



Barry L. Kluger  
Inspector General

## Office of the Inspector General

Metropolitan Transportation Authority

Two Penn Plaza, 5<sup>th</sup> Floor

New York, New York 10121

212-878-0000

November 21, 2016

Patrick A. Nowakowski  
President  
MTA Long Island Rail Road  
Jamaica Station Building  
93-02 Sutphin Blvd.  
Jamaica, NY 11435

**Re: Monitoring Employee Lost-Time  
Injury Rates at  
Long Island Rail Road  
MTA/OIG #2016-19**

Dear Mr. Nowakowski:

The Office of the Metropolitan Transportation Authority (MTA) Inspector General (OIG) regularly reviews safety statistics reported to the MTA Board. According to data reported by MTA Long Island Rail Road (LIRR), the number of job-related employee injuries resulting in lost work time rose 51 percent in five years, from 167 in calendar year 2009 to 252 in 2014—a nine-year high.

In 2015, the OIG began an examination of LIRR's efforts to reduce this trend and learned that the agency has established a robust mechanism for reporting injuries quickly and repairing hazardous conditions when necessary. Additionally, LIRR safety officials perform a wide range of *preventive* activities. They regularly analyze injury reports to detect incident patterns and then present their findings at monthly and quarterly management meetings. Based on their analyses and discussions, officials conduct site inspections across the LIRR service area; provide training on an ongoing basis; distribute safety-related newsletters and bulletins; and hold quarterly stand-downs, during which employees briefly cease their regular work to review a specific aspect of the agency's safety protocol.

These are significant and continuing efforts, and in 2015 the number of injuries decreased to 238, a six-percent reduction for the year. Based on our review, OIG identified ways in which LIRR could continue this positive trend by enhancing its methods of analyzing injury patterns.<sup>1</sup> For example, while our analysis revealed that employees at particular locations and in certain job

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<sup>1</sup> Separately, we have reported to you our findings and recommendations on efforts to reduce the number of lost work days resulting from job-related injuries: MTA/OIG Report #2016-20, *Oversight of Injured Employees' Return To Work at Long Island Rail Road*.

titles were experiencing injuries out of proportion to their representation in the workforce, we learned that LIRR's three largest operating departments were not using this type of analysis to identify injury patterns. Similarly, we learned that safety officials in the various departments could better identify any such patterns through improved communication across departmental lines.

### **The Operating Departments Could Benefit by Analyzing Discrete Injury Rates**

To identify groups of employees with a disproportionate number of injuries resulting from their job titles and/or the location of their employment, we first compared the percentage of all injuries occurring at each LIRR location in 2014 to the percentage of employees designated in payroll records as working there. Some sites exhibited a higher number of injuries than would be expected given the size of their work force; we then further examined the data by employee craft.

Our analysis found conditions deserving of closer scrutiny in the three operating departments: Transportation Services (Transportation), Maintenance of Equipment (Equipment), and Engineering.

- In Transportation, conductors—who are not assigned to a specific location—accounted for 81 percent of injuries in the Road Passenger Crews unit in 2014, although they constituted just 56 percent of that workforce. We learned that conductors are injured most frequently when opening or closing windows and doors. Similarly, engineers experienced 50 percent of the injuries sustained by Transportation employees who worked at the West Side Storage Yard (WSSY) while representing only 23 percent of Transportation's workforce at that location. Slips, trips, and falls were a leading cause of these injuries.
- Regarding Equipment, we conducted a separate analysis to compare the incidence of employee injury by craft across the department's locations and found an incongruity between the injury rates for electricians at two sites. At Richmond Hill (RH), electricians incurred significantly more injuries in proportion to their numbers than electricians at the other train maintenance facilities in Hillside and Morris Park (here referred to collectively as Car Shops). Department officials speculated that this difference was attributable to the greater level of risk inherent in the RH work environment: While the engines (electric) at the Car Shops require no climbing to be serviced, the electricians at RH must climb atop the engines (diesel) in order to service and repair them.

Another difference in Equipment's injury rates involved car repairmen at the same three locations. This time, though, those repairmen working at the Car Shops experienced 45 percent of Equipment's injuries but represented only 35 percent of the department. In contrast, RH repairmen constituted 13 percent of that department but sustained just seven percent of its injuries. When shown this data, Equipment officials said one cause of the

seemingly disproportionate incidence of injury at the Car Shops might be excessive clutter and debris in the work areas, a problem that could be remedied.

- In Engineering, our analysis revealed two areas of concern among Communication Unit employees responsible for maintaining signals equipment on the right of way: Technicians sustained 33 percent of the unit's injuries although they made up just 19 percent of its employees, and inspectors experienced 25 percent of the injuries while representing only 12 percent of the staff. Engineering officials said that slips, trips, and falls were a leading cause of injury for workers in these positions.

In discussing these findings with departmental officials, we learned that the three operating departments take different analytical and strategic approaches to monitoring safety. These differences are discussed below.

#### *Departmental Analysis and Strategy*

LIRR has a decentralized structure for monitoring safety incidents: Each department reviews and reports on its employees' injuries. The departments follow their own method for reviewing injury data, and some departments examine incidents' root causes more frequently than others. Safety personnel in each department regularly perform analyses to identify meaningful injury trends considering such factors as location, equipment type, and work unit. Transportation appears to go beyond these analyses to identify craft-specific factors for injuries within the department.

Safety officials in Transportation told us that conductors had long represented the majority of those injured across the department's operation, and these officials knew that operating windows and doors was the leading cause of those injuries in 2014. The officials were also aware that slips, trips, and falls had caused most of the engineers' injuries for several years. We learned that in 2015 Transportation implemented targeted programs to reduce both sets of injuries and has begun to see improvement: Conductor injuries declined by nine percent and engineer injuries by 29 percent in that year. We found that Transportation safety officials were able to identify specific problem areas and take steps to address them.

In both the Equipment and Engineering departments, however, we learned that safety officials conduct safety inspections at their respective work sites to identify *general* conditions and practices that might prove hazardous to the work force at large. They then provide onsite safety training to employees focused on mitigating these general hazards. When we discussed our findings with these officials, they agreed that analyses focused on injury rates by job title and site would be helpful to them, but at that point they were not generating such reports. Consequently, at the time of our audit, these two departments did not have specific safety programs addressing conditions affecting the employees in the particular crafts and locations highlighted in our analysis and described above. Using OIG's work as a model, Equipment officials said they planned to conduct such analyses in the future and Engineering managers told us they were

considering doing so. We firmly believe that such analyses are effective and efficient managerial tools for identifying patterns and reducing injuries.

### *Database Does Not Support Effective Oversight*

Management's ability to perform reliable analyses depends on the quality of the information available. We learned that when an employee is injured, safety officials in the employee's department receive a paper form describing the circumstances of the injury. These officials then manually enter data from the form into LIRR's agency-wide safety database (Database), which serves as the central repository for injury data. As mentioned above, each department follows its own methods to analyze its data; thereafter, each sends its figures to LIRR's Corporate Safety Department (Corporate Safety), which reports the combined statistics to the MTA Board and the Federal Railroad Administration.

Corporate Safety and departmental safety officials told us that their analysis of employee injuries is significantly hindered by the limitations of the Database, a DOS-based mainframe system created in the early 1980s. We found that the Database does not support statistical analysis or satisfy the managerial reporting needs of an enterprise as complex as LIRR. Employees cannot use the Database to readily produce accessible management reports or charts because the system lacks tools for analyzing data, identifying trends by location or craft, or searching for similar injuries over a prior time period.

We learned that LIRR managers have taken steps to improve this situation. In the short term, they planned to consult with LIRR's technology staff to develop new reports and features to automate data entry. In the longer term, the MTA is procuring a new safety information system for all its agencies. LIRR and Metro-North Railroad will use the initial pilot system, which is anticipated to be implemented in late 2016. The new system will replace LIRR's current Database and is expected to enable users to run queries as well as track corrective actions.

### **Interdepartmental Communication Needs Strengthening**

The agency's current policy on employee safety<sup>2</sup> requires the president to convene quarterly safety meetings—including representatives of all the operating departments—to discuss safety trends, performance, and goals. Each department is also required to hold a monthly safety meeting, which staff members in other departments may attend. According to the meeting notes maintained by the three departments that we reviewed, these events took place regularly and covered a wide range of topics specific to each department, including worksite conditions, protective equipment usage, compliance audits, and training needs. In our opinion, however, these meetings could be more useful.

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<sup>2</sup> *Employee Safety Policy and Procedure (SAFE 005)*, January 2016.

For example, regarding the leading cause of conductor injury—opening and closing windows and doors—we learned that in 2014 LIRR established an initiative to repair a certain type of window on M7 train cars that had proved defective and been implicated in many injuries. However, during our initial discussions with safety officials in Transportation—the department that oversees conductors—and Equipment, which is responsible for maintaining the cars, we learned that these officials were not familiar with the status of the initiative. In subsequent discussions, the same officials told us that LIRR expected to receive new window elements in early 2016 to replace defective parts. However, these officials remained uncertain as to the specific defects involved and had not been informed of the reason for the delay in procuring the replacement parts. Although conductor injury rates improved slightly in 2015, the use of windows and doors remains the leading cause of injury to that craft. In our view, certainly, the safety officials from these three departments should maximize the opportunities presented by each of these monthly departmental meetings and the quarterly safety meetings with the LIRR president, to ensure that all of the officials are up to speed and on the same page regarding the safety issues affecting their employees.

Indeed, some departmental safety officials themselves told us they believed they would benefit by receiving more information about their peers' methods of identifying and addressing causes of employee injuries—information that could certainly help them improve their own oversight.

LIRR safety officials come from a wide range of backgrounds: Some have received formal safety training, while others have developed expertise through years of experience in LIRR's operating environment. Given this history, the monthly and quarterly meeting provide the forum for multiplying the force of their individual analytical and training abilities, by sharing with their colleagues their techniques and personal insights. In this way, they will help enable the agency as a whole to identify problems more effectively and take action more efficiently.

## RECOMMENDATIONS

LIRR should:

1. Analyze lost-time injuries by craft and location on a regular basis to identify disproportionate injury rates.
2. If injury-causing conditions require interdepartmental collaboration, use the monthly and president's quarterly safety meetings to establish a corrective action plan and track its progress to completion.
3. Share analytical tools and methods for identifying injury causes, patterns, and trends through inter-departmental representation at monthly meetings, as well as at the president's quarterly safety meetings.

## Agency Response

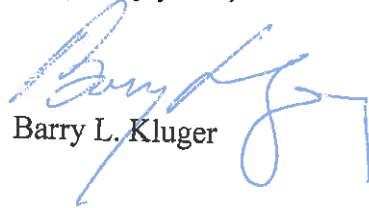
*Following our submission to you of our preliminary report containing the above Findings and Recommendations, you provided the agency response in a letter dated November 3, 2016 confirming the LIRR's concurrence. Specifically, you detailed the following actions that have been taken or will be taken soon to further strengthen LIRR's methods of analyzing injury patterns:*

- The Engineering and Maintenance of Equipment Departments began to analyze lost-time injuries by craft and location in response to our report. Additionally, Corporate Safety will advise departments to review data for craft-specific injuries and to share methods for analyzing injury data.*
- LIRR expects to complete its replacement of the existing Database (Accident Control System) with a new Enterprise Safety System that will allow for more efficient and effective trend analysis and include capabilities to track corrective actions.*
- Corporate Safety will work with Liaisons in the operating departments to develop and track corrective action plans resulting from injury-causing conditions. Beginning in the first quarter of 2017, Corporate Safety will utilize quarterly safety liaison meetings as the vehicle for the overall reporting and tracking of corrective action plans. At these meetings, the Department Liaisons will report on progress, and in turn they will convey information from these meetings with their respective departments at their department monthly meetings. Additionally, an overview of efforts and resulting trends will be communicated at the President's quarterly meeting.*
- Regarding the sharing of analytical tools and methods, Corporate Safety discussed the topic with the operating departments at the quarterly safety Liaison meeting in October 2016 and will address it more formally at the meeting scheduled for December 2016. Additionally, once the new Enterprise Safety System is deployed, LIRR's Employee Training and Development Department, in conjunction with MTA's Information Technology Department, will provide training to the Department Liaisons on its use, including methods for analyzing data and tracking corrective actions.*

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We appreciate your attention to the issues we raised, as well as the courtesy and cooperation afforded to us at all times by your staff. Should you have any questions regarding this final report, please contact me or Executive Deputy Inspector General Elizabeth Keating at (212) 878-0022.

Very truly yours,



Barry L. Kluger