



Results in Brief

OIG 18-07
April 6, 2018

Why We Did This Review

The Office of the Chief Operating Officer (COO), Rail Division, Office of Track and Structures (TRST) is responsible for providing a positive daily commute for our customers by providing a safe and reliable rail system through comprehensive inspection, maintenance, and rehabilitation programs that enhance the condition of the tracks, guideways, and structures.

The Office of Design and Construction, formerly the Office of the Chief Engineer Infrastructure Services provides engineering and project support for these efforts.

In 2016, two separate incidents occurred on consecutive days at the Rhode Island Avenue - Brentwood Station (RIABS), prompting the closure of the station for three days while temporary repairs and risk mitigation were made and additional inspections were conducted.

The OIG performed the evaluation to assess the adequacy of the post-incident inspections, repairs, and risk mitigation strategies.

Evaluation of the Rhode Island Avenue - Brentwood Station (RIABS) Incidents

What We Found

To WMATA's credit, immediate action was taken to temporarily remediate and mitigate risk of the RIABS incidents that occurred on August 31 and September 1, 2016. However, opportunities exist to further strengthen the inspection and repair process. Specifically, improvements are needed in (1) assessing non-visual and hard-to-reach areas during inspections, (2) reflecting current conditions when reporting on inspections, and (3) completing permanent repairs for RIABS.

Without comprehensive inspections, incidents may continue to occur. Incomplete inspection reporting may result in deficiencies not being addressed. If permanent repairs are not completed timely, the temporary repair may fail. These factors, in turn, may compromise the safety of passengers, WMATA employees, and contractors.

Additionally, in 49 cases, the RIABS inspection reports contained exactly the same remarks as previous year's inspection reports over a 3-year period. Of these cases, there were 29 instances where we could not determine what was actually inspected in a given period, and the remaining 20 notated there was no change from the previous inspection. The repeated discovery of this condition suggests weak controls over this process. Since the Office of Inspector General (OIG) audit unit, in some cases, could not determine what was inspected, we referred this issue to our investigative unit.

This report makes six recommendations to improve the control and accountability over the inspection and repair program.

Management's Response

The COO concurred with the findings and recommendations. WMATA provided written comments to this report on March 27, 2018 (see Appendix B).

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ABBREVIATIONS AND ACRONYMS

ABBREVIATION	DESCRIPTION
COO	Chief Operating Officer
ELES	Office of Elevators and Escalators
ENGA	Office of Engineering and Architecture
GM/CEO	General Manager/Chief Executive Officer
IRPG	Office of Infrastructure Renewal Program Group
OAP	Operations Administrative Procedure
OIG	Office of Inspector General
PLNT	Office of Plant Maintenance
QICO	Quality Assurance, Internal Compliance & Oversight
RIABS	Rhode Island Avenue – Brentwood Station
SET	Structural Evaluation Technician
TRST	Office of Track and Structures
WMATA	Washington Metropolitan Area Transit Authority

BACKGROUND

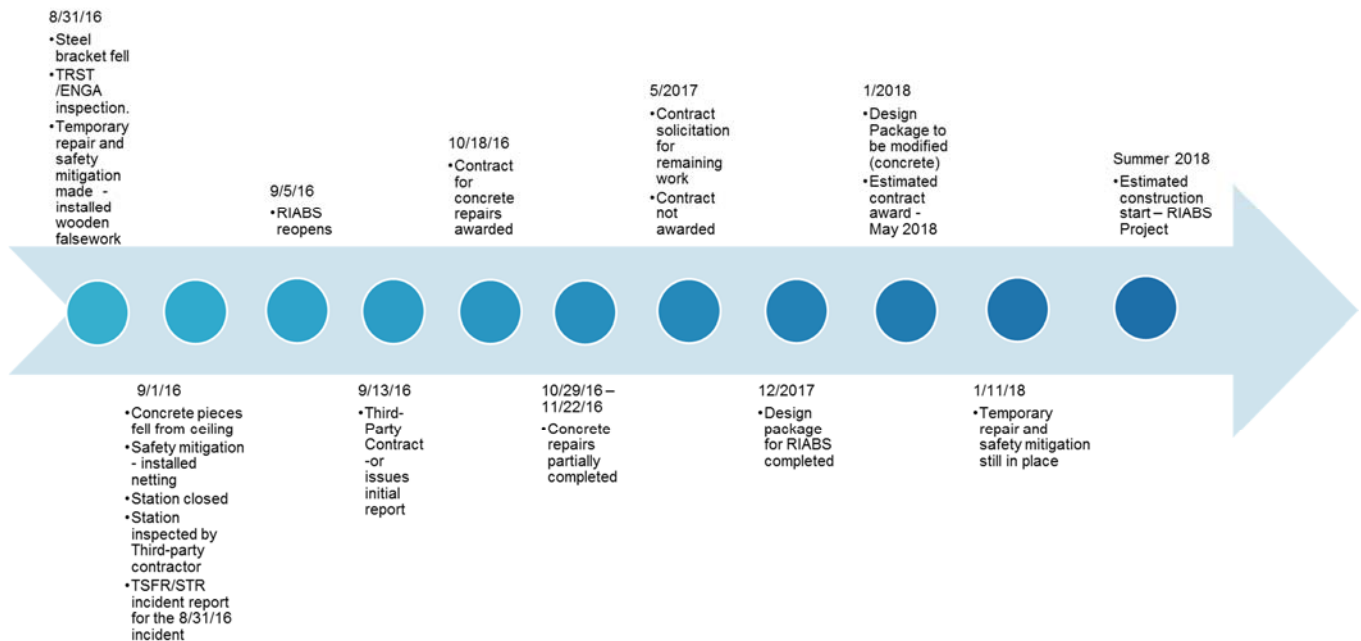
Rhode Island Avenue – Brentwood Station (RIABS) (Figure 1) was designed during the late 1960s and opened for service in March of 1976. RIABS lies on the Washington Metropolitan Area Transit Authority’s (WMATA) Red Line and is located between NoMa-Gallaudet U (Inbound side) and Brookland - CUA (Outbound side) in Northeast Washington, D.C. The station was one of the first in the system and was rehabilitated in the mid-1990s.

Figure 1: Rhode Island Avenue - Brentwood Station

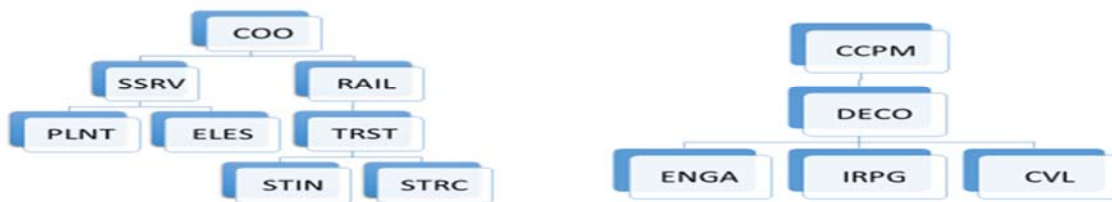


Source: Internet

In 2016, two incidents occurred at the RIABS in which a steel beam and pieces of concrete fell on two separate days. The following timeline depicts when the incidents occurred and actions taken by WMATA in response to those incidents:



The following groups¹ are responsible for activities related to preventative and corrective inspection and repairs, post-incident inspections, structural asset guidance, and permanent repairs.



The primary groups we worked with included:

- Structures and Inspection Branch is responsible for the coordination, scheduling, and implementation of all preventative and special inspection activities for bridges, tunnels, stations, and other various structural assets throughout the WMATA system.
- Engineering and Architecture (ENGA) and Infrastructure Renewal Program Group (IRPG) provide engineering and project management services for infrastructure renewal and major capital projects, as well as support maintenance and operations. They coordinate, direct, and oversee comprehensive engineering programs pertaining to track and structural infrastructure and support facilities.²

Prior Reviews

On September 29, 2015, OIG issued a Report of Investigation No. 14-0005-I focusing on a complaint involving a Bridge, Platform, and Tunnel Inspection allegation. The OIG found discrepancies, violations, and questionable issues concerning how TRST inspectors conducted inspections. The report was provided to WMATA management for action.

WMATA’s Quality Assurance, Internal Compliance & Oversight (QICO) group conducted an internal review of the Metrorail Structural Inspections and issued a report on June 9, 2017. QICO identified 14 findings in the areas of governance, compliance with standards, quality of work, and records management. These findings resulted in five required actions, which are being addressed in Corrective Action Plans prepared by WMATA. As part of the internal review, QICO reviewed the recommendations identified in the 2015 OIG Report of Investigation stated above and found similar conditions.

¹Refer to Appendix C for details.

²Staff Notice 2017-056, dated November 9, 2017 transferred the Department of Engineering and Construction to the Office of the Chief Operating Officer.

EVALUATION OBJECTIVE AND RESULTS

Evaluation Objective

The evaluation objective was to assess the adequacy of the post-incident inspections, repairs, and risk mitigation strategies.

Evaluation Results

To WMATA's credit, immediate action was taken to temporarily remediate and mitigate risk of the RIABS incidents that occurred on August 31 and September 1, 2016. However, opportunities exist to further strengthen the inspection and repair process. Specifically, improvements are needed in (1) assessing non-visual and hard-to-reach areas during inspections, (2) reflecting current conditions when reporting on inspections, and (3) completing permanent repairs for RIABS.

Without comprehensive inspections, incidents may continue to occur. Incomplete inspection reporting may result in deficiencies not being addressed. If permanent repairs are not completed timely, the temporary repair may fail. These factors, in turn, may compromise the safety of passengers, WMATA employees, and contractors.

Additionally, in 49 cases, the RIABS inspection reports contained exactly the same remarks as previous year's inspection reports over a 3-year period. Of these cases, there were 29 instances where we could not tell what was actually inspected in a given period, and the remaining 20 notated there was no change from the previous inspection. The repeated discovery of this condition suggests weak controls over this process. Since the OIG audit unit, in some cases, could not determine what was inspected, we referred this issue to our investigative unit.

This report makes six recommendations to improve the control and accountability over the inspection and repair program.

FINDINGS AND RECOMMENDATIONS

Finding 1 – WMATA’s Structures Inspection Process Did Not Assess Non-Visual and Hard-to-Reach Areas

The inspection process did not identify the conditions leading to the steel bracket support that fell (Incident 1) on August 31, 2016. This occurred because (1) there are no policies and procedures to inspect non-visual and hard-to-reach areas, and (2) the inspection area where the incident occurred was unassigned. Having a more robust inspection process may have prevented the steel bracket support from falling 16.9 feet to the mezzanine area. This incident created a potential safety risk had an individual been standing in that area.

What Is Required

The Office of Track and Structures (TRST) Structures Maintenance Management, Maintenance of Way, Operations Administrative Procedure (OAP) 208-02, dated July 31, 2006, Section 6a states, “Structures or structural appurtenances are to be inspected by qualified Structural Repairers, Maintenance Managers and other designated personnel in accordance with WMATA’s Structural Design Standards, WMATA’s Maintenance plan for Metrorail Structures and the Bridge Inspector’s Reference Manual 2002.”³

What We Found

The inspection process did not identify the conditions leading to the steel bracket support falling on August 31, 2016. The steel bracket support between the escalator and the structure could not be easily examined as it was 16.9 feet above the mezzanine level in a hard-to-reach area (Refer to Figure 2).

Figure 2: Previous Location of Steel Bracket Support



Source: OIG

³Since there are no station inspection procedures, WMATA uses procedures for bridges.

The supporting elements of tilework were in a secluded position, and the failed anchor bolts, which caused the RIABS steel bracket to fall, were hidden from view.

Management stated they had no reason to investigate the subject non-structural element in the inspection process. Routine structural inspections are typically visual inspections only, unless there is a known issue or visible defect. However, as the infrastructure ages, additional inspection techniques need to be deployed to decrease the likelihood of reoccurrence.

Why This Occurred

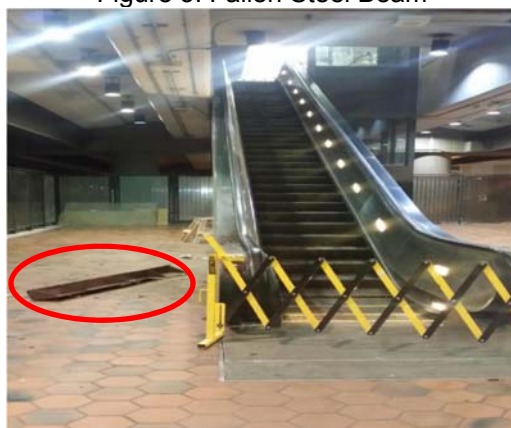
The following contributed to the conditions cited in this finding:

- *Absence of Policy and Procedures* – TRST does not have a policy and procedure for the inspection of non-visual components and hard-to-reach areas.
- *Unassigned Inspection Area* – The inspection responsibilities for the steel bracket support were not assigned to TRST, or the Office of Elevators and Escalators (ELES). Thus, the organizations with inspection responsibilities would not have identified conditions leading to this incident.

Why This Is Important

Having a more robust inspection process may have prevented the steel bracket support located between the escalator and platform structure from falling to the mezzanine area (Refer to Figure 3). This incident created a potential safety risk had an individual been standing in that area.

Figure 3: Fallen Steel Beam



Source: WMATA

Recommendations

We recommend the General Manager/Chief Executive Officer (GM/CEO):

1. Develop and implement policies and procedures to inspect non-visual components and hard-to-reach areas. (Action: Chief Operating Officer) (*Risk – High*)
2. Establish accountability for the area between the escalator and the platform structure ensuring it is included in the appropriate inspection process. (Action: Chief Operating Officer) (*Risk – High*)

Finding 2 – WMATA’s 2016 Aerial Structures Inspection Report Did Not Reflect Current Conditions

While the 2015 RIABS aerial inspection report reflected the conditions related to the area of the second incident (Incident 2), the 2016 RIABS aerial inspection report was not completed for that area. The OIG could not determine what the condition of the area was prior to the concrete pieces that fell on September 1, 2016. This occurred because of incomplete policies and procedures for management’s review of inspection reports. Without complete documentation, inspection deficiencies may not be identified and addressed, which may compromise the safety of passengers, WMATA employees, and contractors.

What Is Required

The Office of Track and Structures (TRST) Structures Maintenance Management, Maintenance of Way, Operations Administrative Procedure, OAP 208-02, dated July 31, 2006:

- Section 3(f)(4) states, “Supervisors of Structures ... are responsible for the overall quality of performance of the employees under their supervision and the work they perform.”
- Section 5(c) states, “Structural Inspectors shall make a report of maintenance items and deficiencies observed during normal inspections. Reports will be reviewed by the appropriate Supervisor, Maintenance Manager, Assistant Superintendent or Superintendent.”

The Office of Track and Structures (TRST) Structure Inspection Reporting Procedures, Standard Operating Procedure 208-13, dated May 5, 2017, Section 6.2.1 states, “Inspection Supervisor or Team Leader will open all asset reports submitted for approval. Review each report for completeness and accuracy within 15 calendar days of the report being submitted for approval.”

What We Found

The inspection report reflected the condition of the area where pieces of concrete fell from the ceiling in 2015, but not in 2016. During our analysis of the RIABS Aerial Structure Span-1619 IB inspection report dated August 19, 2015, we found the Structural Evaluation Technician (SET) examined the area where the pieces of concrete fell. Specifically, the condition of the underside of the track deck area was rated “6 – Satisfactory Condition.”⁴ See Figure 4 showing the rating and actual remark on the inspection report.

a. Deck	6	Crack in the southeast corner of the underside of the cantilever.	
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Figure 4.

Source: WMATA

⁴WMATA uses the “Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation’s Bridges” guide to rate the condition of their structures. A condition rating of “6” means, “SATISFACTORY CONDITION - structural elements show some minor deterioration.”

Although an inspection of RIABS Span-1619 IB was conducted on May 15, 2016, the inspection report section regarding the underside of the track deck was not completed. In addition, the section was not rated or accompanied by any remarks (Refer to Figure 5). Also, this condition was not noted under the “Unusual Conditions” section of the inspection report.

a. Deck		
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See Appendix D and E for an excerpt of the inspection reports.

Why This Occurred

Incomplete Policies and Procedures – At the start of the evaluation, TRST did not have detailed policies and procedures on how to conduct management review of the inspection reports. During the evaluation, TRST issued a standard operating procedure strengthening the review and signoff processes for inspections. As such, we are not making a recommendation in this area. However, there were no procedures for the supervisor to examine prior year’s inspection reports to ensure the completeness and accuracy of the current year’s inspection report.

Why This Is Important

Without completed documentation, management cannot fully rely on the results of the 2016 inspection report. Thus, deficiencies may not be addressed which may compromise the safety of passengers, WMATA employees, and contractors.

Recommendation

We recommend the GM/CEO:

3. Develop procedures to require supervisors to compare deficiencies found in the previous year’s inspection report to the current year’s inspection report for completeness and accuracy. (Action: Chief Operating Officer) (*Risk – High*)

Finding 3 – Permanent Repairs To RIABS Not Completed

While TRST made temporary repairs and mitigated risk to the RIABS incident areas, and in one case, a permanent repair plan was identified, permanent repairs have yet to be completed. This occurred because (1) WMATA lacked procedures to ensure post-incident permanent repairs were coordinated and completed, and (2) there were circumstances and time constraints that impacted the repairs. Without a process to address permanent repairs, there is a risk the temporary repair may fail, which in turn may compromise the safety of the passengers, WMATA employees, and contractors.

What Is Required

WMATA’s Policy Instruction 4.10/3, *Configuration Control Management*, dated June 22, 2012, Section 7.01 states, “Any department director or his staff, with appropriate authority or approval may declare a condition an emergency and take the necessary steps to avert the imminent or potential injury to life, limb or property.”

The Office of Track and Structures (TRST) Structures Maintenance Management, Maintenance of Way, Operations Administrative Procedure, OAP 208-02, dated July 31, 2006:

- Section 5(b)⁵ states, “Superintendents, or their designees, shall determine whether work will be regarded as Maintenance Work or as Production Work.”
- Section 5(f) states, “Maintenance Managers shall determine the degree of urgency of the deficiency and prioritize scheduled⁶ work accordingly.”

What We Found

While TRST made a temporary repair and/or mitigated risk to both incident areas, and identified a permanent repair plan for one incident, permanent repairs have yet to be completed.

- Subsequent to the August 31, 2016 incident, TRST reinforced the area where the steel bracket support fell with a temporary structural falsework, or a wooden stabilizer (Refer to Figure 6). In addition, similar reinforcement was performed on the other side of the escalator. On September 1, 2016, the Office of Plant Maintenance met with ENGA and developed a repair plan for the permanent repair.
- Subsequent to the September 1, 2016 incident, to mitigate future risk, TRST reinforced the area where the concrete fell with safety/debris netting at the site of the incident. In addition, the same netting was installed on the remaining underside of the deck areas on both sides to prevent additional concrete from falling to the ground (Refer to Figure 7).

⁵OAP-208-02 – 5(b) is noted twice; the second 5(b) should be 5(e) and is the one used in this reference.

⁶The draft version of the Bridge Inspection Manual will include criteria to determine priority of repairs.

Figure 6: Incident 1 Temporary Repair



Source: OIG

Figure 7: Incident 2 Safety Netting



Source: OIG

In April 2017, approximately eight months after the two incidents occurred, the OIG visited the RIABS and found the temporary structural falsework and safety netting were still in place. The OIG conducted site visits at RIABS in September 2017 and January 2018, and found that they were still in place.

Why This Occurred

The following contributed to the conditions cited in this finding:

- *Incomplete Post-Incident Repair Process* – While WMATA has a formal post-incident inspection and repair process, the process did not include provisions to ensure permanent repairs were made timely. The process also did not include a continued examination of temporary repairs to ensure soundness.
- *Circumstances and Repair Time Constraints* – While some ceiling panel repairs were made during the station closure in late 2016, all repairs were not completed. WMATA is in the process of addressing permanent repairs with construction expected to start in the summer of 2018.

Why This Is Important

There is a risk that the temporary repair may fail, if permanent repairs are not made timely. If a failure occurs, this may compromise the safety of passengers, WMATA employees, and contractors.

Recommendations

We recommend the GM/CEO:

4. Develop procedures to conduct post-incident structure inspection repairs and monitor them to completion. (Action: Chief Operating Officer) (*Risk – High*)
5. Periodically inspect the condition of the temporary structural falsework and safety netting at RIABS for continued safety. (Action: Chief Operating Officer) (*Risk – High*)
6. Complete permanent repairs related to the two incidents. (Action: Chief Operating Officer) (*Risk – High*)

OTHER MATTERS OF CONCERN

While not in the scope of the review, we found unreliable portions of RIABS inspection reports. In 49 cases, the RIABS inspection reports contained exactly the same remarks⁷ as previous year’s inspection reports over a 3-year period (Refer to Table 1). Of these cases, there were 29 instances in which we could not tell what was actually inspected in a given period. The repeated discovery of this condition suggests weak controls over this process.

Table 1. Number of Prior Year’s Remarks by Year

RHODE ISLAND AVENUE STATION B04 INSPECTION REPORT ⁸			
NUMBER OF PRIOR YEAR’S REMARKS BY YEAR			
ITEM	2014	2015	2016
Station Structure	16	14	14
Station Drainage	2	1	2
<i>Subtotals</i>	18	15	16
GRAND TOTAL			49

For example, 2015 and 2016 RIABS B04 inspection reports showed the same language. See Figures 8 and 9 below for the 2015 and 2016 remarks, respectively.

-Westside entrance walk has an area measuring 8' x 1' which has sunken 2". There is a piece of plywood covering this. Exterior drain on West side of pier 1614 IB is routed on top of side walk.	-West side entrance walk has an area measuring 8' x 1' which has sunken 2". There is a piece of plywood covering this. Exterior drain on West side of pier 1614 IB is routed on top of side walk.
There are two cracks opened up to aprx 1/4" and 10' long. There is also three spalls. *5'x10", 2"x1", 3'x1'. One on the Southend of station and the other is on the West side.	There are two cracks opened up to approximately 1/4" and 10' long. There is also three spalls. *5'x10", 2"x1", 3'x1'. One on the South end of station and the other is on the West side.

Figure 8.

Source: OIG

Figure 9.

Source: OIG

See Appendix F and G for an excerpt of the inspection reports. To WMATA’s credit, 20 out of 49 times, the SETs annotated there was no change in the condition from the prior year to the current year (Refer to Table 2).

Table 2. Number of Times Referred to Previous Report

RHODE ISLAND AVENUE B04 INSPECTION REPORT				
NUMBER OF TIMES REFERRED TO PREVIOUS REPORTS				
REMARK	2013	2014	2015	2016
No change from previous inspection	3	1	1	1
No change in status from previous inspection	1	1	1	1
No change in status from YYYY ⁹ inspection	1	1	-	-
Conditions unchanged as of the YYYY inspection	4	2	1	1
<i>Subtotals</i>	9	5	3	3
GRAND TOTAL				20

⁷A remark is the description of the condition recorded by the SETs.

⁸The 2014 inspection report was compared to the 2013 inspection report. The 2015 inspection report was compared to the 2014 inspection report. The 2016 inspection report was compared to the 2015 inspection report.

⁹Indicates a given year.

This internal control weakness has previously surfaced twice in separate reports. OIG's Report of Investigation stated, "Inspection report remarks are being copied and pasted from year to year, which makes it difficult to verify a new inspection was done." Similarly, QICO's report stated, "Inspection reports were observed with comments that were the same as the previous year's report." Since QICO made recommendations to correct this issue, we are not making a recommendation. However, since the OIG audit unit, in some cases, could not determine what was inspected, we referred this issue to our investigative unit.

CONSOLIDATED LIST OF RECOMMENDATIONS

We recommend the GM/CEO:

1. Develop and implement policies and procedures to inspect non-visual components and hard-to-reach areas. (Action: Chief Operating Officer) (*Risk – High*)¹⁰
2. Establish accountability for the area between the escalator and the platform structure ensuring it in the appropriate inspection process. (Action: Chief Operating Officer) (*Risk – High*)
3. Develop procedures to require supervisors to compare deficiencies found in the previous year's inspection report to the current year's inspection report for completeness and accuracy. (Action: Chief Operating Officer) (*Risk – High*)
4. Develop procedures to conduct post-incident structure inspection repairs and monitor them to completion. (Action: Chief Operating Officer) (*Risk – High*)
5. Periodically inspect the condition of the temporary structural falsework and safety netting at RIABS for continued safety. (Action: Chief Operating Officer) (*Risk – High*)
6. Complete permanent repairs related to the two incidents. (Action: Chief Operating Officer) (*Risk – High*)

¹⁰Recommendations are rated as High, Medium, or Low risk and required management corrective actions to strengthen internal processes and provide for more effective and efficient operations

High - Exception is material to accomplishing organization objectives. Corrective action by appropriate Senior Management is required. Resolution would help avoid loss of material assets, reputation, critical financial information or ability to comply with critical laws, policies or procedures.

Medium - Exception may be material to accomplishing organization objectives. Corrective action is required and the results are reported to management quarterly. Resolution would help avoid negative impact on the unit's assets, financial information, or ability to comply with important laws, policies, or procedures.

Low - Exception has a minor impact on the accomplishment of organization objectives but may result in inefficient operations. Resolution would help improve controls and avoid inefficient operations within the unit.

SUMMARY OF MANAGEMENT’S RESPONSE

WMATA provided written comments to this report on March 27, 2018 (see Appendix B). The COO concurred with the findings and recommendations. The written comments included a summary of actions to be taken to correct the issues associated with Recommendations 1, 2, 4, 5, and 6. Corrective actions for these recommendations will be completed by the summer of 2019. The OIG considers management’s comments responsive to these recommendations, and corrective actions taken or planned should resolve the issues identified in the report.

Regarding Recommendation 3, on developing procedures associated with previous year’s inspection reports, management indicated the General Superintendent of Track and Structures will submit a response to the OIG no later than June 1, 2018. The OIG will subsequently review the response upon receipt, and follow-up on planned actions in the corrective action plan phase.

OBJECTIVE, SCOPE, AND METHODOLOGY

Objective

The evaluation objective was to assess the adequacy of the RIABS post-incident inspections, repairs and risk mitigation strategies.

Scope

The scope of the evaluation was the RIABS incidents that occurred on August 31 and September 1, 2016. While OIG's initial scope of this evaluation was similar to QICO's review, to avoid duplication of effort, we focused on the inspection and repair response to the two incidents at RIABS.

Methodology

To accomplish our evaluation objective, OIG:

- Reviewed relevant documents dating back to 2013, including WMATA standard operating procedures and operating administrative procedures;
- Interviewed and/or obtained information from TRST, PLNT, ENGA, ELES, and IRPG personnel to obtain an understanding of the inspection and repair processes;
- Reviewed internal controls over the inspection and repair processes focusing on the RIABS incidents;
- Analyzed 2013 – 2016 Rhode Island Avenue Station B04 Structural Maintenance Inspection reports to determine whether the reasons the incidents occurred would have been identified on the inspection report;
- Analyzed 2013 – 2016 Rhode Island Avenue Station Aerial Structure Span-1619 IB Inspection Reports to determine whether the reasons the incidents occurred would have been identified on the inspection report; and
- Conducted site visits in 2017 and 2018 at RIABS to photograph the incident areas.

We conducted this evaluation from April 2017 to April 2018, in accordance with the Council of the Inspectors General on Integrity and Efficiency, *Quality Standards for Inspection and Evaluation*. Those standards required that we plan and perform the evaluation to obtain sufficient, appropriate evidence to provide reasonable basis for our conclusions based on our evaluation objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our evaluation objective.

MANAGEMENT'S RESPONSE



M E M O R A N D U M

SUBJECT: Response to Draft OIG Report: DATE: March 27, 2018
Evaluation of the Rhode Island
Avenue – Brentwood Station
Incidents

FROM: COO – Joe Leader

THRU: GM/CEO – Paul J. Wiedefeld

TO: OIG – Geoffrey Cherrington

This memorandum responds to the draft OIG 18-XX Report, dated March XX, 2018, titled "Evaluation of the Rhode Island Avenue – Brentwood Station (RIABS) Incidents."

WMATA RAIL and Design and Construction (DECO) management have reviewed the report and concur with the three findings and six recommendations. The below notes each recommendation and the respective status.

1. Recommendation #1: Develop and implement policies and procedures to inspect non-visual components and hard-to-reach areas. As part of a larger effort, DECO intends to issue a task order to a newly hired Project Management (PM) consultant in the summer of 2018 to author a comprehensive structural inspections manual. As part of that task, WMATA will direct the consultant to include procedures to inspect all structural assets and their subcomponents, to include those that require special equipment to access. The projected completion for this task is the summer of 2019. WMATA does have updated and recently completed inspection procedures for parking garages and bridges; however, the procedures used for all other structural assets require revision.
2. Recommendation #2: Establish accountability for the area between the escalator and the platform structure ensuring it is included in the appropriate inspection process. As noted in #1 above, WMATA will ensure this specific area is addressed in the upcoming production of the structural inspection manual.
3. Recommendation #3: Develop procedures to require supervisors to compare deficiencies found in the previous year's inspection report to the current year's inspection report for completeness and accuracy. The General Superintendent (GS) of Track and Structures (TRST) will address this recommendation. We plan to submit our response to the OIG no later than June 1, 2018.

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4. Recommendation #4: Develop procedures to conduct post-incident structure inspection repairs and monitor them to completion. As noted in #1 above, WMATA will ensure this process is addressed in the upcoming production of the structural inspection manual.
5. Recommendation #5: Periodically inspect the condition of the temporary falsework and safety netting at RIABS for continued safety. The GS of TRST will deploy structural inspection resources to inspect the above noted features at RIABS every 30 days until the permanent repair work commences on July 21, 2018. As traffic permits are required to complete a thorough inspection of the areas of concern at RIABS, we plan to complete our first monthly inspection no later than April 21, 2018.
6. Recommendation #6: Complete permanent repairs related to the two incidents. On 21 July 2018, WMATA will close RIABS until September 3, 2018 in order to permanently repair those structural elements that contributed to the incident of August of 2016.

ORGANIZATION STRUCTURE

Office of the Chief Operating Officer (COO) - The Chief Operating Officer reports directly to the GM/CEO and is responsible for the safe operation and maintenance of the Metrobus and Metrorail systems and manages Bus Services (BUS), Rail Services (RAIL), Support Services (SSRV), Intermodal Strategic Planning (IPLN), Metro Transit Police (MTPD), the Office of Parking (PARK) and the Office of Performance (CPO). In November 2017, the COO also assumed responsibility for the Office of Design and Construction (DECO).

Department of Rail Services (RAIL) – Ensures that the proper investments in people and infrastructure are made to support the safe operations of the Metrorail system. RAIL inspects and services over 1,100 railcar vehicles, 106 miles of track, the automatic train control system and the traction power system.

Capital Planning and Program Management (CCPM) – Builds the Authority’s prioritized capital program and will be the lead organization responsible for Project Development, Strategic Planning, Asset Management, and Sustainability. CCPM will also build capacities in and deliver capital program oversight, reporting, and overall capital program management.

The following organizations coordinate, schedules, and implement all preventative and special inspection activities, and maintenance activities for bridges, tunnels, stations, and other various structural assets throughout the WMATA system:

Office of Track and Structures (TRST)

- Structure Inspection (STIN)
- Structures Maintenance (STRC)

The following branches manage and maintain vertical transportation equipment and facilities and mechanical equipment in support of Metrorail operations:

Office of Support Services (SSRV)


- Office of Elevators and Escalators (ELES)
- Office of Plant Maintenance (PLNT)

The following branches provide engineering and project management services for infrastructure renewal, major capital projects, and adjacent construction and support maintenance and operations. Coordinating, directing, and overseeing comprehensive engineering programs pertaining to track and structural infrastructure and support facilities:


Design and Construction (DECO)

- Engineering and Architecture (ENGA)
- Civil Engineering (CVIL)
- Infrastructure Renewal Program Group (IRPG)


**2015 RHODE ISLAND AVENUE AERIAL STRUCTURE SPAN-1619
IB INSPECTION REPORT**

		WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STRUCTURAL MAINTENANCE INSPECTION REPORT	
Rhode Island Avenue Aerial Structure			
Span-1619 IB		Inspected By: [REDACTED]	
		Date Inspected: 8/19/2015 Report Generated:	
N - Not Applicable 9 - Excellent Condition 8 - Very Good Condition 7 - Good Condition 6 - Satisfactory Condition		<u>Condition Rating</u> 5 - Fair Condition 4 - Poor Condition 3 - Serious Condition 2 - Critical Condition 1 - Imminent Failure Condition	0 - Failed Condition Inspection Frequency Annual
ITEM		NO.	REMARKS
h. Solid Diaphragms/bracing.		6	- Two end diaphragms and five mid diaphragms.
i. Bolted Connections.		6	
j. Welded Connections.		6	
2. List Unusual Conditions.		N	
<u>TRACK BED AND DECK</u>			- Deck inspection by [REDACTED] -Underneath the deck done by [REDACTED]
Note: Concrete. List Defect-Cracks (Size, Type, Direction, Location). Give Drawing.		6	
a. Deck		6	Crack in the southeast corner of the underside of the cantilever. -Spall/crack underneath the cantilever on the east side showing exposed rebar. -Rust stain underneath the deck south end between girders. See Photo(s): 1,2,3
b. Handrails.		6	
c. Safety walk.		6	
d. Fencing.		6	
e. Steel parapet walls.		N	
f. Unit Alignment.		6	
THINK SAFETY FIRST			


2016 RHODE ISLAND AVENUE AERIAL STRUCTURE SPAN-1619 IB INSPECTION REPORT

	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STRUCTURAL MAINTENANCE INSPECTION REPORT		
Rhode Island Avenue Aerial Structure			
Span-1619 IB	Inspected By: ██████████ Date Inspected: 5/15/2018 Report Generated:		
N - Not Applicable 9 - Excellent Condition 8 - Very Good Condition 7 - Good Condition 6 - Satisfactory Condition	<u>Condition Rating</u> 5 - Fair Condition 4 - Poor Condition 3 - Serious Condition 2 - Critical Condition 1 - Imminent Failure Condition	0 - Failed Condition	Inspection Frequency Annual
ITEM	NO.	REMARKS	
h. Solid Diaphragms/bracing.	7	- Two end diaphragms and five mid diaphragms.	
i. Bolted Connections.	7		
j. Welded Connections.	7		
2. List Unusual Conditions.	5	- East cantilever underside deck on north end spalled measuring 3'x 6"x 4" with exposed and rusting rebar. - Cracks and delamination measuring 3'x 6" on east cantilever underside deck with rusting rebar. See Photo(s): 1,2,2	
<u>TRACK BED AND DECK</u> Note: Concrete. List Defect-Cracks (Size, Type, Direction, Location). Give Drawing.			
a. Deck			
b. Handrails			
c. Safety walk.			
d. Fencing.			
e. Steel parapet walls.			
f. Unit Alignment.			
g. Joints (Expansion, Contraction, Cold).			
THINK SAFETY FIRST			

2015 RHODE ISLAND AVENUE B04 INSPECTION REPORT

	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STRUCTURAL MAINTENANCE INSPECTION REPORT		
B Line Stations			
B04 Rhode Island Ave Station	Inspected By: [REDACTED] Date Inspected: 6/30/2015 Report Generated:		
N - Not Applicable 9 - Excellent Condition 8 - Very Good Condition 7 - Good Condition 6 - Satisfactory Condition	<u>Condition Rating</u> 5 - Fair Condition 4 - Poor Condition 3 - Serious Condition 2 - Critical Condition 1 - Imminent Failure Condition	0 - Failed Condition	Inspection Frequency Annual
ITEM	NO.	REMARKS	
1. STATION STRUCTURE			
A. Entrance			
a. Canopy.	N	Above ground Inspected by [REDACTED]	
b. Parapet Walls.	6	Parapet wall adjacent to the Rhode Island Ave. stairway showing 2 areas of delaminating concrete.	
c. Structure.	7	See Photo(s): 15	
d. Granite Panels.	6	At the entrance gate the concrete has a whole length crack See Photo(s): 11	
e. Sidewalks.	5	Westside entrance walk has an area measuring 8' x 1' which has sunken 2". There is a piece of plywood covering this. Exterior drain on West side of pier 1614 IB is routed on top of side walk. There are two cracks opened up to approx 1/4" and 10' long. There is also three spalls. *5'x10", 2"x1", 3'x1'. One on the South end of station and the other is on the West side. Various map cracking ranging from approximate 0.010" up to 1/4" in front of station entrance and east wall facing the bus loop. There is a large section of curb that has cracked at the bus loop, the piece is approx 2' in length. See Photo(s): 1, 2, 3, 12, 12, 12	
THINK SAFETY FIRST			

2016 RHODE ISLAND AVENUE B04 INSPECTION REPORT

		WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STRUCTURAL MAINTENANCE INSPECTION REPORT	
B Line Stations			
B04 Rhode Island Ave Station		Inspected By: [REDACTED] Date Inspected: 5/15/2018 Report Generated:	
N - Not Applicable 9 - Excellent Condition 8 - Very Good Condition 7 - Good Condition 6 - Satisfactory Condition	<u>Condition Rating</u> 5 - Fair Condition 4 - Poor Condition 3 - Serious Condition 2 - Critical Condition 1 - Imminent Failure Condition	0 - Failed Condition	Inspection Frequency Annual
ITEM	NO.	REMARKS	
1. STATION STRUCTURE			
A. Entrance			
a. Canopy.	N	Above ground	
b. Parapet Walls.	6	Parapet wall adjacent to the Rhode Island Ave. stairway showing 2 areas of delaminating concrete.	
c. Structure.	7		
d. Granite Panels.	6	The granite that's around the mezzanine barrier wall/gate framing are cracked in various locations.	
e. Sidewalks.	5	-West side entrance walk has an area measuring 8' x 1' which has sunken 2". There is a piece of plywood covering this. Exterior drain on West side of pier 1814 IB is routed on top of side walk. At the entrance gate the concrete has a whole length crack. Sidewalk curves are broken at bus loop. There are two cracks opened up to approximately 1/4" and 10' long. There is also three spalls. *5'x10", 2"x1", 3'x1'. One on the South end of station and the other is on the West side. Cracks and spalls in the sidewalk at the bike stand. Various map cracking ranging from approximate 0.010" up to 1/4" in front of station entrance and east wall facing the bus loop. There is a large section of curb that has cracked at the bus loop, the piece is approximately 2' in length.	
f. Steps.	6		
g. Retaining Walls.	N		
THINK SAFETY FIRST			

TO REPORT FRAUD, WASTE, OR ABUSE

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Email: wmata-oig-hotline@verizon.net

Telephone: 1-888-234-2374

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Office of Inspector General
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