

Moving Public Transportation Into the Future

Emergency Preparedness for Transit Agencies and Developing a Safety Plan

May 1-2, 2019





Introductions



Agenda

Day 1

- Disasters Transit's Role
- Day 2
- Safety and Security Background
- Safety Management Systems (SMS)
- Accountable Executive
- Safety Officer/Manager
- Critical Areas
 - Leadership and Administration
 - Operations
 - Maintenance
 - Personnel Management



Agenda

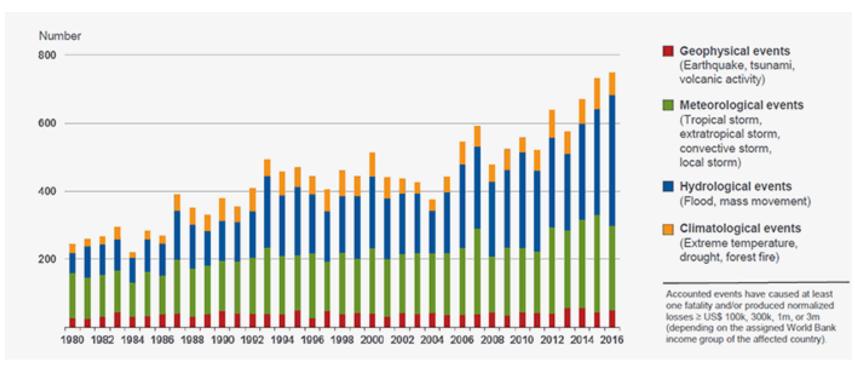
Day 2 cont.

- Critical Areas
 - Safety Initiatives
 - Security
 - Emergency Preparedness
 - Safety and Security Plan Requirements
- Activities that Support SMS Implementation
- Rule changes for 49 CFR Part 673



Disasters

Disasters come in many forms. Are you ready?



Insurance Information Institute



Natural Disasters





Man Made Disasters









Phases of Emergency Management



Prevention

Using Safety Management Systems (SMS)

- Monitor reviews, inspections, performance measures
- Identify hazards, defects, poor performance, trends
- Investigate cause/effect, circumstances, factors, level of hazard
- Mitigate action taken
- Follow-up effectiveness of action taken, different action required
- Final rule published July 19, 2018





- Transit should be involved with Local/Regional Emergency Planning Committees
- Transit should conduct a Threat and Vulnerability Assessment (TVA)
- Transit should participate in local drills
- Transit should train for events and certify in National Incident
 Management System (NIMS) and Incident Command System (ICS)
- Transit should develop policies and procedures for securing assets, employees and passengers
- Know shelter locations and amenities (pets, oxygen friendly, accessible)

Accident and Incident Assessment

Threat and Vulnerability Assessments (TVA)

Acts of Nature Assessment

+				
Threat/Hazard	A.	B. Impact on	C.	Vulnerability Index
	Likelihood	Service	Financial Impact	
	1 =	Delivery	1 = negotiable	(A+B+C)
	improbable	1 = minor	10 =	
	10 = certain	10 =	catastrophic	
		catastrophic		
Acts of Nature				
Flooding in community				
Flooding of transit facilities				
Severe Winter Weather				
Fog				
Tornado				
Severe Thunderstorms				
Fires				
Landslide/				
Rockslide/				
Mudslide/				
Sinkhole				

Threat/Hazard	Likelihood 1 = improbable 10 = certain	Impact on Service Delivery 1 = minor 10 =	Financial I 1 = nego 10 = catastro	tiable
Accidents &		catastrophic		
Incidents				
Minor Vehicle Collision				
Major Collision no injuries				
Major Collision injury/injuries				
Major Collision fatality			+	
Passenger Injury before boarding/ after				Threat
alighting Passenger Fall on vehicle/no				
injury				Organi Infrasi
Passenger Fall on				Tresp
vehicle/injury Employee Injury				Vano
Wheelchair Lift				Employ
Failure/no injury				Bomb
Wheelchair Lift Failure/injury				Danger
Injury Based on				Brief Ou
Securement				Extende

Problem

Organizational Infrastructure Assessment

Vulnerability

Index

(A+B+C)

-	Threat/Hazard	A. Likelihood 1 = improbable 10 = certain	B. Impact on Service Delivery 1 = minor 10 = catastrophic	C. Financial Impact 1 = negotiable 10 = catastrophic	Vulnerability Index (A+B+C)
-	Organizational Infrastructure				
	Trespassing				
- [Vandalism				
-	Employee Theft				
	Bomb Threat				
٠	Dangerous Mail				
-	Brief Power Outage				
	Extended Power Outage				
-	Hard Drive Crash/Cyber Attack				
	Loss of Landline Phone Service				
	Loss Of Cell Phone Service				
	Loss Of Radio System				
	Minor Structural Fire				
	Major Structural Fire				
	Vehicle Fire without injuries				
	Vehicle Fire with injury/fatality				



What a difference planning and preparation can make...







- Develop MOU's with local government, assisted living facilities, hospitals, human service organizations
- Identify transit dependent population before event
- Develop threat level coordinated
- Identify key roles of staff, call down lists, text blasts, notification system/method (pre-staged accommodations)
- Develop contingency communications plan
- Keep all plans, policies and procedures up to date



- Know expenses FEMA will reimburse if tied to levels of State of Emergency, modified service levels, capital
- Cross train first responders including National Guard
- Identify sustainable fueling source and location(s) and maintenance capacity
- Know what regulations may be waived during a declared event
- Ensure all staff know their role and expectations

Response

- Determine level of response based on changing and anticipated situation
- Enact sustainability operations plan or COOP
- Documentation must be kept
- Take orders from Incident Command Post (ICP) and Emergency Operations Center (EOP)





Response

- Depending on event, allow family members to ride
- Make note of exact times of response level increases different levels trigger different responses.



Recovery

- Transportation for displaced
- Implement return to normal services when/where possible
- Develop new services (above and beyond regular services)
- Assess impacts of events on transit operational and financial record keeping
- Hand-off some responsibilities to other agencies/companies



Mitigation

• Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. In order for mitigation to be effective we need to take action now—before the next disaster—to reduce human and financial consequences later (analyzing risk, reducing risk, and insuring against risk). It is important to know that disasters can happen at any time and any place and if we are not prepared, consequences can be fatal.



Mitigation

- Document lessons learned after action reports
- Submit information to FEMA and/or DOT
- Critique response by transit
- Evaluate procedures, capacity, personnel, management, equipment
- Identify coordination gaps, data gaps, information gaps and communication gaps



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Safety Management

Root Causes of Accidents

- Tired / fatigued
- Hurried (speed not appropriate)
- Distracted (preoccupied / multi-tasking)
- Bored / complacent







Organizational Accidents & SMS

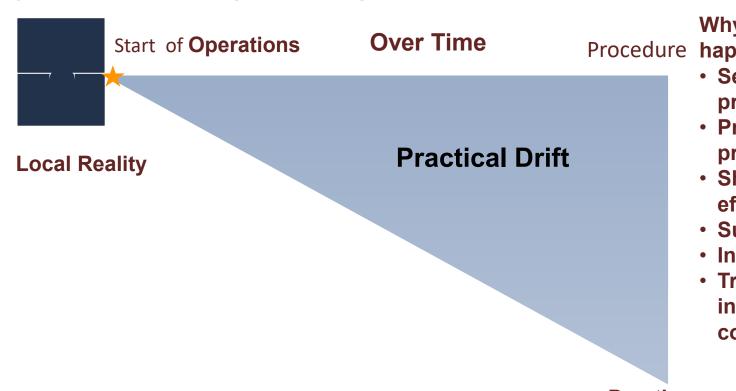
Critical tools of safety risk management

- Identifying & analyzing latent organizational factors that may contribute to accidents & incidents
- Conduct root cause analysis
- Trending accident data & mitigation



Imperfect Systems - The Practical Drift

"Work as imagined"
System and tasks designed and engineered



Why? What happened?

- Service delivery pressures
- Procedure no longer practical
- Short cuts are more efficient
- Supervisor allows it
- Informal processes
- Training inadequately conveyed risk

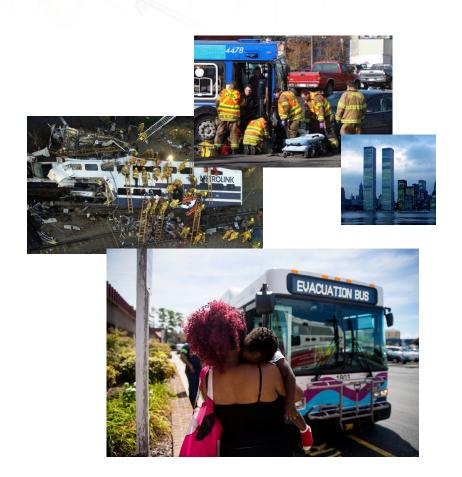
Practice



Background

Role of FTA in Safety and Security and Emergency Preparedness

- ◆ MAP-21
 - Authorized SafetyOversight
- ◆ FAST Act





Background

Public Transportation Agency Safety Plan

- ◆ Advanced Notice of Proposed Rule 2013
- Notice of Proposed Rule − 2016
- ◆ Final Rule July 19, 2018



Public Transportation Agency Safety Plan

- Section 5307 funded agencies operating 100 or fewer vehicles in peak revenue service and not operating fixed guideway service
- Two years to develop safety plan and certify – may use State DOT
- Based on Safety
 Management Systems (SMS)
 approach

- Does not apply to 49 U.S.C.
 5310 and/or 5311....at this time.
- Must include four elements
 - Safety Management Policy
 - Safety Risk Management
 - Safety Assurance
 - Safety Promotion



Public Transportation Agency Safety Plan

- ◆ Each PTAS Plan must contain:
 - Documented processes and procedures for SMS
 - Performance targets based on safety criteria from National Public Transportation Safety Plan (49 CFR 673.11(a)(2);
 - Address all requirements in (49 CFR Part 673.11(a)(4);
 - Establish a process for annual reviews

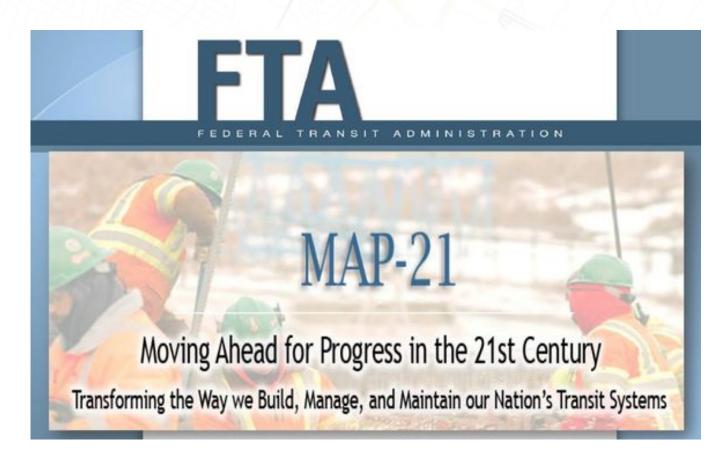


Public Transportation Agency Safety Plan

- Small urban systems receiving 5307 may have state draft or certify their plans
- A small provider may draft and certify their own plan.
- ◆ Large transit providers must develop their own plans, have the plans approved by their Boards of Directors (or equivalent authorities) and certify to FTA those plans are in place.
- Agencies that operate passenger ferries regulated by the Coast Guard (USCG) are exempt



FTA Granted Safety Oversight Authority





National Safety Plan

Requires public transportation systems that receive federal financial assistance under 49 USC Chapter 53 to identify performance targets for:

- Fatalities
- Injuries
- Safety Events
- System Reliability



Overview of the Safety Management System (SMS)

Strategically apply resources to risk

- Defined roles and responsibilities
- Strong executive safety leadership
- Formal safety accountabilities and communication
- Effective policies and procedures
- Active employee involvement



SMS – Four Important Questions

1. What are your most serious safety concerns? (risk)

2. How do you know this? (data)

3. What are you doing about It? (resources)

4. Is what you are doing working? (trending)



SMS





Small transit systems

Medium transit systems

Large transit systems



SMS (cont'd)

Key SMS activities

- Collect & analyze safety data
- Mitigate consequences of risk
- Ongoing monitoring of risk
- Use data to allocate resources



SMS: Role of Senior Management

Understands & accepts accountability

Ensures employee partnership & participation

 Safety Officer provides ongoing communication to all



SMS: Current Safety Structure

Builds on agency resources

 Ensures safety decisions are integrated into management processes



SMS: Public Safety & Emergency Preparedness

 Integrates emergency preparedness info into assessment of risk

 Helps agency understand total risk exposure



SMS: Safety Culture

Attitudes



Emphasizes safety

 Encourages management and employees to work together



RIS SMS Framework Components





SMS – Four Important Questions

1. What are your most serious safety concerns? (risk)

2. How do you know this? (data)

3. What are you doing about It? (resources)

4. Is what you are doing working? (trending)



Accountable Executive

- Ultimately responsible for safety management
- Implements and manages SMS
- Supports safety throughout organization
- Creates a culture of safety
- Ensures budget reflects support of safety



Accountable Executive (cont'd)

- Analysis of safety data, performance measures, reviews
- Manages policies and procedures and adjusts accordingly
- Makes long term decisions that may effect safety (procurement, service design, policy etc.)
- Works with Board to ensure safety culture
- Works closely with Safety Officer/Manager (in some systems could be same person)



Safety Officer

Role:

- A Safety Officer should be someone with authority to make decisions about safety. It should be someone with supervisory or management credentials.
- Safety Officer has attended training relative to the position
- Safety Officer is responsible for ensuring safety plan is followed
- Safety Officer attributes time to safety related duties if SO's primary position is different than operations
- ◆ Employees must understand role of Safety Officer



Security Initiatives

- Security Initiatives area includes:
 - Security Plans
 - Threat and Vulnerability Assessment
 - Fare Handling Security
 - Facility Security
 - Security Awareness and Response
 - Security Data Acquisition and Analysis



Security Plans

• The organization has a written security plan appropriate to the size, location, and scope of its operation.







Threat & Vulnerability Assessment

- The organization has a formal or informal methodology for identifying criminal or terrorist threats and has completed some type of structured and documented Threat and Vulnerability Assessment.
- Organizational critical assets have been examined in terms of their vulnerability to hazards and threats and this examination has been documented.
- Information on organizational hazards, threats, and vulnerabilities has been shared with appropriate outside emergency and first response entities.



Fare Handling Security

- The organization has appropriate formal security protocols for managing fare revenue including removal from vehicles, handling and counting, and transfer to bank.
- The organization takes appropriate steps as are reasonable and practical to secure the fare handling and transfer process.



Facility Security

- As is reasonable and practical, the organization addresses facility security concerns in reference to the security of dispatch, driver break areas, administrative offices, maintenance facilities, parking lots, entrances, windows, doors, restrooms, corridors and stairwells, rooftops, HVAC systems, trash receptacles, and other security related infrastructure.
- The organization works to ensure the security of the transit vehicle storage area(s) including using, as is reasonable and practical, fencing, locked entrances, sufficient lighting, and surveillance equipment.
- ♦ The organization has requested local law enforcement officers to periodically patrol agency facilities and vehicle storage areas.



Facility Security (cont'd)

- The organization has either explored the possibility of purchasing surveillance equipment or has surveillance equipment in place in its transit facilities.
- The organization has a visitor control methodology as is reasonable and practical.
- The organization issues employee identification badges which employees are required to display at all times while on duty.
- The organization has developed formal protocols for employee reaction to telephoned or written bomb threats and bomb threat checklists are placed near telephones.
- The organization has a process for managing dangerous mail including suspicious packages or letters delivered to the agency.



- All employees receive security awareness training on recognition, reaction, and reporting of suspicious people, suspicious behavior, suspicious items, and suspicious vehicles.
- The organization has specific procedures and guidelines for all transit employees for responding to on-board or in transit facility criminal/terrorist activity, including violent and/or armed perpetrators, hostage situations, improvised explosive devices, and CBR attacks.
- The agency has established an emergency verbal code for drivers to use in notifying the dispatcher that emergency law enforcement response is needed based on a violent or potentially violent perpetrator on the vehicle.



Security Data Acquisition & Analysis

- Data totals of security related events are compiled and monitored over time.
- Security related data is analyzed for discernible trends and these trends are addressed to reduce organizational liabilities and vulnerabilities.
- ◆ The organization has a formal or informal methodology for recording and analyzing security related "near miss" information to reduce future security vulnerabilities.



Drills, Simulations & Exercises

- ◆ The organization holds internal hands-on training for transit employees on responding to a variety of different emergency situations that they potentially might encounter.
- ◆ The organization participates in or solicits participation in external emergency drills, simulations, and exercises ranging from basic awareness training, to operational training, to tabletop exercises, to single response drills, to full scale functional exercises in order to develop effective coordinated response to emergency community events.
 - Stanley County Emergency Evacuation Training



Understand Safety Management System (SMS)

- Not a new safety plan
- Objective safety data driven
- ◆ Flexible
- Scalable
- Analysis allows for allocation of resources to mitigate risks



Define SMS roles & responsibilities

- Accountable Executive
- SMS Lead / Safety Officer
- SMS Implementation Team
- Operations & maintenance management
- Frontline operations & maintenance staff



Issue a Safety Management Policy Statement

- Executive management documents commitment to safety
- Agency commits to providing resources to mitigate prioritized safety risk
- Agency develops formal and effective reporting method
- Agency establishes safety performance standards
- Agency enlists & communicates SMS roles to all employees
- Oversight Authority (CEO or other) signs statement



Conduct SMS analysis & create SMS Implementation Plan

- ID existing agency safety practices
- ID gaps to be addressed
- Create SMS implementation activities, timelines, responsibilities
- Directed by SMS Lead / Safety Officer and implementation team



Ensure an effective employee safety reporting program

 Encourage frontline employees to report safety hazards / concerns without penalty

 Reporting must be easy and supported by a culture of trust and communication



Create a system for documenting SMS data and activities

- Data must be
 - Accurate
 - Collected diligently
 - Easily accessible
 - Shared, as appropriate
- Reactive
- Proactive



Emphasize agency wide safety communication

- Formal & informal
- Two-way
- Documented

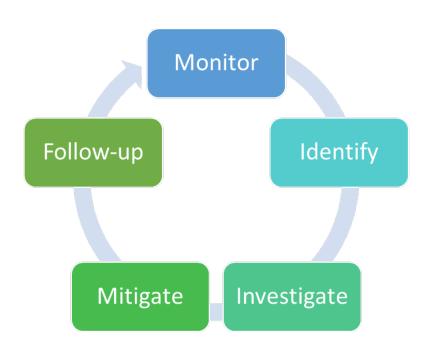


Train on SMS roles and responsibilities

- ♦ SMS not intuitive
- Train frontline & management how to report safety concerns
- Train management SMS activities & facilitation
- Train executive leadership responsibilities



- Monitor reviews, inspections, performance measures
- Identify hazards, defects, poor performance, trends
- Investigate cause/effect, circumstances, factors, level of hazard
- Mitigate action taken
- Follow-up effectiveness of action taken, different action required





Identify & analyze hazards

- Use data from:
 - Employees
 - Field observation
 - Customer / public
 - Safety inspections
 - Safety committee reviews
 - Internal safety investigations
 - Accident & incident reports
 - Compliance program
 - Shared industry data
 - State and federal government input



Identify & analyze hazards

- Analyze
- ♦ Hazards
 - Have consequences
 - May have multiple consequences
 - May not be mitigated
- Consequences may be mitigated



Assess, prioritize, create risk mitigations

- Assess hazard consequences
- Prioritize by probability & severity
- Review current mitigations
 - Accept
 - Change
 - Add new



Monitor individual & agency safety performance

- Individual monitoring
 - Field observations
 - Coach & train
- Agency monitoring
 - Accidents, incidents
 - PM adherence
 - Miles between road calls
 - Performance targets



Perform causal analysis of accidents & incidents

- May reduce future safety risk
- Analyze any factors (employee & organizational) that could have contributed to accident / incident
- May be multiple organizational factors



Assess organizational change for risk – mitigate, if necessary

- Service delivery changes
- Expansion
- Staff reduction
- New equipment
- Technology
- Altering training initiative
- Assess before implementation



Continuously improve the SMS

- Evaluate for effectiveness, mission support
 & performance targets achievements
- Supports related safety activities
- ID weaknesses



Developing The Plan

Public Transportation Agency Safety Plan Template for Bus Transit

Version 1, issued 07/19/18

The Federal Transit Administration (FTA) is providing the *Public Transportation Agency Safety Plan Template for Bus Transit* and accompanying *Reference Guide* to assist with the development of a Public Transportation Agency Safety Plan (Safety Plan) for bus transit modes. Use of this template is voluntary. The template and reference guide are intended for use by States and operators of public transportation systems that are required to draft a Safety Plan in accordance with 49 C.F.R. Part 673 (Part 673). The full text of Part 673 is available at http://www.transit.dot.gov/PTASP.

Certain requirements in Part 673 do not apply to small public transportation providers¹. The relevant sections in this template are noted in red to indicate where requirements differ. Transit operators that are subject to Part 673 may choose to include additional sections beyond what is required in Part 673.

Under Part 673, a transit agency is required to maintain documents that describe its Safety Plan, including those related to implementation and results from processes and activities. Also, a transit operator may have existing documentation that describes processes, procedures, and other information required in Part 673. You may reference these documents in your Safety Plan by specifying the document names and locations within the appropriate sections of the plan.

1. Transit Agency Information

Transit Agency Name	
Transit Agency Address	
Name and Title of Accountable Executive	
Name of Chief Safety Officer or SMS Executive	
Mode(s) of Service Covered by This Plan	List All FTA Funding Types (e.g., 5307, 5310, 5311)
Mode(s) of Service Provided by the Transit Agency (Directly operated or contracted service)	

Public Transportation Agency Safety Plan Template for Bus Transit

Reference Guide

The Federal Transit Administration (FTA) is providing the *Public Transportation Agency Safety Plan Template for Bus Transit* and accompanying *Reference Guide* to assist with the development of a Public Transportation Agency Safety Plan (Safety Plan) for bus transit modes. The template and reference guide are intended for use by States and operators of public transportation systems that are required to draft a Safety Plan in accordance with 49 C.F.R. Part 673. The full text of Part 673 is available at http://www.transit.dot.gov/PTASP.

How to use this reference guide

This reference guide is intended to help you complete each section of the *Public Transportation Agency Safety Plan Template for Bus Transit* and draft a Safety Plan that meets the requirements of Part 673 for bus transit modes. Use of the template and reference guide is voluntary. This document is not intended to provide guidance on implementing or operating a Safety Management System (SMS). As you develop content to include in the template, we recommend reviewing the corresponding section of this guide.

Each section of this Guide begins with the relevant regulatory text from Part 673 in a grey box. After this, you will find a description of the regulatory requirement and additional information from the preamble to the final rule. Examples and voluntary guidance are presented in blue boxes. The examples are provided for illustration only.

Certain requirements in Part 673 do not apply to small public transportation providers¹. The relevant sections in this guide are noted in red to indicate where requirements differ.

Who does Part 673 apply to?

§ 673.1(a) – This part applies to any State, local governmental authority, and any other operator of a polic transportation system that receives Federal financial assistance under 49 United States Code (U.S.C.) Chapter 53.

§ 673.1(b) – This part does not apply to an operator of a public transportation system that only receives Federal financial assistance under 49 U.S.C. § 5310, § 5311, or both § 5310 and § 5311.

§ 673.11(f) – Agencies that operate passenger ferries regulated by the United States Coast Guard (USCG) or rail fixed guideway public transportation service regulated by the Federial Railroad Administration (FRA) are not required to develop agency safety plans for those modes of service.



Plan Sections

- Section 1 Transit Agency Information
- Section 2 Plan Development, Approval, and Updates
- Section 3 Safety Performance Targets
- Section 4 Safety Management Policy
- Section 5 Safety Risk Management
- ◆ Section 6 Safety Assurance
- Section 7 Safety Promotion



Plan Development

Section 3 - Safety Performance Targets

- ◆ SAFETY PERFORMANCE MEASURE: FATALITIES (total number of reportable fatalities and rate per total vehicle revenue miles by mode)
- SAFETY PERFORMANCE MEASURE: INJURIES (total number of reportable injuries and rate per total vehicle revenue miles by mode)
- ◆ SAFETY PERFORMANCE MEASURE: SAFETY EVENTS (total number of reportable events and rate per total vehicle revenue miles by mode)
- ◆ SAFETY PERFORMANCE MEASURE: SYSTEM RELIABILITY (mean distance between major mechanical failures by mode)



Section 3 – Safety Performance Targets

- Coordination with State and MPO
 - Name of each organization
 - Date of transmission of targets



Section 4 - Safety Management Policy

- ◆ The Safety Management Policy is the transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees to safety.
- Employee Safety Reporting Program



Policy Elements

- Include importance of employee reporting process
- Role of Chief Safety Officer
- Role of Accountable Executive
- Method of communicating Safety Plan to entire agency including Board of Directors or equivalent and contractors
- Importance of safety for passengers and employees



Policy Elements

- Culture of safety
- Include a clear statement about providing resources for managing safety
- Spell out unacceptable behavior
- Safety Risk Management
- Safety Assurance
- Safety Promotion
- Signed by Accountable Executive



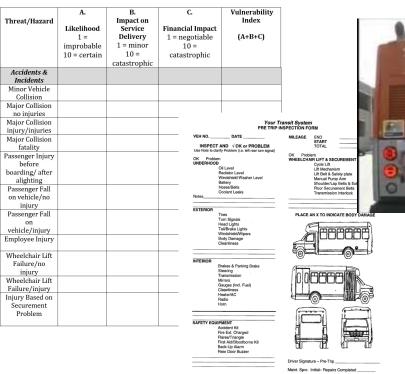
Section 5 - Safety Risk Management

• A transit agency must develop and implement a Safety Risk Management process for all elements of its public transportation system. The process must include the following activities: Safety hazard identification, safety risk assessment, and safety risk mitigation. All attributes of this section must include a method of documentation either through an existing method, modified existing method or new method.



Safety Risk Management

Safety Hazard Identification





REAR ARI



Community Transit Services, Inc. Vehicle Maintenance Log

Vendor



Safety Risk Management

Safety Risk Assessment

Risk Assessment Scale	General Definition
Level 3 Immediate	Poses an iminent threat to employees,
Response Needed	passengers or the public
Level 2 Medium	If not mitigated within 7 days could
Response Needed	become Level 3
Level 1 Low	Continue to monitor to determine if
Response Needed	further action is needed



Safety Risk Management

- Safety Risk Mitigation
 - Monitor
 - Identify Trends
 - Take Action



Section 6 - Safety Assurance

Safety performance monitoring and measurement involves the continual monitoring of a transit agency's activities to understand safety performance. Through these efforts, each transit agency should be able to determine whether it is meeting its safety objectives and safety performance targets, as well as the extent to which it is effectively implementing its SMS.



Section 6 - Safety Assurance cont.

◆ FTA is not prescribing any specific process for investigating safety events, but notes that it is critical for transit agencies to identify and understand the causes of the Accidents, Incidents, and Occurrences in their systems so that the circumstances leading to the Events can be mitigated and prevented in the future.



Section 7 - Safety Promotion

◆ FTA requires each transit agency to establish competencies and training for all agency personnel directly responsible for safety, and to establish and maintain the means for communicating safety performance and safety management information



Section 7 – Safety Promotion

- Competencies in Training
 - Proper documentation, timely recertification, employee reviews, spot checks, trends, passenger complaints
- Safety Communication
 - Employee meetings, safety committee, policy change process, opportunity for feedback, special recognitions



The plan....

- Should not be a replacement of everything you have developed in the past – repackaging and enhanced
- Must include language relevant to SMS
- Increases the level of accountability
- Should include policies and procedures being used currently – proof through documentation



TRANSIT SYSTEM acknowledges its obligation, as an employer, to provide the safest possible working conditions for our employees and to provide a safe environment for riders who use our facilities and transit services. Therefore, all our activities shall be conducted according to local, state, and federal safety standards, codes, regulations, or appropriate industry standards. Although accidents may never be totally eliminated, our objective is to prevent them, a goal worthy of our best effort.



Cont....

Our Safety and Security Plan (SSP) is the foundation of our safety program. Each level of management, supervision, and employees are obliged to become familiar with their assigned safety responsibilities, rules, and procedures and apply them when applicable. We will provide the training and resources necessary to achieve our safety and security goals, and management/supervision will be held accountable for the results.



Cont...

A safe workplace and vehicle is organized, clean, efficient, and uplifting to morale. It also projects a professionalism that will reflect well of you and TRANSIT SYSTEM. With this in mind, we encourage each and every employee to make safety your continuing personal responsibility – not only to reduce hazards and prevent accidents in the workplace, but also to improve the quality of all our services, which we provide to our riders.



Cont...

The safety of our employees and the riders we serve will not be compromised. Therefore, we sincerely solicit a commitment from all employees to support our safety program in the interest of safety, security and accident prevention.

Sincerely,

(Accountable) EXECUTIVE NAME



Questions?

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