

may include consultation with the tribes, as appropriate.

(k) The management systems shall be operated so investment decisions based on management system outputs can be accomplished at the BIA region and tribal level and can be utilized throughout the transportation planning process.

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

The IRR program management funds may be used to accomplish nationwide management system activities. For tribal management system activities, the IRR two percent tribal transportation planning or construction funds may be used. (Refer to 23 U.S.C. 204(b) and 204(j)). These funds are to be administered in accordance with the procedures and requirements applicable to the funds.

**§ 973.208 Indian lands pavement management system (PMS).**

In addition to the requirements provided in § 973.204, the PMS must meet the following requirements:

(a) The BIA shall have PMS coverage for all federally and tribally owned, paved IRRs included in the IRR inventory.

(b) Where a tribe collects data for the tribe's PMS, the tribe shall provide the data to the BIA to be used in the nationwide PMS.

(c) The nationwide and tribal PMSs may be based on the concepts described in the AASHTO's "Pavement Management Guide."<sup>1</sup>

(d) The nationwide and tribal PMSs may be utilized at various levels of technical complexity depending on the nature of the pavement network. These different levels may depend on mileage, functional classes, volumes, loading, usage, surface type, or other criteria the BIA and ITGs deem appropriate.

<sup>1</sup>"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) A PMS shall be designed to fit the BIA's or tribes' 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 federally and tribally owned IRR 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) Performs short and long term budget forecasting; and

(E) Recommends optimal allocation of limited funds by developing a

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prioritized list of candidate projects over a predefined planning horizon (both short and long term).

(f) For any roads 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.

### §973.210 Indian lands bridge management system (BMS).

In addition to the requirements provided in §973.204, the BMS must meet the following requirements:

(a) The BIA shall have a nationwide BMS for the federally and tribally owned IRR bridges that are funded under the FLHP and required to be inventoried and inspected under 23 CFR 650, subpart C, National Bridge Inspection Standards (NBIS).

(b) Where a tribe collects data for the tribe's BMS, the tribe shall provide the data to the BIA to be used in the nationwide BMS.

(c) The nationwide and tribal BMSs may be based on the concepts described in the AASHTO's "Guidelines for Bridge Management Systems."<sup>2</sup>

(d) A BMS shall be designed to fit the BIA's or tribe's 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 described by the NBIS (23 CFR part 650, subpart C);

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

(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 systematic procedure for applying network level analytical procedures that are 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 by developing a prioritized list of candidate projects over a predefined planning horizon (both short and long term).

(e) 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 include the ability to:

(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) Perform short and long term budget forecasting.

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

### §973.212 Indian lands safety management system (SMS).

In addition to the requirements provided in §973.204, the SMS must meet the following requirements:

(a) The BIA shall have a nationwide SMS for all federally and tribally owned IRR and public transit facilities included in the IRR inventory.

(b) Where a tribe collects data for the tribe's SMS, the tribe shall provide the data to the BIA to be used in the nationwide SMS.

<sup>2</sup>"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>.