

# Appendix D

## Financial Analysis

The cost analysis is intended to provide the responsible official with an estimated cost to maintain a minimum road system on the unit. This cost information can inform future project-level NEPA proposed actions about the size of a MRS during the TAP. The cost analysis is meant only to provide an estimate of the potential costs associated with various road system scenarios. These potential costs should be compared with long-term funding expectations to inform the responsible official about economic concerns associated with these scenarios.

Annual road maintenance costs (per mile) have been averaged across the Region for each Maintenance Level (ML). The cost analysis formula to estimate the cost of maintaining a particular MRS scenario is a simple mathematical calculation:

$$[\# \text{ miles of road (by ML)}] \times [\text{average annual road maintenance costs per mile (by ML)}]$$

The resulting maintenance cost figure would then be compared with long-term funding expectations to see whether a particular MRS scenario could be maintained within budget constraints. The average annual road maintenance costs per mile (by ML) are displayed in the table below:

Table 1. Region 9 average annual maintenance costs by maintenance level.

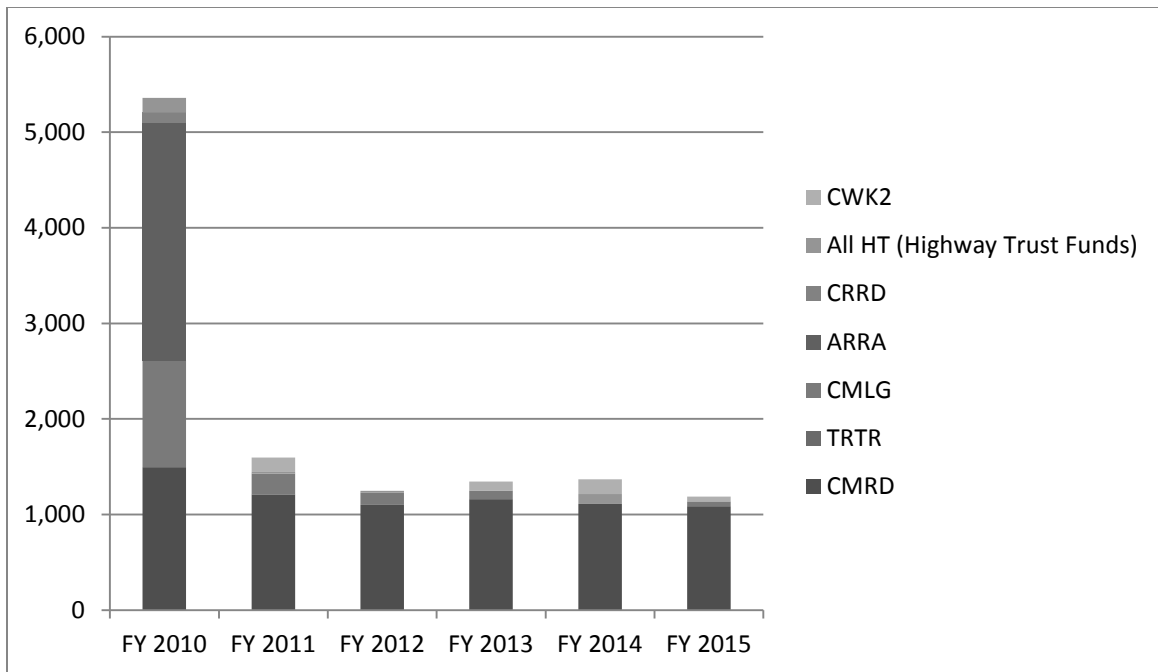
Maintenance Level	Average Annual Maintenance Cost (per mile)
ML 1 Road – Basic Custodial Care (Closed)	\$125
ML 2 Road – High Clearance Vehicles	\$1,500
ML 3 Road – Suitable for Passenger Vehicles	\$4,600
ML 4 Road – Moderate Degree of User Comfort	\$5,600
ML 5 Road – High Degree of User Comfort	\$8,000

The Region 9 average annual maintenance costs by maintenance level was calculated based on the annual maintenance costs from Forests across the northeastern United States. Depending on the location of a forest and the availability of road construction materials, maintenance costs can vary. Based on local professional experience on the HIF, Forest Engineer Greg Gardner, believes that the annual maintenance costs for the HIF would be less than what is estimated in Table 1. The maintenance costs associated with ML 1 roads are very minimal. It may include the replacement of a gate or improvements to a closure that has been destroyed by illegal use of the road. Maintenance costs on ML2 roads are also minimal. Maintenance on ML 2 roads is based on the needs of the Forest Service and the risk of resource damage. Most maintenance of ML 2 roads is completed through timber sale contracts. Details about ML 3, 4, and 5 roads are included in Appendix A. The maintenance costs associated with those roads would be comparable to the regional average annual maintenance cost.

The cost analysis in this report includes the annual funding for the budget line item specifically for road construction and maintenance (CMRD) and several other budget line items that can be and have been used for road construction and maintenance, e.g., TRTR, CMLG, ARRA, CWK2 and highway trust funds (Table 2 and Figure 1). These budget line items can and often are used for purposes other than road construction and maintenance, such as employee salaries, so in a given year the funding used for road construction and maintenance may be much less than the \$1.836 million average in Table 2.

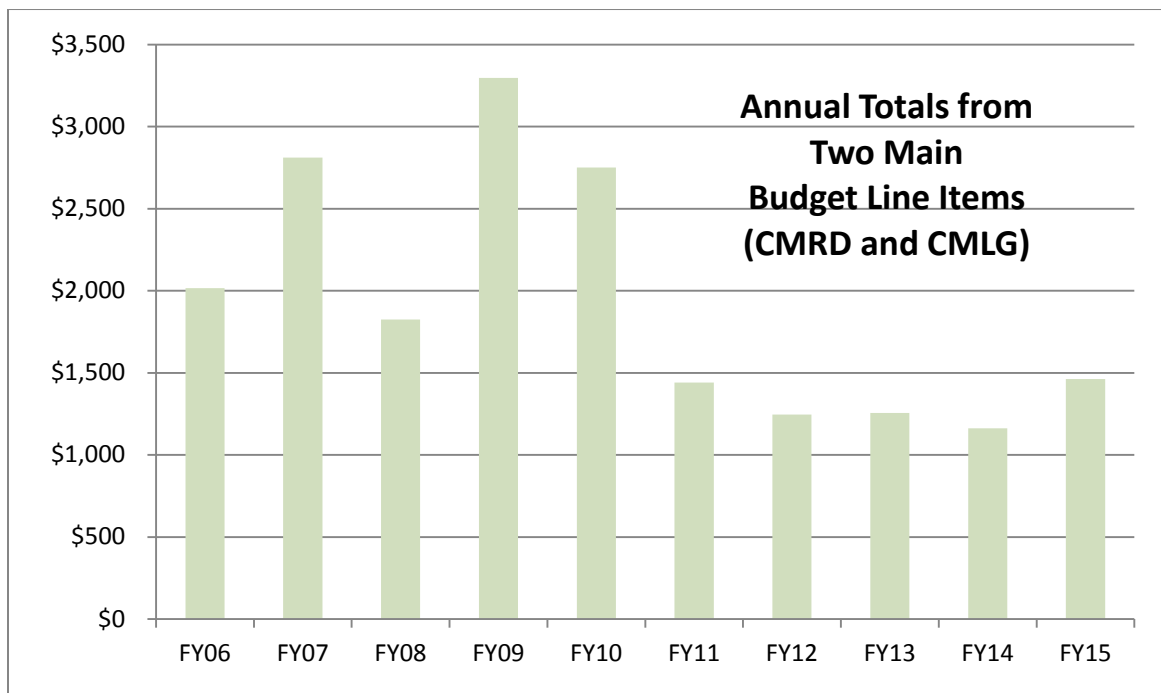
**Table 2. Historic HIF annual road construction and maintenance funding (thousands \$).**

<b>Funding Source (budget line item)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Average</b>
CMRD	1,496	1,213	1,101	1,163	1,112	1,089	1,195
TRTR	0	0	0	0	0	0	0
CMLG	1,115	216	129	90	0	50	267
ARRA	2,485	0	0	0	0	0	414
CRRD	109	0	0	0	0	0	18
All HT (Highway Trust Funds)	153	16	18	0	102	0	48
CWK2	0	152	0	93	155	50	75
<b>Total</b>	<b>5,358</b>	<b>1,597</b>	<b>1,248</b>	<b>1,346</b>	<b>1,369</b>	<b>1,189</b>	<b>1,836</b>



**Figure 1. HIF historic funding trend.**

The fiscal year 2010 funds depicted in Figure 1 may be misleading because the Forest received a large amount of American Recovery and Reinvestment Act funding to fund projects. Figure 2 shows funding from two main budget line items from fiscal 2006 through 2015. It provides a more realistic picture of funding trends over the last nine years. It still shows that funding is decreasing. Leadership has projected that funding will continue to decrease.



**Figure 2. HIF historic funding trend for CMRD and CMLG, two main road budget line items.**

Forest system roads can also be maintained by other entities, such as the County or a Tribe, through cooperative agreement providing road maintenance savings to the HIF. System road maintenance can also be funded through timber sales and stewardship funding. Deposit funds come from gravel collections, engineering services collections, and road maintenance collection derived from commercial haul permits and timber sale contracts. It is difficult to project the amount that will be collected annually from such a variety of sources, but over the last 5 years an average of \$94,329 has been used for road maintenance and planning annually.

None of these alternative sources of funding were included in this cost analysis.