

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008

SUMMARY OF RESULTS



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DOT/FRA/ORS-09/001

Final Report
February 2009

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METRIC/ENGLISH CONVERSION FACTORS

ENGLISH TO METRIC

LENGTH (APPROXIMATE)

1 inch (in) = 2.5 centimeters (cm)
 1 foot (ft) = 30 centimeters (cm)
 1 yard (yd) = 0.9 meter (m)
 1 mile (mi) = 1.6 kilometers (km)

AREA (APPROXIMATE)

1 square inch (sq in, in²) = 6.5 square centimeters (cm²)
 1 square foot (sq ft, ft²) = 0.09 square meter (m²)
 1 square yard (sq yd, yd²) = 0.8 square meter (m²)
 1 square mile (sq mi, mi²) = 2.6 square kilometers (km²)
 1 acre = 0.4 hectare (he) = 4,000 square meters (m²)

MASS - WEIGHT (APPROXIMATE)

1 ounce (oz) = 28 grams (gm)
 1 pound (lb) = 0.45 kilogram (kg)
 1 short ton = 2,000 pounds (lb) = 0.9 tonne (t)

VOLUME (APPROXIMATE)

1 teaspoon (tsp) = 5 milliliters (ml)
 1 tablespoon (tbsp) = 15 milliliters (ml)
 1 fluid ounce (fl oz) = 30 milliliters (ml)
 1 cup (c) = 0.24 liter (l)
 1 pint (pt) = 0.47 liter (l)
 1 quart (qt) = 0.96 liter (l)
 1 gallon (gal) = 3.8 liters (l)
 1 cubic foot (cu ft, ft³) = 0.03 cubic meter (m³)
 1 cubic yard (cu yd, yd³) = 0.76 cubic meter (m³)

TEMPERATURE (EXACT)

$[(x-32)(5/9)]^{\circ}\text{F} = y^{\circ}\text{C}$

METRIC TO ENGLISH

LENGTH (APPROXIMATE)

1 millimeter (mm) = 0.04 inch (in)
 1 centimeter (cm) = 0.4 inch (in)
 1 meter (m) = 3.3 feet (ft)
 1 meter (m) = 1.1 yards (yd)
 1 kilometer (km) = 0.6 mile (mi)

AREA (APPROXIMATE)

1 square centimeter (cm²) = 0.16 square inch (sq in, in²)
 1 square meter (m²) = 1.2 square yards (sq yd, yd²)
 1 square kilometer (km²) = 0.4 square mile (sq mi, mi²)
 10,000 square meters (m²) = 1 hectare (ha) = 2.5 acres

MASS - WEIGHT (APPROXIMATE)

1 gram (gm) = 0.036 ounce (oz)
 1 kilogram (kg) = 2.2 pounds (lb)
 1 tonne (t) = 1,000 kilograms (kg) = 1.1 short tons

VOLUME (APPROXIMATE)

1 milliliter (ml) = 0.03 fluid ounce (fl oz)
 1 liter (l) = 2.1 pints (pt)
 1 liter (l) = 1.06 quarts (qt)
 1 liter (l) = 0.26 gallon (gal)
 1 cubic meter (m³) = 36 cubic feet (cu ft, ft³)
 1 cubic meter (m³) = 1.3 cubic yards (cu yd, yd³)

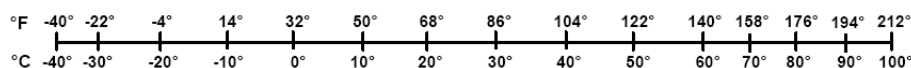
TEMPERATURE (EXACT)

$[(9/5)y + 32]^{\circ}\text{C} = x^{\circ}\text{F}$

QUICK INCH - CENTIMETER LENGTH CONVERSION



QUICK FAHRENHEIT - CELSIUS TEMPERATURE CONVERSION



For more exact and/or other conversion factors, see NIST Miscellaneous Publication 286, Units of Weights and Measures. Price \$2.50
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ACKNOWLEDGMENTS

The 2008 ROW Fatality and Trespass Reduction Workshop and this report were sponsored by the U.S. Department of Transportation; Federal Railroad Administration; Office of Safety; Federal Transit Administration and Caltrain. The authors wish to thank all those that provided direction, helpful guidance and input to the conduct of the workshop. Special thanks to Jo Strang FRA Associate Administrator of Safety for her delivery of the opening remarks and participation.

The authors also wish to extend special thanks to all of the 2008 Workshop Planning Team members for their contributions to the successful planning and conduct of this workshop. The Planning Team members included the following individuals:

Robert Lauby	Federal Railroad Administration (FRA)
Daniel Knot	Federal Railroad Administration (FRA)
Robert Scarola	Federal Railroad Administration (FRA)
Ron Ries	Federal Railroad Administration (FRA)
Levern McElveen,	Federal Transit Administration (FTA)
Jeffrey Davis	Federal Transit Administration (FTA)
Christopher Payne	Caltrain
Larry Day	Caltrain
William Grizard	American Public Transportation Association (APTA)
Robert Adduci	Volpe National Transportation Systems Center
Frederick Mottley	Volpe National Transportation Systems Center

Robert Adduci, from the Volpe Center Rail and Transit Systems Division was the report team leader and provided overall direction for the workshop.

The authors wish to thank and acknowledge the contributions of the speakers and presenters.

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ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

EXECUTIVE SUMMARY

This report documents the activities and results of the first Right-of-Way (ROW) Fatality and Trespass Prevention Workshop which was held April 1 & 2, 2008 at the Caltrain headquarters in San Carlos, California. The workshop was sponsored by the Federal Railroad Administration (FRA) Office of Safety and the Federal Transit Administration (FTA); hosted by Caltrain; and organized by the U.S. DOT's Volpe National Transportation Systems Center.

This event took an in-depth look at the issues surrounding one of the biggest risk areas facing the rail community - trespassing and fatalities on the right-of-way. This workshop was the first to bring together multiple rail constituents including transit, freight and commuter rail to focus on common problems and solutions surrounding ROW fatality and trespass prevention. The goal of the workshop was to identify and share existing industry leading practices and explore new strategies that the rail industry could pursue to reduce the number of right-of-way and trespasser incidents and fatalities.

The two day workshop included 23 presentations from multiple organizations on ROW Fatality/Trespass issues covering the following six topic areas:

- Community Outreach
- Police/Enforcement
- Hazard Management
- Technology
- Infrastructure I
- Infrastructure II - Engineering

The workshop presented a varied program presented by rail/transit experts and safety professionals who shared their ideas on key issues, best practices, technical developments, human behavior, suicide prevention, law enforcement, and education methods and techniques related to ROW fatality and trespass reduction. The workshop allowed attendees to hear about and discuss advances, accomplishments, challenges, approaches and best practices in ROW fatality / trespass prevention. The workshop provided an interesting and motivational look at advances in ROW fatality and trespass reduction technologies, education and operations. The result was an exchange of ideas, an opportunity to network with peers, a showcase of the newest and best safety-related developments from around the world, and an opportunity to set the foundation for future cooperation. The workshop offered the participants increased skills and novel approaches to issues. Attendees left the workshop with new tools, methods and solutions that are able to be implemented or introduced at their respective organizations.

The workshop was well attended by 121 delegates from 62 organizations from various interested sectors including: Federal, State and Local government officials; railroad and transit operators; industry groups; consultants; private companies, unions; law enforcement; and four international organizations.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008

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This document provides a summary of the workshop presentations listed in Table 1 below. An accompanying DVD is also provided which contains the presentations, videos and transcript from the workshop.

Table 1. List of Presentations

Session 1– Community Outreach	
ROWF&TR-2008-0401-02-03	Helen Sramek (OLI) “Address the Pedestrian Rail Problem”
ROWF&TR-2008-0401-02-04	Tracy Berge (Metrolink) “Trespassing Prevention & Reduction”
ROWF&TR-2008-0401-02-05	Ramya Sundararaman (AAS) “AAS Rail System Suicide Prevention Project”
ROWF&TR-2008-0401-02-06	Stephanie Fortin (TTC) “Preventing Suicides on the Subway: The Toronto Transit Commission’s Gatekeeper Program”
Session 2–Police/Enforcement	
ROWF&TR-2008-0401-02-07	David Triolo (San Mateo County Sheriff’s Office) “Progressive Police Practices”
ROWF&TR-2008-0401-02-08	Richard Wessler (BNSF) “FRA/FTA Right of Way Fatality Workshop”
ROWF&TR-2008-0401-02-09	Richard Ferlauto (LIRR) and Stephen Conner (Metro North) “MTA Right-of-Way Task Force”
ROWF&TR-2008-0401-02-10	Ng Tek Poo (SMRT) “SMRT’s Practices–Trespasser Fatalities Mitigation”
Session 3–Hazard Management	
ROWF&TR-2008-0401-02-11	Robert Lauby (FRA) “FRA Hazard Management”
ROWF&TR-2008-0401-02-12	Ken Sundberg (LIRR) “Hazardous Assessment Approach to Trespass Management–High Security Fence”
ROWF&TR-2008-0401-02-13	Stephen Klejst (New Jersey Transit (NJT)) “Right-of-Way Fencing Policy”
ROWF&TR-2008-0401-02-14	Stephen Klejst (New Jersey Transit (NJT)) “Passenger Safety Initiative–Second Train in Station”
ROWF&TR-2008-0401-02-15	Michael Conlon (Minnesota North Star) “Government Plaza Station, Pedestrian Behavior and the Need for Intertrack Fencing Safety Enhancement”
ROWF&TR-2008-0401-02-16	Christopher Payne (Caltrain) “Building Foundations for Hazard Analysis”
Session 4–Technology	
ROWF&TR-2008-0401-02-17	Suzanne Horton (DOT Volpe Center) “Public Education and Enforcement Research Study”
ROWF&TR-2008-0401-02-18	Marco daSilva (DOT Volpe Center) “Trespass Deterrent Demonstration Project Update”
ROWF&TR-2008-0401-02-19	Deborah Wojnicz (TSA) “An Overview of the Transportation Security Administration’s Surface Transportation Security Inspection Program”
ROWF&TR-2008-0401-02-20	Sam Raab (CSX Transportation (CSXT)) “Electronic Security Systems”
ROWF&TR-2008-0401-02-21	Sam Raab (CSX Transportation (CSXT)) “NCR Rail Pilot Project”

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Session 5–Infrastructure I	
ROWF&TR-2008-0401-02-22	Phil Therrien (Edmonton Transit) “Crossing Protection”
ROWF&TR-2008-0401-02-23	Phil Therrien (Edmonton Transit) “Video Usage”
ROWF&TR-2008-0401-02-24	Bradley Barkman (SFRTA) and Brian Reeves (FDOT) “ROW Fatality and Trespass Reduction Workshop”
ROWF&TR-2008-0401-02-25	Vijay Khawani (LA Metro) “FTA/FRA Trespasser/Fatality Reduction and Effective Practices Process Workshop”
ROWF&TR-2008-0401-02-26	Michael Kirchanski (SF Metro) “Welcome to Operation Lifesaver”
Session 6– Infrastructure II (Engineering)	
ROWF&TR-2008-0401-02-27	Brian Gilleran (FRA) “Trespasser Reduction and Effective Practices Workshop”
ROWF&TR-2008-0401-02-28	James Fox (SEPTA) “At Grade Cross Walk Protection, 2 nd Train Coming Warning Device”
ROWF&TR-2008-0401-02-29	Christopher Williams (Amtrak) “Amtrak Trespass Incident Reduction Initiatives”

Workshop discussions indicate that there are still many future challenges to face in reducing the number of ROW and trespass fatalities and incidents. Challenges include the multi-faceted nature of the problem, limited available funding, data availability, accessibility, quality, and standardization. The need for an industry-wide approach to the problem and the need for closer cooperation were also clear.

This workshop highlighted the importance of a system-wide approach, of linking security to trespass activities, and the importance of leveraging the experiences of the entire rail/transit community both within the US and internationally. This workshop and future workshops will aid in advancing and transferring promising new technologies to reduce ROW fatalities and trespassing. Results of this workshop will help FRA and FTA in their process to identify safety research areas and select specific safety R&D projects for funding; as well as use the experience gained through this workshop to help in their strategic planning.

Workshop attendees responded positively to the workshop content and quality and overwhelmingly indicated the desire for this workshop to continue in the future. To guarantee continued success in trespass reductions, FRA and FTA hopes to make this workshop an annual event. This will ensure that changes in railroad operating trends are captured and considered in future R&D project development activities and that the rail community can continue to benefit from the best industry practices.

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ACRONYMS

A

AAR	Association of American Railroads
AAS	American Association of Suicidology
AASHTO	American Association of State Highway and Transportation Officials
AED	Automated External Defibrillator
APTA	American Public Transportation Association

B

BART	Bay Area Rapid Transit
BLET	Brotherhood of Locomotive Engineers and Trainmen
BNSF	Burlington Northern & Santa Fe

C

CAPUC	California Public Utilities Commission
CASTO	California Association of School Transportation Officials
CARE	Child Abduction Regional Emergency
CCTV	Closed Circuit Television
CFR	Code of Federal Regulations
CIT	Crisis intervention Team
CPTED	Crime Prevention Through Environmental Design
COTS	Commercial Off-the-Shelf
CPR	Cardiopulmonary Resuscitation

CSXT	CSX Transportation
------	--------------------

D

DE	Directed Enforcement
DHS	Department of Homeland Security
DOT	Department of Transportation

F

FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration

G

GCCI	Grade Crossing Collision Investigation
------	--

H

HA	Hazard Analysis
HISEP	High Intensity Safety Enforcement Program
HSAS	Homeland Security Advisory System

J

JPA	Joint Powers Authority
-----	------------------------

L

LAMTA	Los Angeles Metropolitan Transportation Authority
LEA	Law Enforcement Agency
LIRR	Long Island Railroad

LRT	Light Rail Transit
-----	--------------------

M

MTA	Metropolitan Transportation Authority
MUTCD	Manual on Uniform Traffic Control Devices

N

NCR	National Capital Region
NJT	New Jersey Transit
NSSE	National Security Special Event

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<i>O</i>		<i>T</i>	
OLI	Operation Lifesaver, Incorporated	TEASS	Train Entry Alert Security System
<i>P</i>		TIH	Toxic Inhalation Hazard
PEER	Public Education and Enforcement Research	TRACKS	Together Railroad and Community Keeping Safe
<i>R</i>		TSA	Transportation Security Administration
R&D	Research and Development	TSAW	Train Safety Awareness Week
RFID	Radio Frequency Identification	TTC	Toronto Transit Commission
ROW	Right-of-Way	<i>U</i>	
ROWF&TR	Right-of-Way Fatality and Trespass Reduction	USDOT	United States Department of Transportation
RSAC	Railroad Safety Advisory Committee	UPR	Union Pacific Railroad Company
<i>S</i>		<i>V</i>	
SAI	Security Action Items	VTA	Valley Transportation Authority
SCRRA	Southern California Regional Rail Authority		
SEPTA	Southeastern Pennsylvania Transportation Authority		
SFRTA	South Florida Regional Transportation Authority		
SMRT	Singapore Mass Rapid Transit		
SSPP	System Safety Program Plan		
SWAT	Special Weapons and Tactics		

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1. Introduction

This report documents the activities and results of the first Right-of-Way (ROW) Fatality and Trespass Prevention Workshop sponsored by the Federal Railroad Administration (FRA) Office of Safety and the Federal Transit Administration (FTA) and hosted by Caltrain. This workshop, which was held April 1 & 2, 2008 at the Caltrain headquarters in San Carlos, California, was the first to bring together multiple rail constituents including transit, freight and commuter rail to focus on common problems.

The two day workshop included 23 presentations from multiple organizations on ROW Fatality/Trespass issues covering the following six topic areas:

- Community Outreach
- Police/Enforcement
- Hazard Management
- Technology
- Infrastructure I
- Infrastructure II - Engineering

The workshop goal was to identify and recommend new and existing strategies that the rail industry could pursue to assist in reducing the number of pedestrian and trespasser casualties.

The workshop allowed attendees to hear about and discuss advances, accomplishments, challenges and best practices in ROW Fatality / Trespass prevention technology and operations. The workshop shared approaches and promoted cooperation.

1.1. Background

The Department of Transportation and industry researchers have long recognized the need for a focused trespass prevention effort. Other efforts have included:

- FRA's Highway-Rail Crossing Safety and Trespass Prevention Program
- FRA workshops on Trespasser Prevention (first hosted in March 1992)
- FRA Grade Crossing Research Needs Workshops which include a Trespass topic
- International Level Crossing Safety and Trespass Prevention Symposium
- Rail Corridor Safety Conference; Western Regional Grade-Crossing Safety Training Conference; and Eastern Rail Crossing Conference
- American Public Transportation Association (APTA) Rail Conference / System Safety Seminar

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- FTA Trespass Prevention initiatives such as SharpRail
- Operation Lifesaver which has focused on grade-crossing safety and trespasser prevention programs
- Railroad and Transit Trespass Prevention programs
- Local Law Enforcement Trespass Prevention programs

The U.S. Department of Transportation fiscal year 2008 budget set the targeted performance measure to reduce train accidents and incidents to 18.45 (per million train miles). Starting in FY 2008 the measure included accidents/incidents involving trespassers onto railroad property.

Grade crossing and rail trespasser incidents continue to cause a large proportion of the deaths associated with railroading. Greater than half of all the fatal injuries on United States railroads are sustained by trespassers. In 1990 the number of trespassers who died on rail rights-of-way exceeded 500 for the first time. Since 1996 trespasser fatalities have exceeded fatalities at grade crossings as the largest category of rail-related deaths (see Figure 1). Grade crossing and rail trespassing deaths accounted for 97 percent of the 912 total rail-related deaths in 2006. In 2006, 521 persons died while on railroad property without authorization, and 368 persons lost their lives in grade crossing accidents. The chart shown in Figure 2 shows the railroad-related fatalities for the calendar year 2002, as reported by the railroads.

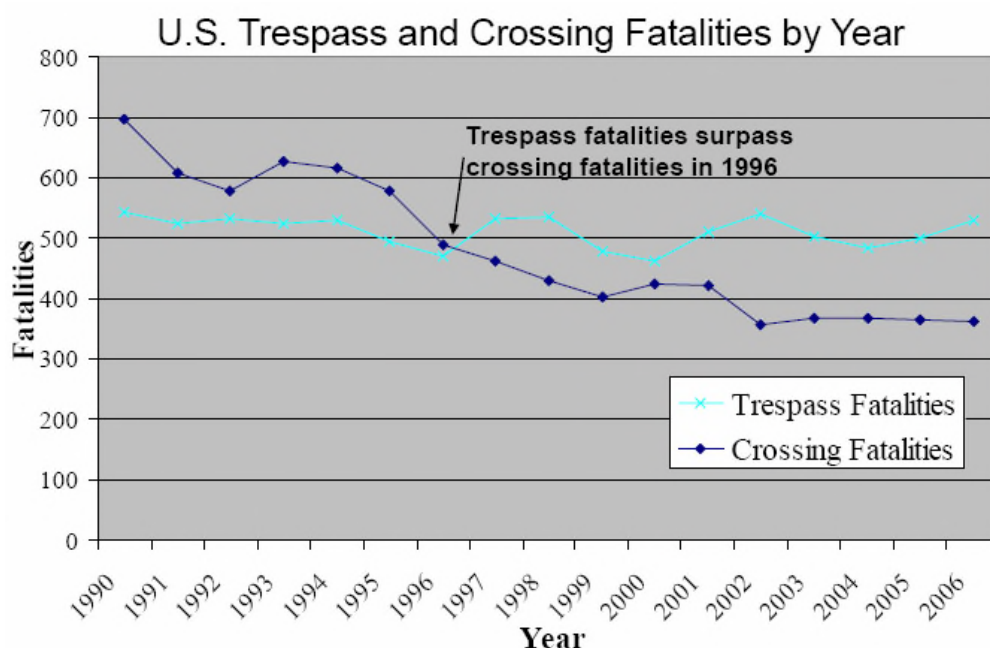


Figure 1. U.S. Trespass and Crossing Fatalities 1990-2006

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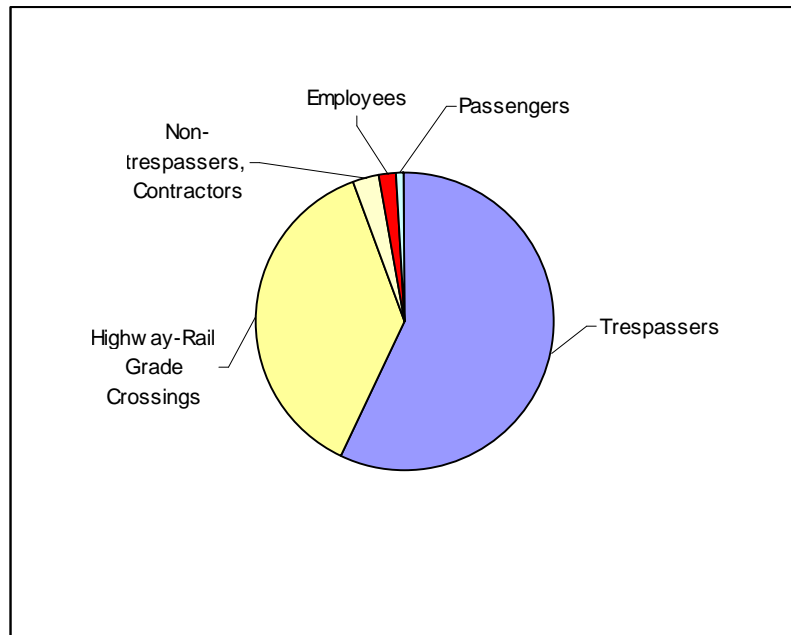


Figure 2. Railroad Related Fatalities 2002

The goal of the prevention efforts highlighted in this workshop is to raise awareness of the illegality of, dangers inherent in, and the extent of, trespassing on the railroad right-of-way as well as the dangers of working within the ROW. The challenge is to continuously improve safety within the ROW and at grade crossings as they represent a significant portion of the overall risk from highway and railroad operations. Addressing this problem is complicated by the fact that trespassers are not a single, cohesive group. Their one common attribute is the illegality of their act (trespassing). Because of this diversity, it is not likely that trespassers will respond to a single national initiative.

Trespasser defined: A person who is on that part of railroad property used in railroad operations and whose presence is prohibited, forbidden or unlawful [49 CFR 239.103].

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2. The Workshop

The Right-of-Way (ROW) Fatality and Trespass Reduction Workshop was convened by Daniel Knotte of the Federal Railroad Administration (FRA) Office of Safety. This event took an in-depth look at the issues surrounding one of the biggest risk areas facing the rail community – that of third party intrusions (trespass) and the fatalities on the right-of-way.

The goal of the workshop was to share industry leading practices and explore new strategies that the rail industry could pursue to reduce the number of right of way fatalities and trespasser incidents. Safety professionals presented best practices, state-of the art technologies and the effective use of the hazard management process for identification, resolution and measurement of the success of trespasser mitigation strategies.

The workshop presented a varied program presented by experts who shared their ideas on key issues and technical developments, human behavior, suicide prevention, law enforcement, education methods and techniques all related to ROW fatality and trespass reduction. Workshop attendees included an international mix of leaders from railroad companies, government departments and agencies, research organizations, and private companies.

The workshop provided an interesting and motivational look at advances in ROW fatality and trespass reduction technologies, education and operations. The result was an exchange of ideas, an opportunity to network with peers, and a showcase of the newest and best safety-related developments from around the world. The workshop offered its participants increased skills and novel approaches to issues. Attendees left the workshop with new tools, methods and solutions that are able to be implemented or introduced at their respective organizations.

2.1. Purpose

The workshop was designed to provide a forum to discuss advances in technology and operations in order to explore best practices and share international dialogue on activities supporting

Workshop Topics

Community Outreach

- Operation Lifesaver
- Suicide prevention
- Advocacy group relationships
- AAR study
- Public service messages
- Funding and politics

Police / Enforcement

Hazard Management

- Crossings
- Stations
- Operating practices
- Police protocol
- Identifying the mentally challenged

Technology

Infrastructure I /

Infrastructure II (Engineering)

- Sealed right of way
- Second train warning devices
- Quad gates
- Video usage on and off trains
- Intrusion technology

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ROW/trespass reduction.

The workshop provided up to date information and research efforts from selected organizations, which covered a predetermined number of research topics by a large group of delegates from all areas of technology and various organizations associated with the transit/rail industry. Workshop discussions will help define future research needs for the Trespass Reduction Program of the Federal Railroad Administration, Office of Safety with collaboration and cooperation of other organizations with similar interest.

2.2. Organization

Although trespass issues have been part of other events, the workshop planners considered it appropriate to have a dedicated more focused workshop in order to gather new information and exchange information with experts, and organizations dealing with ROW fatality and trespass issues.

To achieve the objectives of the workshop, the FRA led planning team (see Table 2) developed the format for the workshop.

Table 2. Planning Team

Team Member	Organization
Robert Lauby	Federal Railroad Administration (FRA)
Daniel Knot	Federal Railroad Administration (FRA)
Robert Scarola	Federal Railroad Administration (FRA)
Ron Ries	Federal Railroad Administration (FRA)
Jeffrey Davis	Federal Transit Administration (FTA)
Levern McElveen	Federal Transit Administration (FTA)
Christopher Payne	Caltrain
Larry Day	Caltrain
William Grizard	American Public Transportation Association (APTA)
Robert Adduci	Volpe National Transportation Systems Center
Frederick Mottley	Volpe National Transportation Systems Center

The Planning Team agreed that it was necessary to inform invitees and participants of historical perspectives of research as well as current research activities. The team agreed on highlighting research activities within six topic areas:

1. Community Outreach
2. Enforcement
3. Hazard management
4. Technology
5. Infrastructure I
6. Infrastructure II – Engineering

The Coordinating Team arranged for 4 speakers (see Table 3) and 27 panelists/presenters (see Table 4) to provide up to date information, research, treatments, efforts etc. in the six workshop topic areas. Four facilitators (shown in Table 4) were designated to oversee the sessions and direct the panel discussions of the topics introduced in each of the sessions.

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Table 3. Speakers

Speakers	Title / Organization
Michael Scanlon	GM/CEO San Mateo County Transit District / Executive Director Caltrain
Jo Strang	Associate Administrator for Safety Federal Railroad Administration (FRA)
Edward Carranza, Jr.	Deputy Regional Administrator – Region 9 Federal Transit Administration (FTA)
Ronald Ries	Staff Director, Crossing Safety & Trespass Prevention Federal Railroad Administration (FRA)

Table 4. Facilitators / Panelists

Session / Topic Area	Facilitators / Panelists
Session 1– Community Outreach	Facilitator - Ronald Ries (Federal Railroad Administration (FRA)) (1) Helen Sramek (President, Operation Lifesaver, Incorporated (OLI)) (2) Tracy Berg (Metrolink–Public Safety & Environment Manager) (3) Ramya Sundararaman, MD (American Association of Suicidology (AAS)) (4) Stephanie Fortin (Toronto Transit Commission (TTC))
Session 2– Police/Enforcement	Facilitator - Ronald Ries (Federal Railroad Administration (FRA)) (1) David Triolo (San Mateo County (California) Sheriff’s Office) (2) Richard Wessler (BNSF Railway Company (BNSF)) (3) Richard Ferlauto (Long Island Railroad (LIRR)) (4) Stephen Conner (New York Metropolitan Transportation Authority–Metro North Railroad (Metro North)) (5) Ng Tek Poo (Singapore Mass Rapid Transit (SMRT))
Session 3–Hazard Management	Facilitator - Daniel Knote (Federal Railroad Administration (FRA)) (1) Robert Lauby (Federal Railroad Administration (FRA)–Office of Safety) (2) Ken Sundberg (Long Island Railroad (LIRR)) (3) Stephen Klejst (New Jersey Transit (NJT)) (4) Michael Conlon (Minnesota North Star) (5) Christopher Payne (Caltrain)
Session 4–Technology	Facilitator - William Grizard (American Public Transportation Association (APTA)) (1) Suzanne Horton (DOT Volpe Center) (2) Marco daSilva (DOT Volpe Center) (3) Deborah Wojnicz (Transportation Security Administration (TSA)) (4) Sam Raab (CSX Transportation)
Session 5– Infrastructure I	Facilitator - William Grizard (American Public Transportation Association (APTA)) (1) Phil Therrien (Edmonton (Canada) Transit) (2) Bradley Barkman (South Florida Regional Transportation Authority (SFRTA)) (3) Brian Reeves (Florida Department of Transportation (FDOT)) (4) Vijay Khawani (Los Angeles (California) Metro (LA Metro)) (5) Michael Kirchanski (San Francisco (California) Muni (SF Muni))
Session 6– Infrastructure II (Engineering)	Facilitator - Robert Lauby (Federal Railroad Administration (FRA)) (1) Brian Gilleran (Federal Railroad Administration (FRA)–Office of Safety) (2) James Fox (Southeastern Pennsylvania Transportation Authority (SEPTA)) (3) Christopher Williams (National Rail Passenger Corporation (Amtrak))

Panelist bibliographies are provided in Appendix D.

2.3. Workshop Format / Agenda

The Workshop was conducted over two days, starting on Tuesday, April 1 and ending on Wednesday, April 2. The technical program covered the six topics defined by the workshop planning team. The first day was dedicated to introductory remarks and reviewing the current status of research with 14 presentations covering the first three topic areas. The second day consisted of an additional 13 presentations on the last three 3 topic areas and a short wrap-up. The workshop agenda is shown in Figure 3.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
- SUMMARY OF RESULTS

ROW Fatality and Trespasser Reduction Workshop
April 1 & 2, 2008
1250 San Carlos Ave., San Carlos, CA

Agenda

Tuesday, April 1

7:00 a.m. – 7:45 a.m.

Registration and continental breakfast

8:00 a.m. – 8:45 a.m.

Opening Remarks

Dan Knotz, FRA, Call to Order
Chris Payne, Caltrain, Safety Briefing
Michael J. Scanlon, Executive Director, Caltrain
Jo Strang, Associate Administrator for Safety, FRA
Edward Carranza, Deputy Regional Administrator, FTA Region 9
Ronald Ries, Staff Director, Crossing & Trespasser Programs, FRA

8:45 a.m. – 10:15 a.m.

SESSION 1 — Community Outreach — Ronald Ries, FRA, Facilitator

Address the Pedestrian Rail Problem — Helen Sramek, OLS
Trespassing Prevention & Reduction — Tracy Berg, Metrolink
Countermeasures to Prevent Railroad Suicides — Suicidology Dr. Sunderarama
Preventing Suicides on the Subway: The Toronto Transit Commission's
Gatekeeper Program — Stephanie Fortin, TTC
Discussion — Session 1

10:15 a.m. – 10:30 a.m.

Break

10:30 a.m. – Noon

SESSION 2 — Police/Enforcement — Ronald Ries, FRA, Facilitator

Progressive Police Practices — Caltrain David Triolo, San Mateo County Sheriff's Office
Trespasser Abatement — Richard Wessler, BNSF
Right of Way Task Force — Richard Ferlauto, LIRR and Chief Stephen Conner, NYMTA
Trespasser Fatalities Mitigation — SMRT Tek Poo Ng
Discussion - Session 2

Noon – 1:00 p.m.

Lunch

1:00 p.m. – 2:45 p.m.

SESSION 3 — Hazard Management — Dan Knotz, FRA, Facilitator

FRA Hazard Management — Robert Lauby, FRA
Hazard Assessment Approach to Trespass Management — Ken Sunberg, LIRR
Passenger Safety Initiatives (Second Train) — Steve Kleist, NJT
Inter-track Fencing — Michael Conlon, MN North Star
Building Foundations for Hazard Analysis — Chris Payne, Caltrain
Discussion - Session 3



Federal Railroad
Administration



ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

<u>2:45 p.m. – 3:00 p.m.</u>
Break
<u>3:00 p.m. – 4:00 p.m.</u>
Wrap-Up Day One
General Comments from Sessions
Wednesday April 2
<u>7:00 a.m. – 7:45 a.m.</u>
Continental Breakfast
<u>8:00 a.m. – 9:30 a.m.</u>
SESSION 4 – Technology — Bill Grizard, APTA, Facilitator
Public Education and Enforcement Research Study — Suzanne Horton, Volpe
Trespass Deterrent Demonstration Project Update — Marco DaSilva, Volpe
Electronic Security Systems — Sam Raab, CSX
Surface Transportation Security Program — Deb Wojnicz, TSA
Discussion - Session 4
<u>9:30 a.m. – 9:45 a.m.</u>
Break
<u>9:45 a.m. – 11:15 a.m.</u>
SESSION 5 Infrastructure I — Bill Grizard, APTA, Facilitator
Crossing Protection/LRT — Phil Thermen, CCTV Edmonton
Grade Crossing and Fencing — Brad Barkman, TriRail and Brian Reeves, FDOT
Metro Strategies for Grade Crossing Protection — V.J. Khawani, LA Metro
OLV Infrastructure — Michael Kirchanski, SF Muni
Discussion - Session 5
<u>11:15 a.m. – 11:30 a.m.</u>
Break
<u>11:30 a.m. – 12:45 p.m.</u>
SESSION 6 Infrastructure II (Engineering) — Robert Lauby, FRA, Facilitator
Pedestrian Crossing and Grade Crossing — Brian Gilleran, FRA
Second Train Warning Devices — James Fox, SEPTA
Trespass Incident Reduction Initiatives — Chris Williams and Alvin Richardson, Amtrak
Discussion - Session 6
<u>12:45 p.m. – 2:00 p.m.</u>
Lunch
<u>2:00 p.m. – 3:30 p.m.</u>
General Comments on Workshop
Next Steps
Close Out

Figure 3. Workshop Agenda

The presentations and presenters for each topic are provided in Table 5 below along with the presentation file name on the workshop DVD. The full content of this DVD is provided in Appendix C.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
- SUMMARY OF RESULTS

Table 5. List of Presentations

Session 1– Community Outreach	
ROWF&TR-2008-0401-02-03	“Address the Pedestrian Rail Problem” - Helen Sramek (OLI)
ROWF&TR-2008-0401-02-04	“Trespassing Prevention & Reduction” - Tracy Berge (Metrolink)
ROWF&TR-2008-0401-02-05	“AAS Rail System Suicide Prevention Project” - Ramya Sundararaman (AAS)
ROWF&TR-2008-0401-02-06	“Preventing Suicides on the Subway: The Toronto Transit Commission’s Gatekeeper Program” - Stephanie Fortin (TTC)
Session 2–Police/Enforcement	
ROWF&TR-2008-0401-02-07	“Progressive Police Practices” - David Triolo (San Mateo County Sheriff’s Office)
ROWF&TR-2008-0401-02-08	“FRA/FTA Right of Way Fatality Workshop” - Richard Wessler (BNSF)
ROWF&TR-2008-0401-02-09	“MTA Right-Of-Way Task Force” - Richard Ferlauto (LIRR) and Stephen Conner (Metro North)
ROWF&TR-2008-0401-02-10	“SMRT’s Practices–Trespasser Fatalities Mitigation” - Ng Tek Poo (SMRT)
Session 3–Hazard Management	
ROWF&TR-2008-0401-02-11	“FRA Hazard Management” - Robert Lauby (FRA)
ROWF&TR-2008-0401-02-12	“Hazardous Assessment Approach to Trespass Management–High Security Fence” - Ken Sundberg (LIRR)
ROWF&TR-2008-0401-02-13	“Right-of- Way Fencing Policy” - Stephen Klejst (NJT)
ROWF&TR-2008-0401-02-14	“Passenger Safety Initiative–Second Train in Station” - Stephen Klejst (NJT)
ROWF&TR-2008-0401-02-15	“Government Plaza Station, Pedestrian Behavior and the Need for Intertrack Fencing Safety Enhancement” - Michael Conlon (Minnesota North Star)
ROWF&TR-2008-0401-02-16	“Building Foundations for Hazard Analysis” - Christopher Payne (Caltrain)
Session 4–Technology	
ROWF&TR-2008-0401-02-17	“Public Education and Enforcement Research Study” - Suzanne Horton (Volpe)
ROWF&TR-2008-0401-02-18	“Trespass Deterrent Demonstration Project Update” - Marco daSilva (Volpe)
ROWF&TR-2008-0401-02-19	“An Overview of the Transportation Security Administration’s Surface Transportation Security Inspection Program” - Deborah Wojnicz (TSA)
ROWF&TR-2008-0401-02-20	“Electronic Security Systems” - Sam Raab (CSXT)
ROWF&TR-2008-0401-02-21	“NCR Rail Pilot Project” - Sam Raab (CSXT)
Session 5–Infrastructure I	
ROWF&TR-2008-0401-02-22	“Crossing Protection” - Phil Therrien (Edmonton Transit)
ROWF&TR-2008-0401-02-23	“Video Usage” - Phil Therrien (Edmonton Transit)
ROWF&TR-2008-0401-02-24	“ROW Fatality and Trespass Reduction Workshop” - Bradley Barkman (SFRTA) and Brian Reeves (FDOT)
ROWF&TR-2008-0401-02-25	“FTA/FRA Trespasser/Fatality Reduction and Effective Practices Process Workshop” - Vijay Khawani (LA Metro)
ROWF&TR-2008-0401-02-26	“Welcome to Operation Lifesaver” - Michael Kirchanski (SF Metro)
Session 6–Infrastructure II (Engineering)	
ROWF&TR-2008-0401-02-27	“Trespasser Reduction and Effective Practices Workshop” - Brian Gilleran (FRA)
ROWF&TR-2008-0401-02-28	“At Grade Cross Walk Protection, 2 nd Train Coming Warning Device” - James Fox (SEPTA)
ROWF&TR-2008-0401-02-29	“Amtrak Trespass Incident Reduction Initiatives” - Christopher Williams (Amtrak)

2.4. Attendees

The workshop was advertised on the FRA, FTA, Caltrain, APTA and Volpe websites.¹ The workshop was free to participants and registration was on a first come first serve basis.

The workshop was well attended by 121 delegates from various interested sectors including: Federal Government and State officials; railroad and transit operators; industry groups; consultants; unions; law enforcement; and four international organizations. The workshop had attendees from 62 organizations (see Table 6). The breadth of attendees speaks to the common issues faced by transit, commuter, and freight rail operations.



Figure 4 shows the distribution of the 121 workshop attendees by the type of organizations that they were representing.

¹ www.rowfatalityreduction.com; APTA - <http://www.apta.com/services/safety>

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
- SUMMARY OF RESULTS

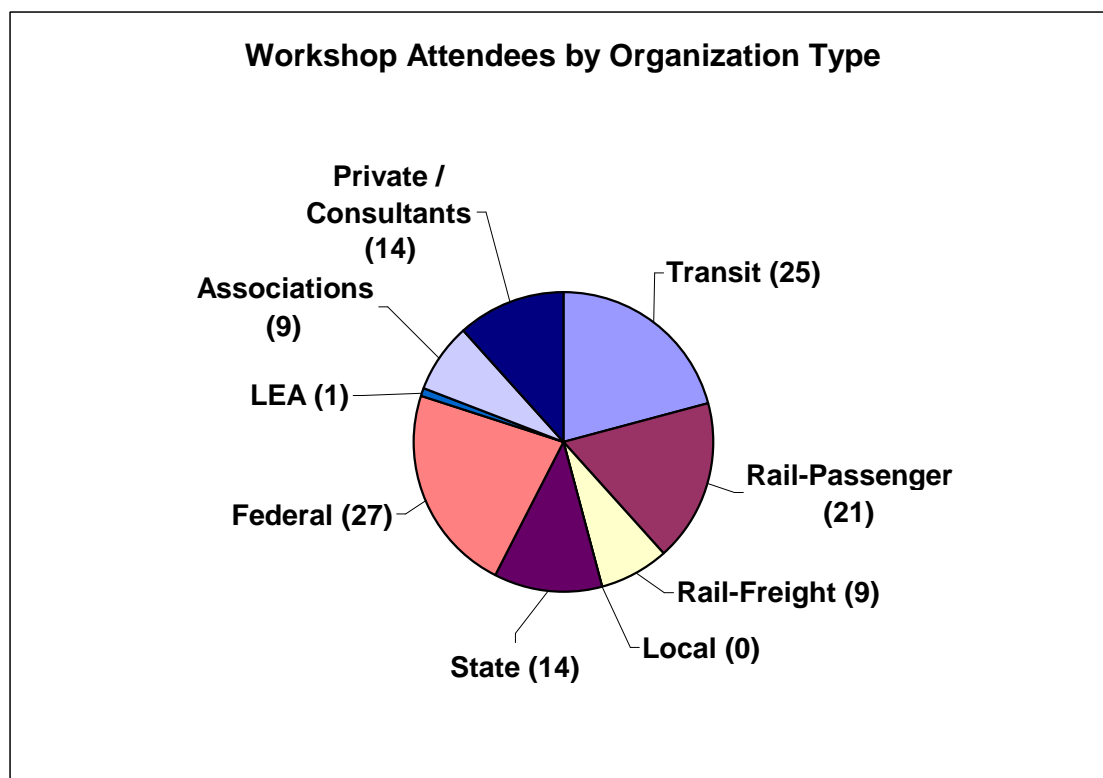


Figure 4. Attendee Distribution by Organization Type

Table 6. Attendee Organizations

Type Org	Organization
Association	Association of American Railroads (AAR)
	Brotherhood of Locomotive Engineers and Trainmen (BLET)
	Operation Lifesaver, Incorporated (OLI)
	American Public Transportation Association (APTA)
	American Association of Suicidology (AAS)
Law Enforcement Agency (LEA)	San Mateo County Sheriff's Office
Local	(None)
State	Capitol Corridor Joint Powers Authority (JPA)
	California Public Utilities Commission (CAPUC)
	Florida Department of Transportation (FDOT)
Federal	U. S. Department of Transportation (USDOT), Volpe National Transportation Systems Center (Volpe)
	U.S. Department of Homeland Security, Transportation Security Administration (TSA)
	USDOT Federal Transit Administration (FTA) - HQ
	USDOT Federal Transit Administration (FTA) - Region IX
	USDOT Federal Railroad Administration (FRA)
Private / Consultant	Interactive Elements, Inc.
	HansonBridgett, LLP
	Earth Tech
	Adavant Consulting
	Riverline

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
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Type Org	Organization
	Veolia Transportation (Veolia-Connex)
	Griego & Associates
	Herzog Transit Services
	Transportation Resource Associates, Inc.
	Simoncini & Associates
Rail-Freight	Union Pacific Railroad Company (UPR)
	CSX Transportation (CSXT)
	BNSF Railway Company
	Portland & Western Railroad
Rail-Passenger	National Rail Passenger Corporation (Amtrak)
	Long Island Railroad (LIRR)
	Minnesota North Star (MN North Star)
	Metrolink / Southern California Regional Rail Authority (SCRRA)
	San Joaquin Regional Rail Commission
	Caltrain
Transit	Capital Metro
	City of Calgary (Calgary Transit)
	San Francisco MTA (SF Muni)
	South Florida Regional Transportation Authority (SFRTA)
	Metrolink / Southern California Regional Rail Authority (SCRRA)
	Utah Transit Authority-FrontRunner
	Metropolitan Transportation Authority (MTA)-Metro North
	Los Angeles Metropolitan Transportation Authority (LA MTA)
	St. Louis Metro
	Toronto Transit Commission (TTC)
	Southeastern Pennsylvania Transportation Authority (SEPTA)
	Singapore Mass Rail Transit (SMRT)
	Sacramento Regional Transit District
	Bay Area Rapid Transit (BART)
	Metropolitan Transit Authority of Harris County
	Santa Clara Valley Transportation Authority (VTA)
	Los Angeles Metro (LA Metro)
	New Jersey Transit (NJT)
	North County Transit District
	Dallas Area Rapid Transit
	TriMet
	Edmonton Transit

As workshop attendees assembled, attendance was recorded by initialing and verifying organization and contact information on a sign-in sheet (Meeting Document ROWF&TR-0401-02-01) a contact list for the 121 attendees is provided in Appendix B.

3. Summary of Presentations

3.1. Session I – Community Outreach

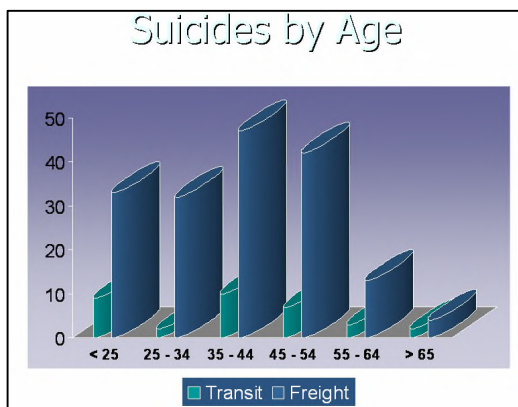


“Address the Pedestrian Rail Problem” - Helen Sramek (OLI)

This presentation described OLI history in awareness and education activities. Ms. Sramek presented grade crossing accident trend data. Trespass challenges were discussed – not recognizing the danger, underestimating the danger and feeling invincible. Ms. Sramek stated that the problem is exasperated by media images romanticizing dangerous trespass behavior. New materials and approaches for light rail transit were presented as well as other trespass initiatives. Ms. Sramek ended by enforcing the concept that safety and security are linked.

“Trespassing Prevention & Reduction” - Tracy Berge (Metrolink)

This presentation began with a description of the 3E's – Engineering – Enforcement – Education. Metrolink's Safety Education Program determines focus areas by evaluating SRT incident reports, Sheriff's Log and Trouble Ticket Reports. Metrolink's approach includes: directed enforcement and outreach activities; passenger safety and security awareness. Ms. Berge described how the Southern California Rail Safety Team, which was formed in June of 2002, works together by pooling information resources and man power from all southern California railroads. The team identifies regional safety objectives and works together to come up with a pro-active safety approach. Ms. Berge ended the presentation with a summary of activities for 2007 as well as some statistics indicating the level of activity.



“AAS Rail System Suicide Prevention Project” - Ramya Sundararaman (AAS)

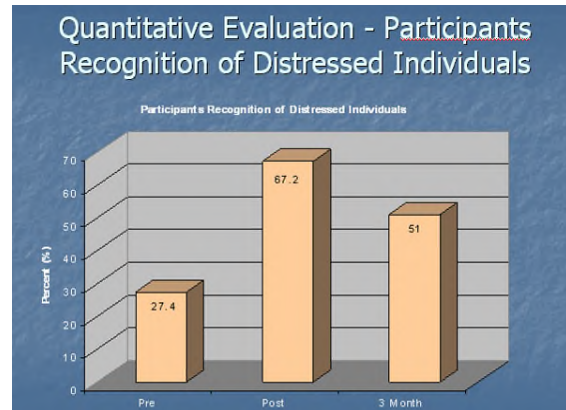
Dr. Sundararaman introduced the Rail System Suicide Project. The structure of the project was described. The goal of the project was to develop strategies to prevent railroad suicides by understanding the reasons people choose to die by suicide on the railroads. Dr. Sundararaman described the need to develop an understanding of the problem which focused on: retrospective prevalence, prospective prevalence and prevention. The project also studied the physical characteristics of the selected transit sites. Dr. Sundararaman presented study results which showed suicides by the type of rail system (77% freight rail/ 23% transit); suicides by gender, age, state, month, and time of day. Dr. Sundararaman next described the research process for the Psychological Autopsy Study and the major data challenges and other challenges.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

“Preventing Suicides on the Subway: The Toronto Transit Commission’s Gatekeeper Program” - Stephanie Fortin (TTC)

Ms. Fortin described the TTC system and its history of suicide incidents and described the declining trend since 1971. Next statistics of media coverage was presented along with data illustrating service delays attributed to suicide incidents. Ms. Fortin introduced the Gatekeeper Program, the means by which it is conducted and the anticipated outcomes. Program objectives are to: assist the TTC in improving their existing suicide prevention program; establish a role in identifying and intervening to protect distressed at-risk patrons; to develop operational criteria for the identification of distressed and at-risk persons using the system; to develop and enhance intervention skills of TTC employees and increase their confidence and competence to intervene; and to increase knowledge of community resources. Ms. Fortin described the behaviors exhibited by distressed and at-risk of suicide

patrons. Various levels of training from general suicide awareness to Applied Suicide Intervention Skills Training (ASIST) were provided. Finally the project evaluation was described as well as the perceived effects of safeTALK training on employee competencies to identify and engage patrons at risk for suicide.



3.2. Session 2 – Police/Enforcement

SAN MATEO COUNTY TRANSIT DISTRICT
PENINSULA CORRIDOR JOINT POWERS BOARD
TRANSIT POLICE NOTICE TO APPEAR

☐ Bus ☒ Rail ☒ Traffic ☐ Misdemeanor ☐ Nontraffic ☒ ASD ☐ SO

Date of Violation: 12/10/06 Time: 5:30 AM Day of Week: Case No. T05012386

1. Name (First, Middle, Last): JOHN DOE

2. Address: 123 MAIN STREET

3. City: ANYTOWN State: CA ZIP Code: 99999

4. Driver Lic. No.: 123ABC State: CA Class: C Age: 30 Birth Date: 5/20/76

5. Sex: M Hair: BRN Eyes: BLU Height: 5-11 Weight: 180 Race: W Other Description:

6. Veh. Lic. No. or VIN: Reg. MO/YR: COMMERCIAL VEHICLE

“Progressive Police Practices” - David Triolo (San Mateo County Sheriff’s Office)

Lt. Triolo described current and pending programs transit policing practices. Current programs include: a Crisis Intervention Team; a Field Crisis Consultation Committee and a High Intensity Safety Enforcement Program. The expected outcome of pending programs - Photo Enforcement at Grade Crossings and Pedestrian Traffic School were described.

“FRA/FTA Right of Way Fatality Workshop” - Richard Wessler (BNSF)

The goal of trespass enforcement at BNSF is to reduce trespasser injuries / fatalities by 5%. BNSF Passenger Operations has a proactive process for the reduction of right-of-way fatalities through the System Safety Program Plan (SSPP) – Conformance Documents. The SSPP Conformance Documents provide two items which are specific to reduction / elimination of right-of-way fatalities: facilities inspections and trespasser abatement.

Highlighted activities included: an officer on the train program; identification of viable alternatives to pedestrian crossing construction; dealing with a business owner who created a trespass route; and renovation of a private crossing.



ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

“MTA Right-of-Way Task Force” - Richard Ferlauto (LIRR) and Stephen Conner (Metro North)



This presentation described the MTA Right of Way Task Force - a collaborative effort between the MTA Police and the LIRR/MTA Safety Department. The method of prioritizing locations was discussed, as well as mitigation action plans for engineering controls, education, and enforcement.

“SMRT’s Practices–Trespasser Fatalities Mitigation” - Ng Tek Poo (SMRT)

This presentation described the 4Cs comprising SMRT’s Security Management Framework – Culture, Communication, Competence and Control – and the activities under each. Mr. Ng outlined the Security Management Process - a recurring and continual process which includes four stages: prevent, protect, respond, recover and assess. SMRT’s security measures in each of these areas was described. Next track intrusion statistics for SMRT and SMRT’s hierarchy of track intrusion mitigation methods were presented. Current methods included: Elimination, Access Controls, Administrative Controls, Emergency Equipment, and Policing. Future methods will include half-height platform screen doors and public education.



3.3. Session 3 – Hazard Management



“FRA Hazard Management” - Robert Lauby (FRA)

This presentation offered a chronology of FRA system safety and hazard management initiatives including Emergency Order 20; APTA System Safety Program; development of the Collision Hazard Analysis Guide; FRA / GPS Task Force developed Gap Safety Management Guideline. Mr. Lauby also covered future initiatives like the FRA System Safety Regulation. Hazard Mitigation Strategies were discussed including: fencing, pedestrian crossings, and bridge walkways.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

“Hazardous Assessment Approach to Trespass Management–High Security Fence” - Ken Sundberg (LIRR)

This presentation described a prioritization algorithm for prioritizing the application of fencing. The algorithm considers weighted factors such as past incidents (accidental fatalities, suicides, trespass and debris strikes). Data is collected from Daily Transportation Logs, Police Reports and Public Affairs / Letters / Field Audits. The approach makes a risk calculation for each 4-mile segment of the rail. Once the prioritization is complete an assessment is made within each section to identify areas of concern within the section – these include items such as locations of schools, parks, and areas frequently breached. The presentation next addressed specific fencing strategies. Tradeoffs which must be considered were discussed.



“Right-of-Way Fencing Policy” - Stephen Klejst (NJT)

This presentation included an overview of NJT’s Right of Way Fencing Policy goals and benefits. The policy was developed to systematically identify locations for ROW fencing. A System Safety Program Hazard Identification/Resolution Process based on US-MIL Standard 882C is used. The presentation next described the identification of Hot Shots and the basis of selecting different levels of fencing. A copy of the policy is provided on the workshop DVD.



“Passenger Safety Initiative–Second Train in Station” - Stephen Klejst (NJT)

This presentation discussed a recently completed (Dec 07) Passenger Station Safety Assessment project which reviewed 162 stations, 33 of which met the criteria for warranting countermeasure applications. Assessment criteria included weighted scores for: track configuration; passengers per week; trains per day; prior incidents; and track curvature. The presentation also provided examples of implementations in Ramsey, NJ.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

“Government Plaza Station, Pedestrian Behavior and the Need for Intertrack Fencing Safety Enhancement” - Michael Conlon (Minnesota North Star)

This presentation discussed the need for intertrack safety. A 2005 survey revealed 226 daily trespassers during weekday rush hours. Several treatment options and outreach efforts was presented.



Identify Hazard Categories

Hazard Classification			Identify Hazard Categories											
Index	Description/Remarks	Mitigation Description	Category 1	Category 2	Category 3	Category 4	Category 5	Category 6	Category 7	Category 8	Category 9	Category 10	Category 11	Category 12
PWA-001	Construction equipment (excavator, backhoe)	Condition is not a trespass - hard hat required to be worn	X	X										
PWA-002	Unattended passenger equipment	Train operator site activation	X	X										
PWA-003	Second train crossing on parallel track	Impact with pedestrian or other agency crossing equipment	X	X										
PWA-004	Second train crossing on parallel track	Impact with material (oil spurs, marking equipment)	X	X										
PWA-005	Case parked on ROW	Train collision with automobile parked in position that blocks the roadway	X	X										
PWA-006	Unattended crossing, design, grade, grade	Vehicle intrusion (ingress or egress) into crossing or crossing in vicinity of track in highway vehicle collision	X	X	X									
PWA-007	Train impact on crossing	Train impacts with general highway vehicle at crossing	X	X	X									
PWA-008	Construction equipment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-009	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-010	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-011	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-012	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-013	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-014	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-015	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-016	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-017	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-018	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-019	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-020	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-021	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-022	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-023	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-024	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-025	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-026	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-027	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-028	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-029	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-030	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-031	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-032	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-033	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-034	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-035	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-036	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-037	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-038	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-039	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-040	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-041	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-042	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-043	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-044	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
PWA-045	Encroachment (excavator, backhoe)	Encroachment of equipment without regard to clearance	X	X	X									
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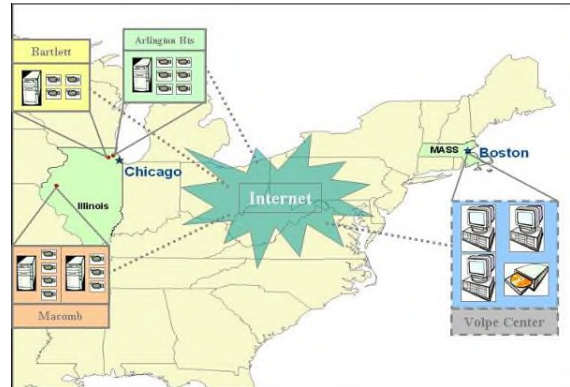
“Building Foundations for Hazard Analysis” - Christopher Payne (Caltrain)

This presentation discusses the fundamentals to perform a hazard analysis when developing a safety and security program. Topics included prioritizing mitigation measures and reducing liability by establishing corrective actions and good hazard management.

3.4. Session 4 – Technology

“Public Education and Enforcement Research Study” - Suzanne Horton (Volpe)

This presentation discussed the PEER (Public Education and Enforcement Research) study, sponsored by FRA and conducted by the Volpe Center. The purpose of the Field Operational Test at highway-rail crossings was to establish the effectiveness of education and enforcement programs. Video data was collected over a 16 month period and used to evaluate the effect of education and enforcement in reducing grade crossing incidents.



“Trespass Deterrent Demonstration Project Update” - Marco daSilva (Volpe)

This presentation discussed the results of a Trespass Deterrent Demonstration Project. The purpose of the project was to demonstrate a stand-alone commercial off-the-shelf (COTS) video-based trespass monitoring and deterrent technology system for railroad infrastructure applications. The system is an intelligent CCTV. The video senses a trespasser, notifies the security company and initiates an audible warning at the site with orders to leave the area. If the trespasser does not leave or is unable to leave, the police or other authority is dispatched. The system was installed and tested in Pittsford, NY. The final report was issued in August 2006.



“An Overview of the Transportation Security Administration’s Surface Transportation Security Inspection Program” - Deborah Wojnicz (TSA)

This presentation described the current status of the TSA’s Surface Transportation Inspection Program. The mission of the program is to develop and foster collaborative working relationships with the rail industry and begin working with other surface modes (bus, pipeline, and trucking) as resources allow.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

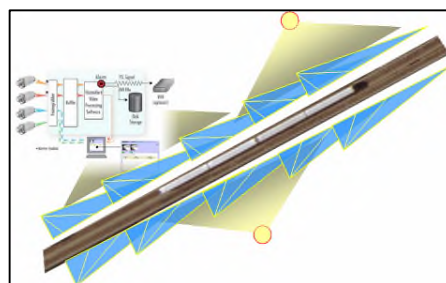
“Electronic Security Systems” - Sam Raab (CSXT)

This presentation presented an overview of electronic security systems for rail systems. It described the types of detection, technologies applicable to security of rail infrastructure. It also addressed the selection process: identification of critical assets and threats and required protection; implementation for the selected technology; and testing and improvement.



“NCR Rail Pilot Project” - Sam Raab (CSXT)

This presentation covered the National Capitol Region (NCR) rail security pilot project which involved a 7 mile study corridor. The key components of the program included: existing CSX Remote Surveillance System; Virtual Gates; Virtual Fence; and Friend or Foe Detection. Mr. Raab described the existing CSX Remote Surveillance System as well as the proposed 4.5 mile expansion. Mr. Raab described in detail the features of the Virtual Security Fence. The Friend or Foe Detection system used RFID embedded personnel tags to identify authorized personnel. The virtual gate component provides radiological and chemical detection at fixed points.



ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

3.5. Session 5 – Infrastructure I

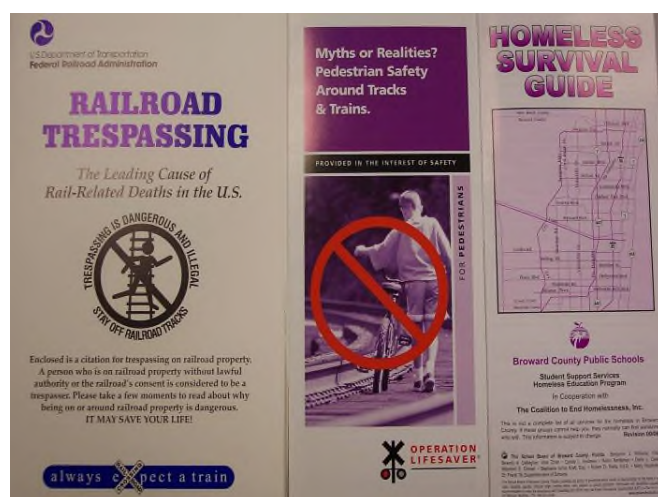
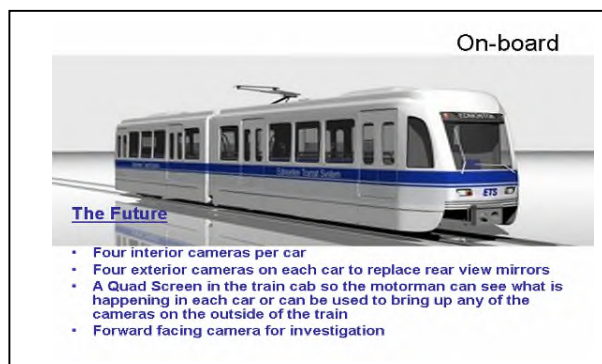
“Crossing Protection” - Phil Therrien (Edmonton Transit)

This presentation discussed the philosophy and considerations of designing and implementing protection at railroad crossings. Considerations include: crossing geometry, train speed, sight distances and refuge areas. Four quadrant gates, call on signals, hold in station, second train coming, sealing the right of way, multi-use trail and fencing and signing, and portal protection techniques were highlighted.



“Video Usage” - Phil Therrien (Edmonton Transit)

This presentation described the camera network on trains, in stations and at crossings. The Edmonton Transit system has 551 cameras, about 1/3 of which are for right-of-way protection. The on-board video will provide the operator situational awareness of activities in all cars.



commuter trains to capture video.

“ROW Fatality and Trespass Reduction Workshop” - Bradley Barkman (SFRTA) and Brian Reeves (FDOT)

This presentation discussed the trespass and fatality issues and the current and planned methods FDOT and SFRTA uses to address these issues. Techniques discussed included: observation and reporting; collision hazard and identification; fencing and channelization; operation life saver; blitzes; train Safety Awareness Week (TSAW) activities; and homeless efforts.

Future solutions discussed were: fixed cameras on a new bridge corridor monitored by dispatchers; photo enforcement; train exit announcements of at grade crossing hazards, and cameras on each end of

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

“FTA/FRA Trespasser/Fatality Reduction and Effective Practices Process Workshop” - Vijay Khawani (LA Metro)

This presentation discussed the 3-E's of Operation Lifesaver (Engineering, Enforcement and Education) strategies for grade crossing protection. Also discussed was the use of historical trends and data analysis to evaluate the effectiveness of the 3-E's. Future safety projects were briefly mentioned.



“Welcome to Operation Lifesaver” - Michael Kirchanski (SF Metro)

This presentation discussed Operation Lifesaver activities. It showed the dangers within the ROW and why they exist. It also highlighted dangerous actions by the public.

3.6. Session 6 – Infrastructure II (Engineering)

“Trespasser Reduction and Effective Practices Workshop” - Brian Gilleran (FRA)

Several of the devices depicted in this presentation are not included in the Manual on Uniform Traffic Control Devices (MUTCD). The Federal Highway Administration, the custodial agency for the MUTCD, has established a process for the incorporation of new devices into the Manual. Agencies utilizing devices that are not currently included in the Manual are strongly encouraged to participate in the MUTCD incorporation process, which is described in detail in Section 1A.10 of the Manual.



ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS



“At Grade Cross Walk Protection, 2nd Train Coming Warning Device” - James Fox (SEPTA)

This presentation discussed several issues considered to be recipe for disaster for - riders, the general public and train crews. These included:

- Multiple Crossing Points
- No Early Warning
- Stations on Curves / Second Train Coming

The solution is to establish a standardized Inter-track Fence Program and Develop Warning Devices.

“Amtrak Trespass Incident Reduction Initiatives” - Christopher Williams (Amtrak)

Trespass fatalities continue to be a significant safety problem on all rail roads. Since 1980, the total number of public crossings has declined 33%, while the number with gates has increased 142%. Broad categories of trespassing include loitering (want privacy), suicide, looking for transportation among others. Protective strategies include engineering, education and law enforcement.



4. Workshop Evaluations

Workshop participants were asked to complete a workshop evaluation. A copy of the evaluation form is provided in Appendix F. The evaluation results presented below in Figures 5-12 indicate the attendee thoughts on the quality of the workshop session presentations and discussions; as well as topics on which this workshop should focus in the future. Attendees agreed that the workshop was a worthwhile step in developing approaches to reduce trespassing and ROW fatalities and that the process should continue.

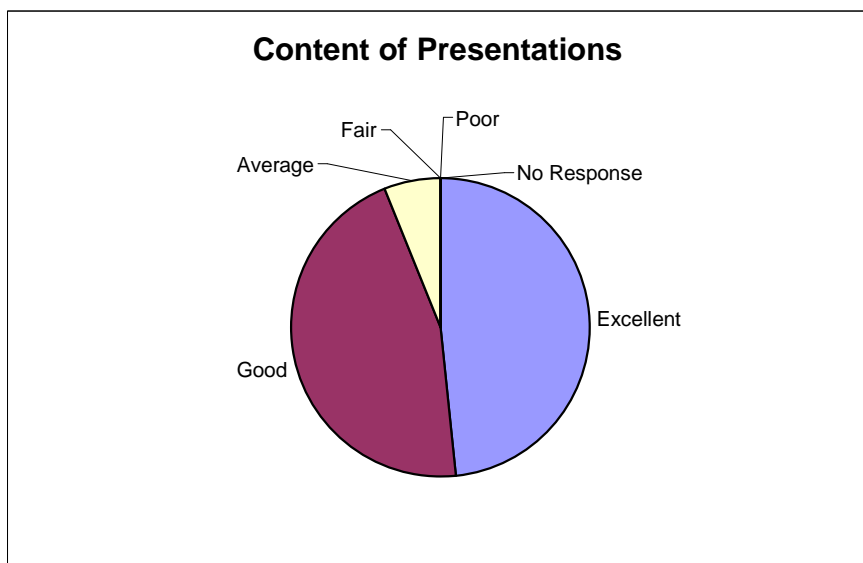


Figure 5. Content of Presentations

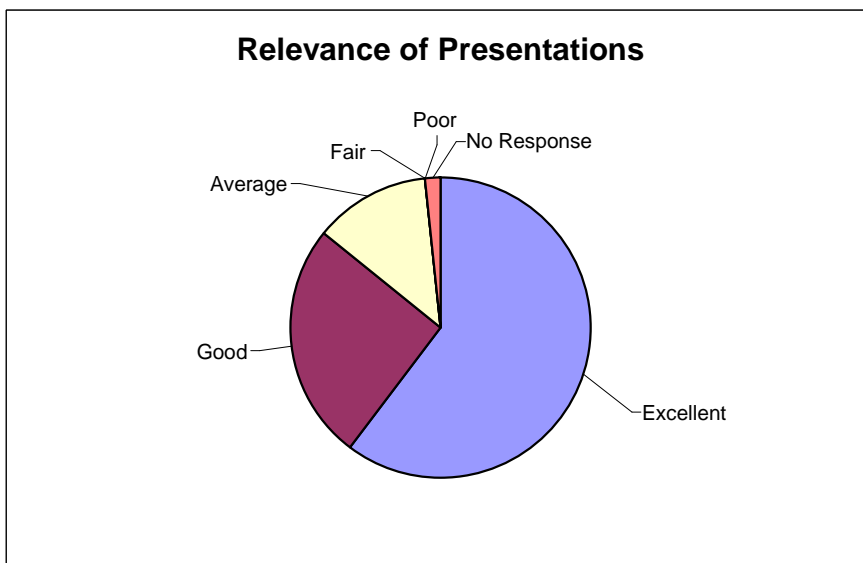


Figure 6. Relevance of Presentations

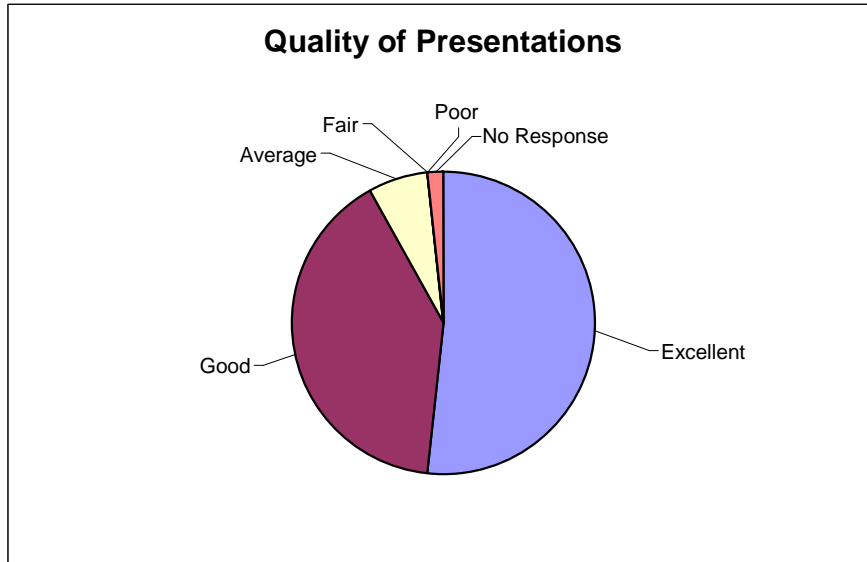


Figure 7. Quality of Presentations



Figure 8. Quality of Discussions

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
- SUMMARY OF RESULTS

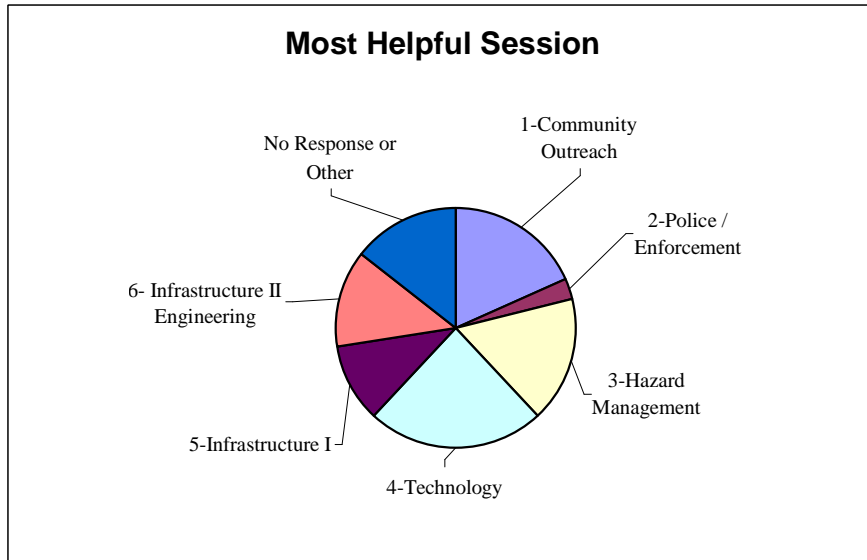


Figure 9. Most Helpful Session



Figure 10. Workshop Expectations

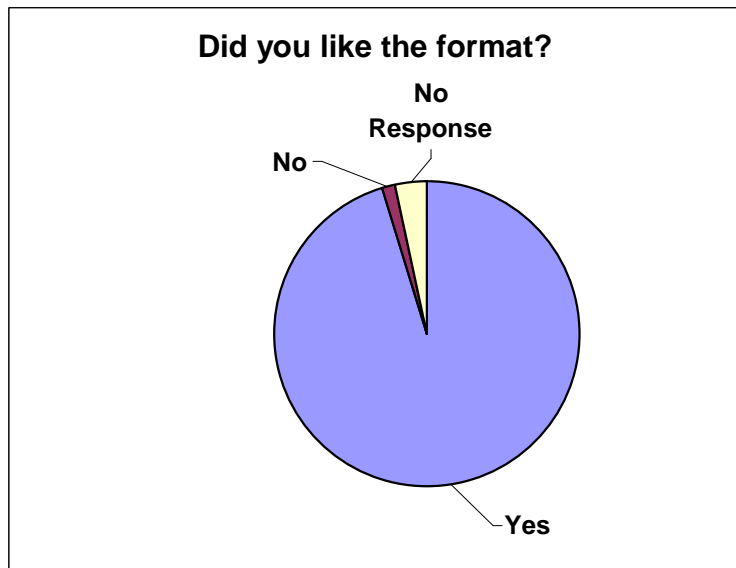


Figure 11. Workshop Format

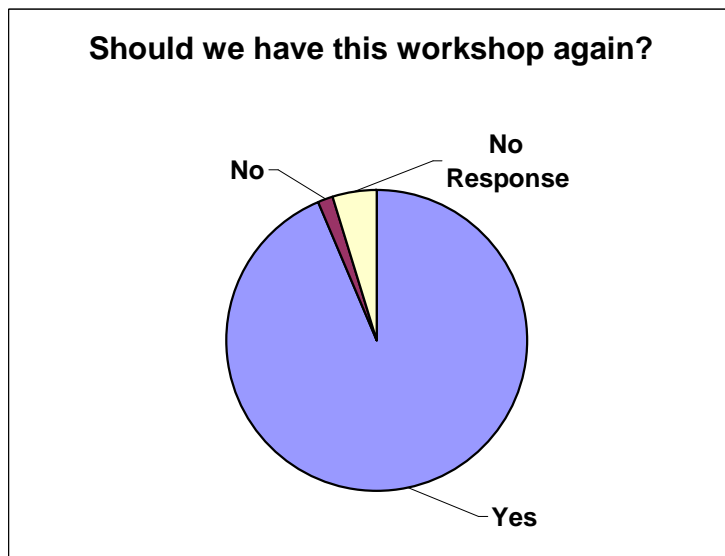


Figure 12. Should we have this workshop again?

5. Future Challenges / Next Steps

Summary of Approaches – Past, Present and Future

Traditional approaches to trespassing prevention and reduction have included:

- (1) Engineering,
- (2) Enforcement, and
- (3) Education

This workshop focused on some of the new and innovative approaches and activities of the transit/rail community in addressing ROW fatalities and trespass reduction. Below is a list of mitigation measures discussed in this workshop:

- Elimination
 - Crossing Closure
 - Viaduct, tunnel, flyover
- Access Controls
 - Sealed Corridors (4-Quad Gates)
 - Fencing (chain link, ornamental, high security, private fencing)
 - Barricades / Barriers
 - Pedestrian Gates
 - Platform screens/doors (full and half height)
 - Video Surveillance
 - Track Intrusion Detection / Portal Entry Detection
 - Laser-based
 - Intelligent Video
 - RFID
 - Train Crew Observation and Reporting
- Risk Management / Hazard Analysis
 - Risk Characterization
 - Prioritization Algorithms
 - Hot Spot Identification
- Accident Reporting, Investigation and Documentation
- Engineering and Design
 - Crime Prevention Through Environmental Design (CPTED)
 - Multi Use Trails
 - Traffic signals / signals system coordination (e.g., Hold in station)
 - Call On Signals
- Administrative Controls
 - Signage (Warning, Second Train Coming)
 - Yellow Line
 - Public Address System Messages / Warnings; On-board announcements
- Emergency Equipment
 - Platform Emergency Telephones

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

- Train emergency stop plungers (on the platform)
- Suicide Identification/Intervention
 - Identification of mentally ill Passengers (gatekeeper intervention)
 - Causal analyses of suicides/fatalities on rail property
- Police Enforcement
 - Citation Enforcement
 - Safety Marathons
 - Increased Law Enforcement
 - Officer on Train
 - Station Patrols
 - Train Crew / Employee Observation and Reporting
 - CCTV Surveillance (on trains, in stations and at grade crossings)
 - Community Engagement (safety programs)
- Education / Community Outreach
 - Awareness / Training
 - News media
 - Law Enforcement
 - General Public
 - Transit Agencies
 - Freight Railroads
 - Bus signs
 - DVDs
 - Web pages
 - Theater slides
 - Safety tip pamphlets (multilingual)
 - Youth Outreach (risk taking)
 - College student information blitz
 - Safety Marathons
 - T.R.A.C.K.S. Program

Attendees have indicated the desire for this workshop to continue in the future. The attendees would like to see continued updates of ongoing activities as well as inclusion of new topics of interest. Specific interest was expressed in the topics shown in Table 7.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
- SUMMARY OF RESULTS

Table 7. Workshop Participant Suggested Future Topics

<ul style="list-style-type: none"> ▪ An industry wide approach to suicide prevention ▪ Coordinated industry approach to reduce trespasser fatalities with FTA/FRA leadership
<ul style="list-style-type: none"> ▪ Hazard Management, technology ▪ Risk reduction in the system safety program ▪ Safety mitigation in general, organizational effort from management down for safety concerns ▪ Motorist and pedestrian safety near railroad rights of ways ▪ Interaction of ADA compliance pedestrian crossing/grade crossing
<ul style="list-style-type: none"> ▪ Funding Options ▪ Culture of money versus safety is a top down culture, how is that fixed?
<ul style="list-style-type: none"> ▪ Public Outreach programs ▪ Outreach activities with local jurisdictions to identify people in places they should not be
<ul style="list-style-type: none"> ▪ Peer counseling for psychologist or specialist in grief/trauma counseling ▪ Effect of fatalities on operating crews - relatives ▪ Post traumatic stress help to engineers involved in any critical incident
<ul style="list-style-type: none"> ▪ Enforcement - what works, why it is not implemented more often ▪ Transit Security practices for ROW fatality/trespass reduction ▪ ROW Safety & Security grade crossing ▪ Trackworker safety suicide prevention ▪ More on how to prevent ROW incidents
<ul style="list-style-type: none"> ▪ Rail infrastructure - Tracks - Safety inspections ▪ Effective crossing diagnostics ▪ All weather operation of signals, interlock and switching ▪ More refined discussion on engineering design elements
<ul style="list-style-type: none"> ▪ Data standardization and data collection re: trespassing, suicides, and other hazards ▪ Trespass abatement; suicide prevention ▪ Suicide 2nd train ▪ Near miss ▪ Quiet zone
<ul style="list-style-type: none"> ▪ Best practices for return to service from trespassing/crossing incidents ▪ Technology & real world examples/programs ▪ Demonstrated real-world applications (not plans to implement) ▪ Programs or practices that are unique of one of a kind ▪ Additional railroads-other countries ▪ Updates on the same subjects ▪ More on hazard management, technology, & infrastructure ▪ More monitoring technology ▪ Technology & contraventions ▪ Risk management ▪ More info on electronic security systems ▪ More engineering ▪ Liability

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008

- SUMMARY OF RESULTS

Future Challenges

The workshop presentations and discussions highlighted several challenges faced in reducing the number of ROW and trespass fatalities and incidents.

Developing a Clear Framework for the

Problem - It was clear from this workshop that the ROW fatality and trespass issue has many facets which are summarized in the box to the right. Because of these there can be no single solution. The issue must deal with: a mix of individuals with differing cultural backgrounds and whose motives for trespassing are distinct; multiple crossing locations – some authorized some not; and a mix of system types – some with unique characteristics and operational considerations and layouts.

Funding – Limited funding makes development of creative, cost efficient methods key and the leveraging of results across organizations essential.

Data – Data is a cross cutting issue for research as well as for risk identification and evaluation of the effectiveness of implemented countermeasures and programs. Effective long-term solutions to trespassing problems can be realized by identifying the underlying cause(s) of trespassing at a specific problem location and implementing an effective tailor-made response. However data is not always available to support such research. Issues include:

- Availability of data
- Accessibility of data
- Willingness to share
- Ability to share
- Confidentiality issues
- Data format
- Relatively rare occurrence of incidents
- Incomplete record-keeping
 - Conflicting information from different sources

Trespassers (Transients, Shortcutters, Recreational Users, Suicides, Vandals, Thieves, Terrorists)
Pedestrian (including disabled)
Bicyclist
Snow mobiles
Horses
Motorist
Non Trespassers
Employees / Contractors
Passengers
Accidental / Suicidal
English Speaking and Non English Speaking
Locations
○ Remote right-of-way
○ Pedestrian crossings
○ Designated crossing points / At-grade crossings (Public and Private)
○ Non-designated crossing points
○ In Stations
System Types
○ Transit
○ Commuter Rail
○ Freight
○ High Speed
New systems
More trains
Faster trains
Single and multiple track configurations
Systems are geographically dispersed over multiple jurisdictions

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

- Missing data fields
- Absence of race/ethnicity information

The workshop clearly pointed out the need for additional data on trespassing in order to determine effective counter measures. FRA has taken initial steps to attempt to collect more information on trespassing events that railroads are required to report to the FRA. On September 9, 2008, the *Federal Register* published a Notice of Proposed Rulemaking (NPRM) on 49 CFR Part 225 entitled “Miscellaneous Amendments to the Federal Railroad Administration’s Accident/Incident Reporting Requirements.” The NPRM included several provisions aimed at increasing the amount of information that railroads would be required to provide to FRA in the event of a trespassing casualty. First, FRA is requesting comments on whether it should require the reporting of longitude and latitude data for trespassers only on Form FRA F6180.55a, “Railroad Injury and Illness Summary” as a means of improving railroad safety in the area of trespasser injuries and fatalities. FRA believes that the collection of longitude and latitude coordinates when a trespasser is injured is the beginning of the process to define “hot spots” of unauthorized access to railroad property. Identification of such hot spots may be used to target areas for increased law enforcement surveillance by public and railroad security forces, to locate locations where fencing or other barriers may be appropriate, and to assist Operation Lifesaver in reaching out to schools and other organizations in the hot zones for increased educational awareness of safety concerns around railroad operations.

Secondly, FRA is proposing to require that railroads must report suicides and attempted suicides to FRA. Currently, the reporting of these events is not required. These new data may help FRA, organizations promoting safety on and around railroad property, and suicide prevention groups, assess the problem and develop programs to decrease the incidence of suicide by train. These events would also be geo-located.

In March 2008, FRA published a report entitled “Rail Trespasser Fatalities – Developing Demographic Profiles.” The report gathered additional demographic information on fatal trespassing incidents over a three year period (2002 – 2004). FRA will explore using this same type of process utilizing the contact/eviction data gathered by the special agents of a railroad. This will help to define the various groups of people who trespass on railroad rights-of-way.

Developing Wider-based Partnerships – An industry-wide approach is required. Partnerships with local state and federal governments, railroads and transit agencies, unions, police agencies, other safety organizations, and the public will be essential in reaching the desired fatality and trespass incident reductions.

There are several Federal agencies that have a stake in preventing trespassing. For example, TSA, FRA and FTA have a common goal when it comes to trespassing on railroad property – to keep people off of the rights-of-way. FRA and FTA deal with trespassers from a safety aspect while TSA deals with trespassers from a security threat perspective. A Partnership between the agencies would strengthen everyone’s efforts. FRA and FTA will work with TSA to better achieve both goals.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

Educating the public about the hazards and illegality of trespassing is very important. FRA works closely with Operation Lifesaver, Inc., which has committed to include trespassing education in every presentation. FRA will work closely with Operation Lifesaver in the development of its new presenter training materials to incorporate trespass prevention.

Next Steps

This workshop highlighted the importance of a system-wide approach, of linking security to trespass activities, and the importance of leveraging the experiences of the entire rail/transit community both within the US and internationally. This workshop and future workshops will aid in advancing and transferring promising new technologies to reduce ROW fatalities and trespassing.

Results of this workshop will help FRA and FTA in their process to identify safety research areas and select specific safety R&D projects for funding; as well as use the experience gained through this workshop to help in their strategic planning. To guarantee continued success in trespass reductions, FRA and FTA hopes to make this workshop an annual event. This will ensure that changes in railroad operating trends are captured and considered in future R&D project development activities and that rail community can continue to benefit from the best industry practices.

It must be understood that the potential improvements that can be realized because of these research efforts are through the efforts of many different parties. Railroads, rail labor organizations, state agencies, the rail supply industry, researchers, law enforcement and many other groups continue to make important contributions. Continued cooperation and effort by all parties will be needed to bring about further improvements so that right-of-way and trespass fatalities can be averted.

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008
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APPENDIX A – WORKSHOP TRANSCRIPT

**RIGHT OF WAY (ROW) FATALITY
AND TRESPASS REDUCTION WORKSHOP**

**Minutes of Meeting
April 1-2, 2008
San Carlos, California**

April 1, 2008, Session

The Right of Way Fatality and Trespass Reduction Workshop was convened at 8:00 a.m., in the 2nd floor auditorium of Caltrain Headquarters, 1250 San Carlos Avenue, San Carlos, California 94070, by the Federal Railroad Administration's (FRA) Daniel Knoté (FRA–Office of Safety). The workshop was sponsored by FRA, the Federal Transit Administration, and Caltrain.

As Workshop attendees assembled, attendance was recorded by initialing and verifying organization and contact information on a sign-in sheet (Meeting Document ROWF&TR-0401-02-01). Total meeting attendance, including presenters, support staff, and observers was 121. Some Workshop Registrants did not attend both days of the meeting.

MOST PANEL PRESENTATIONS WILL BE ACCESSIBLE ON THE WORKSHOP INTERNET WEB SITE AND ARE NOT EXCERPTED IN THEIR ENTIRETY IN THE WORKSHOP MINUTES.

Daniel Knoté (FRA) welcomes the workshop attendees. He asks Christopher Payne (Caltrain–Director of Safety) for a meeting room safety briefing.

Christopher Payne (Caltrain) identifies the meeting room's fire and emergency exits. He asks for volunteers with cardiopulmonary resuscitation (CPR) qualification to identify themselves. A large number of attendees acknowledge having completed this training. Mr. Payne observes that many attendees have cellular telephones. He says a building telephone can be used, but the number 9-911 must be dialed, or cellular telephones can be used by dialing 911, should an emergency occur. Mr. Payne says Caltrain Headquarters has an automated external defibrillator (AED), located at the receptionist's desk.

Daniel Knoté (FRA) asks Jo Strang (FRA–Associate Administrator for Safety) to make a presentation.

Jo Strang (FRA) presents a "Certificate of Appreciation" to Christopher Payne for his efforts in

ROW FATALITY AND TRESPASS REDUCTION WORKSHOP 2008 - SUMMARY OF RESULTS

arranging this First workshop on Right-of-Way Fatality and Trespass Reduction.

Christopher Payne (Caltrain) accepts the Certificate of Appreciation, saying that the appreciation belongs to all Caltrain employees who helped put the workshop together. He asks Michael Scanlon (Caltrain–Executive Director) for opening remarks.

Michel Scanlon (Caltrain) welcomes workshop attendees. He thanks the American Public Transportation Association (APTA), Operation Lifesaver, Incorporated (OLI), the FTA, the Volpe National Transportation Systems Center (Volpe), and FRA’s Jo Strang for attending today’s meeting. He asks everyone to “be here” for the next two days. He says this workshop is about saving lives. He adds, these are real people. The tragic deaths and injuries that occur along railroad rights-of-way affect families, train conductors, train engineers, emergency response personnel, and the community. He says, “If something happens on a railroad property, it affects a lot of people.” Mr. Scanlon says the workshop contains presentations covering an impressive body of work. He asks workshop attendees to take the work seriously to help make train transportation safe.

Opening Remarks

Jo Strang (FRA)

Daniel Knotte (FRA) asks Jo Strang for opening remarks.



Jo Strang (FRA) uses a series of Microsoft PowerPoint slides, projected onto a screen. Most meeting presentations will be posted on the Workshop Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Why Are We Here,” Ms. Strang says: (1) trespassing is the leading cause of rail-related fatalities across the United States; (2) pedestrian safety at crossings is not improving as quickly as we would like; and (3) these are common issues for transit, commuter, and freight rail operations.

Under the slide, “Workshop Goal,” Ms. Strang reads the following: “To identify and recommend new and existing strategies that the rail industry could pursue to assist in reducing the number of pedestrian and trespasser casualties.”

Under the slide, “Topics,” Ms. Strang outlines the following: To share effective practices in: (1) outreach; (2) enforcement; (3) hazard management process; (4) technology; and (5) infrastructure and engineering.

Under the slide, “You Contribute to the Success by,” Ms. Strang asks workshop participants to: (1) interact; (2) ask questions; and (3) actively participate. She appreciates the efforts made by everyone to attend today’s Workshop.

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Edward Carranza (FTA)

Daniel Knot (FRA) asks Edward Carranza (FTA–Deputy Regional Administrator, Region 9) for opening remarks.

Edward Carranza (FTA) welcomes workshop attendees. He says today's workshop is a proactive attempt to reduce future ROW fatalities. He cites a joint FRA/FTA study which: (1) identifies accidents; (2) recommends a "best practices" procedures approach; and (3) accelerates industry awareness of practices to mitigate accidents. He thanks everyone for attending the workshop.

Ronald Ries (FRA)

Daniel Knot (FRA) asks Ronald Ries (FRA–Staff Director, Highway-Rail Grade Crossing and Trespasser Prevention Programs) for opening remarks.



Ronald Ries (FRA) uses a series of Microsoft PowerPoint slides, projected onto a screen. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Mr. Ries says for the next two days, the workshop will be discussing grade crossing collisions and trespasser fatalities. Under the slide, "Rail Fatalities in 2007," Mr. Ries says 95 percent of all rail-related fatalities are attributed to highway-rail grade crossing accidents (339, or 39 percent), or Trespasser accidents (486, or 56 percent). Under the slide, "Trespasser Demographic Report," Mr. Ries says: (1) on March 21, 2008, FRA released the report, "Rail-Trespasser Fatalities, Developing Demographic Profiles," dated November 2007

[http://www.fra.dot.gov/downloads/safety/tdreport_final.pdf]; (2) The Study pool was 2002-2004 trespasser fatalities, as reported to FRA; (3) 1,524 survey forms were mailed to 471 coroners/medical examiners; and (4) 1,056 survey forms were returned, but not all were fully completed.

[Note: Trespassers account for the largest number of fatalities in the railroad industry – approximately 500 per year. In order to better understand who is trespassing, their locations, and the reasons they are on railroad property, the Federal Railroad Administration (FRA) issued a report using three years of reported trespasser fatalities. Medical examiners and coroners across the country were surveyed, and based on the best information available from those who elected to participate in the study, the average trespasser is most often a 38-year-old Caucasian male under the influence of alcohol and/or drugs, with a median household income of \$36,000. More than 25 percent did not graduate from high school, and 18 percent were determined to be suicides. The report, *Rail-Trespasser Fatalities: Developing Demographic Profiles*, includes a state-by-state breakdown and shows California and Texas recording the highest number of such events. The report strongly recommends additional demographic analysis to reinforce and expand on these results in order to develop targeted educational and outreach programs and law enforcement initiatives to reduce the number of rail trespassing incidents.]

Under the slide, "Demographic Findings," Mr. Ries lists the following: (1) average fatality was a 38-year old Caucasian male; (2) about two thirds of the victims were under the influence of alcohol or drugs; (3) 87 percent were male; and (4) suicide was mentioned or implied about 20

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percent of the time, although the reporting of suicides is not required.

Under the slide, “Types of Neighborhoods to Target,” Mr. Ries outlines the following: (1) urban and suburban; (2) relatively low income; (3) ethnically, culturally, and racially mixed; and (4) older, single family housing units occupied by families slightly larger and younger than the general population.

Under the slide, “Fatalities–Crossing versus Trespass,” Mr. Ries says between 1990 and 2006, there has been a downward trend in highway-rail grade crossing fatalities. However, trespasser fatalities have not declined as much during the same time period.

Likewise, under the slide, “Crossing Fatalities Since 1995,” Mr. Ries says the pedestrian-portion of highway-rail grade crossing fatalities has also not declined much between 1995 and 2007.

Ron Ries (FRA) uses a series of bar charts for pedestrian incidents, which are summarized under the slide, “Observations,” as follows: pedestrian incidents are: (1) happening at crossings with excellent warning devices (for highway vehicles); (2) occurring where there is a high level of passenger and commuter train involvement; and (3) occurring where there are higher train speeds.

Ron Ries (FRA) concludes by saying he hopes for a lot of interaction among Workshop participants as each of the six panels conclude the formal presentations.

Acknowledgements and Appreciation

Daniel Knot (FRA) acknowledges the following workshop attendees: William Browder (AAR), Richard Wessler (BNSF Railroad), Thomas Peacock (APTA), William Grizard (APTA), and Robert Lauby (FRA). He introduces Robert Adduci (Volpe) as the Master of Ceremonies. He asks Jo Strang (FRA) to make a presentation.

Jo Strang presents Robert Adduci with a “Certificate of Appreciation” for his efforts in putting the ROWF&TR workshop together, on behalf of the U.S. Department of Transportation (USDOT), FRA, and FTA. Robert Adduci (Volpe) thanks Jo Strang (FRA) for the Certificate of Appreciation.

Workshop Agenda

Mr. Adduci goes over the first day Workshop Agenda, Meeting Document ROWF&TR-2008-0401-02-01. He says after each of the first day Sessions for Community Outreach, Police/Enforcement, and Hazard Management, there will be a 30-minute allowance for questions and answers. He explains that at the end of the workshop on April 2, 2008, there will be an evaluation form for workshop attendees to complete. He asks Ron Ries (FRA) to facilitate Session 1–Community Outreach.

Session 1–Community Outreach

Ron Ries (FRA) introduces the four panelists for Session 1–Community Outreach. They are: (1) Helen Sramek (President, Operation Lifesaver, Incorporated (OLI)); (2) Tracy Berg (Metrolink–Public Safety & Environment Manager); (3) Ramya Sundararaman, MD, MPH–American Association of Suicidology (AAS); and (4) Stephanie Fortin (Toronto Transit Commission (TTC)).

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Mr. Ries reads a short biography for Helen Sramek (OLI) and asks for the presentation titled, "Address the Pedestrian Rail Problem."



"Address the Pedestrian Rail Problem" - Helen Sramek (OLI)

Helen Sramek (OLI) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-03. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Operation Lifesaver," Ms. Sramek says OLI: (1) has a 35-year history of managing public awareness and education campaigns; (2) is non-profit and widely recognized as the leading rail safety education group; and (3) reached 3.7 million people in 2007 with its campaigns.

Under the slide, "The Problem," Ms. Sramek says: (1) grade crossing incidents have continued to decline; (2) trespasser incidents declined last year but continue to outpace grade crossing incidents; and (3) reversing that trend is why we are here.

Under the slide, "Grade Crossing Trends," Ms. Sramek says on the United States rail system: (1) There were 6,429 highway-rail grade crossing crashes in 1987 and 2,728 in 2007. Over the last 20 years, she adds, highway-rail grade crossing crashes have been cut in half; and (2) the success in this accident trend has occurred despite: (a) increases in both number of cars and miles driven per year; (b) resurgence in freight rail; and (c) increase in commuter rail.

Under the slide, "Trespasser Trends," Ms. Sramek says on the United States rail system, there were 453 trespasser deaths in 1987, and 486 in 2007, an increase of 7 percent in 2007 over 1987. Since 1997, she adds, pedestrian/trespasser fatalities have surpassed highway-rail grade crossing fatalities.

Under the slide, "Challenges on Trespass," Ms. Sramek outlines the following: (1) not knowing it is dangerous, i.e., thinking that a pedestrian always has the right-of-way; (2) knowing but underestimating the danger, i.e., trains can stop, or I can hear/feel the tracks; and (3) feeling invulnerable, i.e., it will not happen to me.

Under the slide, "What is Trespass," Ms. Sramek reads: (1) Webster's Dictionary definition: (a) to go beyond the limits of what is considered right or moral; and (b) to go on another's land or property unlawfully; (2) Rodale's Synonym Finder—encroachment, invasion, wrongdoing, sin, offense, transgression, violation, infraction, breach, crime, error, misdeed. She says these explanations of trespass do not convey "danger."

Under the slide, "Additional Issues," Ms. Sramek lists the following: (1) trespassing cannot be engineered away; (2) must deal with non-English speaking populations; (3) for new rail transit systems, drivers and pedestrians are not use to trains; and (4) suicide is a broader public health issue.

Under the slide, "Tackling the Problem," Ms. Sramek says: (1) the trespass message is part of

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every OLI presentation; (2) OLI identifies new venues for its message; (3) OLI works with community leaders who have a stake in reducing the problem; (4) OLI generates community enthusiasm to sustain the impact of its message; and (5) law enforcement and news media are key partners in raising public awareness.

Under the slide, “Partnering with Transit Agencies,” Ms. Sramek says: (1) OLI is now providing its safety training to transit agencies in major metropolitan areas, saying “A train is a train is a train,” regardless of whether it is heavy rail, light rail, or subway.

Helen Sramek (OLI) shows a series of new materials and approaches which transit agencies are using to alert pedestrians to the dangers of crossing rail tracks. She describes the OLI pamphlet, “Key Safety Tips Around Commuter, Subway & Light Rail Trains.”

Under the slide, “Other Trespass Initiatives,” Ms. Sramek lists the following: (1) outreach to risk-taking youth; (2) college student information blitzes; and (3) a South Carolina Program for university students.

Under the slide, “Linking Safety and Security,” Ms. Sramek outlines the following: OLI’s “Stay Off, Stay Away” message: (1) supports the U.S. Department of Homeland Security’s efforts to keep unauthorized people out of railroad yards; and (2) targets suspicious trespassers. She says trespassing is illegal, unsafe, and compromises national security efforts.

Helen Sramek (OLI) concludes by says OLI, FTA, and FRA are working together to improve community safety around rail transportation systems.

Ron Ries (FRA) thanks Helen Sramek.



“Trespassing Prevention & Reduction” - Tracy Berge (Metrolink)

Ron Ries (FRA) reads a short biography for the next presenter, Tracy Berge, (Metrolink–Public Safety and Environment Manager) and asks for the presentation, “Trespassing Prevention & Reduction.”

Tracy Berge (Metrolink) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-04. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “The Three Es,” Ms. Berge describes the traditional approach trespassing prevention and reduction:

(1) Engineering–support engineering research and innovations to improve safety of highway-rail grade crossings; (2) Enforcement–encourage the active enforcement of traffic laws and regulations related to grade crossing safety and to prevent trespassing; and (3) Education–increase public awareness about the potential dangers at highway-rail grade crossings and along railroad rights-of-way.

Under the slide, “Metrolink Service Area,” Ms. Berge says Metrolink operates 512 miles of track

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(including shared track), having 463 at grade crossings and 54 stations.

Under the slide, “Metrolink Safety Education Program,” Ms. Berge says safety focus areas are determined by reviewing: (1) incident reports; (2) the Sheriff’s log; and (3) trouble ticket reports.

Under the slide, “Metrolink Outreach Efforts,” Ms. Berge says outreach activities include: (1) directed enforcement; (2) outreach to schools within 1.5 miles of the right-of-way; (3) times in education program; (4) 1st responders; (5) provide public service announcements to local cable station; and (6) training of transit and bus drivers.

Under the viewgraph, “Passenger Safety and Security Awareness,” Ms. Berge says Metrolink encourages proper passenger behavior through the following: (1) on-board posters; (2) Metrolink matters; (3) evacuation brochures; and (4) seat-drops.

Under the slides, “Southern California Rail Safety Team, Ms. Berge says the rail safety team includes the following participants: (1) Metrolink; (2) Transportation Security Agency/U.S. Department of Homeland Security; (3) Union Pacific Railroad; (4) BNSF Railway Company; (5) Amtrak; (6) California Public Utilities Commission; (7) FRA; (8) OLI; (9) Pacific Harbor Line; (10) Metro (MTA); and (11) Orange County Transportation Authority. She the regional approach which includes the following: (a) officer on train; (b) directed enforcement (DE)/Child Abduction Regional Emergency (CARE) Alert System; (c) coordinated professional drivers training/California Association of School Transportation Officials (CASTO) Workshops; (d) near hit program; (e) migratory worker outreach; and (f) homeless encampments.

Under the slide, “Summary of Activities–2007,” Ms. Berge lists the following: (1) joint DE/CARE operations (21); (2) officer on train events (5); (3) violations observed (2,639); (4) citations written (1,536); (5) special weapons and tactics (SWAT)/1st responders trained (604); (6) grade crossing collision investigation (GCCCI) participants (110); (7) 2 CASTO workshops/professional drivers trained (120); (8) first ever Orange County (California)-wide DE; (9) farm workers supervisor training; and (10) Santa Barbara High School outreach in San Pedro, and Los Angeles, California.

Ron Ries (FRA) thanks Tracy Berge.



“AAS Rail System Suicide Prevention Project” - Ramya Sundararaman (AAS)

Ron Ries (FRA) reads a short biography for the next presenter, Ramya Sundararaman, MD, MPH, (American Association of Suicidology (AAS)) and asks for the presentation, “AAS Rail System Suicide Prevention Project.”

Ramya Sundararaman (AAS) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-05. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Structure of the Project,” Dr. Sundararaman says ASS is working on two separate

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studies of transportation suicides for FRA (through the Railroad Research Foundation) and FTA.

Under the slide, “Goal of the Project,” Dr. Sundararaman reads the following: “To develop strategies to prevent railroad suicides by understanding the reason people choose to die by suicide on the railroads.”

Under the slide, “Developing Our Understanding,” Dr. Sundararaman explains the following approaches: (1) retrospective prevalence, i.e., examining existing suicide reports for data, which may be incomplete without further investigation—whom are we speaking about; (2) prospective prevalence—why the rails; and (3) prevention—what can be done to prevent future occurrences.

Under the slide, “Sources of Data,” Dr. Sundararaman lists the following: (1) railroads; (2) State agencies; and (3) news agencies.

Under the slide, “Suicides by Rail System,” Dr. Sundararaman says during the study period, June 2006–June 2007, 77 percent of suicides were on freight railroads (however, data was received for only 7 of 9 major freight railroads) and 23 percent of suicides were on transit systems (however, data was received for only 25 transit systems).

Under the slides, “Suicides by Gender; Age; State; Month; and Time of Day,” Dr. Sundararaman says the majority of suicides are by males. However, females attempt more, but males complete more. She says rail suicides generally shift to an older population group in the ages of 45-65. Dr. Sundararaman says California has the highest number of suicides. However, when normalized by population, Wisconsin and Minnesota has the highest suicide rate. She says the lowest number of suicides is in the month of February and the highest number of suicides are in the months of June and August. She adds, the distribution of suicides by time of day is spread fairly uniformly across the 24-hour time period.

Under the slide, “Research Process for the Psychological Autopsy Study,” Dr. Sundararaman says more than 11 trained investigators examined 60 freight railroad and 16 transit system suicides.

Under the slide, “Data Challenges,” Dr. Sundararaman lists the following: (1) availability of data; (2) accessibility of data; (3) willingness to share data; (4) ability to share data; (5) data format; and (6) suicides are a relatively rare occurrence.

Under the slide, “Other Challenges,” Dr. Sundararaman outlines the following: (1) incomplete record-keeping; (2) confidentiality issues; (3) conflicting information from different sources; (4) missing data fields; and (5) absence of race/ethnicity information.

Ron Ries (FRA) thanks Ramya Sundararaman.



“Preventing Suicides on the Subway: The Toronto Transit Commission’s Gatekeeper Program” - Stephanie Fortin (TTC)

Ron Ries (FRA) reads a short biography for the next presenter, Stephanie Fortin (Toronto Transit Commission (TTC)) and asks for the presentation, “Preventing Suicides on the Subway: The

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Toronto Transit Commission's Gatekeeper Program." Stephanie Fortin (TTC) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-06. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Toronto Transit Commission," Ms. Fortin says TTC employs approximately 12,000 employees, who help move 1.4 million passengers per day in Toronto. She adds, TTC is one of the largest transit systems in North America. Its fleet includes buses, streetcars, and a subway.

Stephanie Fortin (TTC) explains the Timeline for TTC rail operations commencing with the Yonge subway line opening in 1954 through the Gatekeeper Program in 2004-7. She shows a series of line charts depicting the history of suicides at TTC.

Under the slide, "Media Protocol," Ms. Fortin shows a direct correlation between an increase in suicides on TTC and media reports on suicides that have occurred on TTC.

Under the slide, "Fatal and Non-fatal Rates," Ms. Fortin explains there is 60 percent fatality rate for attempted suicides. However, non-fatal attempts at suicide often result in the victims being wheel-chair-confined for life.

Under the slide, "Service Delays," Ms. Fortin show a graphic depiction of service disruptions from suicides between 2001 and 2005.

Under the slide, "Why the Gatekeeper Program," Ms. Fortin explains the: (1) motive—long term corporate commitment; (2) means—creation of the Arthur Sommer Rotenberg Chair in Suicide Studies and a "best practices survey;" and (3) opportunity—reduce fatality rates; reduce delay trends; and reduce post-traumatic stress claims.

Under the slide, "The Arthur Sommer Rotenberg Chair in Suicide Studies," Ms. Fortin describes an academic program which is affiliated with the Department of Psychiatry, University of Toronto. Its mission is: (1) to conduct research leading to a greater understanding of the various determinants of suicidal behavior; and (2) to implement societal and clinical healthcare advances to reduce the losses and suffering resulting from suicide and suicidal behavior.

Under the slide, "Program Objectives," Ms. Fortin lists the following: (1) to assist the TTC in improving their existing suicide prevention program; (2) to develop operational criteria for the identification of distressed and at-risk persons using the TTC; (3) to increase awareness of attitudinal barriers about suicide and foster desirable attitudes towards suicidal individuals; (4) to increase knowledge of suicidal behaviors and enhance recognition of distressed at-risk patrons; (5) to develop and enhance intervention skills of TTC employees and increase their confidence and competence to intervene; and (6) to increase knowledge of community resources and role in identifying and intervening to protect distressed at-risk patrons.

Under the slide, "At Risk Behaviors [i.e., behavioral cues exhibited by distressed and at-risk of suicide patrons]," Ms. Fortin lists the following: (1) they are agitated, walk back and forth on the

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far end of the platform in close proximity to the entrance to the tunnel and appear depressed or distressed; (2) they let several trains go by and appear depressed or distressed or crying; (3) they are at the far end of the platform (train entrance point), crying or appear depressed or distressed; (4) they leave their belongings on the platform and they are crying or appear depressed or distressed; (5) they stand on the yellow line crying or appear depressed or distressed; (6) they sit on a bench crying or appear distressed or depressed; and (7) they undress and leave their shoes and appear depressed or distressed.

Under the slides, “TTC Gatekeeper Program,” Ms. Fortin says the Educational component consisted of four separate levels of education to target different occupational groups based on their level of exposure and involvement with distressed individuals at risk for suicide. She says it was determined that: (1) all employees would be informed about: (a) the suicide prevention program; (b) the importance of their roles in suicide prevention; and (c) the warning signs enabling them to identify persons who may be distressed and at-risk; (2) select employees from various departments would receive the Applied Suicide Intervention Skills Training (ASIST); (3) subway operators would receive general suicide prevention training with specific input about identifying persons at risk and the Operator’s role in reporting to Transit Control; and (4) TTC Mobile and Surface Supervisors and Special Constables would be trained to identify, intervene and refer persons who appear distressed and at-risk for suicide to appropriate resources.

Under the slides, “Employee Awareness,” Ms. Fortin says: (1) posters containing reportable “at risk” behaviors were distributed to all bulletin boards and Joint Health and Safety Committees; and (2) pamphlets containing information regarding the program, myths, and facts about suicide, “at risk” behaviors and resources were distributed to all employees as a payroll stuffer.

Under the slide, “Trillium Health Centre,” Ms. Fortin says the facility has 4,500 employees with 350 mental health professionals and serves over one million residents in the Greater Toronto Area. She says Trillium has implemented a broad spectrum suicide intervention program. She adds, all mental health staff are trained in Applied Suicide Intervention Skills Training (ASIST).

Under the slides, “TTC Gatekeeper Training Programs,” Ms. Fortin describes the following TTC Gatekeeper Training Programs: (1) ASIST–Applied Suicide Intervention Skills Training–a two day training program in suicide first aid intervention. The skills learned include: (a) reducing attitudinal barriers with respect to suicidal situations; (b) dispelling common myths about suicide; (c) identifying the indicators and assessing suicidal risk; (d) intervention techniques for persons at risk of suicide; and (e) engaging in efforts to build collaborative resource networks; (2) safeTALK–“Tell, Ask, Listen, Keep Safe,” suicide alertness for everyone–a one-day interactive workshop having the following modules: (a) introduction; (b) attitudes and knowledge; (c) intervention skills; (d) magnitude of the problem; (e) warning signs; and (f) community resources; and (3) suicideAWARE–“Always Watch and Report Effectively”–a half-day interactive workshop having the following modules: (a) introduction; (b) attitudes and knowledge; (c) reporting; (d) magnitude of the problem; (e) warning signs; and (f) self care.

Stephanie Fortin (TTC) describes the quantitative and qualitative program evaluation findings for TTC’s Gatekeeper Training Programs.

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Under the slide, “Perceived Effects of safeTALK on Competencies,” Ms. Fortin lists the following: (1) ability to identify distressed patron at risk of suicide; (2) ability to engage patron at risk of suicide in a direct and open talk about suicide; (3) level of confidence to intervene; and (4) level of comfort when intervening.

Stephanie Fortin (TTC) quotes testimonials from TTC supervisors and Constables who have completed TTC Gatekeeper Training about their ability to: (1) identify distressed patrons at risk of suicide; (2) engage patrons at risk of suicide in a direct and open talk about suicide; and raising levels of (3) confidence and competence in dealing with suicide; and (4) awareness of reasons people contemplate suicide.

Under the slide, “Most Helpful & Relevant Aspects of the Training,” Ms. Fortin outlines the following: (1) warning signs; (2) engaging in open discussion; (3) suicide awareness; (4) role playing; (5) group discussions; and (6) resources.

Under the slide, “How can the program be improved,” Ms. Fortin offers the following: (1) refresher training; (2) training to be offered on a yearly basis; (3) separate training for Special Constables; and (4) training offered to all front-line employees.

Under the slide, “Conclusions,” Ms. Fortin says the program evaluation hypotheses were confirmed: (1) factual knowledge about suicide and risk factors increased and was maintained over time; (2) positive attitudes towards suicide intervention increased and were maintained over time; and (3) suicide assessment and intervention skills improved and were maintained over time.

Under the slide, “Mental Health Act Apprehensions,” Ms. Fortin displays a bar chart for years 2002 through 2006 showing a decline in suicide incidents (fatalities and attempts) on TTC facilities, during which there was an increase in Mental Health Act Apprehensions, following TTC Gatekeeper Training.

Ron Ries (FRA) thanks Stephanie Fortin.



Session 1 - Q&A

Ron Ries (FRA) asks for questions on the Community Outreach Panel Discussion.

Question: For Stephanie Fortin, how big a problem are suicides at TTC?

Stephanie Fortin (TTC) responds, about 20-30 per year. She adds, about two-thirds of the victims are under the influence of drugs or alcohol.

Ron Ries (FRA) says the CDC (Centers for Disease Control (CDC) and Prevention, under the U.S. Department of Health and Human Services) has done studies on suicides in two States and found that drug and alcohol involvement is following the same two-thirds percentage of victims as other studies are showing.

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Dr. Ramya Sundararaman (AAS) adds that if drugs and alcohol are involved in suicides, there is a concern that the victims do not know or fully comprehend what they are doing.

Daniel Knot (FRA) asks if there has been Amtrak (National Rail Passenger Corporation) input to the AAS study.

Dr. Ramya Sundararaman (AAS) says Amtrak is included in the AAS Study as a freight railroad.

William Browder (AAR) says the Association of American Railroads (AAR) has a contract with FRA for suicide prevention. He adds, it is a cooperative effort of Amtrak and the freight railroads. However, he is concerned that the Workshop started talking about railroad trespassing, but shifted to suicides. From FRA's Accident/Incident data, he says the States of Texas and California have the highest rates of fatalities. However, he does not believe that the research supports the suggestion that all of these people are committing suicide.

Thomas Mulligan (Union Pacific Railroad) asks Stephanie Fortin (TTC) is the "media protocol" unique for Toronto, i.e., there is a spike in new suicides following news/press reports of a suicide?

Stephanie Fortin (TTC) replies, "No." She knows that it occurs in Quebec as well.

Thomas Mulligan (Union Pacific Railroad) notes for Helen Sramek (OLI) that Union Pacific Railroad employees are active participants in Operation Lifesaver outreach programs.

Vijay Khawani (Los Angeles Metro) asks if TTC keeps track of the number of times Special Constables intervene with people and prevent a suicide?

Stephanie Fortin (TTC) replies, "No, TTC does not keep track of those statistics."

Vijay Khawani (Los Angeles Metro) asks Ramya Sundararaman why AAS is only looking at completed suicides, and not also attempted suicides.

Ramya Sundararaman (AAS) says it is only because FTA is funding its contract and the contract specifies completed suicides. However, she hopes to be able to also look at attempted suicides.

William Browder (AAR) says the AAR is also looking at this topic.

Thomas Peacock (APTA) says the problem has not gone down because "a train is not a train, is not a train," in disagreement with Helen Sramek (OLI). He says there are FRA trains and FTA trains, and trains that are somewhere in between. He adds, light rail is really growing. He says if a study does not include all of the new systems that are coming on line, then it is only looking at a tip of the iceberg. He says the rail industry needs a program to collect data so that we can determine what the problem is.

Robert Adduci (Volpe) asks that further questions of the panelists be submitted to him in writing and he will post the questions and answers on the Workshop Internet Web Site (which was deactivated two months after the workshop). He announces the morning break.

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MORNING BREAK 10:20 A.M. - 10:35 A.M.

Robert Adduci (Volpe) reconvenes the meeting.

Christopher Payne (Caltrain) reiterates the request for Workshop participants to submit questions to the panelists in writing. Both questions and answers will be posted on the Workshop Internet Web Site. He also asks workshop participants to be thinking about what they are learning from the workshop and what is useful so that this information can be included on the workshop evaluation form at the end of the April 2, 2008, Session.

Session 2–Police/Enforcement

Robert Adduci (Volpe) asks Ron Ries (FRA) to facilitate Session 2–Police/Enforcement.

Ron Ries (FRA) says “Enforcement” is one of the Three E’s for trespass prevention under Operation Lifesaver, Incorporated programs. He introduces the five panelists for Session 2–Police/Enforcement. They are: (1) David Triolo (San Mateo County (California) Sheriff’s Office (San Mateo County)); (2) Richard Wessler (BNSF Railway Company (BNSF)); (3) Richard Ferlauto (Long Island Railroad (LIRR)); (4) Stephen Conner (New York Metropolitan Transportation Authority–Metro North Railroad (Metro North)); and (5) Ng Tek Poo (Singapore Mass Rapid Transit (SMRT)).



“Progressive Police Practices” - David Triolo (San Mateo County Sheriff’s Office)

Mr. Ries reads a short biography for David Triolo (San Mateo County Sheriff’s Office) and asks for the presentation titled, “Progressive Police Practices.”

David Triolo (San Mateo County Sheriff’s Office) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-07. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Today’s Topics,” Mr. Triolo says he will discuss: (1) current programs, including the Crisis Intervention Team, the Field Crisis Consultation Committee, and the High Intensity Safety Enforcement Program; and (2) pending programs, including Photo Enforcement at highway-rail grade crossings, and the Pedestrian Traffic School.

Under the slide, “Crisis Intervention Team [CIT],” Mr. Triolo says: (1) certification requires 40 hours of instruction by recognized authorities from throughout the state in the areas of psychology, medicine, legal issues, and emergency intervention; and (2) all transit policy deputies are CIT Certified.

Under the slide, “Field Crisis Consultation Committee,” Mr. Triolo says the Field Crisis Consultation Committee is: (1) a voluntary, multi-disciplinary coalition of medical, criminal justice, probation, parole and social service agencies and allied service providers; and (2)

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committed to assisting persons with chronic mental illness, substance abuse, and dual-diagnosis issues who are high risk of being frequently arrested for activities related to their disabilities.

Under the slide, “High Intensity Safety Enforcement Program (HISEP),” Mr. Triolo says the purpose of HISEP is to reduce preventable injuries and fatalities on the Caltrain right-of-way, at grade crossings and at pedestrian crossings. He describes the method as follows: (1) use of a program of identifying stations, crossings, and right-of-way locations where safety violations are known to occur; and (2) dedicating personnel at these locations during periods of heavy use to issue citations and educational flyers to pedestrians and motorists who violate safety laws.

David Triolo (San Mateo County Sheriff’s Office) shows examples of the citation used for formally noticing the individual of a law violation and of the brochure that accompanies every citation to reinforce the dangers of violating safety laws.

Under the slide, “Motorcycle Grant,” Mr. Triolo says the Office of Traffic Safety has received funds for the purchase of a motorcycle and officer training to increase the effectiveness of the HISEP Program through increased maneuverability in traffic by the motorcycle officer over police cars.

Under the slide, “HISEP Activity,” Mr. Triolo cites annual statistics for calendar year 2007. There were 445 HISEP citations out of a total of 1,980 citations issues (23 percent of all citations are HISEP-generated). 57 of 90 highway-rail grade crossings were HISEP targeted (63 percent of all designated crossing points). 926 hours were devoted to the HISEP Program, averaging 2.1 citations per hour.

David Triolo (San Mateo County Sheriff’s Office) says in calendar year 2006, there were 17 fatalities on Caltrain property, 8 of which are being classified as suicides. After HISEP began, there were 8 fatalities on Caltrain property, 6 of which are being classified as suicides.

Under the slide, “Pending Programs,” Mr. Triolo describes: (1) photo enforcement, citing studies showing results ranging from a 47 percent to 87 percent reduction in annual violations; and (2) the Pedestrian Safety School, which if approved, would permit violators of pedestrian offenses to attend transit-specific education similar to Traffic School for motor vehicle violations.

Ron Ries (FRA) thanks David Triolo.



“FRA/FTA Right of Way Fatality Workshop” - Richard Wessler (BNSF)

Ron Ries (FRA) reads a short biography for the next presenter, Richard Wessler (BNSF Railway Company (BNSF)) and asks for the presentation, “FRA/FTA Right of Way Fatality Workshop.”

Richard Wessler (BNSF) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-08. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Mr. Wessler says BNSF Railway Company operates 33,000 miles of track in 28 States and 2

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Canadian Provinces. He says it is not possible to build walls around all of its system. He says BNSF's goal is to reduce trespasser injuries/fatalities by 5 percent. He says BNSF aggressively pursues trespassers because trespassers: (1) can commit theft and vandalism; (2) are killed or injured on BNSF property; and (3) could be terrorists.

Under the slide, "The SSPP [System Safety Program Plans] Conformance Documents Provides for Facilities Inspections and Trespasser Abatement," Mr. Wessler lists the following: (1) facilities inspections: (a) structures; (b) platforms; (c) road crossings; (d) pedestrian crossings; (e) authorized pedestrian access paths; and (f) unauthorized pedestrian access paths; and (2) trespasser abatement: (a) trespasser route identification and elimination; (b) fencing/barricades/barriers; (c) safety marathons; (d) citation enforcement; (e) increased law enforcement; (f) video surveillance; and (g) train crew observation and reporting.

Under the slide, "Trespasser Route Identification and Elimination," Mr. Wessler says unauthorized pedestrian access paths are identified by: (1) visible "rabbit" paths; (2) parking lots; (3) rivers, creeks, and streams; and (4) employees reporting trespassers at specific locations.

Under the slide, "Private Business Owner—Creating Trespasser Route," Mr. Wessler shows photographs where a private business owner encouraged trespassers to cross track to the private business. He explains the fencing measures BNSF took to prevent this activity.

Under the slides, "Shelby, Montana...", Mr. Wessler shows photographs to illustrate actions BNSF is taking to prevent pedestrians from using a private railroad crosswalk to walk through town and to revamp track and train station entrances to discourage pedestrians from crossing tracks.

Richard Wessler (BNSF) welcomes any thoughts and ideas that this Workshop can offer that he can take back to the BNSF Railway Company.

Ron Ries (FRA) thanks Richard Wessler.



"MTA Right-of-Way Task Force" - Richard Ferlauto (LIRR) and Stephen Conner (Metro North)

Ron Ries (FRA) reads a short biography for the next two presenters, Stephen Conner (Metro North) and Richard Ferlauto (LIRR), and asks for the presentation, "MTA Right-Of-Way Task Force."

Stephen Conner (Metro North) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-09. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Intelligence Gathering," Mr. Conner lists the following information sources that are utilized by the Right-of-Way Task Force: (1) database by branch and milepost for all incidents of trespass, vandalism, dumping, revised by the "daily log;" (2) public affairs complaints to police, railroad, and mutual aid agencies; (3) employee reporting—utilizing a card carried with a timetable;

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and (4) an annual audit of property–patrols, walks, and riding the track geometry car.

Under the slide, “Hazardous Condition Reporting Card,” Mr. Conner explains the following: (1) the Hazardous Condition Reporting Card, carried in the timetable, allows reporting from the best and most frequent vantage point, i.e., locomotive engineers; (2) for immediate/eminent risks, the hazardous condition is still required to be reported to the Movement Bureau; (3) the Hazardous Condition Reporting Card is designed to prompt the necessary information; and (4) the Hazardous Condition Reporting Car is self-addressed and can be dropped in company mail to arrive directly to the Office of System Safety.

Stephen Conner (Metro North) says the LIRR transports about 82 million passengers per year. He says Metro North transports about 80 million passengers per year.

Richard Ferlauto (LIRR) says employee eyes are the best source of information on LIRR properties. Under the slide, “Prioritization,” Mr. Ferlauto lists the following tools to prioritize the Right-of-Way Task Force activities: (1) reports of active trespass or homeless conditions; (2) reaction to fatality/near miss; (3) Public Affairs Complaints to police, railroads, and mutual aid agencies; (4) an annual audit of property–patrols, walks, and riding the track geometry car; (5) political/media influences; and (6) litigation reactions.

Under the slide, “Mitigation Action Plans,” Mr. Ferlauto repeats the three E’s for trespass prevention, under Operation Lifesaver programs: (1) engineering controls; (2) education; and (3) enforcement.

Under the slide, “Engineering Controls,” Mr. Ferlauto lists the following: (1) fencing–high security; (2) barriers; (3) closures; (4) private party–hardening; and (5) cameras, lighting

Under the slide, “Education,” Mr. Ferlauto lists the following: (1) TRACKS Program– Together Railroad and Community Keeping Safe–over 120,000 contacts per year in schools drivers education, mandatory court ordered, and in reaction to other events; and (2) dedicated police officers and safety professionals.

Under the slide, “Enforcement,” Mr. Ferlauto lists the following: (1) post conditions, Patrol; (2) homeless encampments; and (3) dispatch and response.

Stephen Conner says if railroad employees “see” something, they are encouraged to “say” something.

Ron Ries (FRA) thanks Richard Ferlauto (LIRR) and Stephen Conner (Metro North).

Ron Ries (FRA) reads a short biography for the next presenters, Ng Tek Poo (SMRT [Singapore Mass Rapid Transit]), and asks for the presentation, “SMRT’s Practice–Trespasser Fatalities Mitigation.”

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“SMRT’s Practices–Trespasser Fatalities Mitigation” – NG Tek Poo (SMRT)

Ng Tek Poo (SMRT) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-10. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Scope of Presentation, Mr. Ng says he will cover the following topics: (1) About Singapore; (2) About SMRT; (3) Terrorist Treat Mitigation; and (4) Track Intrusion Mitigation.

Under the slides, “About Singapore,” Mr. Ng says Singapore: (1) is an island nation located at the southern tip of the Malaysian Peninsula; (2) is 85 miles north of the equator; (3) has a total land area of 263 square miles—in contrast, the United States is about 15,000 times larger; (4) has a total population of 4.68 million people, or 16,650 people per square mile—in contrast, New York City has 26,403 people per square mile; (5) has a tropical climate, i.e., warm and humid (77 degrees F to 88 degrees F); (6) is a cosmopolitan city where English is widely spoken and understood; (7) has a superb communication network which connects the city-state to the rest of the world; and has an efficient and extremely affordable public transportation network of air conditioned busses, modern Mass Rapid Transit (MRT) rail system, and taxi services. In addition, Mr. Ng says Singapore is the food paradise of Asia. He invites Workshop participants to visit Singapore.

Ng Tek Poo (SMRT) shows a 4.5 minute video on SMRT–Singapore Mass Rapid Transit, excerpts of which appear as “slides” in Meeting Document ROWF&TR-2008-0401-02-10.

Under “Terrorist Threat Migration,” Mr. Ng reads the slide, “The Principle of Terrorist Threat Mitigation:” “In the past our focus has been on traditional law enforcement where prosecution is retrospective...Our new, international goal of terrorism prevention...involves anticipation and imagination about emerging scenarios...finding new ways to anticipate these dangerous scenarios and to identify, intercept and disrupt them before they become tragic terrorist realities—John David Ashcroft, 79th United States Attorney General, February 10, 2003.”

Under the slide, “4Cs Security Management Framework,” Mr. Ng describes the following: (1) CULTURE: (a) raise awareness of new threats; (b) create alertness and consciousness; and (c) build behavioral-based culture; (2) COMMUNICATION: (a) documentation; (b) dissemination; and (c) briefing; (3) COMPETENCE: (a) training; (b) drills, tabletop and physical exercise; and (c) evaluation; and (4) CONTROL: (a) risk management; (b) audit review; and (c) system efficiency testing (e.g., Red Teaming).

Under the slide, “Security Management Process,” Mr. Ng outlines the following steps: (1) Assess; (2) Prevent; (3) Protect; (4) Respond; and (5) Recover. Mr. Ng says Security Management is a recurring and continual process because of new threats and terrorist methods of operation.

Under the slide, “Assess,” Mr. Ng describes SMRT’s Access Control Management System as including vulnerability studies, participation with APTA, security audits, security committees, study trips, risk management, and “Red Teaming.”

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Under the slide, “Red Teaming,” Mr. Ng describes the concept of “Red Teaming” as a simulation against a specific security environment. It involves auditing of frontline staff and security guards. It serves to highlight gaps and weaknesses in the system against terrorist methods of operation such as: (1) marking a potential target; (2) figuring out attack capabilities; (3) means of aggression; and (4) infiltrating the protected environment.

Under the slide, “Prevent,” Mr. Ng describes SMRT’s Prevention Control Management System as including controlled access (site supervision), awareness briefing, security screening, security standard operating procedures, and threat mitigation training.

Under the slide, “Protect,” Mr. Ng describes SMRT’s Protection Control Management System as including control access systems (e.g., door access systems), bollards, closed-circuit television (CCTV), intrusion alarm system, information technology (IT) security, and protective and emergency equipment.

Under the slide, “Respond,” Mr. Ng describes SMRT’s Response Control Management System as including multiple incident response teams, standard operating procedures for hijack, bomb mitigation, etc., training with government agencies, networking for interoperability, drawer plans, and command and control systems.

Under the slide, “Recover,” Mr. Ng describes SMRT’s Recovery Control Management System as including engagement of contractors, different tiers of recovery plans, business continuity plans, insurance, and post accident investigation.

Under the topic of “Track Intrusion Mitigation,” Mr. Ng reads SMRT’s Safety Policy as follows: “We are committed to be the customers’ choice by providing a safe, reliable and friendly travel experience that will be enhanced through convenient and innovative services.”

Under the slides, “Track Intrusion Statistics,” Mr. Ng notes that there has been an upward trend in the number of fatalities on SMRT between 1998 and 2007, including non-accidental (e.g., suicide, ignorance, drug/alcohol intoxication) fatalities.

Under the slide, “Hierarchy of Track Intrusion Mitigation,” Mr. Ng lists the following topics: (1) elimination; (2) access controls; (3) administrative controls; (4) emergency equipment; and (5) policing.

Under the slides, “Track Intrusion Mitigation Measures,” Mr. Ng describes the following: (1) elimination of highway-rail grade crossings by grade separation, e.g., viaducts, tunnels, and flyovers; (2) access controls by fencing, intrusion detection, and platform screens/doors; (3) administrative controls, e.g., signage, “yellow line at platform edge, public address system messages, and public education; (4) emergency equipment, including platform emergency telephones and train emergency stop plungers; and (5) policing, including station patrols, CCTV surveillance, identification of mentally ill trespassers (training via Gatekeepers Intervention Workshop), and community engagement (e.g., SMRT’s Community Engagement Program and SMRT’s Courtesy and Safety Program).

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Under the slides, “Future Plans,” Mr. Ng describes: (1) half-height platform screen doors, which he says are in use in Hong Kong and Paris; and (2) public education programs to help passengers better understand SMRT’s facilities and equipment, focusing on (a) dangers and hazards of railway track; (b) escalator safety; (c) platform safety; and (d) safe boarding/alighting.

During the break, Mr. Ng commented to the FTA that suicide is considered a societal problem and not only the transit agency's problem. Therefore the half height platform doors were funded with the City of Singapore's funds and not the transit agency's.



Session 2 – Q&A

Ron Ries (FRA) asks for questions for the Police/Enforcement Panel.

Question: At the LIRR, there was a very aggressive program to remove brush from along the railroad right-of-way. The brush removal has resulted in easier access to the railroad right-of-way. Has there been more trespasser activity at the LIRR?

Richard Ferlauto (LIRR) replies, “No. But the LIRR is assessing the situation for installing higher fences along its right-of-way near schools, where students might congregate.”

Question: Many railroad employees now wear “jeans and sweats” to work, making their identification as railroad employees more difficult. Should railroad employees be wearing a uniform to help differentiate them from non-railroad employees?

Stephen Conner (Metro North) says Metro North employees are required to wear hard hats and safety reflective vests when on the railroad right-of-way. If someone, who is not wearing a hard hat and safety reflective vest is observed on the railroad right-of-way, he will be challenged.

Question: The new Houston, Texas, light rail transit system is in the processing of installing fences. Are there criteria for installing fences? Are there specifications for high-speed rail fencing?

Richard Ferlauto (LIRR) says Ken Sundberg (LIRR) will be addressing fencing issues in the Hazard Management Panel, scheduled next in the meeting Agenda.

Question: Do other railroads run into community opposition to installing right-of-way fencing?

Richard Ferlauto (LIRR) replies, “Yes, but the LIRR works with communities and generally compromises are reached for the installation of fencing. Usually the compromises involve the aesthetic design of the fences.

Question: Are there requirement for providing openings in continuous fencing for Fire Department/Emergency access if a fence is longer than 2,500 feet.

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Richard Ferlauto (LIRR) says the LIRR plans for openings in long segments of fencing. However, he notes that emergency responders have equipment that can cut rapidly through these fences and provide access.

Caltrain Response: In California, approving fences in advance can greatly reduce the opposition to installing fences.

Robert Adduci (Volpe) asks that additional questions be submitted in writing to himself, adduci@volpe.dot.gov, Christopher Payne (Caltrain), paynec@samtrans.com, or Daniel Knoté (FRA), daniel.knote@dot.gov. He announces the lunch break.

LUNCH BREAK 12:05 P.M. - 1:00 P.M.

Session 3 – Hazard Management

Robert Adduci (Volpe) reconvenes the meeting. He asks Daniel Knoté (FRA) to facilitate Session 3–Hazard Management.

Daniel Knoté (FRA) introduces the five panelists for Session 3–Hazard Management. They are: (1) Robert Lauby (FRA–Office of Safety), (2) Ken Sundberg (LIRR); (3) Stephen Klejst (New Jersey Transit (NJT)); (4) Michael Conlon (Minnesota North Star (MN North Star)); and Christopher Payne (Caltrain). Mr. Knoté reads a short biography for Robert Lauby (FRA) and asks for the presentation titled, “FRA Hazard Management.”

Daniel Knoté (FRA) announces that effective today, April 1, 2008, there are new FRA rules for passenger train emergency systems. He says copies of Federal Railroad Administration (FRA) 49 Code of Federal Regulations (CFR) Parts 223 and 238, Passenger Train Emergency Systems; Emergency Communication, Emergency Egress, and Rescue Access; Final Rule, 73 *Federal Register* (FR) 6370, are available for Workshop attendees.



“FRA Hazard Management” - Robert Lauby (FRA)

Robert Lauby (FRA) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-11. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes. Mr. Lauby says hazard analysis and hazard mitigation are not new.

Under the slide, “When we talk about Hazard Management, we are talking about the following traits,” Mr. Lauby outlines the following: (1) a system safety process; (2) a structured and documented process that identifies hazards and identifies appropriate methods for their elimination or control; and (3) a process that is both (a) proactive–prevents accidents; and (b) reactive–learns from accidents.

Under the slide, “FRA is interested in promoting Hazard Management in the Railroad Industry,” Mr. Lauby says FRA is a proponent of: (1) system safety; (2) hazard management; and (3) hazard analysis.

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Under a series of PowerPoint slides, Mr. Lauby outlines some of FRA's initiatives for Hazard Management as follows: (1) FRA Emergency Order Number 20 was issued in 1996, following the MARC-Amtrak Collision in Silver Spring, Maryland, on February 16, 1996, which required a variety of actions including the preparation of individual railroad System Safety Program Plans (SSPP) and Hazard Analysis; (2) FRA supports the APTA System Safety Program, requiring the preparation of individual railroad system safety plans and hazard analysis and triennial audits with APTA and FRA participation; (3) FRA developed the "Collision Hazard Analysis Guide, published October 2007, in response to commuter rail accidents; (4) FRA and the Railroad Safety Advisory Committee's (RSAC) Passenger Safety Working Group's General Passenger Safety Task Force developed a Guideline to help manage high-level station platform gaps in December 2007, in response to station platform gap incidents; and (5) FRA is working on a System Safety Regulation that will address: (a) SSPP; (b) Hazard Management programs; (c) full implementation; (d) auditing; and (e) participation by all stakeholders.

Under the slide, "Work on the System Safety Regulation will begin later this month," Mr. Lauby says RSAC's General Passenger Safety Task Force will meet April 23-24, 2008, in San Diego, California to begin work on FRA's System Safety Regulation.

Under the slide, "The heart of the Hazard Management Process is," Mr. Lauby lists the following: (1) hazard identification; (2) hazard resolution; and (3) hazard resolution/ mitigation.

Daniel Knoté (FRA) thanks Robert Lauby.



"Hazardous Assessment Approach to Trespass Management–High Security Fence" - Ken Sundberg (LIRR)

Daniel Knoté (FRA) reads a short biography for the next presenter, Ken Sundberg (LIRR) and asks for the presentation, "Hazard Assessment Approach to Trespass Management–High Security Fence."

Ken Sundberg (LIRR) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-12. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Mr. Sundberg says the LIRR operates 722 miles of roadway, having 198 grade crossings. He adds, there is no way the LIRR can fence the entire railroad property. Therefore, he says, the LIRR strategy is to put fencing where it is needed most.

Under the slides, "Prioritization Algorithm," Mr. Sundberg says the LIRR uses a formula to determine where to install high security fencing. He says factors that influence the formula include consideration of past incidents (during a rolling four year period) for: (a) fatalities–accidents and suicides; (b) trespass; and (c) equipment debris strikes, as follows. He says weights are assigned as follows: fatality–accidental (10 points); fatality–suicide (5 points); equipment debris strikes (2 points); and trespass reports (1 point).

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In addition, Mr. Sunberg says the LIRR: (1) segments the entire railroad system into 4-mile blocks by branch and milepost; and (2) tracks the critical nature of data collection through: (a) a daily transportation log; (b) police reports; and (c) public affairs/ letters/field audits.

Ken Sundberg (LIRR) says the high security fence priority scale formula for each 4-mile segment is calculated as follows:

$$FA(10) + FS(5) + DS(2) + TR(1) = PS$$

Note: The number weights assigned are arbitrary, but cannot be “0.” FA is Fatality–Accidental, FS is Fatality Suicide, DS is Debris Strike, and TR is Trespass Reports, and PS is Priority Scale.

Ken Sundberg (LIRR) says a Level I section of track will have a PS of greater than 60; Level II will have a PS ranging from 41-60; Level III will have a PS ranging from 21-40; and Level IV will have a PS ranging from 0-20.

Ken Sundberg (LIRR) says the LIRR will first look at Level I track segments. Within each 4-mile section of Level I track, the areas of concern are the presence of: (1) schools; (2) parks; (3) frequent standard fence breaches; (4) presence of homeless; (5) presence of graffiti; and (6) gathering points, trails, etc.

Ken Sundberg (LIRR) explains that the cost of installing high security fencing is approximately \$125 per linear foot. To help with this cost, he proposes the following fencing strategies: (1) 3rd party agreements; (2) municipal agreements; (3) grants, e.g., from U.S. Department of Homeland Security; (4) targeted hardening; (5) whether fence is on a single or both sides of the track; (6) channelization at grade crossings; (7) emergency response; and (8) maintenance access points.

Ken Sundberg (LIRR) explains the need for consensus building with communities when high security fencing is indicated. The following are important considerations: (1) aesthetics versus safety; (2) emergency access; (3) emergency egress; (4) maintenance (internal and external); and (5) right-of-way clearance, e.g., for roadway maintenance machines. He says the LIRR uses a “pin” map to indicate where there has been fatalities to help build consensus within communities where the railroad feels there is a need to install high security fencing.

Daniel Knot (FRA) thanks Ken Sundberg.



“Right-of-Way Fencing Policy” - Stephen Klejst (NJT)

Daniel Knot (FRA) reads a short biography for the next presenter, Stephen Klejst (New Jersey Transit (NJT) and asks for the presentations, “Right-of-Way Fencing Policy,” and “Passenger Safety Initiative–Second Train in Station.”

Stephen Klejst (NJT) uses a series of Microsoft PowerPoint slides, projected onto a screen for “Right-of-way Fencing Policy,” i.e., Meeting Document

ROWF&TR-2008-0401-02-13. Most meeting presentations will be posted on the ROWF&TR

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Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Overview," Mr. Klejst says the NJT program: (1) was developed to systematically identify locations for ROW fencing; (2) was implemented in October 2002; and (3) has decisions based on direct observation or evidence of known trespasser activity.

Under the slide, "Policy Goals," Mr. Klejst lists the following: (1) eliminate trespasser incidents and fatalities; (2) prevent vandalism; and (3) increase security on the rail system.

Under the slide, "Policy Benefits," Mr. Klejst lists the following: (1) reduces trespasser incidents where fencing has been installed; and (2) allocates limited resources in an effective manner.

Under the slide, "Hot Spots," Mr. Klejst says: (1) hot spots are identified by field personnel and historical data; (2) different fences are installed depending on the location: (a) basic chain link fence; (b) ornamental steel picket fence; and (c) heavy duty high-security fence; (3) locations are identified by the following factors: (a) employee feedback; (b) historical data; (c) geographical locations such as nearby parks or schools; and (d) frequency of service; and (4) based on this criteria the team uses the System Safety Program Hazard Identification/Resolution Process, which is based on U.S. Military Standard 882C; and (5) by determining the hazard severity and probability, the hazard can be reduced to its lowest practical level.

Under the slide, "Results," Mr. Klejst says since October 2002, the policy was applied to allocate funds at 11 locations. He adds, there have been no incidents at the targeted locations after the installation of the fence.



"Passenger Safety Initiative–Second Train in Station" - Stephen Klejst (NJT)

For his next presentation, "Passenger Safety Initiative–Second Train in Station," Stephen Klejst (NJT) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-14. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes. Mr. Klejst relates three incidents on NJT property in which victims were either killed or severely injured by second trains. He describes problems with sight distance for second trains at typical low-level train station platforms.

Under the slide, "Past Experience," Mr. Klejst says: (1) injured persons were pedestrians; and (2) education/awareness was through Operation Lifesaver, Incorporated.

Under the slide, "Current Situation," Mr. Klejst says: (1) injured persons were pedestrians that were passengers on trains; and (2) there are onboard announcements to customers such as "Wait for crossing gates to go up before crossing the tracks."

Under the slide, "Passenger Station Safety Assessment," Mr. Klejst says NJT has: (1) 162 passenger stations; (2) multiple and single track operations; (3) various station configurations; and (4) numerous stations located adjacent to highway-rail grade crossings.

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Stephen Klejst (NJT) describes NJT's use of a Hazard Resolution Matrix, using Military Standard 882C, and the following assessment criteria and weights: (1) track configuration; (2) passengers per week (0-250 (1), 251-500 (2), 502-750 (3), 751-1000 (4), 1001-1250 (5), 1251-1500 (6), 1501-1750 (7), 1751-2000 (8), 2001-2500 (9), and 2501-and above (10)); (3) trains per day (0-25 (1), 26-50 (2), 51-75 (3), 76-100 (4), 101-125 (5), 126-150 (6), 151-175 (7), 176-200 (8), 201-250 (9), and 251-and above (10)); (4) prior incidents (prior incidents (10), no prior incidents (1)); and (5) track curvature (curve (5), no curve (1)). Arbitrary numerical weights are assigned to each of the criteria and none of the weights can be zero.

Stephen Klejst (NJT) shows pictures of fencing, signage, crossing gates, and bollards used at train stations in Ramsey, New Jersey, and Belmar, New Jersey, to help keep passengers alighting from trains from being struck by second trains passing through these stations.

Under the slide, "Project Status," Mr. Klejst says the following: (1) 33 stations met the criteria; (2) the projected were completed by December 31, 2007; and (3) no additional pedestrian injuries have been reported at these locations.

Daniel Knot (FRA) thanks Stephen Klejst.



"Government Plaza Station, Pedestrian Behavior and the Need for Intertrack Fencing Safety Enhancement" - Michael Conlon (Minnesota North Star)

Daniel Knot (FRA) reads a short biography for the next presenter, Michael Conlon (Minnesota North Star (MN North Star) and asks for the presentation, "Government Plaza Station, Pedestrian Behavior and the Need for Intertrack Fencing Safety Enhancement."

Michael Conlon (MN North Star) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-15. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Hiawatha Alignment," Mr. Conlon describes the 12-mile long, light rail system, which extends from downtown Minneapolis to the Mall of America. He says there are 17 stations, 19 protected grade crossings and 21 traffic signal intersections along this route.

Michael Conlon (MN North Star) describes a pedestrian trespass problem at the Government Plaza Station.

Under the slide, "Identifying the Problem-Summer 2005," Mr. Conlon describes an initial survey taken in the summer of 2005, in which there were 226 daily trespassers during weekday rush hours.

Under the slide, "Fall 2005 Treatment," Mr. Conlon explains that a painted warning was stenciled across the track curbs. This resulted in a reduction to 126 daily trespassers during weekday rush hours.

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Under the slide, “Outreach Efforts–Spring 2006,” Mr. Conlon lists the following efforts to reduce trespassing at the Government Plaza Station: (1) public address on board arriving trains; (2) public address on platform every 10 minutes; (3) scrolling variable message sign on platform; (4) safety articles in the Hennepin County and Minneapolis Newsletter; and (5) metro transit support with safety brochures at “Bike-to-Work Day.” Despite these efforts, there remained 44 daily trespassers during weekday rush hours.

Under the slide, “Summary,” Mr. Conlon says the following: (1) original concessions to aesthetics required a continuing evaluation of operating experience; (2) persistence of hazard prompted mitigation in stages; (3) engineering options developed; (4) behavior has improved; and (5) But, the trespassing problem remains. Mr. Conlon explains that a Bollard and Chain design fence has been approved for installation at the Government Plaza Station.

Daniel Knoté (FRA) thanks Michael Conlon.



“Building Foundations for Hazard Analysis” - Christopher Payne (Caltrain)

Daniel Knoté (FRA) reads a short biography for the next presenter, Christopher Payne (Caltrain) and asks for the presentation, “Building Foundations for Hazard Analysis.”

Christopher Payne (Caltrain) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-16. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Why Hazard Analysis,” Mr. Payne lists the following: (1) determine the seriousness of a hazard; (2) determine the priority of mitigation; (3) determine the best utilization of staff and resource expenditures; and (4) reduce liabilities through established methodology.

Under the slide, “Hazard Analysis Requirements,” Mr. Payne says the following requirements for conducting a hazard analysis: (1) APTA’s System Safety Program Plan Development; (2) FTA’s 49 CFR § 659 State oversight; and (3) FRA’s Collision Hazard Analysis Guidelines (voluntary but sometimes requested for waivers and new system approvals).

Under the slide, “Using Hazard Analysis,” Mr. Payne describes the following: (1) Hazard Analysis can be used at all levels with different complexities; (2) simple Hazard Analysis can be used for Safety Committees to prioritize efforts; and (3) complex Hazard Analysis can be used for new systems or configuration changes.

Under the slide, “Liability,” Mr. Payne says the Caltrain General Counsel confirms that: (1) a “good faith” effort at Hazard Analysis and corrective actions, reduce liabilities; (2) corrective actions following a mishap are not an admission of guilt; and (3) true liability stems from poor foundation for your Hazard Management Program.

Christopher Payne (Caltrain) says the typical Hazardous Model stems from Military Standard 882. He adds, the number one mistake of a Hazard Analysis is to examine “worst case scenarios.” He

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says the Hazard Analysis Team or Committee must absolutely focus on the “most typical outcome or mishap” resulting from a hazard.

Under the slide, “Setting Up Your Program,” Mr. Payne lists the following: (1) establish a core Facilitator to keep Hazard Analysis teams or committees on track; (2) establish your analysis ratings; (3) identify categories of hazards; (4) identify your needed expertise; (5) identify your stakeholder’s expertise; and (6) establish a plan.

Under the slide, “Establish Facilitator(s),” Mr. Payne says the following: (1) each agency or department should establish a Facilitator for each level of Hazard Assessment; (2) Safety Committees may need a different Facilitator than the Engineering Department; and (3) the Facilitator must have the ability to “keep it simple.”

Under the slide, “Analysis Ratings,” Mr. Payne says the terms for analysis ratings should be comfortable for management staff use. He give an example of using terms for “Mishap Risk Category” such as paramount, high, medium and low, versus the terms unacceptable, undesirable, acceptable with management review, and acceptable without review.

Christopher Payne (Caltrain) shows sample Caltrain tables for identifying hazard categories, identifying expertise needs, and identifying expertise available.

Under the slide, “Hazard Identification,” Mr. Payne says Hazard Identification can come about by various means including: (1) Safety Committees; (2) Report of Hazard by Public or Employees; (3) Specific Hazard Assessments such as Collision Hazard Analysis; and (4) System Safety Assessments.

Under the slide, “Hazard Team Participation,” Mr. Payne says you may have one team for the whole process. Or, you may need different teams for assessment, mitigation, and post mitigation. He says team members may either perform functions of the process or review the product of other team members for “sign off.”

Under the slide, “Logic,” Mr. Payne says: (1) by using systematic logic to build your process, the qualitative analysis of your assessment has firm credibility; and (2) you can support the qualitative analysis with quantitative analysis where data and studies for mitigation are available.

Under the slide, “In Closing,” Mr. Payne says the importance of a solid and logical foundation for your Hazard Analysis Program produces: (1) useful results; (2) reduces liabilities; (3) considers resources; and (4) increases the credibility of your product.

Daniel Knote (FRA) thanks Christopher Payne.



Session 3 – Q&A

Daniel Knote (FRA) asks for questions for Session 3–Hazard Management.

Question: There is a perception that if you add a fence at one location, but not at another

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location, it always comes up, “Why did you install a fence at this location, but not that location?”

Ken Sundberg (LIRR) and Michael Conlon (MN North Star) respond that a Hazard Analysis will support, in a court case, that you made a logical approach to deciding where to put fences.

Question: On a double track system, has anyone had experience of putting in a “Z” crossing to mitigate the hazard? He says the “Z” crossing forces a pedestrian to look in both directions and he walks through the “Z” before crossing tracks.

Michael Conlon (MS North Star) says Minneapolis has had no reason for installing a “Z” crossing for mitigating a hazard.

Question: The new Austin, Texas, light rail system is considering the tapering of the height of fences at highway-rail grade crossing intersections to aid in operator visibility. Have any experience with tapering the height of fences?

Question: Thomas Mulligan (Union Pacific) asks if NJT considered using the Holdout Rule?

Stephen Klejst (NJT) says NJT could not reliably use that rule. He says on double track, trains go in either direction into a station. He says under the Holdout Rule, one train would be held back from entering the station until the first train leaves the station.

Question: Richard Wessler (BNSF) asks if a carrier performs a Hazard Assessment, can’t this be obtained during “discovery” during litigation and then be held against the railroad for not doing enough?

Christopher Payne (Caltrain) says Caltrain Counsel believes that having a Hazard Assessment may help in liability cases against railroads. But, he adds, a Hazard Analysis could also work against railroads.

Jo Strang (FRA) says one of items in FRA’s Safety Re-Authorization Request under Senate Bill 1889 is the ability to protect sensitive information from Freedom of Information Act (FOIA) requests. She says the Federal Government believes there is an interest in protecting information of this type from FOIA requests.

Question: Is there State oversight of the Minneapolis Capitol Plaza Project?

Michael Conlon (MN North Star) replies, Yes.

Daniel Knote (FRA) announces the afternoon break.

AFTERNOON BREAK 3:05 P.M. - 3:20 P.M.

Daniel Knote (FRA) reconvenes the meeting. He asks for general comments on the April 1, 2008,

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Workshop meeting.

Michael Kirchanski (San Francisco (SF) Muni) appreciates Caltrain's approach to Hazard Analysis—separate Facilitators for different functions. He says he is going to adopt Caltrain's method at SF Muni. He agrees with Christopher Payne that Hazard Analysis should not be assigned to a railroad's "Safety Committee."

Robert Lauby (FRA) says FRA does not want to "Box" anyone into following a Military Standard 882 approach to performing a Hazard Analysis. He adds, "What FRA is saying is come up with a process to prioritize a hazard as far as severity and frequency are concerned, that fits your particular property." He says such a process could be better than Military Standard 882.

Robert Adduci (Volpe) reiterates that the approach to Hazard Analysis is not a "one size fits all." He says Military Standard 882 can be a "guide," but it may not fit individual railroad/transit properties.

Martin Cocker (Utah Transit Authority FrontRunner) describes how he modified Military Standard 882 to fit his system. He asks about "after the fact Hazard Mitigation," following a suicide. He asks, without sounding insensitive, "How do railroad/transit systems get their operations back up and running again following the disruption and accident investigation of a suicide?"

Stephen Conner (Metro North) says Metro North gets permission, from the Medical Examiner, or Coroner to move the victim's body, and then train operations can proceed.

Daniel Knoté (FRA) says the way carriers can get back on time is to understand the Medical Examiner's problem and the Coroner's problem.

Question: What happens when the length of the platform is decreased by fencing/bollards to help channel passengers to safer highway-rail crossing points and you need to move the disembarking passengers to the cars with "open exit doors?"

Daniel Knoté (FRA) says the carrier should use the train public address system to warn passengers that they need to move to another car in order to disembark at these stations.

William Browder (AAR) says: (1) there is a Notice of Proposed Amendment to the U.S. Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD); and (2) FHWA has reissued the 1986 Grade Crossing Handbook. It is available on FRA's Internet Website.

Statement: Chicago's Metra has a 3-track system, the center track is for freight traffic. Freight traffic can be either inbound, or outbound, on the single track. There is a description how people need to cross all three tracks from the station platform in order to access the station parking lot. He says Metra has conducted "safety blitzes," during which \$100 citations are written for violations. However, he does not know how these "safety blitzes" are affecting overall enforcement.

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Daniel Knot (FRA) asks Workshop attendees to share any demographic data they may have collected on suicides with the Study Group for Suicidology, i.e., Dr. Ramya Sunderarama (AAS).

Jo Strang (FRA) says she has gotten a lot out of today's Workshop Panel Presenters. She hopes this will be a start to a long process that will reduce suicides on railroad property. She is happy to hear about risk reduction programs to reduce suicides.

William Browder (AAR) reminds the Workshop that there are two separate projects with AAS for FRA and FTA on suicide.

Robert Adduci (Volpe) thanks everyone for attending today's Workshop. He adjourns the April 1, 2008, Session at 3:45 pm.

SESSION ADJOURNED 3:45 P.M.

April 2, 2008, Session

A continuation of the Right of Way Fatality and Trespass Reduction Workshop was convened at 8:05 a.m., in the 2nd floor auditorium of Caltrain Headquarters, 1250 San Carlos Avenue, San Carlos, California 94070, by Robert Adduci from the U.S. DOT's Volpe National Transportation Systems Center (Volpe). The workshop was sponsored by FRA, the Federal Transit Administration, and Caltrain.

Robert Adduci welcomes Workshop attendees. He asks Workshop participants to send "homework assignments" to Fred Mottley (Volpe) at the following: www.mottley@volpe.dot.gov. He introduces Levern McElveen (FTA-Headquarters) and Leslie Rogers (FTA-Region IX).

Session 4 – Technology

Robert Adduci asks William Grizard (APTA-Director of Safety) to facilitate Workshop Session 4–Technology.

William Grizard (APTA) says everyone in rail transportation has been working on making things "Fail Safe." He believes that work is now needed to make things "Fool Proof." He says organizations do not have to spend millions of dollars to make a difference. He cites Operation Lifesaver, Incorporated (OLI), which started with nothing, received donations, and now has a successful program. He believes that Workshop attendees need to persevere with ideas to promote safety. He says Workshop attendees need to make things "visible" to the leadership in their organizations, even though it is already visible to the Workshop participants.

William Grizard (APTA) introduces the four panelists for Session 4–Technology. They are: (1) Suzanne Horton (Volpe); (2) Marco daSilva (Volpe); (3) Sam Raab (CSX Transportation); and (4) Deborah Wojnicz (U.S. Transportation Security Agency (TSA)).

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“Public Education and Enforcement Research Study” - Suzanne Horton (Volpe)

Mr. Grizard reads a short biography for Suzanne Horton (Volpe) and asks for the presentation titled, “Public Education and Enforcement Research Study [PEERS].”

Suzanne Horton (Volpe) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-17. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “PEERS Purpose and Goals,” Ms. Horton says the following: (1) The USDOT 2004 Secretary’s Action Plan on Highway-Rail Crossing Safety and Trespass Prevention identifies education and enforcement as key elements in reducing grade crossing incidents, injuries, and fatalities; and (2) The Volpe Center was sponsored by FRA to conduct a field operational test at highway-rail crossings to establish the effectiveness of education and enforcement programs.

Under the slide, “PEERS Project Overview,” Ms. Horton describes: (1) a 16-month video monitoring period consisting of: (a) a pre-test case data collection period (2 months); (b) the test case data collection period (12 months); and (c) a post-test data collection period (2 months); and (2) initiatives during the test case period: (a) scheduled police information and enforcement blitzes; and (b) community public awareness campaigns.

Under the slide, “Violation Types,” Ms. Horton lists the following: (1) Type I Violation—warning flashers are active but gates have not been activated (vertical position); (2) Type II Violation—warning flashers are active and the gates are in motion; and (3) Type III Violation—warning flashers are active and the gates are fully deployed (horizontal position).

Under the slide, “Phase I, Arlington Heights [Illinois],” Ms. Horton says the Volpe Center made the decision to perform a focused analysis on one community to provide results in a more timely manner. She says Arlington Heights, Illinois, is a suburb of Chicago, Illinois, where there is a very active urban crossing environment with approximately 75 trains per day (12 freight and 63 commuter).

Under the slides, “Arlington Heights Violations,” Ms. Horton says the pre-test data collection period was between July 1, 2003, and August 31, 2003. The test case data collection period was between September 1, 2003, and August 31, 2004. Finally, the post-test data collection period was between September 1, 2004, and October 31, 2004. She says the overall violation rate reduction (from the pre-test to post-test) was 30.92 percent for the three Arlington Heights, Illinois, crossings. During the study period, there was a minimal increase in Type I Violation rates. However, Type II Violation rates and Type III Violation rates declined by 29 percent and 72 percent, respectively.

Under the slide, “Conclusions, Phase I,” Ms. Horton lists the following: (1) highway-user behavior at the three highway-rail grade crossings in Arlington Heights “changed for the safer” during PEERS; (2) the greatest reduction was in the occurrence of the most risky Type III Violations; and (3) pedestrians, especially commuters, were most affected by the PEERS programs.

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Suzanne Horton (Volpe) says the study results can be found on FRA's Office of Railroad Development's Internet Web Site.

Under the slide, "PEERS Phase II," Ms. Horton describes a second study at Macomb, Illinois, a rural crossing environment with approximately 20 trains per day (18 freight; 2 Amtrak).

Under the slide, "Preliminary Data Results," Ms. Horton says there has been a 28 percent reduction in Type I Violation rates (pre-test versus test period), a 22 percent reduction in Type II Violation rates (pre-test versus test period), and a 48 percent reduction in Type III Violation rates (pre-test versus test period). (Note: the test period rate is based on 100 percent for the Ward Street crossing; 50 percent for the Jackson Street crossing; and 28 percent for the Lafayette Street crossing data.)

Under the slide, "Next Steps," Ms. Horton says: (1) current activities include (a) completing the analysis of data from Macomb, Illinois; and (b) completing a final report on PEERS Phase II comparing rural and urban communities; and (2) Future Activities which include creating a guidance document for States and local communities on how to enact successful education and enforcement programs.

Question: Did you see a difference between Violations with having pedestrian gates versus not having pedestrian gates at crossings?

Suzanne Horton (Volpe) says all pedestrian crossings in the study had gates.

William Browder (AAR) says the Union Pacific Railroad alone spends \$8 million annually just for the materials for broken gates.

William Grizard (APTA) thanks Suzanne Horton.



"Trespass Deterrent Demonstration Project Update" - Marco daSilva (Volpe)

William Grizard (APTA) reads a short biography for Marco daSilva (Volpe) and asks for the presentation titled, "Trespass Deterrent Demonstration Project Update."

Marco daSilva (Volpe) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-18 Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Overview," Mr. daSilva says he will cover the following topics: (1) background; (2) railroad infrastructure security research; and (3) the latest research.

Under the slide, "The Problem," Mr. daSilva shows a line chart for U.S. Trespass and Crossing Fatalities by year, from 1990-2006. He says in 1996 Trespass Fatalities surpassed Crossing Fatalities. The problem, Mr. daSilva says, is that crossing fatalities have declined, but trespass fatalities have not.

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Marco daSilva (Volpe) describes Trespass Detection and Deterrent Systems Research in Pittsford, New York. Under the slide, “Railroad Infrastructure Security Research,” Mr. deSilva says the purpose is to demonstrate a stand-alone commercial off-the-shelf (COTS) video-based trespass monitoring and deterrent technology system for railroad infrastructure application. He adds, the expected outcomes are: (1) detects trespass events within a finite distance of the approach to a bridge; (2) technology system interacts with a Security Company attendant; (3) a 24 hours per day/7 days per week (24/7) attendant determines the nature of a trespass alarm; (4) the attendant invokes steps necessary to reduce the likelihood of an incident; and (5) reduce trespass events through the use of a reliable monitoring system.

Under the slide, “Pittsford Trespass System,” Mr. daSilva says the final report, dated August 2006, can be viewed at FRA’s Internet Web Site, i.e., <http://www.fra.dot.gov/downloads/Research/ord0603.pdf>.

Under the slide, “Pittsford Trespass System Features,” Mr. daSilva lists the following: (1) closed-circuit television (CCTV) surveillance; (2) video transmission via telephone line; (3) pre- and post-alarm digital recording; (4) 24/7 video monitoring by security company; (5) infrared illumination invisible to the human eye; (6) dual-technology sensors to detect trespassers; (7) magnetometers to screen out trains; (8) amplified speakerphone to warn trespassers; and (9) mounting height designed to eliminate vandalism.

Under the slide, “Pittsford Trespass System Concept of Operations,” Mr. daSilva explains the system operation as follows: (1) trespasser approaches a railroad bridge and trips motion sensors; (2) the detection system automatically telephones Doyle Security; (3) an alarm sounds and Doyle observes a video screen showing an image of the bridge from CCTV surveillance; (4) Doyle Security determines if a trespasser is present (wild life can also trigger motion detectors); (5) if a trespasser is present, Doyle Security directs the following voice message to the bridge speakers: “Warning. You are trespassing on private property and are in danger of being struck by a train. Leave the area immediately;” (6) if the trespasser leaves, the incident is merely documented in Doyle Security’s record keeping system; otherwise, the local Sheriff and CSX Transportation police are notified, and the trespasser is warned again; and (7) Doyle Security sends weekly event logs to the Volpe Center.

Under the slide, “Pittsford Trespass System Results,” Mr. daSilva says: (1) there were a total of 335 trespass events over the 3-year evaluation period; (2) 52 trespass events involved traversing the bridge; (3) police were notified and were able to respond to 5 events; (4) there were two close call trespass events involving 4 people, e.g., warned off the track just before a train arrival; (5) there was an overall trespass rate reduction of 50 percent from the 1st year to the 3rd year; and (6) there was a reduction of 68 percent in false alarm rates from the 1st year to the 3rd year.

Under the slides, “Pittsford Trespass System: Performance Guidelines,” Mr. daSilva says the objective is to develop a “white paper” delineating functional-based performance guidelines for railroad right-of-way trespass detection and deterrent systems based on the prototype installed and evaluated at Pittsford, New York. He says the “white paper” will: (1) draw from “lessons learned” during the Pittsford Trespass Detection and Deterrent System Project; (2) provide a set of recommendations referring to basic functionality and operation of trespass detection and deterrent

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systems; (3) will not be aimed at specific devices or technologies; and (4) will assist local authorities considering the use of similar stand-alone systems to minimize trespassing.

In addition, Mr. daSilva says function-based performance guidelines have been proposed and are undergoing FRA review. These concern: (1) atmospheric conditions; (2) lighting; (3) communications; (4) sensor and other components; (5) operation; and (6) maintenance.

Under the slide, “Emerging Technology Research,” Mr. daSilva says: (1) many prototypes and operational systems exist worldwide (not just in the railroad environment); (2) underlying technologies are the same, but new systems design approaches have surfaced; (3) concerns: (a) reliability and redundancy of system components (sensors); (b) self-diagnostic routines; (c) fail safe design (relaying failure information to train, wayside warning system, control center); and (d) clear operation/maintenance plans and protocols; and (4) the Final Report, published February 2007, can be viewed at FRA’s Internet Web Site, i.e., <http://www.fra.dot.gov/downloads/Research/ord0706.pdf>.

William Grizard (APTA) thanks Marco daSilva.



“An Overview of the Transportation Security Administration’s Surface Transportation Security Inspection Program” - Deborah Wojnicz (TSA)

William Grizard (APTA) reads a short biography for Deborah Wojnicz (TSA) asks for the presentation titled, “An Overview of the Transportation Security Administration’s Surface Transportation Security Inspection Program.”

Deborah Wojnicz (TSA) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-19 Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Introduction,” Ms. Wojnicz says her presentation will cover the following topics: (1) background; (2) TSA Mission; (3) activities—passenger rail, freight rail; (4) Notice of Proposed Rulemaking; and (5) Coordination.

Under the slide, “Background,” Ms. Wojnicz describes TSA inspectors, regional supervisors, policy-level coordination at TSA headquarters, and local coordination for the Surface Transportation Security Inspection Program.

Under the slides, “Mission,” Ms. Wojnicz lists the following: (1) develop and foster collaborative working relationship with the rail industry; (2) begin working with other surface modes as resources allow, e.g., bus, pipeline, trucking; (3) work closely with applicable local, State, and Federal entities to: (a) share information; (b) identify industry-wide security baseline and best practices; (c) evaluate security system performance; and (d) discover and assist in mitigating gaps and vulnerabilities in the industry’s security systems; and (4) engage the rail industry in developing, evaluating, and ensuring the implementation of: (a) necessary security measures; (b) innovative approaches to protecting our transportation systems; (c) a positive relationship with industry to foster industry-wide security enhancements; and (d) a consistent understanding of and

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compliance with security requirements.

Deborah Wojnicz (TSA) says TSA is not issuing regulations–yet.

Under the slide, “Visible Intermodal Protection and Response (VIPR),” Ms. Wojnicz says: (1) Visible TSA presence at random times at transit and passenger rail facilities; (2) foster uncertainty on the part of potential terrorists; (3) enhance public confidence in security measures; (4) further partnering with local transit systems and passenger/commuter railroads; (5) enhances preparedness and working framework among the entities involved; and (6) sharing of lessons learned on the National level furthers the development of the operational concept.

Under the slide, “Emergency Deployment,” Ms. Wojnicz lists the following: (1) hurricane Katrina/Rita response; (2) Hurricane and other disaster preparedness planning; (3) derailment and incident response; (4) National Security Special Events (NSSE) deployments; and (5) the increase in Homeland Security Advisory System (HSAS) threat level.

Under the slide, “Security Action Item (SAI) Assessments,” Ms. Wojnicz says the purpose of SAI Assessments is to assess freight railroad’s implementation of recommended Security Action Items (SAI) in toxic inhalation hazard (TIH) transport. She says assessments are completed in five phases, through a cooperative effort between TSA and the freight railroads.

Under the slide, “Security Action Item Assessments,” Ms. Wojnicz give the following examples of SAI Assessments: (1) employee security awareness; (2) reporting suspicious activity; (3) reporting suspicious activity; (4) control of sensitive information; (5) employee identification; (6) systems to locate TIH cars; (7) security-focused inspections of TIH cars; and (8) placement of TIH cars in yards.

Under the slides, “Notice of Proposed Rulemaking (NPRM),” Ms. Wojnicz says if published as written, the rule would require: (1) all railroads to designate a security coordinator; (2) locate and provide shipping information for TIH rail cars; (3) require incidents/suspicious activity reporting to TSA; (4) require chain of custody and control requirements; and (5) require the physical inspection of a rail car before handoff to a rail carrier. She says five of the most commonly transported TIH materials are: (1) anhydrous ammonia; (2) chlorine; (3) ethylene oxide; (4) anhydrous hydrogen fluoride; and (5) sulfur dioxide. (Note: 80 percent of TIH shipments are anhydrous ammonia and chlorine.)

Concerning trespassers, Ms. Wojnicz explains how TSA/partnerships help with trespasser problems. She says getting information on “suspicious activities” is what TSA is emphasizing through employee vigilance and input from railroad customers.

William Grizard (APTA) thanks Deborah Wojnicz.



“Electronic Security Systems” - Sam Raab (CSXT)

William Grizard (APTA) reads a short biography for Sam Raab (CSX Transportation (CSXT)) and asks for the presentation titled, “Electronic Security Systems.”

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Sam Raab (CSXT) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-20. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, "Identification," Mr. Raab says the following must be identified: (1) critical infrastructure; (2) threats; (3) protection zones; and (4) type of protection.

Under the slide, "Implementation," Mr. Raab says the rail carrier security department must: (1) decide on a vendor; (2) obtain company and community support; and (3) manage the project.

Under the slide, "Testing and Improvement," Mr. Rabb suggests the following: (1) accept initial errors; (2) start big; (3) conduct "red team" testing; (4) log false alarms/errors; and (5) stay on top of it.

Under the slide, "Types of Detectors," Mr. Rabb lists the following: (1) motion detection; (2) infrared detection; (3) train detection; (4) RFID [radio-frequency identification]; (5) virtual fencing; (6) chemical detection; (7) trespasser on train detection; and (8) left object detection.

Under the slide, "Technology used," Mr. Rabb outlines the following: (1) fixed and PTZ [pan, tilt, zoom] cameras; (2) interactive interface; (3) video and alarm archiving; (4) PTZ capture and record; and (5) adjustable alarm zones.

Under the slide, "Alarm Notification," suggests the following should be followed: (1) alarm notification to the railroad (audible and visual); and (2) alarm notification to the trespasser (audible and visual). He says this system is not a CCTV System, i.e., human involvement is only when necessary.



"NCR Rail Pilot Project" - Sam Raab (CSXT)

For the next presentation titled, "NCR [National Capitol Region] Rail Pilot Project," Sam Raab (CSXT) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-21. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Mr. Raab describes a joint U.S. Department of Homeland Security/CSX Transportation (CSXT) project to provide "state of the art" surveillance for a rail corridor that runs through Washington, D.C.

Under the slides, "NCR Rail Security Corridor," Mr. Raab says the key components of the system will be: (1) existing CSXT remote surveillance system; (2) virtual gates; (3) virtual fence; and (4) friend or foe detection. He says the NCR rail security corridor is approximately 7 miles long, uses a modular system that is expandable, and will use existing CSXT security system with enhancements.

Under the slide, "Existing CSX Remote Surveillance System," Mr. Rabb describes the NCR Rail

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Security Corridor's existing remote surveillance system as follows: (1) secured perimeter on both sides of the Virginia Avenue tunnel (Washington, DC); (2) 24/7 remote monitoring at CSXT Police Command Center (PCC); (3) loud annunciators in 6 languages, strobe lights, audio alarm at PCC; (4) live streaming video viewed, recorded and controlled remotely at CSXT PCC; (5) additional sensor technologies, programmable logic controller; (6) live Meteo Data provided in real time to Center for Toxicology and Environmental Health, temperature in tunnel monitored in real time; (7) all data is 3DES encrypted and transmitted over a public data highway; (system currently is being extended to include the Anacostia River Bridge (Washington, DC); (8) the system has operated successfully since early 2003; and (9) the system has been enhanced through key processes of the CSXT security plan, i.e., at RIS Alert Levels 3 and 4, trains are constantly monitored/additional countermeasures are applied; at RIS Alert Level 4, products classified as poison inhalation hazards are embargoed.

Under the slide, "Virtual Security Fence," Mr. Raab says the NCR Rail Pilot Project employs approximately 200 high resolution fixed cameras and approximately 50 high resolution PTZ cameras in combination with intelligent video interpretation software.

Under the slides, "Virtual Security Fence Features," Mr. Raab says the Intelligent Video Interpretation Software, Praesidium™ Suite, is used to detect: (1) moving objects; (2) perimeter breaches; (3) left objects; (4) removed objects; (5) loitering activity; and has the capability for: (1) geo-spatial visualization; (2) visualization of multiple video outputs; (3) high-level, rule-based alarm functions; (4) dynamic track display; and (5) presenting all alarms in a 3-dimensional model.

Under the slide, "Friend or Foe Detection," Mr. Raab says employee identification tags have embedded electronic signatures that permit radio-frequency identification as "friend," i.e., authorized personnel, or "foe," i.e., unauthorized intruder.

Under the slide, "Simultaneous Data Distribution," Mr. Raab says data and live streaming video from the sites are encrypted and transmitted simultaneously to multiple locations, i.e., CSXT PCC, U.S. Secret Service, U.S. Capitol Police, other local law enforcement agencies, or other Federal or local agencies.

Under the slide, "Virtual Gates," Mr. Raab describes how approaching trains will pass through virtual gates that provide for radiation detection (at very low levels) at train speeds of up to 15 miles per hour and for chemical detection for both toxic industrial chemicals, and chemical warfare agents.

Question: What would prevent a terrorist to "knock-off" a railroad employee and take the employee's identification card, having the embedded "friend or foe detection" capability?

Sam Raab (CSXT) says, "Probably nothing, except that a track person needs to be authorized to be within the protection zone. Therefore, without prior authorization, CSXT PCC would be scrutinizing the activities of the person possessing the employee identity card.

Question: How do you get video to your security office?

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Sam Raab (CSXT) says through a separate Digital Signal (DS) 3 line connection.

[Note: DS3, synonymous with T3, is an ultra high-speed connection capable of transmitting data at rates up to 45 Mbps (megabytes per second, a measure of bandwidth, i.e., total information flow over a given time). A DS3 line is equal to approximately 672 regular voice-grade telephone lines, which is fast enough to transmit full-motion, real-time video, and very large databases over a busy network. A DS3 is the second fastest, non-optical connection offered in North America. A DS3 line is comprised of 28 T1 lines, each operating at total signaling rate of 1.544 Mbps.]

Question: Does the train engineer know if there are roadway workers on the track?

Sam Raab (CSXT) responds, “Probably not.”

Robert Adduci (Volpe) asks that additional questions be held until later. He says the Workshop presentations are running late.

Sam Raab (CSXT) demonstrates an intrusion detection system in “real time” at a train tunnel located at West Point, New York. [Note: the San Carlos, California, Workshop is located nearly 3,000 miles away from West Point, New York. There is a 3-hour time difference.] CCTV video cameras are activated as a CSXT employee walks along a track towards the tunnel and is detected. Audible warnings from the tunnel public address system are activated. Mr. Raab showed the options available to railroad security personnel for contacting railroad police, or local law enforcement authorities.



Session 4 – Q&A

Question: How do law enforcement agencies have access to this data? Is it a “viewer”?

Sam Raab (CSXT) says it can be a viewer. But it can also be set-up in a variety of ways.

Question: Did the employee in West Point, New York, tunnel intrusion detection demonstration have a CSXT identification tag?

Sam Raab (CSXT) replies, “No.” He says the Washington, D.C., NCR Rail Pilot Project will be the first to demonstrate this technology.

Question: How do you deal with the pressure for trains to remain on a schedule, while you deal with security issues?

Sam Raab (CSXT) says the Security Monitoring System is located in the same building as are Train Dispatchers. The Train Dispatchers will be aware of security issues and be able to re-route trains to help maintain schedules.

Question: During Marco daSilva’s (Volpe) presentation, there was the interception of 5 trespassers, i.e., of 335 pedestrian intrusions to cross the bridge, 52 actually crossed

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the bridge, but there were only 5 interceptions. He asks why the number of interceptions was so low.

Marco daSilva (Volpe) replies that it takes time for railroad and local law enforcement to respond. By the time railroad and local law enforcement personnel were able to arrive at the scene, the majority of the trespassers had left.

Question: What is the budget for Washington, D.C.'s NCR Rail Pilot Project? What is CSXT's annual railroad security budget?

Sam Raab (CSXT) does not know, but will attempt to find out.

Question: For the radiological detectors at the NCR Rail Pilot Project, how many of these "train sniffers" are there?

Sam Raab (CSXT) replies two, one each at the entrance to the corridor for trains coming from opposite directions. He says the NCR Rail Pilot Project will be the first to use this technology.

Jeffrey Davis (FTA–Region IX) says what he is hearing is that you can have remote sensors to automatically announce a warning to trespassers, once a sensor is activated?

Sam Raab (CSXT) replies, "Yes." However, he wants the workshop to recognize that there are currently pedestrian crossing gates at many locations that are ignored.

Question: For Suzanne Horton (Volpe)–People seem willing to violate crossing warnings when trains are moving slowly. In the future, trains will be moving much faster. Were faster train speeds of future rail operations taken into account by the Volpe crossing study?

Suzanne Horton (Volpe) replies, "No. Volpe did not factor in faster train speeds into its study."

Question: For Suzanne Horton (Volpe)–For the Illinois crossing study, there were three levels of "blitzes." Were officers issuing citations and was it the issuance of citations that lowered the number of violations reported as the study period progressed?

Suzanne Horton (Volpe) replies, "Yes."

Robert Adduci (Volpe) announces a morning break.

MORNING BREAK 9:50 A.M. - 10:10 A.M.

Session 5–Infrastructure I

Robert Adduci (Volpe) reconvenes the meeting. He asks William Grizard (APTA–Director of Safety) to facilitate Workshop Session 5–Infrastructure I.

William Grizard (APTA) introduces the five panelists for Session 5–Infrastructure I. They are: (1)

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Phil Therrien (Edmonton (Canada) Transit); (2) Bradley Barkman (South Florida Regional Transportation Authority (SFRTA)); (3) Brian Reeves (Florida Department of Transportation (FDOT)); (4) Vijay Khawani (Los Angeles (California) Metro (LA Metro)); and (5) Michael Kirchanski (San Francisco (California) Muni (SF Muni)).



“Crossing Protection” - Phil Therrien (Edmonton Transit)

Mr. Grizard reads a short biography for Phil Therrien (Edmonton Transit) and asks for the presentation titled, “Crossing Protection.”

Phil Therrien (Edmonton Transit) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-22. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slides, “Active Warning Devices,” “Passive Warning Devices,” and “Pedestrian Crossings,” Mr. Therrien lists the following considerations for installing active warning devices, passive warning devices, and to determine which pedestrian crossings should be equipped: (1) crossing geometry; (2) train speed; (3) sight distances; and (4) refuge areas.

Under the slides, “Four Quadrant Gates,” Mr. Therrien outlines the following characteristics: (1) primary traffic control is by signalization—left turns are protected; (2) gates are used as supplemental devices; (3) the four quadrant gates have sufficient gap between ends for emergency egress of trapped vehicles; (4) advanced signage is at every intersection; and (5) additional gate protection.

Under the slide, “Call On Signals,” Mr. Therrien explains that a “Call On Signal” is a wayside signal protecting a crossing. For a transit vehicle, it is a: (1) a forced stop; (2) requires procedural practices; and (3) allows remote intervention.

Under the slide, “Hold in Station,” Mr. Therrien says there is communication between the traffic controller and the signal system, which guarantees intersection continuity between traffic signals and the signal system.

Under the slide, “Second Train Coming,” Mr. Therrien describes a unique approach for Edmonton Transit’s 43rd Avenue station. There is an active “second train coming” sign. There is a signal system enhancement. There is standard signage at all crossings.

Under the slide, “Sealing the Right of Way,” Mr. Therrien says the following need to be considered: (1) strategies on how to control trespassing; (2) fencing needs to be a collaborative effort; (3) graffiti control—a “Crime Prevention Through Environmental Design” issue; and (4) portal intrusion.

Under the slides, “Multi Use Trail,” Mr. Therrien shows examples of trails that Edmonton Transit is using to channel pedestrians/trespassers off of the railroad right of way by providing an attractive corridor alternative for biking, hiking, jogging, and walking.

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Under the slides, “Fencing and Signage,” Mr. Therrien shows examples of fencing and signage being used along the railroad right of way to help stop railroad trespassing. He says this is a collaborative effort with land owners and businesses. In Edmonton, Alberta, he says, “You cannot fine without a sign.”



“Video Usage” - Phil Therrien (Edmonton Transit)

For his “Video Usage” presentation, Phil Therrien (Edmonton Transit) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-23. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “On-board,” Mr. Therrien says in the future, there will be: (1) four interior cameras per car; (2) four exterior cameras on each car to replace rear view mirrors; (3) a quad screen in the train cab so the motorman can see what is happening in each car or can be used to bring up any of the cameras on the outside of the train; and (4) a forward facing camera for investigation.

Under the slide, “Camera Network,” Mr. Therrien says there are 551 cameras system wide on the Edmonton Transit System, about one third of which are for right-of-way protection. He says 50 additional cameras are being added. All camera images are digitally recorded and the retention of the digital recordings is approximately 23 days.

Under the slides, “In Stations,” and “At Crossings,” Mr. Therrien says use of both fixed and pan/tilt/zoom cameras can help: (1) identify and follow suspicious persons; (2) with trespasser mitigation; (3) provide response to patrons in distress; (4) provide asset security; and (5) aid portal entry detection.

William Grizard (APTA) thanks Phil Therrien.



“ROW Fatality and Trespass Reduction Workshop” - Bradley Barkman (SFRTA) and Brian Reeves (FDOT)

William Grizard (APTA) reads a short biography for the next two presenters, Bradley Barkman (SFRTA) and Brian Reeves (FDOT) and asks for the presentation titled, “ROW Fatality and Trespass Reduction Workshop.”

Bradley Barkman (SFRTA) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-24. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Our System,” Mr. Barkman says TriRail track and the right-of-way is owned by FDOT, but is maintained and dispatched by CSX Transportation. He says there are 50 weekday and 16 weekend/holiday trains. Absent the Florida Everglades, Mr. Barkman says the TriRail

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operating area is the 3rd most densely populated urbanized area in the United States. There are three large counties, over 35 municipalities, and three International Airports. Finally, Mr. Barkman says there are 72 highway-rail grade crossings in 72 miles, which he describes as “a thrill a mile.”

Under the slide, “Other Partners,” Mr. Barkman lists the following: (1) Amtrak, CSXT, FRA, Veolia Transportation, and Wackenhut Corporation; (2) county fixed bus routes; (3) local police department and outreach centers; (4) county schools; (5) news papers; and (6) broadcasting networks.

Under the slide, “Observation and Reporting,” Mr. Barkman lists the following sources: (1) train crews; (2) staff and contractors; (3) local police departments; (4) citizens/ passengers; and (5) quiet zones.

Under the slide, “Collision Hazard Identification,” Mr. Barkman shows photographs to illustrate some of the following: (1) non-compliant bus stops to FDOT Standards; (2) Unprotected sidewalks at railroad crossings; (3) Right-of-Way (ROW) signage at road crossings; and (4) holding gates down during station stops—radio trigger to gates when train is ready to depart the station.

Brian Reeves (FDOT) continues the presentation. Under the slide, “Fencing and Channelization,” Mr. Reeves says carriers should prioritize needs. He shows photographs to illustrate problems associated with: (1) the close proximity of the railroad ROW to Interstate 95; (2) maintaining vegetation growth; (4) railings; (5) fences; and (6) signage.

Under the slide, “OL Blitzes and TSAW,” Mr. Reeves describes Operation Lifesaver (OL), Incorporated and Train Safety Awareness Week (TSAW) activities designed to promote safety at highway-rail grade crossings.

Under the slide, “Homeless Efforts,” Mr. Reeves says there are several blitzes per year in areas identified by train crews with local police department and outreach centers. The blitzes offer options to the homeless for relocation away from the railroad right of way to shelters.

Under the slide, “Future Efforts,” Mr. Barkman and Mr. Reeves combine to outline the following: (1) fixed cameras on New Bridge Corridor monitored by Dispatchers; (2) photo enforcement; (3) train exit announcements of at-grade crossing hazards; and (4) cameras on each end of commuter trains to capture video.

William Grizard (APTA) thanks Bradley Barkman (SFRTA) and Brian Reeves (FDOT).



“FTA/FRA Trespasser/Fatality Reduction and Effective Practices Process Workshop” - Vijay Khawani (LA Metro)

William Grizard (APTA) reads a short biography for the next presenter, Vijay Khawani (LA Metro) and asks for the presentation titled, “FTA/FRA Trespasser/Fatality Reduction and Effective Practices Process Workshop.”

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Vijay Khawani (LA Metro) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-25. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Under the slide, “Metro Strategies for Grade Crossing Protection,” Mr. Khawani lists the “Three E’s, under Operation Lifesaver, Incorporated programs:” (1) engineering; (2) enforcement; and (3) education.

Under the slide, “Engineering,” Mr. Khawani shows photographs to help illustrate the following engineering strategies: (1) four-quadrant gates (6 intersections); (2) “train Coming” signs (98 signs); (3) replace “T” signals with lunar bars; (4) median islands; (5) stamped concrete delineation; (6) “look both ways” signs; (7) pedestrian swing gates; and (8) pedestrian gates.

Under the slide, “Enforcement,” Mr. Khawani shows photographs to help illustrate the following enforcement strategies: (1) install photo enforcement at grade crossings; and (2) increase targeted Sheriff’s Enforcement at Grade Crossings and Stations.

Under the slide, “Education,” Mr. Khawani describes the following education strategies: (1) presentation in school; (2) safety orientation tours; and (3) community events; and (4) outreach.

Under the slide, “Do the 3 E’s Work,” Mr. Khawani shows a series of bar charts showing incident trends at non-gated crossings, incident trends at gated crossings, which are both declining. However, for incident trends for pedestrian fatalities/suicides, Mr. Khawani says there has been an increase in the number of pedestrian fatalities/suicides.

Under the slide, “Future Safety Projects,” Mr. Khawani lists the following: (1) increase the number of pedestrian swing gates at gated crossings; (2) install “train coming” signs at cross-traffic intersections. He says a pilot project is underway for these signs on the LA Metro “Blue” line; (3) install in-pavement flashers; and (4) install retractable barriers (evaluate test results from Michigan DOT).

Vijay Khawani (LA Metro) says highway-rail grade crossing/traffic intersections are becoming saturated with devices and signs. Many are becoming confusing to motorists. Increasingly, he says this will likely become a concern in search of a solution to many participants of this Workshop.

William Grizard (APTA) thanks Vijay Khawani.



“Welcome to Operation Lifesaver” - Michael Kirchanski (SF Metro)

William Grizard (APTA) reads a short biography for the next presenter, Michael Kirchanski (SF Metro) and asks for the presentation titled, “Welcome to Operation Lifesaver.”

Michael Kirchanski (SF Metro) uses a series of Microsoft PowerPoint slides, projected onto a

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screen, i.e., Meeting Document ROWF&TR-2008-0401-02-26. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Michael Kirchanski explains that San Francisco's Municipal Railway (Muni) was founded in 1912, as a street car operation, and is one of America's oldest public transit agencies. Today, Muni carries over 200 million riders per year, over 70 miles of track (cable car operations are 8 miles). Muni provides transit service within the city and county of San Francisco 24 hours a day, 7 days a week, operating 80 routes throughout San Francisco with stops within 2 blocks of 90% of all residences in the city. Operating Historic streetcars, modern light rail vehicles, diesel buses, alternative fuel vehicles, electric trolley coaches, and the world famous cable cars, Muni's fleet is among the most diverse in the world. In 2007, there were three fatalities: one suicide; and two pedestrians (one trespasser/one "Jay" walking).

Under the slide, "The 3 E's of Operation Lifesaver," Mr. Kirchanski says "education" and "enforcement" are two of the three E's used by SF Muni to help reduce trespasser accidents/incidents.

Under the slide, "Weight Ratio Comparisons," Mr. Kirchanski lists weights for: (1) a can of soda (12 ounces); (2) an automobile (3,000 pounds); (3) a typical municipal bus (34,000 pounds); and (4) a San Francisco light rail train (160,000 pounds).

Under the slide, "Approximate Stopping Distance at 55 MPH," Mr. Kirchanski says for an automobile, a typical municipal bus, a tractor/trailer truck, and San Francisco light rail train, the approximate stopping distances at 55 miles per hour are 200 feet, 230 feet, 300 feet, and 600 feet, respectively.

Michael Kirchanski (SF Metro) shows a series of photographs to illustrate some of the public's misconceptions about light rail vehicles and the disregard for safety along the right of way. These include: (1) light rail vehicles cannot swerve—there is no steering wheel; (2) anytime is train time; (3) pedestrian crosswalk safety; (4) never try to beat a train; (5) never change lanes in front of the train; (6) don't jump over a light rail coupler; (7) don't stand, or sit on the edges of a light rail station platform; (8) beware of the light rail station platform "gap;" (9) don't play on the tracks; (10) don't place items on the tracks; (11) don't throw things at the train; (12) no bicycling on the tracks; (13) beware of the light rail vehicle overhang; (14) no trespassing in the tunnels; (15) beware of clearance lines; and (16) obey all warning signs and devices.

Michael Kirchanski's (SF Metro) presentation opens with the theme, "Look, Listen, Live," and closes with the message, "Stay off, Stay away, Stay alive."



Session 5 – Q&A

Robert Adduci (Volpe) asks for questions of the Infrastructure I Session panelists.

Question: William Browder (AAR) asks if the Edmonton light rail system has a loop for intrusion detection?

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Phil Therrien (Edmonton Transit) replies, “No.” Because of Edmonton, Alberta winters, these do not work.

Question: William Browder (AAR) asks if Edmonton Transit follows Canadian Rail Standards?

Phil Therrien (Edmonton Transit) responds that Edmonton Transit looks to the American Public Transportation Association (APTA) for Standards for light rail, not Transport Canada, which deals primarily with freight rail issues.

Question: Is there anything unusual about the suicides on the LA Metro?

Vijay Khawani (LA Metro) says there is nothing unique about why people ignore warning signs in Los Angeles, or anywhere else.

William Browder (AAR) says the American Association of Suicidology (AAS) is just getting started on analyzing suicides on U.S. railroads. He says the separate FRA and FTA studies are waiting for approval of a letter that will further this process.

Question: For Vijay Khawani (LA Metro), Do you have a dedicated construction budget? Do you plan to extend “Blue Line” technology to other LA Metro rail lines? Have you experimented with the height of “Train Coming” signs?

Vijay Khawani (LA Metro) says, “Yes, LA Metro will extend the technology for the “Blue” line to other lines.” He says the LA Metro has a limited dedicated budget in its Capital Plan. He says, “Yes, LA Metro has experimented with the height placement of the “Train Coming” sign.” He says LA Metro knows that the motorist is looking in that “sign” direction.

Robert Adduci (Volpe) announces the lunch break.

LUNCH BREAK 12:00 P.M. - 1:05 P.M.

Session 6 – Infrastructure II (Engineering)

Robert Lauby (FRA) reconvenes the meeting. He facilitates Workshop Session 6– Infrastructure II (Engineering).

Robert Lauby (FRA) introduces the four panelists for Session 6–Infrastructure II (Engineering). They are: (1) Brian Gilleran (FRA–Office of Safety); (2) James Fox (Southeastern Pennsylvania Transportation Authority (SEPTA)); (3) Christopher Williams (National Rail Passenger Corporation (Amtrak)); and (4) Alvin Richardson (Amtrak).



“Trespasser Reduction and Effective Practices Workshop” - Brian Gilleran (FRA)

Mr. Lauby reads a short biography for Brian Gilleran (FRA) and asks for the presentation titled,

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“Trespasser Reduction and Effective Practices Workshop.”

Brian Gilleran (FRA) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-27. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Mr. Gilleran shows a photograph to illustrate how pedestrians will seek to travel the shortest distance between any two points, e.g., for a freight train stopped at a highway rail grade crossing, children, some with bicycles, and stepping up and over tank car couplers of two tank cars to get from one side of the track to the other. He shows a photograph of an ineffective “gated” pedestrian crossing, in which there is no deterrent to simply walking around the gate.

Under the slide, “A Compilation of Pedestrian Safety Devices In Use At Grade Crossings,” Mr. Gilleran says in the 2004 U.S. Department of Transportation Grade Crossing Safety Action Plan, FRA’s Office of Safety was required to develop an inventory of pedestrian warning devices in use at grade crossings of all types, i.e., “...the FRA will make available a compilation of pedestrian safety devices in use at grade crossings. This will represent the current state of the practice of pedestrian accommodation at grade crossings, including pedestrian-only crossings.”

[Note: see http://www.fra.dot.gov/downloads/safety/action_plan_2004.pdf, U.S. Department of Transportation, Secretary’s Action Plan, Secretary of Transportation, Highway-Rail Crossing Safety and Trespass Prevention, dated May 2004.]

Brian Gilleran (FRA) says FRA has gathered information on any signs, signals, pavement markings, or other devices currently being used to enhance the safety of pedestrians at grade crossings. He shows photographs of some of these enhancements at today’s Workshop so that the larger grade crossing safety community might benefit from the work of others in this important area. He notes that some of these devices are not included in the U.S. Federal Highway Administration’s Manual on Uniform Traffic Control Devices (MUTCD). However, he adds, FRA has established a process for the incorporation of new devices into the MUTCD. He urges transportation agencies utilizing the devices that are not currently included in the MUTCD to participate in the MUTCD incorporation process, which is described in detail in Section 1A.10 of the MUTCD.

Brian Gilleran (FRA) shows a series of photographs to illustrate some of the enhanced devices. These include flashing light signals on station platforms in Portland, Oregon’s MAX Transit System; unique vertical flashers used in Oregon; a flasher used at a Metra commuter rail line in Lombard, Illinois; signage used on Metra commuter rail lines in Galewood, Illinois, LaGrange, Illinois, and Glenview, Illinois; and “zigzag” gates which may help pedestrians look for trains in both directions before crossing tracks. Mr. Gilleran says the inclusion of these devices in his presentation does not constitute an FRA endorsement, or requirement for their use.

Brian Gilleran (FRA) concludes by saying public agencies and rail operators should work together to identify successful devices and then agree on standards and guidance to be included in the MUTCD. In this way, he says, everyone can benefit from improved pedestrian safety at grade crossings by using standardized devices.

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Robert Lauby (FRA) thanks Brian Gilleran.



“At Grade Cross Walk Protection, 2nd Train Coming Warning Device” - James Fox (SEPTA)

Robert Lauby (FRA) reads a short biography for James Fox (SEPTA) asks for the presentation titled, “At Grade Cross Walk Protection, 2nd Train Coming Warning Device.”

James Fox (SEPTA) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-28. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Mr. Fox says SEPTA operates over former Reading and Pennsylvania Railroad tracks. SEPTA is the United States’ fifth largest public transportation system, providing public transportation to over 300 million passengers annually.

Under the slide, “The Issues,” Mr. Fox lists the following ingredients in a recipe for disaster for riders, and general public on SEPTA property: (1) multiple crossing points; (2) no early warning; and (3) stations on curves/second train coming.

Under the slide, “Hazard Management Process,” Mr. Fox says for: (1) Phase I, Establish a Standardized Intertrack Fence Program, SEPTA is: (a) installing new tight mesh panelized fencing; (b) extending fencing 200 feet beyond the end of the platform; (c) funneling passengers to a single point of crossing tracks; and (d) providing enhanced and standardized signage; and (2) Phase II, Develop a Warning Device, SEPTA is developing a warning device that: (a) provides audio and visual warning that is Americans with Disability Act (ADA) compliant; (b) warns of train(s) on any track in any direction at any time; and (c) has limited moving parts and low maintenance (i.e., no moving gates).

James Fox (SEPTA) shows photographs and a video demonstration of the prototype “second-train coming” signage, being used at SEPTA’s Amber Station.

Under the slide, “Final Enhancements,” Mr. Fox says following a review and comment period for the prototype “second-train coming” signage, the following changes were made to make the electronic sign more effective: (1) change the train graphic to clearly depict the direction of train travel; (2) Establish a “male voice” for the 1st-train- approaching public address system voice announcement and a “female voice” for the 2nd-train-approaching public address system voice announcement; and (3) educate the public on the new warning device through flyers and news articles. He shows a video demonstration of the operation of the “Second-Train Coming” signage.

Robert Lauby (FRA) thanks James Fox.



“Amtrak Trespass Incident Reduction Initiatives” - Christopher Williams (Amtrak)

Robert Lauby (FRA) reads a short biography for Christopher Williams (Amtrak) and asks for the

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presentation titled, “Amtrak Trespass Incident Reduction Initiatives.”

Christopher Williams (Amtrak) uses a series of Microsoft PowerPoint slides, projected onto a screen, i.e., Meeting Document ROWF&TR-2008-0401-02-29. Most meeting presentations will be posted on the ROWF&TR Internet Web Site and are not excerpted in their entirety in the meeting minutes.

Using a series of line and bar charts, Mr. Williams says: (1) grade crossing fatalities have declined 56 percent since 1980, and 47 percent since 1990; (2) since 1980, the total number of public crossings has declined 33 percent, while the number with “gates” has increased 142 percent; (3) trespasser fatalities continue to be a significant safety problem on all railroads, rising from 457 in 1980 to 521 in 2006 (excluding trespasser fatalities at grade crossings); and (4) the number of trespass fatalities on Amtrak routes declined slightly between 1998 to 2006.

Christopher Williams (Amtrak) shows photographs to demonstrate children loitering along Amtrak’s right-of-way. He believes that schools and playing fields (city parks) should not be constructed near railroad rights-of-way.

Citing pedestrian trespass studies, Mr. Williams says trespassing falls into four broad categories: (1) people who loiter on or near tracks; (2) suicides; (3) looking for transportation; and (4) all others. He says half of all incidents involve males in the 20’s-30’s age group, who are socializing or loitering on or near the tracks. Many have a history of alcohol abuse, are unmarried, lack educational attainment, and engage in other risky behaviors besides railroad trespassing.

Under the slide, “Pedestrian trespass studies provide valuable descriptive information,” Mr. Williams says: (1) alcohol is involved in about two thirds of the casualties; (2) almost one third are sitting or lying in the right of way at the time of impact; (3) documented suicides are substantial in the United States, but are greater in Europe and Japan; (4) one third are involved in theft/vandalism, thrill-seeking, or taking a short cut; and (5) 90 percent are males, 50 percent of whom are in their 20’s to 30’s, who are socializing or loitering on or near tracks.

Under the slide, “Prevention strategies, generally fall into three areas: Engineering, Education, Enforcement,” Mr. Williams outlines the following: (1) Engineering: (a) ROW and intertrack fencing; and (b) new signage on Amtrak’s Northeast Corridor; (2) Education” (a) Operation Lifesaver; (b) Program Development Council; (c) Amtrak Trespass Prevention cross-functional team; (d) AAR Risk Management Working Group; (e) FRA-sponsored study into suicides (AAS); and (f) Amtrak Community Resource Officers; and (3) Enforcement–local police departments.



Session 6 – Q&A

Robert Lauby (FRA) asks for questions of Session 6–Infrastructure II (Engineering).

Question: Robert Lauby (FRA) asks Christopher Williams (Amtrak) if there are problems with “hobos” as trespassers versus passengers who are trespassers?

Richard Wessler (BNSF) says BNSF Railway Company has an increasing problem with hobos.

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He says non-railroad employee bodies are being discovered following train derailment clean-up, suggesting these victims were riding in freight equipment. In addition, bodies have been discovered following dumps from coal hopper cars, in which the contents of the cars first are emptied onto a “strainer.”

William Browder (AAR) says train riders are still a problem for freight railroads.

Question: Was there a reason that Brian Gilleran (FRA) did not show, or mention the Caltrain Standard for pedestrian crossing channelization, i.e., swing gates, etc? Also, the Illinois Commerce Commission in Illinois and Metrolink in the Los Angeles area have been doing studies on pedestrian crossing channelization.

Brian Gilleran (FRA) responds that he was not aware of the Caltrain method.

Question: Jeffrey Davis (FTA) asks how can we get our hands on products that are being produced by Amtrak’s Trespasser Prevention Team?

Christopher Williams (Amtrak) says he will check with Amtrak and get back to the Workshop.

Wrap-up

Robert Adduci (Volpe) asks that Workshop attendees please fill out the Workshop evaluation form. He asks Levern McElveen (FTA–Headquarters) and Leslie Rogers (FTA–Region IX) for remarks.

Levern McElveen (FTA) says he believes this Workshop has been a success. He believes more collaboration and more cooperation is necessary for the rail industry to move forward on the trespass and crossing issues. He asks, “At what point will engineering no longer be effective? And, when engineering is no longer effective, what do we do next?” He asks, “How does the word “culture” fit into what we are doing? How do we change the “culture” of the society in which we live?”

Leslie Rogers (FTA–Region IX) thanks Caltrain and Jeffrey Davis (FTA) for their efforts in having this Workshop. He thanks FRA for their generous support, along with Caltrain for providing the facility for this Workshop. He says FTA primarily gives away money to transit systems and does not issue a lot of regulations. However, he adds, the FTA re-authorization is coming up in 2009, and he does not know what the future holds for FTA. He looks forward to continuing the dialog on trespassing and crossing issues with what FTA considers to be its valuable stakeholders.

Daniel Knote (FRA) says FRA Associate Administrator for Safety, Jo Strang, gave FRA a homework assignment to determine how to move this process forward. He asks, “What do the Workshop participants want to do to move this process forward? If another Workshop is held, he asks, “What topics should be covered?” He says he will survey Workshop attendees in several months to find out what contacts are being made and what additional efforts are being undertaken by railroads, as a result of this Workshop. He says Ronald Ries (FRA–Office of Safety) will help with this process. He adds, funding will be difficult.

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Jeffrey Davis (FTA) says for the future, he welcomes anyone in the audience to ask for support from FTA. He believes a focused team effort by FRA and FTA on trespass and crossing issues might be useful.

Christopher Payne (Caltrain) thanks the many Caltrain Headquarters personnel for their assistance in making the Workshop successful.

Robert Adduci (Volpe) thanks the FRA Team (Ronald Ries, Robert Lauby, Daniel Knote, and Earline Sidbury (travel arrangements)), and the Volpe Center's Frederick Mottley for their contributions to the Workshop efforts. He adjourns the Workshop at 2:10 pm.

MEETING ADJOURNED 2:10 P.M.

These minutes are not a verbatim transcript of the proceedings. Also, Microsoft PowerPoint and Excel slides and handout materials discussed during presentations by ROW Fatality and Trespasser Reduction Workshop participants and sponsoring organizations, unless otherwise noted, will be posted on the ROW Fatality and Trespasser Reduction Workshop Internet Web Site and are not excerpted in their entirety in the minutes.

Respectively submitted by John F. Sneed, Meeting Event Recorder.

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APPENDIX B – LIST OF ATTENDEES

Table 8. List of Attendees

	(M) Moderator (F) Facilitator (S) Speaker (P) Presenter	First Name	Nickname	Last Name	Title	Organization	Street Address	City, State Zip	Work Phone	Fax Number	Email
1	M	Robert	Bob	Adduci	Transportation Industry Analyst Safety and Security	Volpe	55 Broadway RTV 3D	Cambridge, MA. 02142-1093	617-494-2251	617-494-2684	adduci@volpe.dot.gov
2	P	Bradley	Brad	Barkman	Director of Operations	South Florida Regional Transportation Authority (SFRTA)	800 NW 33rd Street Suite 100	Pompano Beach, FL. 33064	954-788-7946	954 788 7878	barkmanb@sfrta.fl.gov
3	P	Tracy		Berge	Public Safety & Environment Manager	Metrolink/Southern California Regional Rail Authority (SCRRA)	700 S. Flower St. 26th Floor	Los Angeles, CA. 90017	213-452-0241		berget@scrta.net
4		Dennis		Biggs	Assistant Federal Security Director (AFSD) - Surface	U.S. Department of Homeland Security, Transportation Security Agency (TSA)	245 South Spruce Ave	South San Francisco, CA. 94080	650-745-2172		dennis.biggs@dhs.gov
5		Sheri		Boles	Public Utilities Regulatory Analyst	California Public Utilities Commission (CAPUC)	505 Van Ness Ave., CPSD - ROSB, Second Floor	San Francisco, CA. 94102	415-703-2983	415-703-2143	sni@cpuc.ca.gov
6		Kevin		Boles	Environmental Specialist	California Public Utilities Commission (CAPUC)	505 Van Ness Avenue	San Francisco, CA. 94102	415-703-2795		kcb@cpuc.ca.gov
7		Michelle		Bouchard	Deputy Director Operations	Caltrain	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-6420		bouchardm@samtrans.com
8		William	Bill	Browder	Director of Operations	Association of American Railroads (AAR)	50 F Street, N. W.	Washington, DC. 20001-1564	202 639-2474	202 639-2930	wbrowder@aar.org
9		Mark P.	Batman	Bugna	Transit Systems Safety Supervisor	Santa Clara Valley Transportation Authority (VTA)	3331 North First Street	San Jose, CA. 95134	408-321-5597	408-546-7411	mark.bugna@vta.org
10		Michele		Butchko	Director Planning & Development	Interactive Elements Inc.	60 E. 42nd St.	New York, NY. 10165	212-490-9090	212-490-9611	mxb@ieitransit.com

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11		Alex		Cano	Local Chairman	Brotherhood of Locomotive Engineers and Trainmen (BLET) Division 65	400 Acacia Ave.	South San Francisco, CA. 94080	650-219-9565		hogtrainer@msn.com
12	S (OR)	Edward	Ed	Carranza, Jr.	Deputy Regional Administrator	Federal Transit Administration	201 MISSION STREET, SUITE 1650	San Francisco, CA 94105	415-744-2741	415-744-2726	edward.carranza@dot.gov
13		Anya		Carroll	Deputy Director, Office of Surface Transportation Programs	U. S. Department of Transportation (USDOT), Volpe National Transportation Systems Center (Volpe)	55 Broadway; RTV-3	Cambridge, MA. 02142	617-494-3122	617-494-3066	anya.a.carroll@volpe.dot.gov
14		Richard	Rich	Clark	Consumer Protection & Safety Division Director	California Public Utilities Commission (CAPUC)	505 Van Ness Avenue	San Francisco, CA. 94102	415-703-2349	415-703-3533	akp@cpuc.ca.gov
15		Martin		Cocker	Rail Safety Administrator	Utah Transit Authority FrontRunner	Warm Springs Rail Service Center 900North 500West	Salt Lake City, UT. 84116	801.287.5443	801.287.5227	mcocker@rideuta.com
16		Stephen		Coleman	Manager Rail Equipment Maintenance	Caltrain	585 Linzen Ave.	San Jose, CA	408-793-5440		coleman@samtrans.com
17		Mark		Collins	Assistant Superintendent	National Rail Passenger Corporation (Amtrak) PCS	93 Cahill St	San Jose, CA 95110	408-271-4993	408-271-4994	collinm@amtrak.com
18		Jay		Commer	General Manager- Amtrak/Caltrain	National Rail Passenger Corporation (Amtrak)	93 Cahill St	San Jose , CA. 95110	408-271-3555	408-271-6774	UJCC@amtrak.com
19	P	Michael	Mike	Conlon	Director of Safety	Metro Transit - Minnesota North Star (MN North Star)	560 Sixth Avenue North	Minneapolis, MN. 55038	612-349-7516	612-349-7503	mike.conlon@metc.state.mn.us
20	P	Stephen	Steve	Conner	Assistant Deputy Chief	Metropolitan Transportation Authority (MTA)– Metro North Police Dept	345 Madison Avenue	New York, NY. 10017	914-668-3655	914-668-0017	sconner@mtapd.org

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21		Michael N.		Conneran	Attorney	HansonBridgett LLP	425 Market Street, 26 th Floor	San Francisco, CA 94105	415-995-5042	415-995-3412	mconneran@hansonbridge tt.com
22		Dean	Dino	Dahlin	Union Pacific Op. Lifesaver State Coordinator	Washington Operation Lifesaver	P.O.Box 1231	Chehalis, WA. 98532	360-740-5642	360-740-5642	deano@localaccess.com
23	P	Marco		daSilva	Senior Engineer	U. S. Department of Transportation (USDOT), Volpe National Transportation Systems Center (Volpe)	55 Broadway, RTV-3F	Cambridge, MA. 02142	617-494-2246		dasilvam@volpe.dot.gov
24	P	Jeffrey S.	Jeff	Davis	Safety & Security Regional Liaison	Federal Transit Administration - Region IX	201 Mission St, Suite 1650	San Francisco, CA. 94105	415-744-2594	415-744-2726	jeffrey.s.@dot.gov
25		Larry		Day	Construction Safety Officer	Caltrain	4000 Campbell Ave.	Menlo Park, CA 94025	650-289-1078	650-289-9278	dayl@samtrans.com
26		LeeAnn		Dickson	Grade Crossing Safety Manager	USDOT Federal Railroad Administration (FRA)	801 I Street, Suite 466	Sacramento, CA. 95814	916-773-0253	916-773-0253	leeann.dickson@dot.gov
27		Ken	Ken	Dixon	TSI - Surface	DHS / Transportation Security Administration (TSA)	245 South Spruce Ave	South San Francisco, CA. 94080	650-745-2196	650-635-7450	ken.dixon@dhs.gov
28		Robert		Doty	Rail Transformation Chief	Caltrain	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-6355		dotyr@samtrans.com
29		Lois		Earle	CFCRT Safety Coordinator	Earth Tech	30 South Keller Road, Suite 500	Orlando, FL. 32810	407-660-9872		lois.earle@earthtech.com
30		Jack	Jack	Eckles	DEO, System Safety & Security	Los Angeles Metropolitan Transportation Authority (LA MTA)	One Gateway Plaza	Los Angeles, CA. 90012	213-922-3624	213-922-3604	ecklesj@metro.net
31		Peter		Enslin	Manager, Facilities	City of Calgary, Transit	PO Box 2100, Station M #166SG	Calgary, Alberta Canada T2P 2M5	403-537-7784	403-537-7737	peter.enslin@calgary.ca
32		Jose		Farran	Principal	Adavant Consulting	200 Francisco Street, 2nd Floor	San Francisco, CA. 94133	415 362-3552		jifarran@AdavantConsulting.com
33		Alfred	Al	Fazio	General Manager	Riverline	700 Biederman Ave.	Camden, NJ	856-580-5611		alfred.e.fazio@us.transport .bombardier.com

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34		John	Jack	Feeney	Senior Trial Counsel	Union Pacific Railroad (UPR) Company	10031 Foothills Blvd., Ste. 200	Roseville, CA. 95747	916-789-6223	916-789-6227	jdfeeney@up.com
35	P	Richard		Ferlauto	System Safety Officer / ROW Task Force	Long Island Railroad (LIRR)	93-59 183rd Street, HSF Dept. 3147	Hollis, NY 11423	718-558-3026	718-454-9052	raferla@lirr.org
36		Oscar		Figueroa	Manager, Safety and Loss Control	Metro, St. Louis	707 North 1st Street	St. Louis, MO. 63102	314-982-1400		ofigueroa@metrostlouis.org
37	P	Stephanie		Fortin	Occupational Hygienist	Toronto Transit Commission (TTC)	1138 Bathurst St. (Safety Department)	Toronto, ON Canada. M5R 3H2	416-393-3262	416-338-0118	stephanie.fortin@ttc.ca
38	P	James	Jim	Fox	Director, System Safety	Southeastern Pennsylvania Transportation Authority (SEPTA)	1234 Market Street - 6th Floor System Safety	Philadelphia, PA. 19017	215-580-7064	215-580-3695	jfox@septa.org
39		Rufus		Francis	Director of Safety	Sacramento Regional Transit District	1400 29th Street	Sacramento, CA. 95816	916-321-2845	916-557-4541	rfrancis@sacrt.com
40	P	Brian		Gillera	Grade Crossing Safety Engineer	US DOT/Federal Railroad Administration (FRA)	1200 New Jersey Avenue, S.E.	Washington, DC. 20590	202-493-6276	202-493-6216	brian.gillera@dot.gov
41		Ellen		Glover	Construction Outreach Specialist	Caltrain	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-7726	650-508-7919	glover@samtrans.com
42		Thomas	Tom	Griego	Owner	Griego & Assoc.	1637 266th Street	Harbor City, CA 90710	310-530-3192	310-388-1421	griegotom@yahoo.com
43	F(4,5)	W. P.	Bill	Grizard	Director Safety	American Public Transportation Association (APTA)	1666 K Street NW., Suite 1100	Washington, DC. 20006	202-496-4878	202-496-4327	wgrizard@apta.com
44		Michail	Mike	Grizkewitsch	Trespass Prevention Officer	Federal Railroad Administration (FRA)	Mail Stop 25 1200 New Jersey SE	Washington, DC. 20590	202-493-1370		michail.grizkewitsch@dot.gov
45		Cynthia	Cindy	Gross	Project Manager	Federal Railroad Administration (FRA)	12104 Cedar Circle Drive	Ste. Genevieve, MO. 63670	573-483-2333		Cynthia.Gross@dot.gov
46		Wayne		Gross	Engineer, Retired		12104 Cedar Circle Drive	Ste. Genevieve, MO. 63670	573-483-2333		Cynthia.Gross@dot.gov
47		Charles	Charlie	Hagood	Grade Crossing Manager	Federal Railroad Administration (FRA)	PO Box 453	Oakhurst, CA. 93644	559-641-7649	559-658-6052	charles.hagood@dot.gov
48		Leonard	Len	Hardy	Chief Safety Officer	Bay Area Rapid Transit (BART)	P.O. Box 12688 (LKS-18)	Oakland, CA. 94604	510/874-7426		LHardy@BART.gov

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49		Melvyn		Henry	Rail Safety Officer	Metropolitan Transit Authority of Harris County	1900 Main Street	Houston, TX. 77208-1429	713-652-4366		mh19@ridemetro.org
50		Jim		Hernandez	Public Utilities Regulatory Analyst	California Public Utilities Commission (CAPUC) - Railroad Operations Safety Branch	505 Van Ness Ave., Second Floor	San Francisco, CA 94102	415-703-3523		JH5@cpuc.ca.gov
51		Steve		Hill	Chief Engineer, Maintenance & Construction	Caltrain	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-7941		hills@samtrans.com
52		Bradford	Brad	Holman	Rail Training and Safety Officer	Capital Metropolitan Transportation Authority (CMTA)	9315 McNeil Road	Austin, TX 78758	512-852-7256	512-389-7476	bradford.holman@capmetro.org
53		Douglas		Honn	Deputy General Manager	Herzog Transit Services (Herzog)	PO Box 1610	Stockton, CA 95201	209-463-0173		dhonn@herzogcompanies.com
54	P	Suzanne		Horton	Operations Research Analyst	US DOT Volpe National Transportation Systems Center	55 Broadway	Cambridge, MA. 02142	617-494-3678	617-494-2318	suzanne.horton@volpe.dot.gov
55		Robert	Rob	Hoslett	Senior Safety Specialist	Sacramento Regional Transit District	P. O. Box 2110	Sacramento, CA 95812-2110	916-321-3869		rhoslett@sacrt.com
56		John		Hunt	Transportation Program Specialist	Federal Transit Administration (FTA)	201 Mission Street, Suite 1650	San Francisco, Ca. 94105	415-744-2597	415-744-2726	john.hunt@dot.gov
57		Stacey		Ingesoll	Project Manager	Caltrain/RSE	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-1599		ingersolls@samtrans.com
58		Fred		Jackson	Manager of System Safety and Training	Metrolink / SCRRRA	700 S. Flower Street, 25th Floor	Los Angeles, CA. 90017	213-452-0311	213 452-0460	jacksonf@scrta.net
59		Peter		Kane	Director Safety and Compliance	Herzog Transit Services (Herzog)	203 N. Britain Road	Irving, TX. 75061	972-438-5755		pkane@herzogcompanies.com
60	P	Vijay		Khawani	Director, Corporate Safety	Los Angeles Metro - (LS Metro)	One Gateway Plaza, 18th Floor	LOS ANGELES, CA. 90012	213-922-4035	213-922-7536	khawaniv@metro.net
61	P	Michael	Mike	Kirchanski	Health & Safety Manager	San Francisco Muni (SF Muni) - SF MTA	949 Presidio Ave, Room 217	San Francisco, CA 94115	415-351-3452	415-351-3424	michael.kirchanski@sfmta.com

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62	P	Stephen	Steve	Klejst	Deputy General Manager - Safety and Training	New Jersey Transit (NJT)	One Penn Plaza East	Newark, NJ 07105-2246	973-491-7872		sklejst@njtransit.com
63	M F (3)	Daniel	Dan	Knote	Sr. Passenger Rail System Safety Specialist	Federal Railroad Administration (FRA) Office of Safety	1200 New Jersey Avenue, SE	Washington, DC. 20590	631-965-1827		daniel.knote@dot.gov
64		Felix		Ko		California Public Utilities Commission (CAPUC)	505 Van Ness Ave, 2-B	San Francisco, CA. 94102	415-703-3722		fko@cpuc.ca.go
65		Gregg		Konstanzer	Asst. General Manager	Veolia-Connex	2558 Supply Street-Building A	Pomona, Ca. 91767	213-494-6789	909-392-8970	gregg.konstanzer@veoliatransportation.com
66		Kenneth	Ken	Korach	President and CEO	Transportation Resource Associates, Inc.	1608 Walnut Street, Suite 1602	Philadelphia, PA. 19103	215-546-9110	215-546-9120	kenneth.korach@traonline.com
67		David		Kutrosky	Deputy Director	Capitol Corridor JPA	300 Lakeside Dr 14th Floor	Oakland, CA. 94612	510-464-6993	510-464-6901	dkutros@bart.gov
68		Vincent		Kwong	Utilities Engineer	California Public Utilities Commission (CAPUC)	505 Van Ness, 2nd Floor	San Francisco, CA. 94102	415-703-2565		vlk@cpuc.ca.gov
69	P F(6)	Robert	Bob	Lauby	Senior System Safety Engineer	Federal Railroad Administration	1200 New Jersey Avenue, SE	Washington, DC. 20590	202-493-6474		robert.lauby@dot.gov
70		Jeffrey	Jeff	Lowe	Director Commuter Rail	TriMet	710 NE Holladay St	Portland, OR. 97232	503-962-2143		Lowej@TriMet.org
71		Carl		Malvo	Transportation Officer	Capitol Corridor JPA	301 Lakeside Dr 14th Floor	Oakland, CA. 94613	510-464-4991	510-464-6901	cmalvo@Bart.gov
72		Levern		McElveen		FTA-Headquarters	1200 New Jesey Ave., S.E.	Washington, DC. 20590	202-366-1651		Levern.McElveen@dot.gov
73		Patrick		McGrath	Public Safety Manager Western Region	Union Pacific Railroad (UPR) Police Department	9391 Atkinson St	Roseville, CA. 95747	916-789-5207	402-501-3299	pcmcgrat@up.com
74		Arun		Mehta	Utilities Engineer	California Public Utilities Commission (CAPUC)	505 Van Ness Ave.	San Francisco, CA 94102	415-703-1017		am5@cpuc.ca.gov
75		Joseph	Joe	Metzler	Operations Liaison	JPB Caltrain	5 Avocet Drive, # 5-205	Redwood City, CA. 94065	650-508-7751		metzlerj@samtrans.com

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76	Sean		Morgan	Division 65, Brotherhood of Locomotive Engineers and Trainmen, International Brotherhood of Teamsters, International Rail Conference	BLET Division 65	407 Commercial Avenue	South San Francisco, CA. 94080	650-871-8359		yardpuppy@sbcglobal.net	
77	Darryl H.		Morrow	Grade Crossing Manager	Federal Railroad Administration (FRA)	PO Box 2342	Vancouver, WA 98668	360-253-7508	360-253-7508	darryl.morrow@dot.gov	
78	Frederick	Fred	Mottley	Mechanical Engineer	USDOT Volpe National transportation Systems Center	55 Broadway RTV-3D	Cambridge, MA. 02142	617-494-3160	617-494-2318	mottley@volpe.dot.gov	
79	Thomas	Tom	Mulligan	Director - Passenger Train Operations	Union Pacific Railroad (UPR)	1400 Douglas Street - Room 1180	Omaha, NE. 68154	402-544-3219		tmulligan@up.com	
80	David	Dave	Papworth	Chief: Transit Enforcement	North County Transit District	810 Mission Ave.	Oceanside, CA 92054	760-966-6508		dpapworth@nctd.org	
81	Mahendra		Patel	Sr. Utilities Engr., Sup.	California Public Utilities Commission (CAPUC)	505 Van Ness Avenue	San Francisco, CA. 94102	415-703-2447	415-703-3652	mkp@cpuc.ca.gov	
82	P	Christopher	Chris	Payne	Safety Officer, Rail	Caltrain	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-7740	650-508-7738	paynec@samtrans.com
83	Thomas	Tom	Peacock	Director, Operations and Technical Services	APTA	403 Verona Court	Millersville, MD. 21108	202-496-4805		tpeacock@apta.com	
84	Sharon		Pierce-Hunter	Rail Operations Controller	Dallas Area Rapid Transit	1407 Watercourse Way	Cedar Hill, TX. 75104	214-418-0225	972-293-2552	sharonhunter48@hotmail.com	
85	P	Sam H.	Raab	Manager - Public Safety Coordination Center	CSX Transportation (CSXT)	3019 Warrington Street	Jacksonville, FL 32254	904-381-2211	904-381-2210	sam_raab@csx.com	
86	P	Brian	Reeves	Senior Rail Specialist	Florida Department of Transportation (FDOT)	3400 West Commercial Boulevard	Fort Lauderdale, FL. 33309-3421	954-777-4484	954-777-4095	brian.reeves@dot.state.fl.us	

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87	P	Alvin		Richardson	Sr. Safety Coordinator	Amtrak	60 Massachusetts Ave., N.E.	Washington, DC. 20002	202-906-3434		richara@amtrak.com
88		Zoe		Richmond	Director of Media	Union Pacific Railroad (UPR)	10031 Foothills Blvd.	Roseville, CA. 95747	916-789-6019		zrichmond@up.com
89	S(OR), F(1, 2)	Ronald	Ron	Ries	Staff Director, Crossing Safety & Trespass Prevention	Federal Railroad Administration (FRA)	1200 New Jersey Avenue, S.E.	Washington, DC 20590	202-493-6285	202-493-6216	ronald.ries@dot.gov
90		Anthony	Tony	Roberts	Senior Safety Specialist	TriMet	4012 SE 17th Avenue	Portland, OR. 97202	503-962-4943	503-962-7588	robertsA@trimet.org
91		Leslie		Rogers	Regional Administrator	Federal Transit Administration	201 MISSION STREET, SUITE 1650	San Francisco, CA 94105	415-744-3133	415-744-2726	leslie.rogers@dot.gov
92		Scott		Rust	Senior Special Agent	BNSF Railway Police Dept.	740 E. Carnegie Dr.	San Bernardino, CA. 92408	909-386-4182	909-841-0970	scott.rust@bnsf.com
93		Robert	Bob	Scarola	Chief Inspector	Federal Railroad Administration	P.O. Box 35	East Meadow, NY. 11554-0035	516-683-1339	516-794-4991	robert.scarola@dot.gov
94		Robert	Rob	Scarpino	Project Manager	Caltrain	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-508-7780		scarpinor@samtrans.com
95		Jim		Seal	Rail Consultant	Veolia Transportation	2431 32nd street	Santa Monica, CA. 90405	310 452-4948	310 507-2045	brokering@msn.com
96		Bruce		Shelton	Conductor (UTU Local 1732 State Legislative Rep.)	Amtrak/Caltrain	804 E. 19th Ave., #16	San Mateo, CA. 94403	650-570-6607		bshelton@sonic.net
97		Steve		Shelton	District Superintendent	Amtrak	245 2nd Street	Oakland, CA. 94607	510-238-4385	510-238-5915	sheltos@amtrak.com
98		Rupa		Shitole	Utilities Engineer	California Public Utilities Commission (CAPUC)	505 Van Ness Avenue, 2nd Floor, CPSD	San Francisco, CA. 94102	415-703-2578		rss@cpuc.ca.gov
99		Steve		Smith	Law Enf Liaison	Metrolink Sheriff	PO Box 92582	Industry, CA. 91715-2582	213-494-8170	909-392-8219	wssmith@lasd.org
100	Recorder	John F.		Sneed	Meeting Event Recorder	Federal Railroad Administration (FRA)			808-735-6045		sneedj002@hawaii.rr.com
101	P	Helen		Sramek	President	Operation Lifesaver, Inc. (OLI)	1420 King Street Suite 401	Alexandria, VA. 22314	703-739-1065		hsramek@oli.org
102	S(OR)	Jo		Strang	Associate Administrator for Safety	Federal Railroad Administration (FRA)	1200 New Jersey Avenue, S.E.	Washington, D.C. 20590	202-493-6300		

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	(M) Moderator (F) Facilitator (S) Speaker (P) Presenter	First Name	Nickname	Last Name	Title	Organization	Street Address	City, State Zip	Work Phone	Fax Number	Email
103	P	Ramya		Sundararaman	Epidemiologist	American Association of Suicidology (AAS)	5221 Wisconsin Ave	Washington, DC. 20015	202-237-2280	202-237-2282	ramya@post.harvard.edu
104	P	Ken		Sundberg	Director - Safety Operations	Long Island Railroad (LIRR)	93-59 183rd Street	Hollis, NY 11423	718-558-3025	718-454-9052	kdsundb@lirr.org
105	P	Tek Poo		Ng	Head, Safety Services	Singapore Mass Rail Transit (SMRT) - SMRT Trains Ltd	300 Bishan Road, Bishan Depot	Singapore. 579828	656-554-8174	656-456-5251	ngtekpoo@smrt.com.sg
106		Nadeem		Tahir	Director, Office of Program Mgmt & Oversight	FTA Region IX	201 mission	San Francisco, CA. 94105	415-744-3113		nadeem.tahir@dot.gov
107		David Khoo		Teck Soo	Manager, Security & Emergency Planning	Singapore Mass Rail Transit (SMRT) Corporation Ltd	6 Ang Mo Kio Street 62, Ang Mo Kio Depot	Singapore. 569140	656-556-3075	656-483-1507	DavidKhoo@smrt.com.sg
108	P	Phil		Therrien	Supervisor of LRT Operations	Edmonton Transit	13310-50A Street	Edmonton Alberta Canada. T5A 4P6	780-496-4372	780-496-8991	phil.therrien@edmonton.ca
109		Donald P.	Don	Thomas	Grade Crossing Manager	Federal Railroad Administration	Region 2, Baldwin Towers, Suite 660	Crum Lynne, PA. 19022	610-521-8212	610-521-8212	donald.thomas@dot.gov
110		William	Bill	Thorpe	APTA System Safety Specialist	APTA	305 Palmwood Ave.	Cherry Hill, NJ 08003	853-313-0597		wthorpe@gmail.com
111	P	Lt. J. David	Dave	Triolo	Lieutenant Transit Police	San Mateo County Sheriff's Office	1250 San Carlos Blvd.	San Carlos, CA. 94070	650-622-8045		triolod@samtrans.com
112		Jorge		Villaescusa	Public Safety Manager - Western Region	Union Pacific Railroad Police	6238 N Hanlin Ave.	Azusa, CA 91702	323-276-3204	323-276-3200	jovillae@up.com
113		Tammy		Wagner	Regional Crossing Manager	Federal Railroad Administration	200 West Adams Street, Suite 310	Chicago, IL. 60606	312-353-6203	312-886-9634	tammy.wagner@dot.gov
114		Steven S.	Steve	Walker	Systems and Facilities Safety/Security Coordinator	San Joaquin Regional Rail Commission (ACE)	949 E. Channel St.	Stockton, CA. 95202	209-944-6256	209-944-6225	steve@acerail.com
115		Patricia		Watkins	Senior Project Engineer - Transportation	Earth Tech	831 Berkeley St	Boca Raton, FL. 33487	561-241-1964		patricia.watkins@earthtech.com

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	(M) Moderator (F) Facilitator (S) Speaker (P) Presenter	First Name	Nickname	Last Name	Title	Organization	Street Address	City, State Zip	Work Phone	Fax Number	Email
116	P	Richard	Rich	Wessler	Director Passenger Train Operations	BNSF	2600 Lou Menk Dr; NOC/Amtrak	Fort Worth, TX 76131	817-946-1603	817-234-07454	richard.wessler@bnsf.com
117	P	Christopher	Chris	Williams	Safety Superintendent	Amtrak	60 Massachusetts Ave., N.E.	Washington, DC. 20002	202-906-3272	202-906-3500	williach@amtrak.com
118		Marilynn		Winters		Simoncini & Associates	PO Box 1289	Ft. Bragg, CA 95437	408-280-7711		metalbarn@earthlink.net
119	P	Deborah		Wojnicz	Surface Transportation Security Supervisor - NW Region	DHS-Transportation Security Administration (TSA)	18800 8th Ave. S., Suite 2400	Seattle, WA. 98148	206-834-2460	206-242-7643	Deborah.Wojnicz@dhs.gov
120		Jimmy		Xia	Utilities Engineer	California Public Utilities Commission (CAPUC)	1075 Washington St., #2	San Francisco, CA. 94108	415-517-7052		JX7@cpuc.ca.gov
121		Paul		Zalec	Vice President Passenger Operations	Portland & Western Railroad	650 Hawthorne Ave SE Ste. 220	Salem, OR. 97301	503-365-7717 ext. 111	503-365-7787	pzalec@gwrr.com

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APPENDIX C – CONTENTS OF WORKSHOP DVD

	Workshop Documents	
	ROWF&TR-2008-0401-02-00	Workshop Summary of Results Report
	ROWF&TR-2008-0401-02-01	Workshop Agenda
	ROWF&TR-2008-0401-02-02	List of Attendees
	ROWF&TR-2008-0401-02-30	Workshop Flier
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	ROWF&TR-2008-0401-02-31	Jo Strang – Opening Remarks
	ROWF&TR-2008-0401-02-32	Ronald Ries – Opening Remarks
	Presentations	
	Session I -	
	ROWF&TR-2008-0401-02-03	Helen Sramek (OLI), “Address the Pedestrian Rail Problem”
	ROWF&TR-2008-0401-02-04	Tracy Berge (Metrolink), “Trespassing Prevention & Reduction”
	ROWF&TR-2008-0401-02-05	Ramya Sundararaman (AAS), “AAS Rail System Suicide Prevention Project”
	ROWF&TR-2008-0401-02-06	Stephanie Fortin (TTC), “Preventing Suicides on the Subway: The Toronto Transit Commission’s Gatekeeper Program”
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	ROWF&TR-2008-0401-02-07	David Triolo (San Mateo County Sheriff’s Office), “Progressive Police Practices”
	ROWF&TR-2008-0401-02-08	Richard Wessler (BNSF), “FRA/FTA Right of Way Fatality Workshop”
	ROWF&TR-2008-0401-02-09	Richard Ferlauto (LIRR) and Stephen Conner (Metro North), “MTA Right-Of-Way Task Force”
	ROWF&TR-2008-0401-02-10	Ng Tek Poo (SMRT), “SMRT’s Practices–Trespasser Fatalities Mitigation”
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	ROWF&TR-2008-0401-02-11	Robert Lauby (FRA), “FRA Hazard Management”
	ROWF&TR-2008-0401-02-12	Ken Sundberg (LIRR), “Hazardous Assessment Approach to Trespass Management–High Security Fence”
	ROWF&TR-2008-0401-02-13	Stephen Klejst (New Jersey Transit (NJT), “Right-of-Way Fencing Policy”
	ROWF&TR-2008-0401-02-14	Stephen Klejst (New Jersey Transit (NJT), “Passenger Safety Initiative–Second Train in Station”
	ROWF&TR-2008-0401-02-15	Michael Conlon (Minnesota North Star (MN North Star)), “Government Plaza Station, Pedestrian Behavior and the Need for Intertrack Fencing Safety Enhancement”
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	ROWF&TR-2008-0401-02-17 - Video 3 - mergedpoliceblitz	Video 3 - mergedpoliceblitz
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	ROWF&TR-2008-0401-02-19	Deborah Wojnicz (TSA), "An Overview of the Transportation Security Administration's Surface Transportation Security Inspection Program"
	ROWF&TR-2008-0401-02-20	Sam Raab (CSX Transportation (CSXT)), "Electronic Security Systems"
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	ROWF&TR-2008-0401-02-23	Phil Therrien (Edmonton Transit), "Video Usage"
	ROWF&TR-2008-0401-02-24	Bradley Barkman (SFRTA) and Brian Reeves (FDOT), "ROW Fatality and Trespass Reduction Workshop"
	ROWF&TR-2008-0401-02-24 - Video 1 - Homeless Outreach Along Railroad Tracks	Video 1 - Homeless Outreach Along Railroad Tracks
	ROWF&TR-2008-0401-02-25	Vijay Khawani (LA Metro), "FTA/FRA Trespasser/Fatality Reduction and Effective Practices Process Workshop"
	ROWF&TR-2008-0401-02-26	Michael Kirchanski (SF Metro), "Welcome to Operation Lifesaver"
	ROWF&TR-2008-0401-02-26 - Video 1 - MetroRailRap	Video 1 - MetroRailRap
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	ROWF&TR-2008-0401-02-26 - Video 3 - PSA - Australia Crossing	Video 3 - PSA - Australia Crossing
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	ROWF&TR-2008-0401-02-26 - Video 5 - PSA - School Bus Safety	Video 5 - PSA - School Bus Safety
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	ROWF&TR-2008-0401-02-27	Brian Gilleran (FRA), “Trespasser Reduction and Effective Practices Workshop”
	ROWF&TR-2008-0401-02-28	James Fox (SEPTA), “At Grade Cross Walk Protection, 2 nd Train Coming Warning Device”
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	Handouts	
	ROWF&TR-2008-0401-02-33	Federal Railroad Administration (FRA) 49 Code of Federal Regulations (CFR) Parts 223 [Safety Glazing Standards-- Locomotives, Passenger Cars and Cabooses] and 238 [Passenger Equipment Safety Standards]
	ROWF&TR-2008-0401-02-34	Passenger Train Emergency Systems; Emergency Communication, Emergency Egress, and Rescue Access; Final Rule [73 Federal Register (FR) 6370] dated February 1, 2008.
	ROWF&TR-2008-0401-02-41	LIRR Hazardous Condition Report
	ROWF&TR-2008-0401-02-42	Caltrain’s Hazard Assessment Baseline Spreadsheet
	Referenced Reports	
	ROWF&TR-2008-0401-02-35	Federal Railroad Administration. “Rail-Trespasser Fatalities, Developing Demographic Profiles,” dated March 2008.
	ROWF&TR-2008-0401-02-36	U.S. Department of Transportation, “Secretary’s Action Plan, Secretary of Transportation, Highway-Rail Crossing Safety and Trespass Prevention,” dated June 2004.
	ROWF&TR-2008-0401-02-37	Federal Railroad Administration. “Railroad Infrastructure Trespassing Detection Systems Research in Pittsford, New York,” dated August 2006.
	ROWF&TR-2008-0401-02-38	Federal Railroad Administration. “State-of-the-Art Technologies for Intrusion and Obstacle Detection for Railroad Operations,” dated February 2007.
	ROWF&TR-2008-0401-02-39	NJ Transit “Policy on Right of Way Fencing” dated 10/1/02.
	Panelist Biographies	
	ROWF&TR-2008-0401-02-40	Panelist Biographies



- Microsoft PowerPoint Presentation;



- Microsoft Excel Spreadsheet;



- Microsoft Word Document



Adobe PDF File;



- Video

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APPENDIX D – PANELIST BIOGRAPHIES



Daniel J. Knote
Sr. Passenger Rail System Safety Specialist
Federal Railroad Administration
Office of Safety

Daniel (Dan) J. Knote is the Sr. Passenger Rail System Safety Specialist with the Federal Railroad Administration (FRA), Office of Safety in D.C. Dan began his transportation career, in 1966, with the Long Island Railroad (LIRR), as a Yard Brakemen/ Yard Conductor. He spent thirty one years with the LIRR, holding positions of Director of Training & Development, Director Human Resources, Director Process Re-engineering and retiring, in 1997, as General Superintendent Terminal Operations.

Dan began his Federal Career, in 1997, as an Operating Practices Inspector, for the FRA, in the Newark N.J. area.. In 1999 he was promoted to Chief Inspector and in 2001 Dan was promoted to Sr. Passenger Rail System Safety Specialist, working for the Office of Safety in DC. He currently responsible for oversight of FRA's Passenger System Safety Program, jointly administered with the American Passenger Transportation Association (APTA). Dan is the FRA's leading expert in Passenger Train Emergency Preparedness, responsible for all compliance issues related to Passenger Train Emergency Preparedness. Dan is Co-Chair of the FRA's General Passenger Safety, Rail Safety Advisory Committee (RSCA) Task Force. The task force is responsible for the development of publishing of guides for "Collision Hazard Analysis" and Passenger Station GAP Management. The task force is currently working on safety issues related to passenger train design & operation and is developing a regulatory approach to system safety.

In addition to working for the FRA, Dan works part-time for St. Joseph's College, Brooklyn N.Y., as an Adjunct Instructor in the Business & Accounting Department. He teaches Process of Management and Marketing.

Dan holds a Masters Degree in Management and Total Quality Management, from Dowling College, in New York. He is Certified in Process Re-engineering and a Certified Instructor in Management and Supervision from Zanger/ Miller Associates.

Dan is a Disabled Veteran, from the Vietnam Era. He served in Vietnam during the Tet Offensive of 1967/8. He was awarded the Purple Heart, Bronze Star, with "V" Device and Army Commendation Medal and was Honorably Discharged in 1969.

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Dan currently lives in Savville, N.Y., with his wife, Virginia. They have been married for of 41 years, and have raised five sons that hold college degrees in Architecture, Math, Biology, Computer Science and Elementary Education.



Michael J. Scanlon
General Manager and Chief Executive Officer
San Mateo County Transit District
Executive Director
Caltrain

Michael J. Scanlon was appointed chief executive officer of the San Mateo County Transit District in November 1999, where he oversees bus operations, paratransit service and all affairs of the District. Mr. Scanlon is also Executive Director of the Peninsula Corridor Joint Powers Board which provides commuter rail service between San Francisco and Gilroy. Additionally, he serves as Executive Director of the San Mateo County Transportation Authority, responsible for administering a county-wide half-cent sales tax for various transportation projects.

His previous experience includes 26 years with the Port Authority of Allegheny County in Pittsburgh, Pennsylvania where he oversaw all transit operations and six years as the chief executive of Broward County Transit in Fort Lauderdale, Florida.



Jo Strang
Associate Administrator for Safety
Federal Railroad Administration

Ms. Strang is currently the Associate Administrator for Safety for the FRA. She is responsible for regulatory oversight of rail safety in the United States. She is the past Deputy Associate Administrator for Railroad Development in the Federal Railroad Administration, where she was responsible for overseeing a variety of programs including the Railroad Rehabilitation and Infrastructure Fund (RRIF), Amtrak, and research and development programs. The rehabilitation of the RRIF program had been one of her highest priorities and she was actively involved in the loan program.

Ms. Strang is the past Associate Director for railroad and transit accident investigation at the National Transportation Safety Board. As such she was responsible for rail and rail transit accident investigation in the United States.

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Prior to joining the National Transportation Safety Board Ms. Strang was the Deputy Regional Administrator of the Federal Railroad Administration in Chicago and was responsible for enforcement of railroad safety regulations in Minnesota, Wisconsin, Illinois, Michigan and Indiana.



Edward Carranza, Jr.
Deputy Regional Administrator
Federal Transit Administration

Mr. Carranza joined FTA in 1998 as Region IX Director, Office of Program Management & Oversight. He was responsible for the region's post-grant activities including procurement, project management, financial management, triennials, state management, and real estate. In 2005, Mr. Carranza was selected to fulfill the roles and responsibilities as Deputy Regional Administrator for FTA, Region IX in San Francisco. In this capacity, he is responsible for the activities of all operations in the Region IX office, and when appointed, acts on behalf of the Regional Administrator. Mr. Carranza has also participated in several FTA task forces including project & construction management guidance revision, Full Funding Grant Agreement (FFGA) update, and other miscellaneous FTA contractor oversight programs.

Prior to joining FTA, Mr. Carranza was with Stone & Webster Engineering Corp. During his twenty-two years with the private firm, he had responsibilities providing project and construction management services in heavy industrial projects including ten years serving as a Project Management Oversight Consultant for the FTA.

Mr. Carranza holds a Bachelors of Science degree in Civil Engineering from the University of Texas at El Paso, and is a licensed Professional Engineer in California.

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Ronald Ries
Staff Director, Highway-Rail Grade Crossing and Trespasser Prevention
Programs
Federal Railroad Administration

After graduating from the University of Washington with a bachelor's degree in psychology, Mr. Ries was hired in 1974 by the Davenport, Rock Island and North Western Railway in Davenport, Iowa. He joined the FRA in October 1994 as the Crossing and Trespasser Regional Manager for Region 8 based in Vancouver, Washington where he worked with the state agencies, railroads and communities in the Pacific Northwest promoting highway-rail grade crossing safety and trespass prevention. Since October 1998, Mr. Ries has worked on crossing safety and trespass prevention issues at FRA Headquarters with the Crossing Safety and Trespass Prevention Programs team. He was appointed Staff Director of the crossing team in January 2001.

Mr. Ries was worked with several national studies on crossing safety and trespass prevention and also cooperates with Transport Canada on these issues. He is actively involved with Operation Lifesaver and is a member on OLI's Program Development Council.



Robert Adduci
Transportation Industry Analyst – Safety and Security
Volpe National Transportation Systems Center

Mr. Adduci has worked at the Volpe National Transportation Systems Center for eleven years. He provides technical support to the Federal Railroad Administration (FRA) and the Federal Transit Administration's (FTA) State Safety Oversight (SSO) and Security Programs. Technical Support includes:

- Providing technical guidance to FRA on Collision Hazard Analysis, Managing the GAP and System Safety Program Development.
- Participating with FRA to support Commuter Rail new start properties with system safety program development and the hazard analysis process
- Supporting State Oversight Audits
- Providing technical assistance for the revision of Part 659 Rail Fixed Guideway Systems: State Safety Oversight
- Developing industry guidelines such as Hazard Analysis, Safety Certification, Internal Safety Audits, and New Starts Guidelines
- Supporting the FTA Five Year Strategic and Program Plans

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- Providing technical guidance and assistance to transit properties with new starts
- Serving as the technical representative to the FTA Administrators Safety Task Force
- Supporting partnerships with industry and APTA/FRA and other Agencies such as NTSB
- Acting as liaison with other FTA Offices on matters of fatigue, human factors, IVI, collision avoidance, alternative fuels and grade crossings
- Co-developing the FTA Emergency Preparedness and Security Forums
- Providing technical assistance with training course development for TSI on Rail System Safety and Transit Security Design Considerations

In his previous position as Acting Director of Safety for the Massachusetts Bay Transportation Authority (MBTA), Mr. Adduci's functions included:

- Assuring Authority compliance to the System Safety Program Plan through designing implementing and monitoring the authority's passenger, vehicle, employee and contractor safety programs, procedures, regulations and guidelines
- Directing a staff of twenty professional and support personnel in fire and accident prevention, hazard identification, data management, industrial/occupational/construction health and safety
- Serving as the Authority's liaison with the NTSB, FTA and other federal and local agencies
- Responsible for implementing the Authority's System Safety Program Plan and development and implementation of system-wide safety and fire prevention inspections for all public access areas, employee facilities, right's of way and construction sites

Mr. Adduci holds an A.S. in Mechanical Engineering and a B.S. in Industrial Technology, both from Northeastern University and is a Certified Safety and Security Director (CSSD) through the World Safety Organization. Mr. Adduci is also a Senior Associate Staff instructor for the Transportation Safety Institute (TSI).



Helen M. Sramek
President
Operation Lifesaver

Helen Sramek became President of Operation Lifesaver, Inc. in January, 2007. She comes to the organization from AAA where she served for 9 years as Director of Federal Relations. In that capacity, she led AAA's advocacy efforts on federal transportation, traffic safety and consumer issues before Congress and the Administration.

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Ms. Sramek, a native Nebraskan, has worked in a variety of positions in Washington, D.C. for over 30 years. In addition to considerable legislative experience, Ms. Sramek served as Chief of Staff to a Nebraska Congressman for over a decade. She played a key role in helping the Congressman secure federal support for a major highway-rail grade crossing in the state's capital city of Lincoln, Nebraska. She also brings federal Executive Branch experience to her role at OLI, having served in the first Bush Administration.

Operation Lifesaver is a non-profit, international continuing public education program first established in 1972 to end tragic crashes, fatalities and injuries at highway-rail intersections and on railroad rights-of-way.



Tracy Berge
Public Safety and Environment Manager
Metrolink

Tracy Berge, Public Safety and Environmental Manager, joined Metrolink in March 1998. Prior to Metrolink, she was a project manager at Brown and Caldwell, an environmental consulting firm. She received her BS in Geology from UCLA (Go Bruins!). She currently chairs the Southern California Rail Safety Team, a coalition of railroad safety professionals and law enforcement. The Southern California Rail Safety Team meets monthly to address rail safety issues at the regional level and reduce death and injuries at highway rail grade crossings.



Ramya Sundararaman
American Association of Suicidology (ASS)

Dr. Ramya Sundararaman is a Public Health Physician with special expertise in the field of mental health. She provides workshops and consultation on a range of public health topics including evaluation, strategic planning, epidemiology, and grant-writing. Ramya has experience conducting trainings and facilitating group meetings across the country. She has assisted over 35 states with their strategic planning process.

Dr. Sundararaman currently works with the American Association of Suicidology as the Research Director for the Railroad Suicide Prevention Projects. Until June 2006, Ramya managed the provision of technical assistance for the Suicide Prevention Resource Center (SPRC). Prior to coming to SPRC in 2003, she developed and managed the suicide

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prevention program for Massachusetts. Ramya chaired the MA Coalition for Suicide Prevention, the group that developed the MA Strategic Plan for Suicide Prevention.



Stephanie Fortin
Toronto Transit Commission (TTC)

Ms. Fortin is currently working as an Occupational Hygienist at the Toronto Transit Commission. She has a Bachelor of Science in Chemistry and a Masters of Science in Occupational Health Sciences from McGill University.

The work that Ms. Fortin has done in suicide prevention came rather unexpectedly as she have no formal training or education in the subject. At the time, she was the only employee in her department that could speak French and who could communicate with the Montreal metro about their suicide prevention initiatives.



David Triolo
San Mateo County Sheriff's Office

[No Bio Available]



Richard Wessler
Director Passenger Train Operations
BNSF Railway – Fort Worth

Mr Wessler has 35 years of railroad experience. He is currently the Director of Passenger Train Operations for BNSF. Prior to BNSF, Mr. Wessler served ATSF railroad for almost twenty years in various capacities from Train Dispatcher to General Director of Train Operations.

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Richard Ferlauto
Long Island Railroad (LIRR)

[No Bio Available]



Steven Conner
Assistant Deputy Chief MTA PD
Metro North

Mr. Conner is an Assistant Deputy Chief with the Metropolitan Transportation Authority Police Department (MTA PD) which has its headquarters located in New York City, New York. The MTA PD has jurisdiction over the Long Island Railroad, Metro North Railroad and the Staten Island Rapid Transit Operating Authority. Steve is charge of over 200 uniformed members of the Northern Region assignments which covers the Metro North Railroad. Mr. Conner has been a police officer since 1985. In 1991 he was promoted to the rank of Sergeant and in 1995 he was assigned to the Detective Division as a Detective Sergeant. In 2002 through 2007, while remaining in the Detective Division he was promoted from the rank of Lieutenant and ultimately to the rank of Assistant Deputy Chief and the Commanding Officer of the unit for the Department.

Some of his training includes basic, intermediate and executive level crime scene courses. He is an Operation Lifesaver presenter and an FBI certified instructor for "Grade Crossing Collision Familiarization Course." Mr. Conner attended the 229th session of the FBI National Academy. He has been involved in approximately 75 to 100 train collisions involving pedestrians and motor vehicles.

Mr. Conner is married with one daughter in college and one daughter who is a junior in high school.

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Ng Tek Poo
Head of Safety
SMRT

Tek Poo is the Head of Safety in SMRT, a leading public transport operator in Singapore. He has been in this position for two years. Before that, he held various positions in engineering, facilities maintenance and rail operations in SMRT. His current portfolio in safety covers operational safety as well as occupational health and safety. He is an experienced electrical engineer and a trained safety professional.



Robert C. Lauby, P.E.
Sr. System Safety Engineer
Office of Railroad Safety
Federal Railroad Administration

Mr. Lauby is currently employed by the Federal Railroad Administration as a Senior System Safety Engineer in the Office of Railroad Safety. His primary responsibilities are to apply system safety principles to identify, analyze, and mitigate safety issues occurring in a variety of disciplines. He has over 29 years of railroad and rail transit experience involving safety, security, accident investigation, project management, project engineering, manufacturing, and vehicle maintenance.

Before joining FRA, Mr. Lauby was employed by Booz Allen Hamilton where he performed safety and security work for the Federal Government and the railway and transit industry. During his tenure at Booz Allen, the Special Commission of Inquiry into the 2003 Waterfall, NSW accident near Sydney Australia, assigned Mr. Lauby lead investigator. He also led recovery efforts to modify and reopen the Las Vegas Monorail.

Prior to joining Booz Allen, Mr. Lauby served as the head of the National Transportation Safety Board (NTSB) Office of Railroad Safety where he managed hundreds of railroad and rail transit accident investigations. He led the US fact finding contingent to the 1998 Eschede, Germany ICE accident investigation and represented the NTSB on the Federal Railroad Administration's Rail Safety Advisory Committee (RSAC) and the American Public Transit Associations Passenger Rail Equipment Safety Standards (PRESS) committee.

Mr. Lauby also served as a project manager for a major rail car brake manufacturer on numerous light rail vehicle new car procurements and as a maintenance supervisor at a

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Class I railroad. He has testified numerous times before congressional and senate sub-committees on railroad safety, and is a licensed Professional Engineer.



Ken Sundberg
Director of Safety Operations
MTA Long Island Railroad (LIRR)

Mr. Sundberg started his current 24 year career with the Long Island Rail Road in the Signal Department as a Maintainer, working his way up to Signal Inspector before moving into Safety and Health. In 1993 Ken became a Safety Officer for the System Safety Department. Progressing to his current position, Ken now oversees reporting and mitigation programs for employees, customers, rail accidents and grade crossings for the LIRR. Ken continues to participate in the FRA's RSAC and APTA working groups. Together with other forward thinkers within the LIRR and MTA Police, Ken assisted in the development of the Right of Way Task Force which now has a dedicated team focused on Fatality and Trespass reduction through Infrastructure Hardening, Enforcement, Education and Homeless Outreach.



Stephen Klejst
Deputy General Manager of Safety and Training
New Jersey Transit (NJT)

Mr. Klejst is the Deputy General Manager of Safety and Training for NJ Transit Rail Operations. He has been with NJ Transit since its inception in 1983. As the Deputy General Manager, Mr. Klejst has overall responsibility for employee occupational health and safety, passenger safety, accident investigation, regulatory compliance in addition to technical and operational skills training.

Mr. Klejst is a member of several APTA committees including the Rail Safety Committee, Commuter Rail Safety Subcommittee and Human Factors Subcommittee. He also serves on the steering committee for USDOT's pilot project on Close Call/Near Miss incident reporting and has served as the chairman of a technical review committee for the Transit Cooperative Research Program. Outside NJ Transit, Mr. Klejst is an Adjunct Instructor at Middlesex County College where he teaches a variety of management courses.

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Before his promotion to Deputy General Manager, Mr. Klejst served as Rail's Director of Training, Assistant Director of Labor Relations, Manager of Technical Training and Road Foreman of Engines. He began his railroad career with Conrail in 1978 where he worked as a trainman, conductor and locomotive engineer.

Mr. Klejst received his bachelor's degree in Chemistry from the University of Pennsylvania and a Master of Science degree in Management from the Stevens Institute of Technology.



Michael J. Conlon
Director of Rail and Bus Safety
Metro Transit – (Minnesota North Star)
Minneapolis/St. Paul, Minnesota

Mike Conlon is director of rail and bus safety for Metro Transit in Minneapolis/St. Paul, Minnesota, a post he has held since February of 2000. As the senior safety professional for Metro Transit, Mr. Conlon is responsible for all safety aspects of the agency's bus and rail operations. He also leads system safety planning and safety certification efforts for new rail projects, such as the Hiawatha LRT and Northstar Commuter Rail projects.

His experience spans thirty years in the transit and railroad industries, primarily in operations and safety. Prior to Metro Transit, Mr. Conlon worked as an associate for Booz-Allen & Hamilton, an international consulting firm, working on many projects for a number of transit agencies. Prior agency work includes nine years in operating and safety positions at Maryland Mass Transit Administration.

Mr. Conlon began his transportation career as a block tower operator for Conrail. He earned a B.S. degree from Gannon University (Erie, PA) and an M.B.A. degree from the University of Baltimore in Maryland.

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Christopher Payne
Safety Officer-Rail
SamTrans-Peninsula Corridor Joint Powers Board (PCJPB)/Caltrain

Prior to his retirement Mr. Payne was a Rail Safety officer with Caltrain. In this rail safety position Chris implemented numerous programs aimed at making Caltrain safer for both pedestrians and train crews. Payne has led efforts to mount cameras on the trains, install pedestrian fencing along the tracks, retrofit stations minimizing pedestrian traffic across tracks, and heighten police enforcement against trespassers, among other measures. Mr. Payne also has 20 years experience as a train engineer.



William (Bill) Grizard
Director of Safety Programs
American Public Transportation Association (APTA)

Mr. Grizard is the Director of Safety Programs at the American Public Transportation Association (APTA). He has 40 years of experience in operations, maintenance and safety of rail and bus transportation. His duties at APTA include the oversight of the suite of Safety Management Programs for Rail Transit, Bus and Commuter Rail industries, direct responsibility for the safety audit programs, liaison to the APTA Safety, Security and Standards Committees, development of system safety seminars for the program members, project management and coordination with the Department of Transportation, Transportation Research Board, and Department of Homeland Security.

Prior to his current assignment, Mr. Grizard served as a telegrapher clerk, bridge tender, and journeyman signalman in the freight rail industry. The last 32 years he has held safety positions as Bureau of Explosives Inspector for the Association of American Railroads, Safety and Rules Manager at Union Pacific Railroad, Safety Engineer and Manager of Safety at the Sacramento Regional Transit District.

Mr. Grizard is a graduate of the California State University and the American River College. He is a professional member of the American Society of Safety Engineers, a member of the National Fire Protection Association, a member of the System Safety Society, and a member of the Auditing Roundtable. He is also an Associate Staff Instructor for the US DOT Transportation Safety Institute.

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Suzanne Horton
Operations Research Analyst
U.S. Department of Transportation
Volpe National Transportation Systems Center
Rail and Transit Systems Division

Ms. Horton is an operations research analyst in the Rail and Transit Systems Division at the USDOT/Volpe National Transportation Systems Center. Ms. Horton has been with the Volpe Center since 2002 and supports the highway-rail grade crossing safety research program. She recently authored the report Public Education and Enforcement Research Study, which is available on the FRA website, and is a young member of TRB Committee AHB60, Highway-Rail Grade Crossings. She holds a Bachelor of Science in Industrial Engineering and Operations Research from the University of Massachusetts, Amherst.



Marco P. daSilva
Mechanical Engineer
U.S. Department of Transportation
Volpe National Transportation Systems Center
Advanced Safety Technology Division

Mr. daSilva is a General Engineer with the Advanced Safety Technology Division of the U.S. Department of Transportation's Volpe Center in Cambridge, Massachusetts. Mr. daSilva holds a Bachelor degree in Mechanical Engineering from Boston University and a Master of Science degree in Transportation Engineering from Northeastern University. Mr. daSilva has been with the Volpe Center for over ten years and is currently working on a variety of highway and railway safety and security-related projects sponsored by the National Highway Transportation Safety Administration (NHTSA) and the Federal Railroad Administration (FRA).

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Deborah Wojnicz
Surface Transportation Area Supervisor, NW Region
Department of Homeland Security – Transportation Security Administration
(TSA)

Deborah Wojnicz serves as the Department of Homeland Security's Surface Transportation Area Supervisor of the NW Region. Ms. Wojnicz began with DHS in April of 2006. Ms. Wojnicz works closely with stakeholders from both freight and mass transit vetting and completing new programs and assessments. In addition, she serves as liaison for local, state and federal law enforcement.

Ms. Wojnicz previously worked for FRA beginning in 1990. She completed the five year inspector internship program becoming an Operating Practices Inspector after completing her training in both Region 4 and Region 8.

During her employment with FRA, her accomplishments included being the project lead on the NAFTA Rail Operating Practices comparisons with Transport Canada. Ms. Wojnicz also served on several leadership teams, including the 1995 Transformation and Team Building, the new hire training standards team which developed the progressive curriculum for newly hired inspectors with no rail background, as well as outreach to the public on the Train Horn Rule. Ms. Wojnicz received the Meritorious Achievement Silver Medal from Department of Transportation Secretary Norm Mineta in 2002 after being promoted to the Grade Crossing and Trespass Prevention Manager for Region 8.

Ms. Wojnicz attended the University of Southern Colorado and the University of Missouri where she studied behavioral sciences.

Ms. Wojnicz continues to support Grade Crossing and Trespass Safety and Security with outreach to both law enforcement and the intelligence community.

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Sam Raab
Manager of Public Safety Coordination Center
CSX Transportation

Mr. Raab is currently the Manager of Public Safety Coordination Center for CSX Railroad. Prior to joining CSX Mr. Raab worked for Union Pacific railroad as the Project Manager of the Response Management Communication Center. Mr. Raab also worked as a police officer in St. Robert, MO as well as for the US Army, Combat Engineer Battalion, Ft. Leonard Wood, MO. Mr. Raab holds a degree in Computer Programming and Software Applications.



Phil Therrien
Supervisor of LRT Operations
Edmonton Transit System
D.L. MacDonald Transit Yards

Mr. Therrien is the supervisor of LRT Operations for the City of Edmonton, where his responsibilities include the LRT: safety section; training section; Control Center and line supervisors; and day to day operations, including dispatch, scheduling and special event planning. Mr. Therrien also sits on the LRT expansion design committees offering technical and operational input to the project(s) outcomes.



Bradley Barkman
Director of Operations
South Florida Regional Transportation Authority (SFRTA)

Brad Barkman is currently the Director of Operations for South Florida Regional Transportation Authority (SFRTA) with over 30 years in the Railroad industry. He began his career in Baltimore on the B+O Railroad in the late 1970's. Before his current position at SFRTA, Brad spent a brief period with Morrison Knudsen then on to the Maryland MTA as Manager of Commuter Rail Operations and Manager of Mechanical.

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Brian W. Reeves
Sr. Railroad Specialist
Florida Department of Transportation

Mr. Reeves is a former CSX Roadmaster and has extensive experience in all areas of rail. He has been responsible for all maintenance requirements on the South Florida Rail Corridor and meeting all FRA inspection requirements. He is a qualified CSX trainer in Operating Rules, Safety Certification and training and certifying track inspectors in accordance with FRA requirements. As a former Roadmaster for CSX, he was responsible for meeting all FRA inspection requirements, defect repair and reporting procedures and for maintenance requirements. He also supervised the rehabilitation and construction of over 20 road crossings.

Mr. Reeves is AREMA certified: FRA 213.7 (b) Qualified to Inspect and Maintain Track, FRA Qualified/Roadway Workers Rules, CSXT Safety Awareness Training/Qualified and CSXT On-Track Worker Rules for Contractors/Qualified. He has received qualifications and authorization to supervise restoration and renewal of track under traffic conditions per FRA Rule 213.7(a). He is also Canadian National Railroad Contractor Safety certified and Norfolk Southern Railroad contractor safety certified.



Vijay Khawani
Director of Corporate Safety
LA Metro

Mr. Khawani is the Director of Corporate Safety with Los Angeles Metro. He has been with metro for over 15 years and is responsible for managing the agency's system safety programs and employee safety programs for bus and rail. He is also responsible for coordinating the safety oversight plan activities with the California Public Utilities Commission during the planning, design, construction and start-up phases of metro's rail transit projects. Prior to joining metro, Mr. Khawani was with the California Public Utilities Commission for over four years and was responsible for safety oversight and enforcement activities of Los Angeles' and San Diego's transit systems.

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Michael D. Kirchanski
San Francisco Metro

Mr. Kirchanski's work experience includes: 28 years in transit, including 6 years as Health and Safety Manager of SFMTA (aka SF MUNI); 7.5 years as Superintendent of Safety and Training and Transportation Manager with Golden Gate Transit; 4 years with Grosvenor Bus Lines of San Francisco; Safety and Training Director for SamTrans Contract Urban Bus Service; 2 years as General Manager for SFO Shuttle Bus Company; and 7 years as a Bus Operator for Greyhound Lines.

Mr. Kirchanski holds a BA from UC Berkeley and an MBA from San Francisco State University. He also has professional training including: TSI - Rail & Bus System Safety; Rail & Bus Accident Investigation; Transit Industrial Safety; Drug & Alcohol Programs; Transit System Security, Effectively Managing Transit Emergencies; FEMA IS 546, ICS 700, IS 100; National Safety Council – Defensive Driving Instructor Training; and California Dept of Education – Bus Driver Instructor Training.

Mr. Kirchanski is active on several committees including: Rail Operations and Regulations (ROAR) of California Transit Association, 6 years – 2 years as Chair; Training Committee – California Transit Association 5 years; APTA – Intercar Barrier Taskforce.

Mr. Kirchanski resides in Santa Rosa, California with his wife of 29 years and three children. He enjoys gardening, raising fruit, bicycling and music.



Brian F. Gilleran, P. E.
Crossing Safety & Trespass Prevention, RRS-23
Office of Safety Analysis
Federal Railroad Administration

Brian F. Gilleran is a registered professional civil engineer working on the Grade Crossing Safety and Trespass Prevention staff in the Office of Safety of the Federal Railroad Administration, which he joined in 1999.

Prior to his current assignment, Mr. Gilleran worked for sixteen years for the Federal Highway Administration, specializing in highway safety engineering and design along with grade crossing safety issues.

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Mr. Gilleran holds an honors degree in Civil Engineering from Northeastern University in Boston, MA, and currently resides in Northern Virginia.



James Fox
Director of System Safety
Southeastern Pennsylvania Transportation Authority (SEPTA)

Into his 19th year in the mass transit industry, Mr. Fox is the current Director of System Safety at the Southeastern Pennsylvania Transportation Authority (SEPTA). Jim graduated from Temple University with a BS degree in Civil/Construction Engineering. While attending Temple, Jim obtained an internship at SEPTA. Upon graduating Jim worked for Turner Construction Company as a project manager. After a short tenure with Turner, Jim returned to SEPTA working his first nine years in SEPTA's Capital Engineering & Construction Division. In 1998, Jim secured a position in the System Safety Department and in 2001 was appointed the position of Director. Jim is also one of SEPTA's certified Operation Lifesaver Presenters.



Christopher E. Williams, Sr.
Safety Superintendent
National Railroad Passenger Corporation (Amtrak)

Mr. Williams has 34 years of environmental health and safety (EHS), and emergency response/preparedness expertise including service with Amtrak, Georgia-Pacific Corporation, Texaco International Marketing & Manufacturing, Mobil Oil Corporation, and Bell Atlantic Corporation in private industry. He also worked in research & development with the Johns Hopkins University Applied Physics Laboratory, and with the Maryland Department of Health. My education and professional qualifications include a Master of Health Science degree in Environmental Health Engineering/Industrial Hygiene from the Johns Hopkins University Bloomberg School of Public Health, and Certification in the Comprehensive Practice of Industrial Hygiene (CIH) from the American Board of Industrial Hygiene.

Mr. Williams is presently employed as the Safety Superintendent of the National Railroad Passenger Corporation (Amtrak). His responsibilities include supervising a staff of 17 professionals in safety, industrial hygiene, auditing, central reporting and policies and programs development and implementation. One of his primary tasks in the company is the delivery of high quality safety and health services to various business

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units in the Corporation, and the promotion of policies and procedures for the continuous improvement of the safety and health programs and principles within the Corporation.

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APPENDIX E – HANDOUTS AND REFERENCED REPORTS

Handouts

- Federal Railroad Administration (FRA) 49 Code of Federal Regulations (CFR) Parts 223 and 238
- Passenger Train Emergency Systems; Emergency Communication, Emergency Egress, and Rescue Access; Final Rule [73 Federal Register (FR) 6370], dated February 1, 2008.

Referenced Reports

Federal Railroad Administration, “Rail-Trespasser Fatalities, Developing Demographic Profiles,” dated November 2007.

http://www.fra.dot.gov/downloads/safety/tdreport_final.pdf

U.S. Department of Transportation, “Secretary’s Action Plan, Secretary of Transportation, Highway-Rail Crossing Safety and Trespass Prevention,” dated May 2004.

http://www.fra.dot.gov/downloads/safety/action_plan_2004.pdf

Federal Railroad Administration, “Railroad Infrastructure Trespassing Detection Systems Research in Pittsford, New York,” dated August 2006.

<http://www.fra.dot.gov/downloads/Research/ord0603.pdf>.

Federal Railroad Administration, “State-of-the-Art Technologies for Intrusion and Obstacle Detection for Railroad Operations,” dated February 2007.

<http://www.fra.dot.gov/downloads/Research/ord0706.pdf>.




New Jersey Transit “Policy on Right of Way Fencing,” dated 10/1/02.

These documents are provided on the Workshop DVD.

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APPENDIX F – BLANK EVALUATION FORM

 Federal Railroad Administration					
<h2>FRA ROW Fatality and Trespasser Reduction Workshop</h2> <h3>EVALUATION</h3>					
<p><i>Please assist us with future forums by completing this evaluation form. Rate the statements below using the scale provided. Thank you.</i></p>					
<p>1 = Poor 3 = Average 5 = Excellent</p>					
1) How did you hear about the workshop? _____					
2) Overall Program					
Content of Presentations	1	2	3	4	5
Relevance of Presentations	1	2	3	4	5
Quality of Presentations	1	2	3	4	5
Quality of Discussions	1	2	3	4	5
Which session did you find most helpful?					

Which topics would you like to see covered in any supplemental workshops? _____					

3) Please evaluate each of the four Sessions of the workshop:					
Community Outreach, Session 1:					
	1	2	3	4	5
Comments: _____					

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Police/Enforcement, Session 2 :

1 2 3 4 5

Comments : _____

Hazard Management, Session 3:

1 2 3 4 5

Comments: _____

Technology, Session 4:

1 2 3 4 5

Comments: _____

4) Accommodations

Guest Room Quality	1	2	3	4	5
Meeting Facilities	1	2	3	4	5
Meeting Location	1	2	3	4	5

5) What were your expectations for this workshop? _____

6) Did the workshop meet your expectations? YES NO

7) Did you like the format? YES NO

8) Should we have this workshop again? YES NO

If so, do you have suggestions for additional workshops? _____

Other General Comments: _____

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APPENDIX G – WORKSHOP FLIER

The Workshop Flyer shown here was used to publicize the workshop on the FTA and Caltrain Websites.

Present a FREE two-day Seminar
ROW Fatality and Trespass Reduction
Workshop – April 1 & 2, 2008
San Mateo County Transit District 1250 San Carlos Ave, San Carlos, CA
[The Workshop is Full – Click Here if You'd like to Receive Information from the Workshop](#)

Workshop Topics (partial list)

Hazard Management <ul style="list-style-type: none">- Crossings- Stations- Operating practices- Police protocol- Identifying the mentally challenged	Infrastructure Engineering <ul style="list-style-type: none">- Sealed right of way- Second train warning devices- Quad gates- Video usage on and off trains- Intrusion technology
Community Outreach <ul style="list-style-type: none">- Operation Lifesaver- Suicide prevention- Advocacy group relationships- AAR study- Public service messages- Funding and politics	The workshop will be facilitated by staff from The Volpe Center. Thirty rail safety professionals will present industry-leading Practices and the effective use of the hazard management process for Identification, Resolution and Measurement of the Success to trespasser mitigation strategies.

Workshop Goal

The goal of the workshop is to share industry leading practices and explore new strategies that the rail industry could pursue utilizing the Hazard Analysis process to reduce the number of right of way fatalities and trespasser incidents.

Workshop Information

The workshop will take place at Caltrain headquarters in San Carlos, California, which is midway between San Francisco and San Jose. Please direct all questions to: **Chris Payne, Safety Officer Caltrain (650) 508-7740**

HOTELS (Govt. Rate)

TRAVELODGE SF AIRPORT SOUTH 20 Min Train Ride to Conf. - Cont. Breakfast Free SF Airport Shuttle - Free Internet - \$85 CALL HOTEL DIRECT FOR CALTRAIN RATE 1(800)697-7373 http://www.travelodgesfairport.com	HOLIDAY INN EXPRESS BELMONT 15 Min WALK to Conf. Free Internet \$109 GOVT. RATE CALL HOTEL DIRECT FOR GOVT. RATE 1(800)451-2020 http://www.hibelmont.com/index.html
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Registration for April 1-2, 2008

- Registration is closed.

(JavaScript must be enabled to use this form.)
To register through email please send the below information to Chris Payne: paynec@samtrans.com

* First Name:	<input type="text"/>
* Last Name:	<input type="text"/>
* Title:	<input type="text"/>
Nickname (for name tag):	<input type="text"/>
* Organization:	<input type="text"/>
Mailing Address:	<input type="text"/>
City:	<input type="text"/>
State:	<input type="text" value="Select One"/>
Postal Code:	<input type="text"/>
* Work Phone:	<input type="text"/>
Fax:	<input type="text"/>
Mobile phone:	<input type="text"/>
* eMail:	<input type="text"/>

[Request For Post Workshop Informational DVD](#)

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