

**Board Report**

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**SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE  
AD HOC CUSTOMER EXPERIENCE COMMITTEE  
NOVEMBER 16, 2017****SUBJECT: OFFICE OF THE INSPECTOR GENERAL REPORT  
ON REVIEW OF METRO RAIL SERVICE DISRUPTIONS****ACTION: RECEIVE AND FILE****RECOMMENDATION**

RECEIVE AND FILE Report on Review of Metro Rail Service Disruptions.

**ISSUE**

The Metro Office of the Inspector General conducted a customer impact focused study on rail service disruptions to consider whether state of good repair priorities should be adjusted to improve the customer experience. Historically, Metro has based capital investments on the priorities of the agency, expertise of asset managers, and age of transit assets and infrastructure. Recently, the agency has begun conducting asset condition surveys, which will allow better capital investment priorities. We understand that these efforts may take several years. Therefore, we conducted this study with the assistance of a rail expert, The Wathen Group (TWG), a small woman owned business enterprise, to first identify and evaluate the top incidents causing delay for each rail line, and then determine if the issues causing delays are being addressed and appropriate state of good repair (SGR) investments are being made to reduce their reoccurrence. This customer impact based study is complementary to the agency's on-going asset condition surveys as it re-prioritizes its capital repair and replacement plans.

**DISCUSSION**

A primary goal of Metro and its Board is to improve the customer experience. For the Operations Department, this includes developing and improving in-service on-time performance, and implementing efficient and effective transit service. The Operations and Risk Management Departments support this agency goal by implementing an industry leading SGR program that will improve reliability, prioritize the performance of scheduled and preventive maintenance of assets, meet SGR goals, reduce breakdowns, and better meet the daily transit needs of customers.

In 2016, the Operations Department reported 2,585 service disruptions on all rail lines. These delay incidents were categorized into 15 major incident types. This review focused on delay incidents within

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Metro's control and related to asset maintenance, and therefore excluded 441 delay incidents categorized as Police/Health. Of the remaining 2,144 incidents that were part of this analysis, the major categories of incidents were rail vehicles, rail operations, traction power, yard control, and signals. In 2016, rail vehicle incidents (e.g. speed sensor, mechanical, propulsion, door) and rail operations incidents (e.g. operator absence or errors, service capacity, no equipment, single track delay) were the two most frequent types of service delay incidents across all rail lines, accounting for nearly 82% of the delay incidents. The third leading category of incident delays was different for each line.

- For the Metro Blue Line (MBL), traction power was the third top cause of delays.
- For the Metro Expo Line and Metro Gold Line (MGDL), yard control was the third top cause of delays.
- For the Metro Green Line (MGL) and Metro Red Line (MRL), signal was the third top cause of delays.

#### A. Key Findings

The report has overall findings include:

- Metro does not currently have a good system or complete information to identify root cause for service delays. The root cause for many delay incidents was not identified in Metro's records.
- Metro lacks asset condition surveys for each asset class. These surveys are essential for identifying and rating the condition of each asset and its component parts as a guidepost to State of Good Repair investment decisions.
- In the absence of consistent root cause information and support from complementary asset condition surveys, the ability to ensure that capital and maintenance programs are adequately and timely addressing critical needs is significantly limited. Once a system is established, it should be maintained.
- For various reasons prior management did not conduct midlife overhauls on the P865/2020 cars (40% of the light rail vehicle (LRV) fleet) and the Base Buy subway cars (29% of subway fleet), which are now the oldest cars in their respective fleets. With these cars remaining in service longer than anticipated, they are experiencing more component failures and are kept in service by as needed maintenance. Current Metro management has already begun the overhaul process and is in various stages of completeness depending on the model of the car.
- Operator non-availability, lateness for schedule pullouts, insufficient Rail Operator Extraboard staffing levels were key contributors to Rail Operations service related delays. However, this is not a SGR issue so we did not focus our study on this matter.
- The top three incidents due to Yard Control were late pull out (46%), no equipment (21%), and operator related (18%), such as not enough operators.
- Traction power failures on the MBL resulted in 357 cancelled trips and 107 late trips.

The review also found that Metro is in the midst of implementing important improvements to its SGR program. In this regard, Metro is:

- Implementing asset condition surveys across all assets, which will allow better investment priorities to be set to address safety and reliability needs.
- Redesigning the M3 maintenance system, which promises to combine diverse incident

databases and provide a platform for tracking root cause of incidents.

B. Mitigating Delay Incidents Through State of Good Repair Investment

The \$4.8 billion dedicated to state of good repair over ten years as described in the Short Range Transportation Plan demonstrates Metro's focus on SGR. However, this amount comes to \$480 million per year, which needs to cover many assets. In addition to addressing rolling stock for bus and rail, it also must address the needs of an aging infrastructure such as the Blue Line power traction substations. These competing needs are clearly reflected in the FY2018 Adopted Budget. The FY2018 Adopted Capital Program of \$2.09 billion includes \$1.7 billion for expansions and \$394 million for Operating Capital, which covers safety and security projects, bus and rail state of good repair, capital infrastructure and other related investment categories. The total budgeted specifically for Rail State of Good Repair is \$224 million. Of this total, \$145 million (65%) is for vehicle investments that address the types of issues identified in TWG's analysis of vehicle related service disruption incidents.

Going forward, Metro will need to reevaluate whether its investment strategy is sufficient once the asset condition inventories are completed and priorities for investments to achieve a state of good repair are set. While expansion of the system is critical, it cannot take place at the expense of maintaining the existing system. Specific impact analysis including root causes for service disruptions should be utilized to further refine and prioritize funding allocation.

C. Recommendations:

The report makes 57 recommendations which Metro can take to better identify track, and reduce incidents that result in service disruptions. They are listed in Appendix B of the report.

**NEXT STEPS**

Metro management should:

- Finish assigning an individual responsible for championing the Agency Operations and SGR review and analysis of the findings and recommendations in the report and taking appropriate actions;
- Further complete the Schedule for Tracking Metro's Proposed Actions in response to the recommendations provided in Appendix B of the report as determinations are made on implementing the recommendations; and
- Periodically report to the Metro Board on the status of actions taken to implement the recommendations.

**ATTACHMENTS**

Attachment A - Report on Review of Metro Rail Service Disruption

Attachment B - Management Response

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