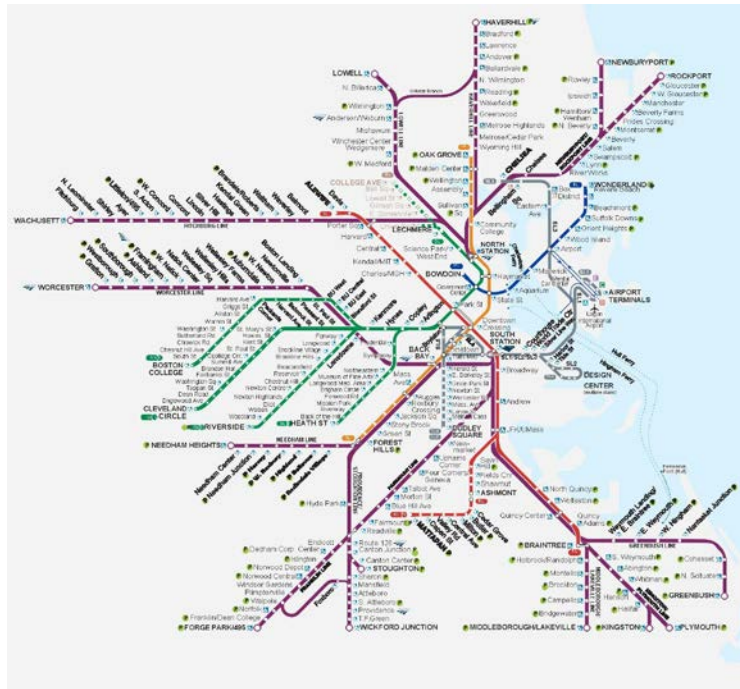


# Safety Review Panel

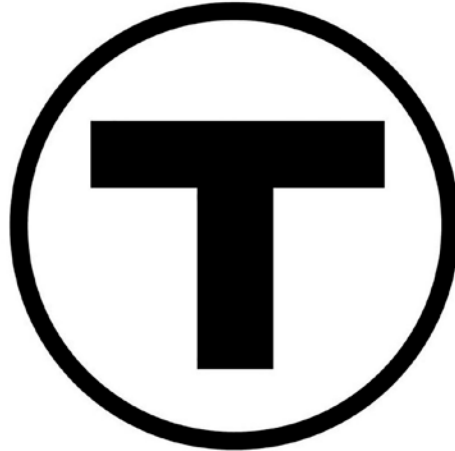


## Final Report

**December 9, 2019**

# SAFETY REVIEW PANEL

December 9, 2019



**Ray LaHood**

Safety Review Panel Member

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**Carolyn Flowers**

Safety Review Panel Member

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**Carmen Bianco**

Safety Review Panel Member

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## Executive Summary

The Massachusetts Bay Transportation Authority (MBTA) or (T) experienced a series of high-profile mainline derailments and other rail related occurrences in recent years. These incidents resulted in numerous injuries, millions of dollars in equipment damage and repair costs, significant delays, unpredictable service, and increased dissatisfaction amongst regional stakeholders and customers regarding the organization's ability to provide safe and reliable service. In response, the MBTA Fiscal and Management Control Board (FMCB) convened a safety review panel (SRP) or (Panel) of external transportation industry experts to take a comprehensive review of the T's safety performance, safety leadership, and culture. The SRP's mission is to undertake a comprehensive, independent analysis of rail safety at the MBTA. This analysis includes a review of incidents over the past few years, as well as a broad analysis of the safety culture, policies, procedures, and practices at the MBTA. The SRP also compared the MBTA's practices to national and international best practices.

The SRP convened on June 27, 2019 and is comprised of Ray LaHood, a former United States (U.S.) Secretary of Transportation; Carolyn Flowers, a former Acting Federal Transit Administration (FTA) Administrator and Carmen Bianco, a former New York City Transit (NYCT) President (See Appendix "A" for biographies).

The Panel adopted the FTA's Safety Management System (SMS) as a framework for conducting its work. All mass transit properties throughout the U.S. must have a certified SMS in place by July 20, 2020 (See Appendix "B" for a brief description of the four components of SMS). Therefore, it was prudent to conduct this review within the framework of that new regulation. In essence,

*"SMS means a formal, top down, organization-wide approach to managing safety risk and assuring the effectiveness of the agency's safety risk mitigation. SMS includes systematic procedures, practices and policies for managing risks and hazards."*<sup>1</sup>

This Panel also evaluated the T's current safety culture and its leadership's approach to safety because an organization's ability to perform or conduct its business effectively is a product of its leadership and culture.

To complete this analysis: the SRP conducted over 100 collaborative discussions with FMCB members, senior staff, mid-level management, supervision, frontline employees, union leadership and representatives from FTA, Federal Railroad Administration (FRA), Department of Public Utilities (DPU), Keolis-the MBTA commuter agency contractor, LTK, HNTB, STV, CRRC and Network Rail to ensure a comprehensive effort was undertaken that takes advantage of the expertise that resides both within the agency and partner organizations; facilitated six (6) focus groups consisting of diverse groups of agency employees; and reviewed numerous MBTA policies, procedures, job descriptions and accident reports. Additionally, the Panel conducted site visits to

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<sup>1</sup> Federal Register, Department of Transportation, Federal Transit Administration 49 CFR Part 673, Public Transportation Agency Safety Plan, National Public Transportation Safety Plan; Availability; Proposed Rule and Notice, Section 673.5 Definitions.

the Operations Control Center (OCC), St. Mary's Station derailment site, Green line slow speed areas, Green Line Extension project (GLX) construction sites, rail vehicles maintenance facilities, i.e. Southampton Service and Inspection (S&I) Facility, Boston Engine Terminal, Cabot, Wellington, Orient Heights, Reservoir, Lake Street, Readville, Riverside, Mattapan, and Everett and participated in a live on-site derailment investigation at Reservoir Yard. Several Panel members also attended Right of Way (ROW) and Roadway Worker Protection (RWP) training. The Panel conducted head-car ride observations on portions of the commuter rail and mass transit systems. Lastly, the SRP requested that independent subject matter experts (SMEs) perform a detailed evaluation of the track maintenance and vehicle maintenance functions to ensure they are performing as intended.

Throughout the assessment phase, the Panel discovered that there are numerous factors that impact the T's safety protocols and its safety culture. The following narrative highlights many of the significant observations made by the SRP and their correlation to the SMS framework.

While the agency performs the necessary core functions to be considered a relatively safe system, many aspects of the T's approach to safety and operations need immediate attention. The Panel did identify omissions in the required Preventative Maintenance and Inspections' (PMIs) schedule and Quality Assurance/Quality Control (QA/QC) concerns that offer an explanation for many of the service disruptions that the MBTA is experiencing.

Critical PMIs are not taking place as required. This creates a serious issue that requires immediate attention and this information has already been shared with MBTA leadership. Over the years, due to shortage of and/or inexperienced leadership, competing priorities and fiscal controls, operational managers have had difficulty identifying what maintenance and inspections need to be done, or have been dropped due to fiscal pressures or lack of staffing. Furthermore, there is little, or in many cases, no data to support what maintenance and inspections are required, or what has been accomplished. In other instances, procedures are well documented and available, but are not enforced by local supervision. It also does not appear that sufficient condition assessments have been conducted on many system assets that may drive a higher level of preventive maintenance actions. This will require leadership's urgent attention to identify what inspections and maintenance must take place, at what intervals, and establish performance indicators that show progress against stated goals.

Another component of sound safety management and a requirement of SMS is a QA/QC function that measures and provides oversight of maintenance practices, engineering designs and implementation at the field level. This function monitors the quality of the work being performed, and has independent individuals who conduct their work and brief leadership on their findings and recommendations. There is no meaningful QA/QC strategy or system in place at this point in time. This is another critical function that leadership must implement to establish a sound safety culture.

In general, the SRP found that the T's approach to safety is questionable, which results in safety culture concerns. In almost every area we examined, deficiencies in policies, application of safety standards or industry best practices, and accountability were apparent. The foundation for safety is also not obvious as the agency has not identified or adopted a comprehensive vision, mission, values or set of strategies and goals to guide the agency's actions to achieve a safe work

environment and to deliver quality service. Without such strategy being implemented and embraced by executive leadership, it becomes substantially more difficult for the agency to achieve the level of performance required to run a safe transit system.

It is noteworthy to mention that the commuter rail service is performing well and does not face many of the challenges that were identified on the transit side of the house. The Panel attributes this higher level of performance to the structure provided by FRA regulations, which are clearly defined and have fiscal consequences if not complied with. The one area that needs immediate attention is their fatigue management program, which does not contain an effective Obstructive Sleep Apnea (OSA) screening program; however, their management is diligently pursuing this goal. Conversely, the MBTA transit rail operation does have a mature fatigue program in place.

Leadership sets the tone for safety. Starting at the executive leadership level, the recurrent turnover in general managers (GMs) over the past 10 years has been incredibly disruptive and has placed the agency in a vulnerable position. This may be the overarching reason that we see the level of safety deficiency at the agency. Since 2010, there have been nine new (9) general managers. The incumbent GM has only been in the position since January 2019. It is obvious that many new executives have been hired in recent years as the T attempts to position the agency to meet an aggressive capital initiative and the overall transformation of the agency. While it is excellent to build this team, little if any time has been invested to help them onboard, assimilate into the agency's mission, or to understand the agency's safety practices.

Also obvious is that the mandate requiring the FMCB to have such frequent meetings has had a detrimental effect on the organization. By legislation, this Board is required to meet in session 36 times a year. Staff preparation to meet the needs of the Board is overwhelming and leaves staff little if any time to tend to the operation or the maintenance of the system. It's unquestionable that this mandate is causing staff to "take their eye off the ball" and contributes to safety not getting the time and attention it requires.

Our staff interviews and work in the field revealed that leadership feels somewhat defeated, helpless and in some cases hopeless. There is a general feeling that fiscal controls over the years may have gone too far, which coupled with staff cutting has resulted in the inability to accomplish required maintenance and inspections, or has hampered work keeping legacy system assets fully functional. Staff repeatedly shared their frustration with the cost-cutting process and the inability to acquire new positions as needed to accomplish the task at hand. It is our understanding that in recent months, leadership has instituted new standards for the approval of staff positions that will provide a quicker turnaround.

Today, change at the T is occurring at an exciting and accelerated pace due to the leadership and support provided by the governor and the FMCB. The desire to invest in the infrastructure and operation, the expansion of new services and hiring of many new employees has resulted in sweeping changes. However, there is no question, current leadership is struggling to understand how they will deliver the accelerated Capital Program, keep legacy system assets fully functional, in addition to carrying out normal day-to-day PMIs, given the current state of the Authority.

The FMCB developed a strategic plan to set the direction, initiatives, and programs to drive the outcomes and inform the decision-making process of the agency. However, the cultural environment at MBTA is narrowly focused on values, attitudes and behaviors, which are centered around the delivery of the capital plan. Although the plan stipulates that safety is a priority, the reality is that on a tactical level, the priorities and resources of the agency have been dedicated to capital acceleration. The FMCB has put a significant focus on fiscal control of operating expenses, while at the same time increasing the throughput of the capital program. The outcome of this emphasis on capital delivery has been detrimental to Operations. The result is sharing of critical operational resources and stretching those resources to serve multiple functions. For example, the maintenance crews are being flexed between daily operational support requirements and the accelerated capital program. This has had an adverse impact on the ability to support system maintenance repairs and safe delivery of services.

The strategic plan is crucial to provide guidance and direct decision making at the agency. Goals and objectives for the agency were developed to respond to the financial and capital delivery crises. But the strategic plan, as well as, the annual financial plan lack a critical element — there is an absence of measures or metrics for monitoring, evaluating, and analyzing outcomes of the Board's priorities. This is particularly evident in the monthly safety reports which basically provide a trend line but no target comparisons. There are also no metrics for key operational indicators, such as PMIs that contribute to the safety of the system. Asset management and life cycle maintenance are key to keeping the system fully functioning but MBTA is not monitoring the performance of their maintenance programs.

The Safety Department plays a critical role in establishing a successful SMS program. Currently, from a safety perspective, leadership across the agency is not connected to any identified safety values or goals, at any level, including the GM, Deputy GM or senior operating staff. The safety department, which should be providing day-to day leadership for safety initiatives, is somewhat debilitated in what they can accomplish, and lacks the ability to guide the agency at large. For example, the staff is absent in the field to support the workforce and champion a safe work environment. On the other hand, the safety department is grossly understaffed, lacks subject matter experts (SMEs) and is currently not in any position to manage the needs of the agency. It is also important to note that the head of the safety department is new and started in that position in January 2019.

The Panel also found that a current culture of blame and retaliation impede the T's ability to achieve a greater level of risk management and safety assurance. Perceived or real, employees in general do not trust their leadership and therefore, do not share with leadership what is happening in the field for fear of heavy-handed discipline. The workforce does not feel supported by management and are clearly frustrated with the management's lack of responsiveness to their needs. We heard countless situations where employees' requests for needed safety equipment or support went unanswered. During this review, we also heard and gained first-hand knowledge of circumstances where employees, who reported safety issues on numerous occasions eventually lost faith in management's ability to care about getting anything done. As a result, it is likely that many safety issues today go unreported.

The lack of upward and downward communication within the agency is also at the core of many of the T's safety issues. As mentioned earlier, employees lack trust in their leadership or fear retribution so they generally refrain from reporting issues or identifying themselves in any reports. But even beyond this issue, there is a total lack of routine upward or downward communication within the agency. Employees at all levels told the Panel that the T has many siloes and that communication is rarely, if ever, done across departments. Leadership has not identified or attempted to open channels of communication with the workforce. An overwhelming number of employees are not able to receive electronic communications and have minimal alternatives to communicate with agency leaders, nor do leaders have a way to communicate with the workforce. The only avenue for communication we identified during this review is a "safety hotline" which does not appear to have received the confidence of the workforce in the field. It should be noted that the Panel met staff in support functions, such as internal communications and human resources, who have the skills and abilities to implement new strategies that will improve communications to build trust among all levels of employees.

In essence, safety is not the priority at the T, but it must be. To meet the demands of the future, the agency must address its safety culture – it is critical to every aspect of the agency. The GM must make safety his number one priority and realize there is nothing more important to the T's customers and employees than safety. This should also be the number one priority in quality maintenance and inspections, employee training and communication, staff onboarding, values, goals and strategy. The GM must clearly identify every leader's role in making safety the number one agency priority. It is critical that every department and leader within the agency is clear on his or her safety responsibilities. Not only should such responsibilities be a detailed part of every employee's job description, but all employees should receive ongoing feedback to create accountability. Having safety as a core value will drive strategy and decision making in the future.

The SRP is providing 34 recommendations, which contain 61 individual corrective actions that the Panel believes will set the agency on the path toward implementing a more effective SMS approach to safety and decrease the frequency and severity of organizational accidents.

In conclusion, the SRP wants to acknowledge and thank the members of the FMCB and especially the Chair, who provided exemplary leadership and unlimited support to make this review achieve its stated mission. We would also like to thank the staff, employees and numerous labor leaders, who have helped us gather the information found in this report, as well as the FTA, FRA, DPU, Keolis, LTK, HNTB, STV, CRRC and Network Rail for their input and collaboration throughout the process.

The Panel wishes the T great success in the future and hopes this report helps achieve safety success and full compliance with SMS.