

(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 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."²

(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

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>.

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.

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

(d) The BIA and ITGs shall utilize the SMSs to ensure that safety is considered and implemented as appropriate in all phases of transportation system planning, design, construction, maintenance, and operations.

(e) The nationwide and tribal SMSs may be utilized at various levels of complexity depending on the nature of the IRR facility involved.

(f) An SMS shall be designed to fit the BIA's or ITG's goals, policies, criteria, and needs using, as a minimum, the following components as a basic framework for an SMS:

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

- (i) Accident records;
- (ii) An inventory of safety hardware including signs, guardrails, and lighting appurtenances (including terminals); and
- (iii) Traffic information including volume and vehicle classification (as appropriate).

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

- (i) Routinely maintaining and upgrading safety appurtenances including highway-rail crossing warning devices, signs, highway elements, and operational features where appropriate;
- (ii) Routinely maintaining and upgrading safety features of transit facilities;

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

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

(3) A process for communication, coordination, and cooperation among the organizations responsible for the roadway, human, and vehicle safety elements;

(4) Development and implementation of public information and education activities on safety needs, programs, and countermeasures which affect safety on the BIA's and ITG's transportation systems; and

(5) Identification of skills, resources and training needs to implement safety programs for highway and transit facilities and the development of a program to carry out necessary training.

(g) While the SMS applies to all federally and tribally owned IRRs in the IRR inventory, 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 BIA functional classification to provide for effective inclusion of safety decisions in the administration of transportation by the BIA and ITGs.

(h) For any transportation facilities in the IRR inventory or subset thereof, SMS reporting requirements shall include, but are not limited to, the following:

- (1) Accident types such as right-angle, rear-end, left turn, head-on, sideswipe, pedestrian-related, run-off-road, fixed object, and parked vehicle;
- (2) Accident severity per year measured as number of accidents with fatalities, injuries, and property damage only; and
- (3) Accident rates measured as number of accidents (fatalities, injuries, and property damage only) per 100 million vehicle miles of travel, number of accidents (fatalities, injuries, and property damage only) per 1000 vehicles, or

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.

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number of accidents (fatalities, injuries, and property damage only) per mile.

[69 FR 9499, Feb. 27, 2004, as amended at 74 FR 28442, June 16, 2009]

§ 973.214 Indian 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. The BIA and the FHWA, in consultation with the tribes, shall develop criteria to determine when a CMS is to be implemented for a specific federally or tribally owned IRR transportation system that is experiencing congestion. Either the tribe or the BIA, in consultation with the tribe, shall consider the results of the CMS in the development of the IRR transportation plan and the IRR TIP, when selecting strategies for implementation that provide the most efficient and effective use of existing and future transportation facilities to alleviate congestion and enhance mobility.

(b) In addition to the requirements provided in § 973.204, the CMS must meet the following requirements:

(1) For those BIA or tribal transportation systems that require a CMS, consideration shall be given to strate-

gies that reduce private automobile travel and improve existing transportation system efficiency. Approaches may include the use of alternate mode studies and implementation plans as components of the CMS.

(2) A CMS will:

(i) Identify and document measures for congestion (e.g., level of service);

(ii) Identify the causes of congestion;

(iii) Include processes for evaluating the cost and effectiveness of alternative strategies;

(iv) Identify the anticipated benefits of appropriate alternative traditional and nontraditional congestion management strategies;

(v) Determine methods to monitor and evaluate the performance of the multi-modal transportation system; and

(vi) Appropriately consider the following example categories of strategies, or combinations of strategies for each area:

(A) Transportation demand management measures;

(B) Traffic operational improvements;

(C) Public transportation improvements;

(D) ITS technologies; and

(E) Additional system capacity.