

BRIDGE MANAGEMENT SYSTEM

TRANSPORTATION ASSET MANAGEMENT

Bridge Management System

As one of six components of the Transportation Management System (TMS), the Bridge Management System (BMS) is the decision-support tool responsible for managing the inspection, analysis and maintenance of the numerous components that make up a bridge. To make bridge asset management even more flexible, the American Association of State Highway and Transportation Officials (AASHTO) "Pontis" bridge management system is an integral part of BMS.

What is Included in BMS?

BMS includes data on more than 12,500 bridges, including more than 4,500 for which the Michigan Department of Transportation (MDOT) is responsible.

HOW IS BMS ORGANIZED?

BMS is part of the TMS computer application. Within this application, bridge inventory and analyses are organized in

packages reflecting the activities used to manage bridges:

- Inventory: Structure and route on/under data
- Inspection: Record of examinations and findings
- Work: Maintenance recommendations and work.

Within each of these packages, users can monitor or manage data on bridges and their components. Authorized BMS users can also use the application to record structure inspections.

Who is Responsible for BMS?

Predominate responsibility for BMS resides with MDOT's Construction and Technology Division (C&T). As BMS includes not only state bridges, C&T works with MDOT region offices, Transportation Service Centers and our government partners to assure complete coverage of all bridges in Michigan, not just those for which MDOT has responsibility.

Who are BMS Customers?

Internally, BMS supports asset management decisions of the MDOT bureaus of Highway and Transportation Planning. It also supports our work with federal agencies and organizations such as the AASHTO. As BMS includes data on all bridges, it also supports the efforts of regional and local agencies whose size may preclude access to bridge resources. Most important, it supports citizens and businesses of Michigan by assuring the structures which they pass over and under are safe.

Michigan's most famous bridge, linking Upper and Lower peninsulas was open to traffic November 1, 1957. Once a year it is open to pedestrians as shown here in the 43rd annual Mackinac Bridge Walk on Labor Day 2000.



BRIDGE



Supporting Data

Data encompassed in BMS covers even more than the federally-required elements of all structures and structural components. It also includes data on inspections and work done to preserve all Michigan bridges.

All of this is stored in a database structure that not only meets MDOT standards, but is also compatible with the "Pontis" system of AASHTO. In this way, BMS is able to support the broadest range of current and potential customers.

Bridge Strategic Plans

BMS supports MDOT's Strategic Investment Plan for Trunkline Bridges in its effort to preserve the state bridge network to insure safety and serviceability, while optimizing all available resources. Specifically, the network condition goals are to:

- Immediately address all needs of structures of critical concern
- By 2008, improve the overall condition of the freeway bridge network so that 95% of MDOT structures are rated "good"
- By 2008, improve the overall condition of the nonfreeway bridge network so that 85% of MDOT structures are rated "good"

Financing for inspection and inventory strategy implementation is provided as part of the Strategic Investment Plan document.

Monitoring & Reporting

The importance of disseminating information on Michigan's structures cannot be understated. To this end, BMS produces three reports to assure a proper level of decision support to anyone who needs it:

- National Bridge Inventory Bridge Inspection: Information on bridge conditions
- Pontis Bridge Inspection: Information on extent and severity of bridge element deterioration
- Structure Inventory & Appraisal: General information on location, dimensions, material, design, capacity, condition, etc.

The most important report of BMS success is found in implementation of necessary maintenance and improvements which keep our bridges safe and provide for the smooth movement of people and goods.



Replacing a bridge deck on I-496 in Lansing is an example of work that is supported by BMS.



The second span of the Blue Water Bridge, connecting Michigan and Ontario, was opened in 1999 and assures a smooth international flow of people and goods between our two countries. This photo shows the opening celebration bridge walk.

For Further Information -
please contact MDOT at 517-373-2240 or send e-mail to assetmgt@mdot.state.mi.us