



**New York State Office of the State Comptroller**  
Thomas P. DiNapoli  
**Division of State Government Accountability**

# **Inspecting Highway Bridges and Repairing Defects**

## **Port Authority of New York and New Jersey**



# Executive Summary

## Purpose

To determine if the Port Authority of New York and New Jersey (Authority) inspected highway bridges and addressed related deficiencies in a timely manner as required by State and federal laws. Our audit covered inspections performed of bridges during the period of January 1, 2008 through June 21, 2013.

## Background

The Authority is responsible for inspecting its highway bridges and repairing any defects found. If a serious (“Red Flag”) structural defect is identified during an inspection, the Authority must notify the New York State Department of Transportation (Department) within one week. The Authority has six weeks to take appropriate action (i.e., close the bridge, repair the defect, or take alternative action to ensure the bridge is safe to use). Less serious safety defects may also be identified during inspections, and are classified as either “Yellow” or “Safety” Flag conditions. A Yellow Flag condition is defined as a potentially hazardous condition which, if left unattended beyond the next anticipated inspection, would likely become a clear and present danger. A Safety Flag is defined as a condition presenting a clear and present danger to vehicle or pedestrian traffic, but there is no danger of structural failure or collapse. If Red or Safety Flags are so serious that immediate attention is needed, they are identified as “Prompt Interim Action” (PIA). When a PIA condition is found, the Authority must take appropriate interim protective and/or corrective action within 24 hours. Any repairs of flagged conditions must be certified by a licensed professional engineer. Between January 2008 and December 2012, 1,137 flags were issued on these highway bridges.

The Authority does not use the term “flag” for the defects identified during an inspection. Instead it labels them as Immediate Conditions (Red Flag), Priority Conditions (Yellow Flag), and Safety Conditions (Safety Flags). For this report, we refer to the inspection results as “conditions.” The Department’s Bridge Inspection Manual (Manual) prescribes the requirements for inspecting bridges and classifying any defects identified.

## Key Findings

- The Authority conducted the required biennial inspection of its highway bridges.
- The Authority does not follow the New York State requirements for classifying, reporting and repairing bridge defects. Instead it follows its own method, but does not always satisfy Department requirements. As a result, it did not perform 47 interim inspections for Priority Conditions open more than one year. The Authority did not inspect a highway bridge with an Immediate Condition for 332 days while it awaited repairs.
- Ten of the 17 Safety Conditions sampled were not repaired for more than two years, including three which were open for five years.

## Key Recommendations

- Follow all of the Manual’s requirements for addressing flag deficiencies.
- Ensure that interim inspections are done for any priority condition open for more than one year.

- Notify the Department about all modifications of requirements from the Manual and obtain the Department's formal approval for each such modification.

## **Other Related Audits/Reports of Interest**

[Department of Transportation: Management and Oversight of Structural Defects on Highway Bridges \(2012-F-18\)](#)

[Thruway Authority: Inspecting Highway Bridges and Repairing Defects \(2012-S-33\)](#)

[Metropolitan Transportation Authority: Inspecting Highway Bridges and Repairing Defects \(2012-S-32\)](#)

**State of New York  
Office of the State Comptroller**

**Division of State Government Accountability**

May 19, 2014

Mr. Scott H. Rechler  
Vice-Chairman  
Port Authority of New York and New Jersey  
225 Park Avenue South, 18th Floor  
New York, NY 10003-1604

Dear Mr. Rechler:

The Office of the State Comptroller is committed to helping State agencies, public authorities and local government agencies manage their resources efficiently and effectively. By so doing, it provides accountability for tax dollars spent to support government operations. The Comptroller oversees the fiscal affairs of State agencies, public authorities and local government agencies, as well as their compliance with relevant statutes and their observance of good business practices. This fiscal oversight is accomplished, in part, through our audits, which identify opportunities for improving operations. Audits can also identify strategies for reducing costs and strengthening controls that are intended to safeguard assets.

Following is a report of our audit entitled *Inspecting Highway Bridges and Repairing Defects*. This audit was performed pursuant to the State Comptroller's authority under Section 7071 of McKinney's Unconsolidated Laws of New York.

This audit's results and recommendations are resources for you to use in effectively managing your operations and in meeting the expectations of taxpayers. If you have any questions about this report, please feel free to contact us.

Respectfully submitted,

*Office of the State Comptroller  
Division of State Government Accountability*

# Table of Contents

Background	5
Audit Findings and Recommendations	7
Inspections and Repairs	7
Recommendations	8
Flag Reporting	9
Recommendation	9
Audit Scope and Methodology	9
Authority	10
Reporting Requirements	10
Contributors to This Report	11
Agency Comments	12
State Comptroller's Comments	24

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This report is also available on our website at: [www.osc.state.ny.us](http://www.osc.state.ny.us)

## Background

The Port Authority of New York and New Jersey (Authority) was created in 1921 under the authority of Article I, Section 10 of the United States Constitution, which provides that “no state shall, without the consent of Congress...enter into any agreement or compact with another State.” The Authority’s mandate is to promote and protect the commerce of the bi-state port and to undertake port and regional improvements not likely to be financed by private enterprise or to be attempted by either state alone. The responsibility for the inspection of the highway bridges is performed by the Aviation and the Tunnels, Bridges and Terminals departments.

Under federal and State law, highway bridges generally have to be inspected at least once every 24 months. Shorter intervals may be required based on bridge age, traffic characteristics and known deficiencies. When inspections identify bridge deficiencies, these are identified as follows by the New York State Department of Transportation (Department) within the Bridge Inspection Manual (Manual):

- “Red Flag” – This means there is a deficiency of a critical structural component that requires prompt evaluation and corrective action. Red Flags present a clear and present or future danger of failure before the next regularly scheduled inspection. When a Red Flag deficiency is found, the Authority has six weeks to take appropriate action such as closing the bridge, repairing defects or taking an appropriate alternative action to ensure the bridge is safe for use. In addition, the Authority must notify the Department within one week of the identification of a Red Flag deficiency.
- “Yellow Flag” – This means that the inspection has identified a potentially hazardous condition which, if left unattended beyond the next regularly scheduled inspection, would likely become a clear and present danger.
- “Safety Flag” – This means that the inspection has identified a condition presenting a clear and present danger to vehicle or pedestrian traffic where there is no danger of structural failure or collapse.
- “Prompt Interim Action” (PIA) – This designation is used when a Red Flag or Safety Flag condition is so serious that immediate attention is needed within 24 hours. An action plan must be developed, and certified by a licensed professional engineer, for Red Flag conditions to ensure bridges remain safe until they are repaired.

Starting July 1, 2010, the Manual indicates public authorities that own and inspect bridges can develop their own flagging procedures. If they do so, they should adopt procedures similar to those defined in the Manual. At a minimum, the Manual requires them to have formal procedures which designate flags similar to the Department, report flags timely, and incorporate mechanisms for satisfactorily and timely addressing flags. In meeting minutes dated October 7, 2009, and a memorandum written on December 14, 2010 to the Department, the Authority states that an “Immediate Condition” is equivalent to a Red Flag and a “Priority Condition” is equivalent to a Yellow Flag.

The Authority owns five airports, four highway bridges and two traffic tunnels. The 11 facilities

have 195 components, each comprising a structure with a unique bridge identification number or BIN. These components consist of individual bridge levels, ramps and pedestrian walkways. As agreed by New York and New Jersey officials years ago, 79 of the BINs are reported to New Jersey and 116 are reported to New York. These New York BINs are on seven of the facilities: Goethals Bridge, Outerbridge Crossing, Bayonne Bridge, George Washington Bridge, Lincoln Tunnel, LaGuardia Airport and John F. Kennedy Airport. Department records show that 74 of the 116 BINs had an overall condition rating below 5.0 as of December 2012. In New York State, bridge inspectors assess all of a bridge's individual parts. The Department condition rating scale ranges from 1 to 7, with 7 being in new condition and a rating of 5 or greater considered as good condition. The Department defines a deficient bridge as one with a State condition rating less than 5.0. A deficient condition rating indicates deterioration at a level that requires corrective maintenance or rehabilitation to restore the bridge to its fully functional, non-deficient condition. It does not mean that the bridge is unsafe. Between January 2008 and December 2012 there were 67 Immediate, 476 Priority and 594 Safety Conditions issued.

# Audit Findings and Recommendations

## Inspections and Repairs

We sampled 48 conditions that the Authority identified between January 1, 2008 and December 31, 2012. We found the Authority inspected the highway bridges we sampled every 24 months as required. However, the Authority did not perform interim inspections specified in the Manual. While awaiting repairs, these bridge structures were not certified as safe in the interim by a licensed professional engineer as required.

Our sample was selected from all Authority highway bridge facilities and flag conditions. The 48 conditions were broken down as follows:

Facility	Number of Conditions
Goethals Bridge	4
Outerbridge Crossing	4
Bayonne Bridge	3
George Washington Bridge	25
Lincoln Tunnel	4
LaGuardia Airport	4
John F. Kennedy Airport	4
<b>Total</b>	<b>48</b>

During our review of the 48 conditions (15 Immediate, 16 Priority, and 17 Safety) we determined:

- For one Immediate Condition a temporary repair was done, but there were no other inspections for 332 days. A total of 47 interim inspections were not done for the 15 Priority Conditions that were open longer than one year.

(In response to our draft audit report, Authority officials stated they do not have Yellow Flags and, as such, were not required to do interim inspections.)

**Auditor's Comments:** We disagree with the Authority's response because the documents provided to the auditors show the Authority's "Priority Condition" is equivalent to a Yellow Flag used by the Department and would require an interim inspection. The audit showed that interim inspections were not done. Authority officials cannot conveniently decide that the categories it used and the Department equivalent did not apply to the highway bridge inspections and repairs reviewed during the audit.

- Ten of the 17 Safety Conditions sampled were open for more than two years, including three open for 5 years.
- Authority officials replied to our preliminary findings that it incorrectly classified 9 of the 15 Immediate Conditions we sampled from their records. Instead of being Immediate

Conditions, three were actually Priority Conditions (Yellow Flags), three were Safety Conditions (Safety Flags) and three were Safety PIAs.

In addition to the 48 sampled conditions, we reviewed all of the 476 Priority Conditions from January 2008 to December 2012 and found 40 BINs that had the same active Priority Conditions from one biennial inspection to the next; however, no interim inspection was performed. There should have been a total of 55 interim inspections for these 40 BINs.

Authority officials stated they do not have to follow the Manual in certain cases. For example, the Authority does not conduct interim inspections because it does not issue "Yellow Flags." However, as previously noted, minutes from a meeting with Department officials identify that the Authority issues conditions which are the equivalent of Red, Yellow and Safety Flags and therefore should follow the Department's requirements.

In addition, we determined the Authority did not even meet its own time frames for repairing deficiencies. For instance, six Immediate Conditions were not repaired within six months and 14 Priority Conditions were not repaired within two years as required by the Authority's guidelines.

Contrary to its written communication to the Department which stated the Authority has deficiency categories equivalent to State flags, officials told us Red, Yellow, Safety, and PIA Flags are often classified as Immediate Conditions during inspections. They said it was not important to use State flag classifications because the Authority immediately addresses any condition that cannot be dealt with by routine maintenance.

However, unless the Authority separately accounts for all Department flag types found during inspections, it cannot ensure that it meets State repair and re-inspection requirements.

While the Manual indicates Safety Flags should only be issued for conditions posing a clear and present danger to the public, the Authority's procedures merely require that Safety Conditions be addressed "as soon as possible." As a result, the Authority's procedures do not establish set time frames for resolving Safety Conditions. Authority officials said the Department has approved these departures from the Manual's requirements. Yet Authority officials could not provide evidence they have received the Department's written approval for any departure from the Manual.

## Recommendations

1. Follow all of the Manual's requirements for addressing flag deficiencies such as interim inspections of Priority Conditions that remain open for more than one year.

(The Authority replied that it took all of the appropriate actions to address the defects that had to be repaired. It added that the work is done by a licensed Professional Engineer, as required. The Authority acknowledges follow-up and immediate inspections were not always documented.)

**Auditor's Comments:** It is difficult to understand how the Authority would contract with firms whose professional employees did not fully document their work. In addition, Authority employees responsible for ensuring that repairs are done in a timely manner should have ensured that the documentation was complete.

2. Notify the Department about all modifications from the Manual and obtain the Department's formal approval for each one.
3. Establish specific time frames for repairing Safety Conditions.

## Flag Reporting

We found that the Authority does not notify the Department of Red (Immediate) and PIA Flags or provide the required written reports about flags to the Department. Even though inspections identified 67 Red (Immediate), 476 Yellow (Priority) and 594 Safety (Safety) Flags on Authority bridges in New York during our scope period, the Authority did not report the Red Flags to the Department.

Authority officials stated that they use their own procedures instead of the Department's flagging guidelines. However, by not reporting the inspection results to the Department, the Authority is not in compliance with the Department's requirements regarding timely notification of bridge conditions.

## Recommendation

4. Follow the Department's Manual for reporting conditions.

## Audit Scope and Methodology

Our audit objective was to determine if the Port Authority of New York and New Jersey (Authority) inspected highway bridges and addressed related deficiencies in a timely manner as required by State and federal laws. Our audit covered inspections performed of bridges during the period of January 1, 2008 through June 21, 2013.

To accomplish our objective, we interviewed Authority officials to confirm and enhance our understanding of its practices for inspecting and repairing highway bridges. We reviewed applicable laws, regulations, Authority and Department highway bridge inspection guidelines, and the Authority's bridge inspection and repair databases. We compared the Authority's bridge inspection data to information maintained by the Department.

We selected a judgmental sample of 48 flag conditions identified on the Authority tunnel and bridges between January 1, 2008 and December 31, 2012. Our selection included all facilities and all flag types. Our sample included 15 Immediate Conditions, 16 Priority Conditions, and 17 Safety Conditions.

We reviewed inspection reports and other related repair documents for our sample. In addition, we physically observed selected bridge repairs. We also examined records to determine whether inspections were completed and reported to the Department where applicable.

In addition to being the State Auditor, the Comptroller performs certain other constitutionally and statutorily mandated duties as the chief fiscal officer of New York State. These include operating the State's accounting system; preparing the State's financial statements; and approving State contracts, refunds, and other payments. In addition, the Comptroller appoints members to certain boards, commissions, and public authorities, some of whom have minority voting rights. These duties may be considered management functions for the purposes of evaluating organizational independence under generally accepted government auditing standards. In our opinion, these functions do not affect our ability to conduct independent audits of program performance.

## Authority

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This audit was performed pursuant to the State Comptroller's authority under Section 7071 of McKinney's Unconsolidated Laws of New York.

## Reporting Requirements

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A draft copy of this report was provided to Port Authority of New York and New Jersey officials for their review and comment. Their comments were considered in preparing this final report and are attached in their entirety at the end of this report. Our rejoinders to certain Authority comments are included in the report's State Comptroller's Comments.

Within 90 days after final release of this report, we request that the Chairman of the Port Authority of New York and New Jersey report to the State Comptroller advising what steps were taken to implement the recommendations contained herein, and where recommendations were not implemented, the reasons why.

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## Contributors to This Report

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### Vision

A team of accountability experts respected for providing information that decision makers value.

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To improve government operations by conducting independent audits, reviews and evaluations of New York State and New York City taxpayer financed programs.

# Agency Comments

## THE PORT AUTHORITY OF NY & NJ

Peter J. Zipf, P.E.  
*Chief Engineer*

February 5, 2014

Ms. Carmen Maldonado, Audit Director  
 Office of the State Comptroller  
 Division of State Government Accountability  
 110 State Street, 11<sup>th</sup> Floor  
 Albany, NY 12236

**Subject: INSPECTING HIGHWAY BRIDGES AND REPAIRING DEFECTS –  
 THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY- NOVEMBER 2013  
 (REPORT 2012-S-34)**

Dear Ms. Maldonado:

The Port Authority of New York and New Jersey (PA) established a robust structural integrity program, including the inspection and repair of highway bridges, to assure public safety in 1984. The program is in full technical compliance with all inspection requirements from the New Jersey DOT (NJDOT), New York State DOT (NYSDOT) and the Federal Highway Administration (FHWA). Significant annual resources are expended within the program to perform structural inspections by Professional Engineers and to do necessary state of good repair work to ensure that all PA facilities continue to remain structurally sound. The effectiveness of the PA's structural integrity program is substantiated by the fact that none of the PA highway bridges are classified as "Structurally Deficient" compared to the 12% that has been reported for bridges nationwide.

In continued demonstration of the Agency's commitment to maintain its assets in a good state, on February 4, 2014, a record \$27.6 billion, 10-year proposed Capital Plan was unveiled of which approximately 46 percent, or \$12.6 billion, of the total spending is for state of good repair projects across all our facilities including the George Washington Bridge, Lincoln Tunnel, Holland Tunnel, and Staten Island Bridge crossings.

The PA program includes four recommended repair categories (Immediate, Priority, Non-Structural Safety, and Routine), and a well-established internal notification protocol and repair procedure. The NYSDOT, in 1986, began using a flagging procedure (Red Flag with Prompt Interim Action (PIA), Red Flag, Yellow Flag, Safety Flag with PIA and Safety Flag). While the nomenclature is different between the PA and the NYSDOT systems, the intent is the same. This was confirmed in previous reviews by NYSDOT and FHWA, during which the reviewers were satisfied with the overall program. A table summarizing the different nomenclature is attached (Attachment 3).

At the PA's initiative subsequent to the subject audit, a meeting was held with the NYSDOT on November 5, 2013 to review the program including documentation and administrative procedures related to the various deficiency conditions. NYSDOT concurred with the PA's Biennial Bridge Inspection Program and Notification Protocol including the repair recommendation categories.

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Page 1 of 12

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 Comment  
 1

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 Comment  
 2

\*See State Comptroller's Comments on page 24.

The PA is enhancing our administrative procedures in documentation, notifications, immediate condition certification and tracking of immediate repairs to comply with the most recent New York State Bridge Inspection Manual and Supplemental Engineering Instructions (Manual), as noted in the subject audit. The anticipated completion date for this enhancement is the second quarter of 2014.

The following summarizes our responses to the three primary issues described in the report.

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Comment  
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#### **I. PA Priority Repairs / NYSDOT Yellow Flag Condition**

Priority Repair conditions are not equivalent to any of NYSDOT's Flag conditions; therefore interim inspection of these conditions is not required if the repair remains open for more than one year. Unlike Yellow Flags, the Authority's Priority Repairs are defined as "conditions, not requiring Immediate Action or for which Immediate Action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work." Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear or present danger before the next anticipated inspection," therefore interim inspections are not required. All conditions recommended as priority repairs, either are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety. The two-year timeframe noted in our report for Priority Repair conditions is not a deadline to complete the repairs but is clearly defined as a "Recommended Completion Date". If the repair is not completed, then the PA re-inspects in 2 years.

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Comment  
1

#### **II. PA Immediate Repairs / NYSDOT Red Flag with PIA, Red Flag, Yellow Flag and Safety Flag with PIA conditions**

The PA classifies several NYSDOT flag conditions into one Immediate Repair classification. Immediate conditions are similar to NYSDOT Red Flag with PIA, Red Flag, Yellow Flag and Safety Flag with PIA conditions. It has been stated that the PA did not perform interim inspections specified in the manual while awaiting repairs. The PA disagrees. The PA performs follow up and interim inspections for all Immediate Repair conditions. These inspections were not documented in full conformance with NYSDOT procedures, but going forward, the PA is enhancing our administrative procedures and documentation to be in full compliance with the Manual as accepted by the NYSDOT.

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Comment  
4

#### **III. PA Non- Structural Safety Repair / NYSDOT Safety Flags without PIA**

The Manual does not require a timeframe for completion of Safety Flags without PIA. A Safety Flag without PIA condition is the equivalent of a non-structural Safety Repair condition in the PA system and these Safety Repair conditions have no timeframe for completion. Therefore, the recommendation for the PA to implement a timeframe for non-structural safety repair is not consistent with the Manual.

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Comment  
5

In summary, the PA believes that the key finding of this audit is essentially one of administrative documentation and not our lack of response to complete repairs. Additionally, it is clear by the substance of the report that, a misinterpretation by the auditors remained in regards to the equivalency of the NYSDOT and PA repair categories. Consequently, this had a direct impact on what is stated in the key findings and recommendations of both the Executive Summary and the Audit Findings sections. As requested, the PA met with NYSDOT and reached an agreement on the PA's inspection program and notification protocol.

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Comment  
1

A comprehensive response to the report is attached (Attachment 1) as well as a summary of the agreed upon results of the November 5, 2013 meeting for which the PA received written concurrence from the NYSDOT of the PA bridge inspection program and notification protocol (Attachment 2).

Sincerely,



Peter J. Zipf, P.E.  
Chief Engineer

cc: Hon. S. Rechler, Hon. R. Bagger, Hon. D. Steiner, P. Foye, D. Gramiccioni, R. Sudman

Page 3 of 12

## ATTACHMENT 1

The following is the PA's comprehensive response to the Draft Report: Inspecting Highway Bridges and Repairing Defects – Port Authority of New York and New Jersey Report, dated November 2013.

### **Executive Summary** (Page 1 of Draft Report)

The following is our response to the Executive Summary section of the Draft Report.

#### **Background**

At the end of the first paragraph reference is made to 1,137 flag conditions being issued on our bridges. The number of flag conditions was determined by counting the repair recommendations in our Condition Survey Reports during the designated time period. This count includes 476 Priority conditions (see last sentence of the Background section of the Draft Report, page 6). Since PA's Priority conditions are not NYSDOT's Yellow Flags, the number of flag conditions is not accurate, it is 661 conditions.

#### **Key Findings – Second Bullet**

*The Authority does not follow the New York State requirements for classifying, reporting and repairing bridge defects. Instead, it follows its own method, but does not always satisfy Department requirements. As a result, it did not perform 47 interim inspections for Priority Conditions open more than one year. The Authority did not inspect a highway bridge with an Immediate Condition for 332 days while it awaited repairs.*

##### *Comment:*

Since Priority conditions are not Yellow Flags, the noted performance of interim inspections is not required. PA's Priority conditions are not equivalent to any of NYSDOT's Flag conditions. Since Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear and present danger before the next anticipated inspection", there is no need to perform interim inspections. All conditions recommended as priority repair are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety.

Concerning the Immediate Repair outstanding for 332 days, a temporary repair was made within the first 6 weeks satisfying the NYSDOT requirement for action to be taken. The NYSDOT requirement to re-inspect the temporary repair every 6 weeks until the permanent repair is completed was fulfilled by the Resident Engineer, however, these visits were not formally documented. Documentation was the issue, not safety. The safety of the public was not compromised at any time. We are enhancing our administrative procedures to include this documentation.

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Comment  
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## Executive Summary (Continued)

### Key Findings – Third Bullet

*Ten of the 17 Safety Conditions sampled were not repaired for more than two years, including three which were open for five years.*

*Comment:*

The Manual has no specific timeframe for repairing Safety Flags without PIA. In the PA system, Non-Structural Safety conditions are equivalent to Safety Flags without PIA. Since these are non-structural safety conditions, there is no impact on the soundness of the structure. These conditions are reviewed by staff and the repair work is scheduled within the respective maintenance programs.

\*  
Comment  
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### Key Recommendations

- *Inspect highway bridges with Immediate Conditions while they await repairs to ensure that the condition does not deteriorate.*

*Comment:*

The PA disagrees that we did not perform interim inspections specified in the manual while awaiting repairs. The PA performs follow up and interim inspections for all Immediate Repair conditions. The PA is enhancing our documentation of these inspections. No interim inspections are required for Priority Repair conditions since these conditions are not flag conditions.

- *Ensure that interim inspections are done for any priority condition open for more than one year.*

*Comment:*

Priority Repair conditions are not equivalent to any of NYSDOT's Flag conditions, therefore interim inspection of these conditions is not required if the repair remains open for more than one year. Unlike Yellow Flags, the Authority's Priority Repairs are defined as "conditions, not requiring Immediate Action or for which Immediate Action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work". Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear and present danger before the next anticipated inspection", therefore, Interim Inspections are not required. All conditions recommended as priority repairs are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety.

\*  
Comment  
1

- *Follow Department bridge inspection and timeliness of repairs requirements and obtain the Department's formal approval for each modification of the requirements.*

*Comment:*

The PA is enhancing administrative procedures in documentation, notification, immediate condition certification and tracking for immediate repairs to be in compliance with the Manual.

## Audit Findings and Recommendations (Page 7 - 8)

### Inspections and Repairs

*We sampled 48 conditions that the Authority identified between January 1, 2008 and December 31, 2012. We found the Authority inspected the highway bridges we sampled every 24 months as required. However, the Authority did not perform interim inspections specified in the Manual. While awaiting repairs, these bridge structures were not certified as safe in the interim by a licensed professional engineer as required.*

*Comment:*

The PA disagrees with the statement "the Authority did not perform interim inspections specified in the manual". The PA performs follow up and interim inspections for all Immediate Repair conditions. The PA will enhance documentation of these inspections. However, no interim inspections are required for Priority Repair conditions since these conditions are not flag conditions.

*For one Immediate Condition a temporary repair was done, but there were no other inspections for 332 days. A total of 47 interim inspections were not done for the 15 Priority Conditions that were open longer than one year.*

*Comment:*

Concerning the Immediate condition outstanding for 332 days, a temporary repair was made within the first 6 weeks satisfying the NYSDOT requirement for action to be taken. The NYSDOT requirement to re-inspect the temporary repair every 6 weeks until the permanent repair is completed was fulfilled by the Resident Engineer; however, these visits were not formally documented. Documentation was the issue, not safety. The safety of the public was not compromised at any time. We are enhancing our administrative procedures to include this documentation.

Priority Repair conditions are not equivalent to any of NYSDOT's Flag conditions, therefore interim inspection of these conditions is not required if the repair remains open for more than one year. Unlike Yellow Flags, the Authority's Priority Repairs are defined as "conditions, not requiring Immediate Action or for which Immediate Action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work". Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear and present danger before the next anticipated inspection", therefore, Interim Inspections are not required. All conditions recommended as priority repairs are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety.

\*  
 Comment  
 1

## Audit Findings and Recommendations (Continued)

### Inspections and Repairs (Continued)

*Ten of the 17 Safety Conditions sampled were open for more than two years, including three open for 5 years.*

*Comment:*

The Manual has no specific timeframe for repairing Safety Flags without PIA. In the PA system, Non-Structural Safety conditions are equivalent to Safety Flags without PIA. Since these are non-structural safety conditions, there is no impact on the soundness of the structure. These conditions are reviewed by staff and the repair work is scheduled within the respective maintenance programs.

*Authority officials replied to our preliminary findings that it incorrectly classified 9 of the 15 Immediate Conditions we sampled from their records. Instead of being Immediate Conditions, three were actually Priority Conditions (yellow flags) three were Safety Conditions (safety flags) and three were Safety PIAs.*

*Comment:*

The PA classifies several NYSDOT flag conditions into one Immediate Repair classification. However, there were no "incorrect classifications". Immediate conditions are similar to NYSDOT Red Flag with PIA, Red Flag, Yellow Flag and Safety Flag with PIA conditions.

*In addition to the 48 sampled conditions, we reviewed all of the 476 Priority Conditions from January 2008 to December 2012 and found 40 BINS that had the same active Priority Conditions from one biennial inspection to the next; however, no interim inspection was performed. There should have been a total 55 interim inspections for these 40 BINS.*

*Comment:*

Priority Repair conditions are not equivalent to any of NYSDOT's Flag conditions, therefore interim inspection of these conditions is not required if the repair remains open for more than one year. Unlike Yellow Flags, the Authority's Priority Repairs are defined as "conditions, not requiring Immediate Action or for which Immediate Action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work". Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear and present danger before the next anticipated inspection", therefore, interim inspections are not required. All conditions recommended as priority repairs, either are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety. The two-year timeframe noted in our report for Priority Repair conditions is not a deadline to complete the repairs but is clearly defined as a "Recommended Completion Date". If the repair is not completed then the PA re-inspects in 2 years.

\*  
Comment  
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## Audit Findings and Recommendations (Continued)

### Inspections and Repairs (Continued)

*Authority officials stated they do not have to follow the Manual in certain cases. For example, the Authority does not conduct interim inspections because it does not issue "Yellow Flags." However, as previously noted, minutes from a meeting with Department officials identify that the Authority issues conditions which are the equivalent of Red, Yellow and Safety Flags and therefore should follow the Department's requirements.*

*Comment:*

The PA classifies Yellow Flag conditions (those judged by a Professional Engineer licensed in the State of New York, as condition which is "likely to become a clear and present danger before the next anticipated inspection") as Immediate Repair conditions. Red Flag, Red Flag with PIA and Safety Flag with PIA conditions are also classified as Immediate Repair conditions. Repairs are completed within the timeframe recommended by NYSDOT and as such, interim inspections are not required. By assigning these deficiencies as Immediate Repairs, the PA does in fact, follow the intent of the Manual to make repairs in a timely manner; however, the PA is enhancing our documentation and administrative procedures to comply with NYSDOT requirements.

*In addition, we determined the Authority did not even meet its own time frames for repairing deficiencies. For instance, six Immediate Conditions were not repaired within the six months and 14 Priority Conditions were not repaired within two years as required by the Authority's guidelines.*

*Comment:*

The PA disagrees with the auditor's representation that six Immediate Repair conditions were not completed in 6 months. It was not necessary to complete these repairs "on an immediate basis" since they were conditions similar to Safety Flags without PIA conditions (Non-Structural Safety Repairs) or Priority Repairs. All conditions recommended as Priority Repairs are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety. The two-year timeframe noted in our report for Priority Repair conditions is not a deadline to complete the repairs but is clearly defined as a "Recommended Completion Date". If the repair is not completed then the PA re-inspects in two years.

*Contrary to its written communication to the Department which stated the Authority has deficiency categories equivalent to State flags, officials told us Red, Yellow, Safety, and PIA Flags are often classified as Immediate Conditions during inspections. They said it was not important to use State flag classifications because the Authority immediately addresses any condition that cannot be dealt with by routine maintenance.*

## Audit Findings and Recommendations (Continued)

### Inspections and Repairs (Continued)

*Comment*

The PA's Immediate Repair category includes Red Flag with PIA, Red Flag, Yellow Flag and Safety Flag with PIA conditions as Immediate Repairs. The timely completion of the documentation of Immediate Repair conditions will be brought into full compliance by the use of the forms that follow NYSDOT Flagging guidelines as accepted by the NYSDOT at our November 5, 2013 meeting.

As agreed by NYSDOT, the PA's Priority condition category is not a Flag condition.

As stated in the October 7, 2009 minutes of the meeting between the PA and NYSDOT officials, the Authority uses four recommendation categories (not three as stated in the subject report) and they are: Immediate, Priority, Safety and Routine. Since PA categories differ from the NYDOT "Flag" categories (Red, Yellow, Safety), the attendees tried to find a resemblance between the two categories. Similarities were found in the actions taken to mitigate conditions that trigger Immediate Repairs and Red Flags and Priority Repairs and Yellow Flags respectively, however, the two categories are not identical.

*While the Manual indicates Safety Flags should only be issued for conditions posing a clear and present danger to the public, the Authority's procedures merely require that Safety Conditions be addressed "as soon as possible." As a result, the Authority's procedures do not establish set timeframes for resolving Safety Conditions. Authority officials said the Department has approved these departures from the Manual's requirements. Yet, Authority officials could not provide evidence they have received the Department's written approval for any departure from the Manual.*

*Comment:*

The Manual does not require a timeframe for completion of Safety Flags without PIA. A Safety Flag without PIA condition is the equivalent of a non-structural Safety Repair condition in the PA system and these Safety Repair conditions have no timeframe for completion. Prior to this audit, the PA's inspection program has been reviewed numerous times (with the last review in 2009) by NYSDOT and FHWA, and each time the reviewers were satisfied with the overall program, however written approval was not obtained.

After the completion of this audit, at the PA's initiative, a meeting was held with the NYSDOT on November 5, 2013 to review the program including documentation and administrative procedures related to the various deficiency conditions. NYSDOT provided written concurrence with the PA's Biennial Bridge Inspection Program and Notification Protocol including the repair recommendation categories. The PA agreed to enhance documentation and administrative procedures to comply with NYSDOT's stated requirements.

\*  
Comment  
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## Audit Findings and Recommendations (Continued)

### Inspections and Repairs (Continued)

#### Recommendations

- 1. Follow all of the Manual's requirements for addressing flag deficiencies such as interim inspections of Priority conditions that remain open for more than one year.**

*Comment:*

Priority Repair conditions are not equivalent to any of NYSDOT's Flag conditions, therefore interim inspection of these conditions is not required if the repair remains open for more than one year. Unlike Yellow Flags, the Authority's Priority Repairs are defined as "conditions, not requiring Immediate Action or for which Immediate Action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work". Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear and present danger before the next anticipated inspection", therefore, interim inspections are not required. All conditions recommended as priority repairs are repaired within the two-year period recommended for completion or are re-inspected before the two-year date of recommended completion to assure public safety.

Concerning the remaining flag conditions (Red Flag with PIA, Red Flag, Yellow Flag and Safety Flag with PIA) that the Manual has timeframes for completion, the PA intends to enhance administrative procedures to be in full compliance with the Manual.

The Non-Structural Safety Repairs (similar to NYSDOT Safety Flags without PIA) have no mandated timeframe for completion.

- 2. Notify the Department about all modifications from the Manual and obtain the Department's formal approval for each one.**

*Comment:*

The PA intends to enhance administrative procedures to be in full compliance with the Manual as accepted by the NYSDOT.

- 3. Establish specific timeframes for repairing Safety conditions.**

*Comment:*

The Manual has no specific timeframe for repairing Safety Flags without PIA. In the PA system, Non-Structural Safety conditions are equivalent to Safety Flags without PIA. Therefore, there is no timeframe for completion of these repair conditions.

- 4. Follow the Department's Manual for reporting conditions.**

*Comment:*

The PA will comply with the Manual including NYSDOT allowed deviations as agreed with the NYSDOT.

**ATTACHMENT 2****The Port Authority of New York and New Jersey and New York State Department of Transportation November 5, 2013 Meeting Summary**

The following are highlights of the items discussed at the above meeting, for which the PA received written concurrence.

- The PA does follow the intent of the Manual to make repairs in a timely manner to assure public safety.
- NYSDOT's concurrence of the PA's Biennial Bridge Inspection Program and Notification Protocol including the repair recommendation categories: Immediate Repair, Priority Repair, Non-Structural Safety Repair and Routine Repair.
- PA's Immediate Repair conditions include NYSDOT's Red Flag with PIA, Red Flag, Yellow Flag and Safety Flag with PIA conditions in the NYSDOT system.
- PA's Priority Repair conditions are not equivalent to NYSDOT's Yellow Flag conditions. Since Priority Repairs are judged, by a Professional Engineer licensed in the State of New York, as conditions which are not "likely to become a clear and present danger before the next anticipated inspection", Priority Repairs are not Yellow Flags and as such, there is no need to perform interim inspections.
- PA's Non-Structural Safety Repair conditions are equivalent to NYSDOT Safety Flags without PIA and as such, there is no timeframe for completion of these repair conditions.
- The PA will enhance administrative procedures in documentation, notification, immediate condition certification and tracking for immediate repairs to be in compliance with the most recent New York State Bridge Inspection Manual and Supplemental Engineering Instructions (Manual)

### ATTACHMENT 3

The table shown below correlates the PA Repair Categories and the NYSDOT Flagging Categories.

PA REPAIR CATEGORIES	NYSDOT FLAG CATEGORIES
<b>Immediate Repair</b> - Requires immediate action including possible closing of the structure or areas affected for safety reasons until interim remedial measures, such as shoring or removal of potentially unsafe structures (or elements), can be implemented. These closings or interim remedial actions, if any, always require immediate action upon discovery.	<b>Red Flag with PIA*</b> <b>Red Flag</b> - A structural flag that is used to report the failure or potential failure of a primary structural component that is likely to occur before the next scheduled biennial inspection. <b>Safety Flag with PIA*</b> <b>Yellow Flag</b> - A structural flag that is used to report a potentially hazardous structural condition which, if left unattended could likely become a clear and present danger before the next scheduled biennial inspection. This flag would also be used to report the actual or imminent failure of a non-critical structural component, where such failure may reduce the reserve capacity or redundancy of the bridge, but would not result in a structural collapse.
<b>Non-Structural Safety Repair</b> - Conditions that present a potential hazard and which should be repaired as soon as possible.	<b>Safety Flag</b> - A flag that is used to report a condition presenting a clear and present danger to vehicular or pedestrian traffic, but poses no danger of structural failure or collapse. Safety Flags can be issued on closed bridges whose condition presents a threat to vehicular or pedestrian traffic underneath or in their immediate vicinity.
<b>Priority Repair</b> - Conditions for which no immediate action may be required or for which immediate action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis, i.e., taking precedence over all other scheduled work.	<b>-None-</b>
<b>Routine Repair</b> - Conditions requiring further investigation or remedial work, which can be undertaken as part of a scheduled maintenance program, other scheduled project, or routine facility maintenance, depending on the action required.	<b>-None-</b>

**\*PIA (Prompt Interim Action)** - A designation that is made by the inspection Team Leader or an engineer when a Red Flag or Safety Flag condition is considered extremely serious and in need of immediate attention. This designation requires a prompt (within 24 hours) action or decision on whether to close or restrict loads on the bridge, make immediate repairs, or to determine that the condition is safe until repairs can be made.

## State Comptroller's Comments

1. The Authority must comply with 17 NYCRR 165.6. This regulation requires the Authority to conduct Biennial and Interim Bridge Inspections of New York bridge structures according to the Department's Manual. Among other things, the Manual describes how specific flag conditions should be classified and processed. Since July 1, 2010, Public Authorities, responsible for their own bridge inspections, can elect to use the Manual's Flagging Procedure. Alternatively, they can develop an authority-specific flagging procedure that has similar scope to ensure public safety. The procedure must be documented and have provisions to designate flags (similar to Red, Yellow, and Safety), timely notification of flags, and a mechanism to ensure the flags are addressed in a timely manner. A letter dated December 14, 2010 from the Authority to the Department of Transportation states "The Port Authority of NY&NJ has in place a specific procedure that has a similar purpose to NYSDOT's Bridge Flagging Procedures, to assure public safety. This procedure describes three repair categories. Immediate Repair (Action), Priority Repair and Safety Repair that are equivalent to NYSDOT's Red, Yellow and Safety Flags respectively." The memorandum further indicates the Authority follows the Manual's procedures for addressing these conditions. The auditors have not misinterpreted the repair categories as they are stated in a letter written by the Authority.
2. After we completed our audit, Authority officials met with the Department on November 5, 2013. The response indicates the Department approved the Authority's "Bridge Inspection and Repair Program." Upon our request, the Authority provided a document dated November 13, 2013, which is not applicable to our audit, and will be examined if our Office decides to audit the Authority's inspection and repair of highway bridges in the future. During our audit, we used the previously mentioned letter. Moving forward, the Authority should abide by all bridge inspection and repair procedures that the Department has formally approved.
3. The Authority acknowledges follow-up and immediate inspections were not always documented. The response indicates the Authority is enhancing its administrative procedures, documentation, and tracking systems to comply with the Manual. The Authority expects to complete these improvements by the second quarter of 2014. We commend the Authority for taking these steps. Unless the Authority meets the Manual's flag processing and documentation requirements, it may not be able to adequately demonstrate flag conditions were properly addressed.
4. The Authority indicates it performs prompt follow-up and immediate inspections for all Immediate Conditions. Therefore, the Authority believes it meets the Manual's requirements for handling open flag conditions. We disagree because each flag classification in the Manual has specific processing requirements based upon the severity of the condition. For example, appropriate action (e.g., closing the bridge) must be taken in six weeks for Red Flags and 24 hours for PIA Flags to ensure a bridge is safe for use. We believe the Authority must separately account for all Department flag types found during inspections to ensure such time frames are met.
5. The Authority indicates that establishing time standards for Safety Flags is up to the Department. We noted the Manual requires Safety Flags should only be issued for

conditions posing a clear and present danger to the public. While the Manual may not have time requirements for Safety Flags, we point out that Safety Flags that are not resolved in a timely manner could worsen to PIA status and thus would pose an increased public safety risk. Therefore, we believe time frames for Safety Flag repairs still need to be in place and adhered to in order to better ensure public safety.

6. The Authority replied to our findings that three were Priority (Yellow Flags), three were Safety Conditions (Safety Flags) and three were Safety PIAs. As a result, the three Safety Conditions have no specified time frame for repair. Our review of documents from the professional engineers shows that the inspections recommended that all of them required immediate repair.