Transit Advisory Committee for Safety (TRACS) 14-01 Report

Preventing and Mitigating Transit Worker Assaults in the Bus and Rail Transit Industry

7/6/15

Table of Contents

Executive Summary

On October 28th and 29th, 2014, the Federal Transit Administration (FTA) Administrator tasked the Transit Advisory Committee for Safety (TRACS) with developing recommendations for FTA on the elements that should comprise a Safety Management System (SMS) approach to preventing and mitigating transit worker assaults.

Representatives from state and local transportation agencies, labor unions, research organizations, and national transportation associations worked together to create recommendations for FTA to prevent assaults against transit workers. These recommendations address each aspect of the SMS approach, including policy, risk management, safety promotion, and safety assurance. This report begins by introducing the issue of transit worker assaults and describing the SMS approach and its connections to this report. It then presents TRACS' recommendations regarding protective infrastructure, training, public education, support for transit workers, enforcement, and data collection. Each section includes an introduction, a description of recommendations, and a table analyzing the benefits and costs of each risk control strategy.

The recommendations in each section focus on FTA developing and publicizing best practice risk control strategies for transit agencies to prevent assaults. Best practices discussed in this report include:

- Installing protective barriers, video surveillance, automatic vehicle location (AVL) systems, and overt or covert alarms on bus and rail transit vehicles;
- Training safety-sensitive employees about how to de-escalate potentially violent situations, the important of reporting assaults, and the standard agency response to reports of assault;
- Educating the public about reporting assaults by conducting public awareness campaigns, providing resources and incentives for passengers to report assaults, and meeting with passengers to discuss strategies for preventing assaults;
- Providing support for transit workers by offering psychological support and post-incident counseling, responding to every report of assault or other serious incident, and involving transit workers in safety committees;
- Enforcing transit agency policy by posting passenger codes of conduct, suspending service for assailants, posting police officers on transit vehicles and property in high-risk areas, providing legal support for transit workers who file complaints, and collaborating with other agencies and organizations to develop social safety plans and advocate for changes in state and local legislation to better address assaults against transit employees; and
- Collecting data regarding the number, location, times, and types of assaults as well as the number, type, and implementation times of each risk control strategy to enable the

evaluation of the effectiveness of each strategy and the overall SMS in preventing transit worker assaults.

TRACS does not expect every transit agency to adopt every best practice outlined in this report. Rather, transit agencies should conduct cost-benefit analyses to determine the best combination of risk control strategies to adopt initially and then phase in others as possible.

In some instances, however, TRACS feels FTA should take a stronger role in implementing change. For example, TRACS recommends that FTA establish a committee to develop national design standards for physical barriers on new buses. TRACS also recommends that FTA develop minimum training requirements for transit agencies regarding transit worker assaults.

In other cases, TRACS recommends that FTA conduct further research. These recommendations include:

- conducting further research on protective infrastructure for situations in which the transit workers must leave the bus or rail transit vehicle;
- partnering with a transit agency to pilot a program in which the transit agency collaborates with the transit workers' primary care physicians to let them know that the transit workers' occupations involve workplace violence, enabling the physicians to review the transit workers' occupational stress during annual check-ups;
- sponsoring research through the Transit Cooperative Research Program (TCRP) on ways to mitigate the psychological impacts of assault on transit workers;
- developing a pilot study to test the viability of collaborating across agencies to suspend transit service for assailants; and
- examining the potential negative impacts of suspending service for transit-dependent assailants.

Together, the recommendations in this report represent a comprehensive review of the strategies available to FTA and transit agencies to minimize and prevent assaults against transit workers. By following these recommendations, FTA can promote transit agencies' use of the SMS approach to address the serious problem of assault, thereby providing more safe working conditions for transit workers across the country.

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FTA Administrator's Tasking 14-01 to TRACS

"Develop recommendations for Federal Transit Administration (FTA) on the key elements that should comprise a Safety Management System (SMS) approach to preventing and mitigating transit worker assaults. Identify risks and impediments to a safe workplace and a process to reduce the hazards that enable these assaults. While there is considerable focus on addressing bus transit operator assaults in particular, the scope of this tasking is intended to include addressing assaults for all types of transit employee categories and for all modes of transit."

Issues to be considered include but are not limited to:

1. Identify/define transit employee categories to consider (bus operator, rail operator, road/rail supervisor, fare inspector, revenue handler, maintenance worker, security officer, etc.)

2. For each transit employee category, identify and examine the root causes and risk levels of assault   to properly understand the scope of the problem and potential mitigation strategies.

3. Recommend minimum performance-based safety standards for protection measures, including technology and information management drawn from best practices developed by the public transportation industry. Consider physical barriers, audio and video surveillance, automatic vehicle location systems, emergency communications, and transit operations decision support systems.

4. Review available policies and training materials for staff and managers on transit security and conflict avoidance strategies, assess its impact and applicability to the transit workforce and identify possible gaps in what is available, what is working, and what is needed.

5. Identify and evaluate potential outreach and enforcement tools, including methods to encourage and optimize safety of the transit worker. National outreach campaigns, state and local legislation, and policing should be considered.

6. Identify engineering strategies from prevention through design to be used in the procurement process to reduce assaults.

7. Define the role of a national safety and security reporting process in baselining and monitoring transit worker assaults and near assaults in a risk based safety management system. Review the capability of the FTA National Transit Database (NTD) and other data systems to support this role.

Introduction

Background

For purposes of this letter report, "assault" is defined broadly to include overt physical and verbal acts by a passenger that interfere with the mission of a transit worker to complete his or her scheduled run or other duties safely, and that adversely affect the safety of the transit employee and customers.[1] This report focuses on assaults by passengers against bus and train operators, other on-board personnel, and station personnel. While passenger-against-passenger assaults also impact the ability of transit workers to safely perform their job functions, these incidents more closely relate to transit security than to transit safety and thus lie outside the scope of the FTA's tasking to TRACS. The International Association of Public Transport (UITP) and the International Transport Workers' Federation (ITF) recently issued the joint statement "Recommendation for Combating Violence and Insecurity on Urban Public Transport", which addresses broader safety issues related to passengers and the public, as well as transit employees. See Appendix A for the text of the statement.

In 2013, 28 transit workers died due to violence on the job.[2] Any transit worker death arising from violence is unacceptable. Assaults against transit workers pose a serious threat on many levels by threatening the physical safety and emotional well-being of transit workers, endangering passengers, and lowering employee morale. The emotional effects of assault can deter transit employees from returning to work and passengers from using transit, impacting both schedule and revenue.

The vast majority of assaults against transit workers are nonfatal: 81% of assaults against bus operators are verbal and 60% involve spitting at the worker, while 2% involve weapons.[3] Further, the most common assaults against transit workers may be underreported.[4]TCRP Synthesis 93 found that "the National Transit Database (NTD) does not capture the true extent of workplace violence" due to the lack of data on minor assaults that do not result in arrest but nonetheless may cause psychological harm.[5] Records from the FTA Bus Safety Program indicate that ten transit agencies accounted for 80.1% of all reported "injured transit vehicle operators" between 2008 and 2013. New York MTA alone accounted for 42.2% of these injuries, and Chicago CTA for 20.9%.[6] These higher rates could be due in part to better reporting systems in those agencies.

When Memphis Area Transit Authority (MATA) installed cameras on its buses, the agency detected many assaults that had gone unreported; bus operators later acknowledged that these incidences were so routine that they simply did not report them. Moreover, while 84.4% of the

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[1] Adapted from TCRP Synthesis 93: Practices to Protect Bus Operators from Passenger Assault, p. 1.
[2] Bureau of Labor Statistics Census of Fatal Occupational Injuries, TABLE A-1, Fatal Occupational Injuries by Industry and Event or Exposure, All United States, (2013).
[3] TCRP Synthesis 93: Practices to Protect Bus Operators from Passenger Assault, p. 23.
[4] International Labor Office, Violence and Stress in the Transport Sector (2003), p. 2.
[5] TCRP Synthesis 93: Practices to Protect Bus Operators from Passenger Assault, p. 6.
[6] *Overview of Bus Operator Assaults – 2008 to 2013,* FTA Bus Safety Program.

assaults in the FTA records occurred on buses, rail transit operators are also at risk: a poll of 59 participants in the 2011 United Transportation Union Regional workshops indicated that 69% of rail transit operators experienced unruly or disorderly behavior from passengers more than five times in the previous year, and all had encountered passengers with a dangerous weapon at least five times in their career.[7] While the poll represents a fairly small sample size, the numbers nonetheless indicate that assault is a common concern for both bus and rail transit operators.

For further illustration of the impact of assault within a transit agency, SEPTA bus operators experienced 52 incidents of assault from 2012 to 2014, surface train operators experienced 12 incidents, and subway train operators experienced 1 incident. During this time, 62 incidents of assault occurred against Southeastern Pennsylvania Transportation Authority (SEPTA) police officers, 6 against cashiers, 5 against maintenance custodians and managers, and 2 each against station managers and police sergeants. These numbers show that, in addition to bus and rail transit operators, several types of transit employees feel the effects of assault.

The transit industry must address the deeply unfortunate reality that many transit workers face the daily threat of assault during their work shifts. Lack of agency response to assaults can cause employees to feel that assaults are a routine part of the job, leading to additional under-reporting as well as low morale, high rates of absenteeism, and difficulty attracting and retaining staff.[8] Identifying and developing strategies to address the causes of assaults against bus and rail transit operators, other on-board personnel, and station personnel will help improve the safety and morale of both transit workers and passengers across the country.

Causes of Assault against Transit Workers

Other transportation modes have addressed worker assaults, providing valuable lessons learned to benefit the bus and rail transit industry. For example, the airline industry has linked passenger aggression to excessive alcohol use and nicotine withdrawal.[9] Passengers who are frustrated with not getting what they want and who believe others do not respect or care about their feelings are also more likely to express anger towards airline personnel, and attempts by airline personnel and other passengers to restrain these passengers may amplify their aggression.[10]

Based on a review of available literature, TRACS has developed the following summary of risk factors for assaults against transit workers:

- **Direct interaction with the public**, especially with passengers who may be intoxicated, have mental illness, or be experiencing frustration due to fare increases, service reductions, or delays.[11] Bus operators usually interact directly with

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[7] Dr. Patrick Sherry, University of Denver, January 9th presentation to TRACS.
[8] International Labor Office, Violence and Stress in the Transport Sector (2003), pp. 4-5.
[9] *Anger in the Air, Combating the Air Rage Phenomenon,* Joyce A. Hunter; *Aircrew Security (A Practical Guide),* Clois Williams and Steven Waltrip.
[10] Ibid.
[11] ATU's *Preventing Violence against Bus Operators* (2012); TCRP Synthesis 93: Practices to Protect Bus Operators from Passenger Assault, p. 23.

passengers, while rail operators experience assault most often during rules disputes and when waking sleeping passengers – two instances of direct passenger interaction. [12] Customer service personnel are subject to verbal abuse.

- **Working alone, in isolated or high-crime areas, during late night or early morning hours** raises the risk of assault against transit operators.[13]
- **Handling and/or enforcing fares**. Most assaults against bus operators occur during fare disputes.[14]
- **Having inadequate escape routes**.[15] Transit operators often lack a way to escape from passengers who threaten or begin to assault them.

Some women transport workers also have to deal with sexual harassment and gender-based violence. Also of great concern is the evidence of racially targeted assaults and abuse against transport workers from ethnic minorities. Transport trade unions and employers need to be vigilant and sensitive to these issues as often such victims are reluctant to report these attacks.[16]

These risk factors are exacerbated by the chronic under-funding that many transit agencies face, as such conditions often lead to more congested and delayed service that further frustrates passengers. A lack of funds has also led many transit agencies to decrease the number of uniformed staff in bus and rail stations, meaning fewer personnel are available to directly monitor potential violators and respond when incidents occur.[17]

Applying Safety Management System Principles to the Prevention of Transit Worker Assaults

Safety Management Systems (SMS) are collections of policies, processes, and behaviors that ensure a formalized, proactive approach to safety risk management.[18] SMS principles emphasize the need for leadership and organizational culture to effectively implement and continuously improve safety policies, rules, and processes.

SMS includes four main pillars: SMS policies and procedures, risk management, safety promotion, and safety assurance. These pillars are described in further detail in Figure 1.

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[12] National Transit Database Charts (2013).
[13] TCRP Synthesis 93: Practices to Protect Bus Operators from Passenger Assault, p. 23.
[14] National Transit Database Charts (2013).
[15] ATU's *Preventing Violence against Bus Operators* (2012).
[16] International Association of Public Transport (UITP) and the International Transport Workers' Federation (ITF) Joint Statement: Recommendations for Combating Violence and Insecurity on Urban Public Transport, Signed May 27, 2015, Brussels, Belgium.
[17] International Labor Office, Violence and Stress in the Transport Sector (2003), p. 8.
[18] TRACS 10-01 Report: Implementing Safety Management System Principles in Transit Agencies.

Figure 1. The Four Pillars of Safety Management Systems (SMS). *(Source: TRACS 12-02 [Report](#), p. 12)*

When SMS is applied, risk control strategies which address all four of the pillars can be implemented to address particular issues. Risk control strategies may include, for example:

- Asset management and maintenance;
- Health, wellness, and fatigue management;
- Work zone safety;
- Defensive driving and operations;
- Crisis management and continuity of operations; and
- Emergency response procedures.

In the following section, risk control strategies for preventing and mitigating transit worker assaults are evaluated through the SMS framework.

Review of Strategies to Address Assaults against Transit Workers

The SMS Framework

The SMS framework provides a systematic and comprehensive approach to evaluating the potential effectiveness of an assault risk management program. This section introduces the organizational structure and activities TRACS recommends as part of a successful assault prevention program and presents recommended risk control strategies/program components in the context of the SMS pillars. Each of the program components—protective infrastructure, training, public education, support for transit workers, and enforcement—is addressed in further detail in later sections.

A. Policy

The policy pillar lays out the basis for the assault prevention program components recommended by TRACS. To facilitate the successful implementation of the recommendations provided throughout this report, FTA should:

- Develop policy and programmatic guidelines for transit agencies for preventing workplace violence[19]

- strongly encourage transit agencies to create a program that reduces and prevents verbal and physical assaults against employees.

Senior management can show this support by releasing a policy statement that authorizes the establishment and implementation of an anti-assault program and by communicating the policy to all employees.

The policy should establish the roles and responsibilities of employees at every level of the transit agency for implementing the program. For example, the assault risk management policy would:

- highlight employee involvement in every stage of the risk management process;
- identify a senior management official with overall responsibility for maintaining and implementing the program;
- describe the roles of every organizational unit, including specific responsibilities for employees who interact with passengers and the public;
- establish a code of conduct that encompasses passenger responsibilities and determine how it will be communicated to the public;

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[19] See Guidelines for Preventing Workplace Violence for Healthcare and Social Service Workers, U.S. Department of Labor, Occupational Safety and Health Administration, OSHA 3148-04R 2015

- document procedures for ensuring accountability for these responsibilities; and
- indicate resources dedicated to ensuring that the responsibilities can be carried out (including people, skills, technology, and funding).

Employees and their representatives should be involved in the development and review of policies and procedures to manage risks, consulted when there are changes that affect workplace safety, represented on safety matters, and informed as to who is their employee safety representative and specified management appointee. [20]

B. Risk Management

FTA should advise transit agencies to incorporate a formal risk management process into their assault mitigation and prevention programs. This process should include participatory mechanisms for employees to identify safety issues and concerns on a routine basis; the assessment of the likelihood and severity of the issues and concerns based on data from incident investigations, employee involvement, and other analyses; and the classification of risks based on a predetermined risk classification methodology. In addition, transit agencies should adopt a hazard analysis process for identifying safety issues and concerns, including those associated with human factors and changes to operations or equipment. Hazard identification should include mapping the various risk factors by time of day or week, by route, and by proximity to high crime areas and to areas where large crowds gather, such as entertainment venues or schools. This data should be analyzed to provide possible policy, process, or equipment modifications to eliminate or mitigate hazards.

C. Safety Promotion

The safety promotion pillar relates most closely to the sections of this report that address training, public education, and support for transit workers. Training, for instance, helps employees understand their responsibility to report assaults and develop the necessary knowledge and skills to avoid conflicts that may escalate into verbal or physical assaults. Passenger and public outreach, meanwhile, reinforces the rules of conduct for passengers using transit services and the consequences of violating these rules. Finally, providing psychological support for employees who have experienced assault can help address any emotional damage from the event. FTA should advise transit agencies to adopt each of these components; together, they contribute to the development of a safety culture by creating a sense of cooperation between employees, management, and the public in addressing and preventing incidents of assault.

D. Safety Assurance

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[20] See section 4.3. of "Guidelines on Occupational Safety and Health Management Systems," International Labor Office, 2001, http://www.wbcsd.org/web/projects/cement/tf3/guidelin.pdf. Last accessed February 10, 2011. This section is listed in Appendix 0.

The safety assurance pillar closely correlates with the enforcement component recommended by TRACS as part of a successful assault reduction program. FTA should encourage transit agencies to establish a system for incident reporting, investigation, analysis, and corrective action. The system should include procedures for internal notification of transit worker assaults, protocols for investigating assaults, and processes for identifying and prosecuting assailants.

Transit agencies should also adopt a reporting system that allows employees to report close calls/near misses and unsafe conditions to a neutral third party without retribution. This reporting system should not rely solely on the operator to start the incident reporting process. Rather, agency management or supervisors should facilitate incident reporting by regularly asking specific questions about whether incidents have occurred. Training and providing support for transit workers can also encourage them to report incidents that they may not otherwise feel comfortable reporting. To further support such reporting systems, TRACS recommends that FTA conduct research on the reasons why assaults are underreported.

As part of safety assurance, transit agency assault prevention programs should include methods for identifying and collecting data related to employee assaults (both for internal hazard analysis and for FTA national trend analysis), analyzing the agency-wide data for root causes, and determining additional risk control strategies. This data should also be used during hazard identification in risk management. To help use the data to prevent and mitigate assault, agencies could develop written exposure-control plans.

Finally, FTA should advise transit agencies to adopt procedures for routinely evaluating the success of their risk-based assault mitigation and prevention programs. These evaluations should include periodic internal audits of the performance of program components as well as the collection of employee feedback through perception surveys and committees. As part of safety assurance, transit agencies should:

- define, measure, and monitor leading indicators of safety performance, safety culture, and accident precursors;
- ensure that all employees understand the value of collecting and reporting data to support risk analysis, address unsafe conditions, and prevent accidents;
- collect reliable data on operational performance, safety, maintenance, near misses, and training; and
- develop and adopt systems to analyze trends, track and report data, and guide decisions.

Risk Control Strategies

Risk control strategies, which draw on all of the four SMS pillars, help mitigate risks that are classified as unacceptable risks. Each of the five program components identified by TRACS in this report includes effective risk control strategies. Protective infrastructure, including emergency

communications systems, automatic vehicle location systems, and protective barriers, provide physical protection against assaults or help agencies respond more quickly to transit worker reports of assault. Training and public education teach transit employees and passengers how to de-escalate situations before they lead to assault and how to report incidents effectively and without retaliation. Psychological support and post-incident counseling for operators reduce the risk of long-term health problems and emotional trauma associated with assault. Post-assault agency enforcement and partnership with police help prosecute assailants and deter future aggression against transit employees.

FTA should encourage transit agencies to include procedures for the development, approval, and implementation of these strategies in their risk-based assault mitigation and prevention programs. Transit agencies should also make sure to include employees in the development and implementation of the risk control strategies. This could include the creation of joint safety committees, which have proven effective in addressing assaults at the Maryland Transit Administration, NYC Transit, TriMet, and the Toronto Transit Commission.

Protective Infrastructure

Protective infrastructure can hinder assault through design and technology, thereby playing a key role in assault mitigation and prevention systems. While not all of the methodologies discussed in this section provide physical protection against assault directly, they each involve the use of technology and information management as tools to deter and respond to assaults. For instance, devices such as protective barriers, video surveillance, automatic vehicle location systems, and emergency communications alarms help operators by providing either physical protection or a means for dispatchers to provide support quickly. In all cases, operators must agree to use the devices and report incidents of assault for the technology to be useful. To achieve this result, agencies implementing protective infrastructure must work closely with operators in dedicated, planned committees.

In deciding whether to implement protective infrastructure, transit agencies should assess incident patterns and conduct root cause analyses to determine the need for a specific device. Agencies must also consider the maintenance costs for the devices under consideration. If agencies choose to implement any of the protective infrastructure described in this section, they must also secure the technical and operational resources necessary to operate and maintain it.

Transit agencies must also think long-term when considering the implementation of protective infrastructure. While vehicles may remain in an agency's fleet for several years, some tools may become obsolete as the industry develops new and more advanced models. This does not mean that agencies should refrain from incorporating the technologies into their vehicles and facilities now, but rather, that they should actively weigh the costs and benefits associated with implementation at the outset.

Recommendations:

TRACS recommends that FTA develop best practices guidelines to help agencies implement protective infrastructure technologies in vehicles and facilities. Ideally, agencies should consider implementation of protective infrastructure at the procurement phase, when adopting the technologies would be the most cost effective. Before adopting new technologies, agencies should conduct hazard analyses and develop written exposure-control plans to prioritize the implementation of protective infrastructure and strategies according to their particular needs. FTA's best practices guidelines should include consideration of the following:

- **Design process and the involvement of bus and rail operators** – FTA should encourage transit agencies to work with current bus and rail operators when implementing protective infrastructure and strategies. For instance, transit agencies should engage operators when developing design guidelines for the locations, ease, and effectiveness of personal protective equipment (PPE) and alarms. Transit agencies should consider creating Operator Assault Committees that meet regularly and include representatives from many routes, shifts, and experience levels. These committees can provide input

about all aspects of protective infrastructure, including not only design standards, but also the use of technology and information management to track and reduce assaults.

- **Protective barriers –** FTA should create a standards committee that includes current bus operators, safety experts, and manufacturers to develop national design standards for physical barriers on new and retrofitted buses. Out of all the infrastructure and strategy options discussed in this section, barriers provide the most protection because they physically separate the operator from the public. TRACS recognizes barriers may not be appropriate for every vehicle or route; transit agencies should involve operators in deciding whether and what type of protective barriers to include on particular routes.

  The FTA standards should include the following:
  - o Barriers should provide total closure while allowing comfortable steering and other movements for the height and weight range of a 5th percentile female to 95th percentile male operator.
  - o All designs should address the significant visual hazards from reflections and reduced resolution for mirrors.
  - o Heating and ventilation systems should maintain a safe and comfortable environment with the barrier closed, which may require a separate HVAC zone for the driver workstation.
  - o The barrier should open and close at the discretion of the operator.[21] Such closure should be powered and rapid and should function well in the event of an impending assault or assault in progress. Powered vertical closure of glazing is an example currently in use. A door swinging forward to close, on the other hand, is an example which would not work during an assault, as the perpetrator would be blocking closure.
  - o Both new and retrofitted equipment should meet these design targets.

- **Video Surveillance –** FTA should encourage transit agencies to install cameras at stations and on buses and passenger rail cars, along with clear signage noting the presence of the cameras. If assaulting a transit worker is a crime in the agency's municipality or state, the signs should note so. To supplement the signage, transit workers can remind passengers of the video surveillance to further deter aggressive behavior.[22] The Los Angeles County Metropolitan Transportation Authority has achieved lower assault rates by installing video surveillance on many of its buses along with two monitors showing the passengers what is being recorded.[23] While some cameras automatically transmit video to police for real-time surveillance, agencies can also

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[21] NYCT originally allowed the operator to keep protective barriers open but found that this practice did not stop assaults. The agency now requires the operator to keep the barrier closed when operating the vehicle.
[22] TCRP Synthesis 93, Practices to Protect Bus Operators from Passenger Assault pp. 39-42.
[23] LA Sentinel, MTA to Roll Out Safety Measures for Bus Drivers, 3/26/15.

choose to provide police with only clips recorded around the time an incident was reported to have occurred.

TRACS recommends that FTA advise transit agencies to consider the following for video surveillance systems on buses and passenger trains:

- o Coverage of the entire passenger area is desirable, including close coverage of passengers entering and exiting all doors.
- o The resolution of the system should be sufficient to allow facial recognition for each camera throughout the entirety of its coverage area.
- o Lighting should be capable of maintaining good image quality in all environmental lighting conditions.
- o Monitors should be visible to passengers as they board to demonstrate that active surveillance is in progress.
- o Emergency alarm activation should trigger external video feed to police and/or dispatch to improve emergency responses.
- o The surveillance system should include cameras outside the vehicle, particularly on the curb side, to capture events that spill into or out of the vehicle.
- o Cameras that face the operator provide valuable footage for use in prosecution against assailants. However, due to significant employee morale and distraction issues, any monitoring of transit workers should be carefully negotiated with employees or their unions.

- **Automatic Vehicle Location (AVL) Systems** – Being able to respond quickly to an emergency often requires AVL systems, particularly during incidents in which the vehicle remains in motion or the operator is unable to communicate. Agencies should consider installing covert or overt alarm buttons in vehicles that convey the vehicle location to and activate alarms in the control center. A button on the floor of the operator's cab is often used for this purpose. TRACS recommends that the AVL system also connect to police centers and/or dispatch, as in some existing models.[24] These systems should also include an indicator that confirms for the operator that the message has been received, as waiting for emergency responders to arrive when the message has not been received has been a problem in current systems. Finally, the AVL system should be designed to account for the impacts of local terrain, such as urban canyons and natural topography, on the conveyance of the AVL signal.

- **Emergency Communications** – Agencies should consider using covert or overt alarms to trigger the transmission of audio recordings to central and police centers, where the recordings can aid in analysis of incidents and near-misses. Covert alarms usually open one-way communication to ensure the assailant is not aware the alarm has been

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[24] TCRP Synthesis 93, Practices to Protect Bus Operators from Passenger Assault pp. 45-46.

activated, while overt alarms allow operators to discuss with dispatchers.[25] These alarms sometimes also broadcast electronic distress signs to alert passengers or those outside the vehicle to call the police.

FTA should encourage transit agencies to consider promoting phone apps as another emergency communications tool. Some phone apps enable passengers to directly alert bus or rail control centers of an incident in real time. Passengers can send pictures and/or text anonymously and have the option to show the location through GPS. These messages generate incident reports that can be compiled to show monthly trends, which in turn can be used as a tool to prevent future incidents.

- **Information Management and Crime Analysis** – Transit agencies should consider using crime mapping technology and data analysis to identify high-risk areas and trends. These analysis methods help agencies better predict incidents and more efficiently allocate protective technology and other resources to the most high-risk routes.[26]

- **Transit Operations Decision Support Systems –** Collecting video surveillance, vehicle location, and emergency communications data is not sufficient; agencies should ensure they have the resources to process this information. Transit agency or local police department personnel must be able to respond to incidents in real time and analyze data for trends and root causes after an incident. A Transit Operations Decision Support System helps the agency resolve incidents more quickly by managing and monitoring incoming data to prioritize the incidents for response by dispatchers. After identifying the most urgent incidents, the system generates a list of action items the dispatcher must complete to resolve each situation.[27]

- **Further research –** TRACS recommends that FTA research the protective infrastructure available for situations in which operators must leave the vehicle. These situations often render operators and other transit personnel most vulnerable to assault. Body cameras are one technology that may not help in preventing assault, but could alert dispatchers to the operator's danger and document an incident that occurs outside the vehicle.

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[25] TCRP Synthesis 93, Practices to Protect Bus Operators from Passenger Assault pp. 46-47.
[26] TCRP Synthesis 93, Practices to Protect Bus Operators from Passenger Assault pp. 37-39.
[27] TCRP Synthesis 93, Practices to Protect Bus Operators from Passenger Assault p. 46.

Analysis of Protective Infrastructure Countermeasures

Countermeasure	Benefit
Incorporate Protective Barriers on Existing Vehicles	High – Provides physical protection against assault.
Buy Vehicles Designed with Protective Barriers	High – Provides physical protection against assault and may encourage more operators to use the barriers because they have been designed for comfort and convenience.
Install Video Surveillance Systems with Clear Signage	Medium – Does not physically prevent assault, but can discourage potential assailants and help identify and prosecute assailants.
Install AVL Systems	Medium – Does not physically prevent assault, but can help agencies and police respond more quickly to assist transit workers under assault.
Install Overt and/or Covert Alarms	Medium – Does not physically prevent assault, but can help agencies and police respond more quickly to assist transit workers under assault.
Conduct Crime Mapping Analyses	Medium – Does not physically prevent assault, but can help agencies and police identify efficient use of resources to prevent assaults.
Adopt Transit Operations Decision Support Systems	Medium – Does not physically prevent assault, but can help agencies and police respond more quickly to assist transit workers under assault.

Training

Training plays a critical role in reducing assaults against transit workers. It provides employees with knowledge about agency expectations and with the skill sets necessary to address a variety of common situations related to assault. One study suggests that employees respond to high-risk scenarios in one of three ways: by taking actions that de-escalate the situation, retreating into "hostile withdrawal," or responding aggressively in a way that promotes conflict.[28] Those who respond in the third way generally experience the highest rates of assaults; as a result, training that teaches de-escalation strategies is important to transit worker safety. At the same time, training should be designed so that employees in this category are not blamed for the attacks. For training to be successful, it must be ongoing, interactive, and tailored to various categories of employees and the specific risks they face.

Recommendations:

TRACS recommends that FTA develop best practice guidelines regarding assault training for the following categories of transit employees:

- Bus operators;
- Rail operators;
- Other on-board personnel, including fare inspectors, conductors, supervisors, and security and police officers; and
- Off-Board personnel, including station attendants, custodial staff, facilities staff, supervisors, and security and police officers.

In developing the training materials, FTA should consider collaborating with its existing training partners/contractors, including the National Transit Institute (NTI) and the Transportation Safety Institute (TSI). Training should include written materials and both on-line and classroom formats. FTA should also commit funding to support assault prevention classroom training in each state.

At a minimum, training should address customer service strategies, security awareness, and de-escalation simulations and exercises, all of which should help transit workers address situations before they lead to assault. For example, training should alert bus operators that their greatest risk of assault stems from their role in handling fare disputes and attempting to enforce agency rules. To minimize the risk that transit workers endanger themselves while enforcing fares and other policies, they must be trained in both agency rules and agency expectations regarding rule enforcement. In addition, agency training should teach transit workers about the procedure for and importance of reporting assaults, how the agency will proceed in responding to employee reports of assault, state and local legislation under which transit workers and/or transit agencies can press charges against assailants, and, if applicable, agency provision of legal support to

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[28] International Labor Office, Violence and Stress in the Transport Sector (2003), p. 12.

transit workers in court. Of course, while agency training should help teach transit workers how to react to incidents of assault, the overall goal should be to prevent assaults using the SMS approach. All training should be interactive, with opportunities for participants to ask questions and help with demonstrations. Training should be ongoing and provided at regular intervals.

In addition to developing these minimum training requirements, TRACS recommends that FTA identify existing best practice assault training programs at transit agencies in the United States and abroad. FTA should compare these best practices to the minimum training requirements to identify gaps. For instance, one Dutch railway constructed a training center that included a real platform, train, station hall, and ticket counter, and hired actors to play "aggressive" passengers so that transit workers could practice their responses.[29] U.S. transit agencies could modify this idea by incorporating simulations into their training for safety-sensitive employees.

Closely related to training, FTA should advise transit agencies that in hiring for positions that deal with the public, the minimum knowledge, skills and abilities (KSAs) should include customer service and interaction, communication, judgment, and problem solving – all qualities that help transit workers address situations before they lead to assault. Transit agencies should develop screening tools to ensure that new hires possess the minimum KSAs. Finally, FTA should advise transit agencies to provide training that expands on each new hire's existing knowledge by addressing the higher-level skills necessary for the job.

Analysis of Training Countermeasures

Countermeasure	Benefit
Implement Regular Training	High – Transit employees who learn how to de-escalate tense situations are less likely to experience assault.
Incorporate customer-service related KSAs into the hiring process	High – Employees who already possess customer service and problem solving skills will likely learn to de-escalate tense situations more easily, and thus will face less risk of assault.

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[29] International Labor Office, <u>Violence and Stress in the Transport Sector</u> (2003), p. 31.

Public Education and Outreach

Agencies should educate the public about the problem of transit worker assaults. By teaching passengers how to assist both the agency and police in addressing and preventing assault, agencies can decrease transit worker injuries, promote low-risk and convenient opportunities for the public to contribute to bus and rail safety, and increase the safety of public transportation for all users.

Recommendations

TRACS recommends that FTA develop best practice guidelines related to public education and outreach. These guidelines should include the following strategies, which TRACS has identified as essential to improving public education about the reduction and prevention of transit employee assaults.

- **Conduct public awareness campaigns.** Some studies suggest that reducing community fear can actually decrease the risk of violent incidents against transit operators.[30] Agencies can target community perception of the safety of bus and passenger rail transportation by conducting public outreach campaigns, maintaining station and vehicle cleanliness, and collaborating with local media to avoid the exaggeration of crimes on the bus and rail transit system. FTA should encourage transit agencies to conduct public awareness campaigns about efforts to prevent transit worker assaults and the importance of reporting aggressive passenger behavior to local law enforcement. These campaigns could include creating signage for buses, passenger rail cars, and stations; making Public Service Announcements on television, radio, buses, and passenger rail trains; and undertaking media campaigns to announce agency safety initiatives.

- **Provide resources and incentives for passengers to report incidents.** Transit agencies should consider establishing hotlines that passengers can call with information regarding assaults. Agencies could also encourage passengers to use phone apps that can send GPS data and audio recordings directly to dispatch centers to help document incidents. To further promote passenger participation in addressing assaults against transit workers, agencies can offer rewards for information leading to the arrest and conviction of anyone assaulting a transit worker.

- **Meet with passengers to discuss strategies for reducing assault.** Transit officials can meet with frequent passengers to discuss issues they observe related to assault and potential strategies for addressing those issues. Agencies should also consider inviting frequent passengers to attend Safety Committee meetings to obtain further input.

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[30] International Labor Office, Violence and Stress in the Transport Sector (2003), p. 9.

The overarching goal for each of these strategies is to encourage passengers to take action in reporting incidents without putting themselves at risk. These public education strategies should also aim to increase passenger support for agency policies and initiatives that improve transit worker and passenger safety.

Analysis of Public Education Countermeasures

Countermeasure	Benefit
Conduct public awareness campaigns	High – Informing the public about the importance of reporting assaults against transit workers will increase their commitment to actively supporting transit safety, thereby creating a culture in which the public protects transit employees.
Provide resources and incentives for passengers to report incidents	High – Enabling passengers to report incidents easily will increase the ability of police and agencies to respond quickly to assaults, provide additional data on assaults against transit workers, and instill passengers with a sense of responsibility for protecting transit employees.
Meet with passengers to discuss strategies for reducing assault	Medium – Meeting with passengers will provide agencies with information about the public's view of the causes of assault against transit workers and opportunities for preventing those assaults.

Support for Transit Workers

Many transit workers experience daily acts of aggression and regularly witness the impacts of poverty and violence, leading them to become distressed and, over time, develop a sense of learned helplessness.[31] Even without suffering physical injuries from an incident of assault, transit workers who are exposed to aggression and violence on a daily basis may experience anxiety and fear, higher alcohol use, trouble concentrating and sleeping, depression, elevated blood pressure, and higher rates of divorce.[32] Agencies should support transit workers to help combat these negative psychological effects when they occur. Although assault should never be considered an acceptable or routine part of a transit worker's job, agencies must recognize the physical and psychological risks and provide support before transit workers experience assaults through routine checks on mental health and stress levels. Transit agencies could also preemptively offer support by altering the work processes to decrease the stress and risk levels for any one employee—for example, by rotating the operators assigned to especially stressful or dangerous routes. After incidents of assault occur, agencies can continue demonstrating support through Employee Assistance Programs (e.g., referral for therapy, transit worker support groups, etc.), showing commitment to investigating the incidents, addressing root causes, and providing support for the assaulted transit workers throughout the legal process.

Recommendations

FTA should develop a series of best practice guidelines that agencies can adopt to help transit workers deal with the psychological toll of interacting with the public. Areas of support should include:

- **Psychological support and post-incident counseling**
  FTA should encourage bus and rail transit agencies to provide counseling to transit workers. FTA can draw best practices from agencies that offer these services to transit workers who have experienced incidents of assault. The Toronto Transit Commission's post-incident counseling, in which assaulted employees meet with a professional to discuss the incident and any resulting emotional or physical trauma, provides one example. Other best practices could include:
    - rotating the operators assigned to especially challenging routes;
    - asking experienced transit workers to mentor less experienced ones;
    - maintaining a crisis hotline that transit workers can call for psychological support;
    - organizing a support group for transit workers who have experienced assault; and

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[31] Maier, Steven F.; Seligman, Martin E. "Learned helplessness: Theory and evidence." Journal of Experimental Psychology: General, Vol 105(1), Mar 1976, 3-46.
[32] Dr. Patrick Sherry, University of Denver, January 9th presentation to TRACS.

     ○   talking to transit workers about how they are coping during regularly scheduled one-on-one meetings.

While ensuring compliance with the Health Insurance Portability and Accountability Act (HIPAA), FTA should also consider partnering with a transit agency to pilot a program in which the agency collaborates with workers' primary care physicians to let them know that the workers' occupations involves workplace violence. The physicians could then review the transit workers' occupational stress and its impact during annual check-ups.

Agencies can also support transit workers psychologically by increasing police presence and providing support for employees who pursue legal charges in court. These topics are more fully addressed in the Enforcement section, below.

Finally, TRACS recommends that FTA sponsor research throughTCRP to investigate the best ways of mitigating the psychological impacts of assault on transit workers.

- **Agency response to incidents**
  FTA should strongly advise transit agencies to respond to every report of assault and other incidents of violence or aggression against transit employees. Lack of response can lead transit workers to feel they must enforce the rules themselves, which is one of the most common causes of assault. NYC Transit presents one best practice example of responding to operator reports of assault. The agency requires first-line supervisors to respond to every report of assault and to take responsibility for completing the necessary paperwork based on information the operator provides. Other best practices could include:
  - ○ Notifying transit workers who reported an incident that the agency has documented the event and is conducting a root cause analysis. This can occur even when management cannot identify or take action against the offending passenger.
  - ○ Tracking transit worker reports to identify high-crime areas and working with planning and scheduling offices to implement mitigation measures, such as additional police presence or targeted training for operators who work these routes.
  - ○ Alerting other transit workers about assaults and high-risk areas by distributing fact sheets[33] and posting incident statistics in places where transit workers gather and/or on division social media websites and newsletters. Posting the statistics online would allow agencies to regularly update the information, as the areas in which assaults occur often change.

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[33] See, for example, https://www.osha.gov/OSHA Fact Sheet, Preventing Violence against Taxi and For-Hire Drivers

- o Posting pictures of offending passengers in transit workers' break rooms and sharing the photographs with other agencies to facilitate the passengers' arrests.[34]

These strategies can also be used during training to familiarize transit workers with the agency response to incidents and with high-risk areas and passengers. The Enforcement section includes a more thorough discussion of police involvement in agency response to incidents. Transit employees may underreport assaults and other incidents of aggression due, in part, to the frequency of such events, which can cause employees to develop a sense of learned helplessness and a feeling that such incidents are simply part of the job.[35] To help address underreporting and better assess the quantity and severity of assaults, transit agencies should conduct confidential surveys of employees about incidents they have experienced and compare the survey results to reported incidents to determine the extent of underreporting. Agencies should also publish the results internally so operators know about the timing and location of various incidents. Agencies should institute a no blame policy – it is vital that employees are not wary or even fearful of reporting incidents. Investigating the root cause of an incident is essential, scapegoating employee(s) is not warranted.[36]

- **Involving transit workers on safety committees**
  TRACS recommends that FTA identify best practices regarding the involvement of transit workers and transit police on assault safety committees. Creating operator safety committees could help agencies understand root causes and address operators' concerns and suggestions for preventing assault. For instance, the Maryland Transit Administration selects a group of operators who meet regularly, create agenda items, and invite police officers, city representatives, and other individuals to answer safety questions. The operators then share the information they receive with their peers. Similar committees exist at NYCT, TriMet, and the Toronto Transit Commission.

Analysis of Strategies for Supporting Transit Workers

Transit agencies will have to exercise discretion in determining which strategies for supporting transit workers to prioritize in their anti-assault efforts. The following table shows the relative difficulty and financial and time costs of implementing some of the strategies described above.

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[34] Posting photographs of known assailants needs to be approved by agencies' law departments.
[35] Maier, Steven F.; Seligman, Martin E. "Learned helplessness: Theory and evidence." Journal of Experimental Psychology: General, Vol 105(1), Mar 1976, 3-46.
[36] International Association of Public Transport (UITP) and the International Transport Workers' Federation (ITF) Joint Statement: Recommendations for Combating Violence and Insecurity on Urban Public Transport, Signed May 27, 2015, Brussels, Belgium.

Countermeasure	Benefit
Providing psychological support and post-incident counseling	High – Psychological support will greatly mitigate the emotional effects of assaults and other stresses, helping transit workers remain motivated to de-escalate potentially violent situations.
Notifying transit workers that the agency documented the event and is conducting a root cause analysis	High – Letting transit workers know that the agency is following up on their reports of assault will increase their trust in the agency and encourage them and their peers to report incidents in the future. Building employee trust is key to addressing the underreporting of assaults.
Tracking transit worker reports to identify high-crime areas and working with planning and scheduling offices to implement mitigation measures	High – This strategy will enable agencies to leverage reports of assault into strategies for mitigating assault.
Alerting other transit workers about assaults and high-risk areas	Medium – Alerting transit workers about assaults and high-risk areas will increase employees' trust in the agency and also let them know to take caution in these areas.
Sharing pictures of offending passengers with transit workers and other agencies	Medium – This strategy will not only increase transit employees' trust in the agency but also facilitate the identification and prosecution of assailants.
Conducting a confidential survey of employees about incidents they have experienced	High – Conducting a confidential survey will help agencies address underreporting and more accurately assess the number and severity of assaults. This, in turn, will enable agencies to better identify the best strategies to prevent and mitigate assaults.
Involving transit workers on safety committees	High – In addition to increasing transit employees' trust in the agency, this strategy will provide agencies with the workers' perspective on how best to prevent assaults.

Enforcement

Preventing and mitigating transit worker assaults requires enforcement methods rooted in agency policy as well as state and local legislation. Transit agencies that develop the infrastructure necessary to target fare evaders and perpetrators of minor violations can help to keep these crimes from progressing to more serious ones, such as transit worker assault. A variety of enforcement tools are available to transit agencies, including educating passengers about the penalties for assaulting transit workers and violating other agency rules; suspending service for repeat offenders; working with transit police or local police to provide undercover and visible police presence on buses, passenger rail cars, and stations; and offering transit workers the legal support necessary to prosecute assailants. Transit agencies can also enhance the effectiveness of the enforcement tools available to them by pursuing changes to state and local legislation, thereby increasing penalties for passengers who assault operators.

Recommendations

TRACS recommends that FTA develop best practice guidelines that encompass enforcement tools at the agency level in addition to state and local legislation.

1. **Enforcement Tools**

FTA should advise transit agencies to consider adopting the following enforcement tools:

- **Posting passenger code of conduct:** Transit agencies should develop a passenger code of conduct and post the code as well as the penalties for violating this code on buses and passenger rail cars and/or in stations. Proper signage that informs passengers of the consequences of aggressive behavior can deter potential assaults. Numerous agencies, including the Toronto Transit Commission, the Metropolitan Atlanta Rapid Transit Authority, TriMet, the Massachusetts Bay Transportation Authority, and SEPTA, currently post codes of conduct on their buses and/or trains. The Maryland Transit Administration also hands out brochures about the code of conduct and worked with police officers to incorporate language about assault into the brochures.

- **Service suspension policy:** One strategy to discourage aggressive behavior from passengers is to suspend service for passengers who commit assaults. Offenders who board the system during the term of a suspension would be subject to arrest for trespassing. SEPTA and Denver's Regional Transportation District serve as two best practice examples for how to successfully implement service suspension policies. To adopt similar policies, transit agencies may need to pursue changes to state and/or local laws, as discussed in the legislation section below.

  TRACS recommends that FTA conduct a pilot study in an area with many jurisdictions and transportation providers to test the viability of collaborating across agencies to suspend service for passengers.

FTA should also examine the potential negative impacts of service-suspension policies, as suspending service for transit-dependent passengers could cause these individuals to lose their jobs. Agencies could potentially counteract these negative effects by including an exemption in the suspension policy for individuals below a certain level of income and/or who prove they rely on the service to reach their place of employment.

- **Presence of Police Officers on Transit Vehicles and Property:** TRACS recommends that FTA encourage transit agencies to partner with transit police or local police to address the threat of assault. Agencies should work to increase the presence of plainclothes and uniformed police officers on transit vehicles and property, as police presence is one of the most effective deterrents against assault. Plainclothes officers should be assigned to problematic routes, where they can witness crimes in progress and apprehend offenders. Uniformed officers, meanwhile, should discourage passengers from committing assaults by shadowing buses on routes with high incident rates, randomly boarding buses and passenger rail cars to check in with operators about passenger behavior, and patrolling bus and passenger rail terminals.

  Transit agencies and police can use incident data to determine where to best use police resources. As an example, NYC Transit provides local police with monthly incident data for high-risk locations; using this data, the police department assigns officers to randomly board buses at the high-risk locations to check in with operators. RTD also posts officers every day on the bus routes with the most incidents of passenger aggression. The police presence and quick response times help operators feel less in danger of assault.

  The type of police presence should differ based on transit agency size. While large agencies often have dedicated transit police who can be assigned to conduct regular ride checks and vehicle inspections, smaller agencies might reimburse local law enforcement to provide these services. Whatever the case, transit agency officials should make it a priority to secure adequate police resources even in agencies that do not have their own police forces. SEPTA, as a large transit agency, assigns its officers to conduct about 8,000 police checks per month. The police checks consist of the officer randomly boarding the bus somewhere along the route, asking the operator if he or she feels safe, walking through the vehicle to identify and address any problems, and engaging in positive contact with the general public. SEPTA transit police also visit the bus garage on an informal basis to communicate with bus operators about security and safety concerns as well as any problematic issues on their routes.

  Smaller agencies, meanwhile, might ask off-duty local police officers to ride the buses undercover and allow officers to ride the transit system for free. Transit agencies can ask local police departments to assign newly hired officers to ride the buses undercover

and arrest fare evaders. This strategy provides new officers with an opportunity to practice executing arrest procedure and filling out the necessary paperwork.

- **Response to Incidents:** Transit agencies, regardless of size, should work to respond to transit worker reports of assault as quickly and effectively as possible. SEPTA again provides a best practice model for a large agency response to transit worker reports. Upon receiving a report of assault against an operator, SEPTA immediately dispatches the three or more closest mobile units to the scene to increase the likelihood of immediate apprehension. The officers then ask the operator if he or she will prosecute or merely describe the incident without seeking further investigation. If the operator chooses the latter, officers verify this choice in the presence of the operator's transportation supervisor and indicate this decision on the incident report. SEPTA also immediately obtains video from the vehicle and distributes images of the offending passenger, assigns a detective to every incident in which an operator reports assault, and requires officers to follow up with the operator within days of incident. Officers and detectives report on the status of assault investigations in weekly meetings with SEPTA's Chief of Police.

  Smaller agencies can mimic the fast and thorough response systems of larger providers by familiarizing local police responders with the agency's buses, emergency equipment, dispatch systems, and incident response procedures. Small agencies should also consider adopting the following practices to improve their response to transit worker reports of assault:
    o Include local police responders in periodic meetings about problematic routes, incidents, and trend analyses;
    o Form committees composed of bus operators, union officials, management, and police to discuss assault statistics, including the locations of the assaults, the number of individuals in custody, and the measures being taken to reduce the number of assaults;
    o Engage local police responders in high-visibility prosecution of offenders and lobbying for more stringent penalties; and
    o Provide local police with video footage from buses on routes that pass crime scenes to secure evidence against suspects.

- **Proactive Enforcement – "Hot Spot" Model:** Agencies should strategically deploy police officers to high-crime locations and routes to increase the likelihood of responding rapidly to crime as well as identifying and capturing offenders. Transit agencies can identify these "hot spots" by collecting and analyzing rider information. They can include the Chief of Police on a high-level agency safety committee that meets frequently to discuss cases and include Sergeants and Lieutenants on lower-level safety committees that meet monthly with management and union representatives to analyze trends.

- **Legal Support for Transit Workers who File Complaints:** FTA should encourage bus and rail transit agencies to provide legal support to transit workers, thereby maximizing the chances that passengers who assault transit workers will be prosecuted. Agencies and police should aggressively prosecute offenders, as swift and decisive legal action deters other potential assailants and demonstrates an agency's support for its employees. Agencies should also make sure to inform all transit workers of the legal process for addressing assault cases and the potential results of this process.

  TRACS recommends that FTA identify best practices related to defending transit workers in prosecution cases. Since 2004, for instance, Toronto has relied on a multi-disciplinary committee that assigns a representative to accompany transit workers at court to advocate on their behalf. RTD also often provides a representative to support transit workers at court. If FTA decides to recommend that agencies adopt a committee similar to Toronto's, it should also recommend that these committees have processes in place to directly alert management of any concerns and arising problems.

  SEPTA's process for providing legal support to transit workers offers a detailed model for other agencies. The agency itself presses charges against assailants, while the assaulted transit worker appears as a witness. In this process, SEPTA first contacts the victim and prepares the victim for court by providing court system information, then assigns a police officer or detective to accompany victim to court, and, finally, maintains contact with the victim regarding case investigations and/or court dispositions until the conclusion of the case. SEPTA found that providing legal support for its transit workers has led to increased reporting of incidents, as transit workers now feel empowered to report and believe their reports will be taken seriously.

- **Social Safety Plans:** In France, the Groupement des Autorités Responsables de Transport (GART) collaborates with local law enforcement agencies, the judicial system, public services, non-governmental organizations, labor unions, and other community groups to create social safety plans which outline the community's steps to prevent, dissuade, and sanction violent behavior in public transportation, education, and social assistance programs.[37] Transit agencies in the U.S. could consider pursuing the adoption of similar plans in their own communities.

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[37] International Labor Office, Violence and Stress in the Transport Sector (2003), p. 33.

Analysis of Security Countermeasures

Of course, transit agencies will have to exercise discretion in determining which enforcement tools to prioritize in their anti-assault efforts. The following table shows the relative difficulty and financial and time costs of implementing some of the enforcement tools described above.

Countermeasure	Benefit
Police or Security Staffing On Board Conveyance	High - Security personnel bring the capacity to perceive the true nature of a threat and to recognize on-going aggressor tactics. When adequately armed or reinforced they can repel or overcome the use of deadly force by responding with equal or greater force to neutralize the threat or activity
Intelligence Information Sharing Cooperation	High – Working as a team with local planners, law enforcement and first responders. Requires the designation of a primary point of contact and dedication of significant time to maintain effective liaison
Surveillance with Immediate Police or Security Force Response	High – Real time watching for suspicious activity on board vehicles remotely coupled with rapid response to incidents can create an observable omnipresent impact
Shadowing Vehicles	High – High visibility security patrols or bus field supervision provide immediate response capability

2. Legislation

TRACS recommends that FTA encourage transit agencies to promote the following changes in state and local legislation to better address assaults against transit workers:

- Expanding the definition of assault to include verbal abuse and spitting;
- Increasing the penalties for assaults against transit employees;
- Mandating the posting of signage regarding the enhanced penalties;
- Requiring the arrest or punishment of transit workers who initiate an assault; and
- Defining the riding of transit vehicles during suspension as a criminal trespass, which District Attorneys are more likely to pursue than a simple assault.

The Los Angeles County MTA, for instance, is working with state lawmakers to triple the existing $10,000 fine and extend the maximum one-year prison time for assaulting a bus driver.[38]

To address the problem of transit worker assault at the federal level, FTA should encourage the Occupational Safety and Health Administration (OSHA) to pass workplace violence standards that prohibit spitting and verbal assault. While these standards would apply only to private transportation providers, they could set a precedent for public providers, as well. Canada's workplace violence standards for transportation providers could serve as an example.

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[38] LA Sentinel, MTA to Roll Out Safety Measures for Bus Drivers, 3/26/15.

Data Collection

To conduct a full assessment of any system designed to prevent unsafe acts, regardless of intent or severity, agencies must collect many types of data. Data collection is crucial for understanding assaults and threatening situations occurring in the workforce, identifying trends or patterns to prevent future occurrences (such as problematic routes or challenging time periods), and allocating resources for the prevention of assaults and other events directed against transit employees. Agencies should consider several aspects of data collection during the planning stages of implementing a safety management system. They include, but are not limited to:

- *Who* is going to document the implementation procedures and collect the baseline data and the data at subsequent pre-designated time points after the SMS is implemented;
- *What* data are going to be collected (how will privacy and confidentiality concerns be addressed) and what methods will be utilized;
- *When* will the data be collected (frequency and timing of parameter);
- *Where* will the data be managed, analyzed and stored; and
- *Why* are the data being collected – what end will it serve?

There are many issues to consider in developing a data collection strategy. The availability of consistent funding for data collection instruments and personnel to run them is crucial for the sustainability of the data collection efforts. Specifically, agencies must have plans and support to continue data collection efforts despite possible employee turnover or cuts in resources allocated to data collection efforts. A large portion of data collection will rely on employee reporting of acts or threats of workplace violence against them. Hence, trust in the SMS and management will be crucial for data quality and integrity. Privacy and confidentiality aspects of data should also be considered to encourage participation in the data collection process.

Privacy requires ensuring that:

- All personal information is accurate, relevant, and current;
- All uses of the information are known and appropriate; and
- All personal information is protected.

To this end, confidentiality protects sensitive information from unauthorized disclosure.

All changes to safety policies, operations, and equipment should be placed in a database where updates can be documented by date, wording, to whom they apply, and how/when communicated to employees. Tracking policies and their changes adds credibility to the SMS if senior management can demonstrate they were implemented and communicated to employees. It also allows for continuity of SMS operations if staff turnover should occur.

Data collection should also enable agencies to evaluate the effectiveness of SMS components and demonstrate return on investment. Information about policy, operations, and equipment changes, as well as data collected from employee reports, root cause investigations, and audits,

should be included in a single database. By linking disparate data sources to one common thread, such as a transit route or metropolitan transit station, this database can be used to evaluate a single public safety issue. Agencies should use baseline data on the date of installation, locations, and functioning status of SMS components to compare assault and injury rates before and at various time points after implementation of these measures, thereby indicating whether the SMS components have been effective in reducing violent acts and aggression directed at transit employees.

The following paragraphs present data collection considerations pertaining to each strategy for preventing and mitigating assaults against transit workers. Building upon existing data collection systems that are relevant, accurate, and functioning is an excellent and logical way to leverage existing resources to achieve a common goal. Where possible, existing data sources that agencies can draw upon are identified, along with recommended additional data needs.

Protective Infrastructure

Data collection efforts can help agencies evaluate the effectiveness of protective infrastructure on preventing assaults and other incidents. Agencies should document the cost, date, and location (station, or transit car and route) of the installation of protective barriers, and whether or not all technical specifications were met. Agencies should also create a time series of data by recording how transit workers are using the protective barriers. Likewise, video surveillance has many components for optimal functioning and even more variation in technical specifications available on the market. Data should be collected describing cost, date and location (transit car, route) of camera installation and signage posting, the technical specifications in use for cameras, and the actual use and functioning of all cameras at multiple time points thereafter to create a time series. Additionally, the same data parameters should be collected for AVL systems and emergency communications equipment. Currently, these types of data are not generally collected in crime and statistics databases for FTA.

Agencies can then use the protective infrastructure location data when using crime mapping technology, using the database to describe crime patterns in the context of existing protective infrastructure to provide a more accurate picture of the current situation and opportunities for additional prevention measures.

Training

To evaluate the effectiveness of training in preventing assaults against transit workers, agencies should collect data points for each employee's and unit's training experiences. This data should include the topic, cost, content depth (curriculum), and delivery method of every training experience as well as whether the session was an initial or refresher training and how knowledge gained was evaluated. After anonymously linking training experiences to employees and their assault occurrence or history, agencies can use the data to evaluate if, for example, transit workers who received more interactive de-escalation training experienced fewer post-training assaults compared to employees who received a different type of training on the same

topic. Additionally, agencies can track scores for knowledge gained in training and develop stronger refresher trainings as needed. Currently, details of training courses taken by employees are generally not linked to employee data for crime. Agencies should begin linking these datasets to demonstrate potential differences in crime patterns by training topic or depth.

Public Education

Agencies should collect data to document and categorize the existence and level of public awareness campaigns, number and rate of passengers reporting incidents, and quality of passenger input received. The percentage of passengers providing input and the quality of that input may represent passengers engaged in transit employee safety, which could reduce assault rates. Passenger input should be obtained through structured or semi-structured interviews, like focus groups or surveys, to provide the breadth and depth needed from passengers to obtain meaningful input for improving safety. While national databases for transit safety do not generally link public education information to employee assaults, TRACS recommends that agencies evaluate data on dates and timing of campaigns and alert systems against crime patterns to determine the impact of public education on preventing crime.

Support for Transit Workers

In accordance with the HIPAA Privacy Rule, data collection measures related to support for transit workers should focus on the best practice guidelines agencies have implemented rather than the support received at an individual level.[39] Agencies should document, describe, and track the existence and specific components of Employee Assistance Programs (EAP) to evaluate their effectiveness. For instance, agencies can examine EAP usage rates at an aggregated level to evaluate employee turnover, sickness rates, and other measures of an organization's well-being. Other important outcome measures to track by organizational unit—at the lowest level possible while still affording privacy—are ratio of mentors to transit workers; number, timing and type of administrative changes made for worker safety; usage rates and patterns of crisis hotline alerts; topic, size, and frequency of assault support groups; and circumstances and measures of agency response to incidents. Agencies can collect both quantitative and qualitative data—for instance, in addition to providing support for employees, transit safety committees provide a venue for employees to share feedback on what prevention measures they believe are most effective or promising.

Enforcement

Agencies should collect data on the type, location, and timing of every enforcement tool at implementation and at regular intervals thereafter to create a time series of enforcement data. For example, agencies could geocode the number of police officers on transit vehicles and property and examine the impact of officer concentration or number of monthly police checks

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[39] www.hhs.gov/ocr/privacy/hipaa/understanding/summary/.

on assault trends. Transit agencies should also document any adjustments or improvements made to the enforcement tools to provide an opportunity to evaluate the changes' effects on assault rates and other incidents.

Data collection on enforcement measures is crucial to ensure cost-effective use of enforcement strategies. For instance, police presence is a relatively costly tactic that, while widely believed to be highly effective, may reach a maximum threshold of effectiveness. When this occurs, other seemingly minor enforcement tools likely play an important role in augmenting assault prevention. Collecting data on the impact of each tactic will help agencies identify and quantify these impacts and thereby make more efficient, effective decisions regarding the use of enforcement to prevent assaults.

Conclusion

Assault remains a serious problem for transit workers across the country. FTA can address this challenge by promoting an SMS approach to preventing transit worker assaults. This approach includes developing and publicizing best practices for protective infrastructure, training, public education, support for transit workers, enforcement, and data collection; developing national design standards for protective barriers on new buses and implementing minimum training requirements for transit agencies regarding assault; and conducting further research on protecting transit workers outside of the vehicle, mitigating the psychological impacts of assault, and suspending service for assailants. By developing these best practices, requirements, and research studies, FTA can support transit agencies in creating a culture in which transit workers, management, and passengers work together to prevent assaults.

Appendix

A. UITP-ITF Joint Statement: Recommendations for Combating Violence and Insecurity on Urban Public Transport

UITP - ITF Joint Statement

Recommendations for Combating Violence and Insecurity on

Urban Public Transport

According to the Memorandum of Understanding which allows the elaboration of joint statement between ITF and UITP, any recommendation resulting from the international social dialogue need to be considered with due respect to the relevant national legislation and practices, as well as to locally and collectively bargained agreements.

Introduction

Urban public transport provides a vital means of travel and communication in towns and cities around the world, operated by over seven millions transport workers employed by thousands of transport operators. It is essential that this important service is provided reliably, frequently and to a high standard of quality of service. Above all it must be provided to the highest possible levels of safety for the passengers, the employees and other members of the public. However due to social and economic factors within our urban environments, all too frequently transport employees and even passengers can be at risk of assault, verbal abuse or other unwelcome anti-social behaviour - by other passengers or simply other members of the public.

A further concern is wilful acts of vandalism which at its worst can make urban public transport very dangerous i.e. the throwing of bricks or other solid objects at moving buses and trams, interference with signalling or other vital equipment, theft of technical cabling or other essential equipment, which impacts transit and safety in general, trespassing on railway lines etc, or in the case of slashed seats, graffiti, scratched windows etc can make the public transport environment look and feel downgraded, unpleasant and unsafe.

Even other anti-social behaviour as fare dodging undermines the financial self-sustainability of the transport system.

Some women transport workers also have to deal with sexual harassment and violence that are based on sexual inequality and discrimination. Also of great concern is the evidence of racially targeted assaults and abuse against transport workers from ethnic minorities. Transport trade unions and employers need to be vigilant and sensitive to these issues as often such victims are reluctant to report these attacks.

This ITF-UITP joint declaration is firstly a declaration of intent that urban transport companies' employers represented by UITP and ITF-affiliated trade unions representing the employees are committed to working together to find practicable solutions which solve or at least ameliorate the effects of violence and insecurity on urban public transport, wherever that may be around the globe. It is also an initial set of recommendations for urban transport companies' employers and trade unions to establish by negotiation, including via collective bargaining agreements, agreed sets of procedures and standard operating practices that both serve to minimise and prevent such acts of violence and insecurity, but also initiate the appropriate response when such acts of violence and insecurity occur.

This UITP - ITF Joint Statement is based substantially on the UITP - ETF Social Dialogue Agreement on Insecurity and Feeling of Insecurity signed in Naples in 2003. This provided a set of very practicable recommendations to transport operators and trade unions in Europe. Following the signing of the ITF-UITP Memorandum of Understanding 2014 it was agreed to review the UITP-ETF Joint recommendations and attempt to provide an updated and improved version of recommendations at an international level appropriate for implementation as far as possible anywhere across the globe.

UITP - ITF Joint Statement on Recommendations for Combating Violence and Insecurity on Urban Public Transport

UITP representing public transport companies' employers around the globe and ITF representing trade unions and their members employed in urban public transport worldwide hereby jointly declare that they will uphold the following two basic rights:

a) urban public transport employees, including those working in the informal sector, who work to provide means of public transportation, are entitled to work in safety and free from assault or threat of assault, or other forms of abuse or anti-social behaviour that may compromise their personal security and safety

b) secondly, all citizens are entitled to access to urban public transport services that are safe and accessible and be free from assault or threat of assault or the feeling of insecurity caused by other forms of abuse or anti-social behaviour that may compromise their personal security and safety.

UITP and ITF jointly declare that the responsibility for allowing the above basic rights fall variously upon the following stakeholders:

i)   the social partners at company level i.e. the transport companies' employers and the trade unions
ii)   the competent authorities (local transport authorities; police; judiciary)
iii)   the users of transport and the citizens in general

<u>A. The social partners at company level i.e. the urban transport companies' employers and the trade unions</u>

UITP and ITF jointly agree that the most effective means of combating violence, the threat of violence and other forms of abuse, anti-social behaviour and vandalism will be found through dialogue between the social partners (urban transport employers and the trade unions representing the workers) based on the following principles:

a) common interest; both the employer and trade unions representing the workers agree that minimizing violence and insecurity are in the best interests of the employees and the successful operation of the public transport system

b) trust and mutual respect: both the employer and trade unions representing the workers agree that trust and mutual respect are essential to ensuring a successful and productive dialogue to combat violence and insecurity

c) transparency; both the employer and trade unions representing the workers agree that sharing of information and open and honest communications are required in order to work together to provide solutions

d) no blame policy - it is vital that employees are not wary or even fearful of reporting incidents. Investigating the root cause of an incident is essential, not scapegoating the employee(s).

It is therefore recommended that, where appropriate, the transport employer and the trade union representing the workers negotiate and sign collective bargaining agreements whilst taking into account:

i)   ILO core conventions (International labour standards)
ii)   the prevailing national or local regulations (the law)
iii)   the size and scale of the problems being experienced of violence, vandalism, incivility, theft, and insecurity (the risk)
iv)   the importance of allowing job security as well as a quality service to the users of public transport.(the goals)

ITF and UITP therefore recommend as proven good practice that the social partners discuss and agree the following:

Reporting procedures for Collecting Information

It is vital to have in place a simple, easy to use reporting procedure for employees to record any act of violence, threat, abuse or type of behaviour which created fear or insecurity. This is the first stage necessary for assessing the nature and the size of the problem.

The social partners need to agree that the system for reporting and collecting information is:

Simple to use - it must be possible for all the operators to use it, regardless of the level of their initial training;

Efficient - it must facilitate the recording and categorisation of events/incidents from which accurate information can be compiled and readily accessed so that the nature of the problems can be identified;

Acceptable - the information collected must have no other purpose than to restore the security and feeling of security (while ensuring the confidentiality of the information collected) on the one hand and be financially acceptable to the companies on the other;

Trusted - employees must have confidence in the system i.e. that their reporting of incidents/events is taken seriously and is investigated and recorded, whilst the employer must be assured that reports of incidents and events are truthful detailed and accurate, as well as all incidents are reported by staff.

Acting on reports and collected information

It is recommended that the employer and the trade union representing the workers meet to analyse together the data submitted by the researchers and discuss the reporting of incidents and collected information:

a) as soon as possible in the event of a serious incident/act of violence

b) periodically as appropriate to review and consider the collected information and reports (or analysis thereof)

It is further strongly recommended that each property i.e. depots, offices, stations etc. is covered by a Violence Prevention Programme, ideally drawn up through negotiation between the employer and the trade union. This should be a clear statement that violence against staff will not be tolerated, and should include practical measures applicable to that location to combat violence including recommendations on safe working practices etc.

The purpose of such dialogue should be to find and implement appropriate procedures and/or methods of operating which minimise the risk of such events/incidents recurring. This will probably encompass one or more of the following g areas:

Organisation of the service

i) consideration of the recorded levels of incidents/events by the hours of the day and location may, if problems arise point to appropriate remedies e.g. change of relief point for staff, minimise layover at specific terminal points etc.

ii) temporary suspension or diversion of the service where, by mutual agreement of employer and trade union, it is deemed too dangerous to operate the service until the problem is resolved

iii) in view of the evidence that many assaults on staff arise because of a) fares disputes or b) thefts of cash, employers and trade unions should via the collective bargaining process agree systems and procedures which seek to minimize/reduce threats of violence in these areas

Technology and design

i) installation and maintenance of adequate, state of the art communication tools for various staff groups (on board, patrol, etc...) for communication between operating staff and the employer/supervisor

ii) surveillance measures, discrete alarm systems installed in both stationary and moving areas, including new technologies such as infrared, thermal cameras for intrusion detection.

iii) adaptation of the workstations e.g. protected driver cabin lighting on employer's property especially in areas where staff are vulnerable e.g. outside mess rooms, depots etc., and also where passengers may feel vulnerable

iv) stations, stops, access ways, vehicles, etc that are designed in such a way that the design itself acts as a deterrent to, reduces the probability of, or achieves synergies which reduce undesired behaviour

v) the use of specific materials which have been shown to minimise the risk of misuse

vi) facilitating the participation of public transport workers in the improvement of security standards by using new communication technologies to pass on timely information on undesired behaviour of any type or degree of seriousness, making it possible to pinpoint the location and time of incidents.

Human resources

i) mediation: e.g. appropriate and sensitive handling of employees affected by acts of violence etc especially where psychological impact occurs

ii) expert resources: developing resources handling, analysing incidents and developing appropriate solutions (security experts with operational experience)

iii) communication e.g. information/notices to staff, radio messages etc; availability of supervisors. managers especially outside normal office hours; knowledge of procedures to follow, contact numbers in emergency etc: relevant information relayed by employer or trade union to employees ; the procedures, emergency numbers should be also communicated to the staff in stations and on-board of vehicles

iv) external promotion of respect for the transport system, by measures coordinated with the education system and social media (media and advanced social networks); ongoing awareness-raising progammes; recommendations to families or social groups, as the root of good social behaviour.

v) training: e.g. training operating staff in procedures to improve their safety; training of supervisory staff in the appropriate response to incidents etc

vi) Informative, educational and awareness-raising campaigns (internally and on an ongoing basis) implemented by operators and trade unions.

vii) Staff organisation e.g. appropriate patrol positioning and composition

Recovery

Appropriate systems should be put in place to aid and assist recovery of employees suffering physical and /or psychological impact from acts of violence or serious threats of violence/menaces etc. This can include: professional counselling; managerial and trade union support mechanisms; phased return to work options; protection of earnings etc.

Finding the right balance to prevent incidents/acting in response to incidents

The social partners at company level must aim to ensure an appropriate balance between technological devices, procedures and the human factor. The first and second must be at the service of the latter so to improve the quality of work.

Their objectives must also include a philosophy of participation and proactive conduct in which anticipatory measures (foresight and prevention) are given priority over mere protection and reaction.

Any transfer of good practice must take into account the size of the cities and of the companies and character and extent of the problem. In other words the solution must be appropriate to deal with the assessed risk. For example it is unlikely that a protected driver cabin fitted on all buses in a city where serious acts of violence are commonplace is the appropriate solution in a calm and peaceful rural area where there has not been a history of violent assault.

Dialogue with the Civil authorities: Local Government, Media, Police and judiciary

Collective agreements in the transport companies are key to the development of a civil dialogue with appropriate authorities and agencies who also have responsibilities.

a. **with the legitimate authorities** e.g. Local Government, Public Transport Authority etc
   funding of improvements in public spaces which have an impact e.g. better lighting and/or video surveillance at bus stations and bus stops; security design at terminal points e.g. lighting, removal of bushes where assailants can hide etc

b. **with the police and judicial authorities**
i) quick and effective response to incidents is required and an acceptance by the police that crime on public transport including anti-social behaviour requires police intervention
ii) increased police surveillance and presence at places and times where problems are known to occur
iii) conviction and sentencing of offenders, which by definition is the competence of the police and justice institutions. The punishment of criminal acts should be "proportionate" based on the following triple goals: not instilling in victims a feeling of abandonment ; not instilling in offenders the feeling of being the victim of social injustice ; regenerating in offenders a sense of civic responsibility and thus preventing the risk of repeat offending.

c. **with the associations, the users of public transport, the NGOs** and all other representatives of the civil society competent for, in particular: public support where needed for transport employees and the survival of safe efficient public transport systems; community organisations regarding the education and supervision of e.g. youths

d. **with local media**

> sensitive use of local media can draw public support to help reduce violence and insecurity whilst minimising the risk of "copycat" incidents.

Encourage the participation and involvement of other stakeholders responsible for guaranteeing basic rights

The other two stakeholders responsible for guaranteeing basic rights which were identified at the beginning of this joint declaration by UITP and ITF – the public authorities in the areas of transportation and public security, and transport users – via local and general associations, must also play a part in developing public security systems which truly complement the measures introduced by operators and public transport workers, and in general promote the responsible conduct of the beneficiaries of the transport system.

Conclusion

To ensure a truly effective response to violence and insecurity on urban public transport, it is strongly recommended that the social partners comprising the employer and the trade union - especially on the basis of collective bargaining agreements signed between them on these matters - engage with the civil and public authorities and ensure there is a coordinated and effective interrelated network of support and actions (including by use of public funds where appropriates) designed to make our urban public transport safe for its employees and the passengers. It is only by all agencies cooperating to guarantee the safety and security of employees and passengers alike that we can achieve a safe efficient and reliable public transport system that is attractive to the citizens to use and that can perform its function of safe sustainable transport for the well-being of the urban environment and all who live in it.

Signed in two copies in Brussels, the 27th May 2015, one going to the ITF, the other at the UITP.

For ITF   **For UITP**

Asbjørn Wahl   **Joe Kenny**

Chair, ITF Urban Transport Committee   **Chairman of the Commission on Business and HR Management**

This English version constitutes the sole authentic text

B. Section 4.3 of "[Guidelines on Occupational Safety and Health Management Systems](#)," International Labor Office (2001)

4.3. Consultation and communication

4.3.1. The organization shall have documented procedures for ensuring that pertinent H&S information is communicated to and from employees and other interested parties.

4.3.2. Employees shall be:

4.3.2.1. involved in the development and review of policies and procedures to manage risks;

4.3.2.2. consulted where there are any changes that affect workplace health and safety;

4.3.2.3. represented on health and safety matters; and

4.3.2.4. informed as to who is their employee H&S representative(s) and specified management appointee

4.3.3. Employee involvement and consultation arrangements shall be documented and interested parties informed.

4.3.4. The employer shall ensure, as appropriate, the establishment and efficient functioning of a safety and health committee and the recognition of workers' safety and health representatives, in accordance with national laws and practice.

4.3.5. The employer shall ensure that workers and their safety and health representatives are consulted, informed and trained on all aspects of H&S, including emergency arrangements associated with their work.

4.3.6. The employer shall make arrangements for workers and their safety and health representatives to have the time and resources to participate actively in the processes of organizing, planning and implementation, evaluation and action for improvement of the H&S management system.