

(b) The PMS may be based on the concepts described in the AASHTO's "Pavement Management Guide."¹

(c) The PMS may be utilized at various levels of technical complexity depending on the nature of the transportation network. These different levels may depend on mileage, functional classes, volumes, loading, usage, surface type, or other criteria the tri-party partnership deems appropriate.

(d) The PMS shall be designed to fit the FH program goals, policies, criteria, and needs using the following components, at a minimum, as a basic framework for a PMS:

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

(i) An inventory of the physical pavement features including the number of lanes, length, width, surface type, functional classification, and shoulder information;

(ii) A history of project dates and types of construction, reconstruction, rehabilitation, and preventive maintenance. If some of the inventory or historic data is difficult to establish, it may be collected when preservation or reconstruction work is performed;

(iii) A condition survey that includes ride, distress, rutting, and surface friction (as appropriate);

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

(v) Data for estimating the costs of actions.

(2) A system for applying network level analytical procedures that are capable of analyzing data for all FHs and other appropriate associated facilities in the inventory or any subset. The minimum analyses shall include:

(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 to 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 part 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 650.311);

(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.

(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.

¹ "Pavement Management Guide," AASHTO, 2001, is available for inspection as prescribed at 49 CFR part 7. It may be purchased online at <http://www.transportation.org/publications/bookstore.nsf> or mail addressed to the American Association of State Highway and Transportation Officials (AASHTO), Publication Order Dept., P.O. Box 96716, Washington, DC 20090-6716.

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

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.