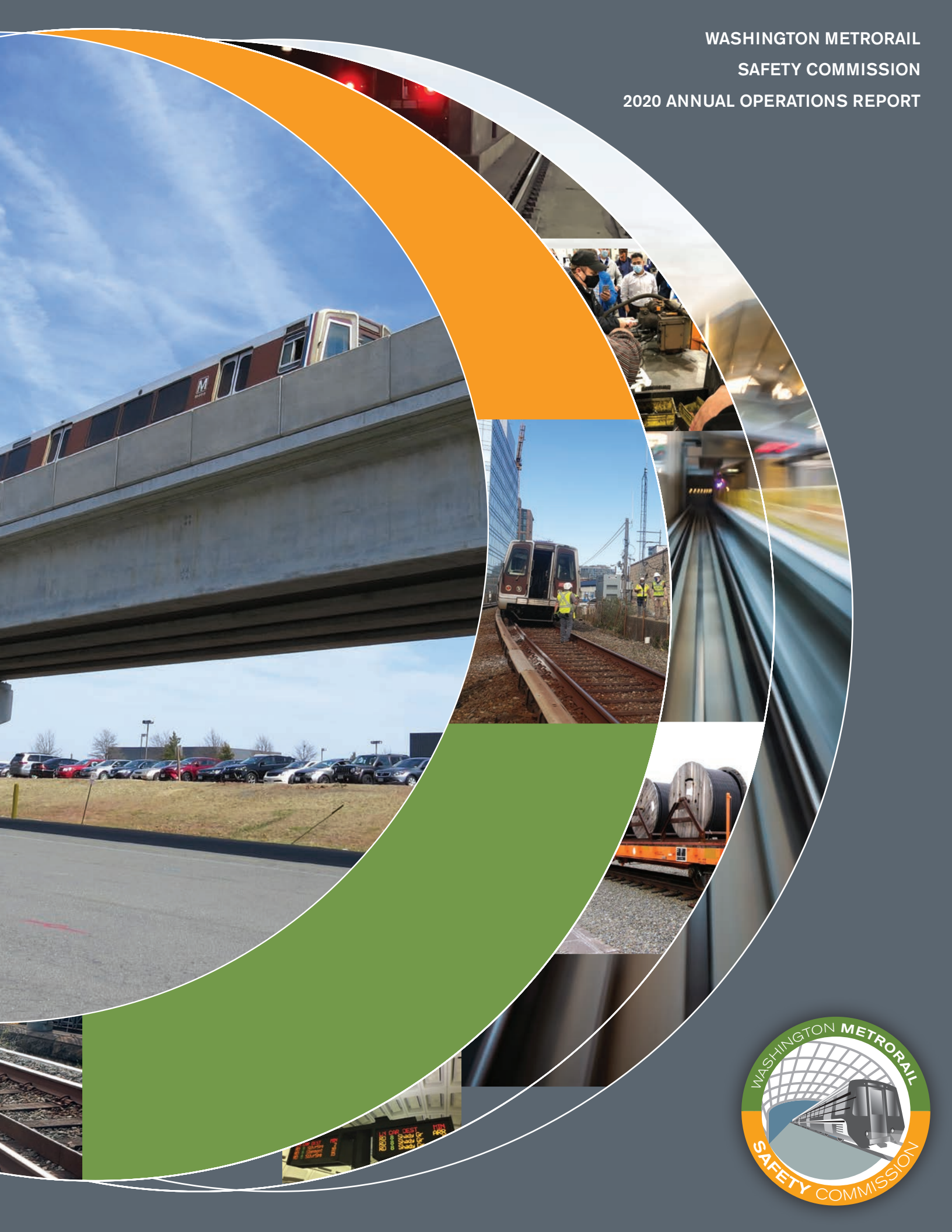
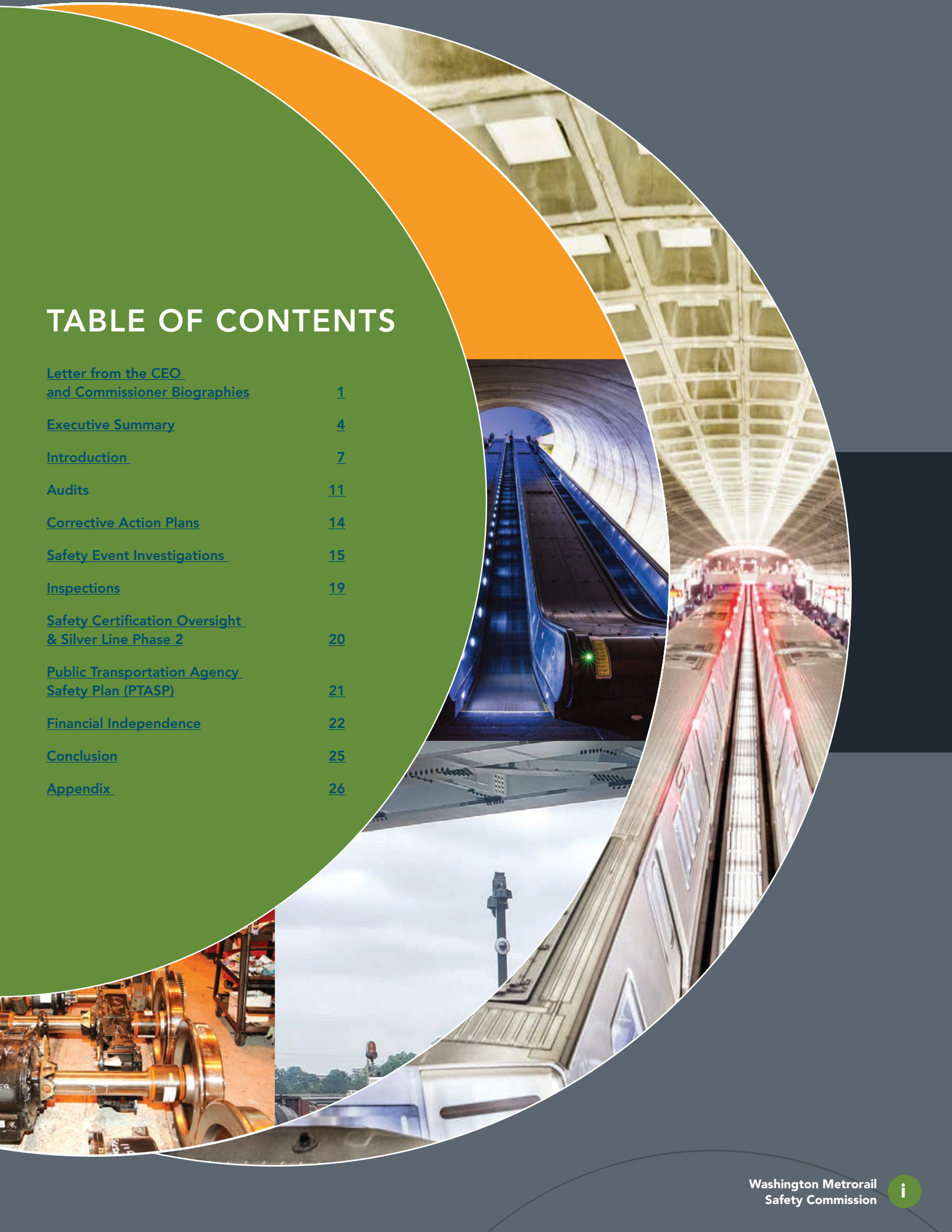


WASHINGTON METRORAIL  
SAFETY COMMISSION  
2020 ANNUAL OPERATIONS REPORT



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# LETTER FROM THE CEO

The Washington Metrorail Safety Commission (WMSC) had a very productive year that included expanding the WMSC's expertise, completing and issuing significant audits, and conducting other oversight activities such as responding to and investigating safety events in the Metrorail system, all with a focus on keeping our staff and others as safe as possible through COVID-19-related precautions.

Conducting this work safely allowed the WMSC to continue to make substantial progress and achieve major milestones as we worked with WMATA to help continually improve the safety of the Metrorail system for the riders, workers, first responders and others who depend on it.

For example, the WMSC's comprehensive, detailed Rail Operations Control Center (ROCC) Audit identified serious safety issues that Metrorail is now required to address through Corrective Action Plans.

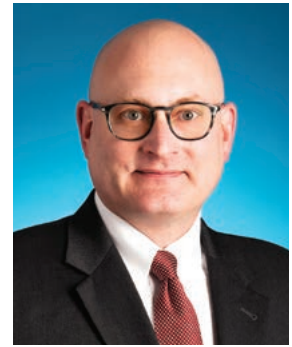
As the independent agency that oversees Metrorail safety with the support of direct funding from Maryland, Virginia, the District of Columbia and related federal grants, our streamlined and efficient team also handles finances and other aspects of our operations.

I would like to especially thank the commissioners for entrusting me and our dedicated team with such an important responsibility for the region and the nation's capital: ensuring WMATA is continually improving to make the Metrorail system as safe as possible for everyone.

Sincerely,



David Mayer, Chief Executive Officer



**THE WMSC  
CONDUCTS  
ITS WORK  
TRANSPARENTLY.**



# COMMISSIONERS

## CHRISTOPHER HART

(District of Columbia), Chair



Mr. Hart is chair of the Washington Metrorail Safety Commission. Chairman Hart earned a Bachelor of Science in Engineering and a Master of Science in Engineering

from Princeton University and a Juris Doctor from Harvard Law School. Chairman Hart has extensive experience working in transportation and specifically transportation safety issues in both the public and private sectors. He served as an attorney for the Air Transport Association of America, as an associate attorney for the law firms Peabody, Rivlin, Lambert, & Meyers and Dickstein, Shapiro & Morin, and as a managing partner for the law firm Hart & Chavers. He was also the Deputy Administrator of the National Highway Traffic Administration and as Assistant Administrator for System Safety and Deputy Director of the Air Traffic Safety Oversight Service at the Federal Aviation Administration. Chairman Hart served two terms as a member of the National Transportation Safety Board (NTSB) from 1990 to 1993 and 2009 to January 2018. He served as chairman of the NTSB from 2014 to 2017.

## GREG HULL

(Commonwealth of Virginia), Vice Chair



Commissioner Hull worked for many years as assistant vice president of the American Public Transportation Association (APTA). In this capacity he

conducted hundreds of public transit safety reviews, audits, and investigations and was responsible for the management of APTA's programs for safety, operations support, security, and emergency management. Prior to joining APTA, Commissioner Hull held various senior management positions with Calgary Transit from 1979 to 1999. He also served as secretary to the U.S. Mass Transit Sector Security Coordinating Council and chaired the European Commission's "SECURED Project" Advisory Board. Commissioner Hull is certified in system safety, system security and systems auditing and is a certified safety professional.

## DEBRA FARRAR-DYKE

(State of Maryland), Secretary-Treasurer



Commission Farrar-Dyke is Secretary-Treasurer of the Commission. She is a senior manager with over 30 years of successful, progressive

leadership in transportation and procurement management. Commissioner Farrar-Dyke is also a Commissioner on the Maryland Transportation Commission. Previously she was responsible for the Disadvantaged Business and Small Business Programs at the Washington Metropolitan Area Transit Authority. She also led oversight of operating and capital budgets preparation and implementation at Metro.

**THE WMSC RESPONDED TO THE SCENE OF THE MOST SIGNIFICANT METRORAIL SAFETY EVENTS IN 2020 INCLUDING A JULY 7 DERAILMENT NEAR SILVER SPRING STATION AND 6000-SERIES TRAIN PULL-APARTS IN OCTOBER AND NOVEMBER.**



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**MICHAEL J. RUSH**

(Commonwealth of Virginia)



Commissioner Rush serves as Senior Vice President, Safety and Operations for the Association of American Railroads (AAR). He serves as the rail industry's

liaison with regulatory bodies, including the U.S. Department of Transportation, the U.S. Department of Homeland Security, and the Environmental Protection Agency. Commissioner Rush oversees much of the rail industry's work on interchange standards, its homeland security plans, and environmental protection and safety programs. An expert in regulatory law, Mr. Rush has represented AAR in various regulatory agency and legislative activities, testifying at hearings and drafting comments, briefs, and Congressional testimony.

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**ROBERT BOBB**

(District of Columbia)



Commissioner Bobb earned a Bachelor of Arts in Political Science from Grambling State University and a Master of Science degree in

Business from Western Michigan University. He went on to earn a Certificate for Senior Executives in State and Local Governments from Harvard University's John F. Kennedy School of Government. Commissioner Bobb is known as a turnaround specialist. He stepped in as emergency financial manager of Detroit Public Schools. He also served as city administrator for the District of Columbia, among his many accomplishments.

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**SUHAIR AL KHATIB**

(State of Maryland)



Commissioner Al Khatib is a KCI Practice Leader for Transit, with expertise in capital programs, maintenance and regulations. He previously

worked at the Maryland Department of Transportation for more than 30 years, rising from a scheduling engineer on Baltimore's Light Rail to capital program manager for the Maryland Transportation Authority and deputy administrator and chief planning, program and engineering officer at the Maryland Transit Administration.

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**ROBERT LAUBY**

(Commonwealth of Virginia – Alternate)



Mr. Lauby is the former Associate Administrator for Railroad Safety and Chief Safety Officer for the Federal Railroad Administration and is currently an independent consultant

with RCL Rail Safety Consulting, LLC. He is a licensed mechanical engineer with more than 40 years of railroad and rail transit experience involving safety, security, accident investigation, and engineering. Mr. Lauby's career included positions at the National Transportation Safety Board, Knorr Brake Corporation (a railroad and rail transit brake supplier), and Conrail. He has led safety regulation initiatives and safety oversight programs, has been involved in the development of passenger rail safety standards, and has conducted railroad and rail transit accident investigations worldwide.

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The Commissioners would like to acknowledge their colleagues Mark Rosenker—who died on September 26, 2020 after an extended illness—John Contestabile, Christopher Geldart and Victoria Wassmer who have left the board since the publication of the last annual report, but who contributed immeasurably to the success of the Commission.

Mr. Rosenker had a distinguished and wide-ranging career that included serving in the Air Force and Air Force Reserve, at the White House and as Vice Chair of the WMSC. He was also a past chairman of the National Transportation Safety Board, worked at the United Network for Organ Sharing, which manages the U.S. transplant system, and worked as a nationally known transportation safety analyst. The WMSC extends the deepest condolences to his family.



## EXECUTIVE SUMMARY

# EXECUTIVE SUMMARY

The Washington Metrorail Safety Commission (WMSC) effectively navigated the challenges of 2020 by taking significant steps to identify Washington Metropolitan Area Transit Authority (WMATA) Metrorail safety issues that WMATA is required to correct. The WMSC worked collaboratively with WMATA to ensure Metrorail's proper development and implementation of corrective actions and other safety improvements. This was accomplished while focusing on keeping WMSC staff and others safe throughout the COVID-19 pandemic.

As the state safety oversight agency (SSOA) for the Metrorail system, the WMSC carried out its important work through a robust rail safety oversight program that includes audits, inspections, safety event investigations, Corrective Action Plan (CAP) oversight, safety certification oversight, and emergency management oversight.

**THE WMSC IDENTIFIED AREAS OF POSITIVE PRACTICES AT WMATA AND AREAS WHERE ADDITIONAL METRORAIL SAFETY IMPROVEMENTS ARE REQUIRED.**

Through our extensive oversight work in 2020, the WMSC identified areas of positive practices at WMATA and areas where additional Metrorail safety improvements are required. This report provides an overview of the WMSC's programs, operations and finances in calendar year 2020. Additional detail is also available in the WMSC's separate Annual Report on the Safety of the WMATA Rail System in 2020.

The WMSC increased the use of electronic data, analysis, reviews and video calls wherever possible and used only socially

distanced in-person interactions beginning in mid-March 2020. Public health precautions included a seamless transition to holding public meetings remotely in a way that expanded public access and maintained opportunities for public input.

The WMSC's sole priority is ensuring that WMATA fulfills its responsibility to continuously improve the safety of riders, workers and all others who depend on the system's proper maintenance and operations.

This singular focus guided the WMSC's thoroughly investigated and deeply researched Audit of the Rail Operations Control Center (ROCC) and related

findings that identified a toxic workplace culture detrimental to safety, staffing deficiencies, problems with procedures and checklists, and deficiencies in emergency preparedness and response, among other safety issues.

After the WMSC provided multiple rounds of feedback requiring Metrorail to make substantial revisions to its initial proposals, Metrorail developed and the WMSC approved 25 ROCC-related Corrective Action Plans tied to the ROCC Audit, ROCC findings issued in May 2020, and a December 2019 finding that there is dysfunction and chaos in the ROCC during unplanned emergencies. Due to the transformation required and the depths of the challenges, many of these CAPs will take years for Metrorail to fully implement, but interim steps are in place or are planned to mitigate risk.

The WMSC responded to the scene of the most significant Metrorail safety events in 2020 including a July 7 derailment near Silver Spring Station and 6000-series train pull-aparts in October and November.

The Commission also adopted and published final investigations into 35 safety events in 2020, including the investigation into an October 2019 collision between two trains near Farragut West Station that caused significant damage and disruption.

The WMSC oversees WMATA's safety certification process, which must be applied to, among other things, the Silver Line Phase 2 extension. The WMSC closely coordinates with the Metropolitan



**THE WMSC'S SOLE PRIORITY IS ENSURING THAT WMATA FULFILLS ITS RESPONSIBILITY TO CONTINUOUSLY IMPROVE THE SAFETY OF RIDERS, WORKERS AND ALL OTHERS WHO DEPEND ON THE SYSTEM.**

Washington Airports Authority (MWAA) and WMATA on the resolution of open items identified by the WMSC or through the safety issue identification process as well as work to ensure that required training and staffing plans are implemented. WMATA is allowed to open the line to passengers only after the WMSC concurs that WMATA's Safety and Security Verification Report (SSCVR) demonstrates that the proper safety certification steps have been followed and there is adequate staffing and training in place for safe operations.

In late 2020, WMATA completed and the WMSC approved WMATA's first Public Transportation Agency Safety Plan (PTASP) as required by the WMSC Program Standard and Federal Transit Administration (FTA) regulations. This plan replaces the System Safety Program Plan (SSPP) and includes the required transition to a Safety Management System (SMS) approach focused on safety promotion, safety policy, safety assurance,

and safety risk management. An SMS approach emphasizes the safety responsibility of each person from frontline workers through upper-level management to continually identify hazards, implement mitigations, and review of how those mitigations are working. This requires a positive safety culture and clear, accurate communication among individuals and departments within WMATA.

Funding from the District of Columbia, Maryland, Virginia and federal grants is critical to the WMSC's important work overseeing this safety approach and allows the WMSC to function as a truly independent oversight agency. The WMSC's first independent financial accounts audit following the first full fiscal year of independent operations demonstrated the WMSC is using these funds responsibly. As required by the WMSC Compact, this independent audit will be conducted annually going forward.

**FUNDING FROM THE DISTRICT  
OF COLUMBIA, MARYLAND,  
VIRGINIA AND FEDERAL  
GRANTS IS CRITICAL TO THE  
WMSC'S IMPORTANT WORK  
OVERSEEING THIS SAFETY  
APPROACH AND ALLOWS THE  
WMSC TO FUNCTION AS A TRULY  
INDEPENDENT OVERSIGHT  
AGENCY.**





# INTRODUCTION

# INTRODUCTION

The Washington Metrorail Safety Commission (WMSC) is the State Safety Oversight Agency (SSOA) for the Washington Metropolitan Area Transit Authority's (WMATA) Metrorail System.

The District of Columbia, Maryland and Virginia created the WMSC in 2017 with the approval of Congress and the president. After building an expert staff and conducting a thorough transition period with the Federal Transit Administration (FTA) oversight team that had direct safety oversight of Metrorail at the time, the WMSC's safety oversight program was certified in March 2019.

Since that certification, the WMSC has had 24/7 oversight of the Metrorail system. The WMSC carries out this important duty through inspections, audits, investigations, Corrective Action Plan oversight, safety certification oversight, emergency management oversight, and other activities that aim to help Metrorail continuously improve safety. Metrorail is required to comply with all WMSC directives, to implement Corrective Action Plans to address WMSC findings, to provide timely access to all information required by the WMSC, and to otherwise follow all requirements set by the WMSC in the WMSC's state safety oversight Program Standard.

The WMSC conducts its work transparently through public meetings of the commissioners who guide the work of the WMSC staff and take actions such as adopting final safety event investigation reports. Virginia, Maryland and the District of Columbia each appoint two commissioners and one alternate with backgrounds in transit safety, transportation, engineering or public finance to four-year terms. Each WMSC audit report, investigation report and inspection report is posted publicly on the commission's website, [WMSC.gov](https://www.wmsc.gov).

In 2020, the National Transportation Safety Board (NTSB) acknowledged the WMSC's significant safety oversight work that has been enabled by the support of Virginia, Maryland, the District of Columbia and the federal government when the NTSB closed two safety recommendations that were issued after Metrorail's fatal 2015 smoke accident near L'Enfant Plaza. The NTSB concluded that the WMSC's oversight is achieving the aims of their 2015 recommendations for the Federal Railroad

Administration (FRA) to take on safety oversight responsibilities for Metrorail, and therefore the NTSB closed the recommendations as no longer applicable due to the WMSC's robust safety oversight, the WMSC's enforcement authority, and the WMSC's expert staff with direct access to Metrorail data and personnel.

The WMSC's authority includes the ability, if necessary, to suspend service, suspend or remove individuals from safety sensitive positions, remove equipment from service, or to issue fines. Still, the WMSC endeavors to work with Metrorail to avoid or resolve safety issues in a collaborative manner whenever possible.

Elected leaders, staff and others including the governors of Maryland and Virginia, Mayor of the District of Columbia, those in the Maryland and Virginia General Assemblies, D.C. Council, local and regional bodies, the U.S. House of Representatives, U.S. Senate, federal executive branch agencies, and state, regional and local bodies have provided and continue to provide the fundamental support necessary for the WMSC to help ensure continuous safety improvement for all of those who ride or work on the Metrorail system.

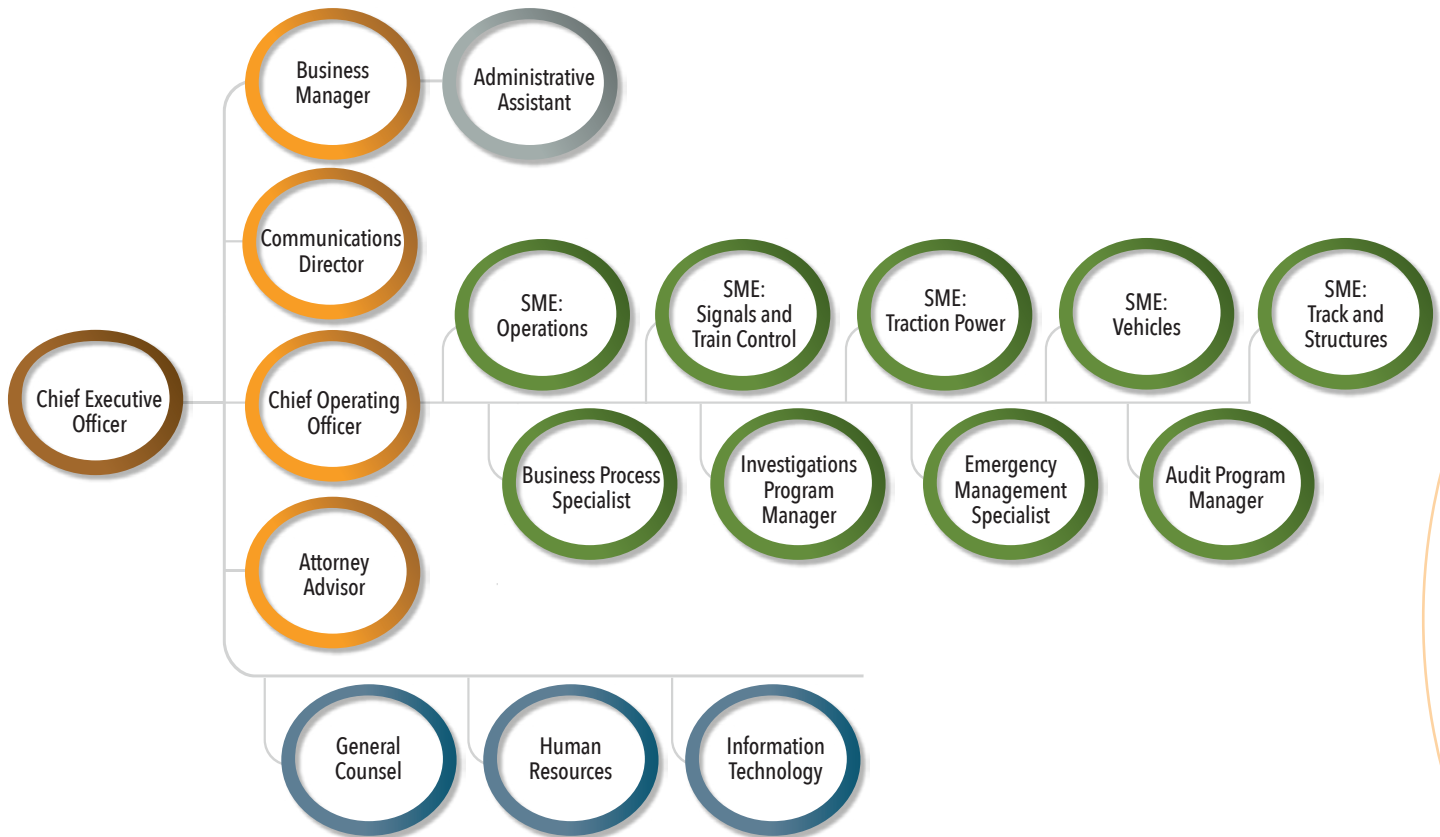
That support also includes the financial support required for the WMSC to be completely independent. As the only standalone state safety oversight agency in the nation, this financial support helps the WMSC continue to grow and develop its staff and organization to ensure continuing robust safety oversight that accounts for the full size, scale and complexity of the Metrorail system.

To help guide continued progress toward making Metrorail the safest possible system, this report and the separate WMSC annual report on the safety of the WMATA Rail System are provided to the Administrator of the Federal Transit Administration, the Governor of Maryland, the Governor of Virginia, the Mayor of the District of Columbia, the Chairman of the D.C. Council, the President of the Maryland Senate, the Speaker of the Maryland House of Delegates, the President of the Virginia Senate, the Speaker of the Virginia House of Delegates, WMATA's General Manager and each member of the WMATA Board. The reports are also published at [WMSC.gov](https://www.wmsc.gov).

**AS THE ONLY STANDALONE  
STATE SAFETY OVERSIGHT  
AGENCY IN THE NATION, THIS  
FINANCIAL SUPPORT HELPS  
THE WMSC CONTINUE TO GROW  
AND DEVELOP ITS STAFF AND  
ORGANIZATION TO ENSURE  
CONTINUING ROBUST SAFETY  
OVERSIGHT.**



## Commission Staff Organization Chart



## COVID-19

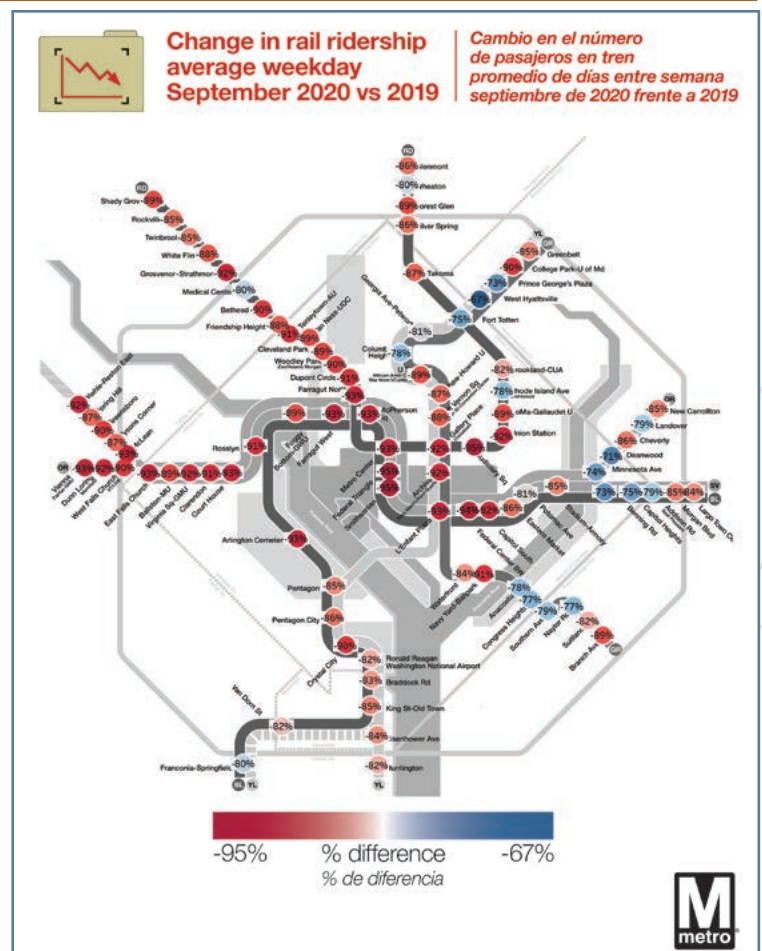
WMATA and the WMSC operated in 2020 with precautions in place to mitigate the risks posed by COVID-19.

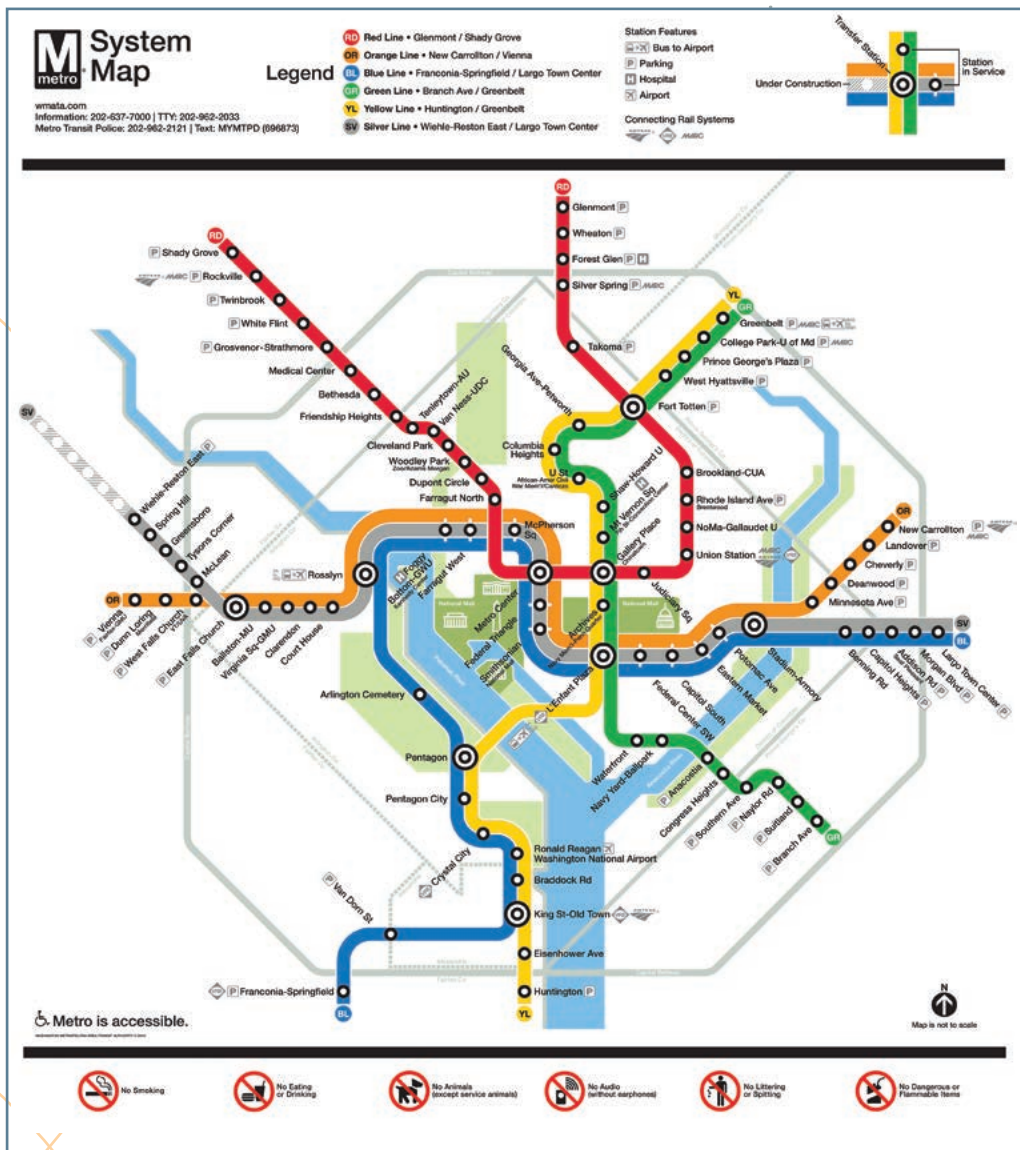
As the COVID-19 illness became a pandemic in early 2020, the WMSC quickly identified safety precautions required to protect our staff and others and, where possible, alternative ways to fully carry out our important oversight work.

The WMSC increased the use of electronic data, analysis, reviews and video calls wherever possible and used only socially distanced in-person interactions. These adjustments maintained both social distancing and the rigor of the WMSC's work, and in some cases even helped to improve internal processes.

For example, WMSC staff increased contact with certain Metrorail staff via regular video conferences, and the WMSC obtained access to and increased reviews of additional Metrorail electronic data and systems. The WMSC Compact requires Metrorail to provide the WMSC with complete, unfettered access to all of its systems and databases.

When major events occurred, such as the July 7, 2020 Silver Spring derailment, the two 6000-series train pull-aparts in the fall, and the fire at Metrorail headquarters in the spring, or when other in-person





investigations, inspections or observations were required, WMSC staff maintained all appropriate precautions while on site.

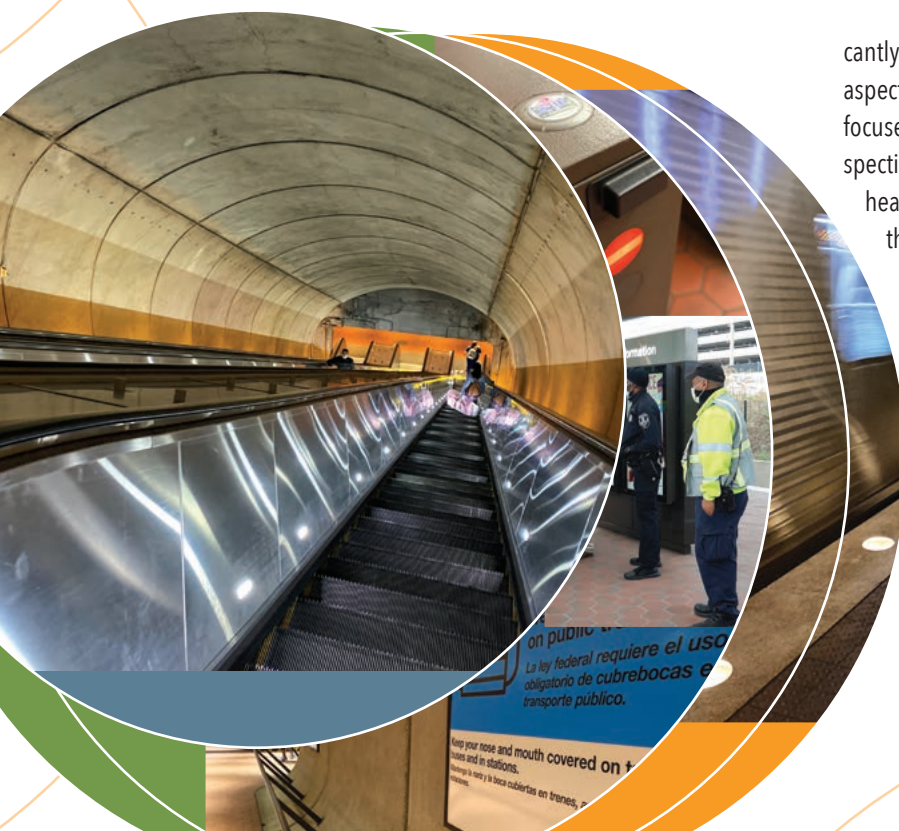
The WMSC also adopted specific protocols for any safety events that could have occurred where it would not be possible to maintain social distancing during a response, so that data would still be collected appropriately. No such event occurred, but this demonstrates the WMSC's preparation and contingency planning.

Public meetings of the WMSC commissioners quickly and seamlessly transitioned to remote, online interactions that still maintained transparency and the opportunity for public comment, while expanding public access to those who may not have been able to attend previous in-person meetings. These remote meetings include options to access via Zoom or YouTube, and real-time information sharing via Twitter. To ensure accessibility, the WMSC also provides closed captioning for these online meetings.

At WMATA, the precautions included asking customers to wear masks, using an alternating day work schedule for several months, and having some employees telework. Metrorail significantly reduced service, and ridership dropped significantly compared to 2019. Metrorail's precautions directly related to other aspects of rail safety since they helped to ensure that employees were focused, aware and available and able to carry out their operational, inspection and maintenance duties. Where the WMSC identified potential health related concerns during regular inspection or oversight work, the WMSC communicated those directly to WMATA.

The WMSC remains focused on ensuring that Metrorail understands the importance of maintaining and planning for a long-term state of good repair even during a period of lower ridership. WMATA completed some of this work during summer shutdowns, including a long-term closure in 2020 of the Orange Line's Vienna, Dunn Loring and East Falls Church stations for platform reconstruction.

The WMSC remains focused on ensuring that Metrorail understands the importance of maintaining and planning for a long-term state of good repair even during a period of lower ridership. WMATA completed some of this work during summer shutdowns, including a long-term closure in 2020 of the Orange Line's Vienna, Dunn Loring and East Falls Church stations for platform reconstruction.



## AUDITS

The WMSC completed three in-depth audit reports in 2020 and began work on three other reports that have been or will be published in 2021.

For each audit, a WMSC team conducts detailed reviews of documents provided by WMATA, reviews associated data or recordings, interviews WMATA employees or contractors ranging from front line workers to management staff in various departments, and may conduct additional follow-ups to verify information. Drafts of each audit report are then provided to WMATA for a 30-day technical review, and the WMSC incorporates any subsequent information provided in that review as appropriate prior to issuing a final report to WMATA and publishing that final report at WMSC.gov.

Since the WMSC conducts required triennial audits on a continuous basis over a three-year period by auditing one specific aspect of Metrorail's System Safety Program Plan (SSPP) or, now, Public Transportation Agency Safety Plan (PTASP) at a time, there is always audit work in progress.

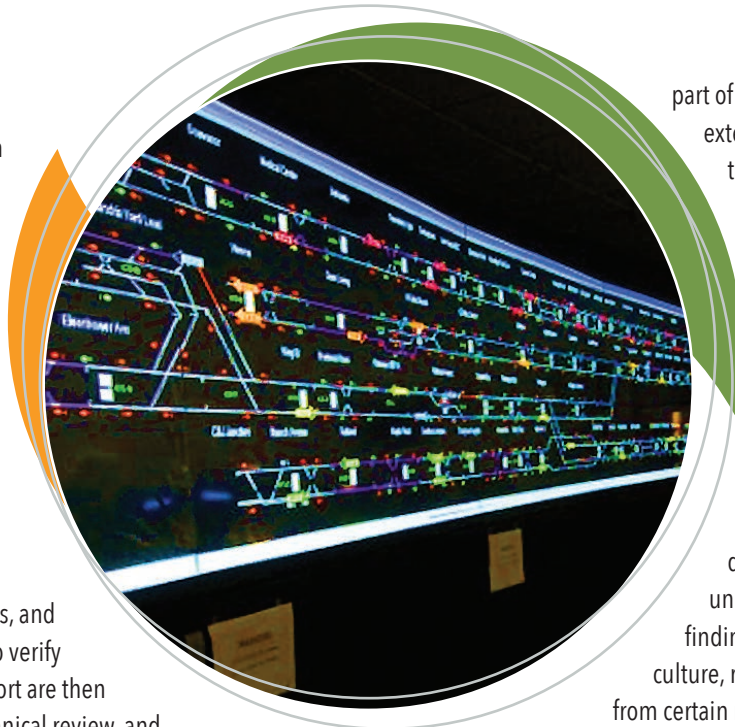
The WMSC schedules these audits in advance and provides that schedule to WMATA each time it is updated. For example, the audit schedule may be adjusted based on issues identified through the WMSC's other oversight work.

At the end of the three-year cycle, the audit reports are compiled into a single volume that represent a full audit of the Metrorail system.

### Rail Operations Control Center (ROCC) Audit

The Audit of the Department of Rail Transportation: Rail Operations Control Center (ROCC) identified the most significant safety concerns and required the most effort from the WMSC team of the audits completed in 2020.

To ensure this audit was complete and accurate, the WMSC spent months interviewing Metrorail staff, reviewing documents and recordings, and conducting independent observations of the ROCC. In an environment with a positive safety culture, everyone from frontline workers to the highest levels of management would feel able and obligated to raise safety concerns without fear of reprisal and would be fully trained on and permitted to follow all procedures and checklists. This is why it was so important to speak with so many of the Rail Traffic Controllers as



part of this audit process, and to provide extensive, specific detail to WMATA so that the safety issues can be fully addressed.

The ROCC Audit report, issued in September 2020, included 21 findings requiring corrective actions from Metrorail. These findings were in addition to three ROCC-related findings issued in May 2020 and a December 2019 finding that identified chaos and dysfunction in the ROCC during unplanned emergencies. These 25 findings identified a lack of a safety culture, resistance to improvements from certain managers, resistance to procedures, and the need for a total transformation of the ROCC.

After the WMSC issued the May 2020 findings related to uncoordinated manipulation of rail controller consoles, a lack of emergency ventilation fan training and playbooks, and management's direction to rush the restoration of power even when unsafe to do so, Metrorail leadership committed to the required changes in the ROCC. After further consideration in the weeks following the May findings, Metrorail removed the ROCC Director from that position, and assigned that individual to a different managerial role. The WMSC accomplished these initial safety improvement efforts in collaboration with Metrorail leadership.

As the WMSC made clear at that time, the WMSC appreciated Metrorail's step in the right direction, following our findings over the preceding seven months, to replace part of the management team with responsibilities for the Rail Operations Control Center. The four WMSC findings issued to that point had identified significant safety problems with management, training and certain other aspects of the ROCC. Metrorail was required to propose Corrective Action Plans that would develop, implement and sustain safety improvements.

As required by the WMSC Program Standard, the WMSC provided a draft of the ROCC Audit report to Metrorail in early August 2020 for a technical, factual review, and incorporated changes as appropriate.

The audit revealed a toxic workplace environment at the ROCC that has resulted in low employee morale and high employee turnover, both of which are serious safety issues. A number of the safety concerns identified in the audit are similar to those identified in previous investigations

**THROUGH THE WMSC'S FINDINGS, METRORAIL IS REQUIRED TO ESTABLISH AN ENVIRONMENT WITH AN EFFECTIVE AND LASTING SAFETY CULTURE.**

by the National Transportation Safety Board and the Federal Transit Administration, including as they relate to the fatal 2015 smoke accident near L'Enfant Plaza Station.

The detailed, 50-page report clearly explains the safety concerns, how the WMSC identified them, and what Metrorail management is required to fix.

For months, the WMSC directed revisions to Metrorail's Corrective Action Plans tied to the ROCC-related findings issued in December and May. These plans were later approved for implementation. The final Corrective Action Plan related to the 21 findings in the ROCC Audit was approved for implementation in late January 2021, and an updated, revised plan related to power restoration was approved for implementation in February 2021.

Through the WMSC's findings, Metrorail is required to establish an environment with an effective and lasting safety culture. The required substantial, lasting transformation will take time, but the WMSC will continue to work with Metrorail every step of the way to help achieve our mutual safety improvement goals.

## Track and Structures Audit

Work on the Track and Structures Audit was largely conducted in 2019, with the final report published in February 2020.

The 16 findings related primarily to inconsistencies in procedures and forms distributed to personnel, shortfalls in conducting certain types of inspections, and the need for improvements in job-specific training.

WMATA had no current set of protocols for maintenance of track and structures, did not follow any protocols for regular repair and installation work, and had no written training requirements for various positions. The audit also identified inconsistencies in heat-ride inspections required for safety during warm weather or temperature changes, no records that rail lubricators were being refilled as scheduled, and that workers received conflicting or outdated information if they received governing documents at all.

Metrorail was required to address these findings to ensure that track inspection and maintenance procedures and training preserve consistency and reliability of work performed.

As of March 1, 2021, 7 CAPs related to the Track Audit remain in progress, with scheduled completion dates into 2022.

## Roadway Worker Protection (RWP) Audit

In June 2020, the WMSC issued an audit of Metrorail's Roadway Worker Protection (RWP) program, the primary method of protecting employees, contractors, and – in emergencies – first responders and customers who must be on or near the tracks.

The RWP Audit identified areas of significant progress since the Federal Transit Administration (FTA) raised concerns in 2015 but found that additional steps are required to address ongoing safety gaps in the RWP program. The audit identified 11 findings requiring Corrective Action Plans to address shortfalls in policy, procedure or implementation.

This is an especially important issue at Metrorail because eight employees were struck and killed by oncoming trains between 2005 and 2010. In investigations of two of those deaths, the National Transportation Safety Board found that the worker protection rules were lacking. In 2010, Metrorail introduced an overhauled RWP program. Additional significant updates were added around 2017.

On the positive side, Metrorail has dramatically increased compliance with RWP training and certification policies. Metrorail's written RWP requirements and policies are generally sound.

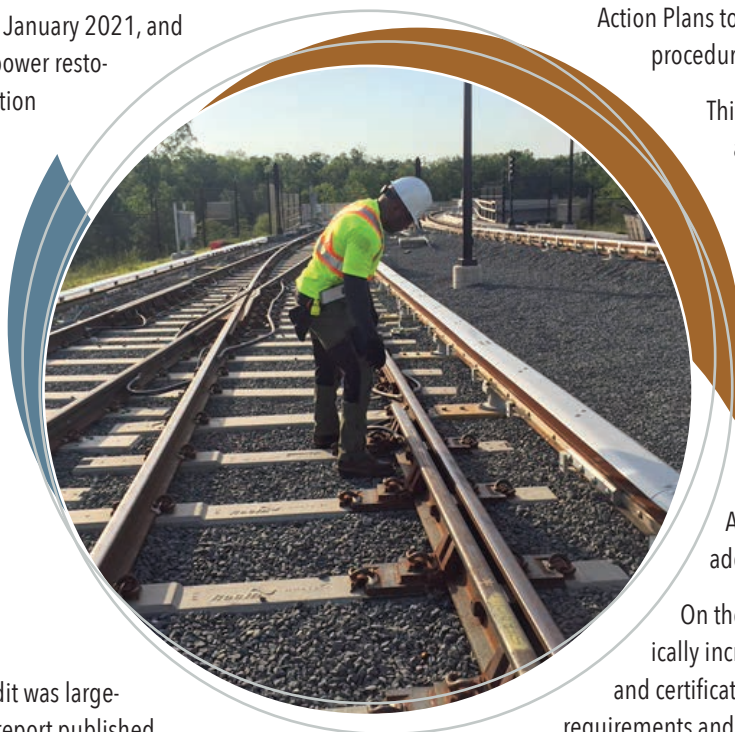
Still, the audit identified that there are at least pockets within WMATA where RWP rules are regularly not being followed, and that safety equipment is being used without current calibration. This could lead to injuries, accidents or fatalities. In a number of these cases – there has been "practical drift" with the actual actions in the field no longer matching established procedures. The audit also identified other areas where training reviews and improvements are required.

As of March 1, 2021, 7 CAPs related to the RWP Audit remain in progress, with scheduled completion dates through fall 2021.

Metrorail has a separate open CAP related to automated warning systems for workers and train operators when trains approach a work area.

## Elevated Structures Audit

The WMSC completed the majority of the work on an Elevated Structures Inspections, Maintenance and Repair Audit in the final months of 2020, and issued the final audit report with 12 findings and 1 recommendation in January 2021.



The audit determined that Metrorail has taken several positive steps toward improving a structural maintenance and inspection program that faced significant challenges over the past decade, but that work remains for WMATA to fully implement these steps, and that other improvements are needed to address potentially significant shortfalls.

Metrorail does not have basic load ratings for its elevated structures to confirm the number or type of trains or size of equipment that can safely traverse the bridges or stations, which creates a risk that the structures could be inadvertently overloaded. Combined with unduly complex data systems and the long lead time for major structural rehabilitation projects, the lack of load ratings also creates the risk of a significant delay in determining whether a structure is safe for train traffic if an inspector identifies a potential concern or an event unrelated to Metrorail, such as a collision or significant fire under, over or near a structure, occurs that could impact the load rating.

Metrorail recently developed and published its first Structural Inspection Manual but issued it without any standardized training on the revised policies and procedures for the employees who have to implement the manual.

Among the reasons departmental leaders cited for delaying training was the need to immediately make changes to the new manual due to concerns identified by different departments and frontline employees. That demonstrates a separate significant, ongoing problem facing Metrorail: siloed departments that do not fully coordinate on work instructions, materials or procedures.

As required, Metrorail proposed Corrective Action Plans for the findings in this audit in March 2021.

### **Roadway Maintenance Machine (RMM) Audit**

The WMSC completed the majority of the work on a Roadway Maintenance Machine (RMM) Audit in the final months of 2020 and issued the audit report in March 2021 that detailed 14 findings and 1 recommendation.

RMMs are the vehicles that move on the rails but that are not designed to carry customers.

The vehicles range from the basic, like flat cars used to carry tools, materials or equipment to a work site, to complex equipment such as the heavy-duty tamper used to maintain track geometry.

The WMSC identified several positive practices and a number of areas that require improvement.

The RMM Audit found that Metrorail must improve its implementation of required safety reviews of, and its training on, RMMs, which play a crucial role in the maintenance of the rail system.

The WMSC found that WMATA is not performing required safety certification for new RMMs and is not following proper safety approval or engineering change processes for existing RMMs. Safety certification process concerns have been identified in connection to RMMs dating back to at least 2013, and the WMSC has identified other projects where WMATA has also not followed this important process.

The audit also identified that Metrorail had not addressed safety certification of even the specific RMMs that were identified in a 2016 Tri-State Oversight Committee (TOC) audit.

**METRORAIL HAS TAKEN  
SEVERAL POSITIVE STEPS  
TOWARD IMPROVING A  
STRUCTURAL MAINTENANCE  
AND INSPECTION PROGRAM  
THAT FACED SIGNIFICANT  
CHALLENGES OVER THE PAST  
DECADE, BUT THAT WORK  
REMAINS FOR WMATA.**



training and certification processes related to both the operations and maintenance of RMMs must be improved. For example, equipment operators receive only basic initial and recertification training, and are not always fully trained on each type of vehicle they may be directed to operate. To the extent that Metrorail monitors an operator's certification on a specific vehicle, that certification never expires, and supervisors in the field have no way to confirm whether an operator has proper training for that vehicle.

Given the complexities of certain vehicles that can cause significant damage to track and structures or pose special risks to personnel and the small number of employees that management has confidence in to operate that equipment, Metrorail risks key safety and maintenance work coming to a halt due to insufficient succession planning and training.

Metrorail also does not have a single, clear, complete safety procedure for the securement of vehicles using chocks, and a service bulletin that was issued to some departments contradicts Metrorail's rules and procedures.

Metrorail is required to propose Corrective Action Plans for findings in the RMM Audit by late April 2021.

### Other audit work started in 2020

The WMSC conducts audits of various aspects of Metrorail on a continuous basis over a three-year period, so the WMSC is typically working on more than one audit at any given time.

Work began in late 2020 on the WMSC's audit of Metrorail's Automatic Train Control and signaling. Interviews and document reviews were completed in early 2021, with a final report expected in spring 2021.

At the end of 2020, the WMSC's Fitness for Duty

Audit team began its work to identify documents and interviews that would be required for review in 2021. Interviews and document reviews were conducted into spring 2021 and a final report expected to be issued later in 2021.

Other audits are also planned or underway as part of the ongoing triennial cycle detailed in the schedule that is shared with WMATA and updated as necessary.

## CORRECTIVE ACTION PLANS (CAPS)

**THE WMSC FOUND THAT WMATA IS NOT PERFORMING REQUIRED SAFETY CERTIFICATION FOR NEW RMMs AND IS NOT FOLLOWING PROPER SAFETY APPROVAL OR ENGINEERING CHANGE PROCESSES FOR EXISTING RMMs.**

After the WMSC issues findings, or if certain other conditions are met that are described in the WMSC's Program Standard, WMATA is required to propose Corrective Action Plans (CAPs) to address the identified safety gaps.

The WMSC carefully evaluates those CAP proposals to determine whether the CAPs as proposed by WMATA will, when fully implemented, address the safety issue.

If the proposal does not address the finding, the WMSC informs WMATA of the gaps and WMATA is required to change the proposed CAP so that it will address the finding. Once the WMSC approves a CAP, the WMSC monitors its implementation.

When Metrorail believes it has completed a CAP, WMATA submits documentation for WMSC review. If the WMSC determines that the CAP has in fact been completed, the WMSC closes the CAP.

After closure, the WMSC then monitors the issue through the regular inspection process.

More details on current CAP statuses are available in the WMSC's Annual Report on the Safety of the WMATA Rail System in 2020.





## SAFETY EVENT INVESTIGATIONS

# SAFETY EVENT INVESTIGATIONS

The WMSC is responsible for investigations into safety events in the Metrorail system.

The WMSC worked with Metrorail in 2020 to continually improve the investigation process and final investigation reports.

One improvement that has now been implemented at the WMSC's insistence is the scheduling of debriefs after significant events with first responders to identify areas that worked well and areas for improvement. The WMSC emphasized the importance of this industry best practice, which is required on properties regulated by the Federal Railroad Administration, to ensuring that all possible lessons are learned to mitigate future risks and to improve emergency response. WMATA's Chief Safety Officer and Fire Marshal have worked with the WMSC to establish these post-event debriefs for events with a significant fire rescue response, including the Farragut West Collision, Silver Spring derailment, and train pull-aparts described below that represent some of the most high-profile or significant safety events that occurred or that had investigations completed in 2020. This is another example of the WMSC's focus on continuous safety improvement.

## October 7, 2019 Farragut West Collision (Investigation completed in 2020)

The WMSC and WMATA completed an investigation into the October 7, 2019 collision of two eastbound trains on the Blue, Orange and Silver Line tracks between Foggy Bottom and Farragut West stations.

On October 7, 2019, the operator of the striking train received a zero speed command, but decided to move the train, contrary to governing rules, without informing and getting the necessary permissions from the Rail Operations Control Center (ROCC). When trains receive zero speed commands, the train operator is required to stop the train and stay in place. However, operators can still move the train at a slower speed, which is only allowed if train operator communicates with the ROCC and receives explicit permission to move the train at less than 15 mph until speed commands become visible again on the train operator's console.

The six-car striking train collided with a six-car stationary train at about 11 mph. Although neither train was carrying passengers, this was the first significant train collision in the Metrorail system since the 2009 Fort Totten collision that killed nine people.

Less than ten days after the accident, the WMSC held an engineering summit with Metrorail focused on activities completed and underway and their

application to limit the risk of similar incidents under zero speed commands in the future. The WMSC also issued findings related to movement with zero speed commands, leading to a CAP that Metrorail has committed to completing in 2021.

## July 7, 2020 derailment near Silver Spring Station

On July 7, 2020, two WMSC experts immediately responded to the scene of a derailment on the Red Line just outside Silver Spring Station.

They followed social distancing guidelines and gathered important information for our investigation.

The WMSC participated in interviews with the train operator, rail controllers and other WMATA employees, and reviewed other evidence such as video, audio and signal system recordings.

The investigation found that the train operator moved the train past a red signal at the north end of the Silver Spring Station platform just as the ROCC was sending a command to move the switch associated with that signal back to a normal (mainline) position. The train operator was able to do this without redundant protections intervening because the train operator had entered a code to acknowledge movement without speed commands in order to adjust the train to properly service the platform.

Due to the timing of the train passing the red signal, the lead car diverged from the mainline – heading into the pocket storage track where another train was stopped. The switch moved under the train, leading to the derailment.

31 passengers on the train were evacuated directly onto the station platform through the trailing cars of the train, which had not yet left the station. Because the derailment led to the rear door of the first car being blocked due to the misalignment of the first and second cars, the train operator and one passenger who was on the lead car of the train were evacuated through the front bulkhead door and walked back to the platform.

The WMSC also identified apparent radio equipment and communication failures following the derailment in the Rail Operations Control Center and at the derailment scene, and that Metrorail did not follow emergency response procedures.

Metrorail management provided conflicting direction to ROCC personnel on actions to take in response to the derailment and how to continue service elsewhere on the Red Line. Some of these directions violated emergency response procedures because they were not properly vetted by, routed through or approved by Montgomery County Fire and Rescue Services incident command.



Metrorail personnel on scene did not properly report to incident command, did not properly establish unified command, and did not properly report to the staging area, which led to WMATA personnel overcrowding the station platform.

The ROCC controller's microphone did not transmit multiple messages that were related to the emergency response.

Separately, the fire liaison in the ROCC also could not communicate on the fire department radio system with Montgomery County Fire and Rescue Services due to radio issues and the unavailability of a backup cell phone. At the time of this event, Metrorail had instituted changes that replaced the uniformed fire liaison officers in the ROCC with Metrorail Office of Emergency Management (OEM) staff.

The OEM staff, including this fire liaison, did not have any specific training or procedures to follow to carry out fire liaison duties. Regular staffing of the fire liaison position by uniformed officers of local fire departments resumed July 19, 2020.

## October train pull-apart, chain of custody finding

On October 9, 2020, a 6000-series Red Line train pulled apart into two separate sections – two cars at the front of the train, and six cars at the rear – shortly after it departed Union Station for NoMa-Gallaudet Station.

Due to the separation, the train operator had no way to make announcements to the passengers on the trailing six cars of the train.

Following the pull-apart, conflicting information and communications related to rail operations personnel, first responders, and others led to customers being stranded on and around the train for an extended period. As time went on, customers also opened emergency doors to provide air flow. There were 108 customers on board.

Customers were eventually escorted onto the roadway and back to the station to exit.

When the coupler assembly that pulled apart in this event was examined by WMSC and WMATA investigators the morning after the event, investigators identified that the assemblies had been manipulated between the time the rail cars had been stored immediately following the event and the time investigators had arrived to conduct their examination.

The WMSC was later told and saw evidence that, at the direction of supervision, a bolt was manipulated outside of the safety event investigation process. Among other evidence, the torque stripe on the bolt had moved

**THE WMATA OEM STAFF, INCLUDING THIS FIRE LIAISON, DID NOT HAVE ANY SPECIFIC TRAINING OR PROCEDURES TO FOLLOW TO CARRY OUT FIRE LIAISON DUTIES.**

clockwise, indicating that the bolt had been tightened. Any such manipulation of evidence related to a safety event investigation is prohibited by Metrorail Standard Operating Procedure (SOP) 800-01.

The WMSC had raised similar concerns before regarding the integrity of evidence related to safety event investigations, including in the recently published Rail Operations Control Center (ROCC) Audit Report and in safety event investigation report W-0042 regarding an August 15, 2019 collision on Largo Town Center Tail Track, Track 2.

This led the WMSC to find that Metrorail employees are not properly trained on and familiarized with their basic responsibilities related to safety event investigations. The WMSC required Metrorail to develop a Corrective Action Plan to address the fact that Metrorail puts the integrity of safety event investigations at risk by not following procedures requiring proper chain of custody and control of evidence as outlined in SOP 800-01 and Policy/Instruction 10.4/1, not following procedures requiring direct access for investigators to all information, recordings and other evidence that is potentially relevant to the investigation, and not fully training all personnel on the steps they are required to take when a safety event occurs.

In this event, the WMSC's participants in the post-event debrief with first responders helped identify that WMATA had not worked with first responders to establish a standard response for an event like a train pull-apart. That contributed to delayed response times, and to challenges in determining the best way to safely and efficiently get customers off the roadway and back to a station platform.

## November train pull-apart

On November 24, 2020, a 6000-series Red Line train departing Glenmont Station pulled apart into two sections.

WMATA operations personnel already on the train and those at the station effectively responded to the event and evacuated passengers, however the Rail Operations Control Center made two separate, conflicting calls to first responders that led to some initial confusion regarding the appropriate response.

12 customers and 2 WMATA employees were safely evacuated from the train. The WMSC has continued to follow-up with ROCC leadership regarding improvements to emergency response, including improvements to communications to the region's 911 centers.

The investigation into this event and the continuing investigation into the October 9 event, showed that 6000-series coupler inspections





WMATA conducted following the October 9 pull-apart were not comprehensive, and focused only on the specific bolts linked to the October 9 event.

The November 24 pull-apart appears to have had a similar proximate cause to the October 9 event, improperly torqued bolts, but the specific bolts that were loose were different in the two events.

The WMSC, WMATA and representatives from the coupler manufacturer participated in a detailed review of the coupler assembly involved in the November 24 event and of maintenance documentation that serves as the basis for coupler overhauls.

The investigation into the November 24 event also suggested that Metrorail had not followed its safety certification procedures for 6000-series railcar overhauls and did not have the proper tools to conduct those overhauls.

The investigations into the pull-aparts are expected to be completed in 2021.

## Other safety events

The WMSC also responded to, investigated, or adopted final reports on a number of other safety events in 2020.

This includes station overruns, red signal overruns, work vehicle derailments, collisions and customer evacuations.

The WMSC issued a finding requiring a Corrective Action Plan to address station overruns in fall 2019. Metrorail's approved Corrective Action Plan stated improvements would be in place by fall 2020, however Metrorail has still not completed this CAP.

Due to an increased prevalence of station overruns and the lack of progress Metrorail has made on this issue despite an existing Corrective Action Plan, the WMSC conducted its own review of station overrun events in late 2020 and presented the findings to WMATA safety officials to assist with the continuous improvement of safety in the system.

Even after Metrorail safety and operations officials outlined some steps to the WMSC that had been taken that were intended to address this issue, confusion and lack of progress continued.

As an open, past-due CAP, the WMSC pays special attention to these issues to emphasize to Metrorail the importance of efficiently and sufficiently addressing safety hazards. The WMSC's focus has driven progress, including a permanent order issued by WMATA setting a maximum speed for trains entering a station platform.

Station overrun and red signal overruns can have similar underlying causes or causes that create similar risks if Metrorail does not act to mitigate these risks.

For example, investigation W-0052 into improper roadway worker protection at East Falls Church Station on August 19, 2020 demonstrated a train operator entered the station, which was closed to customers, at 33 mph, above the 25 mph limit for trains that are bypassing a station, and could not see and had no warning that an advance mobile flagger was present requiring trains to stop for a safety briefing regarding workers on the tracks ahead. This event suggested that Metrorail had established the bypassing of stations without fully considering all hazards, and highlighted that Metrorail has a rule for train speeds for trains bypassing stations, but no rule for train speeds of trains entering stations where the trains are supposed to stop.

Other events included a February 14, 2020 event where a train was routed into an area where power was down to protect a train operator and a person who had been struck by a train at Minnesota Ave Station, a number of improper roadway worker protection events, collisions, and several derailments of maintenance vehicles.

A May fire on the upper floors of Metrorail's downtown D.C. headquarters, the Jackson Graham Building, caused significant damage and limited WMATA access to some of its own records for several months. It also highlighted the importance of backup facilities, since the Rail Operations Control Center was operating out of that building at the time of the fire, but WMATA was able to transfer operations not long after the fire back to the main ROCC facility at the Carmen Turner Facility in Maryland. The WMSC responded to the fire and coordinated with Metrorail's Chief Safety Officer on site. D.C. fire investigators determined the fire was accidental.

Events still under investigation include a December 13, 2020 event where two trains stopped near Fort Totten Station after the third rail de-energized due to breakers opening uncommanded. Customers were evacuated from the trains by Metro Transit Police officers without the use of a Warning Strobe and Alarm Device (WSAD). A WSAD is a critical piece of safety equipment when employees, contractors, first responders or customers are on the roadway because it sounds an alarm if third rail power is restored, thereby warning those on the roadway of this dangerous situation. This event also included a number of communication and coordination issues.

These events and other issues identified through the WMSC's oversight activities demonstrate that there is more work to be done to continue to improve safety at Metrorail, and show how important it is that WMATA continue to welcome our robust rail safety oversight and the transparency we seek. Our only interest is making Metrorail safer.





## INSPECTIONS

# INSPECTIONS

In addition to audits and investigations, WMSC experts regularly inspect various aspects of the Metrorail system.

These inspections and related oversight work include in-person activities, data and document analysis, communications monitoring and review, video review, and frequent discussions with Metrorail personnel from frontline workers to the General Manager and Chief Safety Officer.

The work includes frequent interactions with frontline and supervisory personnel and inspections of track and structures, signaling equipment, traction power equipment, railcars, rail yards, elevators and escalators and the Rail Operations Control Center. The WMSC also monitors Metrorail's emergency preparedness and emergency drills that are conducted in coordination with local, state and federal first responder agencies. Metrorail reduced the number of drills conducted in 2020 due to the public health emergency, but the WMSC closely monitored Metrorail's preparations for and operations during what would normally be large-turnout events such as July 4 and the January 2021 inauguration.

This included observing (virtual) emergency operations center activity, understanding operations plans and contingencies, and conducting regular oversight activities during the course of the event such as monitoring radio traffic and protocols.

Conclusions of WMSC inspections are communicated to Metrorail to reinforce positive practices and to identify issues that may need to be corrected.

For example, when Metrorail significantly reduced service starting in late March 2020, the WMSC identified and communicated a need to ensure that there were procedures in place to govern the maintenance of railcars that were kept out of service long-term. Metrorail later developed and implemented these procedures.

## SAFETY CERTIFICATION OVERSIGHT & SILVER LINE PHASE 2

The WMSC continued oversight in 2020 of the Silver Line Phase 2 extension from Wiehle-Reston East Station to Dulles International Airport and Loudoun County. The WMSC's oversight responsibilities include ensuring that the formal technical groups created to ensure safety considerations are integrated into project development and implementation through the safety certification process, and that any required actions identified through that process are carried out. The WMSC also conducts its own independent inspections and verifications of the project.

Before Silver Line Phase 2 can open to passengers, the WMSC must concur that the safety certification process, intended to lead to the highest practicable level of safety, has been properly carried out.



In 2020, this work included on-site visits, regular collaboration with the Metropolitan Washington Airports Authority (MWAA), WMATA and FTA project oversight teams, monitoring of safety working groups and rail activation planning, participation in emergency exercise planning, and an independent WMSC Fire Life-Safety Assessment of the project to identify areas where improvements were required or recommended.

The WMSC clearly communicated to WMATA that sufficient staffing and training must be in place, including in the Rail Operations Control Center, before the WMSC will be able to concur that the line is safe to open and operate.

The WMSC's Fire Life-Safety Assessment included inspections of each of the six new stations, the new rail yard and shop complex, a sample of three traction power substations, and other parts of the project. The assessment identified significant improvements compared to a similar stage on Phase 1, which had required additional adjustments just weeks before opening. The assessment did identify several areas for improved signage or communications, and some other hazards that MWAA, through its contractors, considered and is resolving in coordination with the WMSC and WMATA. The WMSC communicated this information to MWAA well in advance of expected opening in order to provide time to resolve the issues.

A Pre-Revenue Service Review for Silver Line Phase 2 construction – related to MWAA's areas of responsibility – and operations – related to WMATA's areas of responsibility – will be finalized prior to the line going into revenue service. These reviews track items, such as those identified in the Fire Life-Safety Assessment, to be sure they have been completed as planned.

The Silver Line extension is just the most prominent current example of the WMSC's safety certification oversight. The WMSC attends WMATA Safety Certification Review Committee (SCRC) meetings, and interacts with WMATA in relation to specific projects including Metrorail's radio system improvements, the new Potomac Yard Metrorail Station that is being added to the Blue and Yellow Lines in Virginia, Metrorail's new 8000-series railcars, and the restoration to service of stations that are shut down for extended periods for major construction work.

## PUBLIC TRANSPORTATION AGENCY SAFETY PLAN (PTASP)

As required by federal law and the WMSC Program Standard, WMATA adopted and the WMSC approved Metrorail's first Public Transportation Agency Safety Plan (PTASP) in 2020 after more than a year of close collaboration and feedback.

This is a significant step in Metrorail's safety journey that is required by the Federal Transit Administration and the WMSC. The PTASP is required to incorporate a comprehensive Safety Management System (SMS) approach that involves everyone in the organization in a proactive and data driven approach to safety.

This approach is intended to ensure continuous safety improvement and focus by providing a clear safety policy commitment from the top of the organization; a safety risk management and safety assurance process to proactively identify hazards, mitigate risks, identify ways to improve those mitigations, and to manage change; and a safety promotion requirement to ensure that everyone from frontline workers to upper level management are aware of and focused on the importance of safety rules, policies and procedures.

The WMSC understands that properly developing and providing the necessary training and direction required in a strong safety culture takes time. WMATA has begun to roll out the SMS approach in the Rail Operations Control Center (ROCC), with training for other departments expected in the future.

The WMSC is focused on ensuring that Metrorail is proactive, acts on, tracks and investigates hazards and risks as required by the SMS approach, and allows easy reporting of concerns from frontline workers, along with providing proper feedback and protections for those reports.

As the WMSC has identified in audit and inspection work, WMATA can do more to break down silos to ensure people across Metrorail are truly working together on every safety issue. This requires regular collaboration and interaction not just within departments, but also among people across multiple departments that have joint responsibilities in areas such as inspections, maintenance, operations and planning.

This is why the WMSC focuses most of its audits on functional areas rather than individual departments. The required safety outcomes will only be achieved if all departments involved are on the same page.

The WMSC has played a critical role by attempting to start to break down some of the barriers between Metrorail departments by bringing various departments together to address important safety issues such as railcar vibration and maintenance, and by ensuring that WMSC experts interact directly with individuals at all levels of the

Metrorail organization as required by federal regulations.

WMATA must make its employees at every level fully aware of and comfortable with what their role can be in making safety as a core value a reality.

The goal is to help limit ebbs and flows of safety performance and to keep safety a top priority at all times, not just in the immediate aftermath of a safety-related event.

The PTASP is an important step toward meeting this requirement.

The WMSC worked closely with Metrorail to direct necessary improvements during the plan's development, and the WMSC commissioners approved the plan in November 2020. WMATA is required to consider revisions to the PTASP annually.

### Program Standard

The WMSC regularly examines ways to continually improve its own oversight work, including through updates to the Program Standard, the document that establishes the requirements and expectations for WMATA's interactions with the WMSC.

In 2020, the WMSC updated the safety event reporting matrix in collaboration with WMATA to clarify reporting codes, ensure that all intended events are captured, and to improve data collection and analysis. The matrix lists the specific circumstances when Metrorail must provide formal notification of safety events, and outlines the minimum reports required as follow-ups for each type of event.

The WMSC always reserves the right to require additional investigations or actions, but this sets minimum expectations and standards based on more than a year of experience for the WMSC and WMATA of independent WMSC oversight.

As part of the WMSC's ongoing cooperation with Metrorail, the WMSC held a training session for Metrorail safety officers to explain the adjustments and to answer any questions.

After adopting that Program Standard revision, the WMSC began a broader Program Standard review process in order to extend these improvements to other areas by clarifying rules, processes and procedures so that the document is easier for WMATA and the WMSC to use as a reference.

This next revision is expected to be adopted in spring 2021.





## FINANCIAL INDEPENDENCE

# FINANCIAL INDEPENDENCE

Federal grants through the FTA, along with funding from the governments of Maryland, Virginia and the District of Columbia, have enabled fully independent operations of the WMSC. The WMSC is meeting all budgeting and financial reporting requirements. The first fiscal year of completely independent operations ended June 30, 2020. The approved budget for the current fiscal year, which began on July 1, 2020, is \$5.695 million, the majority of which covers staff costs such as salaries and benefits (see Appendix A for approved FY21 budget). The fiscal year 2021 budget and contributions better reflect long-term expectations for the jurisdictions based on WMSC operational experience and the significant use in fiscal year 2020 of carryover funds from the years prior to the jurisdictions resuming direct state safety oversight of Metrorail through the WMSC.

**WMSC STAFF ARE MEETING ALL REQUIREMENTS TO DEMONSTRATE THAT THEY ARE QUALIFIED TO PERFORM THEIR FUNCTIONS BASED ON APPROPRIATE TRAINING.**

On May 1, 2020, the FTA confirmed the award of \$3.6 million through the federal fiscal year 2018 safety oversight grants, including both new funding and unspent funds in prior years that had been held by the Metropolitan Washington Council of Governments until the WMSC could be established and certified. To be good stewards of this important funding, and to provide predictability for Virginia, Maryland and District of Columbia, the WMSC utilizes five-year spending plans for FTA grant awards. Any amounts not covered by federal grants are divided equally among the jurisdictions.

The draft fiscal year 2022 budget and work plan was developed in fall 2020. The WMSC coordinated this planning with the District, Virginia and Maryland in order to balance the staffing and resources needed to continue the WMSC's robust safety oversight program with funding available. The WMSC and jurisdictions were able to strike an appropriate balance that is expected to fully meet safety oversight needs in FY22 while adjusting some spending to allow for a budget reduction compared to FY21. A final budget is expected to be determined in spring 2021.

The WMSC remains adequately staffed with a streamlined team of experts in various subject areas and other key roles, but funding needs may increase in the future to make up for the near-term reductions given the scale of the WMSC's responsibilities on behalf of the jurisdictions.

The WMSC added a number of key positions in 2020 to complete the initial establishment of the organization including Investigations Manager, Emergency Management Specialist, Audit Program Manager and Communications Director. As the WMSC regularly assesses its workload requirements, the WMSC may determine in the future that additional positions are needed.

Regular annual independent financial audits are planned in accordance with all applicable standards. The first independent audit, covering FY20, was completed in early 2021 and is available at [WMSC.gov](https://www.wmsc.gov). The Commission is on firm footing heading into fiscal year 2022.

Also in 2020, the FTA concurred with the WMSC's Title VI program regarding nondiscrimination and the WMSC's Disadvantaged Business Enterprise (DBE) program goal and methodology. The plans were approved by the WMSC commissioners in 2019. These programs are in effect into 2022.

## Continuing education, training and awareness

Safety requires constant learning and the embrace of any new information that brings even incremental improvements to safety performance.

WMSC staff are meeting all requirements to demonstrate that they are qualified to perform their functions based on appropriate training. Over the course of 2020, staff made enormous progress toward completing all remaining training credentials required by FTA regulation, which includes individual progress on the Public Transportation Safety Certification Training Program (PTSCTP). As of March 2021, seven WMSC staff members have now completed the PTSCTP program, with five others making significant progress toward completing the program as soon as 2021. These individuals have all completed this program more than a year earlier than required by federal regulations. At the conclusion of 2020, the Chief Executive Officer, the Chief Operating Officer and two



other members of the WMSC staff had also completed Transportation Safety and Security Plan (TSSP) certification. The Certificate of Completion indicates that the individual has a broad-based knowledge of the safety and security principles applicable to transit system safety, operations and management.

WMSC staff also participated in other courses offered through the National Transportation Safety Board (NTSB) Training Center, FEMA, and the Transportation Safety Institute, and participate in workshops and forums including the FTA's Joint State Safety Oversight and Rail Transit Agency Workshop.

Similarly, the WMSC commissioners appointed by Maryland, Virginia and the District of Columbia have expertise in the areas of transportation safety, transportation, engineering and public finance.

In March 2020, the commissioners re-elected former National Transportation Safety Board Chairman Christopher Hart as Chair, elected former assistant vice president of the American Public Transportation

Association (APTA) Greg Hull as Vice Chair, and re-elected financial expert Debra Farrar-Dyke as Secretary-Treasurer.

## Transparency, Public Input and Safety Concerns

In addition to safety concerns identified by WMSC inspections, audits or investigations, the WMSC receives and responds to safety concerns submitted by members of the public.

For example, the WMSC received and quickly analyzed a safety concern submitted through our reporting system related to incorrect emergency exit signage at the Reagan National Airport Station. The WMSC confirmed

the concern was valid and conveyed the issue to the WMATA Fire Marshal who acted quickly to correct the signage and resolve the issue.

In an example of information gathered in other ways, the WMSC became aware via social media of train door closing chimes and announcements on 7000-series trains not functioning properly. The chimes and computerized "doors closing" announcements are supposed to sound at the

**THE WMSC COMMISSIONERS APPOINTED BY MARYLAND, VIRGINIA AND THE DISTRICT OF COLUMBIA HAVE EXPERTISE IN THE AREAS OF TRANSPORTATION SAFETY, TRANSPORTATION, ENGINEERING AND PUBLIC FINANCE.**



start of the doors closing cycle, but, in these incidents, doors closed without the chimes and announcement on several 7000-series trains. The door chimes and announcements are designed to alert vision impaired passengers that the train doors are about to close. When doors close before the chimes sound, visually impaired passengers could get trapped in the doors and be injured. When the WMSC discovered this in October 2019, the WMSC asked WMATA to conduct an investigation, which later identified a software design issue. The software design did not account for a door open command and door close command occurring within one second of each other. Metrorail developed and tested a software update to address the issue. The WMSC provided the results of this special review at a public meeting in March 2020.

Metrorail employees or contractors may also reach out to the WMSC with concerns via email, phone or social media.

For example, in October 2020, an employee raised a concern about roadway worker protection on the Red Line near Union Station. The WMSC quickly investigated and concluded that the employee raised a valid concern regarding a lack of clearance for Metrorail employees on the right of way to stay clear of passing trains. This employee also raised safety concerns of insufficient line of sight in this same area.

The WMSC directed Metrorail to require foul time – a higher level of Roadway Worker Protection – on Track 1 at the interlocking in this area until the correct level of permanent protection could be identified.

Metrorail complied with the WMSC's 24-hour deadline for that interim mitigation and followed up as required to make permanent changes.

**THE WMSC EXISTS TO ENHANCE THE SAFETY OF EVERYONE WHO DEPENDS ON METRORAIL.**

**THIS WMSC'S WORK INCLUDED SIGNIFICANT DEDICATION FROM THE WMSC STAFF TO ENSURE OVERSIGHT CONTINUED TO IMPROVE IN 2020 EVEN IN THE FACE OF CHALLENGES POSED BY COVID-19.**

The WMSC reviews and appropriately addresses every safety concern that is received.

The WMSC encourages Metrorail employees and contractors to report any safety concerns to WMATA's Safety Hotline, and encourages employees, contractors and members of the public to continue to report safety concerns to us at the WMSC via email, phone, social media or WMSC.gov.

## CONCLUSION

The WMSC continues its work to guide WMATA toward continuous safety improvement for the Metrorail system.

This work included significant dedication from the WMSC staff to ensure oversight continued to improve in 2020 even in the face of challenges posed by COVID-19. The WMSC conducted major oversight work and in-depth investigations while maintaining all safety precautions.

The WMSC identified areas where Metrorail made progress in 2020, but also areas like the ROCC that require significant, sustained attention. This demonstrates the safety journey that WMATA must remain committed to.

Our mission depends on Metrorail's cooperation and the integrity of the information available. Given our joint desire to enhance Metrorail safety, a cooperative dynamic is essential. The WMSC's staff and the staff of Metrorail continue to cement this framework of respect and cooperation. Both organizations are committed to advancing safety for all Metrorail riders, employees, contractors and others.

The WMSC exists to enhance the safety of everyone who depends on Metrorail.





## APPENDIX

## APPENDIX

### WMSC FY2021 BUDGET:

#### STAFF, OFFICE SPACE AND RELATED COSTS—SUBTOTAL: \$4,015,840

##### Staff compensation (salaries, benefits)—\$3,300,000

Cost reflects salaries and benefits for fifteen (15) full-time employees along with a medical benefits factor of 33 percent and annual performance and market adjustments to ensure retention of core staff. Staff numbers reflect personnel and organizational manpower necessary to ensure the WMSC can carry out its mission and maintain level of effort required by FTA's certification.

##### Commission meetings (stipends, expenses, catering)—\$50,000

Cost reflects statutorily obligated stipends and travel expenses, fees, meeting space, catering, and meeting materials.

##### Office equipment (furniture, supplies)—\$250,000

Cost reflects furniture purchase of \$100,000, purchase of office equipment (e.g., laptops, peripherals, monitors/screens for viewing technical drawing, plotters, and printers) of \$70,000, office collaboration equipment of \$10,000, office supplies of \$10,000, and miscellaneous of \$60,000.

##### Office space lease—\$200,000

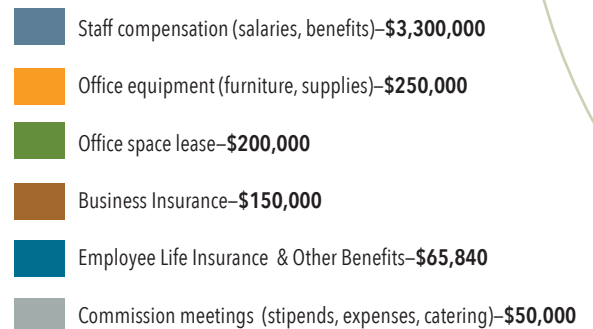
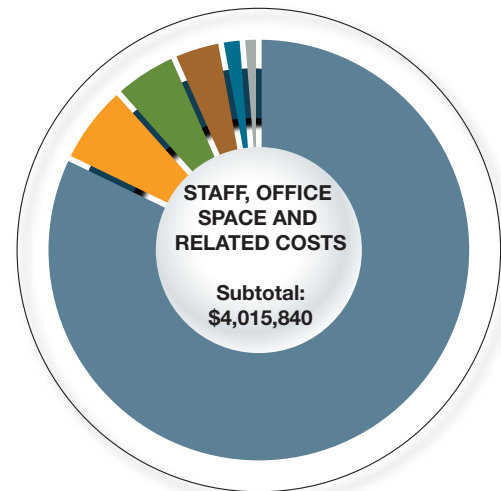
Cost reflects annual lease of new office space, and estimated cost of move to new office space.

##### Business Insurance—\$150,000

Cost reflects annual premium of approximately \$110,000 for liability, acts and omissions policy and approximately \$40,000 reserved for any additional insurance needed.

##### Employee Life Insurance & Other Benefits—\$65,840

Cost reflects employee life insurance of \$18,000, SmartBenefits of \$4,240, dental of \$1,600, and tuition reimbursement of \$42,000 annually.



## CONTRACTORS—SUBTOTAL: \$1,400,000

### Legal Services—\$425,000

Cost reflects annual monthly legal services bill of approximately \$35,000. Legal services are necessary to address voluminous issues related to standing up new oversight agency: from day-to-day start-up business concerns to complicated questions of agency's enforcement powers.

### Organizational management (HR, accounting)—\$325,000 to reflect reduced services in HR efforts and procurement.

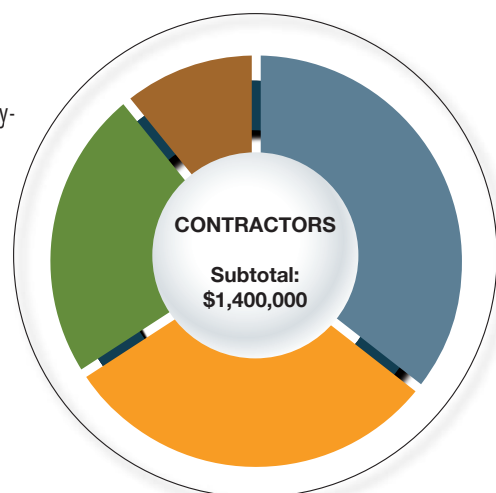
Cost reflects outside contract support for human resources, accounting, procurement, financial management, and employee benefits management support. Cost reflects the need to have outside support as the WMSC is the only state safety oversight agency not housed in another state agency, and, as such, human resources, accounting and other functions must be contracted out to ensure efficiencies and save cost of hiring full-time personnel.

### IT support services—\$150,000

Cost reflects support for general corporate IT services, including establishing unique interfaces for information utilization of extensive WMATA-owned databases, ensuring cyber protocols are maintained and that services like website maintenance are performed. As with organizational management, IT staff is being contracted out to ensure efficiencies and save costs.

### SSOA staffing support—\$500,000

Cost reflects additional contracted staffing support for non-permanent personnel necessary to provide specialized, uniquely focused technical expertise (\$150,000), staffing augmentation when resignations and retirements occur (\$150,000), and staffing augmentation for special large-scale audits and high-profile investigations (\$200,000).



## TRAVEL AND TRAINING—SUBTOTAL: \$150,000

### Training (e.g., TSI, industry workshops, conferences)—\$125,000

Cost reflects training for commissioners and staff to obtain transit safety and security certification, training on oversight of drug and alcohol requirements, training on fatigue and human factors in transportation, training on accident investigations, training on oversight of major capital projects, training on investigation interview techniques, training through DOT, FTA and other entities. Cost reflects travel expenses, accommodations and per diem per GSA publications and schedules. Cost reflects education and certifications in TSSP, auditing, quality control, Six Sigma, PMP, etc. Cost estimate is \$45,000.

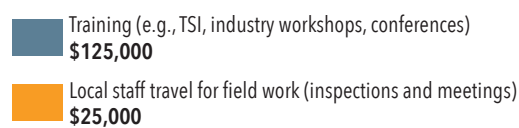
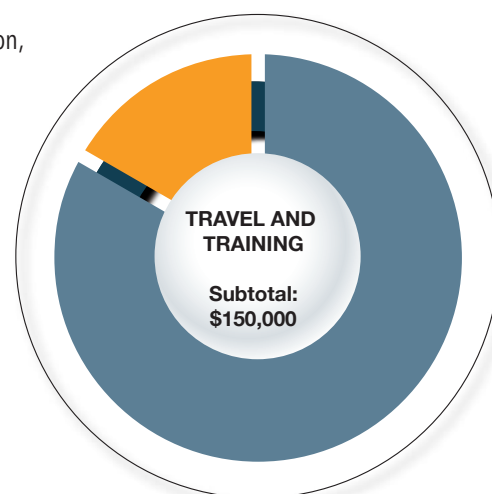
Cost reflects travel for non-local training (accommodations, per diem, travel costs) of \$50,000.

Cost reflects registration fees of \$30,000.

### Local staff travel for field work (inspections and meetings)—\$25,000

Note, cost excludes purchase of vehicles, which, with maintenance, could be approximately \$90,000 or more. Cost reflects reimbursement for travel associated with field work in the National Capital Region throughout Northern Virginia, the District of Columbia and Montgomery and Prince George's Counties using the GSA schedule of mileage reimbursement rates.

Cost reflects an average monthly local travel cost of \$200/per staff member.



## EQUIPMENT—SUBTOTAL: \$130,000

### IT equipment—\$75,000

Cost reflects acquisition and maintenance of equipment to support the WMSC's IT infrastructure in the new office, the acquisition of mission-specific software, and the acquisition of certain licenses and technical support.

### Manuals, publications, professional licenses—\$15,000

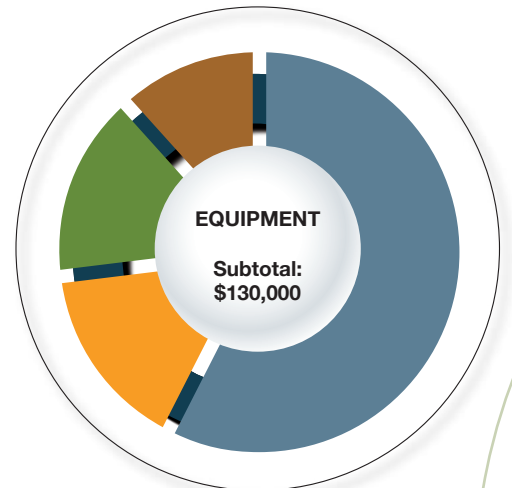
Cost reflects maintaining professional licenses, purchase of various industry technical manuals, maintaining professional memberships and industry organization memberships, and fees for services and organizations that provide access to industry information.

### Personal protective equipment—\$20,000

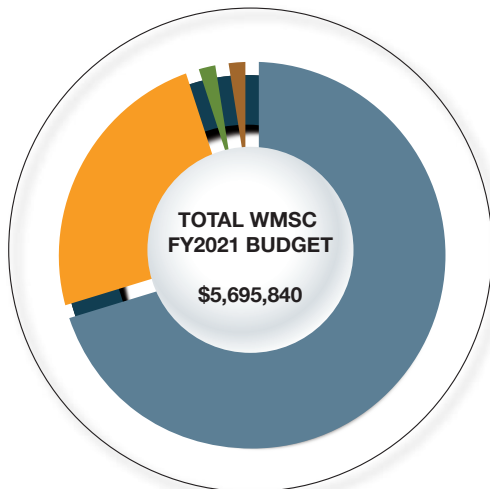
Cost reflects purchase of weather-related personal protective equipment for most staff, including special equipment for work in proximity to high voltage. The total approximates cost per employee plus spare equipment to have on hand.

### Tools and instruments—\$20,000

Cost reflects acquisition of reporting tablets, acquisition and testing of radios, speed monitoring equipment, track measuring equipment, cameras, and other electronic devices for automatic train control and traction power monitoring, and specialized work equipment for individual SMEs that are needed to conduct field inspection activities.



## TOTAL FY2021 BUDGET—\$5,695,840



### FY2021 FUNDING SOURCES

The WMSC is funded by federal grants, carryover funds, and the equal support of the District of Columbia, State of Maryland and Commonwealth of Virginia.

After federal grants and carryover funds, each jurisdiction supported the WMSC FY21 budget with \$1,327,269.





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