



FEDERAL TRANSIT ADMINISTRATION

# Orientation to Safety Management Systems May 14, 2015

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# Orientation to SMS

- Why SMS?
- Change in approach to safety oversight
- SMS overview
- SMS components
- Critical safety concepts
- Roles and responsibilities
- Employee safety reporting

# Why SMS?

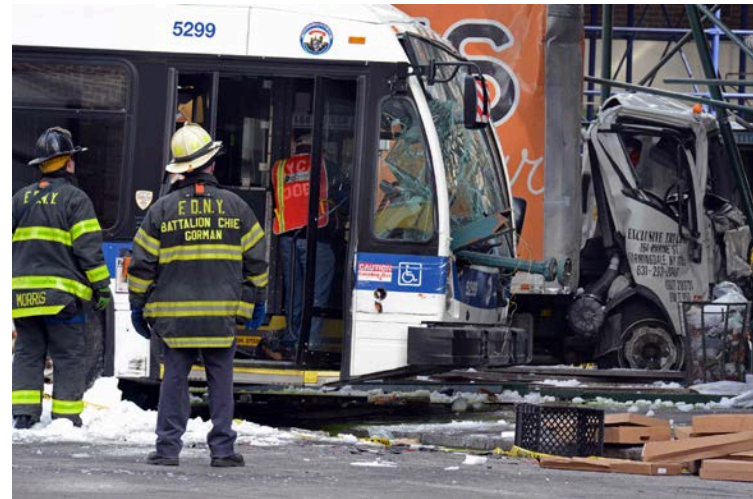
# Background

- Transit is the safest mode of surface transportation
  - On average, passengers on trains and buses are 40 to 70 times less likely to be in an accident than passengers in automobiles
- Transit safety performance has reached a plateau and has ticked upward the last few years
- Transit remains vulnerable to catastrophic accidents
  - 19 major NTSB investigations since 2006

# What we want...from a safety perspective

- Safety as a continued top priority
- Services are provided with the highest levels of safety concern for passengers and employees
- Regulators have assurances that transit agencies carry out safety mission effectively
- Media and general public are confident that the system is safe

# What we do not want...



***AFTER*** an accident occurs, we can only react. We must be more proactive in managing safety.

## Recent Investigations have found:

- Lack of management support for safety
- Lack of information sharing and communication across departments to identify and fix safety concerns
- Lack of resources and technical capabilities in safety and engineering functions to lead safety programs
- Inappropriate procedures for operations and maintenance activities
- Inadequate training for employees
- Failure to conduct effective oversight

# NTSB Most Wanted List 2014

- Promote Operational Safety in Rail Mass Transit
  - “The NTSB has investigated many mass transit accidents and, much too frequently, has found that the accidents stem from human issues, ranging from lapses in train operator's judgment, through slow decision-making to inspect or repair track, to poor leadership by senior management to prioritize safety over operational timeliness. The NTSB describes these causal and contributing human factors in terms of organizational safety culture.”



# Change is Necessary

- Our current approach has taken us as far as it can

“If you keep doing what you’re doing...  
you’re going to keep getting what you got!”

—Yogi Berra



# Change in approach to safety oversight

# Transition to risk-based oversight

- Ongoing monitoring of industry safety performance
  - FTA monitors, not manages
  - Set performance targets
  - Assure agencies are managing their own safety risk
- Prioritized decision-making
- Data driven activities

# Challenges to risk-based safety oversight

- Fragmented data and information tools can create an inadequate view of safety risk
- Alignment in safety risk monitoring (“are we all on the same page?”)
- Increased demands for transparency
- Variability and uniqueness of public transportation providers

# Questions needing answers

- At the transit agency, state and federal level
  - What are our most serious safety concerns?
  - How do we know this?
  - What are we doing about it?
  - Is what we are doing working?

*...and importantly...how do we **know** what we are doing is working?*

## A New Model

- We need to understand our safety risk and effectively manage it
- We need tools that support executive level decision-making on risk prioritization and resource allocation
- We need to align industry safety oversight with agency safety mission achievement

# SMS overview

# SMS Definition

SMS is the formal, top-down, organization-wide, data-driven approach to managing safety risk and assuring the effectiveness of safety risk mitigations. It includes systematic policies, procedures, and practices for the management of safety risk.



## What SMS Does

- Ensures *timely* information about safety risks so executives can make informed decisions about allocating resources to prioritized risk
- Actively seeks to identify and mitigate hazards so we can *prevent* accidents and manage change
- Fosters system-wide communication about safety issues up, down and across the agency
- Improves safety culture by empowering employees and involving them in decision-making

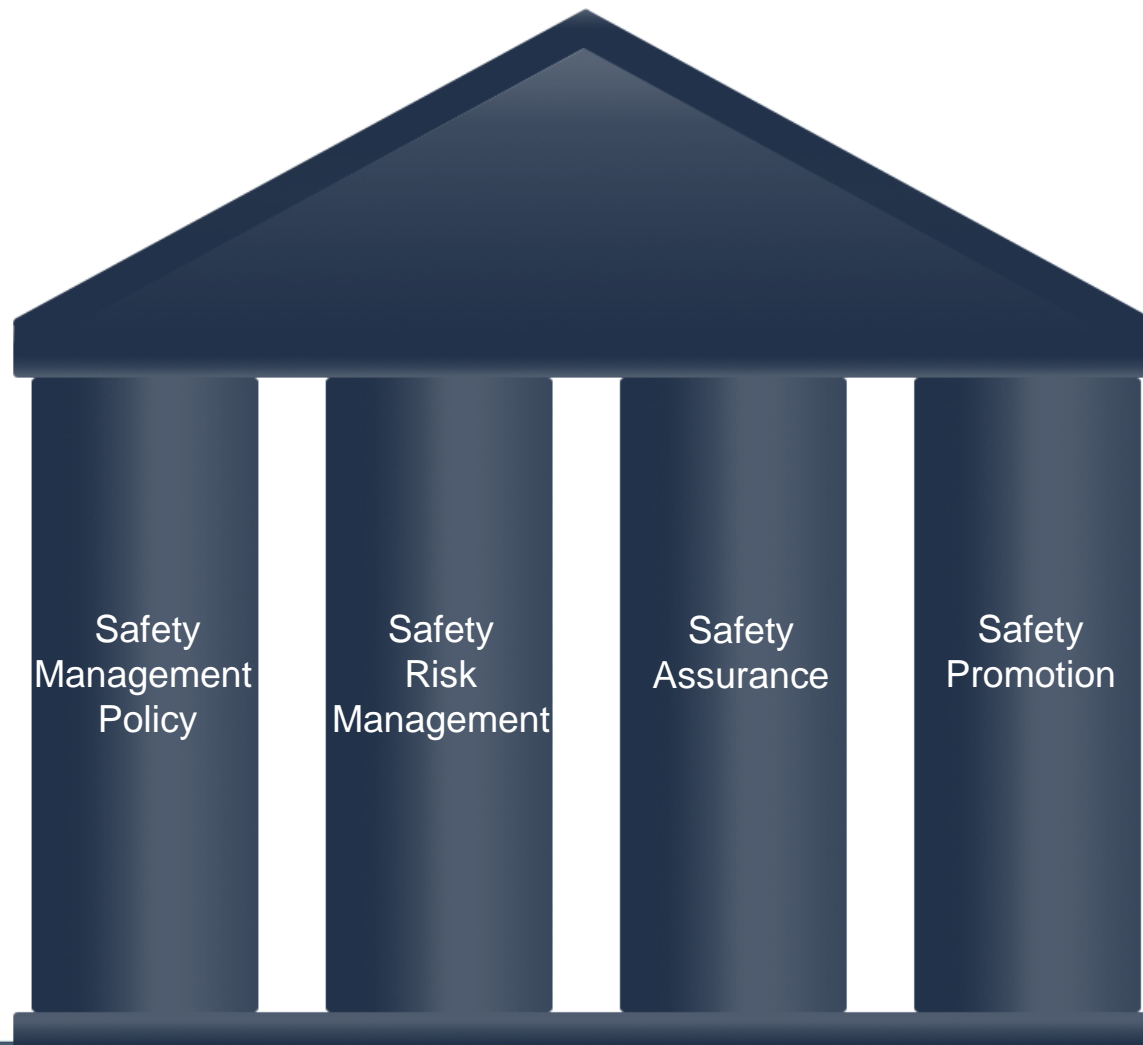
# SMS answers those critical questions

SMS makes sure all levels of the organization understand and contribute to answering the following questions:

1. What are our **most serious** safety concerns?
2. How do we **know** this?
3. What are we **doing** about it?
4. Is what we are doing **working**?
5. How do we **know** what we are doing is working?

# SMS components

## 4 Components (Pillars) of SMS



# Safety Management Policy (SMP)



- Establishes organizational structures and accountabilities
- Defines Executive Leadership commitment to provide resources to meet safety objectives
- Institutionalizes employee safety reporting program
- Establishes safety roles and responsibilities
- Sets the foundation for a strong safety culture

# Safety Risk Management (SRM)

- Establishes system-wide, proactive activities to identify safety hazards
- Defines criteria for safety risk evaluation
- Develops strategies to mitigate safety risks
- Provides management with safety priorities to be addressed



# Safety Assurance (SA)



- Verifies the effectiveness of safety risk mitigations
- Constantly monitors organizational and individual safety performance
- Serves as the agency's ***predictive*** source for safety performance data
- Supports management of safety risk involved with change

# Safety Promotion (SP)



- Ensures organization-wide safety communication
- Facilitates training to proficiency on safety skills and competence
- Ensures employees are trained on SMS roles and responsibilities
- Sets the quality of your agency's safety culture



# Critical safety concepts

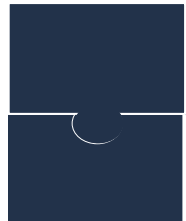
# Practical drift

- The slow and steady uncoupling of practice from written procedure
- Can leave Executive Leadership and top-tier management:
  - Unaware of the most significant safety risks in the agency's operations and maintenance
  - Unaware that mitigations, including safety programs, rules and requirements, are not working as intended
  - Unaware of the unintended consequences of management decisions and changes

# Practical Drift

“Work as imagined”

**System and Tasks as designed and engineered**



Start of Operations

Over Time

**Procedure**

**Local Reality**

“Work as actually done”

**Practical Drift**

“Uncoupling of practice from procedure”



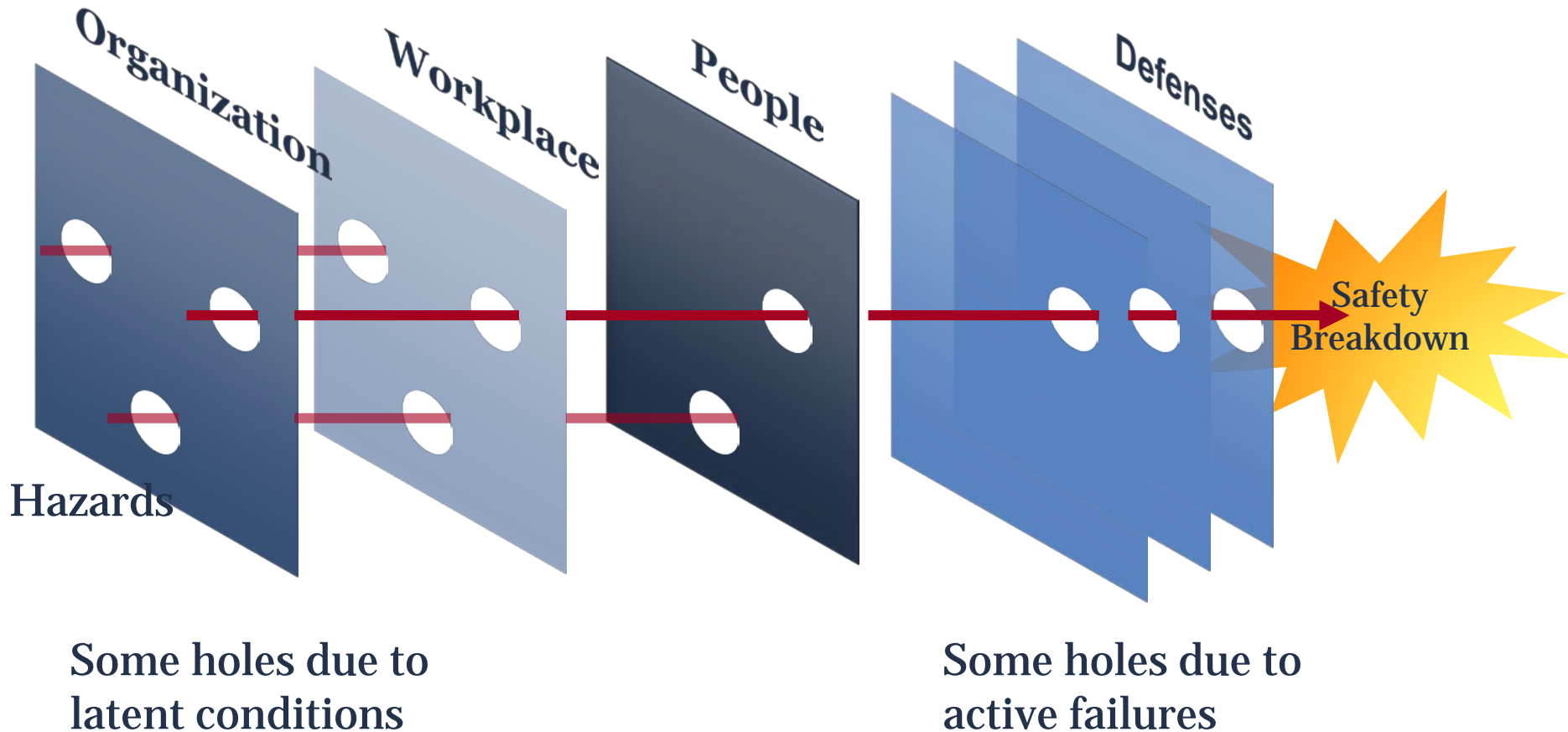
# SMS helps navigate practical drift

- Better information and data to support executive decision making
- Comprehensive, agency-wide safety reporting
- Improved hazard identification and assessment capabilities at all organization levels
- Focus on system-wide issues
- Continuous monitoring of operations and maintenance to identify if drift has occurred

## Two Types of Accidents

- Individual accidents
  - Those resulting from the actions/inactions of people
- Organizational accidents
  - Those resulting from actions/inactions of organizations

# Organizational Accidents



# Roles and responsibilities

# SMS formalizes organizational safety commitment

- SMS ensures a structure is in place to promote an environment where safety issues can be:
  - Identified, discussed, reported and evaluated
  - Presented for action in the Board Room and on the Front-line
- SMS fosters commitment by all parties to an effective employee safety reporting program
- SMS clarifies roles and responsibilities for employees regarding agency's safety performance



# Role of Senior Leadership

- Senior leadership is responsible for establishing and maintaining the SMS
- Roles and responsibilities include:
  - Establishing and communicating safety management policy
  - Establishing safety performance goals that are in line with other agency goals and help set a direction for improvement
  - Defining and communicating acceptable safety performance levels
  - Overseeing and communicating about system performance
  - Allocating sufficient resources
  - Establishing employee reporting program

# Role of Managers and Supervisors

- Managers and supervisors carry out the instructions of senior management by:
  - Implementing safety programs
  - Ensuring that staff is adequately trained in safety
  - Ensuring that employees are aware of and participate in the employee safety reporting program
  - Ensuring that employees have, and use, safety equipment
  - Enforcing safety rules
  - Including safety in performance reviews
  - Providing safety coaching to employees
  - Monitoring system and employee safety performance
  - Conducting incident investigations

# Role of Employees

- Employee participation in the SMS and safety program is essential for success and can be achieved by having employees:
  - Report safety concerns and incidents
  - Help develop and establish safety programs
  - Participate on safety committees
  - Follow established procedures and not take short cuts
  - Hold peers accountable
  - Assist in investigations
  - Provide feedback to managers

# Employee safety reporting

# SMS and Safety Reporting

- SMS needs data to be effective
- Employees know actual system performance
- Power of safety reporting
  - Safety data on previously unidentified safety deficiencies
  - Safety data to confirm the effectiveness of existing safety risk mitigations

# Effective Safety Reporting - Attributes

- Training the messengers
  - People are not “natural messengers”
- Ease of reporting
  - Simple requisites
- Timely, accessible, and informative feedback
  - No feedback; program crumbles
- Protection
  - Information only used for the purposes it was collected
- Vehicle for change
  - Issues reported are solved



*SMS is everyone's business*

# Questions?

For further information:

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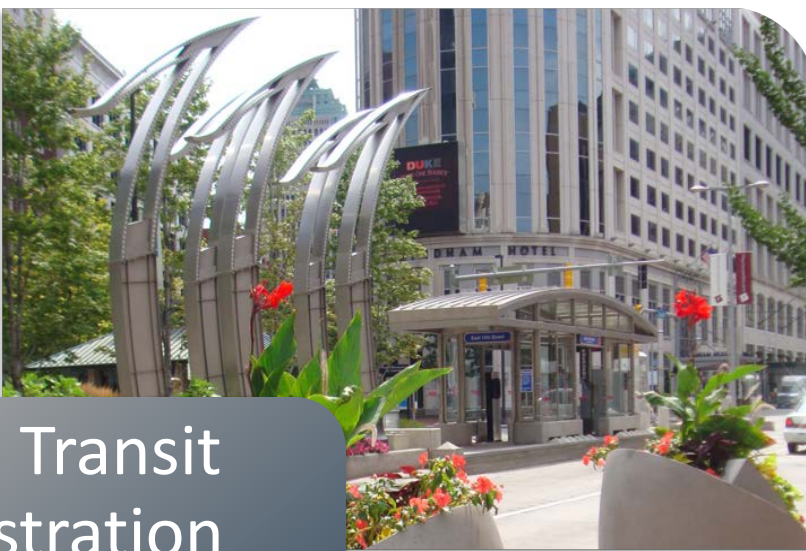
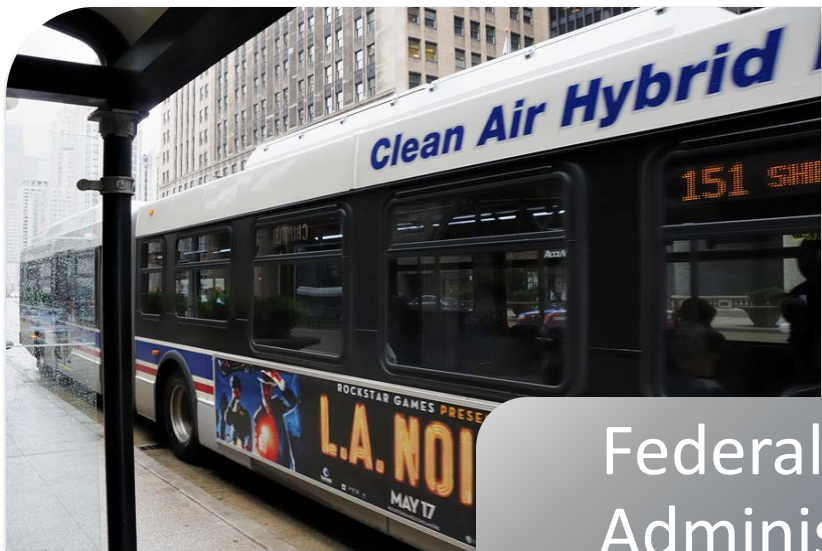
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- Choose “Wed., 10:30 a.m. - Implementing Safety Management Systems” from the dropdown list

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