



Maryland
Transportation
Authority

Facility Inspection Program Strategic Plan

2010

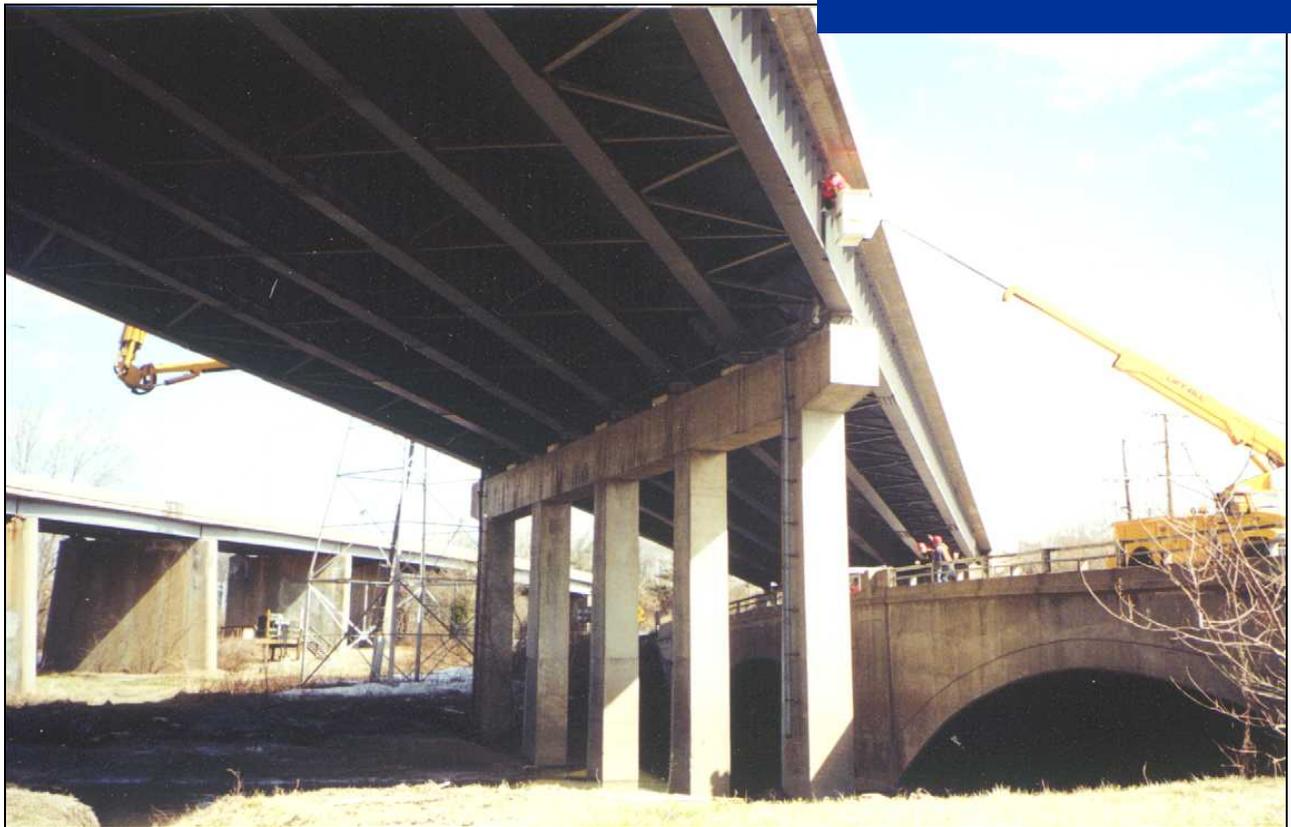


Table of Contents

Introduction	3
MDTA Facility Inspection Program	4
Mission.....	4
Values	4
Vision.....	4
Inspection Program Status	5
Program Strengths.....	5
Opportunities for Improvement	5
Strategic Opportunities	6
Potential Obstacles.....	7
Goals and Objectives	8
Accurately Assess and Track the Condition of Facilities	8
Effectively Manage Projects	9
Effectively Manage the Workforce.....	9
Summary	10



MDTA Facility Inspection Strategic Plan

Introduction

Since 1971, the Maryland Transportation Authority (MDTA) has been responsible for financing, constructing, managing, operating and improving the State's toll facilities, as well as financing new revenue-producing transportation projects. MDTA's seven toll facilities - a turnpike, two tunnels and four bridges - help keep traffic moving in Maryland. All of the Transportation Authority's projects and services are funded through tolls paid by customers using the agency's facilities and proceeds from toll revenue bonds issued by the Authority.

“There is a fundamental public expectation that bridges are safe; the immense economic and mobility benefits of modern highway transportation depend on it. Reliable inspection of the Bay Bridge and other MDTA facilities is vital to the citizens of Maryland, whose lives and livelihood depend on them. It is of utmost importance that they be operated and maintained in a safe condition. To do this, all of these bridges and tunnels require regular, systematic inspection.”

Review of the MDTA Bridge and Tunnel Inspection Practices, 2009

MDTA has a responsibility to the public, its investors, and the State to ensure Maryland's toll facilities are safe. The Facility Inspection Program is the responsibility of the Office of Engineering and Construction Management (OEC). The OEC coordinates all inspections and inspection activities. These inspections are performed by engineering consultants of national repute as mandated by the Trust agreement. The Authority's Division of Operations (OPS) is responsible for some routine inspections and minor repairs as coordinated by the OEC. Routine compliance reviews of the inspection program are performed by the Maryland State Highway Administration (MD SHA) in conjunction with the Federal Highway Administration (FHWA).

Recent major incidents related to bridge safety have stressed the importance of inspection programs. In 2007, the I-35W Bridge in Minneapolis, Minnesota collapsed due to a catastrophic failure in the main span of the deck truss. As the result of an accident on the Bay Bridge in Maryland in 2008, Governor Martin O'Malley requested that a special panel be convened to review the bridge and tunnel inspection practices of the MDTA. The Peer Review panel issued its findings to the Authority's members in June 2009. Included in the report was a recommendation to develop a strategic plan for inspection improvements.

Acting on this recommendation, representatives from OEC, OPS, MD SHA, the engineering firms performing inspections, and the Peer Review panel came together as a work group in December 2009 to participate in the development of this strategic plan. The MDTA Facility Inspection Program Strategic Plan is the product of this work group and will be the reference document for future decisions and direction of the MDTA Facility Inspection Program.

MDTA Facility Inspection Program

Mission

Provide safe facilities that keep traffic moving and instill public confidence by identifying deficiencies, providing accurate reports with comprehensive data in accordance with policy and standards, and coordinating repair activities in a timely manner.

Values

- Accuracy – The basis for the entire program
- Responsiveness – Keeps traffic moving
- Integrity – Key to public confidence
- Quality – Experience, Training, and Knowledge to do the job
- Timeliness – Meeting required schedules
- Comprehensiveness – Providing the level of detail required
- Safety – Protect the public, our employees, and our partners
- Innovation – Use of the latest accepted and effective technologies
- Communication – Keeping the Public and our team informed,
Remaining Transparent

Vision

Be a World- Class Inspection Program

Inspection Program Status

The MDTA has conducted routine, systematic inspections of its bridges and tunnels for decades. The inspections are necessary to ensure the safety of its facilities, are required as part of MDTA's Trust Agreement with its bondholders, and are necessary to comply with Federal standards. In conjunction with FHWA, MD SHA conducts periodic assessments of MDTA's compliance with the National Bridge Inspection Standards. MD SHA's most recent reviews conducted in 1998, 2002, and 2006, confirmed that MDTA is in substantial compliance with the National Bridge Inspection Standards.



Taking into account previous improvements to the inspection program and plans for future changes, this strategic plan was written considering current internal capabilities, status of the inspection program, and the bridge inspection/engineering community before setting its goals and objectives. These issues factor into the potential success of the Facility Inspection Program in fulfilling the Mission, attaining the Vision, and accomplishing the Goals and Objectives.

Program Strengths

Facility inspections are a team effort; in addition to the parties represented in the initial work group, the Authority's leadership team and the MDTA Police are strategic partners. The level of involvement amongst those groups is an enabler in the continued success of the program. The following factors were also recognized as strengths:

- The talent, knowledge, and experience of team members and strategic partners
- Rigor of the inspection process and frequency of inspections
- The quality of available equipment
- The management of its financial resources
- The productivity of the entire team
- The support of senior management
- The public outreach efforts related to the program
- Recent improvements to Authority-wide inspection activities

Opportunities for Improvement

Every organization has opportunities to improve its products, programs, and services. The following were considered areas where improvements would factor into continued success:

- Increase communication with stakeholders and team members.
- Improve coordination between the different activities of the team.

- Improve the planning of tasks to maximize efficiencies and minimize disruptions.
- Increase in-house staffing to lessen the reliance on contracted services.
- Formalize the training process for inspection. Improved training amongst the team and cross training between the different functional areas has the ability to improve quality of inspections and responsiveness to findings.
- Formalize the process for succession planning to maximize flexibility between team members and the ability to respond to findings.
- Attract and hire quality employees that can meet the needs of the inspection program.
- Increase public transparency. By increasing the public understanding of inspection needs required by tolled facilities and making non-sensitive inspection information public knowledge, public awareness would be increased and better relationships fostered.

Strategic Opportunities

The following factors have been identified as potential enhancements to the Facility Inspection Program:

- New technologies provide opportunities to make processes more efficient, improve the quality of data and its analysis, and lead to improved effectiveness. Below is a list of some new technologies of interest to the inspection program:
 - Data sharing / management
 - Global Positioning System (GPS) / Geographic Information System (GIS)
 - Inspection data collection devices
 - Real-time structure monitoring
 - Remotely Operated Vehicles (ROVs)
 - Underwater sounding
 - Ground penetrating radar
 - Continued use of non-destructive test equipment as it evolves and is warranted.
- Relationships with strategic partners have the potential to improve the effectiveness and efficiency of the inspection program. By continuing to increase communication, buy-in by all team members is achieved earlier in the decision-making process. Improving team member coordination allows for individuals to be trained consistently and practices to be standardized throughout the entire team.
- The Facility Inspection Program has the opportunity to increase public awareness of what is necessary to provide and maintain the civil infrastructure. By regularly informing the general public of inspection requirements and practices, the importance of the inspection



program can be recognized as the necessity it is.

- As the national infrastructure continues to age, state and national governments have the obligation to respond to continuing transportation demands. The legislation that is likely to be produced to meet the demands of the traveling public will aid the Facility Inspection Program by enhancing the emphasis on system preservation needs and budgets.
- MDTA received authorization in late 2009 to create three inspection specific positions. These new positions will become the core of a newly created division within the OEC dealing solely with oversight of the inspection program.



Potential Obstacles

The following were identified as factors which may have negative impacts on the inspection program's ability to accomplish its mission:

- Many of MDTA's larger facilities were built decades ago, and some are more than 50 years old. As facilities age, they require more resources for repair and maintenance.
- While new legislation has the potential to provide some standardization of inspections, it also presents some challenges. The addition of new oversight or changes to industry standards and federal codes could require additional resources at the program level.
- As improvements in transparency and public interaction positively impact the inspection program, there is the possibility that increases in public interaction will require additional resources and add unwarranted public concern.
- The recent economic downturn has caused negative impacts to MDTA revenues and limited the Authority's ability to expand and improve services, including the Facility Inspection Program.
- New regulations to protect the environment and encourage sustainability often require adaptation or modification to current processes. Rapid changes and developments in environmental regulations may outpace MDTA resources and become obstacles to the accomplishment of the Program's goals and objectives.
- The events of 9/11/2001 have forever changed the way America looks at the safety and security of our national infrastructure. Increased security

requirements also provide challenges for the facility inspection program. As facilities are secured against potential terrorist activities, they may also hinder inspection activities.

- Weather events and natural disasters present an obvious risk to transportation facilities. In the aftermath, inspections are critical to ensuring the facilities are safe for the public. However, the magnitude of such events may hamper the ability to conduct required inspections.
- Conflicts with other contracts, rail roads, lane-closures, and property owners may prevent the timely inspection of facilities. Approved entry onto some properties could be delayed for various reasons, which would impact the ability to meet goals and objectives.
- The inspection program's responsibilities will be expanded with the opening of the Inter County Connector (ICC) and widening I-95 northeast of Baltimore. The increased resources needed to inspect these facilities will need to be anticipated, planned and acquired.

Goals and Objectives

GOAL: *Accurately Assess and Track the Condition of Facilities*

The Authority's Facility Inspection Program's primary responsibility is to accurately assess and track the condition of the Authority's facilities and coordinate timely repairs. Five factors have been identified as essential to accomplish this goal:

1. The development of comprehensive reports with enough detail to provide appropriate remediation of inspection findings.
2. The standardization of inspection processes to include consistent procedures, documents, and training.
3. The continuation and improvement of excellent communication within the inspection program team, as well as between the inspection program team and MDTA management.
4. Maintain appropriate use of state of the art technology. By staying abreast of the latest developments in inspection tools, the inspection program can continually be improving.
5. Timely correction of shortcomings found during the inspections.

Below are the objectives identified to fulfill the goal of accurate assessment and tracking the condition of facilities:

- **Inspect and submit reports annually on 100% of MDTA facilities.**
- **By FY 2015, 90% of Priority One findings will be assigned to Operations or Construction within one year of reporting.**¹

- **Standardize inspection processes by July 2010.**
- **Develop and implement a Facility Management System by September 2010.**

GOAL: *Effectively Manage Projects*

Four factors have been identified as critical to effectively manage projects related to the facility inspection and repair program.

1. Maintain a cohesive team by strategically partnering with MDTA divisions and external consultants.
2. Focus on the completion of inspections and projects on-time and on-budget.
3. Implement tools and processes to optimize resources. Specifically, a facility management system will improve gathering and processing facilities assessment data, track repair methods and results.
4. Define and regularly review funding for system preservation and assure system preservation needs are prioritized ahead of facility expansion projects.



The objectives identified to fulfill the goal of effectively managing projects:

- **100% of approved task proposals' man-hour estimates will be no more than 10% above or 15% below the engineer's estimate.**
- **Develop an effective means for obtaining maintenance of traffic (M.O.T.) and inspection equipment by 2015.**
- **Improve transparency and public confidence by making certain, non-sensitive inspection information available to the public. ²**
- **Establish processes for review and allocation of system preservation funds.**

GOAL: *Effectively Manage the Workforce*

The success of the facility inspection program relies on the strength of individual team members. Factors critical to maintaining a strong team are the ability to attract and hire qualified employees, the implementation of a true team approach to training, and good communication between team members. To that end, future training efforts will focus not just on in-house staff, but also on strategic partners' inspection staff.

Objectives to support the goal of effectively managing the workforce are below:

- **Fill the three inspection management section positions by July 2010.**
- **Establish an employee development program that meets the needs of the facility inspection program by July 2010.**

Summary

With the review and approval of the MDTA Facility Inspection Program Strategic Plan, this will be the reference document for future decisions and direction of the Facility Inspection Program. Action plans will be developed to support the accomplishment of Goals and Objectives stated above.



Notes

1. *While 100% would be the desired target, it would not be obtainable. Factors outside of MDTA's control such as permits issued by third parties impact the time required to complete tasks.*
2. *MDTA will make certain non-sensitive information available to the public. For example, select information contained in the National Bridge Inspection Standards (NBIS) database may be released without risk to public safety. Other data which must be protected to mitigate public safety concerns will not be available to the public.*



2310 Broening Highway
Suite 150
Baltimore, MD 21224
410-537-1000
1-866-713-1596 (toll-free)
410-537-1090 (fax) 410-355-7024 (TTY)
e-mail: mdta@mdtransportationauthority.com
www.mdtransportationauthority.com