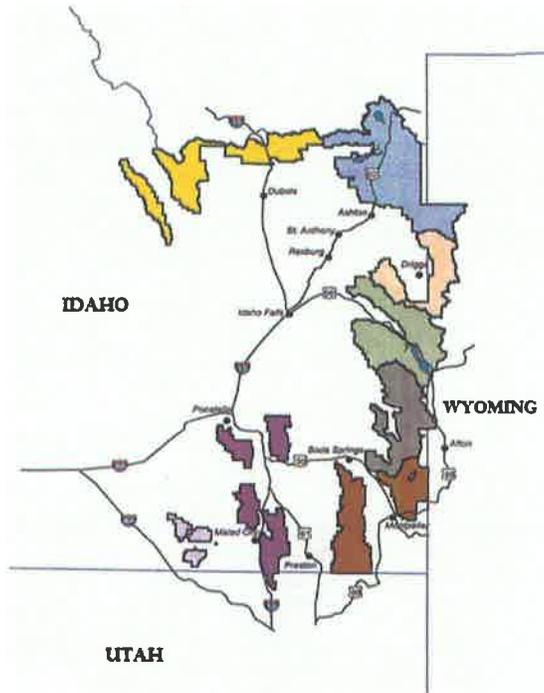


**Caribou-Targhee National Forests
Unit Scale Transportation System Analysis
Process Report (TAR)**



April 1, 2014

Composed by:

Thomas E. Brown, P.E.
Assistant Forest Engineer

Reviewed by:

Wes Stumbo
Staff Officer

Recommended by:

Brent Larson
Forest Supervisor

Table of Contents

I.	Context	3
	a. The Travel Analysis Process	
	b. Caribou-Targhee NF Travel Analysis	
	i. Existing Roads Analyses	
	ii. Review Process	
	iii. Alignment with Watershed Condition Framework	
	c. Overview of the Caribou- Targhee NF Road System	
	i. Road Maintenance Levels	
	ii. Forest Mileage	
	d. Costs of Operating & Maintaining the Forest Roads and Bridges	
	i. Road Maintenance Estimated Costs	
	ii. Bridge Maintenance and Reconstruction Estimated Costs	
	iii. Total Overall Estimated Annual Costs	
II.	Assessment of Issues, Benefits and Risks	7
	a. Financial	
	b. Environmental and Social	
	c. Safety and Function	
III.	Recommendations, Minimum Road System and Next Steps	9
	a. General Road System Recommendations	
	b. Proposed Minimum Road System	
	c. Next Steps	
IV.	Appendices and Maps	11
	a. Appendix A – Forest Service Direction Documentation	
	b. Appendix B – Road Lists	
	c. Maps	

I. Context

The Travel Analysis Process

Travel Analysis Subpart A is required by the 2005 Travel Management Rule (36 CFR 212.5). Specific direction for performing the travel analysis process (TAP) is provided for in Forest Service Manual 7712 and Forest Service Handbook 7709.55-Chapter 20; including the requirement to use a six step interdisciplinary, science-based process to ensure that future travel management decisions are based on an adequate consideration of environmental, social and economic impacts of roads. The TAP is designed to work in conjunction with other frameworks and processes, such as the Watershed Condition Framework (WCF), the results of which collectively inform and frame future decisions executed under NEPA.

The Chief's letter dated March 29, 2012 reaffirms the agency commitment to completing TAP reports (TAR) for Subpart A of the travel management rule by 2015. The letter also provides additional national direction including addressing process, timing and leadership expectations. The letter includes allowance for the inclusion of previously performed travel or roads analysis (RAP), provided the analyses were completed in accordance with publication FS-643, "Roads Analysis: Informing Decisions about Managing the National Forest Transportation System". The letter further defines TAR to include a map presenting the road system for each unit; *further direction for the map to display needed and unneeded roads for future use was provided in a follow up letter from the Chief dated December 17, 2013.*

Caribou-Targhee NF Travel Analysis

Existing Road Analyses -This report document is the coalescing of independent Forest scale road analysis reports (RAP's) piloted by individual interdisciplinary teams (IDT) on each of the two Forests (Caribou NF and Targhee NF were administratively combined in 2000). These RAP's fulfil the TAP process as they were conducted utilizing the science based Roads Analysis six-step process (publication FS-643), address the standard 71 resource questions and assess both 'classified' (system) and 'unclassified' (non-system) roads as part of the Forest Plan Revision processes. In performing the RAP's, both teams followed the pertinent laws, policies, and direction from the National Forest Management Act, National Environmental Policy Act, Endangered Species Act, Federal Advisory Committee Act, Forest Service Manual FSM7700, Forest Service Handbook FSH7709, 36 CFR Part 212, Environmental Impact Statement process, Revised Forest Plan process and other related guidelines. Each RAP was also reviewed by Line Officers, Forest Engineering and Regional Engineering staff. The RAP's were conducted with extensive internal participation and included significant participation by partners and the general public. The main products produced from the RAP's include; a 6th -level watershed risk assessment and map, a map for all of the classified roads, a road-by-road risk vs. value table, narrative responses for the 71 questions and guidelines for road management activities.

The primary objectives of the RAP processes were to identify and prioritize opportunities that would address future road system size, construction, reconstruction, maintenance, decommissioning, and watershed health as it relates to the road system. One such result was the development of a road decommissioning process with the benefit of significant public input. This process has been successfully implemented across the Caribou-Targhee NF with the 4000 plus miles of road reviewed during the RAP processes being reduced to 2840 current system miles.

Review Process – In 2010, as part of the TAP review, each of the seven District Rangers reviewed the respective list of roads for applicable modifications and corrections to the official database (IWEB) as well as to identify management opportunities for future consideration under NEPA decisions. The review process resulted in an updated roads list for each District (see Appendix B – Road Lists). The road lists have since been incorporated into the GIS mapping that is utilized to produce the official Motor Vehicle Use Map (MVUM). A map for each District depicting current needed and unneeded roads is included in Section V – Appendices and Maps.

Alignment with Watershed Condition Framework (WCF) – The Caribou-Targhee NF conducted an analysis of its watersheds in 2011. The analysis categorized watersheds as to their existing condition and prioritized each for future improvement efforts. Three categories were identified: Class 1 – Functioning Properly, Class 2 – Functioning at Risk, and Class 3 – Impaired Function. These classifications were performed on watersheds at the 6th order hydrologic unit classification (HUC) according to standard procedures described in the “Watershed Condition Framework” technical guide.

As part of the WCF process, a list of priority watersheds was created for focus work over the next decade. As the TAP review and WCF were conducted simultaneously, both were utilized in each document. Future watershed improvement work is intended to be informed by the RAP analyses and this TAR.

Overview of the Caribou-Targhee NF Road System

The Caribou-Targhee NF road system currently comprises 2840 miles (down from over 4000 collectively in 2002), providing access to 2.7 million acres of national forest, as well as private tracts, State land, Bureau of Land Management land, Tribal land and local communities located in and around the 20 million acre Greater Yellowstone Ecosystem. The system supports recreational activities, timber harvest, grazing, mining and resource management functions. It is comprised of historic “public” roads developed over time (starting in the 1800’s) to access timber sales and subsequent silvicultural areas, recreation opportunities, ranches, mines and other facilities. The roads range from double lane paved roads to single lane native surface roads. On the Forest, 787 miles are maintained for use by passenger cars (Maintenance Level

5-3, defined below) with the remainder of mileage maintained for high clearance vehicles (ML 2) or restricted to administrative access only (ML 1). 90% of funding for the construction, reconstruction, and maintenance of all road types has generally been provided either by Congressional appropriations or authorized as a component of timber sales, mining or other industrial activities. Motor vehicle access is restricted to those roads shown on the annual MVUM's.

Road Maintenance Levels - The Caribou-Targhee NF catalogs its road mileage in the official Forest Service inventory (IWEB) by maintenance level, defined as follows:

- Maintenance Level 5 – Single or Double Lane Roads w/high degree of user comfort; mainly paved roads with ditches
- Maintenance Level 4 – Single or Double Lane Roads w/moderate user comfort; mainly aggregate roads with ditches
- Maintenance Level 3 – Lowest level maintained to accommodate passenger cars
- Maintenance Level 2 – Maintained to accommodate use by high clearance vehicles
- Maintenance Level 1 – Retained for administrative access; closed to public traffic

Forest Mileage - The lands of the Caribou-Targhee NF are administered by seven Ranger Districts; Dubois, Ashton-Island Park, Teton Basin (Driggs), Palisades (Idaho Falls), Westside (Pocatello), Soda Springs and Montpelier. The number of current system road miles administered by each District is indicated by maintenance level in the following Table:

District	ML 5	ML 4	ML 3	ML 2	ML 1	Total Miles
Dubois	0.0	2.3	40.4	356.1	42.1	441
Ashton-Island	9.8	96.1	247.4	304.0	210.0	867
Montpelier	7.1	10.2	109.1	305.5	24.5	456
Palisades	2.4	4.8	50.8	110.8	53.8	223
Soda Springs	0.0	27.2	49.0	201.7	60.7	339
Teton Basin	0.0	23.3	35.7	85.8	76.1	221
Westside	4.2	18.4	48.7	175.8	46.1	293
<i>Rounded Totals</i>	<i>24</i>	<i>182</i>	<i>581</i>	<i>1540</i>	<i>513</i>	<i>2840</i>

(Note: At any given time there may be roads found to be in existence on the landscape that are not shown in the official inventory or on an official map. These roads are considered to be unauthorized roads, unneeded for use by the Caribou-Targhee NF. They are subject to decommissioning when funding becomes available. Also, as the database includes all roads the mileage provided within IWEB may not match the system miles provided within this table).

Cost of Operating and Maintaining the Forest Roads and Bridges

The Caribou-Targhee NF maintains 90% of its road system with funding provided through the annual Congressional Appropriation. A variable amount of miles that support forest

management operations may occasionally be maintained with timber sale or stewardship dollars during the life of the operation. Partners such as adjoining Counties and other user groups also provide road maintenance support in on-the-ground work on the road system. Currently 843 miles are listed for County maintenance under the Forest Schedule-A agreement program.

For the Caribou-Targhee NF, the annual CMRD budget has decreased from \$1,219,000 in 2008 to \$758,000 available in 2012 (62%). The overhead to manage the road system in 2012 was \$601,000 or 79% of the total 2012 budget. This amount covers items such as engineering, maintenance personnel, equipment, administrative services, contract preparation and administration, status or monetary reporting as well as input from other specialists in hydrology, geology, wildlife, recreation etc. As a result, \$158,000 of the Congressional Appropriation was available to perform the actual maintenance for the entire road system in 2012.

As part of the TAP review process, in the following subsections, the associated economics for the road system has been adjusted from the RAP analyses to reflect current dollar values and work costs.

Road Maintenance Estimated Costs - The primary components of road maintenance on the Caribou-Targhee NF road system include; Blading and ditching, Surfacing (repaving with asphaltic concrete in the case of some ML 5), Signs and markings, and the implementations of Road maintenance Best Management Practices (BMP's). Typical unit costs for the primary road maintenance activities are estimated for each maintenance level on the following table:

Work	ML 5	ML 4	ML 3	ML 2	ML 1
Inspections	\$800	\$600	\$500	\$300	\$300
Blading and Ditching	\$1,500	\$2,600	\$2,200	\$800	\$100
Surfacing	\$5,500	\$2,700	\$2,400	\$100	\$0
Signs and Markings	\$600	\$500	\$300	\$100	\$50
Drainage Structures	\$2,000	\$2,000	\$1,500	\$500	\$100
Mowing and Brushing	\$1,500	\$1,500	\$800	\$200	\$0
<i>Estimated Totals</i>	<i>\$11,900</i>	<i>\$9,900</i>	<i>\$7,700</i>	<i>\$2,000</i>	<i>\$550</i>

(Note: These estimated costs are based on a rounded average price per mile of the maintenance costs for activities performed by Forest Service and Contracted crews between 2009 and 2012 measured with the inflation adjusted calculations performed during the 2002 RAPs).

Bridge Maintenance and Reconstruction Estimated Costs - The Caribou-Targhee NF has 74 bridges that require inspection on the minimum 2-year cycle per Federal Highway

Administration (FHWA) guidelines. The inspection carries an average cost of \$750 per bridge. 21 of the 74 are currently on the deficient bridge list. Typical bridge replacement costs for the Caribou-Targhee NF are \$6,000 per linear foot for a two lane bridge.

Total Overall Estimated Annual Costs - The information from the previous sections are combined in the following table which represents the estimated total annual cost to maintain the Caribou-Targhee NF roads and bridges to standard:

Item	Number	Unit Cost	Total Cost
Fixed Cost to Operate & Manage	1	\$600,000	\$600,000
Maintenance Level 1 Roads	513	\$550	\$282,150
Maintenance Level 2 Roads	1540	\$2,000	\$3,080,000
Maintenance Level 3 Roads	581	\$7,700	\$4,473,700
Maintenance of Level 4 Roads	182	\$9,900	\$1,801,800
Maintenance of Level 5 Roads	24	\$11,900	\$285,600
Annual inspection of ½ of Bridges	37	\$750	\$27,750
Replacement of Deficient Bridges	1 per Year, 35' Av. Length	\$210,000	\$210,000
<i>Total Annual Dollars Needed</i>			<i>\$10,761,000</i>

II. Assessment of Issues, Benefits and Risks

Financial

The needed annual funding for the entire system is estimated at \$10.5 million. At the current budget levels, deferred maintenance accrues every year on the road system which will lead to both long and short term closures. There is also increased degradation to recent improvement investments such as the American Recovery and Reinvestment Act of 2009 (ARRA). The road system is progressing towards failing to meet the needs of the travelling public, and to provide for adequate resource access for forest management activities, including prescribed fire and fire suppression. Suggested mitigation is as follows:

- As opportunities allow, jurisdiction and maintenance costs will continue to be considered for transfer to the most appropriate entity, such as Counties.

- Roads within the Aquatic Influence Zone (AIZ) will continue to be analyzed for opportunities to reconstruct, relocate or decommission in order to reduce the impact mileage and improve water qualities.
- Roads will need to be identified for extended seasonal closures; and some roads currently maintained for passenger car use will need to be identified for conversion to lower maintenance levels.
- Road densities will be consistently reviewed on at least a bi-annual basis.
- Roads or portions of roads will be considered for closure due to insufficient bridge replacement funding. There are 74 bridges on the Forest maintained and located on open public roads, of which 21 are load restricted or otherwise deficient.

Environmental and Social

The primary issues in the environmental arena transmit to:

- 1) Erosion of the roadbed, cut slopes, fill slopes and ditches, with the resulting sediment discharge affecting water quality and associated aquatic resources
- 2) Road density effects on wildlife species, such as bear and lynx
- 3) The roads serving as a conduit for invasive species.

Access is needed by a wide variety of Forest users, including hikers, hunters, fishermen and other recreationists, as well as for Forest management activities, such as restoration projects and fire suppression. Additionally, law enforcement faces challenges due to the high demands but decreasing resources. Roads require regular monitoring, as they can easily become sites for crime, trash accumulation, dumping and similar illegal activities.

Safety and Function

The primary issues related to safety and function of the Caribou-Targhee NF road system includes:

- 1) Maintenance of a safe, clear and smooth travel way
- 2) Affordable access in the proximity of the desired use activities
- 3) Steep road grades
- 4) Functioning of the drainage features and other employed BMP's
- 5) Width and stability of the road prism
- 6) Adequate signs and markings
- 7) Structurally sound and functionally sufficient bridges.

III. Recommendations, Minimum Road System and Next Steps

General Road System Recommendations

The 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. Roads that primarily provide access to housing & local communities need to be considered for transfer of maintenance responsibility to appropriate entities. Roads that appear to provide limited access and which are high risk to various environmental or social values should be flagged for consideration for decommissioning or conversion to trail. Roads which are primarily needed only for administrative use, or by hunters and which are currently useable by passenger vehicles should be considered for conversion to lower Maintenance Levels including ML-2 high clearance use only. Roads which are receiving the highest amount of use or which access major developed recreation areas, should not be downgraded and alternative funding sources pursued. Finally, inclement weather has a particularly costly impact on native and gravel surfaced roads, therefore, to the extent possible, roads should be identified for extended seasonal closure where applicable.

Proposed Minimum Road System

In the TAP review and the 2010 examination of ML-1 roads, the Caribou-Targhee NF concludes the future minimum road system to be 2713 miles composed of the existing road system minus the remaining roads listed for decommissioning or conversion (a map depicting the 'needed' and 'unneeded' roads for each District is included in Section V – Appendices and Maps). The Forest recognizes that although some roads have been listed to comprise this reduction to the system, there may be others which have not yet been identified. Therefore, a continuous effort and evaluation of need to the overall road system makeup will be utilized to inform future decisions and projects, with the goal of achieving a financially sustainable road system that meets public and administrative needs for the future.

Next Steps

- Districts will continue to develop proposed actions, in accordance with the NEPA process, in the implementation of decommissioning or conversion of roads.
- The information from this TAP review and the previous RAP recommendations will be used to inform future NEPA decisions, many of which will eventually be implemented in conjunction with various restoration and watershed enhancement projects being considered on the Forest.
- NEPA determinations will continue to be conducted at the appropriate scale, with consideration of cumulative effects, affordability and with input from key stakeholders, the public and other relevant resources.

- Budgetary constraints and opportunities will continue to be monitored as to the effects on overall costs associated to maintaining the existing road system.
- The road system will continually be reviewed for adjustments based on technological advancements or dramatic shifts within the road construction/maintenance arena.

IV. Appendices and Maps

a. Appendix A - Forest Service Direction Documentation

b. Appendix B - Road Lists

1. Dubois RD
2. Ashton/Island Park RD
3. Teton Basin RD
4. Palisades RD
5. Soda Springs RD
6. Montpelier RD
7. Westside RD

c. Maps

1. Map Displaying Needed/Unneeded Roads for Future Use
 - i. Dubois RD
 - ii. Ashton/Island Park RD
 - iii. Teton Basin RD
 - iv. Palisades RD
 - v. Soda Springs RD
 - vi. Montpelier RD
 - vii. Westside RD North
 - viii. Westside RD South

