Roadmap to Excellence

Transit Bus Safety Oversight Program
Federal Transit Administration

Florida Safety Summit
6/2/14

Presenter: Ream Lazaro

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Presentation Structure

- FTA Bus Safety Program overview
- Traditional transit approach to bus accidents
- The organizational accident
- Questions / discussion

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Bus Safety Oversight Program Overview

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Bus Program Background

U.S. Department of Transportation
Federal Transit Administration

- Voluntary oversight program
- Developed in collaboration with industry partners
- Objective – improve safety for passengers, employees, and all that share roadways with transit buses
- Initial focus on small urban and rural bus transit systems
- Now includes large urban bus transit systems and bus rapid transit (BRT)

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Bus Program Partners

- MOU signed by Bus Program Partners in 2003
  - Federal Transit Administration (FTA)
  - American Assoc. of State Highway and Transportation Officials (AASHTO)
  - American Public Transportation Assoc. (APTA)
  - Community Transportation Assoc. of America (CTAA)
- MOU defined core and enhanced elements of "model program"

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Slide 5

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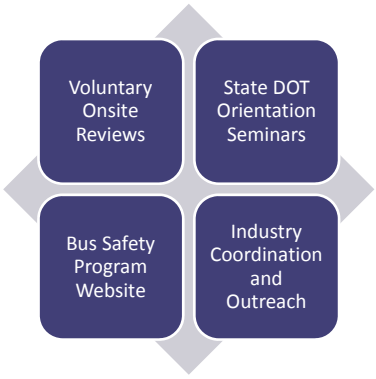
Major Bus Program Elements

- Resource website
- Voluntary onsite reviews
- Orientation seminars
- Ongoing outreach



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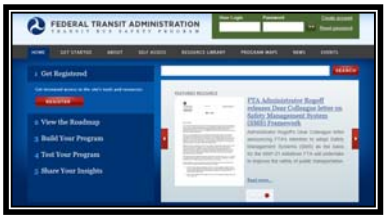
Resource Website

- Library of 1300 resources
- 1,600 registered users
- 520,000 downloads of resources
- Self-assessment tool
  - Helps transit agencies identify safety gaps
- Case studies
  - Support emergency planning and decision-making
- Safety news and events
- Registering gets you more
- Currently in redesign
  - E-learning modules



http://bussafety.fta.dot.gov/

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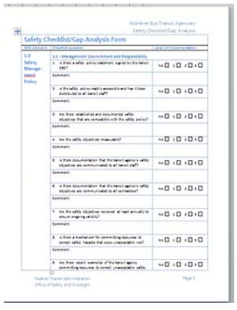
Voluntary Onsite Reviews

- Scheduled by requests from transit agencies, state DOTs, FTA regions
- Onsite for 1 – 3 days
- Voluntary in nature and designed to provide safety guidance
- Post site visit report and technical assistance safety materials
- Reviews done to date – 53
- NTD data indicates significant reduction in accidents at a transit in year after a review



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Orientation Seminars

- Co-sponsored by state DOTs / state transit associations
- Publicizes Bus Program / encourages attendees to use Program resources
- Provides safety training, guidance, technical assistance
- Demonstrates Bus Program website
- Allows dialogue on transit safety needs
- 41 seminars held to date in 40 states
- Average post-seminar evaluation 4.7 out of 5.0

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Program Outreach

- Initiatives include:
  - Presentations
    - o CTAA EXPOs
    - o FTA regional conferences
    - o National Rural Conferences
    - o MTAP/SCOPT annual meetings
    - o Tribal transit conferences
    - o State transit association conferences
  - Blast emails
  - Panels at conferences
  - Outreach to transit associations

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TRADITIONAL TRANSIT APPROACH TO BUS ACCIDENTS

Sources:
Los Angeles Metro Transit Authority
New York State DOT
West Virginia DOT

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Common Causes of Bus Accidents

- Bus collides with stationary object
- Another vehicle collides with bus standing at bus stop
- Bus pulling out of bus stop strikes another vehicle
- Intersections – left turn
- Intersections – right turn
- Intersections – running red light or stop sign

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Common Causes of Bus Accidents

- Bus sideswipes another vehicle while passing/ changing lanes
- Another vehicle sideswipes bus while passing/changing lanes
- Bus collides with a parked vehicle
- Another vehicle rear-ends bus
- Bus rear-ends another vehicle
- Bus strikes bicyclist or pedestrian
- Lift or mobility device securement

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Accident Investigation & Report

- Synopsis of Accident
  - Date and time
  - Contact info of all involved persons
  - Location
  - Accident damage and injuries
- Narrative Description of Accident
  - Chronological, if possible
  - Identify and use all available information sources

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Accident Investigation & Report

- Summary of evidence
  - Skid marks
  - Glass/metal fragments
  - Sketch
  - Statements
  - Gouge marks
  - Point transfers
  - Photos (from 35m camera not digital)
- Exhibits
  - Operation report
  - Accident data forms
  - Police report
  - Courtesy cards
  - Newspaper articles

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Accident Review

- Accident reviewed by:
  - Committee or
  - Individual manager
- Preventable / non-preventable determination made
- Operator/driver disciplined and/or retrained if accident determined preventable

Typical Categories of Preventable Accidents

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- Failure to satisfy general preventability standard
- Lifts and mobility devices
- Intersections
- Backing
- Passing
- Being passed
- Lane encroachment
- Grade crossings
- Turning
- Weather
- Fixed object
- Disabled bus
- Pedestrians
- Mechanical
- Animal related
- Front end collision
- Opposing vehicles
- Rear-end collision
- Passenger accidents
- Behavioral issues on bus
- Distracted driving
- Other

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THE ORGANIZATIONAL ACCIDENT

Sources:
National Transportation Safety Board – Robert L. Sumwalt
Federal Aviation Administration
Federal Transit Administration
James Reason and Dan Maurino

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Two Types of Accidents

- Individual accidents
  - those resulting from the actions/inactions of people
- Organizational accidents
  - those resulting largely from actions/inactions of companies/organizations

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Organizational Accidents

"Organizational accidents have multiple causes involving many people operating at different levels of their respective companies."

– James Reason, "*Managing the Risks of Organizational Accidents*

NTSB report of Washington, DC Metro subway accident

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"….the accident did not result from the actions of an individual but from the 'accumulation of latent conditions within the maintenance, managerial and organizational spheres' making it an example of a 'quintessential organizational accident.' "

Columbia Accident Investigation Board

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"When causal chains are limited to technical flaws and individual failures, the ensuing responses aimed at preventing a similar event in the future are equally limited: they aim to fix the technical problem and replace or retrain the individual responsible. Such corrections lead to a misguided and potentially disastrous belief that the underlying problem has been solved."

Organizational Accidents Involve Active and Latent Factors

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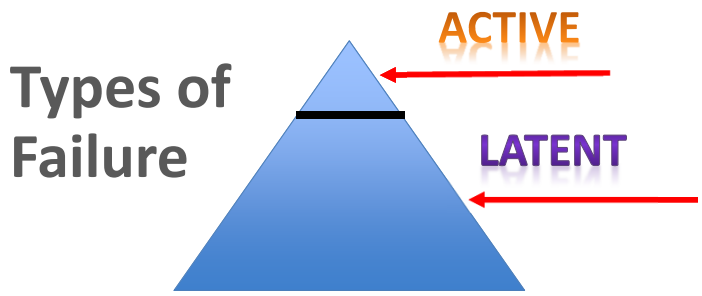

Addressing latent conditions offers the greatest potential for safety improvements

Latent Organizational Failures

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- Lack of top-level management safety commitment or focus
- Conflicts between production and safety goals
- Poor planning, communications, monitoring, control or supervision
- Organizational deficiencies leading to blurred safety and administrative responsibilities
- Deficiencies in training
- Poor maintenance management or control
- Monitoring failures by regulatory or safety agencies

"The discovery of human error should be considered the starting point of the investigation, and not the ending point."

- ISASI Forum

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Investigating Organizational Accidents

- Don't stop at the obvious human error/mechanical problem
- Always attempt to understand the behaviors, conditions, circumstances behind the error or unsafe condition
- Only then can you actually correct the underlying issues

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Safety Investigation

- The purpose of a safety investigation is to prevent future accidents and incidents
- Organizational accidents are not caused by individuals
- Therefore, focusing the investigation solely on errors of front line employees will not provided significant safety improvement
- Looking at various elements of the system can allow broad-reaching recommendations to correct systemic deficiencies

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EXAMPLE POTENTIAL ORGANIZATIONAL FACTORS CONTRIBUTING TO BUS ACCIDENTS

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- Disengaged management
- Ineffective organization structure
- Poor internal communication
- Un-empowered safety professional(s)
- Ineffective/lack of planning, policies, procedures
- Service delivery supersedes safety
- Inadequate financial resources applied to safety
- Poor morale / safety culture
- Poor labor relations
- Ineffective recruitment / selection
- Excessive workforce turnover

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- Ineffective training / lack of skill competencies
- Un-researched vehicle procurement
- Poor vehicle maintenance / vehicle inspections
- Fixed route schedules too tight
- Demand response schedules too tight
- Unsafe bus stop placement
- Unsafe demand response pickup points
- Lack of supervision / performance monitoring
- Limited fatigue management program
- Unmonitored weather conditions
- Unmonitored distracted driving

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THANK YOU VERY MUCH

QUESTIONS ?