Safety and Operations Committee

Board Information Item III-A

SMS Status Against Plan and Safety Culture Survey

Washington Metropolitan Area Transit Authority

Board Action/Information Summary

○ Action ◉ Information	MEAD Number: 203421	Resolution: ○ Yes ◉ No

TITLE:

Safety Management System Implementation Update

PRESENTATION SUMMARY:

This presentation describes the strategy for implementing Metro's SMS in accordance with the Agency Safety Plan (ASP) that has been approved by the Board of Directors.

PURPOSE:

To keep Metro leadership informed and engaged on the strategy and progress associated with implementing SMS.

DESCRIPTION:

WSP assists with the revision of the Metro Safety Rules and Procedures Handbook (MSRPH), the Roadway Worker Protection (RWP) program and the Incident Management Framework. **MITRE** assists with the development of the Voluntary Safety Reporting Program and the Safety Culture Assessment

Key Highlights:

Update on 2022's SMS Implementation Milestones and presentation of planned activities for 2023.

Background and History:

In 2016, the FTA published 49 CFR Part 670 *Public Transportation Safety Program*, which states "The FTA has adopted the principles and methods of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation in the United States." (49 C.F.R. § 670.3). SMS is a comprehensive, collaborative approach that brings management and labor together to build on the transit industry's existing safety foundation to continuously improve how safety risks are identified and assessed with mitigating actions taken before an accident or incident occurs.

Two years later, the FTA published 49 CFR Part 673 *Public Transportation Agency Safety Plan,* that required transit operators that receive federal funds

(under the FTA's Urbanized Area Formula Grants) to develop ASPs that specify how SMS will be implemented over the course of a three-year period. Metro's third ASP was approved by the Board on September 22, 2022, which included its Strategic Roadmap. The SMS Strategic Roadmap is organized around the four pillars of SMS: Safety Policy, Safety Risk Management (SRM), Safety Assurance, and Safety Promotion.

Discussion:

Please note that the realignment of Metro's organizational structure created the Department of Safety and Readiness, of which the Department of Safety (hereafter Safety) is a part.

Strategy Summary:
Safety began the roll-out of SMS at Metro in 2021 by partnering with the Rail Operations Control Center (ROCC) Transformation Team. After setting the standard of SMS implementation there, SMS implementation expanded to other operational departments in CY2022. The following summarizes the key accomplishments over the past year and implementation milestones targeted for completion in CY2023.

Safety Policy
Over the course of CY2022, the re-organization of Safety continued. New job descriptions were created to better describe the capabilities required to implement SMS and 44 new individuals joined the department, a headcount increase of 73%. This effort will continue into 2023, as several key positions are still being recruited and developed.

The Policy Instruction Manual was updated to include a Safety Policy, formalizing Metro's commitment to implementing SMS and Just Culture principles. In addition, Metro's ASP was approved by the Board and certified by the Washington Metrorail Safety Commission (WMSC) and transmitted to the FTA by December 2022, in compliance with 49 CFR Part 673. A contractor team was onboarded in 2022 to assist with the development of a cross-departmental business process to evaluate the safety risks involved in the introduction of new technology.

In 2023, these efforts are planned to be formalized and cemented into Metro's policies and processes. All policies will be reviewed in light of Just Culture principles, and safety values will be embedded in our performance management and job descriptions. Building upon the technology needs identified in 2022, Safety will begin partnering with the Department of Digital Modernization to prepare systems to support SMS implementation.

Safety Risk Management
Building on the momentum of SMS implementation in the ROCC, three additional departments implemented SRM in 2022: Rail Transportation,

Supply Chain Management and Facilities Management. SRM has now reached 14% of Metro's operational staff. In 2023, Safety aims to complete the implementation throughout the operations and infrastructure organizations.

The revision of the MSRPH continued with the assembly of the new Safety Standards into a single document. In addition, the Roadway Worker Protection program was assessed against Federal Railroad Administration requirements and revised for consistency with international best practices. These activities will continue in 2023 with the goal of completing an overhaul of all Safety rules and procedures and the development of a strategy to establish a Line Operations Safety Audit Program.

Safety partnered with multiple departments to launch the implementation of the Safety Certification Corrective Action Plan CAP and begin the revision of the Safety and Security Certification Program Plan. In 2023, these revisions are intended to be incorporated into the Project Implementation and Development Manual that guides all capital projects. In 2022, workplace safety was also enhanced through the revision of Metro's Hearing Conservation and Respiratory Protection programs. These programs, as well as additional applicable federal programs, are planned to be captured in Metro's first Occupational Safety and Health Manual in 2023.

Safety Assurance

Prior to Safety's reorganization, there were a variety of inspections programs —Roadway Worker Protection, Fire and Life Safety, and Stations—each of which was implemented differently, presenting an opportunity to coordinate and standardize inspection processes and schedules for the purpose of improving their overall effectiveness. In 2022, Safety standardized the inspection programs, established a tracking process, and recruited staff to ensure quality implementation. These efforts are planned to continue in 2023 with the launch of an integrated safety inspection program. Similar improvement activities took place in the Investigations Office, including the expansion of its capacity to conduct inquiries into Bus and MetroAccess incidents. In 2023, the investigation team intends to incorporate Just Culture principles and processes into their work.

Early in 2022, the Incident Management Framework was established to standardize the roles, responsibilities and sequence of activities of Metro personnel when responding to safety incidents. Extensive training activities ensued and will continue into next year to ensure that all personnel across the system are informed and capable of fulfilling their responsibilities. In addition, the Mission Assurance Coordinator and Primary Responder roles were formalized with procedures, checklists and guidance documents. In the coming year, a full competency management framework will be developed to help ensure the quality of incident response coordination they provide.

In April 2022, Metro partnered with MITRE, a non-profit organization, to enhance its Voluntary Safety Reporting Program. A mechanism to consolidate the reports received and integrate them into the inspection program was developed. In the coming year, the overhaul of this program should be completed.

Safety Promotion
MITRE also supported the assessment of Metro's Safety Culture in the fall of 2022, with the final report delivered to senior leadership in December 2022. In response to the report, Metro's leadership intends to revise its disciplinary processes to align with the principles of Just Culture. This activity was just one part of Metro's Safety Promotion Strategy, which was defined in 2022. The strategy will be implemented in early 2023 with the procurement of advisory services to develop SMS outreach by key audiences, initial trainings and introduction to Just Culture initiated.

FUNDING IMPACT:

There is no impact on funding for presenting these information items.	
Project Manager:	Theresa Impastato
Project Department/Office:	Department of Safety

TIMELINE:

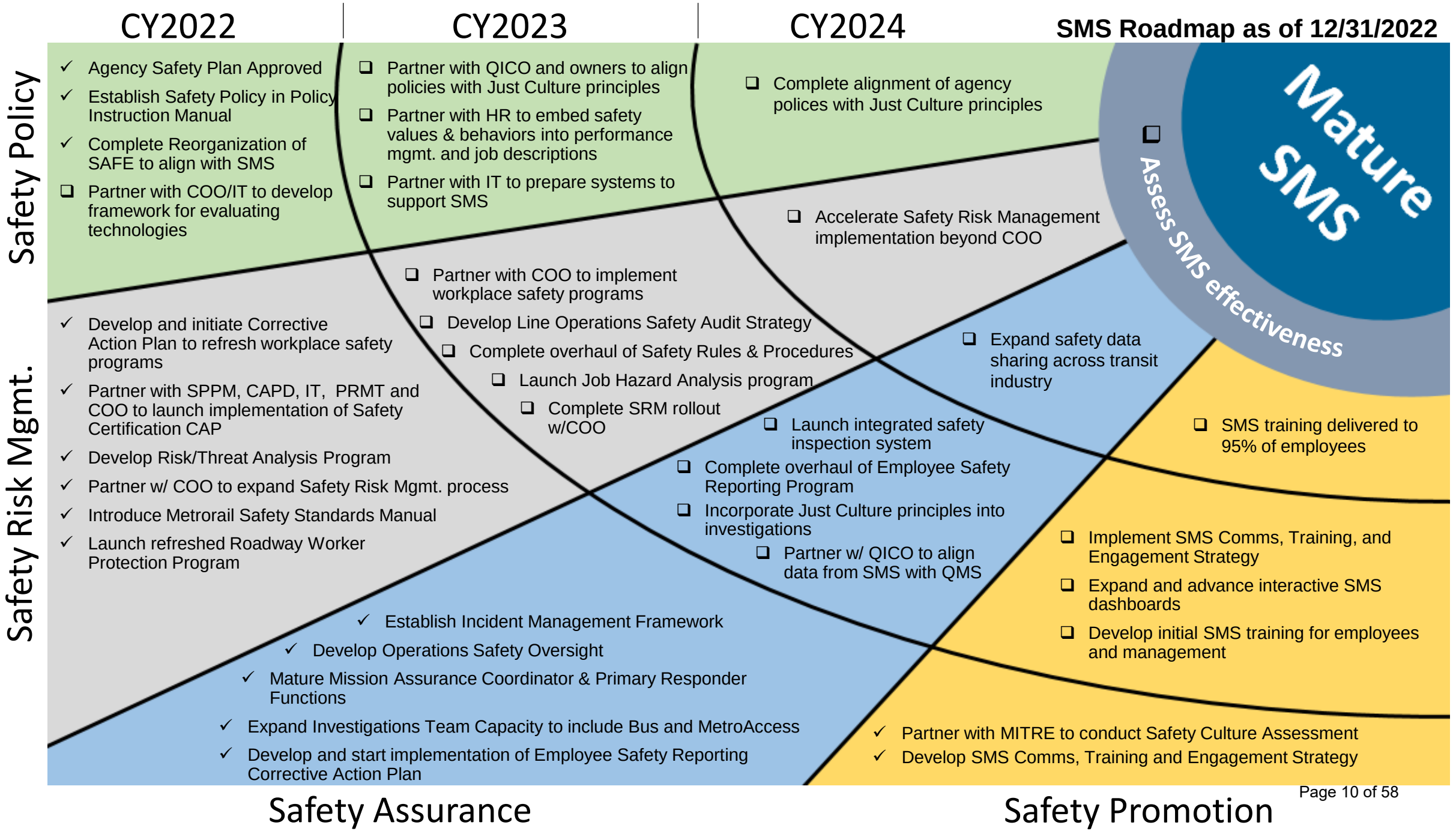
Previous Actions	As documented in the ASP.
Anticipated actions after presentation	Implementation of SMS throughout WMATA is planned as a multi-year process. No change to the timeline is proposed.

Safety Management System (SMS) Implementation Status and Safety Culture Assessment

Safety & Operations Committee
January 26, 2023

Background: SMS Implementation Strategy

- Establish a foundation with the Rail Operations Control Center – then expand throughout Metro:
  - Implement **proactive Safety Risk Mgmt**. processes
  - Overhaul **Metro Safety Rules and Procedure Handbook**
  - Update policies to incorporate **Just Culture** principles
- **Reorganize the Department of Safety** around the pillars of SMS and strengthen its capabilities
- Set the strategic roadmap for enterprise-wide implementation of the SMS and apply **a project-management approach to each key milestone**


CY2022
CY2023
CY2024
SMS Roadmap as of 12/31/2022
Safety Policy
Safety Risk Mgmt.
✓ Agency Safety Plan Approved
✓ Establish Safety Policy in Policy Instruction Manual
✓ Complete Reorganization of SAFE to align with SMS
❑ Partner with COO/IT to develop framework for evaluating technologies
❑ Partner with QICO and owners to align policies with Just Culture principles
❑ Partner with HR to embed safety values & behaviors into performance mgmt. and job descriptions
❑ Partner with IT to prepare systems to support SMS
❑ Complete alignment of agency polices with Just Culture principles
❑ Assess SMS effectiveness
Mature SMS
❑ Accelerate Safety Risk Management implementation beyond COO
❑ Partner with COO to implement workplace safety programs
❑ Develop Line Operations Safety Audit Strategy
❑ Complete overhaul of Safety Rules & Procedures
❑ Launch Job Hazard Analysis program
❑ Complete SRM rollout w/COO
✓ Develop and initiate Corrective Action Plan to refresh workplace safety programs
✓ Partner with SPPM, CAPD, IT, PRMT and COO to launch implementation of Safety Certification CAP
✓ Develop Risk/Threat Analysis Program
✓ Partner w/ COO to expand Safety Risk Mgmt. process
✓ Introduce Metrorail Safety Standards Manual
✓ Launch refreshed Roadway Worker Protection Program
❑ Expand safety data sharing across transit industry
❑ Launch integrated safety inspection system
❑ Complete overhaul of Employee Safety Reporting Program
❑ Incorporate Just Culture principles into investigations
❑ Partner w/ QICO to align data from SMS with QMS
❑ SMS training delivered to 95% of employees
❑ Implement SMS Comms, Training, and Engagement Strategy
❑ Expand and advance interactive SMS dashboards
❑ Develop initial SMS training for employees and management
✓ Establish Incident Management Framework
✓ Develop Operations Safety Oversight
✓ Mature Mission Assurance Coordinator & Primary Responder Functions
✓ Expand Investigations Team Capacity to include Bus and MetroAccess
✓ Develop and start implementation of Employee Safety Reporting Corrective Action Plan
✓ Partner with MITRE to conduct Safety Culture Assessment
✓ Develop SMS Comms, Training and Engagement Strategy
Safety Assurance
Safety Promotion

Safety Policy Milestones

Milestone	Accomplishments
✓ **Agency Safety Plan Approved**	▪ Review from Joint Labor and Management Safety Committee incorporated into the development process
✓ **Establish Safety Policy in Policy Instruction Manual**	▪ Commitment to SMS and Just Culture principles incorporated into Metro's governing documents
✓ **Complete Reorganization of SAFE to align with SMS**	▪ 10+ new job descriptions created ▪ 44 staff recruited (a headcount increase of 73%)
☐ **Partner with COO/IT to develop framework for evaluating technologies**	▪ Contractor team onboarded ▪ Governing documents drafted

The work continues in 2023…

- Continue to develop the skillsets of the SAFE department
- Align Information Technology, Operations, Infrastructure and Safety on governance structure and process for technology evaluation and change management

…plus, there will be new milestones:

- Partner with Quality Assurance and Internal Compliance and owners to align agency policies with **Just Culture** principles
- Partner with Human resources to embed safety values & behaviors into **performance management and job descriptions**
- Partner with Information Technology to prepare **systems to support SMS**

Safety Risk Management (SRM) Milestones

Milestone	Accomplishments
✓ **Partner with Strategy, Infrastructure, Information Technology, Procurement and Operations to launch implementation of Safety Certification CAP**	▪ Safety and Security Certification Program Plan revision launched
✓ **Develop Risk/Threat Analysis Program**	▪ Threat and Vulnerability Assessment completed ▪ Public Transit Risk Assessment Methodology launched
✓ **Partner w/ Operations to expand Safety Risk Mgmt. process**	▪ Three departments completed, representing wide swath of operational staff ▪ SRM SOPs and guidance documents drafted
✓ **Launch refreshed Roadway Worker Protection Program**	▪ Procedures streamlined and updated ▪ Documents used on the Roadway revised ▪ Assessed current RWP regime against FRA requirements
✓ **Introduce Metrorail Safety Standards Manual**	▪ Existing Level 2 Standards combined into one document
✓ **Develop and initiate Corrective Action Plan to refresh workplace safety programs**	▪ Programs prioritized ▪ Outline of Occupational Safety and Health Program Manual completed ▪ Revised and enhanced Hearing Conservation and Respiratory Protection Program launched

The work continues in 2023…

- Update the Project Implementation and Development Manual to reflect the Certification CAP
- Finalize the Regional Threat and Hazard Identification and Risk Assessment

…plus, there will be new milestones:

- Partner with Operations and Infrastructure to implement **workplace safety programs**
- Complete **Safety Risk Management rollout within Operations and Infrastructure**
- Launch **Job Hazard Analysis** program
- Complete overhaul of **Safety Rules and Procedures**
- Develop **Line Operations Safety Audit** Program Strategy

Safety Assurance Milestones

Milestone	Accomplishments
✓ **Establish Incident Management Framework**	▪ Level 2 Standards complete ▪ CBT and ILT training modules developed
✓ **Develop Operations Safety Oversight**	▪ Staff recruited ▪ Procedures, checklists and guidance documents developed ▪ Inspection tracking process established
✓ **Mature Mission Assurance Coordinator (MAC) & primary responder functions**	▪ MAC competencies defined ▪ Procedures, checklists and guidance documents developed
✓ **Expand Investigations team capacity to include Bus and MetroAccess**	▪ Staff recruited ▪ Critical competencies identified
✓ **Develop and start implementation of Employee Safety Reporting Corrective Action Plan**	▪ Mechanism for consolidating reports developed ▪ Integration of reports with Office of Safety Oversight inspections complete

The work continues in 2023…

- Roll-out trainings on the Incident Management Framework
- Develop competency management plans for MAC, Investigators

…plus, there will be new milestones:

- Incorporate **Just Culture principles into investigations**
- Partner w/ Quality Assurance to align data from **SMS with QMS**
- Complete overhaul of **Employee Safety Reporting Program**
- Launch **integrated safety inspection** system

Safety Promotion Milestones

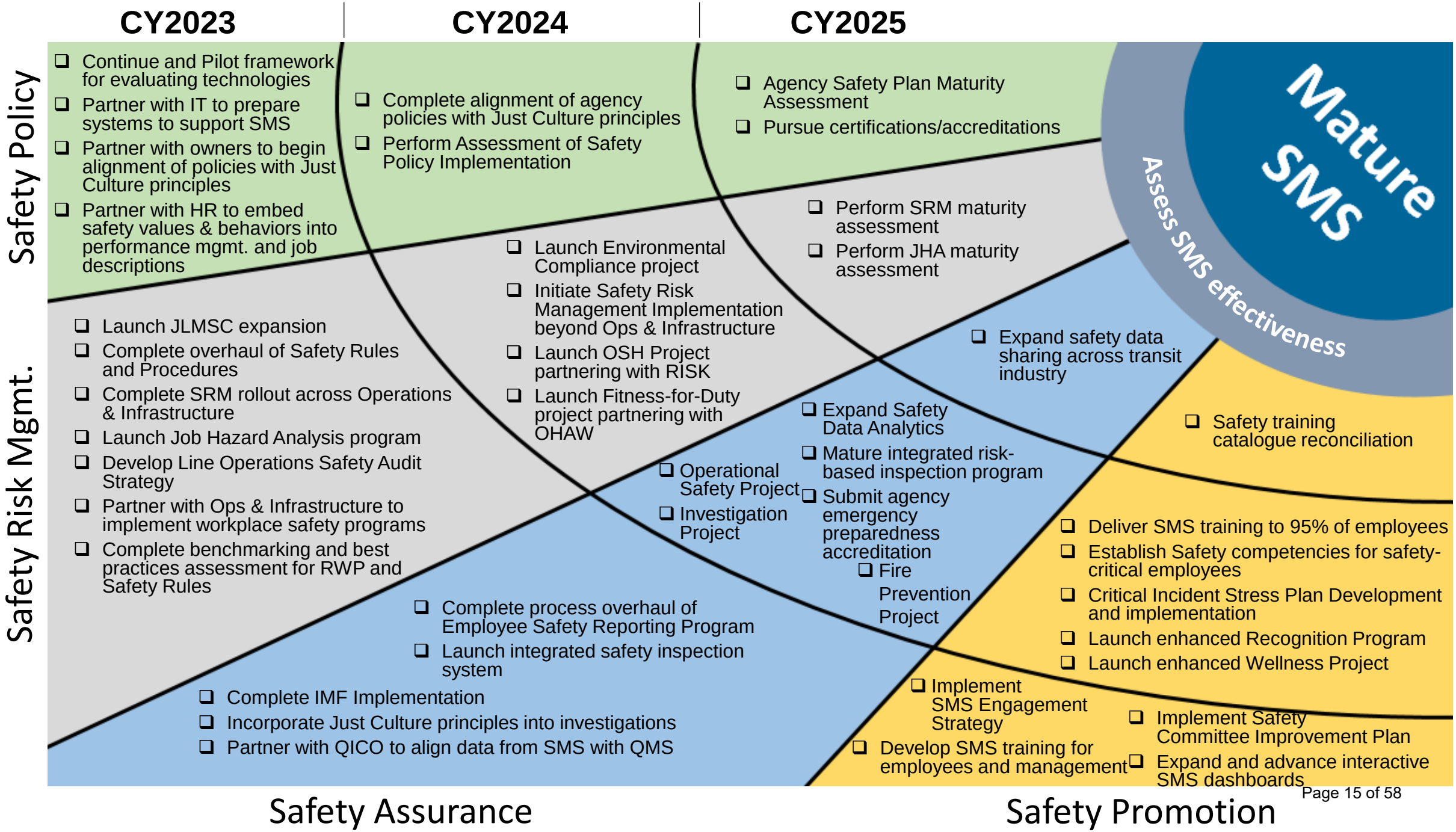
Milestone	Accomplishments
✓ **Partner with MITRE to conduct Safety Culture Assessment**	▪ Metro's first Assessment of Metro's Safety Culture delivered ▪ 12 executive interviews, six focus groups and 2,218 survey responses gathered ▪ Leadership actions to improve Metro's Safety Culture identified and announced to Metro staff
✓ **Develop SMS communications, training and engagement strategy**	▪ Metro's strategy for engaging staff in the SMS implementation journey over the next five years established ▪ Procurement initiated for advisory services to develop SMS outreach, trainings and Just Culture implementation

The work continues in 2023…

- Monitor implementation of Safety Culture Actions

…plus, there will be new milestones:

- **Implement SMS Comms**, Training, and Engagement Strategy
- Develop **initial SMS training** for employees and management
- Expand and advance **interactive SMS dashboards**


CY2023
CY2024
CY2025
Safety Policy
Safety Risk Mgmt.
Continue and Pilot framework for evaluating technologies
Partner with IT to prepare systems to support SMS
Partner with owners to begin alignment of policies with Just Culture principles
Partner with HR to embed safety values & behaviors into performance mgmt. and job descriptions
Complete alignment of agency policies with Just Culture principles
Perform Assessment of Safety Policy Implementation
Agency Safety Plan Maturity Assessment
Pursue certifications/accreditations
Mature SMS
Assess SMS effectiveness
Launch JLMSC expansion
Complete overhaul of Safety Rules and Procedures
Complete SRM rollout across Operations & Infrastructure
Launch Job Hazard Analysis program
Develop Line Operations Safety Audit Strategy
Partner with Ops & Infrastructure to implement workplace safety programs
Complete benchmarking and best practices assessment for RWP and Safety Rules
Launch Environmental Compliance project
Initiate Safety Risk Management Implementation beyond Ops & Infrastructure
Launch OSH Project partnering with RISK
Launch Fitness-for-Duty project partnering with OHAW
Perform SRM maturity assessment
Perform JHA maturity assessment
Expand safety data sharing across transit industry
Expand Safety Data Analytics
Mature integrated risk-based inspection program
Submit agency emergency preparedness accreditation
Operational Safety Project
Investigation Project
Fire Prevention Project
Safety training catalogue reconciliation
Deliver SMS training to 95% of employees
Establish Safety competencies for safety-critical employees
Critical Incident Stress Plan Development and implementation
Launch enhanced Recognition Program
Launch enhanced Wellness Project
Complete process overhaul of Employee Safety Reporting Program
Launch integrated safety inspection system
Complete IMF Implementation
Incorporate Just Culture principles into investigations
Partner with QICO to align data from SMS with QMS
Implement SMS Engagement Strategy
Develop SMS training for employees and management
Implement Safety Committee Improvement Plan
Expand and advance interactive SMS dashboards
Safety Assurance
Safety Promotion

Safety Culture Assessment

Safety Culture Assessment Background

In 2022 Metro undertook a partnership with MITRE in three areas:

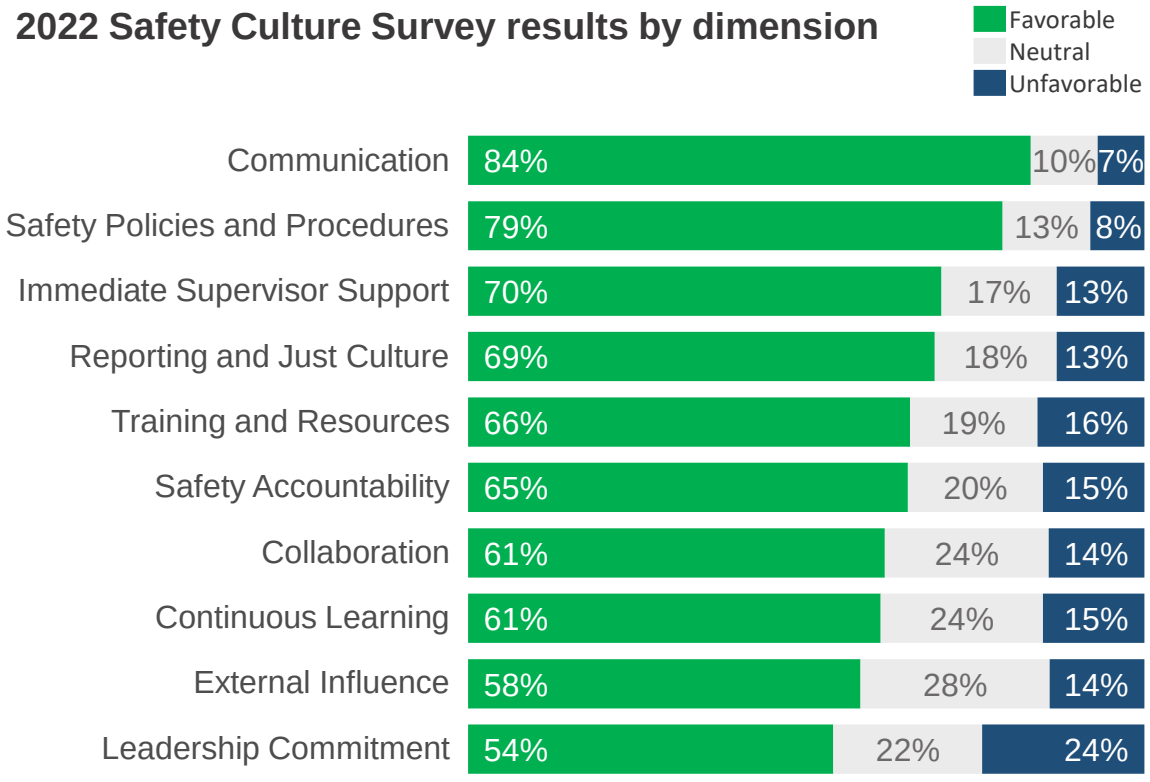
- Voluntary Safety Reporting
- Safety Data Architecture
- Safety Culture Assessment

- Strategic Transformation Plan (STP) launched and incorporated the Safety Culture Assessment
- Assessment included executive interviews, survey and focus groups and concluded in October
- Senior Executive Team met in December to develop objectives and initiatives for STP, including Safety Culture Assessment

Survey results were statistically sound, with a 20% response rate

- Overall response rate is within the expected range given the large frontline population and the concurrent STP surveys
- The results had a margin of error of **+/- 1.9%** for Metro-wide results and passed the standard for representativeness, indicating they can be interpreted with confidence
- Reaching the “frontline” workforce remains a challenge, only 238 paper responses were received (11% of all responses)

Communication is the highest rated dimension and Leadership Commitment to Safety is the lowest



Strengths (70% or more favorable)

- Open communication (highest rated)
- Immediate supervisor trust and support for safety
- Safety policies/procedures taken seriously

Areas for Improvement

- Leadership trust and accountability (lowest rated)
- Appreciation for positive safety behaviors
- Fair treatment (e.g., when rules are applied, reporting safety concerns)
- Fear of retaliation for reporting safety concerns and incidents

Other Insights

- Senior leaders have the least favorable views of their own and middle managers' commitment to safety
- Customer-facing personnel provided less favorable ratings of the safety culture than other groups

To build a stronger safety culture, Metro will revise policies to align with Just Culture

A heavy-handed, “three strikes” approach doesn’t work

- High consequence industries forced to address culture of secrecy around causes of unintended outcomes – despite continued criminalization of human error
- Implemented in highly unionized industries:
  - Aviation
  - Nuclear
  - Healthcare
  - Energy

Just Culture provides a standardized approach to varied responses

- A “decision-path” guides the analysis of each breach to determine the quality and intentionality of choice
- Managers adapt their response to the specific incident: accept, coach, counsel or discipline
- Guided decision-making reduces variation between managers, improves transparency