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(i) A pavement condition analysis that includes ride, distress, rutting, and surface friction (as appropriate);

(ii) A pavement performance analysis that includes present and predicted performance and an estimate of the remaining service life. Performance and remaining service life may be developed with time; and

(iii) An investment analysis that:

(A) Identifies alternative strategies to improve pavement conditions;

(B) Estimates costs of any pavement improvement strategy;

(C) Determines maintenance, repair, and rehabilitation strategies for pavements using life cycle cost analysis or a comparable procedure;

(D) Provides for short and long term budget forecasting; and

(E) Recommends optimal allocation of limited funds by developing a prioritized list of candidate projects over a predefined planning horizon (both short and long term).

(e) For any FHs and other appropriate associated facilities in the inventory or subset thereof, PMS reporting requirements shall include, but are not limited to, percentage of roads in good, fair, and poor condition.

§971.210 Federal lands bridge management system (BMS).

In addition to the requirements provided in §971.204, the BMS must meet the following requirements:

(a) The tri-party partnership shall have a BMS for the FH bridges funded under the FLHP and required to be inventoried and inspected under 23 CFR 650, subpart C, National Bridge Inspection Standards (NBIS).

(b) The BMS may be based on the concepts described in the AASHTO's "Guidelines for Bridge Management Systems."²

(c) The BMS shall be designed to fit the FH program goals, policies, criteria, and needs using the following

components, as a minimum, as a basic framework for a BMS:

(1) A database and an ongoing program for the collection and maintenance of the inventory, inspection, cost, and supplemental data needed to support the BMS. The minimum BMS database shall include:

(i) The inventory data required by the NBIS (23 CFR 650, subpart C);

(ii) Data characterizing the severity and extent of deterioration of bridge elements;

(iii) Data for estimating the cost of improvement actions;

(iv) Traffic information including volumes and vehicle classification (as appropriate); and

(v) A history of conditions and actions taken on each bridge, excluding minor or incidental maintenance.

(2) A system for applying network level analytical procedures at the State or local area level, as appropriate, and capable of analyzing data for all bridges in the inventory or any subset. The minimum analyses shall include:

(i) A prediction of performance and estimate of the remaining service life of structural and other key elements of each bridge, both with and without intervening actions; and

(ii) A recommendation for optimal allocation of limited funds through development of a prioritized list of candidate projects over predefined short and long-term planning horizons.

(d) The BMS may include the capability to perform an investment analysis, as appropriate, considering size of structure, traffic volume, and structural condition. The investment analysis may:

(1) Identify alternative strategies to improve bridge condition, safety, and serviceability;

(2) Estimate the costs of any strategies ranging from maintenance of individual elements to full bridge replacement;

(3) Determine maintenance, repair, and rehabilitation strategies for bridge elements using life cycle cost analysis or a comparable procedure; and

(4) Provide short and long-term budget forecasting.

²"Guidelines for Bridge Management Systems," AASHTO, 1993, is available for inspection as prescribed at 49 CFR part 7. It is also available from the American Association of State Highway and Transportation Officials (AASHTO), Publication Order Dept., P.O. Box 96716, Washington, DC 20090-6716 or online at <http://www.transportation.org/publications/bookstore.nsf>.

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(e) For any bridge in the inventory or subset thereof, BMS reporting requirements shall include, but are not limited to, percentage of non-deficient bridges.

§971.212 Federal lands safety management system (SMS).

In addition to the requirements provided in §971.204, the SMS must meet the following requirements:

(a) The tri-party partnership shall have an SMS for transportation systems providing access to and within National Forests and Grasslands, and funded under the FLHP.

(b) The SMS may be based on the guidance in "Safety Management Systems: Good Practices for Development and Implementation."³

(c) The tri-party partnership shall utilize SMS to ensure that safety is considered and implemented, as appropriate, in all phases of transportation system planning, design, construction, maintenance, and operations.

(d) The SMS may be utilized at various levels of complexity depending on the nature of the facility and/or network involved.

(e) The SMS shall be designed to fit the FH program goals, policies, criteria, and needs and shall contain the following components:

(1) An ongoing program for the collection, maintenance, and reporting of a database that includes:

(i) Accident records with detail for analysis such as accident type using standard reporting descriptions (*e.g.*, right-angle, rear-end, head-on, pedestrian-related, etc.), location, description of event, severity, weather, and cause;

(ii) An inventory of safety appurtenances such as signs, delineators, and guardrails (including terminals);

(iii) Traffic information including volume and vehicle classification (as appropriate); and

(iv) Accident rates by customary criteria such as location, roadway classification, and vehicle miles of travel.

(2) Development, establishment, and implementation of procedures for:

(i) Where appropriate, routine maintenance and upgrading of safety appurtenances including highway rail crossing safety devices, signs, highway elements, and operational features,

(ii) Identifying, investigating, and analyzing hazardous or potentially hazardous transportation system safety problems, roadway locations, and features;

(iii) Establishing countermeasures and setting priorities to correct the identified hazards and potential hazards.

(3) Identification of focal points for all contacts at State, regional, tribal, and local levels to coordinate, develop, establish, and implement the SMS among the agencies.

(f) While the SMS applies to appropriate transportation systems providing access to and within National Forests and Grasslands funded under the FLHP, the extent of system requirements (*e.g.*, data collection, analyses, and standards) for low volume roads may be tailored to be consistent with the functional classification of the roads. However, adequate requirements should be included for each roadway to provide for effective inclusion of safety decisions in the administration of the FH program.

§971.214 Federal lands congestion management system (CMS).

(a) For purposes of this section, congestion means the level at which transportation system performance is no longer acceptable due to traffic interference. For portions of the FH network outside the boundaries of TMAs, the tri-party partnership shall:

(1) Develop criteria to determine when a CMS is to be implemented for a specific FH; and

(2) Have CMS coverage for the transportation systems providing access to and within National Forests, as appropriate, that meet minimum CMS criteria.

(b) The tri-party partnership shall consider the results of the CMS when

³"Safety Management Systems: Good Practices for Development and Implementation," FHWA and NHTSA, May 1996, may be obtained at the FHWA, Office of Safety, Room 3407, 400 Seventh St., SW., Washington, DC 20590, or electronically at <http://safety.fhwa.dot.gov/media/documents.htm>. It is available for inspection and copying as prescribed at 49 CFR part 7.