or Conversion/Storage, Reconstruction, or Maintenance
Medium Risk and High Benefit	Storage, Reconstruction, or Maintenance
Medium Risk and Medium Benefit	Storage, Reconstruction, or Maintenance
Medium Risk and Low Benefit	Removal, Storage, or Conversion/Storage, Reconstruction, or Maintenance
Low Risk and High Benefit	No change
Low Risk and Medium Benefit	No change
Low Risk and Low Benefit	Removal, Storage, or Conversion/Storage, Reconstruction, or Maintenance

Roads calculated as having medium and high benefit, with low risk, were initially identified as “likely needed for future use” with “no change” recommended. Appropriate maintenance and reconstruction would occur as needed. If any of these roads are in management areas (MAs) that generally discourage/prohibit roads on the landscape, the road was identified as “likely not needed for future use” and it would be analyzed in a future, project-level NEPA assessment for appropriate action (i.e., removal, storage, or conversion).

Roads calculated as having medium and high benefit, with medium or high risk, were initially identified as “likely needed for future use” with appropriate actions being to put the road into a stored condition, reconstructing the road, or to perform maintenance. The appropriate specific actions would fit ground conditions, address actual risks observed in the field, and leverage funding. If any of these roads were in management areas (MAs) that generally discourage/prohibit roads on the landscape, the road was identified as “likely not needed for future use” and it would be analyzed in a future, project-level NEPA assessment for appropriate action (i.e., removal, storage, or conversion).

Roads that are calculated to be low benefit, and low, medium, or high risk could be identified as either “likely not needed for future use” or “likely needed for future use,” but with a single purpose. Specific action would fit ground conditions, address actual risks observed in the field, and leverage funding. If any of these roads were in MAs that generally discourage/prohibit roads on the landscape, the road was be identified as “likely not needed for future use” and it would be analyzed in a future, project-level NEPA assessment for appropriate action (i.e., removal, storage, or conversion). If any of these roads were in MAs that are suitable timberlands, the road was identified as “likely needed for future use.”

Future Road Needs

Access needs for the Flathead NF are anticipated to change over time, requiring either more or less road access on a fluctuating basis. Changes may be driven by public demand, agency budget, Forest Plan revision (and resulting changes to management areas and timber suitability), and adaptation to climate change. Adaptation in fire suppression, vegetation management, and timber production, or watershed management, could drive a need for expanded road access. Restoration projects intended to move

existing high-risk roads to lower impact locations would require some new road construction. The exact amount of new road, its location, and the environmental effects associated with each new road would be analyzed at the project level.

Opportunities for Change

Appendix E contains a list of road segments that have been preliminarily identified as having opportunities to change the road system. The opportunities identified consist of several road treatments including removal, storage, or conversion to other uses. Finer scale analysis and project-level NEPA assessment would be used to evaluate these opportunities. Refer to the "Opportunities for Change" map in Appendix E for a spatial display of opportunities.

The Flathead NF has an estimated 3,519 miles of NFSRs. Approximately 54 were identified "not likely needed for future use" and may be considered candidates for conversion to another use, storage for future use, of removal through decommissioning. Other roads that were rated as "high risk" were identified as candidates for storage for future use, reconstruction or relocation of the road, or additional road maintenance.

Roads considered as "low risk" are the first to be considered for reduced road maintenance (i.e., change to a lower maintenance level).

Roads identified as "likely needed for future use" could become the proposed action in identifying the MRS as defined in 36 CFR 212.5(b). About 3,465 miles were identified in this group. However, it should be noted that this group of roads would likely change through finer scale analysis and as conditions change.

Integration with Watershed Condition Framework

The map of roads identified with "opportunities for change" has been overlain with a map showing watershed condition (see Appendix F). Forest managers can use this information to identify specific watersheds where there would be the greatest benefit for application of road treatments. Additionally, this map would also be useful to assist in considering priorities for Watershed Restoration Action Plans. Once high-priority watersheds are selected, the specific road opportunities could be evaluated with finer scale information. There are three road segments, totaling just over 1 mile of road, identified as "likely not needed for future use," which are located in a "Watershed Condition Class 2" watershed (Appendix F). It is recommended that these roads be the highest priority for consideration under a proposed action.

Step 6—Reporting

Key Findings of the Analysis

Roads "likely needed for future use" and "likely not needed for future use" were discussed in the previous step and are included in Appendices E and F. The tables in the appendices include roads recommended for decommissioning, storage, conversion, reconstruction, relocation, and changes in maintenance. Specific road treatments would be evaluated through analysis at a finer scale or during project level NEPA. Key findings of the analysis include the following:

- Approximately 3,465 miles of roads identified as "likely needed for future use" could be considered as the proposed action for identifying the MRS.

- Approximately 55 miles of roads were identified as "likely not needed for future use." Just over 1 mile of these roads lie in a watershed with a Condition Class 2.
- Generally, the greatest opportunity to remove roads from the system is found at the extremities of the road network. Of the road segments rated "remove, storage, or conversion," the highest priority for removal would be those segments that are considered high risk and located in watershed Condition Class 2.
- The Flathead NF-wide coarse analysis has resulted in the identification of roads "likely not needed for future use" that do provide access to trailheads or other amenities, or may be currently planned for use in a vegetation management project. Identifying these on-the-ground discrepancies when compared to the TAR would occur during project-level NEPA assessments, which is when road management decisions are made.
- Current and projected road funding is far reduced from the funding needed to maintain the needed road system. Ongoing access requirements, public and private right-of-ways, and public demand leave limited options to scale the system within the projected budget. The mismatch in funds and public demand may result in declining user comfort and convenience. A possible result would be that more miles would be placed in storage, awaiting maintenance funding, because they would no longer be safe for administrative or public travel. Emphasis will be placed on protecting water quality.
- Some new road construction for local access may possibly be needed in the future to implement the Forest Plan revision direction. Road construction needs would likely arise in areas where there is a need to reestablish access for vegetation management, where existing roads need to be relocated to mitigate impacts, or where access is needed for vegetation treatments in isolated/remote areas.
- Decommissioning of roads has been ongoing on the Flathead NF for nearly 20 years and it is expected that the bulk of the decommissioning work has been completed. Reductions in road system miles will limit the Flathead NF's ability to implement accelerated forest restoration in some places.

Definitions

Administrative Unit. A National Forest, a National Grassland, a purchase unit, a land utilization project, Columbia River Gorge National Scenic Area, Land between the Lakes, Lake Tahoe Basin Management Unit, Midewin National Tallgrass Prairie, or other comparable unit of the National Forest System. (36 CFR 212.1, 36 CFR 261.2, FSH 7705, FSM 7705)

Annual Maintenance. Work performed to maintain serviceability, or repair failures during the year in which they occur. Includes preventive and/or cyclic maintenance performed in the year in which it is scheduled to occur. Unscheduled or catastrophic failures of components or assets may need to be repaired as a part of annual maintenance. (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998)

Area. A discrete, specifically delineated space that is smaller and in most cases much smaller, than a Ranger District. (36 CFR 212.1, 36 CFR 261.2, FSM 7705)

Cooperative Road Right-of-Way Agreement. A contractual document that defines the conditions under which the parties agree to do business and incur fiscal obligations in the construction, use, and maintenance of a shared road system. Within the terms of a Cost Share Agreement, easements are exchanged and a Road Maintenance Agreement is developed.

Decommission. Demolition, dismantling, removal, obliteration and/or disposal of a deteriorated or otherwise unneeded asset or component, including necessary cleanup work. This action eliminates the deferred maintenance needs for the fixed asset. Portions of an asset or component may remain if they do not cause problems nor require maintenance. (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998)

Deferred Maintenance. Maintenance that was not performed when it should have been or when it was scheduled and which, therefore, was put off or delayed for a future period. When allowed to accumulate without limits or consideration of useful life, deferred maintenance leads to deterioration of performance, increased costs to repair, and decrease in asset value. Deferred maintenance needs may be categorized as critical or non-critical at any point in time. Continued deferral of non-critical maintenance will normally result in an increase in critical deferred maintenance. Code compliance (e.g. life safety, ADA, OSHA, environmental, etc.), Forest Plan Direction, Best Management Practices, Biological Evaluations, other regulatory or Executive Order compliance requirements, or applicable standards not met on schedule are considered deferred maintenance. (Financial Health - Common Definitions for Maintenance and Construction Terms, July 22, 1998)

Designated Road, Trail, or Area. A National Forest System road, a National Forest System trail, or an area on National Forest System lands that is designated for motor vehicle use pursuant to 36 CFR 212.51 on a motor vehicle use map (MVUM). (36 CFR 212.1, FSM 7705)

Forest Transportation Atlas. A display of the system of roads, trails and airfields of an administrative unit. (36 CFR 212.1, FSM 7705)

Forest Transportation System. The system of National Forest System roads, National Forest System Trails, and airfields on National Forest System lands. (36 CFR 212.1, FSM 7705)

Maintenance. The upkeep of the entire forest transportation facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization. (36 CFR 212.1)

Minimum Road System. The road system determined to be needed to meet resource and other management objectives adopted in the relevant land and resource management plan, to meet applicable statutory and regulatory requirements, to reflect long-term funding expectations, to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance (36 CFR 212.5(b)(1)).

Motor Vehicle Use Map. A map reflecting designated roads, trails, and areas on an administrative unit or a Ranger District of the National Forest System. (36 CFR 212.1, FSM 7705)

National Environmental Policy Act (NEPA) procedures. The rules, policies, and procedures governing agency compliance with the National Environmental Policy Act set forth in 50 CFR parts 1500-1508, 7 CFR part 1b, Forest Service Manual Chapter 1950, and Forest Service Handbook 1909.15. (36 CFR 251.51)

National Forest System Road. A forest road other than a road which has been authorized by a legally documented right-of-way held by a State, county or other local public road authority. (36 CFR 212.1, 36 CFR 251.51, 36 CFR 261.2, FSM 7705, FSH 7709.56.40.5)

National Forest System Trail. A forest trail other than a trail which has been authorized by a legally documented right-of-way held by a State, county or other local public road authority. (36 CFR 212.1, 36 CFR 261.2, FSM 7705, FSM 2353.05, FSH 2309.18.05)

Public Road. A road under the jurisdiction of and maintained by a public road authority and open to public travel. (23 USC 101(a), 23 CFR 460.2, 23 CFR 660.103, FSM 7705)

Road. A motor vehicle route over 50 inches wide, unless identified and managed as a trail. (36 CFR 212.1, FSM 7705)

Road Construction or Reconstruction. Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road. (36 CFR 212.1, FSM 7705)

Special Use Authorization. A permit, term permit, lease, or easement which allows occupancy, use, rights, or privileges of National Forest System land. (36 CFR 251.51, 36 CFR 261.2)

Suitable Timber Land. National Forest system land for which technology is available that will ensure timber production without irreversible resource damage to soils, productivity, or watershed conditions; for which there is reasonable assurance that such lands can be adequately restocked and for which there is management direction that indicates that timber production is an appropriate use of that area.

Unauthorized Road or Trail. A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas. (36 CFR 212.1, FSM 2353.05, FSM 7705)

Vehicle. Any device in, upon, or by which any person or property is or may be transported, including any frame, chassis, or body of any motor vehicle, except devices used exclusively upon stationary rails or tracks. (36 CFR 261.2)

For additional definitions related to roads on the Flathead National Forest, see Appendix TT of the Flathead National Forest Plan (1986 as amended).