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STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER

September 21, 2012

Ms. Joan McDonald
Commissioner
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

Re: Report 2012-F-18

Dear Ms. McDonald:

Pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law, we have followed up on the actions taken by officials of the Department of Transportation to implement the recommendations contained in our audit report, *Management and Oversight of Structural Defects on Highway Bridges* (Report 2008-S-102).

Background, Scope and Objective

The Department of Transportation (Department) is responsible for monitoring the condition of highway bridges in New York State. It has developed detailed inspection requirements for these bridges and a process for ensuring that critical inspection findings are addressed in a timely manner. It also maintains a bridge inventory database that contains the inspection results for each bridge.

In April 2012, New York State had a total of 17,454 highway bridges, of which 7,658 were owned by the State, 8,600 were owned by localities, and 1,196 were owned by public authorities and others. The Department is responsible for inspecting all State and locally-owned bridges, while the public authorities are responsible for inspecting their bridges and reporting the inspection results to the Department. Bridge inspections are done by the Department's engineering staff or engineering firms under contract.

According to the requirements in the Department's Bridge Inspection Manual, highway bridges generally have to be inspected at least once every 24 months, though shorter intervals may be required for some bridges on the basis of their age, traffic characteristics and known deficiencies. The actual inspections are to be performed in accordance with procedures specified in the Manual.

If a serious ("red flag") structural defect is identified during an inspection, the bridge owner (usually a municipality or State agency) must be notified within seven work days. The owner then has six weeks in which to take appropriate action (i.e., close the bridge, repair the

defect, or take alternative action to ensure that the bridge is safe to use). Any repairs and most alternative actions must be approved by a licensed professional engineer.

If the structural defect is so serious that immediate attention is needed, the bridge owner is to be notified immediately and a course of action, called Prompt Interim Action (PIA) is to be decided on within 24 hours. In addition, the Department may close any bridge that is determined to be unsafe, at any time, regardless of the actions being taken by the owner.

The Department divides the State into 11 regions for administrative purposes and has an office in each region. Each regional office is responsible for the inspections of the State and locally-owned bridges in that region, and for notifying the bridge owners when red flag conditions are identified on those bridges.

Our initial audit report, which was issued on January 12, 2010, determined whether serious structural defects on highway bridges are repaired or otherwise addressed within the time frames required by the Department. We found that 69 of the 204 defects (33.8 percent) pertaining to 25 State and 16 locally-owned bridges were not addressed within the required time frame. In fact, it took more than 17 weeks, on average, to address these 69 defects. The delays were especially long in the Binghamton and Buffalo regions, where it took, on average, more than seven months for 18 red flag defects to be addressed. As the Department uses red flags to identify the failure or potentially imminent failure of a critical primary structural component, addressing the defects in a timely manner is an important public safety concern.

The objective of our follow up was to assess the extent of implementation, as of August 15, 2012, of the 11 recommendations included in our initial report.

Summary Conclusions and Status of Audit Recommendations

We found that Department officials have made significant progress in correcting the majority of the problems we identified. Of the 11 prior audit recommendations, 9 were implemented, and 2 were partially implemented.

Follow-up Observations

Recommendation 1

Develop an action plan to address the causes for delays in addressing red flag defects in the various regions. As part of this plan, remind the regional offices of the need to provide timely notifications to bridge owners when red flag defects are identified; specifically, to (a) provide the initial notification within the required seven-day period, (b) send reminder notices when the six-week deadline is approaching, and (c) provide immediate notification when Prompt Interim Action is needed.

Status - Implemented

Agency Action - On June 2, 2010, the Department issued new Engineering Instructions 10-016

titled Inspection Flagging Procedure for Bridges which became effective July 1, 2010. The supervisor of the Bridge Inspection Unit made presentations on the new flagging procedure at the annual Inspector's Meeting on March 1, 2011 and February 28, 2012. The meetings were attended by inspection personnel from all of the Department's regions, as well as representatives from many of the public authorities that manage highway bridge inspection programs in New York State. The supervisor's presentation included a major focus on the need to adhere to required notification timelines, including those specified in the procedures. Department officials told us that the flagging procedure will be revisited during every annual bridge inspection program based on the issues noticed during the year.

Recommendation 2

Monitor the performance of the regional offices in meeting red flag defect reporting requirements and take corrective actions when the notifications are not timely.

Status - Partially Implemented

Agency Action - The Department performs on-going quality assurance reviews by visiting two regions each year. Since our initial audit, four reviews and one follow-up review have been completed at Regions 1, 2, 8, and 9. These reviews consist of testing a random sample of 15 to 20 of the prior year's flags for compliance with the flag procedures. The Department also included reviews of regional practices in terms of addressing red flags in a timely fashion. After their review, the Department sends a report of their findings and recommendations to the regional director for their response and a meeting occurs for further discussion.

The Department monitors red flags through its monthly reporting process. Monthly reports show each region's old flags, new flags, total flags, and the status of the flags; whether they are pending, overdue, inactive or removed. In addition to the monthly overdue flag report, the Department interacts with regional Bridge Safety personnel to monitor and address overdue red flag conditions. We reviewed documentation of discussions of overdue flags.

A new Bridge Data Information System (BDIS) is in the development phase and is expected to be completed in the late summer of 2013. BDIS is expected to notify Bridge Safety personnel automatically when a flag is coming due or has become overdue.

Despite the monitoring done, we identified some procedural deficiencies during a review of a sample of bridge files for 30 red flags and 6 PIA red flags at three regions we visited. For example, although verbal notifications were made timely, written notifications to owners were late for 8 of the 36 red flags. In addition, it took between 50 and 93 days to address 3 of the 36 defects.

Recommendation 3

Monitor the actions taken in addressing red flag defects on the Gowanus Bridge. If the seven-week time frame is not appropriate for bridges in construction status, develop an appropriate time frame for such bridges and monitor against that time frame.

Status - Implemented

Agency Action - According to Department officials, the seven-week time frame applies to bridges in construction status. The regional office responsible for the Gowanus Bridge has been holding meetings with all stakeholders to discuss red flags and the repair status. Our review of the Gowanus Bridge files showed they contained appropriate documentation of flagging procedure actions taken.

Recommendation 4

Conduct random audits of the regional offices' bridge files to determine whether all the required documentation is being kept in the files, and take corrective action when documentation practices do not comply with the requirements.

Status - Implemented

Agency Action - As noted in recommendation two, the Bridge Inspection Unit conducts on-going quality assurance reviews of regional bridge flagging files.

Recommendation 5

Monitor regional office compliance with the requirement that the Professional Engineering License Number or stamped seal is provided when actions are certified by engineers.

Status - Implemented

Agency Action - The regional quality assurance reviews include checks of whether Professional Engineer (PE) information was submitted and verified. They also made recommendations to Regions 1 and 8 regarding verification of PE credentials.

Recommendation 6

Verify the engineering credentials of the 17 individuals in our sample and periodically perform such verifications in the future, especially for bridges owned by localities.

Status - Implemented

Agency Action - Of the 17 individuals referenced, the Department verified that 16 had current PE licenses. A PE license was not required for the other individual who just conveyed information. The Department's Personnel Bureau checks professional license registration

status reports once a month using the NYS Education Department's website.

Recommendation 7

Ensure that the new database system edits include, but are not limited to:

- *Checks for valid data entry*
- *Reliability of all corrective and/or protective actions.*

Status - Partially Implemented

Agency Action - BDIS is in the development phase and is expected to be completed in late summer of 2013. Department officials told us that the software requirements will allow for cross-checks between flag data and inspection/inventory data and will improve data quality within the system.

Recommendation 8

Periodically compare the hard copy documentation in the bridge files to the data on the system to verify its accuracy.

Status - Implemented

Agency Action - The Bridge Inspection Unit reviews regional bridge flagging files including comparing data in the files with data placed on the system. Two of the reviews resulted in recommendations to the regions for improving the information on the system.

Recommendation 9

Develop written procedures for entering data on the Flag Tracking and Monitoring System (and the new database system, when it is developed), and provide training to regional office staff in these procedures.

Status - Implemented

Agency Action - We reviewed the Department's written procedures for entering data on the Flag Tracking and Monitoring System. These instructions are available to all users on the Department's shared drive and by sending in a request to help desk support.

Recommendation 10

Evaluate whether bridge inspection and follow up procedures of the Port Authority of New York and New Jersey substantially comply with Department requirements for identifying and addressing structural defects in bridges.

Status - Implemented

Agency Action - In October 2009, the Bridge Evaluation Services Bureau conducted an

evaluation of the Port Authority's bridge inspection and follow-up procedures, and concluded that these procedures were generally adequate.

Recommendation 11

Using a risk-based approach, periodically verify that public authorities are adhering to Department requirements for bridge inspections and related follow up.

Status - Implemented

Agency Action - Public authorities are required and continue to submit their highway bridge inspection reports to the Department. The inspection group does quality assurance reviews of all the inspection reports including those from the Authorities. The Department also meets with the public authorities to supplement their quality assurance efforts. For example, Department officials visited the Thruway Authority in June 2010, to discuss Highway Bridge Inspection and Evaluation laws, regulations, and issues. Department officials met with representatives from nine public authorities in May 2011 and ten public authorities in January 2012, to discuss inspection and flagging-related issues. They visited the Niagara Falls Bridge Commission in August 2012.

Major contributors to this report were Stephen Goss, Christine Chu and Michele Turmel.

We would appreciate your response to this report within 30 days, indicating any actions planned to address the unresolved issues discussed in this report. We also thank the management and staff of the Department of Transportation for the courtesies and cooperation extended to our auditors during this review.

Very truly yours,

(original signed)

Carmen Maldonado
Audit Director

cc: Mr. John Samaniuk, DOT Internal Audit
Mr. Thomas Lukacs, DOB