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(f) The FWS shall develop an appropriate means to evaluate the effectiveness of the management systems in enhancing transportation decision-making and improving the overall efficiency of the affected federally owned transportation systems and facilities. This evaluation is to be conducted periodically, preferably as part of the comprehensive resource conservation planning process.

(g) The management systems shall be operated so investment decisions based on management system outputs can be accomplished at the regional level.

§ 972.206 Funds for establishment, development, and implementation of the systems.

The Refuge Roads program funds may be used for development, establishment, and implementation of the management systems. These funds are to be administered in accordance with the procedures and requirements applicable to the funds.

§ 972.208 Federal lands pavement management system (PMS).

In addition to the requirements provided in § 972.204, the PMS must meet the following requirements:

(a) The FWS shall, at a minimum, have PMS coverage of all paved refuge roads and other associated facilities, as appropriate, funded under the FLHP.

(b) The PMS may be based on the concepts described in the AASHTO's ''Pavement Management Guide.''[2]

(c) The PMS may be utilized at various levels of technical complexity depending on the nature of the pavement network. These different levels may depend on mileages, functional classes, volumes, loadings, usage, surface type, or other criteria the FWS deems appropriate.

(d) The PMS shall be designed to fit the FWS 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 are 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 FWS managed transportation 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 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).

[2] ''Pavement Management Guide,'' AASHTO, 2001, 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*.

(e) For any FWS managed transportation 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.

§ 972.210 Federal lands bridge management system (BMS).

In addition to the requirements provided in § 972.204, the BMS must meet the following requirements:

(a) The FWS shall have a BMS for bridges which are under the FWS jurisdiction, 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 shall be designed to fit the FWS 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) Analytical procedures that are capable of analyzing data for all bridges in the inventory or any subset. These procedures include, as appropriate, such factors as bridge condition, recommended repairs/replacement and estimated costs, prediction of the estimated remaining life of the bridge, development of a prioritized list of candidate projects over a specified planning horizon, and budget forecasting.

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

§ 972.212 Federal lands safety management system (SMS).

In addition to the requirements provided in § 972.204, the SMS must meet the following requirements:

(a) The FWS shall have an SMS for all transportation facilities serving the Refuge System, as appropriate, funded under the FLHP.

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

(c) The FWS shall utilize the 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 transportation facility involved.

(e) The SMS shall be designed to fit the FWS goals, policies, criteria, and needs using, as a minimum, the following components as a basic framework for a SMS:

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

(i) Accident records with sufficient 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 volumes 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:

[3] ''Safety Management Systems: Good Practices for Development and Implementation,'' FHWA and NHTSA, May 1996, may be obtained at the FHWA, Office of Safety, 1200 New Jersey Avenue, SE., 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.