



**Bus Operator Safety - Critical Issues
Examination and Model Practices
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Bus Operator Safety Critical Issues Examination and Model Practices

Final Report

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Metric Conversion

SI* Modern Metric Conversion Factors as provided by the Department of Transportation, Federal Highway Administration <http://www.fhwa.dot.gov/aaa/metriccp.htm>

LENGTH				
SYMBOL	WHEN YOU	MULTIPLY BY	TO FIND	SYMBOL
in	Inches	25.4	millimeters	mm
ft	Feet	0.305	meters	m
yd	Yards	0.914	meters	m
mi	Miles	1.61	kilometers	km

AREA				
SYMBOL	WHEN YOU	MULTIPLY BY	TO FIND	SYMBOL
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	Acres	0.405	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²

LENGTH				
SYMBOL	WHEN YOU	MULTIPLY	TO FIND	SYMBOL
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi

AREA				
SYMBOL	WHEN YOU	MULTIPLY BY	TO FIND	SYMBOL
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	acres	ac
km ²	square kilometers	0.386	square miles	mi ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.

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16. Abstract In this study, researchers at the National Center for Transit Research performed a multi-topic comprehensive examination of bus operator-related critical safety and personal security issues. The goals of this research effort were to: <ol style="list-style-type: none"> 1. Identify and discuss the organizational reporting structure related to safety departments and/or function within each of the 30 fixed route public transit agencies in Florida, with input also provided by transit agencies from across the U.S.; 2. Identify and document model policies and practices that address the post event condition of bus operators and their ability to return to duty; 3. Summarize the current practices related to driver's licenses and criminal history background checks and identify model policies or procedures related to these record checks; 4. Examine the training opportunities being provided by transit agencies and report the successes of these training programs on reducing the safety and security issues related to distracted driving and assaults; and 5. Provide recommendations on how transit agencies can improve their training processes to be more effective in dealing with both the safety and security related issues discussed in this research. 			
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Executive Summary

Background

Florida's public transit systems, as well as those across the United States (U.S.), have a critical obligation to ensure the overall safe operation of their systems, as well as the personal safety of transit customers, employees, and the public. One of the most critical safety elements within a transit agency is safety management. There are a variety of ways in which safety departments or structures are organized and equal variation in the way in which safety is managed within transit agencies. This research will begin by identifying the structure of the safety program within transit agencies across the state of Florida.

Central to the success of a transit agency and the corresponding safety management system within the agency are transit bus operators - they are an agency's first responders for any incident involving their vehicles, and they are responsible for the safety of their passengers. A significant threat to transit safety is the ever-increasing prevalence of assaults, both on bus operators and on transit passengers. This threat is even more pervasive when these events and other traumatic events (such as accidents that result in fatalities, as an example) result in the inability of a bus operator to return to his position. The methods utilized by transit agencies to counter the physical and psychological impacts of these events, including the use of employee assistance programs and other tools, were studied in this research activity.

In addition, to better ensure the safety of passengers and the public, transit agencies perform record reviews for both new hires and existing bus operators to confirm their eligibility to drive and to ensure that they are free from any criminal history that would disqualify them from a position that requires engagement with passengers and the public on an ongoing basis. The two reviews consistently used within the public transit industry are driver's license or motor vehicle record (MVRs) and criminal history background checks. There is dissimilarity in the public transit industry in the policies and procedures established for the review of these records. While all transit agencies perform these reviews for new bus operator hires, the frequency and level of review, as well as the events that prompt an out-of-cycle review vary from system to system.

A transit agency's success at establishing a safety culture within their organization, based on safety management system approaches, is highly dependent upon well-trained, dedicated employees. Training of public transit operators is critically important to the safe operation of transit systems. While many transit training programs exist throughout the country, there are few that would be considered standardized. Additionally, many of these programs are longstanding and have not been updated to include new educational theories, concepts, and delivery mechanisms. In general, the industry's approach to public transit operator training includes offering training at the beginning of employment and, thereafter, it is only delivered intermittently (refresher training and remedial training).

Scope of Study

In this study, researchers at the National Center for Transit Research (NCTR) performed a multi-topic comprehensive examination of bus operator-related critical safety and personal security issues. The goals of this research effort were to:

1. Identify and discuss the organizational reporting structure related to safety departments and/or function within each of the 30 fixed route public transit agencies in Florida, with input also provided by transit agencies from across the U.S.;
2. Identify and document model policies and practices that address the post-event condition of bus operators and their ability to return to duty;
3. Summarize the current practices related to driver's licenses and criminal history background checks and identify model policies or procedures related to these record checks;
4. Examine the training opportunities being provided by transit agencies and report the successes of these training programs on reducing safety and security issues; and,
5. Provide recommendations on how transit agencies can improve their training processes to be more effective in dealing with both the safety and personal security-related issues discussed in this research.

Organization

This report is organized to correspond to the research topic areas (RTAs) and associated tasks that were included in the scope of services for this project. Each RTA is discussed in the chapters that comprise this report. The chapters include the following:

- Chapter 2: RTA #1 – Safety Function: Organizational Structure and Reporting
- Chapter 3: RTA #2 – Bus Operator Assaults – Current Conditions and Agency Post-Event and Return-to-Duty Practices
- Chapter 4: RTA #3 - Model Policies and Procedures for Driver's License and Criminal History Background Checks
- Chapter 5: RTA #4 – Bus Operator Safety Training Programs and Recommended Safety Training Practices

The results of a literature review and the Transit Safety Survey, both of which were utilized extensively in the study, are contained within Appendices A and B respectively.

Transit Safety Research Topic Areas - Conclusions and Recommendations

RTA #1 – Safety Function: Organizational Structure and Reporting Safety Department/Function Organization

The majority of respondents to a Transit Safety Survey conducted as part of this research effort indicated the existence of a single safety department within their agency (63.5%). Approximately 30 percent responded that they do not have a single separate safety department responsible for the safety of all modes operated by their agency. These agencies did indicate that safety responsibilities for each mode of service are shared among those modes. Over six percent of respondents indicated their agencies have a separate safety department representing each mode of service operated. The balance of the

respondents stated that they do not have an official safety department, rather that the safety responsibilities were handled by multiple units within their agency.

A slight majority of respondents indicated that the leader of their agency safety department reports directly to the Executive Director or CEO of the agency (44.1%), with slightly fewer respondents (42.4%) indicating that their safety department or function leader reports to a department director. Only 23.7 percent of respondents indicated that the safety department leader was “on-par” (i.e., equal in position and level of authority) with other members of the executive team.

With the tremendous emphasis placed on transit safety in the advent of the Moving Ahead for Progress for the 21st Century Act (MAP-21) and in anticipation of upcoming regulations and guidance on the topic, it would seem important to allow an agency’s safety leader to be equal in position and authority with members of the leadership team. While there is no evidence available in the survey responses to suggest that a safety leader with limited authority diminishes the influence or focus on safety for an agency, this topic does require additional reflection.

When asked about the number of full time equivalent (FTE) positions dedicated to safety functions within these agencies, over 80 percent of respondents indicated that there are 10 or fewer FTEs assigned to safety functions. It is recognized that the staffing levels reported by respondents fluctuated depending upon the diversity and size of the transit agency.

There was insufficient detail provided in the survey responses to make any conclusions about the most effective structure of a safety department or function, or a standard for the number of FTEs an agency should dedicate to those safety-related functions.

Safety Functions

The safety functions that are consistently applied in those agencies represented by the survey respondents include (in order of prevalence):

- Compliance with state and federal regulations
- Establishment of corrective action plans and providing feedback to management
- Event and incident reporting
- Development and enforcement of safety-related rules and policies
- Training
- Event and incident analysis
- Accident review board

Of considerable importance to these agencies are event and incident reporting and analysis coupled with the establishment of corrective action plans. Central to these activities is the thorough review of accidents and incidents. The majority of respondents indicated that they review a significant majority of all accidents and injuries occurring within their systems, including those that are below the major incident thresholds established for NTD reporting.

While “accident review board” was not one of the most prevalent responses to the corresponding survey questions, further examination of the responses to related survey questions confirmed that the accident review board function has prevalence within those

transit agencies represented. The responses to the survey suggest variability in the representatives assigned to the accident review board. Yet, for the majority of respondents, whether the accident review board is independent of a single office within a transit agency or simply a part of the safety functions performed by the agency, there is diverse representation from within the agency (and in a few cases, from outside the agency). A significant number of the accident review boards that exist within the agencies represented include the driver (or representative), union representative, the employee's supervisor (or operations manager), and a member of the management team.

The way in which the accident review board is organized within those transit agencies represented by survey respondents and the membership of these boards are inconsistent. However, agencies participating in this research project are consistent in their recognition that the accident review board function is necessary and that representation must include members from a cross section of the agency.

There was insufficient detail provided in the survey responses to identify recommended standards for the minimum safety functions that should be employed by transit agencies. However, each of the seven safety functions delineated above are recognized as critical to the safety performance of a transit agency.

RTA #2 – Bus Operator Assaults: Current Conditions and Agency Post-Event and Return-to-Duty Practices

As part of this study, the researchers conducted a comprehensive examination of return-to-duty procedures implemented by transit agencies for their bus operators who have experienced assaults or other traumatic events. Chapter 3 identifies how public transit agencies currently assist bus operators resume his or her duties after the occurrence of these events; discusses the opportunities provided for continued employment at the agency or other benefits if a bus operator is unable to return to his or her duties; and, provides a summary of industry leading practices.

The topic of bus operator assaults continues to be at the forefront of transit safety discussions. For transit agencies across the U.S. and Canada, assaults, including violent assaults, are becoming more prevalent. However, while the national trend of assaults on operators that meet the NTD definition of major incident is increasing, it is doing so only at a marginal rate.

In interviews and communication conducted following the release of the Transit Safety Survey, the majority of public transit agencies reported experiencing few, if any, assaults that would be characterized as major assaults. (However, they do stress the increasing presence of minor assaults that would not be reported as major incidents in NTD.) The majority of these agencies indicated that the assistance they would provide to a bus operator who is the victim of an assault would replicate that assistance provided in the event of an incident resulting in a fatality or other traumatic outcome.

For those transit agencies that are experiencing assaults that meet the definition of a major incident for NTD reporting purposes, many of these have been proactive in addressing the issue. These agencies have implemented changes that include providing bus operators with the tools necessary to effectively respond to volatile situations through training, establishing

local policies and procedures to deter assault events or assist in responding to those events, installing technologies such as video or audio recording devices, and modifying bus driver areas with shields or other barriers.

Some agencies have gone beyond prevention and response tactics by also providing support programs and benefits to bus operators who are the victims of assault events. Examples include:

- The use of Employee Assistance Programs (EAPs)
- Monetary benefits, such as ongoing financial support during recovery
- Recompense for the loss of wages or damage and/or loss of personal property
- Opportunities for reassignment or light-duty assignments
- Life insurance that pays survivor benefits in the event a bus operator dies as a result of the injuries sustained in an assault

While this research focused on bus operator assaults, it is important to recognize that the data presented illustrate the significance of assaults on transit system riders. In 2012, over 49 percent of all reported transit assaults were to transit vehicle riders, as illustrated in Table ES-1. From 2008 through 2012, assaults on transit vehicle riders have increased significantly, from 56 assaults in 2008 to 187 assaults reported in 2012.

Table ES-1. Motorbus Assaults - Fatalities/Injured Persons, 2008–2012

	2008	2009	2010	2011	2012
Fatality – Transit Vehicle Rider	0	0	0	0	2
Injuries to Person Waiting or Leaving	38	20	26	48	49
Injuries to Pedestrian Not in Crosswalk	0	1	3	1	2
Injuries – Other	3	4	3	2	3
Injuries to Transit Vehicle Rider	56	64	103	159	187
Injuries to Transit Employee	17	6	14	16	12
Injuries to Transit Vehicle Operator	119	107	110	140	124
Total Assaults	233	202	259	367	379

The topic of assaults on transit vehicle riders warrants further examination.

RTA #3 – Model Policies and Procedures for Driver’s License and Criminal History Background Checks

The objectives of this research study were to identify the practices currently utilized by transit agencies in performing driver’s license record and criminal history background checks; to identify commonalities related to type of records search performed, frequency, and events that would initiate an out-of-cycle record review; and to develop recommendations for driver’s license and criminal history background checks.

An overview of the current Florida requirements for driver’s license and criminal history background checks is presented. Surveys and follow-up interviews were the methods used to document current transit agency efforts including existing policies, procedures and practices employed by public transit agencies for driver’s license and criminal history

background checks. A summary of the findings is presented, as well as the detailed findings of the requirements and activities that have been undertaken by specific case study sites.

Through the data collection and associated analyses, it was discovered that transit agencies utilize a variety of policies and procedures related to the type of driver's license and background checks they perform, the frequency of the record review, and the conditions under which out-of-cycle record reviews are conducted. While all transit systems perform some level of driver's license record and criminal history background checks for new employees, there is great variation in the type of records inquiry performed and the review frequency following the hiring of a bus operator.

The study concludes that a unified, statewide background check policy for conducting driver's license record and criminal history background for pre- and post-employment checks would be beneficial and ensure consistent statewide agency practices in this critical safety activity. The research did reveal that there are precedents for criminal history background checks within Florida law, specifically for those state programs that provide services to seniors, people with disabilities, and children. Procedural modifications or changes to Florida's transit safety program may benefit from the experiences of these programs or the design of a program that would urge consistency with the representative sections of Florida law (as described in this report). A series of specific recommendations are offered for consideration to accomplish this objective.

Based on the findings of this research, the following recommendations were developed and are offered for consideration:

1. Establish a state-wide background check policy for conducting driver's license record and criminal history background for pre- and post-employment checks for the Florida public transit industry.
2. Use the authority established in Section 341.061(2)(a), Florida Statutes (F.S.) to accomplish a state-wide policy for conducting driver's license record and criminal history background checks for pre- and post-employment.
3. Pursue the amendment of the safety standards for bus transit systems provided by Rule Chapter 14-90, Florida Administrative Code (F.A.C.), hereinafter referred to as Rule 14-90, to detail specific requirements related to driver's license record and criminal history background checks for pre- and post-employment.
4. Within the amended language to Rule 14-90, specifically detail the following minimum requirements in regard to driver's license checks:
 - a. Conduct Division of Motor Vehicles (DMV)/Motor Vehicle Record (MVR) checks for all new employees operating buses
 - b. Require a minimum of an annual DMV/MVR check for all existing employees operating buses
 - c. Require agencies to develop policies to permit out-of-cycle DMV/MVR checks for all employees operating buses

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5. Explore working with the Florida Department of Highway Safety and Motor Vehicles or private contractors to negotiate a state-wide contract for a consortium of public transit operators covered by Rule 14-90 to obtain DMV/MVR driver's license checks. This would provide potential cost savings and easier access for the checks.
 6. Within the amended language to Rule 14-90, specifically detail the following minimum requirements in regard to criminal history background checks:
 - a. Conduct criminal history background checks for all new employees operating buses
 - b. Require a minimum criminal history background check for all existing bus operators on a five-year-cycle
 - c. Require agencies to develop policies to permit out-of-cycle criminal history background checks for all bus operators
 7. Within the amended language to Rule 14-90, specifically detail the following minimum requirements in regard to criminal history background checks:
 - a. Mandate the use of the employee screening requirements indicated in Chapter 435, Florida Statutes (F.S.) for criminal history background checks
 - b. Establish Level 2 background screenings, as defined in Chapter 435, F.S., as the mandated screening standard for Florida's transit bus operators
 8. Pursue having the Florida Department of Transportation join the Florida "Care Provider Background Screening Clearinghouse" and allow all agencies covered by Rule 14-90 to access their criminal history background checks through the Clearinghouse. This would provide potential cost savings and easier access for the checks.

RTA #4 – Safety Training for Bus Operators – Improving the Training Process and Model Programs

This research also examines today's public transit operator training programs and identifies recommendations that may improve or mitigate safety-related incidents based on safety risk factors and lagging safety trends indicated in national transit safety data reported to the Federal Transit Administration through the NTD.

Transit Training Observations and Recommendations

The following observations were made based on the data analysis performed by the research team, the review of literature on the topic of transit training, and two separate surveys: a Transit Safety Survey that received responses from transit agencies across the United States and Canada, and a Florida Operations Network (FON) Training Survey sent to transit agencies in Florida. Recommendations are also provided consistent with these observations.

Observation 1: Content

Based on the responses to the Transit Safety Survey and supplemental FON Training Survey, a significant majority of transit agencies provide ongoing safety training for their operators (96.5% adjusted based on review of subsequent responses and follow-up with agency representatives). The training topics most prevalent are:

- Safety policies and procedures
- Defensive driving
- Distracted driving

Both the Transit Safety Survey and the FON Training Survey reflected transit agency consistency in providing comprehensive driver training programs. However, absent regulatory minimum requirements for training content and hours associated with that training, there is great variability in the specific training topics contained within that training curriculum and the time allocations for those topics. It is unknown if agencies that conduct training in the area of defensive driving, but only attribute one to two hours on the topic, have more major or minor incidents because of what could be considered a level of training that is less than that provided by their peers.

In general, safety training is being conducted by transit agencies. However, in the examination of causal factors identified for transit incidents, there were significant observations that those incidents occurred due to “human factor errors not following policy/procedure.” As reflected above, one of the training topics most frequently indicated as a part of annual refresher training is a review of safety policies and procedures. In the Transit Safety Survey, of the 53 individuals who responded to Question 33 (safety subjects that are included in operator refresher safety training), 52 indicated that their operator refresher safety training includes safety policies/procedures. However, in the review of the responses to Question 33 and those of Question 25 related to causal factors, the majority of those who indicated “Human Factor Errors (Not Following Policy/Procedure)” as a primary causal factor are also those who include safety policies and procedures within their refresher training. Operators within these agencies are receiving training on safety related policies and procedures. However, there are bus operators who have received this safety training and have failed to consistently follow the policies and procedures established by their agencies. It is unknown whether this is a function of the quality of the training curriculum or an operator’s inability to retain training materials due to the delivery method utilized.

Recommendation

Working with the FON, the Florida Transit Safety Network (FTSN), and the Florida Public Transportation Association (FPTA), identify minimum training curriculum for Florida bus operators, including specific content and minimum training hours for each topic. Minimum training curriculum should be prescriptive, not source specific, allowing transit agencies to have options in course development and delivery methods within the framework established.

Observation 2: Delivery Methods

When asked about the number of times per year operators receive training and by what methods, the majority of the respondents to the Transit Safety Survey indicated that

classroom (50 out of 56 respondents) and behind-the-wheel training (43 out of 53 respondents) are the most common. Most agencies provide classroom and behind-the-wheel training to their operators only one time per year. Very few agencies use computer-based/online training (14 out of 47 respondents) or simulator training (7 out of 42 respondents) in their annual training programs. For agencies that are using these methods, the majority provide this training to their operators only one time per year.

While there are agencies that employ alternate training methods, for many agencies the use of classroom training is still the most predominant training delivery method used. With the changing demographic of the transit workforce, transit agencies must be positioned to respond to the different learning styles that become prominent. For younger operators to successfully learn material and retain the curriculum delivered, the use of classroom training must be supplemented by the use of electronic learning (e-learning) platforms, and transit agencies must be positioned to effectively transition to these technologies.

Recommendation

Transit agencies must provide transit safety training in multiple platforms recognizing the variability in learning styles and response to allow the most effective retention among their participants.

Research Priorities and Areas of Concern to Address in Training Curriculum

Based on NTD data collection and analysis activities performed by the research team, transit safety research priorities were identified. These research priorities and associated safety findings should drive the identification of the minimum content-related requirements for public transit safety training for bus operators. The terminology utilized as titles for each of the following sections and corresponding narrative reflect the specific reporting categories contained within NTD (“motorbus” and “demand response” reflect two modes of public transit services).

- *Collisions with People*
Collisions with people represented the second highest collision category across all transit modes, with collisions with motor vehicles the type of collision occurring with greater frequency. The rate of collisions with people (expressed as rate per 100 million passenger miles traveled (PMT)) was significantly high in demand response and motorbus.
- *Sideswipe Collisions in Motorbus and Demand Response Modes*
In motorbus, collisions with motor vehicles were significant (82.7% of total collisions). Of all collisions reported in the motorbus mode, collisions categorized as “side impact collisions with motor vehicles” were the most frequently occurring, representing almost 24 percent of all collisions in 2011. Likewise, in demand response, collisions with motor vehicles were also the most frequent by a critical margin (85.5% of total collisions). While the majority of demand response collisions with motor vehicles were rear-ended collisions (vehicle strikes the back of the bus) at 31.89 percent of all collisions, side-impact collisions were significant, representing more than 22 percent of all collisions reported in demand response in 2011.

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- *Rear-end Collisions in Motorbus and Demand Response Modes*
In demand response, the majority of all collisions were characterized as rear-ended collisions, at over 31 percent. While the majority of collisions reported in motorbus are side impacts with another motor vehicle, rear-ended collisions were significant, representing more than 20 percent of all collisions reported in 2011.
 - *Passenger Injuries on Motorbus and Demand Response Modes*
Passenger injuries reported in motorbus and demand response were noteworthy. Passenger injuries on motorbus comprised almost 71 percent of all injuries reported, with passenger injuries in demand response accounting for almost 62 percent of all injuries reported. This is a significant area of risk for transit agencies, particularly as it relates to claims against the agency. More must be understood about these injuries and their causes—if they are due primarily to aggressive braking and maneuvering by the bus operator (which may be improved with relevant bus operator training) or to other external factors.
 - *Injuries and Fatalities of Occupants of Other Vehicles Involved in Transit Collisions*
Injuries and fatalities sustained by occupants of other vehicles involved in transit collisions project a critical risk level in motorbus and demand response. In motorbus, 36.2 percent of all fatalities and 11 percent of all injuries reported were to occupants of other vehicles. For demand response, 48 percent of all fatalities and almost 15 percent of all injuries reported were for occupants of other vehicles involved in collisions with transit vehicles.
 - *Collisions with Bicycles*
Injuries to bicyclists, while not a frequently-cited injury reported for motorbus, are increasing. In addition, this is an area of great concern identified by public transit agencies and an indicator that should be considered “leading.”

In summary, the impact of transit collisions cannot be overstated. The data reflected previously, coupled with the validation that is presented in FTA research documents, confirm the need for transit safety training for bus operators that consistently and aggressively address these collisions and the corresponding reduction of passenger injuries and fatalities that may result.

Based on the examination of transit safety data and in response to the findings from the Transit Safety Survey and FON Training Survey, general transit bus operator training recommendations are presented for consideration as the minimum transit safety-related training content for public transit agencies. Consistent with the FTA’s Safety Management System (SMS) framework, these recommendations are based on national and state-wide transit safety data. Transit agencies should monitor the risks and vulnerabilities within their systems and supplement this minimum content with training that addresses their own unique areas of risk.

Recommendations

Agencies must identify those policies and procedures that are indicated in transit incidents and modify safety policy and procedure training to account for those errors. At a minimum, safety policies and procedure training should incorporate topics such as:

- Fatigue (driver hours, use of over-the-counter medications), and outside employment
- Distractions
- Operating procedures specific to the safe operation of buses at stops, transfer locations, pulling into traffic, use of signals, proper lift utilization, and loading/alighting passengers

Transit agencies must also monitor the causal and contributing factors present in transit incidents and be vigilant in taking a proactive stance in identifying risks and addressing those risks responsively. The development and utilization of training curriculum that is designed to mitigate risks and prevent vehicle collisions will be the key to improving overall system safety. Minimum safety training topics could include subjects such as:

- Proper use of signals
- Proper use of mirrors
- Improved situational awareness
- Defensive driving
- Remedial training for bus operators who have been involved in vehicle to vehicle or vehicle to pedestrian/bicyclist collisions

Table of Contents

Disclaimer	ii
Metric Conversion.....	iii
Technical Documentation Page.....	iv
Acknowledgements.....	v
Executive Summary.....	vi
Background	vi
Scope of Study.....	vii
Organization	vii
Transit Safety Research Topic Areas - Conclusions and Recommendations.....	vii
Transit Training Observations and Recommendations.....	xii
Research Priorities and Areas of Concern to Address in Training Curriculum	xiv
List of Figures	xix
List of Tables	xx
List of Acronyms	xxi
Chapter 1 Bus Operator Safety Critical Issues Examination and Model Practices	1
Background and Scope.....	1
Chapter 2 Transit Safety Functions: Organizational Structure and Reporting.....	4
Background Statement.....	4
Objectives	4
Transit Safety Department/Function - Organizational Reporting Structure	5
Transit Safety Summit and Florida Transit Safety Network (FTSN)	26
Chapter 3 Bus Operator Assaults – Current Conditions and Agency Post-Event and Return-to-Duty Practices	30
Background Statement.....	30
Research Objective	32
Primary Data Source.....	32
Status Report – Bus Operator Assaults.....	32
Leading Post-Event Practices	40
Summary	66
Chapter 4 Model Policies and Procedures for Driver’s License and Criminal History	
Background Checks	67
Background	67
Rule Chapter 14-90 (F.A.C)	67

DMV/MVR Checks	67
Criminal History Background Checks	69
Department of Motor Vehicle/Motor Vehicle Record (DMV/MVR) Checks.....	72
Criminal History Background Checks	76
Profiled Transit Agencies	79
Summary	90
Recommendations	92
Chapter 5 Safety Training for Bus Operators – Improving the Training Process and Model Programs	94
Topic Overview	94
Research Method.....	94
Resources and Training	97
Transit Agency Practices.....	99
Transit Training Observations and Recommendations.....	120
Training Needs Based on Safety Performance.....	121
Recommended Minimum Transit Safety Training Content.....	124
References	127
Appendix A - Consolidated Literature Review	134
Research Topic Area #1 – Bus Operator Distractions.....	134
Research Topic Area #2 - Bus Operator Assaults and Return-to-Duty Model Practices ..	140
Research Topic Area #3: Model Policies and Procedures for Driver’s License and Criminal History Background Checks	149
RTA #4 Literature Review: Safety Training for Bus Operators - Improving the Training Process and Model Programs.....	162
Appendix B – Transit Safety Survey.....	174
Survey Background	174
Transit Safety Survey Results	174
Transit Safety Survey Conclusions	214
Summary	219

List of Figures

Figure 3-1. Motorbus Assaults and Fatalities/Injured Persons, 2008–2012.	33
Figure 3-2. Motorbus Assaults by Victim – Rider, Employee, Worker, and Operator, 2008–2012.	34
Figure 3-3. Total Motorbus Assaults by Fatality/Injury Category, 2012.	35
Figure 3-4. Trend in Vehicle Operator Injuries Assaults per 1 Million Passenger Trips, 2008–2012.	36
Figure 3-5. Florida Motorbus Assaults and Fatalities/Injured Persons, 2008–2012.	38
Figure 3-6. Total Motorbus Assaults by Fatality/Injury Category, 2012.	39
Figure 3-7. Trend in Vehicle Operator Injuries Assaults per 1 Million Passenger Trips, 2008–2012.	40
Figure 3-8. Profiled U.S. Transit Agencies	43
Figure 4-1. New Employee DMV/MVR Checks	73
Figure 4-2. Current Employee DMV/MVR Checks	74
Figure 4-3. Out-Of-Cycle DMV/MVR Checks	75

List of Tables

Table ES-1. Motorbus Assaults - Fatalities/Injured Persons, 2008–2012	x
Table 3-1. Motorbus Assaults - Fatalities/Injured Persons, 2008- 2012	33
Table 3-2. Percent of Assaults by Category, 2012.....	34
Table 3-3. Vehicle Operator Injuries Resulting from Assaults per 1 Million Passenger Trips	35
Table 3-4. Florida Motorbus Assaults - Fatalities/Injured Persons, 2008–2012.....	37
Table 3-5. Percent of Assaults by Category, 2012.....	38
Table 3-6. Vehicle Operator Injuries Resulting from Assaults per 1 Million Passenger Trips	39
Table 3-7. Motorbus Assaults - Fatalities/Injured Persons, Capital Metro 2008–2012	44
Table 3-8. Motorbus Assaults - Fatalities/Injured Persons, LYNX 2008–2012.....	45
Table 3-9. Motorbus Assaults - Fatalities/Injured Persons, COTA 2008–2012	46
Table 3-10. Motorbus Assaults - Fatalities/Injured Persons, CTA 2008–2012.....	48
Table 3-11. Motorbus Assaults - Fatalities/Injured Persons, GCRTA 2008–2012.....	49
Table 3-12. Motorbus Assaults - Fatalities/Injured Persons, King County Metro 2008–2012	50
Table 3-13. Motorbus Assaults - Fatalities/Injured Persons, Metro Transit 2008–2012.....	51
Table 3-14. Motorbus Assaults - Fatalities/Injured Persons, MDT 2008–2012	53
Table 3-15. Motorbus Assaults - Fatalities/Injured Persons, New York City Transit 2008– 2012	54
Table 3-16. Motorbus Assaults - Fatalities/Injured Persons, Omnitrans 2008–2012.....	56
Table 3-17. Motorbus Assaults - Fatalities/Injured Persons, OCTA 2008–2012	57
Table 3-18. Motorbus Assaults - Fatalities/Injured Persons, Pierce Transit 2008–2012	58
Table 3-19. Motorbus Assaults - Fatalities/Injured Persons, PSTA 2008–2012	59
Table 3-20. STM Sécuribus Assaults, 2007–2012	60
Table 3-21. Motorbus Assaults - Fatalities/Injured Persons, SEPTA 2008–2012	61
Table 3-22. Motorbus Assaults - Fatalities/Injured Persons, VIA Metropolitan Transit 2008– 2012	62
Table 3-23. STM Sécuribus Positive Impacts, 2007–2012	65
Table 4-1. Comparison of Florida Background Checks to Minnesota and New York	70
Table 4-2. Post-Employed Frequency of DMV/MVR Checks.....	74
Table 4-3. Type and Frequency of Existing Employee DMV/MVR Checks	75
Table 4-4. Types of Criminal History Background Checks Conducted	77
Table 4-5. Cost Comparison by Agency and Level.....	77
Table 4-6. Summary of Background Checks Performed	80
Table 5-1. Motor Bus Collisions with Pedestrians	123

List of Acronyms

ADA	Americans with Disabilities Act
AHCA	Agency for Healthcare Administration
APD	Agency for Persons with Disabilities
APTA	American Public Transportation Association
ATU	Amalgamated Transit Union
BCT	Broward County Transit
CBA	Collective Bargaining Agreement
CCH	Computerized Criminal History
CDL	Commercial Driver's License
CFR	Code of Federal Regulations
CISM	Critical Incident Stress Management
CMV	Commercial Motor Vehicle
COTA	Central Ohio Transit Authority
CRT	Crisis Response Team
CTA	Chicago Transit Authority
CUMTD	Champaign Urbana Mass Transit District
CUTR	Center for Urban Transportation Research
DART	Dallas Area Rapid Transit
DCF	Department of Children and Families
DJJ	Department of Juvenile Justice
DMV	Department of Highway Safety and Motor Vehicles
DOEA	Department of Elder Affairs
DOH	Department of Health
DVR	Department of Vocational Rehabilitation
EAP	Employee Assistance Program
ECAT	Escambia Co. Area Transit
F.A.C.	Florida Administrative Code
FDLE	Florida Department of Law Enforcement
FDOT	Florida Department of Transportation
FMCSR	Federal Motor Carrier Safety Regulations
FMLA	Family and Medical Leave Act
FON	Florida Operation Network
F.S.	Florida Statutes
FTA	Federal Transit Administration
FTE	Full Time Equivalent
FTMC	Florida Transit Maintenance Consortium
FTSN	Florida Transit Safety Network
GCRTA	Greater Cleveland Regional Transit Authority
GOLINE	GoLine Transit
HART	Hillsborough Area Regional Transit Authority
JTRANS	Jackson County Transit
JTA	Jacksonville Transportation Authority
KWT	Key West Transit
LEETRAN	Lee County Transit
MAP-21	Moving Ahead for Progress for the 21 st Century Act
MCAT	Manatee County Area Transit
MDT	Miami Dade Transit
METRO	Metropolitan Transit Authority of Harris County
MTA	Metropolitan Transit Authority
MVR	Motor Vehicle Records

NCTR	National Center for Transit Research
NCIC	National Crime Information Center
NTD	National Transit Database
NTI	National Transit Institute
NYCERS	New York City Employees' Retirement System
NYC Transit	New York City Transit
OCT	Okaloosa County Transit
OCTA	Orange County Transportation Authority
PALM TRAN	Palm Beach County Surface Transportation
PCPT	Pasco County Public Transportation
PSTA	Pinellas Suncoast Transit Authority
PCTS	Polk County Transit
RTA	Research Topic Area
RTS	Gainesville Regional Transit System
SCAT	Sarasota County Area Transit
SCAT	Space Coast Area Transit
SFRTA	South Florida Regional Transportation Association
SCAT	Space Coast Area Transit
SEPTA	Southeastern Pennsylvania Transit Authority
SSPP	System Safety Program Plan
STM	Société de Transport de Montréal
SUN TRAN	Sun Tran City of Ocala
TCRP	Transit Cooperative Research Program
TSI	Transportation Safety Institute
TWU	Transport Workers Union
USC	United States Code
USF	University of South Florida
VIA	VIA Metropolitan Transit
VOTRAN	Volusia County Transit
WC	Workers' Compensation

Chapter 1

Bus Operator Safety Critical Issues Examination and Model Practices

Background and Scope

Florida's public transit systems, as well as those across the United States (U.S.), have a critical obligation to ensure the overall safe operation of their systems, as well as the personal safety of transit customers, employees, and the public. One of the most critical safety elements within a transit agency is safety management. There are a variety of ways in which safety departments or structures are organized and equal variation in the way in which safety is managed within transit agencies. This research began with an identification of the structure of the safety programs within transit agencies across the state of Florida.

Central to the success of a transit agency and the corresponding safety management system within the agency are transit bus operators - they are an agency's first responders for any incident involving their vehicles, and they are responsible for the safety of their passengers. A significant threat to transit safety is the ever-increasing prevalence of assaults, both on bus operators, and on transit passengers. This threat is even more pervasive when these events and other traumatic events (such as accidents that result in fatalities, as an example) result in the inability of a bus operator to return to his position. The methods utilized by transit agencies to counter the physical and psychological impacts of these events, including the use of employee assistance programs and other tools, were studied in this research activity.

In addition, to better ensure the safety of passengers and the public, transit agencies perform record reviews for both new hires and existing bus operators to confirm their eligibility to drive and to ensure that they are free from any criminal history that would disqualify them from a position that requires engagement with passengers and the public on an ongoing basis. The two reviews consistently used within the public transit industry are driver's license and criminal history background checks. There is dissimilarity in the public transit industry in the policies and procedures established for the review of these records. While all transit agencies perform these reviews for new bus operator hires, the frequency and level of review, as well as the events that prompt an out-of-cycle review vary from system to system.

In this study, researchers at the National Center for Transit Research performed a multi-topic comprehensive examination of bus operator-related critical safety and personal security issues. The goals of this research effort were to:

1. Identify and discuss the organizational reporting structure related to safety departments and/or function within each of the 30 fixed route public transit agencies in Florida, with input also provided by transit agencies from across the U.S. and Canada;

-
2. Identify and document model policies and practices that address post event opportunities for bus operators who have been victims of assault and their ability to return to duty;
 3. Summarize the current practices related to driver's licenses and criminal history background checks and identify model policies or procedures related to these record checks;
 4. Examine the training opportunities being provided by transit agencies to their bus operators and report the successes of these training programs on reducing safety risks; and
 5. Provide recommendations on how transit agencies can improve their training processes to be more effective in dealing with both the safety and personal security related issues discussed in this research.

This report is organized to correspond to the research topic areas (RTAs) and associated tasks that were included in the scope of services for this project. Each RTA is discussed in the chapters that comprise this report. The chapters include the following:

- Chapter 2: RTA #1 – Safety Function: Organizational Structure and Reporting
- Chapter 3: RTA #2 – Bus Operator Assaults and Other Traumatic Events: Return to Duty Model Practices
- Chapter 4: RTA #3 - Model Policies and Procedures for Driver's License and Criminal History Background Checks
- Chapter 5: RTA #4 - Safety Training for Bus Operators – Improving the Training Process and Model Programs

Literature Review

A literature review was conducted to provide a solid and necessary foundation for each of the original RTAs for this research.¹ The complete literature review is provided in Appendix A. The literature review provided a comprehensive overview of transit bus operator safety, including those bus operator practices that distract them from providing safe and effective transit services, as well as the threat of assaults on bus operators that come from those riding the system and the general public. It included the review of literature that addresses the complexity and relevance of these topics identified through a search of the Transit Research International Database (TRID), as well as Google and other internet search tools.

The literature review also included the identification and collection of safety-related procedures, policies, regulations, and rules established by Florida's public transit agencies, as well as those across the U.S. It also included an examination of formal publications and newspaper and online news articles; guidelines and recommended practices developed by industry groups, including the Amalgamated Transit Union, Transportation Workers United labor organizations, and the American Public Transportation Association (APTA); and, other research reporting sources.

¹ The original scope of services for this project, under which this literature review was conducted, included an examination of distracted driving. This topic was changed at the request of the sponsoring agency to examining the safety functions within public transit agencies. Therefore, the literature review covers four topic areas, three of which remain within the modified scope of services for this project.

The literature review was one of the drivers of the research process and revealed model policies and practices that are reflected in each of the RTA discussions presented in Chapters 2 through 5.

Transit Safety Survey and Communication with Public Transit Systems

A comprehensive online Transit Safety Survey was conducted for this project, the results of which are summarized in Appendix B. The survey was comprised of a series of 37 questions related to the system, the safety cultures within which the system operates, and other relevant safety related topics. The survey instrument was designed to capture a variety of quantitative and qualitative information from public transportation agencies within Florida and across the U.S. and Canada to determine the safety characteristics of transit systems; the way in which safety data is reported, evaluated and used to further the safety culture of those systems; and, allow researchers to gauge those areas that need further examination and analysis.

The survey instrument was finalized in early January 2013 and was released electronically to public transportation agencies through the various listservs managed by the American Public Transportation Association (APTA). It was also released to Florida's Transit Operations Network (FON), a network that includes representatives from the majority of Florida's public transportation systems, through their listserv. Following the initial distribution of the survey, subsequent reminder e-mails were distributed on two separate occasions in February and April of 2013. The survey was closed in late May 2013 and captured 69 unique responses. The respondents represented a cross section of public transportation agencies in the size, geographic location, and variation in the number of transit modes operated.

The results of the survey are utilized extensively in the data and findings presented in this report.

Chapter 2

Transit Safety Functions: Organizational Structure and Reporting

Background Statement

Overall transit management and oversight, structured within a safety management system grounded in a mature safety culture, are essential transit safety functions. The proper location of the safety oversight function within a transit agency's organizational structure can help to ensure the clear formulation of safety-related organizational and operational plans, policies, and procedures. Transit agencies throughout Florida, as well as those across the U.S. and Canada, reflect a variety of transit safety resource organizational reporting structures, depending on the size and nature of the agency. While there are agencies with safety-based organizational structures established to specifically serve transit safety functional areas, there are a significant number of agencies with safety functions that are distributed among other offices and sections within the agency. For these agencies, safety functions are based on efficiency, effectiveness, or necessity and are often a reflection of the resources available or the overall organizational structure of the agency.

Objectives

The primary objective of this research topic area was to identify and discuss the organizational reporting structures related to safety departments and the execution of safety functions in fixed route public transit agencies in Florida, as well as transit agencies outside the state. This was accomplished by undertaking the following steps:

1. Identified each agency's organizational and reporting structure
2. Described how the safety oversight function is located within the agency's organization
3. Collected and reported the role of the safety-related functions at each agency
4. Identified key staff positions assigned safety oversight responsibilities

The recognition of transit safety risk and an understanding of the state of the industry within the area of transit safety was central to the discussion of how safety is tied to the organizational structure of Florida's transit agencies, the safety functions that exist within those agencies, and methods to improve transit safety in Florida. One method that was used to identify these risks and provide a platform for ongoing dialogue among Florida's transit agencies is the Florida Transit Safety Network (FTSN). The secondary objective of this effort was to provide the support necessary to solidify the creation of the FTSN through conducting a Florida Transit Safety Summit. The outcome of the Summit and associated correspondence and input from Florida's transit agencies are documented in this technical memorandum.

Transit Safety Department/Function - Organizational Reporting Structure

There are a number of transit safety organizational reporting structures that exist within public transit agencies. These variations may be a result of decisions by upper management, but can also manifest themselves as a result of the organization's overall makeup or configuration within the parent organization. Organizational configurations can include agencies managed or operated by a private entity, agencies that are contained within a local government unit and are managed and operated by that unit, or those agencies that are independent authorities.

The purpose of this task was to research and report the organizational reporting structures of public transit agencies related to their safety-related functions, specifically to identify the following:

- Organizational reporting structure and mechanisms
- Key personnel and staff

Transit Safety Survey

The Research Team was tasked with identifying transit agency safety policies, trends, and industry best practices. A Transit Safety Survey was developed that was comprised of a series of questions related to the structure, composition, and operating environment within which public transit systems function, the safety cultures within which those systems operate, and other relevant safety related topics, as described below.

For the purpose of this chapter, only those questions that describe the agencies represented by survey respondents and those related to the organization and structure of a transit safety office or function are presented. Expansive discussions of these questions are presented in the following chapters.

Q2. Which modes does your agency either directly operate or operate using a contractor?

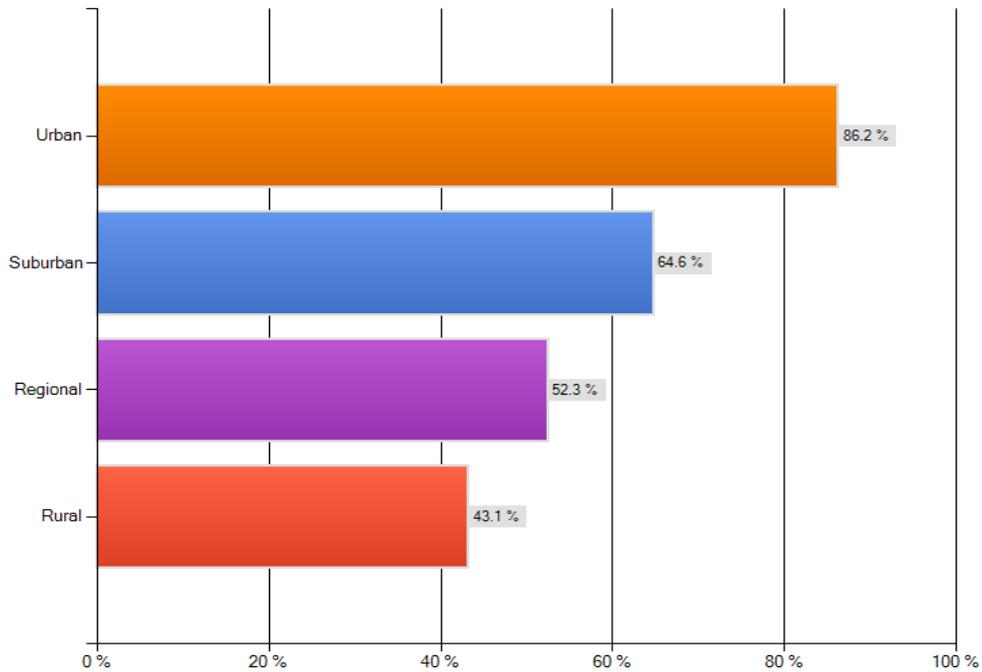
Type Operation	Operate	Contract	Both*	Totals
Demand Response	22	23	5	50
Bus	49	7	5	61
Trolley Bus	6	0	0	6
Bus Rapid Transit	11	1	0	12
Heavy Rail	3	0	0	3
Light Rail	11	1	0	12
Commuter Rail	3	4	1	8
Totals	105	36	11	152

*Agency both operates and contracts transit services. As an example, there were five agencies that indicated they both operate and utilize a contractor to provide demand response and bus transit services.

Question 2, which permitted multiple responses, asked respondents to indicate the transit modes operated by their agencies. The responses indicate a good balance between systems that provide transit services directly, contract the services out, or do both. Similarly, while 73 percent of the agencies represented operate typical demand response and bus services,

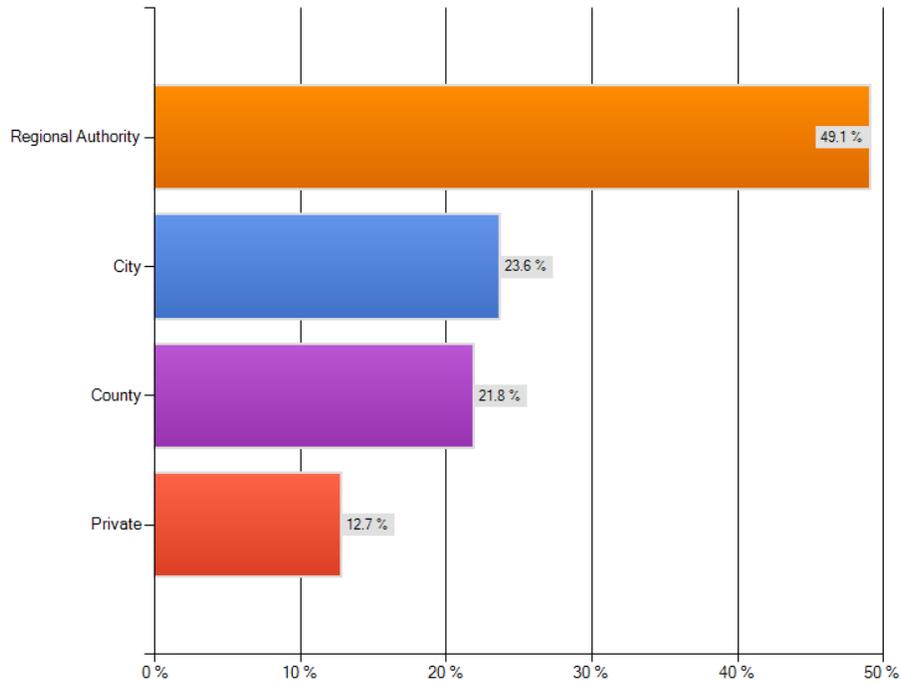
there was also significant representation of other modes, including bus rapid transit, trolley bus, heavy rail, light rail, and commuter rail.

Q3. What type of areas do you serve?



Question 3 focused on the types of areas served by the transit agencies with multiple responses permitted. The service area options provided included urban, suburban, regional, or rural. Most agencies indicated they operate in more than one type of service area. Many of those operating in urban environments also operate in suburban or regional areas. A few respondents operate in both rural and regional settings. With total responses ranging from 43.1 percent for rural service areas to 86.2 percent for urban area service, the systems represented a broad spectrum of service area coverage and provide services in the four operating environments.

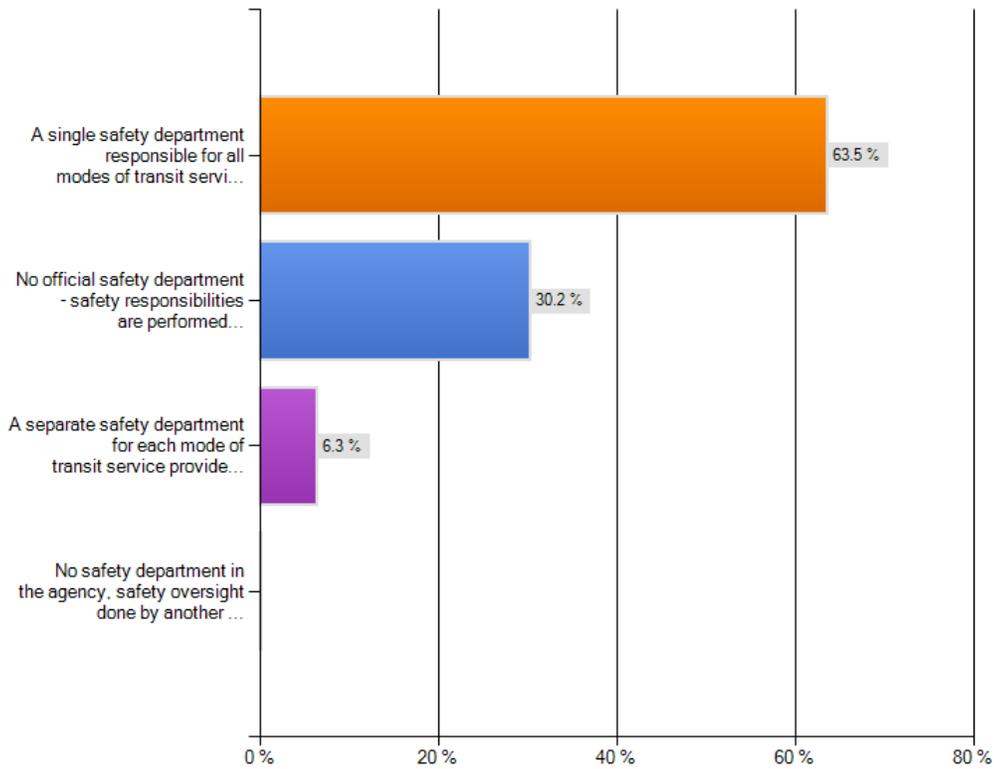
Q4. Which of the following manages your agency?



Question 4, which permitted respondents to provide multiple responses, focused on the type of entity under which a respondent's agency is managed. As an example, there were respondents who work for transit management companies who selected regional authority and private, as an example. Likewise, there were regional authorities or transit agencies organized within a council of government structure that also selected county or city.

Almost 50 percent of the respondents characterized themselves as operating within a regional authority structure. Over 45 percent are operated by local governments, split almost equally between city and county agencies. While 87.3 percent of the agencies are publicly managed systems, 12.7 percent of the responding systems are privately managed.

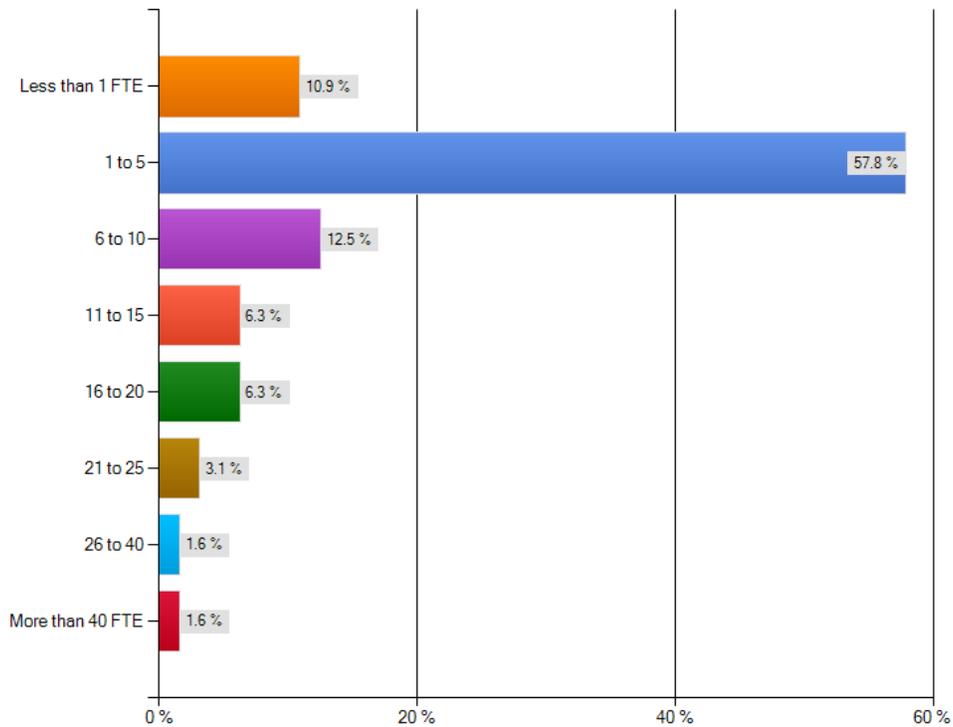
Q6. Which of the following describes the safety department at your agency?



Question 6, which was limited to one selection, inquired about the agency's safety department organizational status. Of the respondents, 63.5 percent indicated their agencies have a unique safety department that is responsible for all modes of transit service provided by their agency. Approximately 30 percent responded that they do not have a single separate safety department responsible for the safety of all modes operated by their agency. These agencies did indicate that safety responsibilities for each mode of service are shared among those modes. Over six percent of respondents indicated their agencies have a separate safety department representing each mode of service operated. The balance of the respondents stated that they do not have an official safety department, rather the safety responsibilities were handled by multiple units within their agency.

All respondents indicated that their agencies have some safety-related functions and maintain those functions within their organization. There were no respondents who indicated that their agency relies solely on outside agencies for their safety oversight.

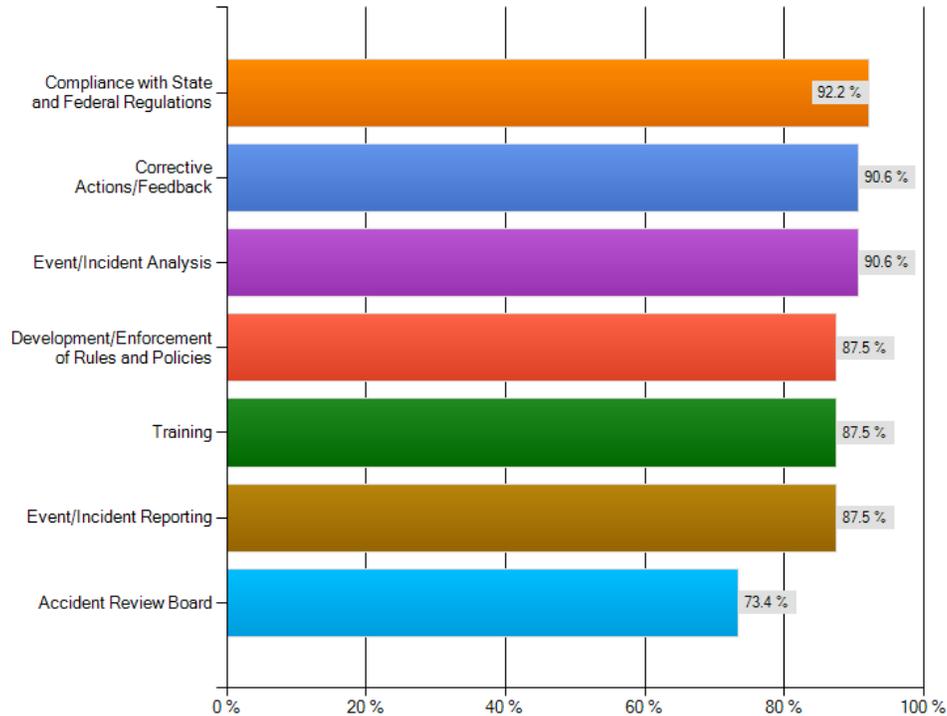
Q7. Approximately how many full time employees are responsible for safety at your agency? If your agency does not have a safety department, please estimate the total time spent on safety activities by personnel in other departments and convert it to an equivalent number of full time employees.



Question 7, which was limited to only one response selection, asked respondents to indicate the number of full time equivalents (FTEs) assigned to safety-related functions within their agencies. Based on the review of individual survey responses, as expected, there is a direct correlation between the size of the transit agency and the number of FTEs assigned to safety activities.

When combining the first three options, it reveals that over 80 percent of the agencies have 10 or less FTEs dedicated to safety activities. These safety staffing levels are primarily a function of the diversity and size of the transit agencies, as noted previously.

Q8. What are the functions of your safety management/department?



Question 8, which permitted respondents to provide multiple responses, focused on the functions of the agency's safety department.

All possible selections received over 70 percent responses, with most functions receiving close to 90 percent or more, as illustrated above and summarized below.

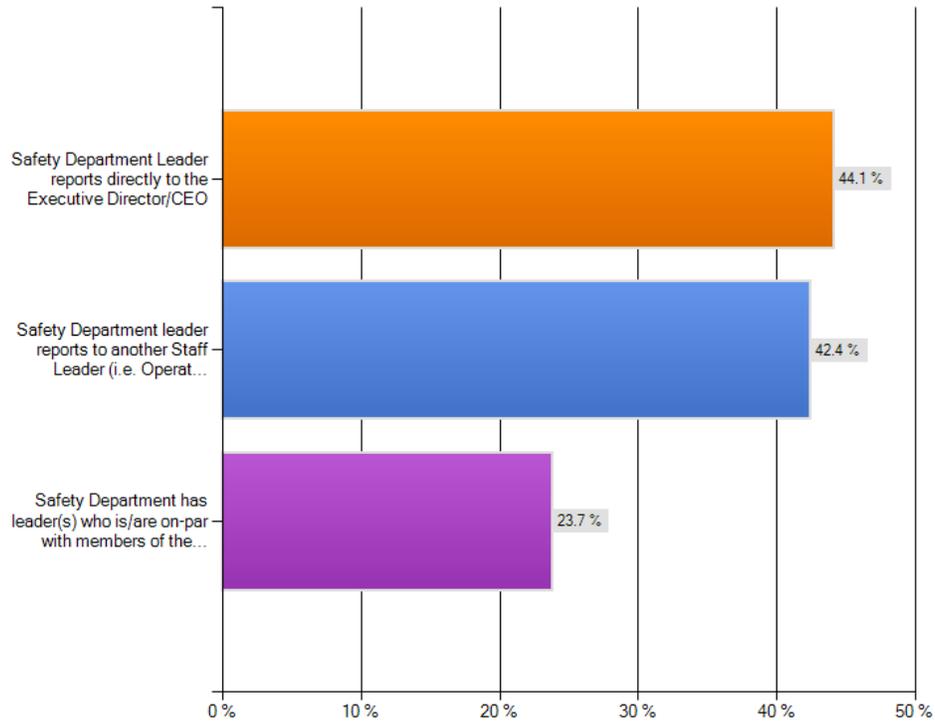
- Compliance with State and Federal Regulations 92.2%
- Corrective Actions/Feedback 90.6%
- Event/Incident Reporting 90.6%
- Development/Enforcement of Rules and Policies 87.5%
- Training 87.5%
- Event/Incident Analysis 87.5%
- Accident Review Board 73.4%

It is important to address the 73.4 percent of the respondents that included accident review board as a function of the safety office. In the discussion of Question 11 (Q11: Does your agency have an accident review board?) that follows, we learn that the majority of the transit agencies do have a formal accident review board (adjusted to 87 percent). Eight of those respondents that answered "no" to Question 11 selected accident review board as a function of their safety office.

The majority of the 26.4 percent of the respondents to Question 8 who did not identify "accident review board" as a function of their agencies' safety offices did indicate the

existence of a formal accident review board within their agency. For some of these agencies, a member of the safety office is included as a member of the accident review board.

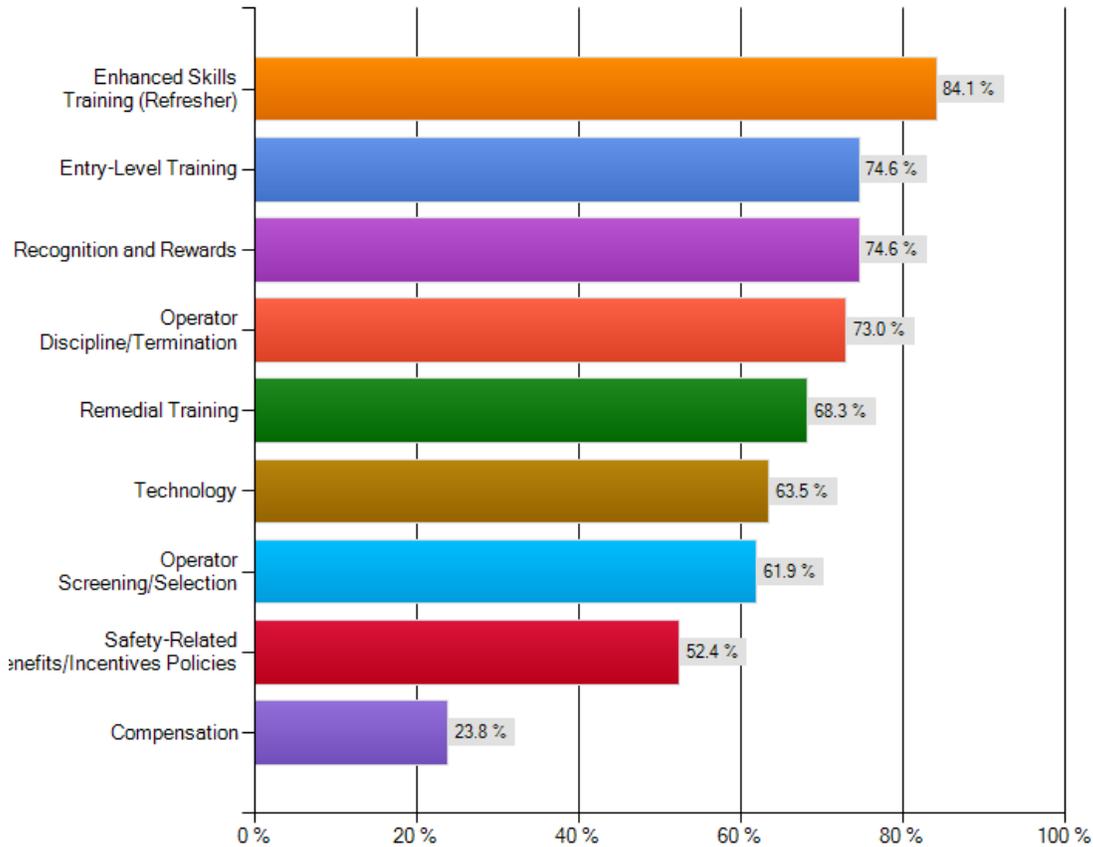
Q9. What is the reporting relationship of the Safety Department/Function to the Executive Director/CEO and/or upper management team?



Question 9, which permitted respondents to provide multiple responses, inquired about the reporting relationships of the safety department or safety function leads to the executive director/chief executive officer (CEO) and upper management team.

Less than half (44.1%) of the respondents indicated that their agency's safety department has a direct reporting relationship with the agency executive director or CEO. In 42.4 percent of responses, it was indicated that the safety department leader reports to another staff leader (i.e., operations or human resource manager) and not directly to the executive director. The final response, with 23.7 percent, indicated that the safety department leader is on-par with other members of the executive team.

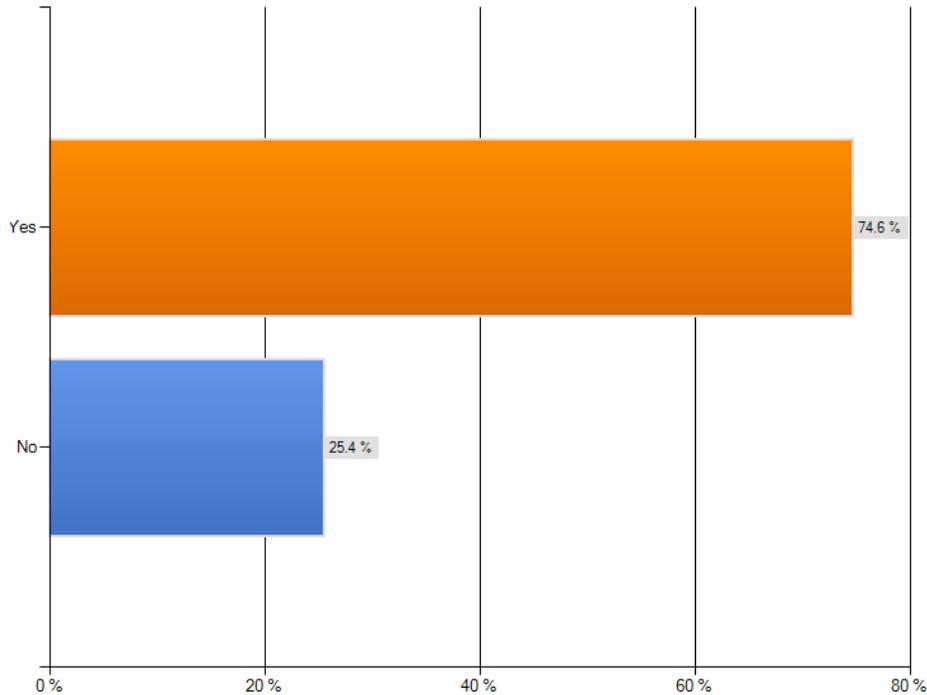
Q10. Indicate the areas below where operational and capital decisions are integrated with your organization's safety activities.



Question 10, which permitted respondents to provide multiple responses, focused on determining what operational and capital decisions are integrated with the organization's safety activities.

The responses are listed in priority order, from most to least responses. The majority of respondents indicated that their agencies' decisions related to enhanced skills training (refresher) are influenced by the organization's safety activities and performance. Safety activities also took prominent roles in entry level and remedial training activities, as well as both recognition and discipline functions. Few agencies represented by the survey responses rely on their safety departments to make compensation-related decisions.

Q11. Does your agency have an Accident Review Board?



In Question 11, approximately 75 percent of the respondents indicated that their agency uses an accident review board as part of their safety program. However, upon close examination of the individual survey responses, it was determined that over 87 percent of respondents have an accident review board function. There were eight respondents who indicated that “accident review board” is a function of their safety office. These responses are included within the 87 percent expressed in the narrative above. Additional respondents have an accident review function within their agencies, but did not indicate a specific “accident review board.” For these agencies, they indicated that activities such as accident review, accident/incident reporting, and corrective actions are functions of their safety office. A few respondents provided that the review of accidents and incidents is used to identify safety issues and determine corrective actions as necessary.

Question 12 provided respondents the opportunity to describe the composition of the accident review board. The composition of the accident review boards varies from agency to agency, as represented by the individual responses. However, the majority of the respondents indicated that their accident review boards include the driver or their representative, a union representative, the employee’s supervisor, and the operations manager or member of the agency’s management team. There were a few agencies that either have members of the board who are from outside the agency or have boards that are comprised entirely of individuals from outside the agency.

Responses to Question 12 are presented as provided by the respondents and have not been edited for content or formatting.

Q12. Please describe the make-up of your Accident Review Board: (How many people are on the Board? What departments do they represent? Is there outside agency participation?)

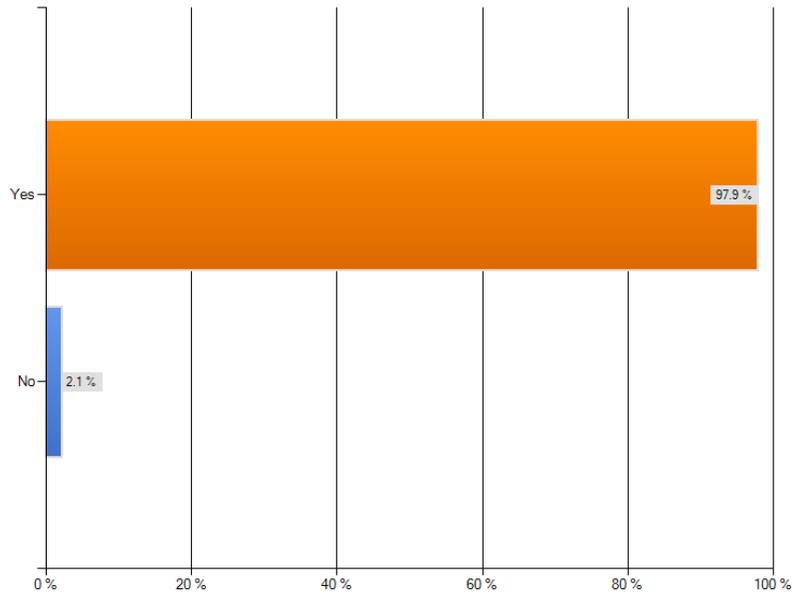
Opened Ended Responses:

- No outside agency participation; bus operators, supervisors, training and operations are represented on the board.
- The transit department sends our accidents to an accident review board comprised of 7 individuals from other departments (risk management, line maintenance, streets, animal control, waste management, etc.) within the City of Oklahoma City.
- Four members from Safety, Training, Service Supervisor, and the Union representative.
- ATU Driver Union Members (3), AFSCME Supervisors Union Members (3), and Outside Independent Party (1).
- 3 for each review, selected from a pool of 8 comprised of drivers and supervisors
- 2 union members, 2 non-union members, and 1 non-employee (currently from National Safety Council)
- Two members of the management team and two operators. No outside agency participation
- We have 2 levels of review for accident disputes. The first level is a REREAD which is chaired by a Safety Officer who did not make the initial judgment and votes only in the event of a tie. The other 2 members at this level are a Union Executive Board member and an Operations Chief. The Accident Review Board is the operator's next opportunity. This is a committee of 4 members - 2 senior operators (20+ years of safe driving) and 2 Chiefs in the operations arena and often includes the Superintendent of Instruction. This review is chaired by a Safety Officer. The committee deliberates after the driver and Safety Officer present their findings and respond to questions from the committee. The committee deliberates privately and vote via secret ballot - the ballots passed to the Safety Officer. Our Accident Review Board is to review Performance of the Operator. As implied in the next question, we don't have a specific panel to deal with NTD reportables or other significant events. That is done by the collective of the Transit Safety Staff.
- Director of Transportation and Operations Supervisors
- Total of 7 members: 3 Operations Supervisors, Senior Dispatcher, Maintenance Director, Driver (Union), and Director of Operations
- Safety Officer, 2 Managers, and 2 Senior Operators
- There are five employees that make up the accident Review Board. The Risk Manager, two ATU members, an Operations Supervisor, and a Maintenance Supervisor
- Engineering, Operations, Safety, and Police Department
- 3 to 4. One must be a director or a manager and training in collision investigation - only takes 2 to judge, but often need 3 for a tie breaker, the safety manager is the non-voting chair and oversees the process

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- GoBus Safety Committee is comprised of the Operations Manager, the Associate Director of Transportation, and the Director of Human Resources plus a driver for accident review.
 - 6 employees; one from each of the following departments, Human Resource, Accounting, Operations, Maintenance, Facility Management, and Planning.
 - 4 members - Maintenance, Operations, Field Service Manager and risk management assistant, along with COO.
 - Safety Committee is made up of 2 management members and 1 union member of contractor providing fixed route service. Safety Task Force is Chief Safety Officer and two management members from contracted firm.
 - 5 members, representing all divisions
 - 2 bus operators from the union, 2 staff members appointed by the director, 1 chairman from County risk management
 - Departments of the City of Key West are appointed by the Risk Management and City Manager which include Fire, Police, Transportation, Code and others.
 - Three members: one union, one company representative, and one neutral party from Pupil Transport Safety Institute
 - Three (3) members and ex-officio member: 1 representing transit operations, 1 representing maintenance and 1 representing coach operators. Ex-officio member represents safety & training.
 - 6 people to include bus operators, managers, supervisors and administrative personnel
 - HR Rep, 1 Bus Operations Supervisor, 2 Union Rep.-Bus Operators. Outside reviewer outside the agency for ties. Safety does not have a representative on the review board.
 - Chairperson-Safety Officer 6 members from: Facilities/Security, Paratransit, Driver Rep, Fleet, Operations Manager, and Drivers Trainer
 - 5 members on board. 2 from management, 2 from bargaining unit, and 1 from PTSI.
 - There is a city-wide safety committee who chair and two others serve these functions. It is actually fairly loosely organized and rarely implemented. It is usually only activates if an employee feels a supervisor made an incorrect determination.
 - The board is made up of five members, two appointed by the Union, two appointed by Management and one neutral member. The neutral is a metro policeman and only votes in the case of a tie.
 - Accidents are reviewed at the weekly Training and Safety Committee meetings that is composed of seven agency managers (Maintenance Manager, Chief Operating Officer, Paratransit Manager, Training Manager, Transportation Manager, Risk Manager, and Service Management Manager). Accidents determined to be preventable can be contested by the employee and presented to the Accident Appeals Board that is composed of a department manager that did not make the preventability determination, two supervisors who did not participate in the investigation, and two members of the department of the employee appealing the preventability determination.

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- There are two layers. An initial committee consists of a one union operator and two frontline supervisors. A rebuttal committee consists of a Department Head, Claims supervisor, and one outside person (e.g., police officer)
 - Two members of Supervision, Two Union Officials, representing Bus, Paratransit, Fleet Maintenance
 - 5 members: Fixed Route Operator of the year, Demand Response Operator of the year, Maintenance Person of the year, Operations Supervisor of the year, and assigned Operations and Management person
 - Agency Chief Operating Officer, Maintenance Manager, Contract Manager, Operations Manager, and Safety Manager
 - A member of each department is represented with Accident Review Board, including a driver. No outside agency participation.
 - Terminal superintendent's serves as the Accident Review Board with all major accidents referred to the Board of Review for final corrective action.
 - Safety Service Delivery - Operations Claims Union Representative
 - 7 person member accident review board: 4 full time operators, 2 part time operator, and 1 maintenance employee
 - Operators may appeal an accident grading to a board comprised of supervisors and selected operators. There is not outside agency participation.
 - 7 members from various departments within the county including: Fleet, Risk Management, Public Transportation, Utilities, Safety, Parks and Recreation and Fire and Rescue
 - Labor and Operations Staff
 - Executive safety and security committee, consists of AGMs of all departments, reviews accident data, does not review individual accidents for determinations
 - The board only reviews accidents by City employees, not the transit contractor.
 - The board consist seven people as follows: The Operations/Safety Director, four bus operators and two Maintenance people.
 - 2 Drivers//1 Mechanic//1 Facilities Maintenance//Safety Manager//1 Alternate (Driver)
 - 5 members and one chairperson (the chair does not vote) we try to include a person from each department, the chair read the TSI guidelines and the operator is allowed to tell his/her side, then video or other evidence is reviewed and then the committee votes and presents the decision to management

Q13. Does your Accident Review Board review accidents/incidents that fall below NTD major-reportable thresholds?

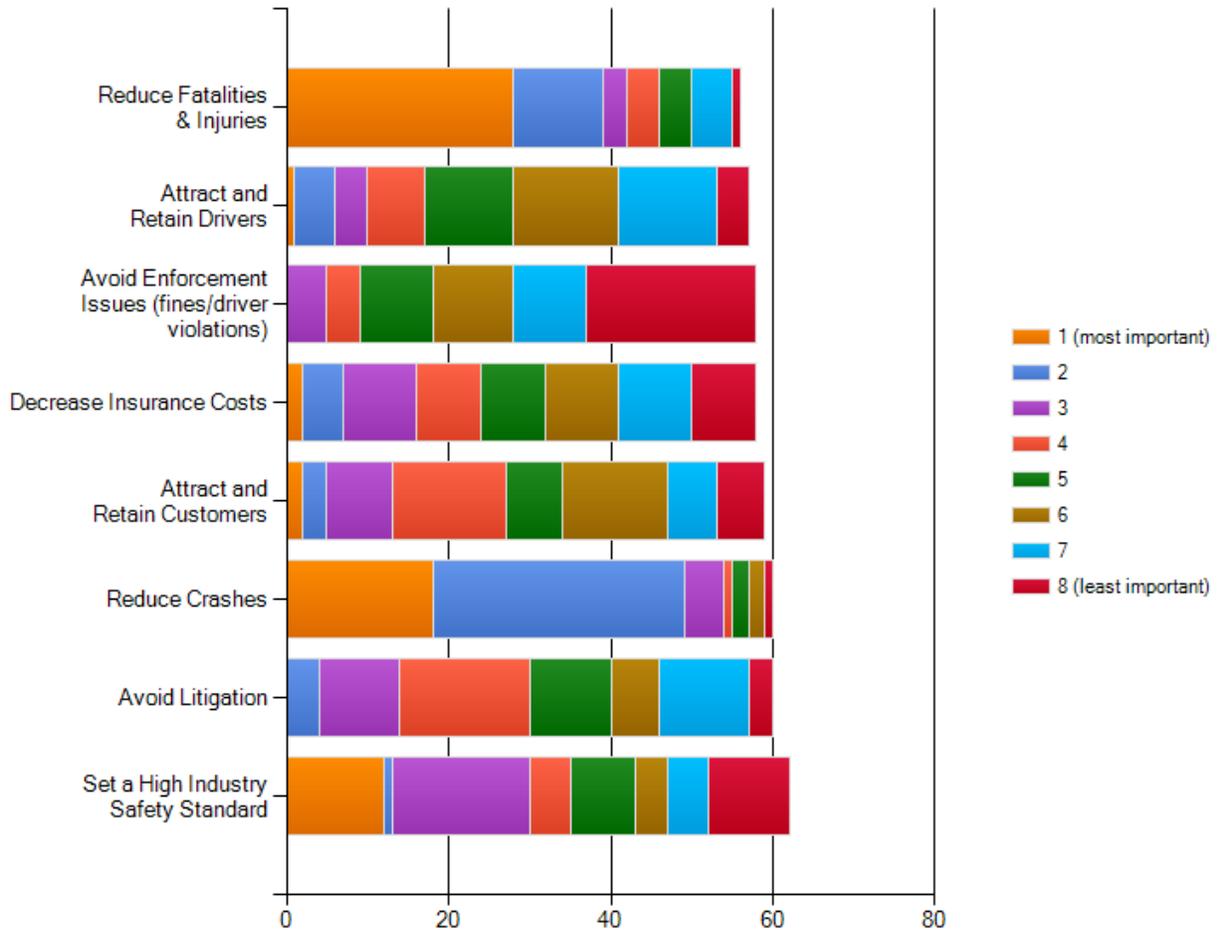


As defined in the National Transit Database (NTD), a major incident is one that meets at least one of the following thresholds:

- A fatality (30 days or less from the collision and not due to natural causes)
- An injury requiring immediate medical assistance away from the scene
- Property damage greater than or equal to \$25,000
- Evacuations due to life safety reasons
- Any mainline derailment (rail transit systems)

Close to 98 percent of the respondents to Question 13, indicated that their agencies' accident review boards review accidents and incidents that fall below these NTD major-reportable thresholds.

Q14. Please rank order the following seven motivations for improving agency safety 1 through 8, with 1 being the most important, and 8 being the least important.

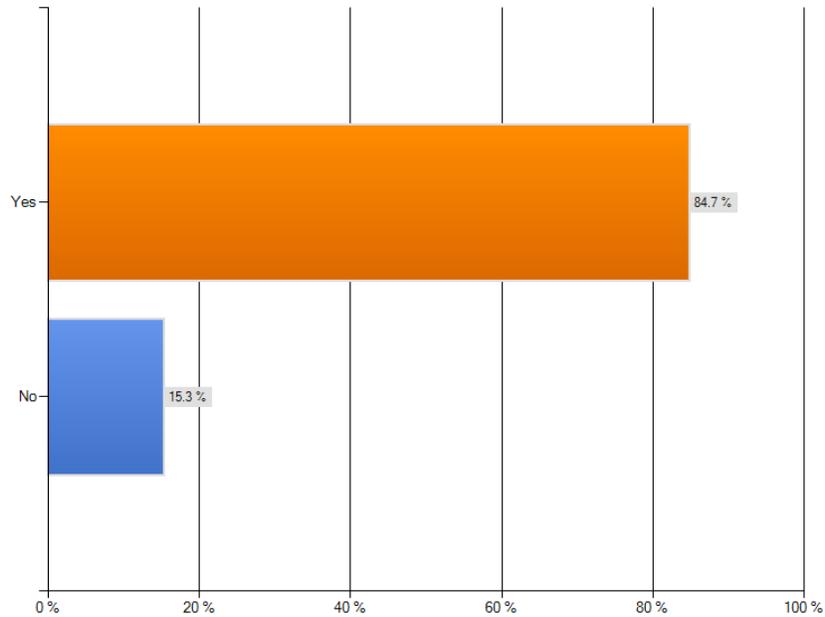


For Question 14, respondents were limited to one selection per category (from 1 to 8, with 1 being the most important and 8 the least important). The intent of this question was to rank the importance of the motivations for improving an agency safety program. For each selection, the responses are presented from most important (on the left) to the least important (on the right) in the responding color of the importance rank.

Selections with the greatest amount of orange (#1), dark blue (#2), and purple (#3) would be those rated as most important by the respondents. The selections deemed most important to the agencies represented include:

- Reduce Fatalities and Injuries (almost 30 percent of respondents selected this category as “most important”)
- Reduce Crashes
- Set a High Industry Safety Standard

Q15. Does your agency have established safety performance measures?



In Question 15, approximately 85 percent of the respondents indicated that their agencies have established and track safety performance measures, with approximately 15 percent (nine respondents) who indicated that they do not track performance measures. Upon further review of the individual survey responses, there were two out of the nine agencies that indicated they do not track performance measures, but later responded to Question 16 with a list of those measures collected. In addition, there were respondents that contracted all transportation services, providing no directly operated service. It is likely in these cases that the contractor has established and is tracking performance measures that are then reported to the agency.

Question 16 provides the responses of survey participants to the open-ended request to list the safety performance measures their agencies track. The responses are reflected verbatim as provided by the respondent. The responses have not been altered or edited.

The performance measure most frequently indicated by the survey respondents was accidents per 100,000 miles (with minor variations). A number of agencies also track preventable accidents. A few respondents also indicated that they track workers' compensation and personal injury claims.

Q16. Please list the safety performance measures your agency tracks:

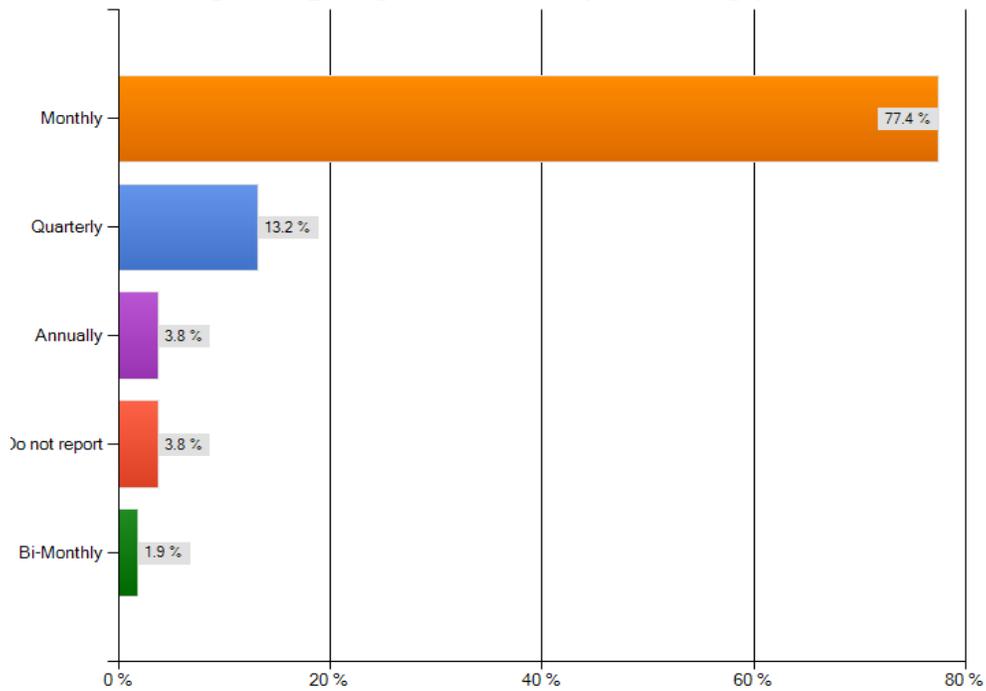
Opened Ended Responses (reflects verbatim responses):

- Our measures include: accidents per 100,000 miles, injury claims per 100,000 miles, security incidents per 200,000 passengers, number of on the job injuries (OJIs), number of safety classes conducted, number of employees trained, total OJI cost per worker, claims closed, total claims expenditures, total claims filed, total percentage of at fault accidents, and number of safety assessments completed.
- We track the following safety performance measures: employee claims by cost center, employee claims by seniority, employee claims by injury type, employee claims by day of week, employee claims by gender, employee lost time claims/100 employees, accident description, accident by Category, accident by location, accident by gender, accident by day of the week, accident by seniority, accident by cause code, accident by vehicle number, accident by time of day, accident frequency per 100,000 miles, and accident by route.
- Accidents per 100,000 miles, preventable versus non-preventable, new claims
- Preventable accidents per 100,000 miles driven
- All accident and all injuries
- Awards/Recognition
- Accidents, hard stops, citations, safety policy violations
- Accidents per 100,000 miles for each mode
- Accidents, incidents, violations, inspections
- Accidents per mile accident preventability
- We use the old NTD codes for performance measures by trending all incidents, collisions, etc.
- Daily inspections of all vehicles, oil changes and tire rotations, driver safety training
- Reduction in insurance costs, accidents and incidents per 10,000 miles of service
- Severity of claims, number of preventable accidents, miles between preventable accidents, and timely submittal of accidents/claims
- Vehicle incidents and client incidents
- Number of accidents per quarter, per year, by driver, and number of incidents, including customer service issues that are non-vehicle related.
- Type and causation of accidents
- Accidents/incidents per 100k miles, preventable and non-preventable incidents, workplace safety, workers compensation claims, vehicle defects, and employee lost time
- Collisions, types of collisions, preventability, complaints by customers and general public with whom we share the road, training.
- Vehicular Collisions, Employee Injuries, Customer Injuries,
- Preventable accidents per 100,000 miles, 100% compliance with state mandated annual training, 100 % OSHA and CalOSHA compliance.
- # of accidents, # injuries due to accidents, # of passenger injuries/non accident
- Accidents and Incidents
- preventable accidents and incidents
- Preventable and non-preventable accidents, passenger injuries

-
- Accidents, road calls
 - Accident Frequency Rate = preventable accidents per 100,000 miles traveled. Number of years per operator without a preventable accident. Injuries per department.
 - Claims costs, accidents per mile
 - Collisions, Injuries, Incidents, Industrial Injuries, Assaults, Threats, Disputes
 - Accidents, Complaints, Incidents, On Time Performance, Training, Post Accident Training
 - OTJ injuries, lost time from work, incidents/accidents, customer safety complaints, motorist safety allegations, ride-along safety analysis, on the road follow up safety observations
 - All collisions preventable and non-preventable as well as employee behavior with regard to injuries. We also utilize DriveCam for retraining when necessary
 - Accidents per 100,000 miles, raw number bus accidents - no more than 44 per month, raw number rail accidents - no more than 4 per month, employee injuries - no more than 22 per month
 - Preventable accidents Collision type (fixed object, vehicle, pedestrian, passenger, bike, etc.), injuries, service and age evaluation, point of contact and location evaluation
 - Traffic accident/100,000 miles; passenger accidents/100,000 passengers; accidents graded preventable, accident liability claims, claims in suit, claims by reserve amount, OJI claims involving lost days
 - Accidents, road calls, complaints, incidents and injuries.
 - Accident/Incidents per 1000 trips
 - All accidents are track by type, location, operator and vehicle. Analysis generates potential and contributing causes which are also tracked.
 - Accidents per 100,000 miles
 - Number of accidents per 100,000 miles.
 - Potential for injury/damage cost of injury/damage accidents/100,000 miles passenger accidents/100,000 miles
 - Preventable accidents preventable incidents Workers comp claims Personal injury claims

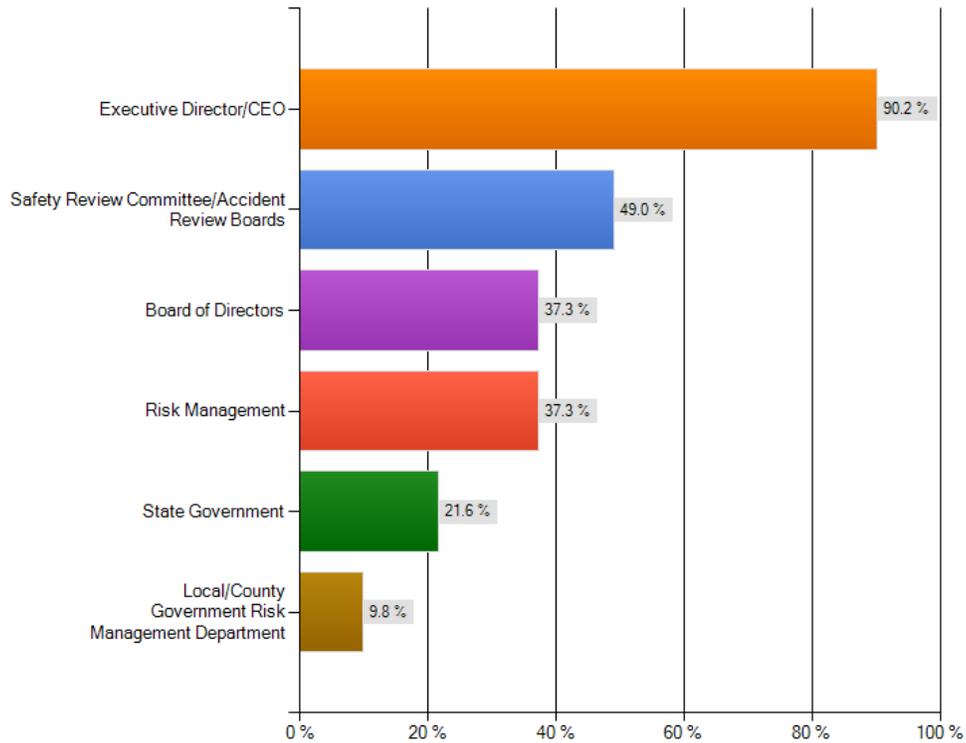
The next two questions sought information on the frequency with which the agencies track and report safety and performance measures, as well as to whom the safety measures are reported.

Q17. How often does your agency track and report safety performance measures?



As detailed in the responses to Question 17, the majority or 77.4 percent (41 out of 53 respondents to the question) of the agencies reported that they track and report safety and performance measures on a monthly basis. Quarterly (13.2%) was the next most mentioned frequency reported by seven respondents.

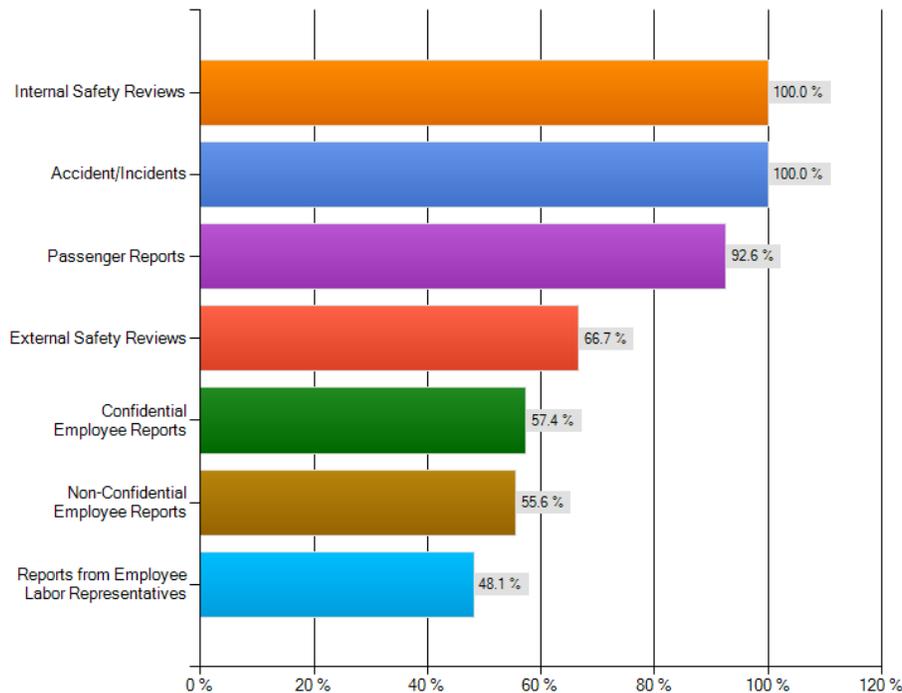
Q18. To whom do you report safety performance measures?



Question 18 asked respondents to identify those individuals or organizations to whom safety performance measures are reported. The majority of the agencies represented report performance measures to the executive director or chief executive officer of the agency. Almost half of the respondents indicated that their agencies provide performance measures to a safety review committee or accident review board. Depending on the organizational structure of the agency, a few also report to a local or county government office, such as risk management.

Over 21 percent also provide performance measures to state government within which they operate. The significance of this response may be related to the composition of the survey respondents. There were 13 respondents to this question who represented agencies operating in Florida. As a requirement of receiving Florida Transit Block Grant funding (available to FTA Section 5307 recipients), these agencies are required to post performance measures on an annual basis. A number of those that indicated the reporting of performance measures to “state government” included representatives of Florida systems.

Q19. How does your agency identify safety related issues?



Question 19, which permitted respondents to provide multiple responses, probed to determine how the transit agencies identify safety-related issues.

The three most prevalent responses were:

- Internal safety reviews
- Accidents and incidents investigations and reports
- Passenger reports

Survey Conclusions

Safety Department/Function Organization

The majority of survey respondents indicated the existence of a single safety-department within their agency (63.5%). Approximately 30 percent responded that they do not have a single separate safety department responsible for the safety of all modes operated by their agency. These agencies did indicate that safety responsibilities for each mode of service are shared among those modes. Over six percent of respondents indicated their agencies have a separate safety department representing each mode of service operated. The balance of the respondents stated that they do not have an official safety department, rather the safety responsibilities are handled by multiple units within their agency.

A slight majority of respondents indicated that the leader of their agency safety department reports directly to the Executive Director or CEO of the agency (44.1%), with slightly fewer respondents (42.4%) indicating that their safety department or function leader reports to a department director. Only 23.7 percent of respondents indicated that the safety

department leader was “on-par” (i.e., equal in position and level of authority) with other members of the executive team.

With the tremendous emphasis placed on transit safety in the advent of the Moving Ahead for Progress for the 21st Century Act (MAP-21) and in anticipation of upcoming regulations and guidance on the topic, it would seem important to allow an agency’s safety leader to be equal in position and authority with members of the leadership team. While there is no evidence available in the survey responses to suggest that a safety leader with limited authority diminishes the influence or focus on safety for an agency, this topic does require additional reflection.

When asked about the number of full time equivalent (FTE) positions dedicated to safety functions within these agencies, over 80 percent of respondents indicated that there are 10 or fewer FTEs assigned to safety functions. It is recognized that the staffing levels reported by respondents fluctuated depending upon the diversity and size of the transit agency.

There was insufficient detail provided in the survey responses to make any conclusions about the most effective structure of a safety department or function, or a standard for the number of FTEs an agency should dedicate to those safety related functions.

Safety Functions

The safety functions that are consistently applied in those agencies represented by the survey respondents include (in order of prevalence):

- Compliance with state and Federal regulations
- Establishment of corrective action plans and providing feedback to management
- Event and incident reporting
- Development and enforcement of safety related rules and policies
- Training
- Event and incident analysis
- Accident review board

Of considerable importance to these agencies are event and incident reporting and analysis coupled with the establishment of corrective action plans. Central to these activities is the thorough review of accidents and incidents. The majority of respondents indicated that they review a significant majority of all accidents and injuries occurring within their systems, including those that are below the “major incident thresholds” established for NTD reporting.

While “accident review board” was not one of the most prevalent responses to this survey question, further examination of Question 8 and Question 11 related to the existence of a formal accident review board within the agency confirm that the accident review board function has prevalence within those transit agencies represented. Responses to Question 12, an open-ended question of the composition of the accident review board, suggest variability in the representatives assigned to the board. Yet, for the majority of respondents, whether the accident review board is independent of a single office within a transit agency or simply a part of the safety functions performed by the agency, there is

diverse representation from within the agency (and in a few cases, from outside the agency). A significant number of the accident review boards that exist within the agencies represented include the driver (or representative), union representative, the employee's supervisor (or operations manager), and a member of the management team.

There was insufficient detail to suggest any standards related to the minimum safety functions that should be employed by transit agencies. However, each of the functions delineated above are recognized as critical to the safety performance of a transit agency. The way in which the accident review board is organized within those transit agencies represented and the membership of these boards are inconsistent. However, agencies participating in this research project are consistent in their recognition that the accident review board function is necessary and that representation must include members from a cross section of the agency.

Transit Safety Summit and Florida Transit Safety Network (FTSN)

As part of this project, the Research Team conducted a statewide summit for Florida's transit safety managers and other personnel on June 19, 2013 in Tampa, Florida. The Summit, held in cooperation with FDOT's Office of Freight Logistics and Passenger Operations and the Florida Public Transportation Association, brought together transit professionals committed to public transit safety.

The Transit Safety Summit was envisioned to be the kick-start of a statewide discussion on transit safety and was designed to:

- Define key transit safety issues and impacts
- Promote new interdisciplinary collaboration between Florida's transit safety personnel
- Develop steps of action for continuing coordinated effort to improve safety
- Improve means for data collection and sharing
- Establish roles and responsibilities for continuing a statewide transit safety network

The Transit Safety Summit was extremely well attended and received by Florida's public transit agencies. A formal presentation was made by Dr. Thobias Sando on the topic of "Safety Implications of Transit Operator Schedule Policies." Breakout session discussion topics centered around four critical transit safety areas or topics directly influencing transit safety including:

- Bus Operator Fatigue
- Assaults and Post-Event Practices
- Recruiting, Developing, and Training Professional Bus Operators
- Safe Bus Operations

On the topic of "Bus Operator Fatigue," the session participants discussed the factors that influence fatigue for their bus operators. These factors, and associated solutions when provided, included outside employment, the accounting of outside driving hours, completion of outside employment forms, and policies or programs that restrict or prevent outside employment; total driving hours and hours of service modifications; route scheduling and ensuring that the scheduling of routes observes the property timing of stops, consideration

of outside influences to the schedule, and allowance for scheduled bus operator breaks; and setting limits on split shifts.

Participants in the breakout session of “Assaults and Post-Event Practices” discussed the frequency with which their agencies are having assault incidents and the type and level of severity of those assaults. HART reported that they average ten non-violent assaults and one physical assault per month. For Gainesville RTS, two to three minor assaults are committed on average per month. RTS representatives indicated that they had one violent assault against a bus operator within the last ten years. The primary causal factors for assaults as presented by participants included employee actions, patron actions, issues related to sensitivity of the driver (especially toward people with disabilities or those with mental illnesses), or all of the above.

Transit agencies did indicate that for many assault events, the bus operator either aggravated a volatile situation or did little to diffuse the situation. In an effort to hire bus operators with a temperament conducive to working with the public, both RTS and HART utilize ergo metric testing for potential new bus operator hires.

Other discussion points included the criticality of customer service skills and annual in-service training. In addition, participants discussed the value of onboard cameras to help analyze assault events and potentially prevent future assaults.

“Recruiting, Developing, and Training Bus Professionals” covered a number of topics including the interview and hiring processes; content of training curriculum for new hires; and strategies to retain existing employees, including activities to improve morale.

One of the most well attended and insightful breakout sessions covered the topic of “Safe Bus Operations.” Included as discussion points were driver distractions and the source of those distractions; rear-end collision and what can be done to reduce the incidence of these collisions; driver rest periods; the review of onboard video cameras for retraining and remedial training and to examine driving trends and habits, both “good and bad”; bus stop locations; most common factors in accidents – weather and traffic; and personal injuries on the bus and what can be done to mitigate these injuries.

Training was a discussion point within the breakout sessions and dialogue between all participants in the main session. Identified critical training areas are provided below (with example representative training courses also provided):

Fatigue and the Transit Employee

Representative courses would include:

- *Fatigue and Sleep Apnea Awareness for Transit Employees* from the Transportation Safety Institute (TSI)
- *Toolbox for Transit Operator Fatigue: Putting the Report Into Action* from the National Transit Institute (NTI)
- *The Runcutter Course* (available from private vendor) or other route scheduling and review courses

Assaults and Post-Event Practices

Representative courses would include:

- *Violence in the Transit Workplace - Prevention, Response and Recovery* (NTI)
- *Harassment Prevention for Transit Employees* (NTI)
- *Harassment Prevention for Transit Supervisors* (NTI)
- *Identifying IED Threats to Public Transit* (TSI)
- *Customer Service Skills* (available from multiple sources)

Recruiting, Developing, Training Professional Bus Operators

Representative courses would include:

- *Effective Supervision in Transit* (NTI)
- *Fundamentals of Transit Supervision* (NTI)
- *Transit Mid-Manager Seminar* (NTI)

Safe Bus Operations

Representative courses would include:

- *Wireless Distractions Training Resource Program* (FDOT)
- *Curbing Transit Employee Distracted Driving* (TSI)
- *Transit Bus System Safety* (TSI)
- *Transit Industrial Safety Management* (TSI)
- *Bus Collision Prevention and Investigation Seminar* (TSI)
- *Safety, Security, and Emergency Management Considerations for FTA Capital Projects* (TSI)

Moving Forward – Florida Transit Safety Network (FTSN)

Due to the overwhelming success of the Transit Safety Summit and the strong interest shown by Florida's public transit agencies, the Florida Transit Safety Network (FTSN) has become an established statewide network.

The FTSN has been established with membership representing each of Florida's public transit agencies following a set of prescribed objectives, including:

- Providing a forum or platform for discussion of transit safety issues and opportunities
- Being a resource to FDOT for the identification of transit safety issues, including areas of greatest risk
- Ensuring the provision of transit safety-related training courses in response to identified needs
- Providing a mechanism for consolidated stakeholder input for proposed modifications to Rule Chapter 14-90, Florida Administration Code or other statewide efforts
- Serving as a forum by which transit agencies can discuss transit safety issues and share successful methods used to address those issues
- Maintaining a coordinated front to address FTA transit safety program requirements issued in accordance with MAP-21 mandates
- Coordinating with the Florida Operations Network (FON) and Florida Transit Maintenance Consortium (FTMC) on those topics of shared interest
- Identifying transit safety training needs

The following committees, organized around a critical transit safety issue area, have been established to assist the FTSN in meeting their aggressive goals:

- Collisions - this committee is charged with examining rear-end, fixed object, and other transit collisions with the goal of reducing injuries and fatalities of transit employees and passengers and mitigating risks.
- Driver Fatigue – this committee is charged with examining driver fatigue-related issues and factors including outside employment, split shifts, driver hours, and other related topics.
- Operator and Passenger Safety (including assaults and injuries) - this committee is charged with examining multiple topics that impact the safety of bus operators and transit passengers including assaults of bus operators and passengers, passenger injuries that occur during boarding/alighting and while on board, other topics to reduce injuries and prevent fatalities on transit buses and mitigate risk.
- Distracted Driving - this committee is charged with examining the sources of distracted driving, associated impacts, and model policies or practices that have been implemented by public transportation systems to reduce transit incidents caused by distracted driving.
- Safety Training – this committee is tasked with undertaking a comprehensive examination of safety training for bus operators and will closely coordinate with the four subcommittees listed above. Subcommittee members will examine the content of current training curriculum, model practices, and may make recommendations on voluntary training standards for Florida’s public transportation systems. The primary goals for this subcommittee are the improvement of training content and practices for transit safety training in Florida and the reduction of transit injuries and fatalities.

Chair and co-chairs for each committee were drawn from FTSN membership and committees include subject matter experts, members of the project team, and additional membership from the FTSN.

The outcomes of each committee may include, but not be limited to, the development of policies, practices, training content, or other guidance with the overall goal of improving transit system safety among Florida’s transit agencies.

Chapter 3

Bus Operator Assaults – Current Conditions and Agency Post-Event and Return-to-Duty Practices

Background Statement

This chapter discusses the findings resulting from the examination conducted under RTA #2 – Bus Operator Assaults – Current Conditions and Agency Post-Event and Return-to-Duty Practices.

Bus operators are their transit agency's first responders for any incident involving their vehicles and they are responsible for the safety of their passengers. A significant threat to transit safety is the increasing number of assaults on both bus operators and transit passengers. This threat is of even greater concern when the assaults result in the inability of bus operators to return to their positions.

The news media are rife with stories about assaults on transit bus drivers, with many reporting increases in the number of events at transit agencies across the country. Headlines such as "Bus driver safety on public transit draws more attention after attack on SEPTA bus driver,"² "Metro bus drivers concerned about their safety,"³ "Rise in transit worker assaults prompts summit seeking solutions,"⁴ "Transit violence signals need for more security,"⁵ and "Atlanta bus driver attacks on the rise"⁶ suggest that this is a national trend.

In *TCRP Synthesis Report 93: Practices to Protect Bus Operators from Passenger Assault*, the results of a survey of transit agencies revealed significant workplace issues related to assaults. The responding agencies discussed impacts, such as injury-related claims, but also reported increased operator anxiety, stress, and absenteeism, diminished productivity, and union grievances because of assaults.⁷

There is fairly extensive literature devoted to driver safety, defensive driving, and training or preparing bus operators for violent engagements with passengers or others. However, very limited literature is available that describes the methods applied after an event to assist bus operators who have been assaulted or have experienced other traumatic events to help them successfully return to their duties. This chapter identifies the methods used by selected transit agencies to counter the physical and psychological impacts of these events, including the use of Employee Assistance Programs (EAPs) and other tools.

² <http://philadelphia.cbslocal.com/2012/03/18/bus-driver-safety-on-public-transit-draws-more-attention-after-attack-on-septa-bus-driver/>

³ <http://www.wusa9.com/news/article/233294/158/Metro-Bus-Drivers-Concerned-About-Safety-After-Recent-Incidents>

⁴ <http://www.thenewyorkworld.com/2012/05/10/rise-in-transit-worker-assaults-prompts-summit-seeking-solutions/>

⁵ <http://www.metro-magazine.com/blog/from-the-editor-s/story/2012/01/transit-violence-signals-need-for-more-security.aspx>

⁶ <http://www.ajc.com/photo/news/local/atlanta-bus-driver-attacks-on-the-rise/pcDps/>

⁷ *TCRP Report 93: Practices to Protect Bus Operators from Passenger Assault*, Transportation Research Board of the National Academies, Washington, DC, 2011.

Research Objective

The objective of this research effort was to conduct a comprehensive examination of return-to-duty procedures implemented by transit agencies for their bus operators who have experienced assaults or other traumatic events. This chapter identifies how agencies currently assist bus operators to resume their duties after the occurrence of these events; discusses the opportunities provided for continued employment at the agency or other benefits if a bus operator is unable to return to their duties; and provides a summary of industry leading practices.

Prior to the discussion of agency practices, it is important to understand the number of assaults on the nation's public transit bus systems.

Primary Data Source

To effectively frame the discussion of assaults on bus operators and transition to the methods transit agencies use to address post-event assistance, a status report on the state of the industry and current conditions under which the nation's public transportation systems are operating is provided. The primary source of the data included in this discussion is the NTD.

NTD's Safety and Security (S&S) 40 Form (Major Incident Report Form) is the primary source of data reflected within subsequent sections. As defined in the NTD, a major incident is one that meets at least one of the following thresholds:

- A fatality (30 days or less from the collision and not due to natural causes)
- An injury requiring immediate medical assistance away from the scene
- Property damage greater than or equal to \$25,000
- Evacuations due to life safety reasons
- Any mainline derailment (rail transit systems)

NTD defines assault as "an unlawful attack by one person on another." Assaults are categorized within NTD as personal security events, which are security events that occur to individuals on transit property that meet the reporting thresholds reflected above. The data presented herein include only those assaults that meet one of these thresholds and were reported on NTD's S&S 40 Form. While this does not provide a complete representation of all types of assaults (such as harassment, verbal abuse, and injuries that do not require transport from the scene), it does provide insight on the trending of those assaults that are more likely to result in physically- or emotionally-compromised or debilitating bus operator condition.

Status Report – Bus Operator Assaults

The following section presents aggregated national and Florida specific transit assault data for the 2008 through 2012 NTD reporting years. It includes injuries and fatalities that have resulted from assault events, the general categories of those who have been victims, and the data trends.

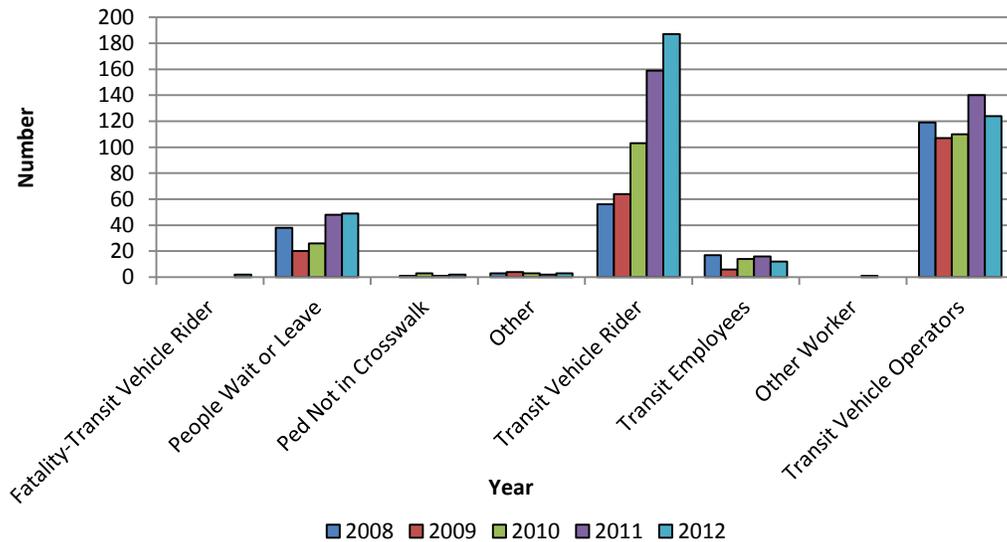
Number of Assaults – National

Table 3-1 identifies all motorbus (transit bus) related assaults reported to NTD for 2008 through 2012, and Figure 3-1 graphically illustrates these data. The data indicate that assaults are on the rise, with injuries to transit vehicle riders sustained during an assault event being the most prevalent, followed by injuries to transit vehicle operators (bus drivers). Figure 3-2 illustrates the trend in assaults on transit riders and transit agency employees from 2008 through 2012.

Table 3-1. Motorbus Assaults - Fatalities/Injured Persons, 2008- 2012

	2008	2009	2010	2011	2012
Fatality – Transit Vehicle Rider	0	0	0	0	2
Injuries to Person Waiting or Leaving	38	20	26	48	49
Injuries to Pedestrian Not in Crosswalk	0	1	3	1	2
Injuries – Other	3	4	3	2	3
Injuries to Transit Vehicle Rider	56	64	103	159	187
Injuries to Transit Employee	17	6	14	16	12
Injuries to Transit Vehicle Operator	119	107	110	140	124
Total Assaults	233	202	259	367	379

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.



Source: NTD, 2008-2012.

Figure 3-1. Motorbus Assaults and Fatalities/Injured Persons, 2008–2012.

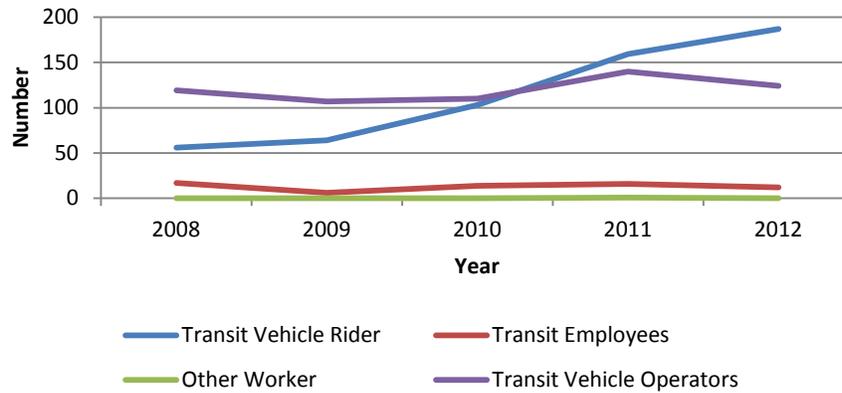


Figure 3-2. Motorbus Assaults by Victim – Rider, Employee, Worker, and Operator, 2008–2012.

Table 3-2 presents the percentage of assaults by category for NTD Reporting Year 2012, and Figure 3-3 provides a corresponding illustration of the proportion of assaults for each category. Consistent with the presentation of time series data from 2008 through 2012, for NTD Reporting Year 2012, injuries sustained by transit vehicle riders were significantly greater than those assaults reported for the remaining categories, representing 49.3 percent of all assaults reported as major incidents. This is followed by injuries sustained by bus operators as a result of assault events. (It is important to note that these data represent the reporting to NTD of incidents categorized as “Major Incidents” that meet the thresholds listed above and do not reflect all assaults, such as those that involve verbal assault, harassment, or spitting, which are captured as minor incidents included in aggregated totals.)

Table 3-2. Percent of Assaults by Category, 2012

	Number of Assaults	Percent of Total
Fatality, Transit Vehicle Rider	2	0.5%
Injuries, People Waiting or Leaving	49	12.9%
Injuries, Pedestrians Not in Crosswalk	2	0.5%
Injuries, Other	3	0.8%
Injuries, Transit Vehicle Riders	187	49.3%
Injuries, Transit Employees	12	3.2%
Injuries, Transit Vehicle Operators	124	32.7%
Total Assaults	379	100%

Source: NTD, 2012.

Motorbus Assaults, 2012

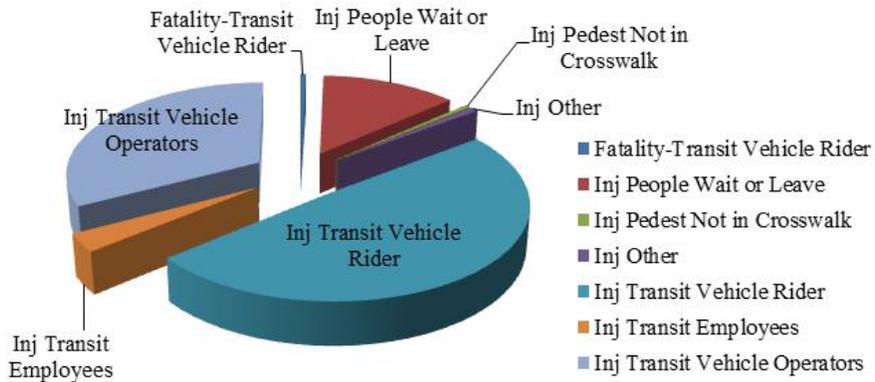


Figure 3-3. Total Motorbus Assaults by Fatality/Injury Category, 2012.

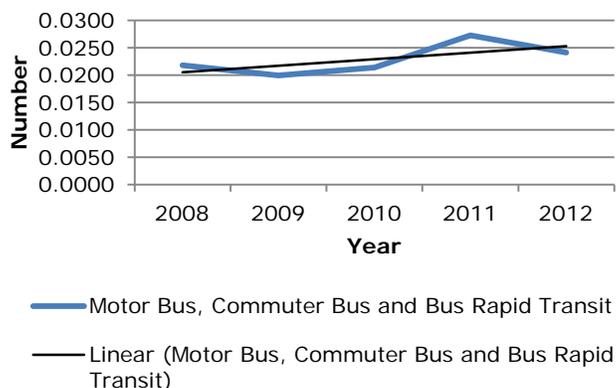
Trends in Bus Operator Assaults

Table 3-3 identifies the number of vehicle operator injuries as a result of assaults per one million passenger trips. This includes injuries to vehicle operators within the following reporting modal categories: motorbus, commuter bus, and bus rapid transit. Figure 3-4 illustrates these numbers and establishes the linear trend for this metric for the reporting period.

Table 3-3. Vehicle Operator Injuries Resulting from Assaults per 1 Million Passenger Trips

Year	Number Injured	Injuries per 1 M Passenger Trips
2008	119	0.0218
2009	107	0.0200
2010	110	0.0214
2011	140	0.0273
2012	124	0.0241

Source: NTD, 2008–2012.



Source: NTD, 2008-2012.

Figure 3-4. Trend in Vehicle Operator Injuries Assaults per 1 Million Passenger Trips, 2008–2012.

While there was a decrease in total vehicle operator injuries sustained as a result of assault events from 2011 to 2012, the overall trend reflects a marginal increase from 2008 to 2012. These aggregated data do not reflect the variation in trends across agencies. Many small and mid-size transit agencies have very few assaults that would meet the major incident thresholds. The majority of these reported incidents are those that occur within the largest systems.

In the review of NTD data for the period of 2008 through 2012 for injured transit vehicle operators for all modes, ten agencies with the largest number of assaults accounted for 587 of 706 of the injuries reported (83.1%). Of the total assaults, 85.9 percent were reported on motorbus (504 out of 587 total assaults on operators). The Metropolitan Transit Authority (MTA), New York City Transit (NYC Transit) reported 282 of the 504 assaults on bus operators, 56.0 percent of the total. The Chicago Transit Authority (CTA) reported 118 out of the remaining 222 incidents (23.4% of the total motorbus operator assaults) from 2008 through 2012.

In an interview conducted in May 2012, a spokesman for the MTA discussed the significant rise in violent assaults on its bus operators. He reported that in 2010, there were 72 physical assaults on NYC Transit bus drivers or subway workers and 936 cases of harassment, a category that includes verbal abuse, spitting, and any other non-physical incidents. In 2011, the number of assaults rose to 94, with 1,092 incidents of harassment.⁸ During a press conference in October 2012, the president of NYC Transit’s Transit Workers Union (TWU) Local 100 stated that its bus drivers had been experiencing an “epidemic of violence, with approximately three to four serious assaults occurring each week.”⁹

In 2005, the Amalgamated Transit Union (ATU) and its local 741 in Ottawa, Canada, conducted a survey of bus operators on the topic of assaults, with 1,468 operators and 7 union locals in Canada participating in the survey. Of these, 36 percent replied that they had been a victim of a physical assault, and 55 percent had experienced verbal assaults.

⁸ <http://www.thenewyorkworld.com/2012/05/10/rise-in-transit-worker-assaults-prompts-summit-seeking-solutions>.

⁹ www.twulocal100.org/news/100/827.

Forty-five percent of drivers (approximately 660 drivers) indicated that training was needed in the areas of awareness, response, and self-defense techniques. They also suggested that training curriculum include what to do after an assault occurs, including the sources of support available, who to contact, and the process for accessing those services.¹⁰

In the following section, assault data reported by Florida’s transit systems will be examined and discussed.

Number of Assaults – Florida

To effectively frame the discussion of assaults on bus operators and transition to addressing post-event assistance for Florida’s public transit systems, the following section provides data reported by Florida systems that report to NTD.

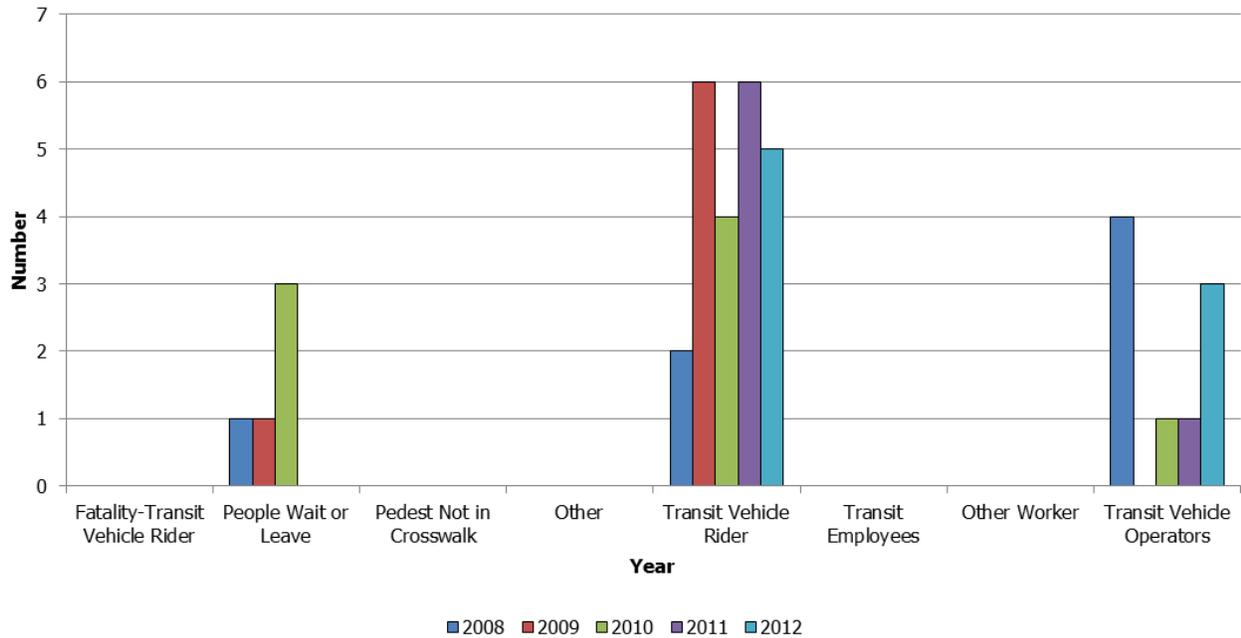
Table 3-4 identifies all motorbus (transit bus) related assaults reported by these systems to NTD for 2008 through 2012, and Figure 5 graphically illustrates these data. The data indicate that assaults have fluctuated from 2008 through 2012, with no notable trend. As reflected in the national data, injuries to transit vehicle riders sustained during an assault event are the most prevalent assault injuries, followed by injuries to transit vehicle operators and individuals who are waiting on the bus to arrive or who have recently alighted the vehicle.

Table 3-4. Florida Motorbus Assaults - Fatalities/Injured Persons, 2008–2012

	2008	2009	2010	2011	2012
Fatality – Transit Vehicle Rider	0	0	0	0	2
Injuries to Person Waiting or Leaving	1	1	3	0	0
Injuries to Pedestrian Not in Crosswalk	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	2	6	4	6	5
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	4	0	1	1	3
Total Assaults	7	7	8	7	8

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

¹⁰ D. Bruyere and J. M. Gillet, *National Operator Assault Survey Results 2005*, ATU, 2006.



Source: NTD, 2008-2012.

Figure 3-5. Florida Motorbus Assaults and Fatalities/Injured Persons, 2008–2012.

Table 3-5 presents the percentage of assaults by category for NTD Reporting Year 2012, and Figure 3-6 provides a corresponding illustration of the proportion of assaults for each category. Consistent with the presentation of time series data from 2008 through 2012, for NTD Reporting Year 2012, injuries sustained by transit vehicle riders were significantly greater than those assaults reported for the remaining categories, representing 62.5 percent of all assaults reported as major incidents. This is followed by injuries sustained by bus operators as a result of assault events (37.5%).

Table 3-5. Percent of Assaults by Category, 2012

	Number of Assaults	Percent of Total
Fatality, Transit Vehicle Rider	0	0.0%
Injuries, People Waiting or Leaving	0	0.0%
Injuries, Pedestrians Not in Crosswalk	0	0.0%
Injuries, Other	0	0.0%
Injuries, Transit Vehicle Riders	5	62.5%
Injuries, Transit Employees	0	0.0%
Injuries, Transit Vehicle Operators	3	37.5%
Total Assaults	8	100.0%

Source: NTD, 2012.

Florida Motorbus Assaults, 2012

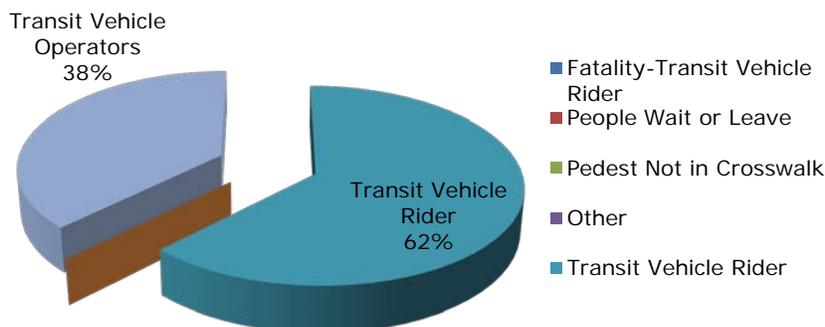


Figure 3-6. Total Motorbus Assaults by Fatality/Injury Category, 2012.

Trends in Florida Bus Operator Assaults

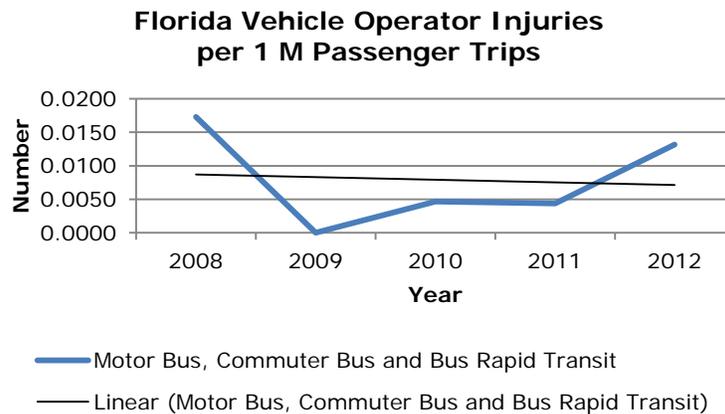
Table 3-6 identifies the number of transit vehicle operator injuries normalized by assaults per one million passenger trips. This includes injuries to vehicle operators within the following reporting modal categories: motorbus, commuter bus, and bus rapid transit. Figure 7 illustrates these numbers and establishes the linear trend for this metric for the reporting period (2008 through 2012).

Table 3-6. Vehicle Operator Injuries Resulting from Assaults per 1 Million Passenger Trips

Year	Number Injured	Injuries per 1 M Passenger Trips
2008	4	0.0173
2009	0	0.0000
2010	1	0.0047
2011	1	0.0044
2012	3	0.0132

Source: NTD, 2008–2012.

There was a decrease in total vehicle operator injuries sustained as a result of assault events when normalized by one million passenger trips. The corresponding linear trend also shows a marginal decrease from 2008 to 2012. However, since 2009 there has been an increase in the number of vehicle operator injuries that resulted from assault events, as reflected in Figure 3-7.



Source: NTD, 2008-2012.

**Figure 3-7. Trend in Vehicle Operator Injuries Assaults
per 1 Million Passenger Trips, 2008–2012.**

These agencies, as well as other systems of various sizes and locations across the U.S., have responded to the assaults on their bus operators by providing training to help bus operators reduce the opportunity for disputes that could escalate to assaults; providing physical barriers or other devices to deter assaults; and establishing policies and procedures to reduce the likelihood of assaults. Many are also providing services and benefits to their operators who have been the victims of assaults. (A number of these practices are also employed in the event operators experience other traumatic events.)

Leading Post-Event Practices

Most U.S. transit systems, including Florida's systems, have been proactive in establishing standard operating procedures (SOPs) developed to deter or reduce assault events. Based on the survey of 88 transit systems conducted for *TCRP Report 93: Practices to Protect Bus Operators from Passenger Assault*, 92 percent of the respondents reported having SOPs in place for responding to operator assaults.¹¹ Transit agencies also are making progress in preparing their bus operators to respond effectively to escalating engagements with passengers through focused training on topics such as defusing a volatile situation and customer service, and some provide training in physical response. However, some transit agencies have gone beyond preparing bus operators for assault events by establishing programs to help their employees after an event. Some of those post-event support programs and policies include Employee Assistance Programs (EAPs), other counseling, opportunities for alternate duties and route reassignments, and paid leave during recovery. These programs are offered in addition to the benefits provided through Workers' Compensation and the Family and Medical Leave Act (FMLA). A general description of EAP, Workers' Compensation, and FMLA programs are provided to frame subsequent discussion points.

¹¹ *TCRP Report 93: Practices to Protect Bus Operators from Passenger Assault*, Transportation Research Board of the National Academies, Washington, DC, 2011.

Workers' compensation is a program that provides wage replacement and medical benefits to employees who suffer job-related injuries or illness in the course of employment. The program is administered on a state-by-state basis, and program management of benefits varies by state.

The program services are a valuable resource to eligible employees with program benefits that may include:

- Wage replacement
- Medical treatment
- Vocational rehabilitation
- Other benefits as prescribed by state law

The Family and Medical Leave Act of 1993 (FMLA)¹² is a complex Federal law requiring covered employers to provide employees job-protection and unpaid leave for qualified medical and family purposes. It also seeks to accommodate the legitimate interests of employers and promotes equal employment opportunity for men and women.¹³

The FMLA entitles eligible employees a total of 12 weeks unpaid leave during any 12 month period for certain family and medical needs of the employee or their family members. This may include care for the birth of a child, placement of a child with the employee for adoption, care of a spouse, child or parent with a serious health condition, driving a family member to a medical appointment, providing assistance during treatment of the family member, helping a family member recuperate from an illness or medical condition and the employee's own serious health condition, if it renders the employee unable to perform the duties of their job.¹⁴

An EAP is a proactive, employer-sponsored service that is designed to help employees deal with emotional, behavioral and well-being issues that may affect their work.¹⁵ Specifically focused on work/life challenges and issues, EAP services are offered as a resource to employees and are available on a short-term basis, generally at no cost. EAP services have evolved in recent years in response to the ever-changing nature of the workplace and employee needs. Today, some EAPs even include services for an employee's immediate family members. The services offered through EAPs vary slightly from program to program, but are offered on a voluntary and confidential basis and can include: short-term counseling, referrals to treatment, specialized consultation, resource advice such as legal, financial, and childcare, and assistance with return to work.

According to the U.S. Department of Labor "through prevention, identification, and resolution of these issues, EAPs enhance employee and workplace effectiveness and are a vital tool for maintaining and improving worker health and productivity, retaining valued

¹² 29 United States Code (USC) 2601

¹³ U.S. Department of Labor, www.dol.gov

¹⁴ Ibid.

¹⁵ Gilbert, B., American Association of Occupational Health Nurses, *Employee Assistance Programs: History and Program Description*, (10):488-93. 1994

employees, and returning employees to work after illnesses or injuries.”¹⁶ Additionally, EAPs have been shown to contribute to:

- Decreased absenteeism
- Reduced accidents and fewer workers compensation claims
- Greater employee retention
- Fewer labor disputes
- Significantly reduced medical costs arising from early identification and treatment of individual mental health and substance use issues¹⁷

In order to effectively capture and describe these programs, an e-mail request for information was sent to individuals and agencies on distribution lists maintained by the American Public Transportation Association (APTA), with focused effort on distribution to members of APTA’s Bus Safety, Bus Operations, Small Operations, and Research and Technology committees. This e-mail inquiry was sent in February 2012 and coincided with a survey sent to the members of the Florida Operations Network (FON). Transit agency representatives were asked to identify policies or programs established by their agencies to support bus operators after an assault or other traumatic event. This would include any processes in place to assist bus operators resume their duties or, if unable to return to their duties as a bus operator, options available for continued employment at the agency. They also were asked to identify specific policies, procedures, work rules, union contract language, or other documentation relative to the topic, such as temporary or permanent alternate job opportunities and EAPs, including counseling for post-traumatic stress. Forty responses were initially received from public transit agencies representing a variety of operating environments and agency sizes. Supplemental effort was made to contact additional agencies that had not responded, but that were known to have programs in place.

The results of the survey are summarized in Appendix B. It is important to note that the absence of agency information in the table does not necessarily mean that the agency does not have an established practice in place or a written procedure or standard. Some survey respondents may not have reported all relevant policies, procedures, or programs, and, as is the case for transit agencies that are part of a county or municipal governmental structure, some benefits may be afforded to all government employees under the umbrella of general EAPs, leave policies, alternate duty, or other county or municipal-wide programs. In addition, injured operators are covered by each state’s Workers’ Compensation requirements with associated benefits. A few respondents did not report Workers’ Compensation as a program afforded to injured bus operators, but the researchers did confirm that this is available at each of these agencies.

Profiled U.S. Transit Agencies

Examination of transit agency responses to the survey indicated that some agencies have comprehensive programs to assist bus operators following assault (or other traumatic)

¹⁶ U.S Department of Labor, Office of Disability Employment Policy, *Employee Assistance Programs for a New Generation of Employees- Defining the Next Generation*. 2009

¹⁷ Ibid.

events. These agencies were selected as case study sites for the purpose of this examination. Those agencies profiled include the following (also presented in Figure 3-8):

- Capital Metro in Austin, Texas
- Central Florida Regional Transportation Authority, a.k.a. LYNX, Orlando, Florida
- Central Ohio Transit Authority, Columbus, Ohio
- Chicago Transit Authority, Chicago, Illinois
- Greater Cleveland Regional Transit Authority, Cleveland, Ohio
- King County Metro, Seattle, Washington
- Metro Transit, Minneapolis/St. Paul, Minnesota
- Miami-Dade Transit Authority, Miami, Florida
- New York City Transit Authority (NYC Transit) in New York, New York
- Omnitrans, San Bernardino, California
- Orange County Transportation Authority (OCTA) in Orange, California
- Pierce Transit, Lakewood, Washington
- Pinellas Suncoast Transit Authority, St. Petersburg, Florida
- Société de Transport de Montréal (STM), Montréal, Québec, Canada
- Southeastern Pennsylvania Transportation Authority (SEPTA), Philadelphia, Pennsylvania
- VIA Metropolitan Transit, San Antonio, Texas

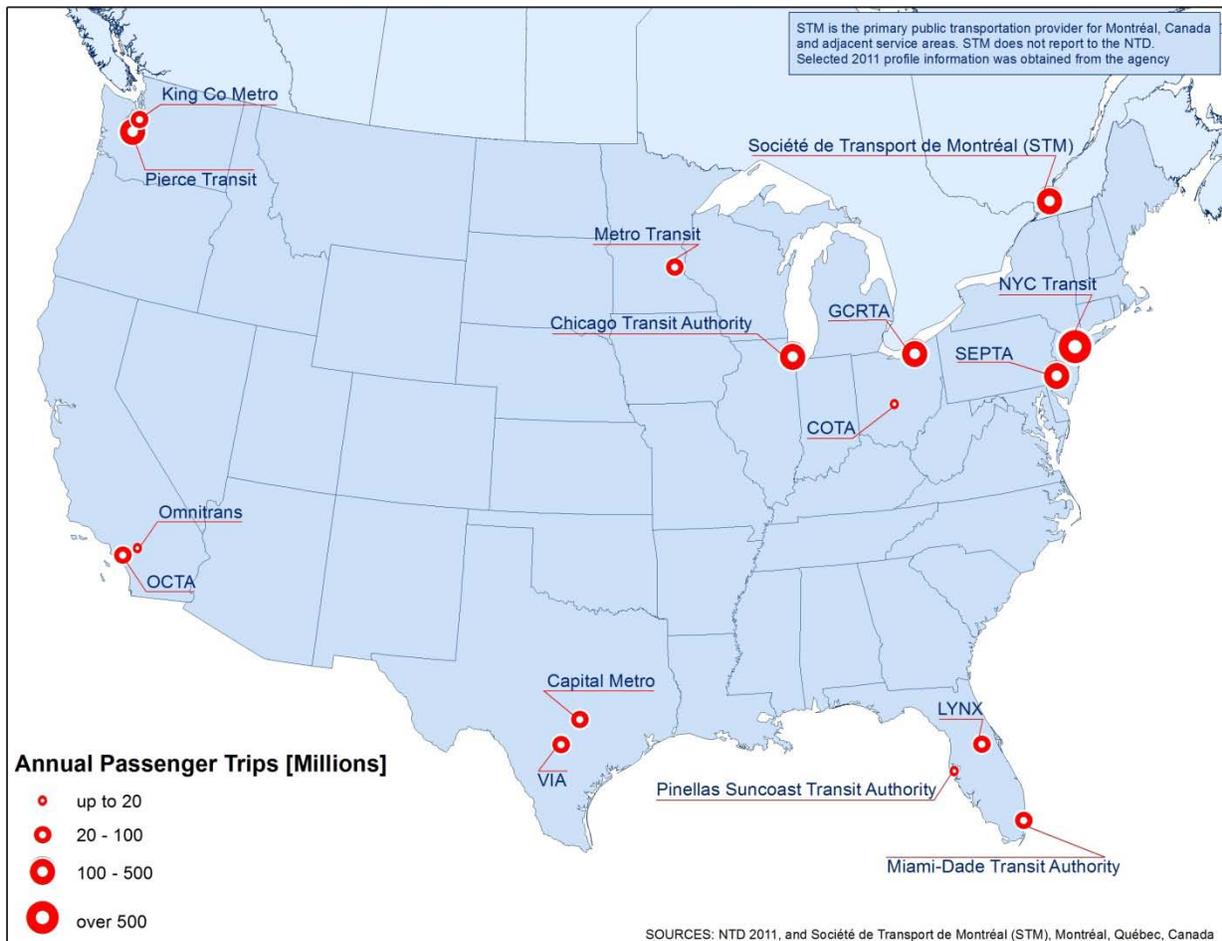


Figure 3-8. Profiled U.S. Transit Agencies

Agency profile information was obtained from the 2012 NTD. Information for STM, Montréal, Québec, Canada was obtained from documents produced by the agency.

Capital Metro, Austin, TX



Capital Metropolitan Transportation Authority is the public transportation provider for the Austin, Texas urbanized area. Capital Metro provides the following transit modes: motorbus (bus), demand response, hybrid rail, demand response-taxi, vanpool, and bus rapid transit. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 33,486,970

Annual passenger miles: 134,600,175

Annual vehicle revenue miles: 14,088,130

Vehicles operated in maximum service: 340

Number of full-time vehicle operators (motorbus): 509

Table 3-7. Motorbus Assaults - Fatalities/Injured Persons, Capital Metro 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	1	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider		0	0	1	0
Injuries to Transit Employee	1	0	0	0	0
Injuries to Transit Vehicle Operator	1	0	0	0	0
Total Assaults	2	0	0	2	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

McDonald Transit/Travis Transit is the contracted operator for the majority of Capital Metro’s fixed-route system. Workers’ Compensation is available to injured employees who qualify. Employees are provided with free counseling, and light duty assignments are made available to individuals on Workers’ Compensation who are able to perform such duties. The company has an “Assault Policy,” which includes a provision for earnings commensurate with the level of full-time earnings to employees who have suffered injury while on duty due to a physical assault by someone other than a coworker. Conditions for employees to receive this benefit include the following:

- The employee must need to be off-duty due to the assault, which may need to be verified by a medical practitioner.
- The injury or assault must not have been instigated or exacerbated by the employee.
- The company retains the option of approving an employee’s participation in the program.
- The number of paid days, not including the day of the assault, cannot exceed five days.¹⁸

¹⁸ Travis Transit Management, Inc., “Assault Policy.”

Central Florida Regional Transportation Authority, a.k.a. "LYNX," Orlando, FL



LYNX is the public transportation provider for the Orlando, Florida urbanized area. LYNX provides the following transit modes: bus, demand response, and vanpool. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 26,996,158

Annual passenger miles: 140,116,659

Annual vehicle revenue miles: 14,714,555

Vehicles operated in maximum service: 225

Number of full-time vehicle operators (motorbus): 625

Table 3-8. Motorbus Assaults - Fatalities/Injured Persons, LYNX 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	1	2	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	1	4	1	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	4	0	1	0	1
Total Assaults	4	2	7	1	1

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

In the event of a traumatic episode, such as a serious assault, LYNX bus operators are relieved of duty and receive pay for the remainder of the employee’s scheduled work day. The employee may also be referred to LYNX’s EAP that provides prepaid confidential counseling services to employees (also available to immediate family members).

If the operator’s injuries require transport to a medical facility, the referral is made after their release. As standard practice, Family Medical Leave Act (FMLA) benefits and Workers’ Compensation are made available to those eligible. In the case of a physical assault while on duty, when the number of days missed does not meet the requirements of eligibility for Workers’ Compensation, the employee may apply for sick leave. Upon the direction of the physician responsible for the care of the operator, light duty is made available up to six months following the event. These benefits are included with the collective bargaining agreement (CBA) between the Central Florida Regional Transportation Authority (LYNX) and the Amalgamated Transit Union, Local 1596 and are also documented in LYNX’s “Operator Guide and Work Rules.”

Long-term disability coverage is provided at 60 percent of the employee’s salary, up to a maximum of \$10,000 per month, and benefits are available after 180 days of the injury. LYNX does provide life insurance at a rate of 100 percent of an employee’s annual salary and accidental death and dismemberment coverage at two times the employee’s life insurance coverage.

LYNX has a “Safety and Security Policy Statement” and corresponding “Safety and Security Procedure.” LYNX supports conflict avoidance techniques and has established a protocol for conflict avoidance. A Conflict Avoidance training module is provided to bus operators by

LYNX’s Risk Management and Safety Office. In addition, a “Productive Harassment-Free Environment” policy has been developed that covers all LYNX employees.

Central Ohio Transit Authority (COTA), Columbus, OH



COTA is the public transportation provider for Columbus, Ohio. COTA provides bus and demand response services. The 2011 NTD agency profile is provided below.

- Annual unlinked passenger trips (motorbus only): 18,764,047
- Annual passenger miles: 70,704,654
- Annual vehicle revenue miles: 9,388,064
- Vehicles operated in maximum service: 247
- Number of full-time vehicle operators (motorbus): 568

Table 3-9. Motorbus Assaults - Fatalities/Injured Persons, COTA 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	0	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	0	0	0
Total Assaults	0	0	0	0	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

COTA has established an emergency protocol with tools to assist bus operators in events, such as assaults. Destination signs can be activated to read “Emergency, Please Call Police.” Once activated a silent alarm is sent to COTA’s radio control room. There are also emergency alarms on board and a “priority button” on the driver’s radio. The system is monitored by police dispatchers for immediate assistance as needed.¹⁹

In addition, COTA has installed wireless technology that allows emergency and supervisor vehicles to view a live feed from the cameras onboard buses when these vehicles are within 100 feet of the bus. This allows the supporting personnel to get an accurate picture of the events occurring on the bus in real time, allowing rescue assistance to be adjusted accordingly.

If a bus operator needs assistance in recovering from the emotional trauma associated with an assault, COTA maintains an Employee Assistance Program (EAP). The EAP is designed to provide help to employees and their family members who have personal or emotional problems or problems with alcohol or drug abuse. The program is administered internally by COTA’s Human Resources Department, but professional counseling services are provided by an outside group of mental health providers. The cost of initial services is prepaid by COTA, and employees may contact the EAP on their own without COTA’s knowledge of their participation.

¹⁹ COTA Short-Range Transit Plan, Section 10 – Security and Emergency Services, 2007.

If an employee sustains an injury while performing the duties of their position that results in an absence of five days within the first seven days after the injury, the employee will receive an amount equal to the regular sick leave allowance (\$200). If the injury results in an employee being unable to return to their duties within two weeks of the event, compensation is then paid by COTA and will continue until no longer required under the guidelines and statutes set forth by the Ohio Bureau of Workers' Compensation.

COTA requires a return to work examination on any employee returning to work following an occupational injury to determine the employee's ability to safely perform the essential functions of the job. In addition, their medical provider may conduct a special examination of the employee at the request of the employer or recommended specialist to determine the ability to safely perform the essential functions of the job (would include neurological and psychological issues that may exist).

Employees who would like to file criminal charges for acts of violence committed against them by non-employees while they were performing their job duties are provided the opportunity to consult with an attorney employed by COTA. If the attorney determines that sufficient evidence exists to support a filing of criminal charges, COTA's attorney will assist the employee in filing those charges (if the employee supports the action). COTA will reimburse the employee for any lost time away from their duties to attend court hearings for the purpose of associated criminal prosecution.²⁰

COTA provides life and accidental death and dismemberment insurance of \$50,000 for all active employees.

Chicago Transit Authority (CTA), Chicago, IL



CTA is the public transportation provider for the Chicago, Illinois urbanized area. CTA provides bus and heavy rail transit services. The 2011 NTD agency profile is provided below. Vehicles operated in maximum service and the number of full-time vehicle operators for 2013 were provided by CTA.

Annual unlinked passenger trips (motorbus only): 310,381,447

Annual passenger miles: 712,866,883

Annual vehicle revenue miles: 52,405,033

Vehicles operated in maximum service: 1,527

Number of full-time vehicle operators (motorbus): 4,174

²⁰ Ibid.

**Table 3-10. Motorbus Assaults - Fatalities/Injured Persons,
CTA 2008–2012**

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	8	1	5	4	3
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	19	20	33	37	53
Injuries to Transit Employee		1	1	3	4
Injuries to Transit Vehicle Operator	13	16	32	32	25
Total Assaults	40	38	71	76	85

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

As mentioned in the NTD presentation section, ten agencies with the largest number of assaults accounted for 587 of 706 or 83.1 percent of all operator injuries reported from 2008 through 2012. Of these assaults, 85.9 percent were reported on motorbus (504 out of 587 total assaults on operators). The Chicago Transit Authority (CTA) ranks second among these agencies, reporting 118 out of the 504 assaults reported (23.5% of the total number of assaults on motorbus operators).

CTA utilizes a contracted vendor to assist in the event a critical incident²¹ occurs. When a qualifying event occurs, CTA’s control center will make the determination of whether the incident warrants their involvement. The control center will also determine if the vendor should assign a counselor to meet with the employee(s). A counselor must report within two hours after receiving notice from CTA and will spend 30 to 60 minutes with the individual. The counselor will not assess or diagnose the employee’s physical or psychological condition. They also will not provide any therapy or other treatment to the employee. They may discuss EAP opportunities available to the employee through CTA’s contracted service provider.

Bus operators who are placed on Workers’ Compensation because of injuries sustained while on duty will be paid up to 66 2/3 percent of their average weekly wage. CTA does have a temporary light duty program that assigns tasks commensurate with their skills and abilities.

Under the Illinois Workers’ Compensation Act, burial and survivors’ benefits are provided in the event a CTA employee dies as a result of injuries sustained while on-duty.²² A benefit of \$8,000 is provided to the survivor or person paying for the burial. Survivors’ benefits are payable at two-thirds of the employee’s gross average weekly wage during the 52 weeks before the injury. The minimum benefit cannot be less than 50 percent of the statewide average weekly wage (SAWW) at the time of the injury (may be reduced for partially dependent individuals). The maximum benefit can be no more than 133 1/3 percent of the SAWW at the time of the injury. The benefit is paid for 25 years of weekly benefits or \$500,000, whichever is less. In some cases, cost-of-living adjustments may be made.

²¹ CTA critical incidents may include derailment (depending on the severity of the event), collision of bus/train and person, or an assault (depending on type and severity).

²² 820 Illinois Compiled Statutes (ILCS) 305/7, Workers’ Compensation Act.

Greater Cleveland Regional Transit Authority (GCRTA), Cleveland, OH



GCRTA is the public transportation provider for the Cleveland, Ohio urbanized area. GCRTA provides bus, heavy rail, demand response, and light rail transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 37,198,763
 Annual passenger miles: 139,878,118
 Annual vehicle revenue miles: 12,616,043
 Vehicles operated in maximum service: 310
 Number of full-time vehicle operators (motorbus): 822

Table 3-11. Motorbus Assaults - Fatalities/Injured Persons, GCRTA 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	1	1	3	0	1
Injuries – Other	0	2	0	0	0
Injuries to Transit Vehicle Rider	7	7	10	5	8
Injuries to Transit Employee	0	0	3	0	0
Injuries to Transit Vehicle Operator	1	0	4	1	2
Total Assaults	9	10	20	6	11

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

GCRTA does have an employee assistance program that provides counseling and referral services to its employees to address critical incidents, as well as other work and life issues.

GCRTA’s agreement with the Amalgamated Transit Union (ATU), Local 268 provides for payment to hourly paid employees injured while on duty for each regularly scheduled work day after the date of injury for which the employee is unable to work up to and including the seventh day. This pay will be in an amount equal to the amount that would be paid under Ohio’s Workers’ Compensation Law.²³ Once an employee is covered under Workers’ Compensation, GCRTA will provide a compensation supplement that is equal to their normal 40 hour weekly wage for up to 26 weeks from the injury.²⁴

GCRTA also provides a life insurance policy for full-time employees in the amount of \$36,000. The monetary value of vacation leave will also be paid to the employee’s surviving spouse or legal representative.

King County Department of Transportation – Metro Transit Division (King County Metro), Seattle, WA



King County Metro is the public transportation provider for the Seattle, Washington urbanized area. Metro provides services within the following transit modes: bus, demand response, trolleybus, bus rapid transit, vanpool, street car rail, demand response-taxi, commuter bus, and light rail. The 2011 NTD agency profile is provided below.

²³ Ohio Workers’ Compensation Law, Title 41, Ohio Revised Code, Chapter 4123.

²⁴ Labor agreement between GCRTA and ATU, Local 268, Part I, Articles 21 and 22.

Annual unlinked passenger trips (motorbus only): 93,488,100
 Annual passenger miles: 451,309,300
 Annual vehicle revenue miles: 32,085,272
 Vehicles operated in maximum service: 978
 Number of full-time vehicle operators (motorbus): 1,494

Table 3-12. Motorbus Assaults - Fatalities/Injured Persons, King County Metro 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	0	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	1	0	0
Total Assaults	0	0	1	0	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

King County Metro’s “Critical Incident Stress Management” (CISM) system is central to what they view as a very successful, peer driven program for bus operators and other transit employees who have been the victims of assaults or other traumatic events. The structure of the program is established in King County Metro’s Collective Bargaining Agreement (CBA) with ATU 587.

Following an event, the bus operator is relieved of duty and is contacted by their supervisor. During this meeting, EAP options and the CISM program are discussed and the employee is provided with the telephone number for the CISM Hotline. When an operator calls the hotline, they are instructed to leave a voicemail describing their needs. They are then contacted by a trained CISM staff member. One-on-one meetings are held, but CISM staff are also trained to co-facilitate group debriefings with mental health professionals. All information shared in one-on-one meetings and any group debriefings are confidential.

As an example, if a bus operator has been assaulted, a trained CISM peer will provide support to the employee, encouraging the use of the EAP available to them or other services. In simple terms, it gives an employee “someone to talk to” to help them overcome their experience.

King County Metro does provide supplemental support for those bus operators who are on Workers’ Compensation, which may include light duty work if appropriate for the injured worker. The agency will also work with bus operators who have difficulty returning to their previous route assignment or shift and may reassign the driver.

Metro Transit, Minneapolis/St. Paul, MN



Metro Transit is the public transportation provider for the Minneapolis/St. Paul urbanized area. Metro provides bus, light rail, and commuter rail services. The 2011 NTD agency profile is provided below. The number of vehicle operators was provided by the agency and reflects the current number of employees (May 2012).

Annual unlinked passenger trips (motorbus only): 67,782,602

Annual passenger miles: 283,168,999

Annual vehicle revenue miles: 22,697,869

Vehicles operated in maximum service: 741

Number of full-time vehicle operators (motorbus): 1,452

Table 3-13. Motorbus Assaults - Fatalities/Injured Persons, Metro Transit 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	3	1	1	9	12
Injuries – Other	0	1	1	0	0
Injuries to Transit Vehicle Rider	2	4	4	12	6
Injuries to Transit Employee	0	0	0	1	1
Injuries to Transit Vehicle Operator	1	0	0	1	4
Total Assaults	6	6	6	23	23

Metro Transit has a comprehensive system in place for responding to assault events and assisting bus operators who have been the victims of assaults. Metro Transit has an established Operator Assault procedure to “ensure the proper response to assaults which occur on Metro Transit buses toward operators.” The procedure has three sections that define the process to be used in the event there is a “Threat to Operator,” “Interference with Operator – Minor Incident/Minor or no injury,” and “Aggravated Assault – Serious Incident/Injury. (The agency refers to the assaults that are reportable to NTD (major incidents) as “aggravated assaults” and all other confrontations are considered either “interference with operator” or “threat to operator.”)

If there is a threat to the operator, but there are no weapons involved and no physical contact has occurred, Metro Transit Police (MTP) is dispatched to the scene. If MTP is not available, local police are notified. Metro Transit’s District Supervisor will also respond to check the operator’s welfare when appropriate.²⁵

Unlawful attacks on an operator that does not include the use of a weapon and does not result in serious or aggravated injury are captured under the category of “Interference with Operator.” These events include simple assaults, minor assaults, assault and battery, injury by culpable negligence, and all attempts to commit these offenses. When these assaults occur, medical personnel are notified and MTP is dispatched. If the MTP is unavailable, local law enforcement is notified. The District Supervisor is dispatched to the scene to meet with the operator and the peer support procedure is engaged. In addition, the bus camera video tape is removed for review. If an operator sustains a blow to the neck or head, the

²⁵ Metro Transit Operator Assault Procedure, Section 90, Subsection 03, Document #01; Metro Transit’s Bus Operator’s Rule Book and Guide 5-8 through 5-12, Section 530-538. Metropolitan Council Policy 4-6-1a and 4-9a.

operator will be taken off the run. If the injuries do not result in the employee being transported to a medical facility, the operator is transported to their home garage for reporting purposes.²⁶

The most serious assault events, those that include the use of a weapon or display of a weapon in a threatening manner or if the operator suffers severe or aggravated bodily injury, are categorized as “Aggravated Assault – Serious Incident/Injury.” The responses to aggravated assaults are consistent with those response efforts engaged when there has been an Interference with Operator occurrence. If the operator is able to return to the home garage for report, peer support may also be available for them.²⁷

They also have an active “Peer Support” program described in the “Peer Support Notification” procedure and “Metro Transit Peer Support Program” brochure. Peer Support Personnel are volunteer employee peers that are trained to provide emotional support to operators who have experienced a traumatic event while on duty, including assault events. Peer Support is a confidential program. Peer Support Personnel are dispatched to an incident scene when an operator needs immediate support. They serve as a resource to employees providing information about professional services that are available and will assist an employee in communicating with appropriate support staff, including the agency’s EAP contractor, DOR and Associates. Peer Support Personnel are on call and are able to respond to crisis situations at any time. Metro Transit peer support personnel are notified to respond to events that include:

- Any aggravated assault directed toward a Metro Transit operator
- Any blow to the neck or head of the operator resulting from physical violence
- Any incident resulting in traumatic illness/injury occurring on the bus, in the bus stop, or Metro Transit related situation observed
- Any Metro Transit involved major accident with injury
- Any situation other than those listed above at the supervisor’s discretion
- Upon the request of a Light Rail Transit (LRT) supervisor to support a LRT employee
- When requested by the operators

Peer support is offered to operators for the following situations (operators may decline the assistance):

- Interference with operator
- Any Metro Transit involved vehicle accident where there is immediate injury to the operator and/or major damage to any vehicle that requires the vehicle to be towed due to damage
- Any other situation than those listed above at the supervisor’s discretion²⁸

Metro Transit has also instituted a “Victim Impact/Court Watch” process to provide support for operators after an assault and during any associated court proceedings and create a Court Watch group for operator assaults and for chronic offenders. The Court Watch program includes peer support for the operator through any court process. The Court

²⁶ Ibid.

²⁷ Ibid.

²⁸ Metro Transit Peer Support Notification Procedure, Section 90, Subsection 09, Document #04; Metro Transit Bus Operator’s Rule Book and Guide pp. 5 – 15, Section 544.

Watch group can attend operator assault cases as support for the bus operator and will also attend court hearings for those considered “chronic offenders.”

Metro Transit does have a robust light duty program for their operators, whether injured while on duty or not. They also allow operators to supplement Workers’ Compensation benefits through the use of sick pay, vacation pay, or recognition pay.

Miami-Dade Transit, Miami, FL



MDT is the public transportation provider for the Miami, Florida urbanized area. MDT provides bus, heavy rail, demand response, and monorail/automated guideway transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 75,723,805

Annual passenger miles: 407,782,273

Annual vehicle revenue miles: 28,860,941

Vehicles operated in maximum service: 694

Number of full-time vehicle operators (motorbus): 1,777

Table 3-14. Motorbus Assaults - Fatalities/Injured Persons, MDT 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	0	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	0	0	0
Total Assaults	0	0	0	0	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

MDT bus operators who are the victims of assaults do have the option of utilizing MDT’s employee assistance program. The day of the event, a bus operator will receive pay for the balance of their shift. In a bus operator is injured during the assault, Workers’ Compensation is available to them. Short-term disability leave benefits²⁹ are available at 80 percent of the employee’s salary less Workers’ Compensation indemnity payments. A formal leave of absence and/or light duty assignment are available for up to six months following the event, consistent with the collective bargaining agreement between Miami-Dade County and the Transport Workers Union, Local 291. If a bus operator is unable to return to their previous duties after the six months, whether due to physical or psychological condition, the employee may have additional benefits available to them depending upon the level of optional benefit programs for which they enrolled with the county.

MDT will bear the cost of repairing or replacing any employee’s personal property that is damaged or stolen as a result of an armed robbery or an unprovoked attack when the

²⁹ Defined in Section 2-56.27.1, Miami-Dade County Code

property has been issued to or required of the employee for the performance of their duties.³⁰

New York City Transit (NYC Transit), New York, NY



The Metropolitan Transportation Authority’s NYC Transit is the public transportation provider for New York City, New York and adjacent service areas. NYC Transit provides bus, heavy rail, and demand response transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 800,093,788

Annual passenger miles: 1,785,741,820

Annual vehicle revenue miles: 95,122,672

Vehicles operated in maximum service: 3,717

Number of full-time vehicle operators (motorbus): 10,342

Table 3-15. Motorbus Assaults - Fatalities/Injured Persons, New York City Transit 2008–2012

	2008	2009	2010	2011	2012
Fatality Transit Vehicle Operator	1	0	0	0	0
Injuries to Person Waiting or Leaving	0	0	0	1	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	1	2
Injuries to Transit Employee	13	1	5	3	0
Injuries to Transit Vehicle Operator	79	79	42	46	36
Total Assaults	92	80	47	51	38

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

As mentioned in the NTD presentation section, ten agencies with the largest number of assaults accounted for 587 of 706 or 83.1 percent of all operator injuries reported from 2008 through 2012. Of these assaults, 85.9 percent were reported on motorbus (504 out of 587 total assaults on operators). New York City Transit reported 282 of the 504 assaults on bus operators, 56.0 percent of the total.

NYC Transit has an extensive program available to assist bus and train operators and train conductors who have been the victims of assault. These programs and associated policies and procedures are contained within NYC Transit’s policy numbers 4.20.2 and 4.16.2 and within the CBA between the agency and TWU Local 100.

The agency is contractually obligated to pay “assault pay” for up to two years from the event for injuries incurred as a result of a physical assault if the bus operator was on duty at the time. For bus operators eligible to receive Workers’ Compensation, assault pay is added to this benefit in an amount that brings the pay up to the employee’s regular wages.

NYC Transit has an EAP offered through its Division of Life Services (DLS). DLS assists employees in finding resources they may need to address situations that are affecting their

³⁰CBA, Miami-Dade County and TWU, Local 291, Article III.19.

personal life or their time on the job. Counseling is one of the benefits offered to employees through Life Services.

FMLA benefits are available to bus operators who have been physically assaulted. Whereas employees are required to use their accumulated sick leave while on FMLA, contractual provisions established in the CBA with the TWU prohibits the agency from requiring the use of vacation leave; if an employee exhausts all sick leave, he/she may elect to use accumulated vacation leave. To access FMLA, an employee must meet the minimum requirements for that program, including 12 months of service and 1,250 hours of work in the preceding 12 months.³¹

Bus operators who decide to return to work are required to undergo a medical examination by NYC Transit's Medical Department. If cleared for duty, employees must attend training with curriculum developed for their specific position (e.g., bus or train operator or train conductor). The duration of this training is from one to three days and is based on the amount of time the employee was out.

If bus operators are physically disabled as a result of the injuries sustained in an assault event and are unable to perform the duties of their current position, they may be provided the opportunity to work in another position or may be assigned light duty within their current position, at the discretion of NYC Transit. If employees are able to work light duty within their current position, they will receive the same rate of pay normally received if on full duty.³² In addition, the agency also has a "restricted work" policy that allows NYC Transit to reassign or reclassify employees at its discretion. NYC Transit also has a reasonable accommodation policy consistent with the provisions of Title I of the Americans with Disabilities Act.³³

Bus operators and other employees who are victims of a violent assault or other debilitating injury may also exercise the option of applying to the New York City Employees' Retirement System (NYCERS) for a disability pension. Employees who qualify may retire; an employee's qualification under this program is determined by NYCERS, independent of NYC Transit.³⁴

³¹ NYC Transit/Transport Workers Union Local 100 CBA.

³² NYC Transit/Transport Workers Union Local 100 CBA, Section 2.16 and NYC Transit Policy Number 4.20.2.

³³ NYC Transit Policy Number 4.16.2.

³⁴ NYC Transit Policy Number 4.20.2.

Omnitrans (OMNI), San Bernardino, CA



Omnitrans is the public transportation provider for the San Bernardino, California urbanized area. Omnitrans provides bus, demand response, and bus rapid transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 14,585,657
 Annual passenger miles: 68,777,093
 Annual vehicle revenue miles: 7,916,674
 Vehicles operated in maximum service: 146
 Number of full-time vehicle operators (motorbus): 418

Table 3-16. Motorbus Assaults - Fatalities/Injured Persons, Omnitrans 2008–2012

	2008	2009	2010	2011	2012
Fatalities Transit Vehicle Operator	0	0	1*	0	0
Injuries to Person Waiting or Leaving	0	1	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	1	0	2	1
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	2	0	2
Total Assaults	0	2	2	2	3

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

*Added per agency – 2010 bus operator attacked causing the operator to veer off the road and crash into a tree, resulting in his death.

Omnitrans has established comprehensive response mechanisms to assist bus operators during an assault and programs to assist them after an event. They have a Crisis Response Team (CRT) that provides individual counseling and guidance to bus operators or other employees who have been involved in a traumatic event, such as an assault. This team is comprised of representatives from the agency’s Human Resources and Safety/Security offices. They also provide referrals to the EAP. In addition, Omnitrans provides incident specific training using the “ABC” method (activating event, beliefs, and consequences). The agency also analyzes the video captured on board to address prevention or dispute resolution for events that escalated or could have escalated.

In addition to the program established to assist operators who have been the victims of assaults, Omnitrans has established a multifaceted approach to address assaults on their bus operators, which includes, but is not limited to training and the use of technology applications (video recorder and display consoles, which are a very effective tool for deterring assaults or other criminal behavior). During the annual refresher training provided to the agency’s bus operators, they include a module called “managing emotions under pressure.” In addition, the agency’s emergency communication protocol training covers the use of radios, phones, overt communication tactics, use of alarm buttons, and video indexing. They have also launched a “whistle defense program,” which is completely voluntary. Through this program bus operators are provided safety whistles to alert those in the area that they have an emergency or are in a threatening situation.

Orange County Transportation Authority (OCTA), Orange, California



OCTA is the public transportation provider for the Orange County, California urbanized area. OCTA provides bus, heavy rail, demand response, and light rail transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 51,305,413

Annual passenger miles: 207,477,603

Annual vehicle revenue miles: 19,047,960

Vehicles operated in maximum service: 454

Number of full-time vehicle operators (motorbus): 910

Table 3-17. Motorbus Assaults - Fatalities/Injured Persons, OCTA 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	1	0	0	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	0	0	0
Total Assaults	0	1	0	0	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

OCTA has several methods in place to assist bus operators who have experienced assaults or other traumatic events. Immediately upon notification that an accident resulting in a fatality or an unprovoked attack has occurred, a member of OCTA's management staff meets with the bus operator and provides information on available support resources, such as the agency's EAP.

Bus operators who are unable to resume their duties due to an unprovoked attack are entitled to FMLA. They must meet the minimum requirements for that program, including 12 months of service and 1,250 hours of work in the preceding 12 months. Those eligible for FMLA may get up to 12 weeks of leave in a 12-month period.³⁵

In addition, the CBA's provisions include payment for time lost while bus operators are unable to perform their duties. Bus operators who have injuries sustained as a result of an unprovoked attack will be paid 100 percent of the time lost for the remainder of the bid period and a maximum of 40 hours per week thereafter, up to a maximum of 12 months from the date of the attack.³⁶

OCTA has an active retraining program for bus operators. Operators who have been off work for more than 90 days receive "recertification training," which includes a review of OCTA policies and procedures, in-service driving, and a review of the *Coach Operator Handbook*. Operators may also request additional training or, if they have questions, get assistance from an OCTA trainer. A program called "Operation Team Work" makes senior bus operators available to employees to ride along with them, listen to their concerns, and discuss their experiences in dealing with traumatic events. Bus operators may also be given the opportunity to "hardship off" their previous work assignment.

³⁵ OCTA Standard Operating Procedures.

³⁶ OCTA CBA, Article 17, Section 2.

OCTA's CBA includes a provision to reimburse for or replace personal items belonging to bus operators that were lost or damaged during the assault event, such as glasses, uniforms, or watches, and will reimburse up to \$100 for personal funds or miscellaneous items carried by the bus operator.³⁷

If a bus operator is no longer able to perform the essential functions of their job, options made available to them include:

- Opportunities to apply for other positions for which they may be qualified
- Vouchers for self-directed vocational rehabilitation
- Option to apply for service-connected retirement through the Orange County Retirement System

If a bus operator is killed or dies as a result of the injuries sustained during an assault, OCTA provides \$100,000 of life insurance benefit payable to the employee's designated beneficiary.³⁸

Pierce County Transportation Benefit Area Authority (Pierce Transit), Tacoma, WA



Pierce Transit is the public transportation provider for the Tacoma/Pierce County, Washington urbanized area. Pierce Transit provides bus, demand response, vanpool, and commuter bus transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 12,147,907

Annual passenger miles: 285,969,844

Annual vehicle revenue miles: 5,499,448

Vehicles operated in maximum service: 151

Number of full-time vehicle operators (motorbus): 355

Table 3-18. Motorbus Assaults - Fatalities/Injured Persons, Pierce Transit 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	0	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	0	0	0
Total Assaults	0	0	0	0	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

In the event of a traumatic episode, such as a serious assault, Pierce Transit's Communication Center is notified, and the crisis response team is dispatched to the scene of the event. The agency has an On Call Manager available 24 hours per day/7 days per week to provide additional assistance necessary to the employee. If the bus operator is transported to a medical facility, a member of the management team will go to the facility to provide support to the employee and his/her family. The response team schedules follow-up sessions with the employee following the event, and the bus operator's direct supervisor

³⁷ OCTA CBA, Article 17, Section 1.

³⁸ OCTA CBA, Article 17, Section 5.

continues outreach activities to the employee on an ongoing basis. Following a violent assault and a recovery period, if it is determined that the employee is unable to return to his/her duties as a bus operator, the agency has a Transitional Return to Work program.

Pierce Transit and the members of ATU Local 758 have established a memorandum of understanding documenting the agency’s support of its employees and its willingness to ensure their safety, including an EAP and a provision for additional training in the areas of personal protection, safety, and conflict resolution techniques supported by the agency and the ATU.

Pinellas Suncoast Transit Authority, St. Petersburg, FL



PSTA is the public transportation provider for Pinellas County, Florida. PSTA provides bus, demand response, and demand response-taxi transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 12,798,221
 Annual passenger miles: 71,534,182
 Annual vehicle revenue miles: 8,796,952
 Vehicles operated in maximum service: 170
 Number of full-time vehicle operators (motorbus): 387

Table 3-19. Motorbus Assaults - Fatalities/Injured Persons, PSTA 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	0
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	0	0
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	0	0	0
Total Assaults	0	0	0	0	0

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

PSTA is committed to ensuring the safety of their bus operators. While assaults, aggravated assaults, and battery incidents are not common occurrences for the agency, there are policies and procedures in place to effectively respond to these incident that ensure the safety and well-being of their bus operators, and provide opportunities for bus operators who have been victimized. Many of these procedures and opportunities replicate those afforded bus operators who have experienced other traumatic events while on-duty including accidents that resulted in injuries or fatalities of bus riders, pedestrians, bicyclists, or occupants of other vehicles.

In the event of an assault or other traumatic event, the driver’s supervisor, and additional PSTA staff as needed, are immediately dispatched to the location of the event. The driver’s statement is taken. The supervisor will also describe additional support services that are available to the operator, including EAP options, such as counseling. The bus operator will be released for the balance of the day with pay. If the bus operator is sent for a medical evaluation or if the injuries sustained in the event require the immediate transport from the

scene for medical treatment, the supervisor will go to the medical facility to provide support to the bus operator and their family.

If the bus operator's injuries prevent the employee's return to duty, PSTA's Risk Management department work with the employee to process a Workers' Compensation claim and Human Resources may provide further assistance. The first five days of absence requires the use of the bus operator's sick leave. After seven calendar days of absence, Workers' Compensation indemnity benefits begin. A light duty assignment may be made available to the employee if they are not able to resume their duties. Light duty may also be assigned to an individual when it is determined that the injuries sustained would impede the physical requirements of their job as a bus operator. PSTA does not accommodate route or shift reassignments based on the event. If the bus operator has difficulties acclimating to their work assignment based on ongoing psychological considerations, PSTA may assign a supervisor to accompany the bus operator on their route or may request the employee to participate in counseling available through Workers' Compensation or the EAP depending on the circumstances. Return-to-duty training is required for those operators who have been away from their positions for 30 days or more following the event.

PSTA's Human Resources department, in coordination with the employee's medical practitioner, may determine that an employee is eligible for long-term disability. In the event the bus operator dies as a result of the injuries sustained in an event, standard life insurance is made available at an amount equal to one year of the employee's pay, made payable to the beneficiary by PSTA. Workers' Compensation death benefit is also made available as provided by state statute.

Société de Transport de Montréal (STM), Montréal, Québec, Canada



STM is the primary public transportation provider for Montréal, Canada and adjacent service areas. STM does not report to the NTD. Selected 2011 profile information was obtained from the agency^{39,40}.

Annual passenger miles: 404,800,000
 Average daily trips: 390,000
 Vehicle operated for maximum service: 1,696
 Number of drivers: 4,447

Table 3-20. STM Sécuribus Assaults, 2007–2012

	2007	2008	2009	2010	2011	2012	% Change
Assaults*	133	98	97	95	92	74	-44.4%
Physical Assaults	54	38	44	28	30	23	-57.4%

*Includes all categories of assaults including physical assaults.

Source: Société de Transport de Montréal (STM), Montréal, Québec, Canada, APTA Bus Safety Award nomination, March 2013.

STM has a very comprehensive program called "Sécuribus" that focuses on reducing the risk and prevalence of assaults, as well as their consequences. There are four layers of the

³⁹ STM APTA 2013 Safety Awards nomination packet, March 2013.

⁴⁰ <http://www.stm.info/english/en-bref/a-ra2011.pdf>.

program consisting of assault prevention, response optimization, support during and immediately following an assault, and victim assistance.

STM has an established protocol for “intervening” in cases of assault. This includes “rapid response” that involves the bus operator, field supervisor(s), the Bus Control Centre radio operator, and incident/accident investigators. Procedures providing the roles and responsibilities of each of these rapid response positions have been developed.

The procedure includes the prompt attention to the victim, including medical care and the offer of psychological counseling. STM also provides legal assistance to all bus operators who want to pursue legal action against their aggressor(s).

Southeast Pennsylvania Transit Authority, Philadelphia, PA



SEPTA is the public transportation provider for the Philadelphia, Pennsylvania urbanized area. SEPTA provides bus, heavy rail, commuter rail, street car rail, demand response and trolleybus transit services. The 2011 NTD agency profile is provided below.

Annual unlinked passenger trips (motorbus only): 183,164,262

Annual passenger miles: 545,575,145

Annual vehicle revenue miles: 40,287,883

Vehicles operated in maximum service: 1,169

Number of full-time vehicle operators (motorbus): 2,760

Table 3-21. Motorbus Assaults - Fatalities/Injured Persons, SEPTA 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	2	6	1
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	8	13
Injuries to Transit Employee	0	0	1	2	0
Injuries to Transit Vehicle Operator	0	0	2	9	11
Total Assaults	0	0	5	25	25

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

SEPTA has made and continues to make significant progress in proactively establishing training programs, policies, and hiring practices in an effort to reduce the incidence of assaults on their bus operators. However, in the event that a bus operator is assaulted or experiences other traumatic events, the agency does have an active EAP that is contracted to a private provider. Light duty is also made available for those bus operators who qualify.

SEPTA’s IOD Pay (pay for injuries sustained while on duty) provides wage replacement payments for the duration of the disability. The base benefit is 52 weeks with additional benefit dependent upon the employee’s length of service. For those individuals hired prior to November 1998, the benefit is 52 weeks plus ten weeks for each year of service. For those hired since that time, the benefit is 52 weeks plus nine weeks for each year of service. This pay consists of 75 percent of the employee’s pre-injury regular wage rate (based on the “average weekly wage” defined in the Pennsylvania Workers’ Compensation Act (“the Act”). In the event a bus operator sustains injuries that prevents them from performing their job functions, the operator will be entitled to IOD pay for the first seven

days of the disability, if they are able to resume their duties within eight days of the injury. If their injuries allow them to return to work within seven days, no IOD pay will be provided.

SEPTA does provide assault insurance that pays a death benefit in the amount of \$500,000 in accordance with the policy if an employee, in the course of performing the duties of their position, suffers either death from injuries sustained as a result of an assault or robbery or the death is due to an injury which was caused solely by an accident, where the injury is the sole cause of the loss, and the loss occurs within one year of the accident.⁴¹

VIA Metropolitan Transit, San Antonio, TX



VIA is the public transportation provider for the San Antonio, Texas urbanized area. VIA provides bus, demand response, vanpool, bus rapid transit, and street car rail transit services. The 2011 NTD agency profile is provided below.

- Annual unlinked passenger trips (motorbus only): 44,157,535
- Annual passenger miles: 186,167,292
- Annual vehicle revenue miles: 20,216,646
- Vehicles operated in maximum service: 345
- Number of full-time vehicle operators (motorbus): 824

Table 3-22. Motorbus Assaults - Fatalities/Injured Persons, VIA Metropolitan Transit 2008–2012

	2008	2009	2010	2011	2012
Injuries to Person Waiting or Leaving	0	0	0	0	1
Injuries – Other	0	0	0	0	0
Injuries to Transit Vehicle Rider	0	0	0	0	2
Injuries to Transit Employee	0	0	0	0	0
Injuries to Transit Vehicle Operator	0	0	0	0	1
Total Assaults	0	0	0	0	4

Source: NTD Safety and Security (S&S) 40 Form (Major Incidents), 2008–2012.

VIA provides a number of employment benefits to assist bus operators while they are away from their normal duties and as they transition back. VIA does adhere to Workers' Compensation regulations, including partial income during the operator's absence due to a job related injury. In addition, the agency's Limited/Light Duty Policy complements Workers' Compensation by providing full pay for those employees who are injured on the job, but are able to perform a defined list of duties.

VIA's Employee Assistance Program does include counseling services that are available to bus operators through a contract with a local counseling center. VIA also has employee counselors on site that are available if an employee needs to address any areas for which assistance is needed.

VIA offers paid long term disability insurance that provides a basic level of coverage at 50 percent of the employee's monthly base salary, not to exceed \$1,000. Disability benefits

⁴¹ Labor agreement between SEPTA and the United Transportation Union, Local 1594, Article II, Section 9.

begin after a period of 180 consecutive days of disability. FMLA and sick leave benefits are also included for those operators who have been injured.

An operator who is unable to return to regular duties after an assault is able to apply for any open positions within VIA for which they are qualified.

Transit Agency Preventive Programs

While not a focus of this examination, during the survey, literature review and follow-up interaction with study participants, a number of comprehensive programs were identified that transit agencies have implemented to prevent or reduce the likelihood of assaults on transit operators.

COTA

COTA has a comprehensive approach to preventing and responding to assault events. The agency's training curriculum for new operators and refresher training is based in the Transportation Safety Institute's (TSI) Bus Operator Training program. The curriculum teaches bus operators to manage difficult passengers, including any criminal behavior, disturbances, or altercations that may occur. In the event an engagement becomes volatile, COTA trains its operator to challenge once. If the individual(s) do not comply, the driver is instructed to immediately call for supervisory assistance. Depending on the level of volatility of the event, both a supervisor and police may be dispatched to the scene.

Each COTA bus operator is assigned to a frontline supervisor. The supervisor is responsible for providing advice, feedback, and mentoring with regard to operator performance. Often through the review of customer complaints, a supervisor is able to identify behaviors on the part of the operators that may provide insight on whether or not the correct approach is being used to communicate with or engage customers. It is expected that this coaching and mentoring process may increase the likelihood that potential issues can be averted.

Transit systems in Ohio are supported by the Ohio Revised Code, Section 2917 that defines what constitutes "Misconduct on Public Transportation" and applicable penalties for violation of those regulations. COTA prosecutes to the fullest extent possible in situations that warrant such action. In addition, COTA employs off-duty City of Columbus police officers to enforce regulations and will often cite and/or take into custody those individuals who violate the policies or regulations. They also have agreements with law enforcement officials from adjacent communities for response to situations that involve COTA buses or property. As of the date of this report, the Ohio Legislature are working on a bill to make the assault of a transit official a felony offense. COTA also has the opportunity to dialogue with local law enforcement to discuss trends or patterns that are occurring and actions that could be undertaken to curtail or eliminate threats.

The use of video cameras with limited audio capabilities is also utilized COTA's buses. The buses are also equipped with CAD/AVL equipment so a vehicle can quickly be located and assistance dispatched effectively. Bus operators have the ability to activate a covert emergency alarm which simultaneously activates an open microphone. This allows both law enforcement and supervisory personnel to better understand a situation as it is evolving.

COTA also addresses passenger behavior through an organized public education process. The agency's Marketing/Communication/Public Relations Division works closely with COTA operations and management staff to develop educational material focus on increasing the public's awareness of expected behavior, the laws protecting public transportation services, and the penalties for violating those laws.

Finally COTA is "continually committed to learning about other agency experiences and actions that are taken to reduce assaults and improve training."

SEPTA

Attacks on bus operators are often, but not always, due to the inability of the bus operator to defuse or diminish the likelihood that the interaction will progress into an assault. Aggressive behavior of bus operators could, and often does, result in violent engagements. In TCRP Report 93, a survey was conducted of 88 transit agencies in the U.S. and Canada. There were 66 respondents to the survey. Of these respondents, "the majority of agency managers noted that a significant number of assaults may have been instigated by the behavior or action of the bus operator, and may have been prevented by the operator."⁴² In order to address this behavior in an effort to reduce assaults, SEPTA recently incorporated the use of behavior model screening in the selection of new bus operators.

In addition, they have teamed with Philadelphia's Red Kite Project to provide life skills training. For new bus operators, a one-week interactive "psycho-social"⁴³ themed training provided that includes facilitated discussion, lecture, case studies, and role playing. Content includes de-escalation skills and the use of body language, among other topics. An important module within the program requires drivers to interview customers and citizens in the area to gauge overall thoughts on SEPTA and discuss how they are treated by bus operators. In the event a new hire does not pass the course, there will be no progression through the balance of the training for new operators. A four day course is also offered each month for veteran operators.

This program is beneficial to the bus operator, both in providing them with the tools to effectively respond to volatile or aggressive engagements at work, and transferring these life skills to their relationships outside their role at SEPTA.

SEPTA has also addressed operator assaults through the examination of their operating policies, particularly those related to fare evasion. Historically, SEPTA bus operators were directed to obtain the name of the fare evader. This procedure has been changed and bus operators no longer request the name of the fare evader. SEPTA is hopeful that this new approach will lead to an ongoing reduction of fare evasion disputes.

Société de Transport de Montréal (STM) Sécuribus Program

STM initiated Sécuribus in 2006 to reduce the risk and prevalence of assaults on the system and the resultant impacts of those assaults. The program components focus on "assault prevention, result optimization, support immediately following an assault, and victim

⁴²TCRP Report 93: *Practices to Protect Bus Operators from Passenger Assault*, Transportation Research Board of the National Academies, Washington, DC, 2011.

⁴³ <http://www.metro-magazine.com/article/story/2012/01/septa-delves-into-drivers-past-to-improve-customer-service.aspx>

assistance.”⁴⁴ The program was built around significant input and support by the drivers’ union, Quebec’s occupational health and safety board, various STM divisions, and STM management. The features of the program include:

- A training component with two phases. Phase 1 provides bus drivers with strategies to defuse conflicts. Phase 2 includes stress management techniques and a segment on client diversity (e.g., age, ethnic origin, and physical and mental disabilities).
- Two promotional campaigns that include the importance of respecting STM’s bus operators and one that focuses on those behaviors identified by bus operators as “irritating to themselves and other clients.”
- Use of surveillance cameras on all buses with corresponding stickers that inform passengers of their presence.
- Emergency call buttons that send notifications to local police, STM Security and Control staff, and field supervisors. When the emergency call button is pressed, it also places a 9-1-1 display on the front route display panel (headsighn).
- Assignment of 93 safety inspectors to cover all shifts, assigned to areas most at risk for assault behavior. They are in place to support bus operators, collect and investigate complaints, and intervene when necessary. They also work closely with Montreal’s Police Department. In addition, they visit local schools to “sensitize” students and discuss the importance of being respectful public transit users.
- They staff information booths at bus depots to engage with bus operators and discuss current or upcoming initiatives designed to support them.
- As mentioned previously, they also provide support for bus operators who have been assaulted.

STM closely monitors the success of the Sécuribus program, tracking events, the number of assault related sick leave days, and other fiscal impacts linked to assaults. Since 2007, the program has resulted in significant positive impacts that are illustrated in Table 23. This includes the reduction in total assaults and physical assaults, which were discussed previously. In addition, assault-related sick leave days were reduced by 52.1 percent and costs associated linked to assaults were reduced by 43.7 percent.

Table 3-23. STM Sécuribus Positive Impacts, 2007–2012

	2007	2008	2009	2010	2011	2012	% Change
Assaults*	133	98	97	95	92	74	-44.4%
Physical Assaults	54	38	44	28	30	23	-57.4%
Assault-Related Sick Leave Days	4,657	3,928	3,175	1,337	2,385	2,232	52.1%
Costs linked to assaults	\$1,074,016	\$948,103	\$884,484	\$407,781	\$618,376	\$605,143	43.7%

*Includes all categories of assaults, including physical assaults.

Source: Société de Transport de Montréal (STM), Montréal, Québec, Canada, APTA Bus Safety Award nomination, March 2013.

⁴⁴ Société de Transport de Montréal (STM), Montréal, Québec, Canada, APTA Bus Safety Award nomination, March 2013.

Summary

The topic of bus operator assaults continues to be at the forefront of transit safety discussions. For transit agencies across the U.S. and Canada, assaults, including violent assaults, are becoming more prevalent. However, while the national trend of assaults on operators that meet NTD's definition of major incident is increasing, it is doing so only at a marginal rate.

In interviews and communication conducted following the release of the survey, the majority of public transit agencies have reported experiencing few, if any, assaults that would be characterized as major assaults. (However, they do stress the increasing presence of minor assaults that would not be reported as major incidents in NTD.) The majority of these agencies indicated that the assistance they would provide to a bus operator who is the victim of an assault would replicate that assistance provided in the event of an incident resulting in a fatality or other traumatic event.

For those transit agencies that are experiencing assaults that meet the definition of a major incident for NTD reporting purposes, many of these have been proactive in addressing the issue. These agencies have implemented changes that include providing bus operators with the tools necessary to effectively respond to volatile situations through training, establishing local policies and procedures to deter assault events or assist in responding to those events, installing technologies such as video or audio recording devices, and modifying bus driver areas with shields or other barriers.

Some agencies have gone beyond prevention and response tactics by also providing support programs and benefits to bus operators who are the victims of assault events. Examples include:

- The use of EAPs
- Monetary benefits, such as ongoing financial support during recovery
- Recompense for the loss of wages or damage and/or loss of personal property
- Opportunities for reassignment or light-duty assignments
- Life insurance that pays survivor benefits in the event a bus operator dies as a result of the injuries sustained in an assault

News headlines, communication with transit agencies, and anecdotal evidence suggests that minor and non-physical assaults, are increasing at a considerable rate, especially for the nation's largest transit systems. Bus operator assaults including spitting, harassment, verbal abuse and other physical and psychological engagements are frequently cited. These transit agencies have employed a number of techniques to help bus operators respond when these events occur, have established practices and formal policies to prevent, deter, reduce or appropriately respond to aggressive behavior, and have provided tools to aid in deterring these events.

While this chapter focused on bus operator assaults, it is important to recognize that the data presented in this paper illustrate the significance of assaults on transit system riders. This is a topic that warrants further examination.

Chapter 4

Model Policies and Procedures for Driver's License and Criminal History Background Checks

Background

Transit agencies utilize a variety of policies and procedures related to the type of driver's license and criminal history background checks they perform, the frequency of the record review, and the conditions under which out-of-cycle record reviews are conducted. This chapter provides an overview of the rules and regulations related to these employee screenings in Florida, a summary of practice of selected public transportation systems, a summary of the results of the examination, and a series of recommendations for consideration by FDOT.

Rule Chapter 14-90 (F.A.C)

Section 341.061(2)(a), F.S., requires the establishment of minimum equipment and operational safety standards for all governmentally owned bus transit systems; privately owned or operated bus transit systems operating in this state which are financed wholly or partly by state funds; all bus transit systems created pursuant to Chapter 427, F.S., and all privately owned or operated bus transit systems under contract with any of the aforementioned systems. Safety standards for bus transit systems are provided in Rule 14-90. Bus transit systems are required to develop, adopt, and comply with a System Safety Program Plan (SSPP), which meets or exceeds, the established safety standards set forth in Rule 14-90.

One element of the SSPP, contained within Section 14-90.004(3), requires that each transit system establish criteria and procedures for the selection of all drivers. Among the required criteria are the need to conduct driving and background checks for all new drivers and to verify and document the possession of valid driver licenses for all employees who operate buses. The specific language included in the section is provided below.

14-90.004 Bus Transit System Operational Standards.

(3) Bus transit systems shall establish criteria and procedures for the selection, qualification, and training of all drivers. The criteria shall include the following:

- (a) Driver qualifications and background checks meeting minimum hiring standards.*
- (b) Driving and criminal background checks for all new drivers.*
- (c) Verification and documentation of valid driver licenses for all employees who drive buses.*

DMV/MVR Checks

Verification of the possession of valid driver's license and an acceptable driving record is an important organization and safety necessity. This action is mandated for all Florida public transit agencies through Rule 14-90. However, Rule 14-90 does not specify the method or frequency with which to undertake DMV/MVR checks.

While the Federal Motor Carrier Safety Regulations (FMCSRs) are not directly applicable to local public transit systems, they do provide standards for bus operators driving in interstate commerce operations to transport passengers. The FMCSR requires that each motor carrier obtain a motor vehicle record at least once every 12 months for a period covering at least the previous 12 months. This could be used as a benchmark in developing state or local guidelines or policies.

A Florida driving record or MVR can be obtained from the Florida Department of Highway Safety and Motor Vehicles (FHSMV) or through a variety of private companies. The MVRs available include a 3-year, 7-year, and complete driving record. Both the 3- and 7-year records lists include only those infractions that have been adjudicated by the courts. These records do not include any actions for which adjudication was withheld, such as those for which the driver attended traffic school. The complete driving record contains all traffic infractions occurring within the past 10 years and will include infractions that occurred within the state of Florida, as well as those within other states. These records do not include infractions for which adjudication was withheld, such as those for which the driver attended traffic school. A complete listing of what is included in the 3-year, 7-year, and complete driving records can be found at the FHSMV website at http://www.flhsmv.gov/ddl/abstract_questions.html.

The following details the length of time entries are maintained on the FSHMV records:

- Citations – 10 years
- Citations (adjudication withheld clerk of court) – indefinite
- Citations (adjudication withheld judge) – indefinite
- Suspensions and Revocations – 7 to 11 years
- Alcohol related entries – 75 years
- Serious commercial driver license violations – 55 years

The current unit costs of the DMV/MVR checks are listed on the FHSMV's website <http://flhsmv.gov/>.

The current unit cost for each level of driver history record check is:

- 3-Year Florida Driver History - \$8.00
- 7-Year Florida Driving History - \$10.00
- Complete Florida Driving History - \$10.00

The fees for these records accessed through third party vendors vary according to the type of record pulled, the number of records accessed, the frequency of the checks, and the method of providing the information to the client (i.e., mail or e-mail). FHSMV provides a list of authorized third party vendors that have access to the FHSMV driver license history file and motor vehicle records. The vendors that provide this information may provide discounts for "commercial accounts" (those created for agencies that are ordering records on an ongoing basis). The list of approved third party vendors can be obtained at <http://www.flhsmv.gov/data/internet2.html>.

Additionally, an instant Florida license check to see if a license is valid at that moment (will include expiration date) may be conducted at no cost at the following:
<https://services.flhsmv.gov/DLCheck/>

Criminal History Background Checks

According to the Florida Department of Law Enforcement (FDLE), criminal history record checks are used to determine if an individual has been arrested and/or convicted of a crime. Information may be pulled from three different databases including the Florida Computerized Criminal History (CCH) Central Repository for Florida arrests; the Florida Computerized Criminal History Central Repository for Florida arrests combined with the national criminal history database from the Federal Bureau of Investigation for federal arrests and arrests that took place in other states; and the Florida Crime Information Center which provides current warrants and domestic violence injunctions (also called a "Hot Files Check"). The national database is based on fingerprinting, while the state database includes entries for individuals by name or fingerprint.

In Florida, the terms "Level 1" and "Level 2" background checks are used to identify the method used to pull the data and the degree to which the data are searched as defined in Chapter 435, Florida Statutes (F.S.). One of the primary focuses of these background checks are for persons who work with or providing services to children or persons who are elderly or disabled. Agencies that serve these individuals are authorized to require these checks for service providers and employees providing services directly to these clients.

According to FDLE, Level 1 refers to a Florida only name-based record check and an employment check. Level 2 refers to a state and national fingerprint-based check and generally applies to employees designated by law as holding positions of responsibility or trust. A Level 2 check is mandated for all employees who are required to be fingerprinted in accordance with Chapter 435, F.S.

Based on the Florida "Care Provider Background Screening Clearinghouse," the cost associated with the state only or Level 1 check is approximately \$24.00. A Level 2 check, which includes both the state and national database search, is currently \$64.50 (\$24.00 for state data, \$16.50 for national data, and \$24.00 for the retention fee).

The Florida "Care Provider Background Screening Clearinghouse" is managed by the Florida Agency for Health Care Administration (AHCA). The state agencies currently a part of the Clearinghouse includes:

- Agency for Health Care Administration (AHCA)
- Department of Health (DOH)
- Department of Vocational Rehabilitation (DVR)
- Department of Elder Affairs (DOEA)
- Department of Juvenile Justice (DJJ)
- Department of Children and Families (DCF)
- Agency for Persons with Disabilities (APD)

Transit agencies under contract with the agencies listed above are required to conduct Level 2 screenings for their bus operators.

If Rule 14-90 were to be amended to require Florida public transit agencies to conduct either Level 1 or Level 2 criminal history employee background checks, the Department of Transportation could be included as a participant in the Clearinghouse.

Background checks in Florida may be very extensive depending upon the services provided. There are other states that have similar requirements for service providers, including those providing transportation services. To frame the scale of Florida specific state requirements, a comparison with those of Minnesota and New York was performed.

Table 4-1 identifies the topic categories examined in Florida Level 1 and Level 2 background checks and compares them to the criminal history background checks and associated elements established by statute in Minnesota and New York. Florida’s Level 1 and Level 2 background checks are significantly more extensive than those performed in our peer states.

Table 4-1. Comparison of Florida Background Checks to Minnesota and New York

Category	Florida	Minnesota	New York
LEVEL 1			
Employment History	✓	✓	✓
Criminal	✓	✓	✓
Arrests	✓	✓	✓
Sex Offender	✓	✓	✓
Domestic Violence	✓		✓
LEVEL 2			
Finger Printing	✓	✓	✓
Adult Abuse	✓	✓	
Vehicular Homicide	✓	✓	✓
Firearms by School	✓		✓
Prostitution	✓		✓
Burglary	✓	✓	
Theft	✓	✓	
Elder Abuse	✓		
Drug Abuse	✓		✓
Murder	✓	✓	
Leaving the Scene of an Accident	✓		✓

This chapter summarizes the information gathered from the agency survey utilized to collect existing policies, procedures and practices employed by public transit agencies for driver’s license and criminal history background checks. The survey results were supplemented with follow-up contacts with transit agency personnel.

The verbiage and questions included in the information request are detailed below:

*“For the **Bus Operator Safety Critical Issues Examination and Model Practice** research project, CUTR and FDOT are seeking information on transit agency’s policies/procedures/forms/processes and methods used in both pre-employment and follow-up background checks on operators, including, but not limited to;*

- *Driver’s license checks – both for pre-employment and periodic time periods*
- *Criminal history – inclusive of moving vehicle incidents/accidents*
- *DMV records – licenses in other states, loss of licenses*
- *Financial background checks – if conducted, to what extent*

If periodic checks are conducted, what is the frequency or event which would initiate this process? What level of review is conducted at this point? (FDLE, Level 1 refers to a Florida only name-based record check and an employment history check. Level 2 refers to a state and national fingerprint-based check and generally applies to employees designated by law as holding positions of responsibility or trust, etc.)

In conducting these background checks, does your agency use a third party provider and if so, what is the associated cost?”

This survey instrument was distributed to Florida public transit agencies, select transit systems from other states and one transit agency from Canada. Valid responses were received from 32 transit agencies, 26 of which were from Florida.

The survey responses were followed by telephone interviews to address six (6) specific areas including:

1. The level of pre or post-employment background checks performed
2. The frequency with which MVR/DMV checks are performed
3. Events that would prompt an out-of-cycle driver’s license or background check
4. The costs associated with driver’s license and background
5. Who covers the cost for the checks, the agency or employee
6. If driver’s license and background checks are being performed in-house or out-sourced

A supplemental online survey was conducted with members of the Florida Operations Network to obtain additional information on the type of DMV/MVR checks that are performed by agencies represented by those members. Respondents were ask to indicate the type of MVR/DMV checks (3-year, 7-year, or complete history) performed for both new and existing bus operators. In addition, respondents were asked to indicate the frequency with which MVR/DMV checks are performed. The research team verified these responses through subsequent correspondence with survey respondents.

The supplemental survey posed the following questions:

- Does your transit agency conduct DMV license checks for NEW bus operators?
- If so, what type of check is performed?
 - 3 Year
 - 7 Year
 - Complete History
 - Other
- Does your transit agency conduct DMV license checks for EXISTING bus operators?
 - If so, how frequent are the checks?
 - Monthly
 - Every 6 Months
 - Annually
 - Every 2 Years
 - Other
- If so, what type of check is performed?
 - 3 Year
 - 7 Year
 - Complete History
 - Other

Summaries of the responses to each of these surveys are provided in the following section and are organized by those questions and responses related to DMV/MVR checks for new hires and existing employees and criminal history background checks.

Department of Motor Vehicle/Motor Vehicle Record (DMV/MVR) Checks

New Hires

All 32 respondents in the original survey indicated that they conduct DMV/MVR record checks for all new bus operators to verify the possession of a valid driver's license and confirm that the applicant's driving record meets the agencies minimal standards.

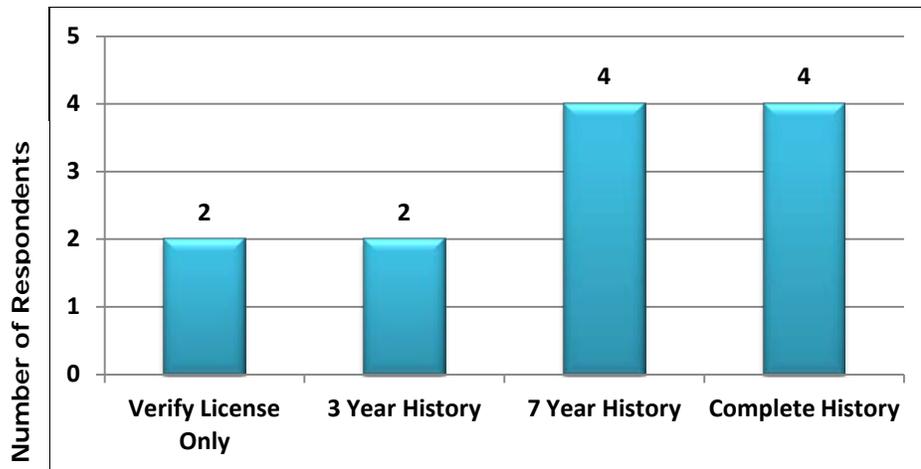
Follow-up Survey

Figure 4-1 provides the specifics of the pre-employment license checks as indicated by respondents to a follow-up survey of Florida's agencies. The transit agencies that responded to the follow-up survey included:

- Broward County Transit
- Collier Area Transit
- Lee Tran
- Lakeland Mass Transit District
- Miami-Dade Transit
- Palm Tran
- Pasco County Transit
- Polk County Transit
- Pinellas Suncoast Transit Authority
- Space Coast Area Transit

- USF Bullrunner
- Votran

The most common license checks for new hires, as reported by survey respondents, were the 7-year and complete history checks.



Source: 2013 CUTR Survey

Figure 4-1. New Employee DMV/MVR Checks

As illustrated in Figure 4-1, there were four respondents to the follow-up survey who indicated that they perform complete history checks. There were also four respondents who stated that their agencies perform 7-year history checks. Two agencies represented by the respondents conduct a 3-year history check for new hires and two only perform a verification check.

Existing Employees

As mentioned previously, the frequency of DMV/MVR checks undertaken by the respondents from the original survey for existing bus operators showed a wide variance of practice. Table 4-2 reveals that 26 of the 32 responding transit agencies (or 81.25%) perform their MVR checks every 12 months (consistent with the FMCSR standard) or more frequently. Of the remaining six agencies that do not perform MVR record checks on at least an annual basis, five review MVR records every 24 months, while the remaining respondent, a Florida transit agency, only performs post-employment DMV/MVR check on an intermittent basis at a frequency of less than one review every two years.

The establishment of a minimum standard for the frequency of performing DMV/MVR checks by Florida’s transit agencies would be a best practice that could be pursued.

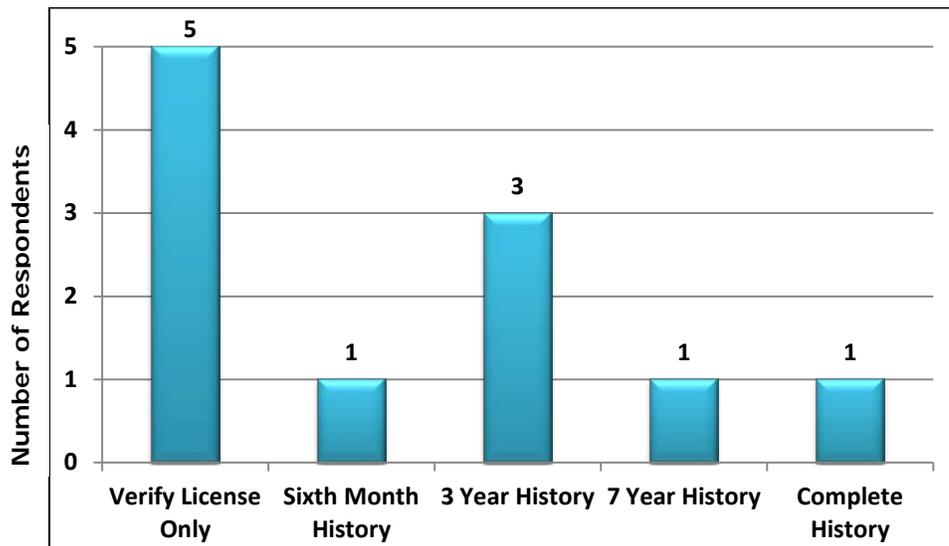
Table 4-2. Post-Employed Frequency of DMV/MVR Checks

Frequency of DMV/MVR Check	# of Agency Responses
Daily	1
Monthly	2
Quarterly	2
Every 6 Months	7
Annually	14
Bi-Annually	5
Other	1
Total	32

Source: 2013 CUTR Survey

In the follow-up survey with a smaller sample of 11 Florida transit agencies provided some insight as to the type of DMV/MVR history checks were conducted for existing bus operators. Figure 4-2 provides the specifics of the post-employment license checks.

It needs to be noted that the “six month history option” response is no longer available through the Florida DMV/MVR record check options, which are currently limited to license verification only, 3-year history, 7-year history and the complete history. Lee Tran, the agency employing the six month history option, was able to continue accessing this data through a special exception to continue a previous contractual arrangement with the DHSMV.



Source: 2013 CUTR Survey

Figure 4-2. Current Employee DMV/MVR Checks

Closer examination of the 11 survey responses provided some additional insight as to the frequency that the various current employment DMV/MVR checks. Table 4-3, which details the findings of this effort, reveals that six months is the most frequent check interval, followed by annual checks. The responses are represented as a percentage of total respondents and the actual number of responses within each category, presented in parentheses.

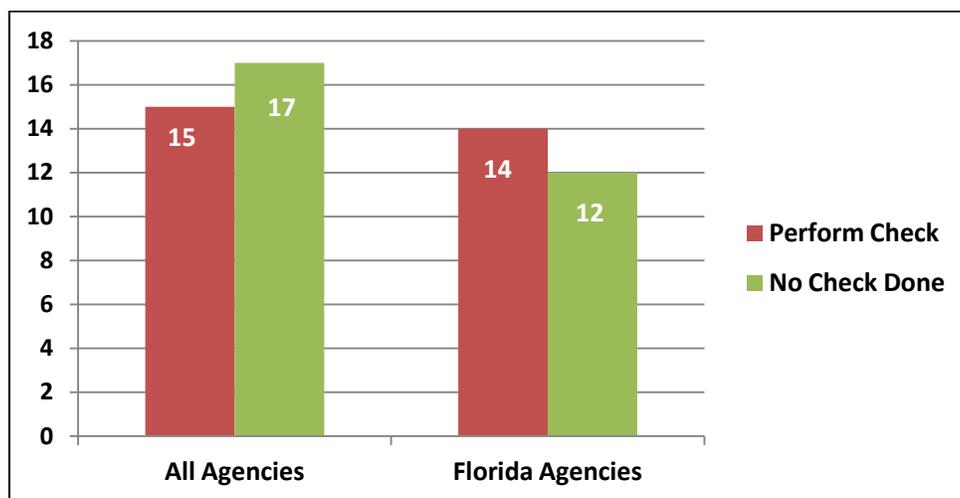
Table 4-3. Type and Frequency of Existing Employee DMV/MVR Checks

Type of Check	Frequency of Check			TOTALS
	Daily	Six Month	Annual	
Verify License Only	18.2% (2)	27.3% (3)	0.0%(0)	45.5% (5)
Six Month History	0.0%(0)	9.1% (1)	0.0%(0)	9.1% (1)
Three Year History	0.0%(0)	9.1% (1)	18.2% (2)	27.3% (3)
Seven Year History	0.0%(0)	9.1% (1)	0.0%(0)	9.1% (1)
Complete History	0.0%(0)	0.0%(0)	9.1% (1)	9.1% (1)
TOTALS	18.2% (2)	54.6% (6)	27.3% (3)	100.0% (11)

Source: 2013 CUTR Survey

Out-of-Cycle DMV/MVR Check

Respondents to the original survey were also asked to identify their transit agency’s approach to conducting out-of-cycle DMV/MVR checks. This would include any reviews conducted post-employment when the agency believes that an assessment is deemed necessary or prudent. Figure 4-3 provides a graphic summary of the responses.



Source: 2013 CUTR Survey

Figure 4-3. Out-Of-Cycle DMV/MVR Checks

Of the 32 agencies that responded to this question, 15 (46.9%) conducted or would conduct an out-of-cycle review. The conditions that would initiate an out-of-cycle background check were:

- Post-accident
- Reasonable suspicion
- Change in operator's license
- Change in the operator's position within the organization

Accordingly, the other 17 responding transit agencies (53.1%) stated they had not conducted out-of-cycle reviews and provided the following reasons:

- No reason to conduct
- No occurrences
- Not addressed

With respect to the 26 Florida agencies, 14 (53.8%) did or would conduct this assessment while 12 (46.2%) had not conducted this assessment. The events that would trigger an out-of-cycle assessments for Florida's agencies are consistent with those addressed above.

Criminal History Background Checks

Since bus operators deal directly with the public (including those vulnerable population groups such as children, the elderly and people with disabilities) and are in positions of considerable responsibility, conducting pre-employment criminal history background checks of transit bus operators is important.

As detailed in the previous chapter, Chapter 14-90, F.A.C. states that Florida bus systems must establish criteria to verify and document that criminal background checks are conducted for all new bus operator hires. The Rule does not address the specifics of the background check methodology, criminal history background type (Level 1 or Level 2), or the frequency of that review.

Table 4-4 summarizes the types of criminal background checks undertaken by the responding transit agencies. Since the Level 1 and Level 2 employment screenings are specific to Florida, the six non-Florida responses are categorized as "other." In addition, any Florida system that indicated that they do perform background checks but did not characterize them as either Level 1 or Level 2 are also represented by "other."

The levels of background checks vary by agency, with no consistency among Florida's transit systems. Nine of the 26 Florida agencies surveyed perform something other than a Florida Level 1 or Level 2 background check.

Table 4-4. Types of Criminal History Background Checks Conducted

Type Background Check	Florida	Other	Total
Level 1	6	0	6
Level 2	11	0	11
Other	9	6	15
Total	26	6	32

Source: 2013 CUTR Survey

The examination of responses revealed the following additional detail:

- Of the 26 transit agencies surveyed in Florida, 17 utilize the Level 1 or 2 Florida defined screenings – 6 that are performing Level 1 checks and 11 that are performing Level 2 checks.
- Of the 32 respondents, 27 indicated that they out-source their pre-employment background checks, with only 5 agencies performing the activity in-house.
- 31 of the 32 or (96.7%), of the transit agencies incur all pre-employment background check costs with only one (1) agency that requires applicants to pay for this process.

Detail from Responses

Table 4-5 provides detail by agency (when provided) on the type of criminal history background check conducted and the associated expenses of the criminal history background screenings.

Table 4-5. Cost Comparison by Agency and Level

Transit Agency	Criminal History Background Check Type	Cost of Criminal History Background Check
FLORIDA TRANSIT AGENCIES		
Bay Town Trolley, Pensacola	Other	\$24.00
Broward County Transit, Pompano	Level 2	\$24.00
Charlotte County Transit, Punta Gorda	Level 2	\$65.00
Escambia County Area Transit, Pensacola	Other	\$80.00
Go-Line, Vero Beach	Level 2	\$80.00
Hillsborough Area Regional Transit Authority, Tampa	Level 2	Florida = \$48.27 National = \$57.27
Jacksonville Transportation Authority, Jacksonville	Other	\$52.95 to \$100.00
Jackson County Transit, Marianna	Level 2	\$35.45
Key West Transit, Key West	Other	Done Internally
Lee Tran, Fort Myers	Other	\$35.00 to \$100.00
Levy County Transit, Bronson	Level 2	\$38.25

Manatee County Area Transit, Bradenton	Other	\$40.50
Martin County Transit, Stuart	Other	Included in Contractor Expense
Okaloosa County Transit, Ft. Walton Beach	Level 2	\$38.50
Palm Tran, West Palm Beach	Level 1	
Pasco County Public Transportation, Port Richey	Level 2	
Pinellas Suncoast Transit Authority, Clearwater	Level 1	\$54.00
Polk County Transit, Bartow	Other	\$30.00 to \$150.00
Sarasota County Area Transit, Sarasota	Level 2	\$61.50
South Florida Regional Transportation Association/Tri-Rail, Pompano Beach	Other	Included in Contractor Expense
Space Coast Area Transit, Cocoa, Florida	Level 2	\$35.45
St. John's County Transit Services, St. Augustine	Level 2	\$38.50
St. Lucie County Transit, Ft. Pierce	Level 2	\$80.00
Sun Tran - City of Ocala, Ocala	Other	\$35.00
The Bus (Hernando County), Brooksville	Other	\$42.35
VOTRAN, South Daytona	Other	\$35.00
NON-FLORIDA TRANSIT AGENCIES		
Dallas Area Rapid Transit, Dallas, Texas	Other	\$45.00
Easy Rider Bus, Midland, Texas	Other	
Metro Transit, Minneapolis, Minnesota	Other	\$150.00
Omnitrans, San Bernardino, California	Other	
Société de Transport de Montréal, Montréal, Québec, Canada	Other	\$76.00
VIA Metropolitan Transit, San Antonio, Texas	Other	

Source: 2013 CUTR Survey

Table 4-5 well documents the significant variability in the level of record review conducted by public transit agencies and the costs incurred by these agencies to perform criminal history background checks on their prospective and existing employees. Criminal history background checks reflect the greatest degree of cost variability with costs ranging from \$24 to \$150 for each record pulled.

Profiled Transit Agencies

This chapter provides specific detailed information on the driver's license and criminal history background checks performed by the transit agencies responding to the project survey and subsequent telephone interviews. The agencies profiled include:

Florida Transit Agencies

- Bay Town Trolley, Pensacola, Florida
- Broward County Transit, Pompano, Florida
- Charlotte County Transit, Punta Gorda, Florida
- Escambia County Area Transit, Pensacola, Florida
- GoLine Transit, Vero Beach, Florida
- Hillsborough Area Regional Transit Authority, Hillsborough, Florida
- Jackson County Transit, Marianna, Florida
- Jacksonville Transportation Authority, Jacksonville, Florida
- Key West Transit, Key West, Florida
- Lee Tran, Fort Myers, Florida
- Levy County Transit, Bronson, Florida
- Manatee County Area Transit, Bradenton, Florida
- Martin County Transit, Stuart, Florida
- Okaloosa County Transit, Ft. Walton Beach, Florida
- Palm Tran, West Palm Beach, Florida
- Pasco County Public Transportation, Port Richey, Florida
- Pinellas Suncoast Transit Authority, St. Petersburg, Florida
- Polk County Transit, Bartow, Florida
- Sarasota County Area Transit, Sarasota, Florida
- South Florida Regional Transportation Association/Tri-Rail, Pompano Beach, Florida
- Space Coast Area Transit, Cocoa, Florida
- St. John's County Transit Services (St. John's County Council on Aging), St. Augustine, Florida
- St. Lucie County Transit, FT. Pierce, Florida
- Sun Tran - City of Ocala, Ocala, Florida
- The Bus (Hernando County), Brooksville, Florida
- Votran, Volusia County, Florida

Non-Florida Transit Agencies

- Dallas Area Rapid Transit, Dallas, Texas
- Easy Rider Bus, Midland, Texas
- Metro Transit, Minneapolis, Minnesota
- Omnitrans, San Bernardino, California
- Société de Transport de Montréal, Montréal, Québec, Canada
- VIA Metropolitan Transit, San Antonio, Texas

Table 4-6 provides a summary of the survey and associated correspondence with the profile agencies. The narrative summary, as provided by each agency, follows.

Table 4-6. Summary of Background Checks Performed

Transit Agency	Criminal History Background Check			DMV/MVR Check		
	Type	New Hire	Post-Employment	Out-of-Cycle	New Hire	Post-Employment
FLORIDA TRANSIT AGENCIES						
Bay Town Trolley, Pensacola	Other	✓			✓	
Broward County Transit, Pompano	Level 2	✓			✓	✓
Charlotte County Transit, Punta Gorda	Level 2	✓	✓		✓	✓
Escambia County Area Transit, Pensacola	Other	✓			✓	✓
Go-Line, Vero Beach	Level 2	✓	✓		✓	✓
Hillsborough Area Regional Transit Authority, Tampa	Level 2	✓		✓	✓	✓
Jacksonville Transportation Authority, Jacksonville	Other	✓	✓	✓	✓	✓
Jackson County Transit, Marianna	Level 2	✓	✓		✓	✓
Key West Transit, Key West	Other	✓	✓	✓	✓	
Lee Tran, Fort Myers	Other	✓			✓	
Levy County Transit, Bronson	Level 2	✓			✓	✓
Manatee County Area Transit, Bradenton	Other	✓			✓	✓
Martin County Transit, Stuart	Other	✓	✓	✓	✓	✓
Okaloosa County Transit, Ft. Walton Beach	Level 2	✓	✓		✓	✓
Palm Tran, West Palm Beach	Level 1	✓	✓	✓	✓	
Pasco County Public Transportation, Port Richey	Level 2	✓	✓		✓	✓
Pinellas Suncoast Transit Authority, Clearwater	Level 1	✓			✓	✓
Polk County Transit, Bartow	Other	✓	✓	✓	✓	
Sarasota County Area Transit, Sarasota	Level 2	✓			✓	✓
South Florida Regional Transportation Association/ Tri-Rail, Pompano Beach	Other	✓			✓	✓
Space Coast Area Transit, Cocoa, Florida	Level 2	✓	✓	✓	✓	✓
St. John's County Transit Services, St. Augustine	Level 2	✓	✓	✓	✓	
St. Lucie County Transit, Ft. Pierce	Level 2	✓			✓	✓
Sun Tran - City of Ocala, Ocala	Other	✓	✓		✓	✓
The Bus (Hernando County), Brooksville	Other	✓	✓		✓	✓
VOTRAN, South Daytona	Other	✓	✓		✓	✓
NON-FLORIDA TRANSIT AGENCIES						
Dallas Area Rapid Transit, Dallas, Texas	Other	✓			✓	✓
Easy Rider Bus, Midland, Texas	Other	✓			✓	✓
Metro Transit, Minneapolis, Minnesota	Other	✓	✓		✓	✓
Omnitrans, San Bernardino, California	Other	✓		✓	✓	✓
Society de Transport de Montreal, Montreal, Quebec, Canada	Other	✓			✓	✓
VIA Metropolitan Transit, San Antonio, Texas	Other	✓			✓	✓

Source: 2013 CUTR Survey

Florida Transit Systems

The following section provides a summary of the responses received from each of the transit agencies to questions related to driver's license and criminal history background checks. The content within each agency's summary is presented as described by these agencies.

Bay Town Trolley, Pensacola, Florida

Bay Town Trolley is the primary provider of public transit services in Panama City, Florida. Bay Town Trolley provides service on Monday through Saturday on nine routes. The hours of service vary depending on the route. No service is provided on Sundays or holidays. Bay Town Trolley provided 778,438 trips in 2012.

Bay Town Trolley performs background and DMV/MVR checks for all new hires. There have been no occurrences where they have been required to conduct an out-of-cycle background check. The cost for the background check is \$24 and is paid for by the employer, which is performed by in-house personnel.

Broward County Transit (BCT), Pompano Beach, Florida

Broward County Transit (BCT) is the Community Transportation Coordinator (CTC) for Broward County providing public transit service in the county with connections to Palm Tran, the public transit service provider in neighboring Palm Beach County, Miami-Dade Transit (MDT), and Tri-Rail, the commuter rail service provider in southeast Florida. BCT operates 291 fixed route buses, 29 express buses, 77 community buses and 218 paratransit vehicles through a contracted service provider. BCT provides on average 37.9 million trips annually.

BCT conducts Level 2 background checks on all new hires, which includes criminal record and sexual offender checks through FLDE (Florida Law Department Enforcement), court records through Florida's Comprehensive Case Information System, and, if a person has lived in Florida less than ten (10) years, will conduct a national criminal check in any state within which the applicant has resided.

DMV/MVR checks are performed on a continuous basis. In the event an operator has had an accident or issues where Broward County's Human Resources Department recommends a more in-depth analysis, an out-of-cycle background check will be performed to determine if there if there may be an underlying issue for the behavior. The cost is \$24 for an in-state background check, but the cost to the agency per employee for background checks varies significantly, depending on the number of additional states the employee has lived.

Broward County incurs the cost for all DMV/MVR and in-state background checks, both of which are performed in house. Out of state background checks are performed by a third party.

Charlotte County Area Transit, Punta Gorda, Florida

Charlotte County Area Transit is the CTC for Charlotte County, providing transportation disadvantaged services directly and demand response service through a contracted service provider.

Charlotte County performs Level 2 background checks on all new hires. Each potential new hire that would be providing transportation services sponsored by the Agency for Health

Care Administration (AHCA) must be approved by AHCA before being hired by the contractor. In addition, at a minimum, an annual DVM/MVR check is performed. An out-of-cycle check would be performed in the event a driver was involved in a collision, or if there were any issues that raise suspicion that there may be a problem with an operator's license. The contractor is responsible for all costs associated with a DMV/MVR or criminal history background check, with an MVR check costing \$14.95 and a Level 2 background check costing \$65.00.

Escambia County Area Transit, Pensacola, Florida

Escambia County Area Transit (ECAT) provides services to the City of Pensacola and Escambia County, Florida. ECAT currently has 1,500+ bus stops covering 285 miles of routes with ridership of approximately 1.6 million annual passenger trips.

ECAT performs DMV/MVR, past employment, criminal, CDL and background checks on all new hires. Once hired, all operator DMV/MVR records are checked annually.

Transportation service providers under contract with ECAT are required to conduct DMV/MVRs for their employees every six months. Background checks cost \$80.00 per employee, which is paid for by First Transit. All background checks are performed by a third party.

GoLine, Vero Beach, Florida

GoLine is the public transit system in Indian River County, Florida with bus service on 14 fixed routes throughout the county.

GoLine conducts Level 2 background checks on all new hires and performs follow-up checks every five (5) years. DMV/MVR checks annually. The agency has not had an occurrence where an out-of-cycle background check was required. Their cost for the criminal background checks is \$85.25, which is paid by GoLine. They use Livescan, in coordination with AHCA for all background checks.

Hillsborough Area Regional Transit, Hillsborough, Florida

Hillsborough Area Regional Transit (HART) is the public transportation service provider in Hillsborough County, Florida. HART provides fixed-route local and express bus service, door-to-door paratransit service (HARTplus), flex-route neighborhood connector service (HARTflex), a lightened version of Bus Rapid Transit (Metro Rapid), and manages the TECO Line Streetcar System.

HART performs Level 2 background checks on all new hires, including Social Security, FDLE, DMV/MVR and performs a national scan, if an applicant has resided outside of Florida. On an annual basis, HART conducts DMV/MVR record checks for each operator. For CDL operators, this checked is performed more frequently. HART has a policy that it is the employee's duty to report arrests and convictions. In the event that information is received indicating that an employee's criminal history or license status has changed, HART will perform an out-of-cycle record check.

Each Level 2 background check costs \$57.27 for a national scan and \$48.27 for a Florida scan. HART is currently in the process of requesting background check service proposals to

ensure that their costs remain competitive in the open market. HART pays for all background checks, which are currently outsourced to First Advantage.

Jacksonville Transportation Authority, Jacksonville, Florida

Jacksonville Transportation Authority (JTA) is the CTC for Duval County providing public transportation services along 56 routes with vehicles traveling 8.5 million revenue miles each year with approximately 320 bus operators and 110 maintenance employees supporting an active fleet of 180 vehicles. JTA also coordinates the provision of transportation services to the transportation disadvantaged.

JTA performs extensive new hire background checks which include DMV/MVR; social security; county, state, federal, and multi-state criminal background checks; education; and national sex offender registry. The agency's SOPs require an annual background check, but they are currently conducting local, state, multi-state, and criminal and sex offender checks every six (6) months. If an employee self-reports an offense or the agency has reasonable cause due to information or actions brought to their attention, an out-of-cycle check will be performed.

The basic new hire background check is \$52.95, but will increase with each additional state record pulled with most averaging \$100.00 per employee. All costs are absorbed by JTA and the record service is outsourced to Edge Information Management.

Jackson County Transit, Marianna, Florida

Jackson County Transit (JTran) is a non-profit organization that is the CTC for Jackson County, Florida. JTran provides coordinated transportation and Medicaid Transportation services for the county.

JTran conducts Level 2 background checks on all new hires and again every five (5) years once employed. DMV/MVR records are checked every three (3) years. They have not conducted any out-of-cycle background check. The costs for performing the checks are \$14.25 for DMV/MVR and \$35.45 for Level 2 checks. JTran incurs all costs and record checks are outsourced.

Key West Transit, Key West, Florida

Key West Transit serves the Town of Key West and provides service via six (6) fixed routes. Key West conducts a statewide criminal background check and conducts a registered sex offender status for all states and an international one, if required. These checks are performed on all new hires and then done twice a year. If Key West Transit management receives an accusation of miss-behavior, or has other reason to believe there may be a problem, an out-of-cycle background check is performed. Florida DMV/MVR record checks are \$1.50, with other checks varying, depending on the number of states and countries associated with a new hire. The City of Key West pays for all record checks and they are performed internally through Safe Screener.

Lee Tran, Fort Myers, Florida

Lee Tran is a department of Lee County government, responsible for operating the public transit system that serves the county. It operates 18 bus routes; a paratransit service for people with disabilities called Passport; and an employer vanpool program. Lee Tran

employs approximately 240 people and has a fleet of 50 full-size buses, 11 trolleys and 47 paratransit vans.

Lee Tran conducts a complete background check on all applicants for pre-employment, including national, state and county checks, with out of state driver's license checks completed on any applicant that has had a Florida license for less than three (3) years. In addition, a six month license review is performed from the hire date. Lee Tran does not perform financial background checks. The agency uses a third party provider to conduct background checks. Depending on the required number of states which need to be reviewed for background records, the costs range from \$35.00 to \$100.00 per applicant. The county pays for all fees.

Levy County Public Transportation, Bronson, Florida

Levy County Transit is a department under the Levy County Board of County Commissioners serving as the CTC for the county. The program is funded by state and federal grants. The county works closely with the Withlacoochee Regional Planning Council, Florida Department of Transportation, and Florida's Commission for the Transportation Disadvantaged to provide affordable trips to the transportation disadvantaged. The agency also provides bus services to the general public, with fees based on the trip location.

Levy County performs Level 2 background checks on all new hires and performs driving record checks twice a year in July and December. As is true of many other transit agencies surveyed, they have not had a reason to perform an out-of-cycle background check. Levy County pays \$38.25 for Level 2 background checks and the service is outsourced through the Levy County Human Resource Department.

Manatee County Area Transit (MCAT), Bradenton Florida

MCAT is the major public transportation provider in Manatee County and is the CTC for the county. MCAT provides service on ten fixed routes and three trolley service routes.

MCAT performs a National Crime Information Center (NCIC) background check, which is similar to Florida's Level 2 background standard. In addition to new hire record checks, they also perform monthly DMV/MVR checks and have not had to perform any out-of-cycle background checks.

Manatee has a tiered cost for DMV/MVR checks with new hire DMV/MVR checks at \$8.00 each and a charge of \$1.79 for each operator's monthly DMV/MVR check. The NCIC background check cost is \$40.50. The costs for both the DMV/MVR and NCIC background checks are paid for by Manatee County.

Martin County Transit, Stuart, Florida

Martin County Transit offers three bus routes within Martin County with connectivity to St. Lucie County. These routes provide commuters access to work, school, shopping, medical facilities and recreational areas.

Martin County conducts background checks on all new hires and performs annual and random checks. DMV/MVR checks are performed in-house. An out-of-cycle driver's license check would be performed after an accident or other investigation.

Martin County Transit's contracted service provider MV Transportation pays for the outsourced portion of criminal history background checks which is performed by Private Eyes Investigator.

Okaloosa County Transit, Fort Walton Beach, Florida

Okaloosa County Transit serves as the CTC for Okaloosa County, providing public transit service on eight routes serving Fort Walton Beach and Okaloosa County and demand response services.

Okaloosa County Transit performs Level 2 background checks on all new operators and every five (5) years thereafter. In addition, they perform annual DMV/MVR checks. It has not been necessary for the agency to perform out-of-cycle background check. Okaloosa County pays \$38.50 for each Level 2 background check conducted. Background checks are outsourced.

Palm Tran, West Palm Beach, Florida

Palm Tran is the CTC for Palm Beach County and provides public transit service to every major destination in Palm Beach County - from Jupiter to Boca Raton and from Palm Beach to the Glades. Palm Tran runs seven days a week serving more than 3,400 bus stops with 142 buses. Palm Tran provides more than 10 million rides a year.

Palm Tran conducts Level 1 background checks on all new employees and performs intermittent reviews. They have performed out-of-cycle background checks if they become aware of an issue, if an employee changed status within the organization, was promoted, transferred, or was arrested. Palm Tran pays for all employee background checks and outsources the service.

Pasco County Public Transportation (PCPT), Port Richey, Florida

Pasco County Public Transportation (PCPT) is the CTC for Pasco County and presently operates a fixed-route transit system in Pasco County. PCPT has 16 fixed-route transit buses on nine routes, which include two routes traveling into Northern Pinellas County. Demand response service is provided to the qualified and registered mobility impaired and the transportation disadvantaged through PCPT's paratransit service.

All new applicants receive a Level 2 background check and are re-screened every five years. They currently perform DMV/MVR checks every two years. Pasco has not conducted any out-of-cycle background check. Applicants pay for the background pre-employment checks, which are outsourced to a third party. Pasco did not know the associated costs.

Pinellas Suncoast Transit Authority (PSTA), St. Petersburg, Florida

Pinellas Suncoast Transit Authority (PSTA) has 199 vehicles, covering 40 bus routes, including 2 express routes to Hillsborough County. Their annual ridership is approximately 14 million passenger trips.

PSTA performs Level 1, non-fingerprinting background checks on all new hires and annual DMV/MVR checks on all operators. In the event a bus operator receives a ticket violation, PSTA may perform an out-of-cycle DMV/MVR check. The State of Florida DMV/MVR check costs PSTA \$10.00. The seven year criminal history background check, including Florida

MVR, Social Security Number, Workers Compensation, Sex Offender, name and address verification, and county by county criminal check costs \$54.00. PSTA incurs all costs associated with DMV/MVR and background checks with record services outsourced.

Polk County Transit Services, Bartow, Florida

Polk County Transit is the CTC for Polk County, Florida and is the primary provider of paratransit services, including services to the transportation disadvantaged, in the county.

Polk County Transit conducts Florida Department Law Enforcement (FDLE) and National Background Screening checks, including a national search and reference checks, per employee, on all new hires and then on an annual basis. There have been no out-of-cycle checks. Polk County's costs vary from \$30 to \$150 depending on the applicant's background and number of states and references required to be searched. The costs are paid for by Polk County and are outsourced to First Advantage.

Sarasota County Area Transit (SCAT), Sarasota, Florida

Sarasota County Area Transit (SCAT) is the CTC for Sarasota County, Florida providing fixed and express route services, ADA paratransit service, and transportation disadvantaged transportation throughout the county.

SCAT performs Level 2 background checks on all applicants, including fingerprinting, criminal history, review of sex offender registries, local law request, Social Security numbers trace and verification, and DMV/MVR reviews of any state within which the applicant has resided. Monthly DMV/MVR checks are performed on each employee's birth date, the cost of which is absorbed by the Sarasota County Human Resources Department. There have been no out-of-cycle background checks. DMV/MVR monthly checks are \$14.50, \$38.00 for new hires, and an additional cost of \$23.50 for Level 2 screening, which is paid for by the County. All background checks are outsourced.

South Florida Regional Transportation Authority (SFRTA), Pompano Beach, Florida

The South Florida Regional Transportation Authority (SFRTA) manages the Tri-Rail regional commuter rail service.

SFRTA conducts all pre-employment reviews and annual reviews. The level of background check is dependent on the job requirements. Costs are paid for by the agency and are outsourced. Additionally, Veolia, their management firm, performs employee criminal history and DMV/MVR checks.

Space Coast Area Transit (SCAT), Cocoa, Florida

In 2012, the Space Coast Area Transit (SCAT) is the CTC for Brevard County, Florida providing public transit services along 17 fixed routes. SCAT's ridership increased 11% or 2,040,000 passenger trips and an all-time record of 2.6 million system-wide passenger trips (including vanpools and Paratransit). As part of SCAT's contract with the Agency for Persons with Disabilities, their employees and volunteers must be cleared through the Florida Department of Children and Families (DCF).

All new hires receive a Level 2 background check, which is then performed every five years thereafter. They perform several clearance checks including local background checks for

the past seven years, prior addresses and references. A third party approved by DCF fingerprints applicants and the fingerprints are sent to FDLE and the FBI, who will review all prospective candidates. DCF reviews all documentation and is the approval agency for applicant's employment with SCAT. SCAT performs DMV/MVR checks twice a year on all bus operators and once a year on all other employees. Any occurrence that may or may not affect an employees' eligibility to perform their safety sensitive position, or may impact their position of trust initiates an out-of-cycle background check. All costs are paid for by Space Coast, with a \$10.00 charge for each MVR check and \$35.45 for all other background checks.

St. John's County Council on Aging (COA), St. Augustine, Florida

St. John's County COA provides public transportation services throughout the county with both fixed route services provided by the Sunshine Bus and demand response services.

Level 2 background checks and DMV/MVRs are performed prior to any hires and on an annual basis. If St. John's County Council on Aging receives a report of severe misconduct, an out-of-cycle background check will be performed. The cost is \$38.50 per background check, is paid for by St. John's County and is outsourced.

St. Lucie County Transit, Fort Pierce, Florida

The County Transit Bus Service division functions as the CTC for St. Lucie County, Florida. The division works with St. Lucie County Community Transit to provide public transportation and Medicaid transportation to medical appointments, and disadvantaged transportation services for area residents. Community Transit is a division of the Council on Aging of St. Lucie, Inc. and provides greater than 200,000 annual trips throughout the county.

Level 2 background checks are performed on all new hires and are outsourced. DMV/MVR driving records are checked every July and December. There has not been the necessity to conduct out-of-cycle background checks. The cost for Level 2 inquiries is \$80.00 and is paid for by St. Lucie County Transit.

Sun Tran, Ocala, Florida

Sun Tran provides fixed route services to the City of Ocala, Florida with six routes. Sun Tran conducts a financial, social security, employment history, sex offender registry check, CDL, Drug and Alcohol, and prior arrests review and rechecks employee records every two years. Additionally, Sun Tran reviews all CDLs on an annual basis. Background checks for new employees are \$35.00 and are paid for by Sun Tran. Background checks are outsourced to a third party.

The Bus, Brooksville, Florida

The Bus is a cooperative effort of the Hernando County Board of County Commissioners, Hernando County Metropolitan Planning Organization, City of Brooksville, Florida Department of Transportation, Federal Transit Administration, and McDonald Transit Associates, Inc. in serving the people of Hernando County with affordable public transportation. The Bus currently has three fixed routes.

The Bus conducts full criminal history background and DMV/MVR checks on all applicants and then again every two years. An out-of-cycle background check would be performed if

the agency has reason to suspect a problem with an employee. The Bus pays for all inquiries which cost the agency \$42.35. Background check services are outsourced.

Volusia County Public Transit System (VOTRAN), South Daytona, Florida

Votran is a service of Volusia County Government and is the CTC for Volusia County, Florida providing transportation to all urban areas of the county with a fleet of 55 revenue-producing fixed route buses, four trackless trolleys and 44 paratransit vehicles. Additional service is provided through contracts. Votran's staff has grown to more than 200 employees.

Votran performs FDLE background checks on all applicants and every two years after hire. DMV/MVR checks are conducted on all new employees with rechecks performed monthly after hire. Votran pays \$35.00 for each background check performed with services performed by a third party.

Non-Florida Transit Systems

DART (Dallas Area Rapid Transit), Dallas, Texas

Dallas Area Rapid Transit (DART) provides service to 12 surrounding cities with modern public transit services and customer facilities tailored to make a trip fast, comfortable and economical. DART's extensive network of DART Rail, Trinity Railway Express (TRE) and bus services moves more than 220,000 passengers per day across 700-square-mile service area.

DART performs background checks on all applicants that include driving record, criminal history and, in instances of staff having access to large sums of money, credit checks are also performed. Thereafter, DMV/MVR checks are run yearly on the anniversary of employment for safety-sensitive employees. Pre-employment checks cost \$78.00 for non-safety sensitive employees and \$45.00 for safety-sensitive employees. International searches are an additional \$168.00, with periodic driving record checks costing \$10.00. DART incurs all costs with services outsourced.

Easy Z Rider – Midland – Odessa Urban Transit District, Midland, Texas

EZ-RIDER is the public transportation provider in Midland and Odessa, Texas. They provide fixed-route bus service and ADA Complementary Paratransit service within the urbanized areas of both cities

A local sheriff office level background check is performed on all applicants. Once employed by EZ Rider, annual reviews of DMV/MVR records are performed. Background checks cost \$5.00, with the employee paying for their pre-employment check and EZ Rider paying for all follow-ups. All checks are outsourced to a third party.

Metro Transit, Minneapolis, Minnesota

Metro Transit is the transportation resource for the Twin Cities, offering an integrated network of buses, light rail and commuter trains as well as resources for those who carpool, vanpool, walk or bike. It is working to add a light-rail link between downtown Minneapolis and downtown St. Paul' as well as developing enhanced express bus service throughout the

region. Metro Transit is one of the country's largest transit systems, providing roughly 90% of the 78 million bus trips taken annually in the Twin Cities.

Metro Transit utilizes an outside vendor for verification of criminal record, driving records, employment and education. New hires must also pass driving record, criminal history and work verification for the past ten (10) years, including inquiries regarding accidents and drug and alcohol testing of DOT employers, within the past two (2) years. Once hired, operator driving records are checked nightly, through the state computer system. Emails are sent to the management team reporting any anomalies for immediate follow-up. All new hires must have a valid license. Once employed, annual random sample background checks are performed. Metro Transit pays all associated background and follow-up checks, with the average complete background check costing \$150.00 per employee. Nightly checks are performed in-house, with all others being outsourced.

Omni Trans, San Bernardino, California

Omnitrans, the public transit agency serving the San Bernardino Valley area, currently operates 27 fixed routes as well as OmniLink, a general public dial-a-ride service, and Access, a paratransit service for the disabled. Omnitrans carries approximately 15 million passengers each year throughout its 480-square mile service area, covering 15 cities and portions of the unincorporated areas of San Bernardino County.

Omnitrans performs a Department of Justice/Live Scan (criminal), employment, education and credit check for certain management positions. They perform DMV/MVR CHP (California Highway Patrol) inspections on all operators every two years on average. Whenever there is a violation of company policy, suspension or change in credentials, an out-of-cycle background check is performed. Omni Trans pays for all MVR checks, which cost \$2.00 for each record search performed and the process is outsourced to SAMBA in California.

Societe De Transport De Montreal, Montreal, Canada

All potential Societe De Transport De Montreal employees receive the same level of background check, which includes a general background check, drug and alcohol testing and for personnel over a certain weight, a sleep apnea evaluation. The provincial license bureau (SAAQ), conducts a license check four times a year, on all operators. The cost for a complete background check, including three references, diploma verification and criminal background check is \$76.00. Societe De Transport pays for all background checks, which are outsourced.

VIA Metropolitan Transit, San Antonio, Texas

VIA buses operate seven days a week from 4 a.m. to 1 a.m. There are 7,080 bus stops along 91 bus lines, which are divided into five service categories: frequent, metro, express, skip, and downtown circulator.

VIA performs a state level background check prior to employment. Once hired, employee licenses are reviewed on a quarterly basis. An event which would trigger an out-of-cycle check would be if an employee receives a ticket regarding their license status. There is no cost to VIA and all checks are performed in-house.

Summary

The objectives of this research study were to identify the practices currently utilized by transit agencies in performing driver's license record and criminal history background checks; to identify commonalities related to type of records search performed, frequency, and events that would initiate an out-of-cycle record review; and, to develop recommendations for driver license checks and criminal history background checks.

It was discovered that transit agencies utilize a variety of policies and procedures related to the type of driver's license and background checks they perform, the frequency of the record review, and the conditions under which out-of-cycle record reviews are conducted. While all transit systems perform some level of driver's license record and criminal history background checks for new employees, there is great variation in the type of records inquiry performed and the review frequency following the hiring of a bus operator.

A unified, statewide background check policy for conducting driver's license record and criminal history background for pre- and post-employment checks would be beneficial and ensure common agency practices in this critical safety activity. The research revealed that Florida currently has a set of excellent programs that could be utilized to move toward this objective.

Rule Chapter 14-90, Florida Administrative Code

Section 341.061(2)(a), F.S., requires the establishment of minimum equipment and operational safety standards for all governmentally owned bus transit systems; privately owned or operated bus transit systems operating in this state which are financed wholly or partly by state funds; all bus transit systems created pursuant to Chapter 427, F.S.; and all privately owned or operated bus transit systems under contract with any of the aforementioned systems.

Safety standards for bus transit systems are provided by Rule Chapter 14-90. Bus transit systems are required to develop, adopt, and comply with a System Safety Program Plan (SSPP), which is required to meet or exceed, the established safety standards set forth in Rule 14-90.

One element of the SSPP, Section 14-90.004(3), F.S., requires that each transit system establish criteria and procedures for the selection of all drivers. Among the required criteria are the need to conduct driving and background checks for all new drivers and to verify and document the possession of valid driver licenses for all employees who operate buses.

Since Rule 14-90 is applicable to all public transit systems within the State of Florida, including those wholly or partially financed with state funds, it would provide an excellent mechanism to provide additional specificity and set minimum standards for the policies and procedures related to the type of driver's license and criminal background checks performed, the frequency of the record reviews, and the conditions under which out-of-cycle record reviews should be conducted.

DMV/MVR Checks

Verification of the possession of valid driver's license and an acceptable driving record is an important organization and safety necessity. This action is mandated for all Florida public

transit agencies through Rule 14-90. However, Rule 14-90 does not specify the method or frequency to undertake DMV/MVR checks.

A Florida driving record or MVR can be obtained from the Florida Department of Highway Safety and Motor Vehicles or through a variety of private companies. The DMV/MVRs available include a 3-year, 7-year, and complete driving record. Both the 3- and 7-year records list only those infractions that have been adjudicated by the courts. These records do not include any actions for which adjudication was withheld, such as those for which the driver attended traffic school. The complete driving record contains all traffic infractions occurring within the past 11 years and will include infractions that occurred within the state of Florida, as well as those within other states. This record does include infractions for which adjudication was withheld.

Employee Screening

In Chapter 435, F.S., the State of Florida has authorized and defined specific "Employee Screening" that can be used for criminal history background checks. According to the Florida Department of Law Enforcement (FDLE), criminal history record checks are used to determine if an individual has been arrested and/or convicted of a crime. Information may be pulled from three different databases including, the Florida Computerized Criminal History (CCH) Central Repository for Florida arrests; the Florida Computerized Criminal History Central Repository for Florida arrests combined with the national criminal history database from the Federal Bureau of Investigation for federal arrests and arrests that took place in other states; and the Florida Crime Information Center which provides current warrants and domestic violence injunctions (also called a "Hot Files Check"). The national database is based on fingerprinting, while the state database includes entries for individuals by name or fingerprint.

In Florida, the terms "Level 1" and "Level 2" background checks are used to identify the method used to pull the data and the degree to which the data are searched as defined in Chapter 435, F.S.. According to FDLE, Level 1 refers to a Florida only name-based record check and an employment check. Level 2 refers to a state and national fingerprint-based check and generally applies to employees designated by law as holding positions of responsibility or trust. A Level 2 check is mandated for all employees who are required to be fingerprinted in accordance with Chapter 435, F.S.

Based on the Florida "Care Provider Background Screening Clearinghouse", the cost associated with the state only or Level 1 check is approximately \$24.00. A Level 2 check, which includes both the state and national database search, is currently \$64.50 (\$24.00 for state data, \$16.50 for national data, and \$24.00 for the retention fee).

The Florida "Care Provider Background Screening Clearinghouse" is managed by the Florida Agency for Health Care Administration (AHCA). The Florida State Agencies participating in the Clearinghouse include the following:

- Agency for Health Care Administration (ACHA)
- Department of Health (DOH)
- Department of Vocational Rehabilitation (DVR)
- Department of Elder Affairs (DOEA)

- Department of Juvenile Justice (DJJ)
- Department of Children and Families (DCF)
- Agency for Persons with Disabilities (APD)

Transit agencies under contract with the above agencies are required to conduct Level 2 screenings for their bus operators.

If Rule 14-90 were to be amended to require Florida public transit agencies to conduct either Level 1 or Level 2 criminal history employee background checks, the Department of Transportation could be included as a participant in the Clearinghouse.

Recommendations

Based on the findings of this research, the following recommendations are offered for consideration:

1. Establish a state-wide background check policy for conducting driver's license record and criminal history background for pre- and post-employment checks for the Florida public transit industry.
2. Use the authority established in Section 341.061(2)(a), F.S. to accomplish the state-wide background check policy for conducting driver's license record and criminal history background for pre- and post-employment checks.
3. Pursue the amendment of the safety standards for bus transit systems provided by Rule Chapter 14-90, to detail specific requirements related to driver's license record and criminal history background for pre- and post-employment checks.
4. Within the amended language to Rule 14-90, specifically detail the following minimum requirements in regard to driver's license checks:
 - a. Must conduct DMV/MVR checks for all new employees operating buses
 - b. Require a minimum of an annual DMV/MVR checks for all existing employees operating buses
 - c. Require agencies to develop policies to permit out-of-cycle DMV/MVR checks for all employees operating buses
5. Explore working with the Department of Highway Safety and Motor Vehicles or private contractors to negotiate a state-wide contract for a consortium of public transit operators covered by Rule 14-90 to obtain DMV/MVR driver's license checks. This would provide potential cost savings and easier access for the checks.
6. Within the amended language to Rule 14-90, specifically detail the following minimum requirements in regard to criminal history background checks:
 - a. Must conduct criminal history background checks for all new employees operating buses

- b. Require a minimum criminal history background checks for all existing bus operators on a five-year cycle
 - c. Require agencies to develop policies to permit out-of-cycle criminal history background checks for all bus operators
- 7. Within the amended language to Rule 14-90, specifically detail the following minimum requirements in regard to criminal history background checks:
 - a. Mandate the use of the employee screening requirements indicated in Chapter 435, Florida Statutes (F.S.) for criminal history background checks
 - b. Establish Level 2 background screenings, as defined in Chapter 435, F.S., as the mandated screening standard for Florida's transit bus operators
- 8. Pursue having the Florida Department of Transportation to join the Florida "Care Provider Background Screening Clearinghouse" and allow all agencies covered by Rule 14-90 to access their criminal history background checks through the Clearinghouse. This would provide potential cost savings and easier access for the checks.

Chapter 5

Safety Training for Bus Operators – Improving the Training Process and Model Programs

Topic Overview

Training of public transit operators is critically important to the safe operation of transit systems. While many training programs exist throughout the country, there are few that would be considered standardized. Additionally, many of these transit training programs are longstanding and have not been updated to include new educational theories, concepts and delivery mechanisms. In general, the industry's approach to public transit operator training includes offering training at the beginning of employment and, thereafter, it is only delivered intermittently (primarily in the form of refresher and remedial training). This research examines today's public transit operator training models and identifies possible contributing factors or correlations between the existing training models and safety-related incidents. It ties transit safety training to FTA's comprehensive Safety Management System (SMS) approach.

FTA has established and will enforce SMS as its new safety regulatory framework. With a focus on safety policy, formal hazard identification methods, continuous safety risk assessment, effective safety reporting systems, and targeted safety training, SMS provides the necessary organizational structures, accountabilities, policies, and procedures to optimally manage safety. Transit safety training is critical to this approach.

The SMS structure is based upon four functional components for improved organization-wide safety performance: safety policy, safety risk management, safety assurance, and safety promotion. Put simply, the goal of SMS is to ensure that public transit agencies have a strategic decision-making process to proactively identify, prioritize, and control emerging safety risks before those risks become critical system failures. Tantamount to the success of public transit agencies in projecting a system based in the SMS themes, are accountability, management commitment, structured and ongoing safety risk assessment, monitoring, and mitigation, and continuous improvement. Robust transit operator training programs and other "safety promotion" activities are central to ensuring the safety of public transit systems along SMS themes.

Research Method

The research approach began with a literature review (included as Appendix A) of relevant publications, resource documents, and pertinent legislation in an effort to identify any existing best or model practices for bus operator training or corresponding laws or regulations.

In addition, a Transit Safety Survey was developed and disseminated to obtain data from public transit agencies on their bus operator training programs. The survey also obtained macro-level detail on incidents that occurred within the transit agencies surveyed, including observations of overall causal and contributing factors in those incidents. This data allowed researchers the opportunity to observe some counter-correlative relationships between training and transit incidents and opportunities for further study or discussion.

The Transit Safety Survey was followed by a supplemental “Florida Operations Network Training Survey” designed to identify additional descriptive information related to bus operator training programs offered. This second survey inquired about:

- Type of training provided
- Content of training
- Frequency of training
- Duration of training
- Delivery methods utilized
- Annual refresher or remedial training provided

The results of both surveys are included within the narrative of this chapter.

Training Requirements in State and Federal Law

Federal and state law provides the baseline for evaluating bus operator training for adequacy in addressing at least the minimum requirements of the law.

The Code of Federal Regulations (CFR) bullet lists the specific knowledge and skills required of commercial motor vehicle operators that would be the basis for driver training. These include 49 CFR §383.111 - Required knowledge; 49 CFR §383.113 - Required skills; and 49 CFR §383.117 - Requirements for passenger endorsement.

The most recent Federal transportation reauthorization, Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law July 6, 2012, (Public Law 112-141), addresses commercial motor vehicle operator training, known as the Commercial Motor Vehicle Safety Enhancement Act of 2012. It amends the title of Section 31305 to “General driver fitness, testing, and training.” The Act requires that by July 2013, the USDOT Secretary must issue final regulations establishing minimum entry-level training requirements, both classroom and behind-the-wheel training, for an individual to operate a commercial motor vehicle (CMV). A certification of such knowledge and skills must be obtained by an operator before receipt of a commercial driver license, and also includes specific training for a passenger endorsement (49 U.S.C. §32304 amending §31305). By July 2014, the USDOT Secretary will evaluate the current knowledge and skill testing requirements for a passenger endorsement, to determine what improvements are needed and submit a plan to implement any changes needed to the knowledge and skills tests (49 U.S.C. §32309).

MAP-21 also establishes that the training provider must demonstrate that the training meets the minimum requirements in the regulations (49 U.S.C. §32304 amending §31305). By July 2014, the USDOT Secretary must submit a report describing the feasibility, benefits, and costs of establishing a certification for schools and motor coach operators that provide driver training (49 U.S.C. §32708).

Rule 14-90.004, F.A.C. Bus Transit System Operational Standards, provides that each transit system shall develop and adopt a system safety program plan (SSPP) that addresses bus driver training. “As part of the driver training program, specific procedures, and training shall be implemented to instruct the driver on how to safely approach and depart from a transit bus stop to avoid contact with pedestrians and other hazards” (Rule 14-

90.004(1)(a)6., F.A.C.). In addition, the SSPP must incorporate a driver education training program that addresses the proper use of wireless communication devices and the associated hazards while driving (Rule 14-90.004(1)(a)14., F.A.C.). Furthermore, the Rule requires bus transit systems to establish criteria and procedures for training all drivers. The criteria include:

“Training and testing to demonstrate and ensure adequate skills and capabilities to safely operate each type of bus or bus combination before driving on a street or highway unsupervised. As a minimum requirement, drivers shall be given explicit instructional and procedural training and testing in the following areas:

1. *Bus transit system safety and operational policies and procedures.*
2. *Operational bus and equipment inspections.*
3. *Bus equipment familiarization.*
4. *Basic operations and maneuvering.*
5. *Boarding and alighting passengers.*
6. *Operation of wheelchair lifts and other special equipment.*
7. *Defensive driving.*
8. *Passenger assistance and securement.*
9. *Handling of emergencies and security threats.*
10. *Security and threat awareness.*
11. *Driving conditions. (14-90.004(3)(d), F.A.C.)*

In addition,

Bus transit systems shall provide written operational and safety procedures to all bus drivers before driving on streets or highways unsupervised. At a minimum, these procedures and instructions shall address the following:

1. *Communication and handling of unsafe conditions, security threats, and emergencies.*
2. *Familiarization and operation of safety and emergency equipment, wheelchair lift equipment, and restraining devices.*
3. *Application and compliance with all applicable federal and state laws, rules, and regulations.” (Rule 14-90.004(3)(e), F.A.C.)⁴⁵*

Part of this procedural instruction for bus operators would need to include familiarization with requirements in Rule 14-90.006, F.A.C. regarding Operational and Driving Requirements.

The FDOT **Bus Transit System Safety Program Plan (SSPP)** template provides guidance on driver safety training and testing. It is emphasized in the preface of the template that bus transit systems are not required to use the template but that it provides guidance only. This recognizes that every bus transit agency must plan for its individual needs. Chapter 7

⁴⁵ Chapter 14-90, Florida Administrative Code

of the template is presented in mostly green text, indicating that the text is provided as an example of how a bus transit agency might address the requirements to provide training. The guidance suggests that a Safety Training Manager be designated to train, test, document training activities, and develop and maintain training manual. The guidance suggests using a computer training module for bus operators to learn basic bus operations and maneuvering. The guidance separately addresses training of new hires and refresher training for experienced operators. For new hires, the guidance suggests training in the following areas: agency general rules, personal appearance and conduct, customer service, traffic laws, fare handling, Americans with Disabilities Act requirements, radio procedures, report writing, substance abuse policy, and standards of the Occupational Safety and Health Administration (OSHA), such as procedures to address exposure to blood-borne pathogens and other health hazards.

The guidance suggests that experienced bus operators should participate in refresher training at least once every three years. Additionally, the guidance suggests that remedial training with targeted content be provided to bus operators by supervisor recommendation or who were involved in a serious collision or associated with persistent customer complaints.

FDOT Procedure 725-030-009-j, Bus Transit System Safety Program, carries out Rule 14-90.004, F.A.C. by serving an oversight, review, compliance reporting, and sanctioning function to make sure state requirements are met and that safety and security standards are incorporated into training programs of bus transit systems.

Resources and Training

The literature review established the basis from which to make observations about the relevance and critical need for workforce development and training in the area of transit safety, especially for bus operators. There has been beneficial research conducted on the efficacy of transit training and representative illustrations of training content, resources, and model practices. In addition, the literature review examined recommended practices from industry groups, such as APTA. These research reports, best or model practices, and syntheses of practices are excellent resources for transit agencies, state departments of transportation, and FTA to utilize when developing minimum standards or criteria for bus operator training or other safety training

In addition to those training programs described in the literature review and referenced above, there are other organizations that have developed and provide transit training programs and materials. CTAA, a national nonprofit member organization, has developed training and certification programs for community transportation systems. Topic areas include non-emergency medical transportation, transportation service coordination, operations and human resource management; however, the coursework appears to be geared more to the work tasks of management level employees. NRTAP offers training modules and technical briefs on a wide range of rural transit issues. NRTAP references are presented above within the chronology of references.

The Florida Rural Transit Assistance Program of the FDOT Public Transit Office is administered by the Transit Safety and Workforce Development Program at the Center for Urban Transportation Research (CUTR). The program coordinates and delivers a number of courses each year to Florida's rural and small urban transit providers. Florida RTAP works with the National Transit Institute, other workforce development curriculum instructors, as well as CUTR staff to deliver this training.

In addition, CUTR, under contract with the Florida Department of Transportation, works in partnership with the Transportation Safety Institute (TSI) of the USDOT to provide the Transit Operator Training Program to train and certify Florida Bus operator trainers. TSI offers a system of federal and state certified classes mainly to train bus operator trainers. Courses relating to bus operator training include the following:

- FT00541 1-Day Bus Operator Trainer Course
- FT00542 1-Day Paratransit Operator Trainer Course
- FT00555 Curbing Transit Employee Distracted Driving
- FT00558 Fatigue and Sleep Apnea Awareness for Transit Employees
- FT00562 Instructors Course in Bus/Paratransit Operator Training

The National Transit Institute (NTI) at Rutgers, The State University of New Jersey also provides training, education and clearinghouse services to the public transportation industry. The following courses are provided to transit trainers as well as delivered directly to bus operators.

- Infectious Disease Awareness and Prevention
- Musculoskeletal Disorder Awareness and Prevention
- Toolbox for Transit Operator Fatigue: Putting the Report into Action (TCRP Report 81)
- Transit System Security Awareness for Transit Employees
- Violence in the Transit Workplace: Prevention, Response and Recovery

The Canadian Urban Transit Association (CUTA) has a Transit Ambassador Program. This is a series of train-the-trainer modules in customer service with information developed to teach bus operators how to handle a variety of situations. Course titles provide a sense of the topic areas covered, including:

- Essentials of Customer Service
- Effective Communications
- Managing Customer Feedback
- Managing Stress
- Difficult Situations
- Dangerous Situations
- Diversity in Transit
- In the Driver's Seat
- Advanced Customer Service Training for Experienced Operators
- Customer Inside and Out

- The Customer-Focused Organization
- Special Needs Situations
- Effective Announcements

The National Safety Council provides online Defensive Driving Courses (DDC) and state certified defensive driving programs in 11 states, including Florida. The Florida DHSMV has currently approved the Basic Driver Improvement course for use by motor vehicle drivers in Florida; however, it is not for those who have a commercial driver license. TCRP Report 66,

Transit Agency Practices

This section is comprised of the results of the Transit Safety Survey and follow-up activities with Florida's public transit agencies including a subsequent FON Transit Training Survey conducted in October 2013 through the Florida Operations Network. Each of these surveys and corresponding results are described and discussed below.

The Transit Safety Survey was designed to capture a variety of quantitative and qualitative information from public transportation agencies within Florida and across the U.S. and Canada to determine the safety characteristics of transit systems; the way in which safety data is reported, evaluated and used to further the safety culture of those systems; and, allow researchers to gauge those areas that need further examination and analysis. The FON Transit Training Survey was developed to collect information from Florida's transit agencies on the type of bus operator training offered, the number of hours devoted overall and by topical area, and the frequency and duration of the training provided.

Transit Safety Survey

A comprehensive online Transit Safety Survey was conducted for this project and was comprised of a series of 37 questions related to the system, the safety cultures within which the system operates, and other relevant safety related topics. The survey instrument was finalized in early January 2013 and was released electronically to public transportation agencies through the various listservs managed by the American Public Transportation Association (APTA). It was also released to Florida's Transit Operations Network (FON), a network that includes representatives from the majority of Florida's public transportation systems, through their listserv. Following the initial distribution of the survey, subsequent reminder e-mails were distributed on two separate occasions in February and April of 2013. The survey was closed in late May 2013 and captured 69 unique responses. The respondents represented a cross section of public transportation agencies in the size, geographic location, and variation in the number of transit modes operated. The results of the survey are utilized extensively in the data and findings presented in this report.

The Transit Safety Survey is summarized below (a comprehensive summary of all safety survey elements is provided in Appendix B). Included are those questions related to the characteristics of the responding agencies (agency profiles) and their operation environment; a general discussion of the responses to the full summary; the specific responses to survey questions 24 and 25 related to causal factors in transit incidents; questions 32 through 35 related to transit training; and corresponding findings.

Q2. Which modes does your agency either directly operate or operate using a contractor?

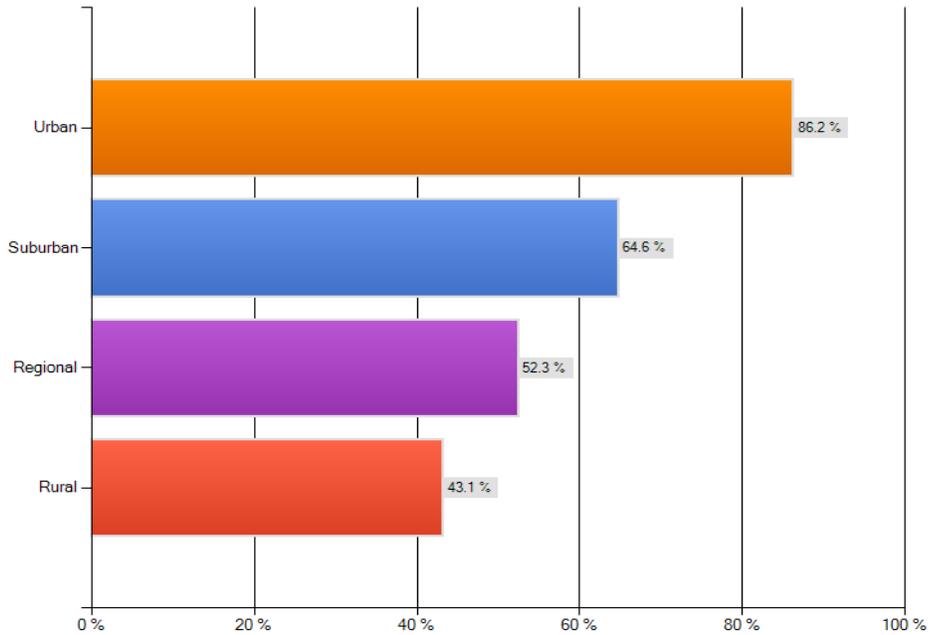
Type Operation	Operate	Contract	Both*	Totals
Demand Response	22	23	5	50
Bus	49	7	5	61
Trolley Bus	6	0	0	6
Bus Rapid Transit	11	1	0	12
Heavy Rail	3	0	0	3
Light Rail	11	1	0	12
Commuter Rail	3	4	1	8
Totals	105	36	11	152

*Agency both operates and contracts transit services. As an example, there were five agencies that indicated they both operate and utilize a contractor to provide demand response and bus transit services.

After capturing the survey responder’s identifying information, this question was the first of a series of questions that were intended to profile the 69 survey respondents. This question allowed for multiple responses.

The responses indicate a good balance between systems that provide transit services directly, contract the services out, or do both. Similarly, while 73 percent of the respondents operated typical demand response and bus services, there was also a good representation of other modes, including bus rapid transit, trolley bus, heavy rail, light rail, and commuter rail.

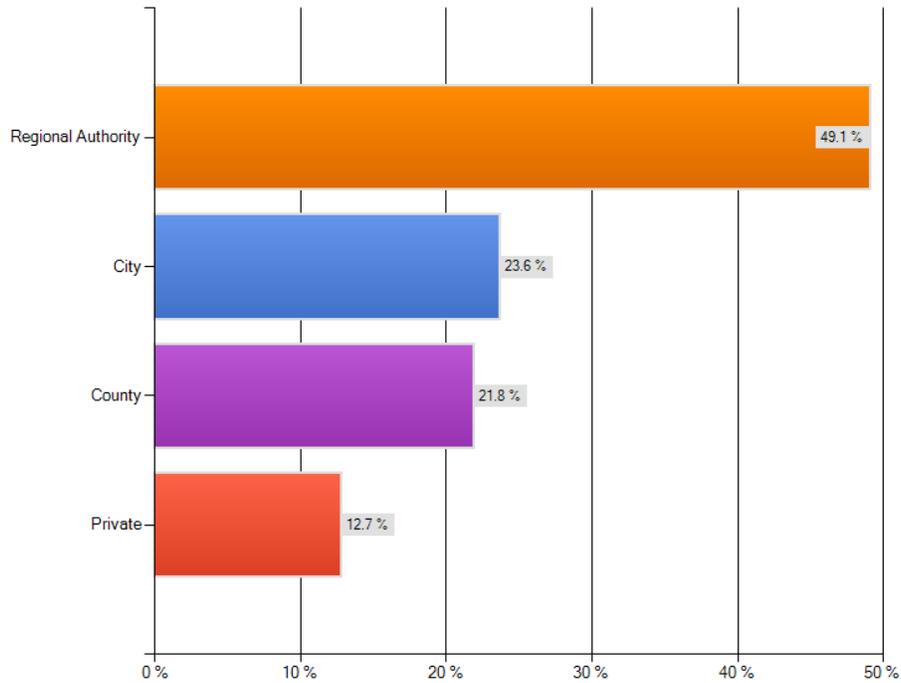
Q3. What type of areas do you serve?



This question, which also permitted respondents to provide multiple responses, focused on the types of areas served by the transit agencies. The options provided included urban, suburban, regional, or rural. Most agencies indicated they operated in more than one type of service area. Many of those operating in urban environments also operate in suburban or regional areas. A few respondents operate in both rural and regional settings. The options provided included urban, suburban, regional, or rural.

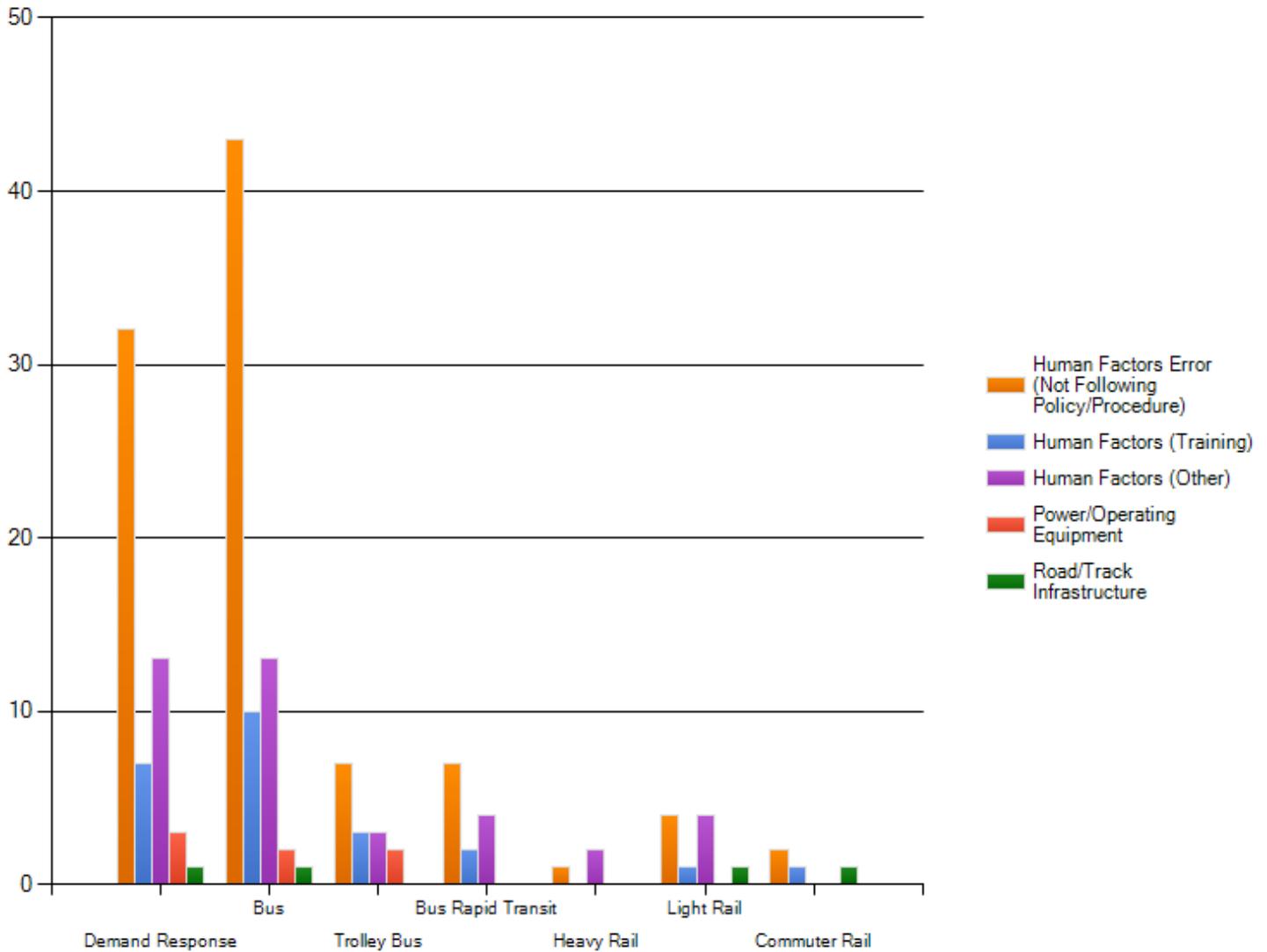
With total responses ranging from 43.1 percent for rural service areas to 86.2 percent for urban area service, the systems responding represented a broad spectrum of service area coverage and provided services in our four operating environments.

Q4. Which of the following manages your agency?



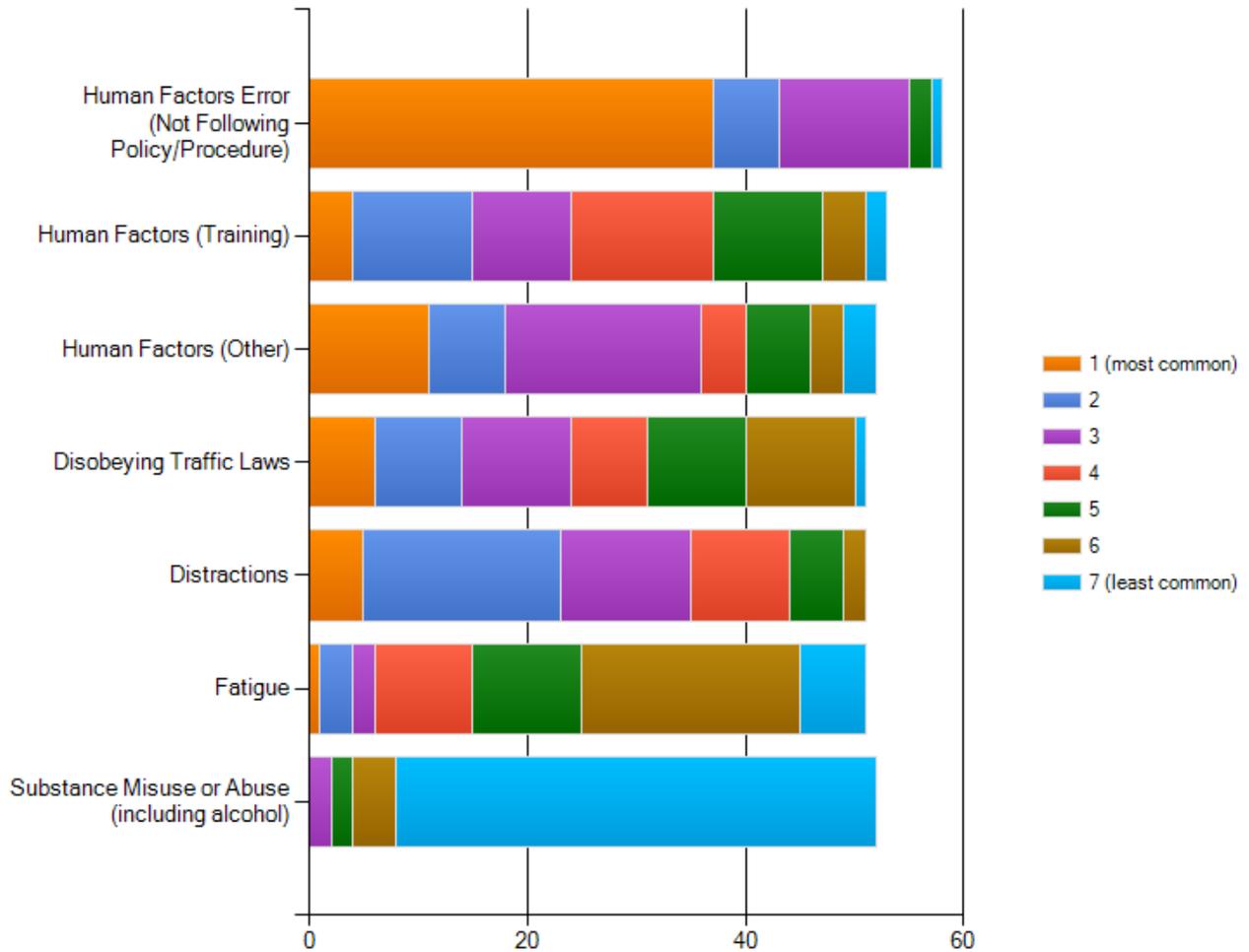
This question, which permitted respondents to provide multiple responses, focused on the type of entity under which a respondent is administratively managed. As an example, there were respondents who work for transit management companies who selected regional authority and private, as an example. There were also regional authorities or those transit agencies organized within a council of government structure that also selected county or city. Close to 50 percent of the respondents were regional authorities. Over 45 percent were operated by local governments, split almost equally between city and county agencies. While 87.3 percent of the agencies were publicly managed systems, 12.7 percent of the responding systems were privately managed.

Q24. Based on the data you collect, indicate for each mode below the type of causal factors that are most prevalent (please select the most prevalent causal factor for each mode – select only one causal factor for each).



For this question, respondents were limited to the selection of one causal factor per mode. The intent of this question was to determine, based on the causal or contributing data collected by each agency, those factors most prevalent for that agency. With the exception of heavy rail, “human factor errors (not following policy and procedure)” is the most prominent causal factor in transit incidents.

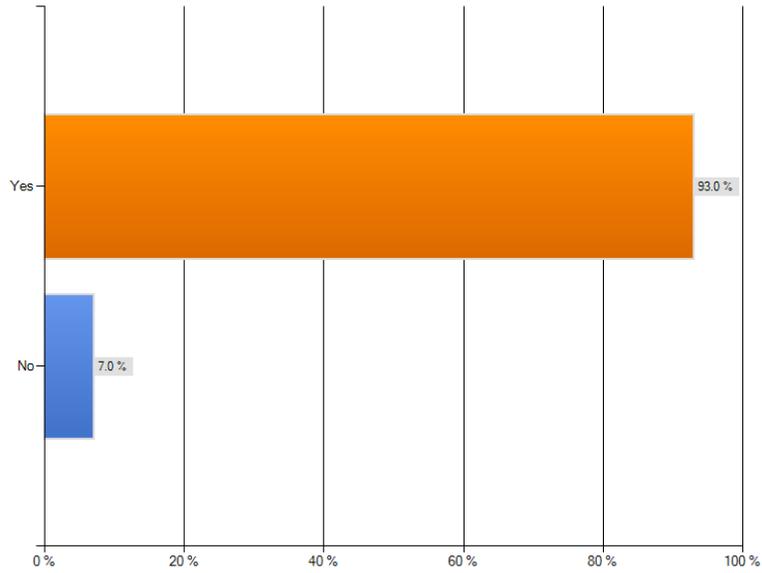
Q25. If you have identified human factors as causal factors, please rank your agency's common causal factors:



For this question, respondents were limited to one selection per category (from one to seven, with one being the most common and seven the least common). The purpose of this question was to have the agencies rank the most common human casual factors. For each selection, the responses are presented from most common (on the left) to the least common (on the right) in the responding color ranking. Selections with the greatest amount of orange (#1), dark blue (#2), and purple (#3) would be those rated as most common by the respondents. These selections include:

- Human Factor Errors (Not Following Policy/Procedure)
- Human Factors (Other)
- Distractions
- Disobeying Traffic Laws
- Human Factors (Training)

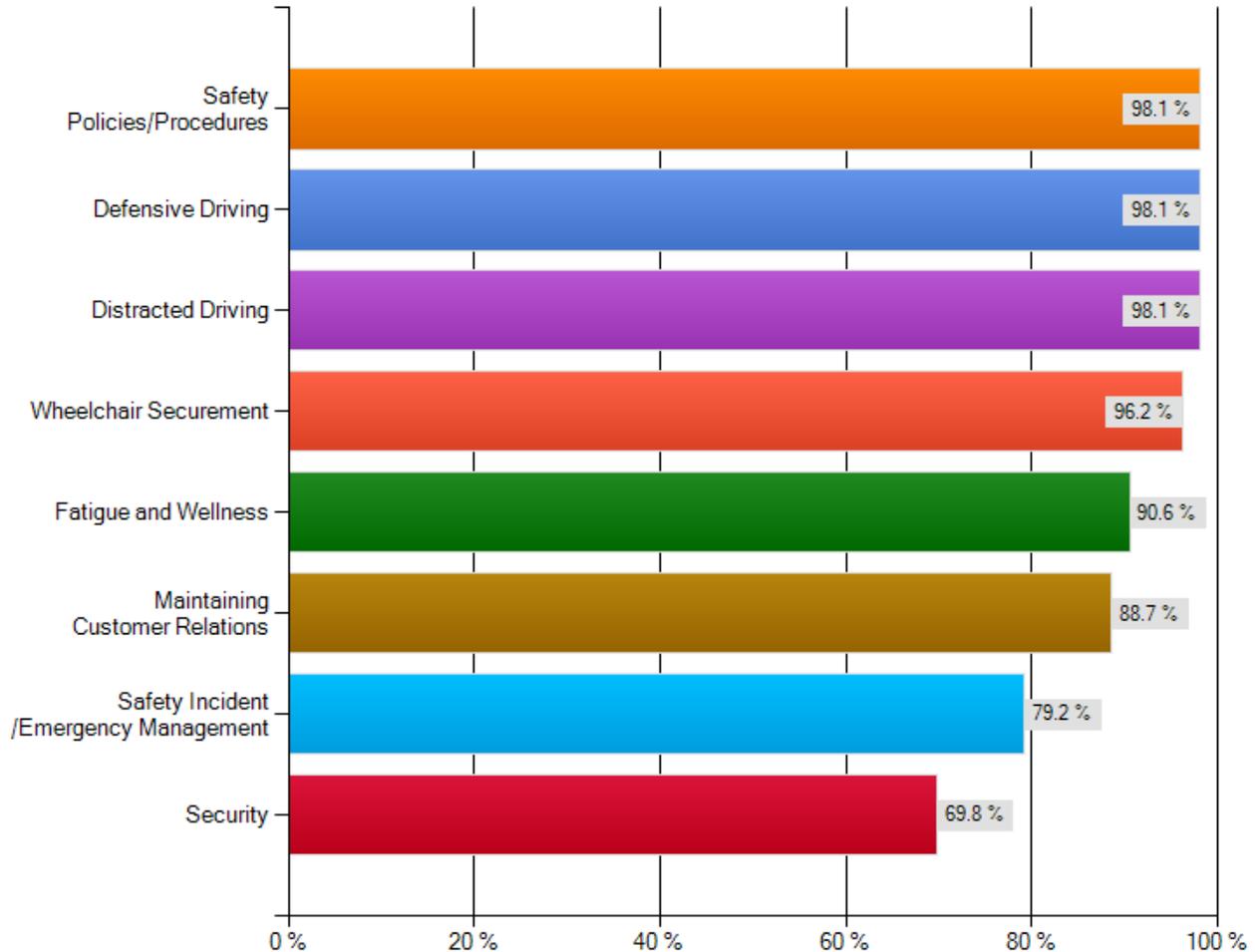
Q32. Do you offer ongoing safety training for operators?



Ninety-three percent (53 out of 57) of the respondents indicated that their agencies had ongoing safety training for their operators. The four respondents who indicated that their agencies did not provide ongoing safety training for their operators tended to be those agencies that did not directly operate any transit services. It is likely that the transportation management company or transit provider may be providing this training to the operators within the system.

Question 33 asked the respondents to mark all safety subjects that are included within their operator refresher safety training.

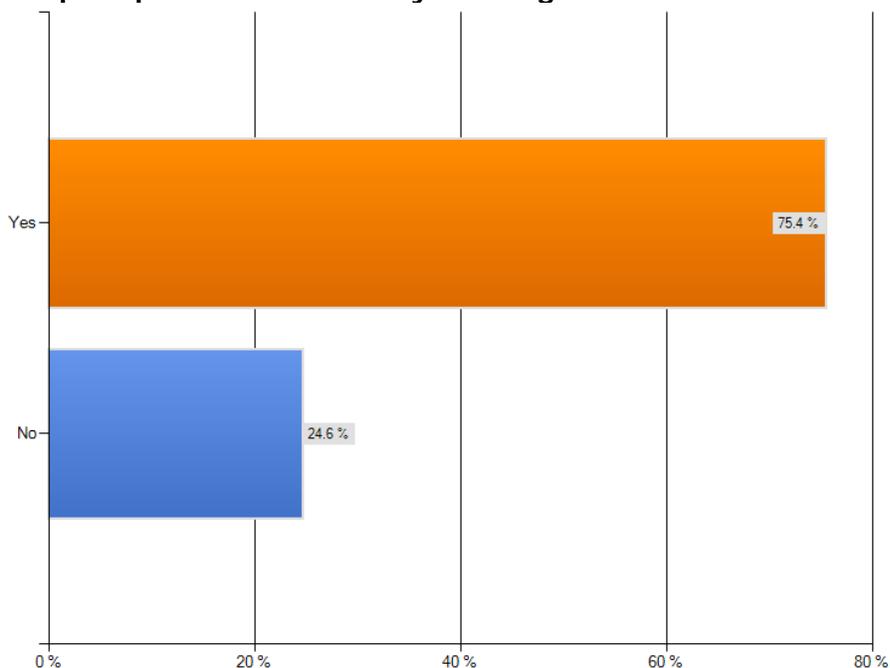
Q33. If yes, please mark all safety subjects that are included in operator refresher safety training:



Out of the 53 individuals who responded to this question, 52 indicated that their operator refresher safety training includes safety policies/procedures, defensive driving and distracted driving. A significant majority of the agencies represented by the respondents also consistently provide training in the areas of wheelchair securement (51 out of 53 responses) and fatigue and wellness (48 out of 53 responses).

In the review of the responses to this question and those of Question 25 related to causal factors, the majority of those that indicated "Human Factor Errors (Not Following Policy/Procedure)" as a primary causal factor are also those that include safety policies and procedures within their refresher training. Operators within these agencies are receiving training on safety related policies and procedures. However, there are a few operators who have received this safety training and have failed to consistently follow the policies and procedures established by their agencies.

Q34. Do you require post incident safety training?



There were 57 responses to this question. Of these responses, 43 individuals (75.4%) indicated that their agencies require post incident safety training for their bus operators. Those that did not require this training included representatives from both large and small agencies, operating in urban, suburban, regional, and rural environments, in various states.

The following open-ended question was provided to gather additional insight from respondents on the type of delivery mechanisms utilized for this training.

If yes: Individual or group? Classroom? In-vehicle? Or, both classroom and in-vehicle?

As previously discussed, just over 75 percent of the respondents indicated that their agency requires post incident safety training. Agencies responding in the positive were asked to provide further detail. Those responses are listed below.

Opened Ended Responses:

- Both
- It depends on the incident, but it can be individual or group in both the classroom and/or vehicle.
- Individual - both classroom and in-vehicle
- Only if determined to be preventable or if the operators actions could not be completely discounted as a cause.
- Individual performance coaching
- Both
- Both classroom and in vehicle

- Preventable Accident Only - Ride Check for the first preventable accident, followed by 1 day and then 3 day depending on frequency of preventable accidents over time
- Individual; classroom and In-vehicle
- Individual, classroom and on the road training in a vehicle
- Classroom and vehicle
- Working toward implementation of such a program.
- Individual classroom and in-vehicle
- Both individual and group. Smith System
- Both - depending on the incident
- If driver is at fault, he will have a check ride to determine course of action.
- After two or more preventable accidents or a known serious safety incident.
- Individual classroom and on road prior to restoring to revenue service.
- After each preventable accident.
- Both in classroom and in vehicle
- Individual
- For individuals if it involved a preventable accident. Generally in vehicle refresher.
- Both classroom and in-vehicle.
- Classroom
- Depends on the nature and severity of the incident.
- All of the above.
- Both class room and simulator individual and group onboard ride checks.
- Individual, three hours combined classroom and in vehicle depending on incident
- This is done on a one/one basis and is conducted on each situation
- Safety training is both classroom and in-vehicle training sessions.
- Classroom / simulator / in-vehicle
- Usually one on one.
- Individual

Q35. For the average operator, how many times per year are the following conducted?

	Times per Year							Response Count
	0	1	2	3	4	5	more	
Classroom Safety Training	10.7% (6)	42.9% (24)	16.1% (9)	3.6% (2)	8.9% (5)	1.8% (1)	16.1% (9)	56
Computer/Online Training	70.2% (33)	19.1% (9)	4.3% (2)	2.1% (1)	0.0% (0)	0.0% (0)	4.3% (2)	47
Behind the Wheel	18.9% (10)	50.9% (27)	20.8% (11)	1.9% (1)	0.0% (0)	3.8% (2)	3.8% (2)	53
Simulator Training	85.7% (42)	10.2% (5)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	2.0% (1)	49

Question 35 asked respondents to indicate how often their average operator received one of the four categories (e.g., classroom, computer/online, behind the wheel, and simulator training) of safety related training identified in the question. For the majority of respondents, classroom and behind the wheel training are provided one time per year.

The responses also reflect the level of use of alternate training delivery methods. In the responses, 70.2 percent stated that they do not utilize computer/online training and 85.7 percent indicated that they are not utilizing simulators in their training programs. The reluctance to provide computer based or online training for bus operators may be attributed to operator retention issues on topics such as safety related policies and procedures, especially for operators in transit bus and demand response services. When you review the responses to Question 36 below, for operators within demand response or bus transit service operations, the average length of service tends to be shorter than that for other modes. The age of these employees may be a factor both in the length of service and the level of training topic retention.

In "A Contemporary Model: The Culture of Progressive Longitudinal Training in the Public Transit Industry," the authors reflected on the evolution of adult learning, the shift from the standard practice of classroom training to training platforms that make greater use of technology. With the changing demographic of our workforce, influenced by those young adult workers, the authors provide that "curriculum must be developed that complement and leverage society's growing dependency on immediate access to information (electronically), allowing facilitators to design curricula and questions of sufficient breadth that students must use digital access to properly learn and examine the answer...students create 'virtual textbooks' that redefine the act of acquiring useful information. . ."46 For younger transit operators to successfully learn and retain the curriculum delivered, the use of classroom training must be supplemented by the use of electronic learning (e-learning) platforms. Transit agencies must be positioned to effectively transition to these technologies.

Florida Operations Network Training Survey

In conjunction with a sub-committee of the FON appointed to develop guidelines and model practices associated with bus operator training among Florida public transit agencies, a survey was developed and subsequently issued to the FON members in early October 2013. The survey was closed out on October 16th to allow the survey results to be compiled and presented at a FON meeting held in conjunction with the 2013 FPTA Annual Conference on October 28, 2013. The survey findings and the subsequent FON discussion will continue to form the foundation from which recommended guidelines and/or minimum standards for bus operator training for the Florida public transit agencies may be developed.

A total of 11 valid survey responses were received from the following Florida public transit agencies:

- Collier County
- Gainesville Regional Transit System (RTS)
- Lakeland Mass Transit District
- Lee Tran

⁴⁶ Reep, A. and E. Bart, "A Contemporary Model: The Culture of Progressive Longitudinal Training in the Public Transit Industry." *Transportation Research Board 2013 Annual Conference Compendium*, paper number 13-0589, Transportation Research Board of the National Academies, Washington, DC., 2013. Available at: <http://amonline.trb.org/2vccsm/2vccsm/1>

- LYNX
- Palm Tran
- Pasco County
- Pinellas Suncoast Transit Authority (PSTA)
- Space Coast Area Transit
- Suntran
- Votran

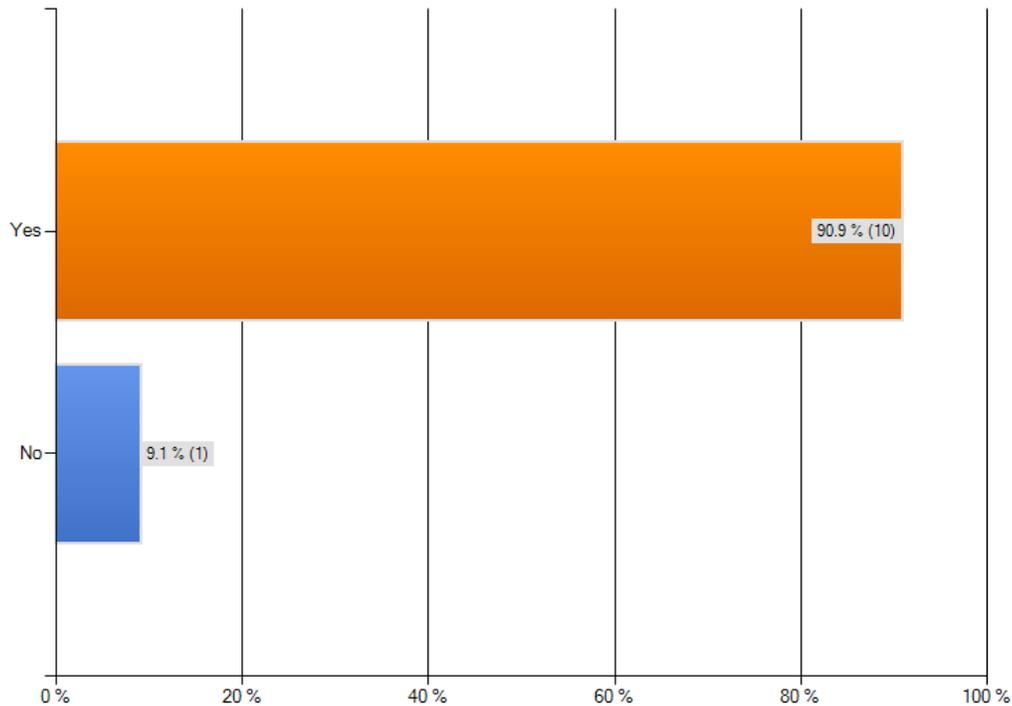
The following provides a summary of the responses to the FON Training Survey.

Use of Transportation Safety Institute (TSI) Training Programs

The Florida Transit Operator Trainer Training Program sponsored by the Florida Department of Transportation and administered by the Center for Urban Transportation Research (CUTR) at the University of South Florida, was developed to provide standardized state and federal training curriculum to Florida’s transit operator trainers. This effort works closely with the U.S. Department of Transportation’s Transportation Safety Institute (TSI) to develop and offer transit training.

This question probed as to the current use of the TSI training programs among the Florida transit community. As detailed below, 10 of the agencies represented by survey respondents indicated that TSI training courses are utilized within their training programs. The other agency, Pasco County Transit, responded that it used its own training program which was based on the TSI program.

Do you currently use the TSI training program?



As a follow up question, the respondents were asked to list other types of proprietary training that is utilized to supplement the TSI training program. The responses included:

- National Transit Institute training modules
- CUTR Distracted Driving
- Easter Seals Project Action
- Smith System
- TAPCO – pedestrian awareness training
- American Seating Company securement training film
- Simulator training

Topics and Hours of Administrative Topics Training Provided

The survey then requested information on the type of training and the number of training hours dedicated to a series of general administrative topics and their respective sub-topics. The following series of tables and graphs summarize the responses for the following topical areas – providing detail on both the topical areas and the number of training hours provided to new employees:

- Drug and Alcohol Program Training
- Commercial Driver’s License Training
- Occupation Safety and Health Administration (OSHA) Training
- Americans with Disabilities Act Training
- Other Regulatory Training

5. Please select the Drug/Alcohol – FTA – 49 CFR, Part 655 training your agency provides to operators: (select all that apply)								Download
Hours of training	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Testing	0.0% (0)	88.9% (8)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	11.1% (1)	9
Awareness	0.0% (0)	81.8% (9)	0.0% (0)	9.1% (1)	0.0% (0)	0.0% (0)	9.1% (1)	11
Compliance	0.0% (0)	80.0% (8)	10.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	10.0% (1)	10
Administration	12.5% (1)	62.5% (5)	0.0% (0)	12.5% (1)	12.5% (1)	0.0% (0)	0.0% (0)	8

The majority of respondents indicated that their agencies provide one to two hours of drug and alcohol related training in areas such as testing, awareness and compliance. Five of the eleven respondents (62.5% of respondents) indicated that their agencies spend one to two

hours on training related to the administrative requirements of the drug and alcohol program.

6. Please select the CDL training your agency provides to operators: (select all that apply)								Download
Number of hours	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Federal mandate	11.1% (1)	22.2% (2)	0.0% (0)	11.1% (1)	0.0% (0)	0.0% (0)	55.6% (5)	9
Train to obtain permit and maintain CDL	27.3% (3)	9.1% (1)	9.1% (1)	9.1% (1)	0.0% (0)	0.0% (0)	45.5% (5)	11
Medical requirements	30.0% (3)	50.0% (5)	10.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	10.0% (1)	10

Agencies represented by the FON Training Survey respondents indicated a significant level of CDL training provided to their operators, with many respondents (nine and eleven respectively) providing training on the Federal mandates associated with CDLs and training to enable participants to obtain and maintain their CDLs. Five transit agencies (50% of respondents) stated that their agencies spend one to two hours of training on the medical requirements for CDL holders.

7. Please select the OSHA training your agency provides to operators: (select all that apply)								Download
Number of hours	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Hazard communication	9.1% (1)	72.7% (8)	9.1% (1)	0.0% (0)	0.0% (0)	0.0% (0)	9.1% (1)	11
Blood borne pathogens	10.0% (1)	70.0% (7)	10.0% (1)	0.0% (0)	10.0% (1)	0.0% (0)	0.0% (0)	10

The majority of transit agencies represented by the FON Training Survey respondents provide hazard communication and blood-borne pathogen training with most providing one to two hours training on these topics.

8. Please select the ADA training your agency provides to operators: (select all that apply)

[Download](#)

Number of hours								
	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Compliance & responsibility	0.0% (0)	45.5% (5)	18.2% (2)	18.2% (2)	9.1% (1)	0.0% (0)	9.1% (1)	11
Stop/route announcement procedures	0.0% (0)	63.6% (7)	27.3% (3)	0.0% (0)	0.0% (0)	0.0% (0)	9.1% (1)	11
Boarding/alighting & securement	0.0% (0)	27.3% (3)	45.5% (5)	9.1% (1)	9.1% (1)	0.0% (0)	9.1% (1)	11
Signage (communication)	0.0% (0)	60.0% (6)	30.0% (3)	0.0% (0)	0.0% (0)	0.0% (0)	10.0% (1)	10
Engineering & design	57.1% (4)	42.9% (3)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	7

Transit agencies consistently provided ADA related training, although the time allotted to each topic area varies.

9. Please select any other regulatory training topics your agency provides to operators: (select all that apply)

[Download](#)

Number of hours								
	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Rule 14-90	0.0% (0)	60.0% (6)	20.0% (2)	0.0% (0)	10.0% (1)	0.0% (0)	10.0% (1)	10
FLSA (Wages and hours)	12.5% (1)	75.0% (6)	12.5% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	8
FMLA (Compliance and responsibility)	10.0% (1)	70.0% (7)	20.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	10
EEOC (Sexual harassment, discrimination)	0.0% (0)	45.5% (5)	36.4% (4)	9.1% (1)	9.1% (1)	0.0% (0)	0.0% (0)	11
NTD (Required passenger counting)	12.5% (1)	62.5% (5)	25.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	8

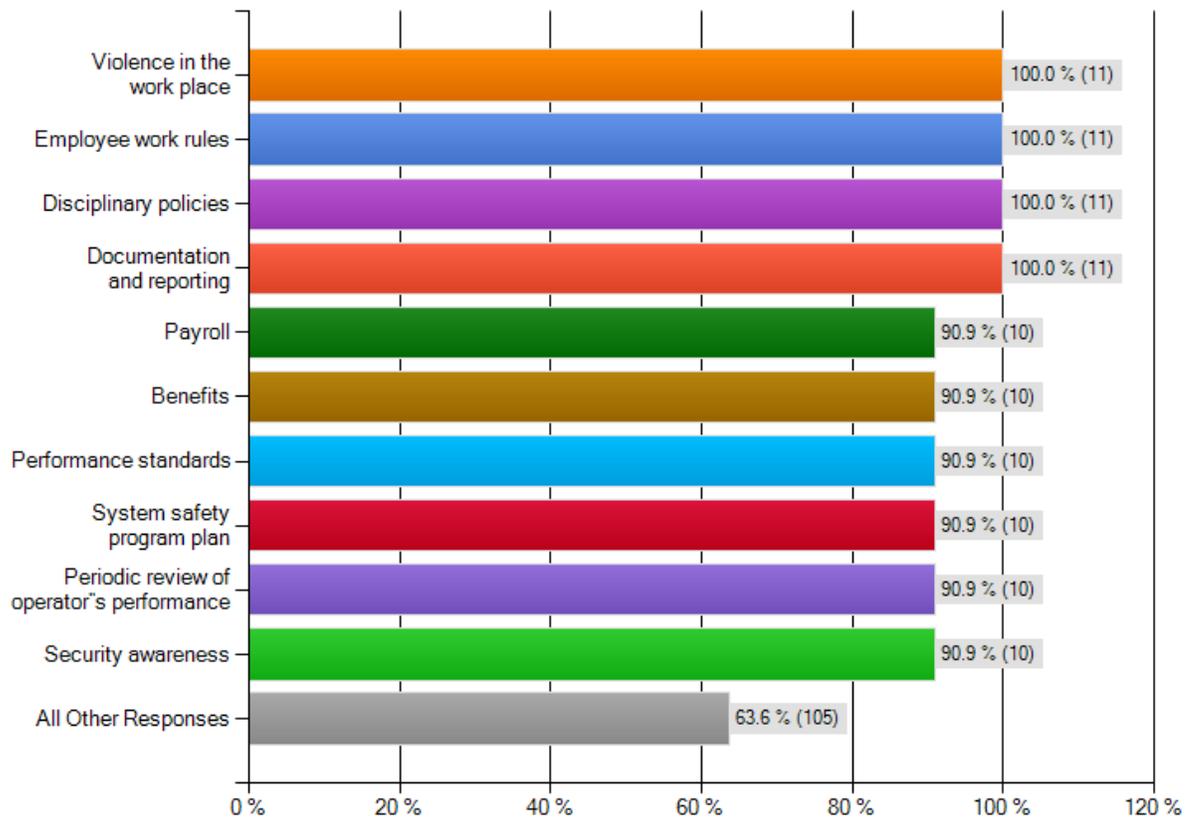
The majority of agencies are providing training related to regulatory requirements spending, on average, one to two hours on each topic.

Topics and Hours of Job Skill Topics Training Provided

The survey then requested information on the type of training and the number of training hours dedicated to a series of job skill topics and their respective sub-topics. The following series of tables and graphs summarize the responses for the following topical areas – providing detail on both the topical areas and the number of training hours provided to new employees:

- Local Policies and Procedures Training
- Customer Service Training
- Effective Communication Training
- Technical Area Training
- Safety and Security Training
- On Road Training

Please select the agency specific/local (policies/procedures) training your agency provides to operators: (select all that apply)

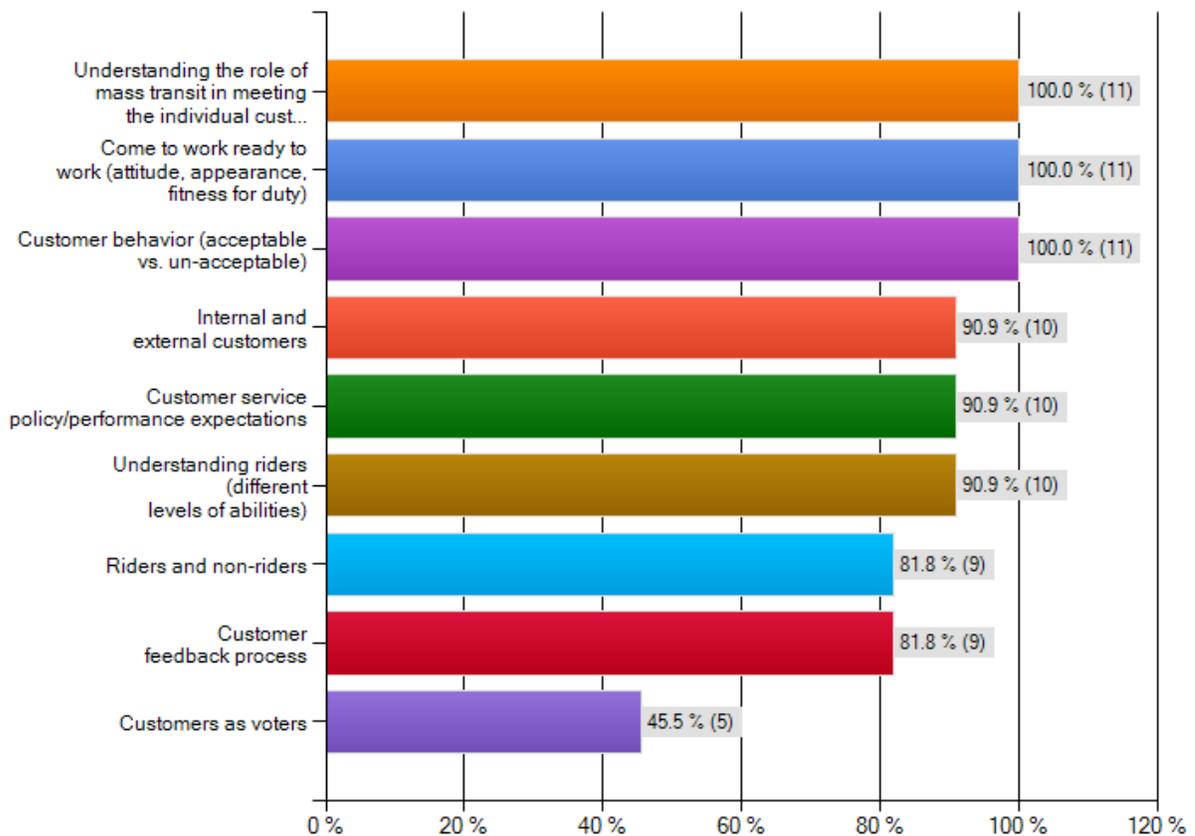


11. How much training time does your agency dedicate to providing agency specific policies and procedures? [Download](#)

Hours of training	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Policies/Procedures	0.0% (0)	0.0% (0)	10.0% (1)	10.0% (1)	30.0% (3)	0.0% (0)	50.0% (5)	10

The majority of transit agencies represented by FON Training Survey respondents dedicate significant training hours to agency specific policies and procedures with most indicating that 11 or more hours are spent on these topics.

Please select the customer service training your agency provides to operators: (select all that apply)

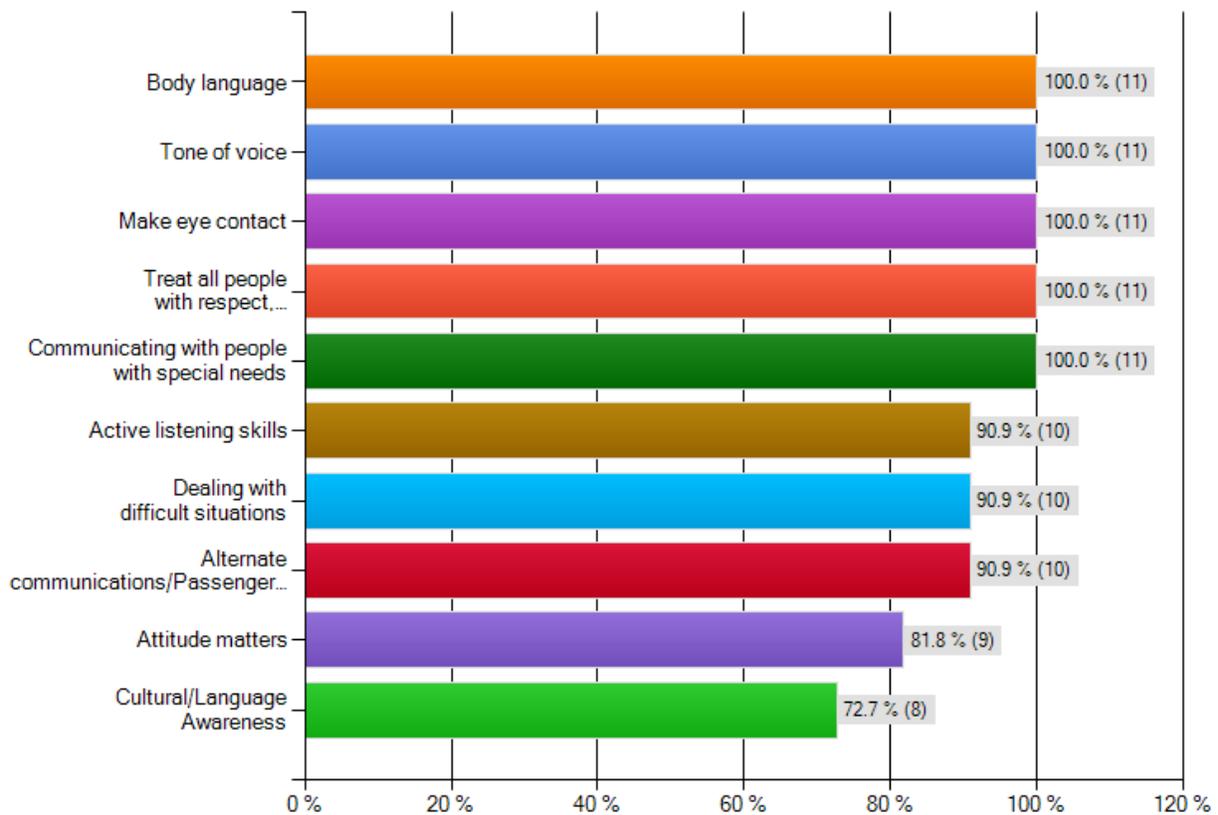


Survey respondents indicated that their training agencies offer comprehensive customer service training to their bus operators that covers a variety of topic areas.

13. How much training time does your agency dedicate to providing customer service training? [Download](#)

Hours of training	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Customer Service	0.0% (0)	9.1% (1)	18.2% (2)	9.1% (1)	18.2% (2)	9.1% (1)	36.4% (4)	11

Please select the communications training your agency provides to operators: (select all that apply)



FON Training Survey respondents identified a “core” set of topics covered within communications training. All agencies represented by survey respondents provide communications training in body language, tone of voice, making eye contact during engagement, treating all people with dignity and respect, and communicating with people who have special needs. The training hours reflected in the responses to Question 15 show some variability in the level of communication training.

15. How much training time does your agency dedicate to providing effective communications training?

[Download](#)

Hours of training								
	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Effective Communications	0.0% (0)	18.2% (2)	36.4% (4)	0.0% (0)	9.1% (1)	9.1% (1)	27.3% (3)	11

Responses to Question 16 demonstrate transit agencies' focus on technical training for their bus operators, although there is variability in the hours spent on these training topics.

16. How much training time does your agency offer in each of the following technical areas?

[Download](#)

Number of hours								
	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Vehicle familiarization	0.0% (0)	9.1% (1)	18.2% (2)	18.2% (2)	0.0% (0)	0.0% (0)	54.5% (6)	11
Vehicle inspections	0.0% (0)	0.0% (0)	36.4% (4)	9.1% (1)	9.1% (1)	0.0% (0)	45.5% (5)	11
In-service operations (service stops, lifts, etc.)	0.0% (0)	0.0% (0)	9.1% (1)	0.0% (0)	18.2% (2)	0.0% (0)	72.7% (8)	11
Special driving conditions (narrow streets, pedestrians, etc.)	0.0% (0)	0.0% (0)	40.0% (4)	0.0% (0)	20.0% (2)	0.0% (0)	40.0% (4)	10
Driving in adverse weather conditions	0.0% (0)	11.1% (1)	44.4% (4)	0.0% (0)	0.0% (0)	11.1% (1)	33.3% (3)	9
Route training	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	9.1% (1)	0.0% (0)	90.9% (10)	11

Question 17 was related to the time spent on safety- and security-related training for bus operators. Each topic is well represented by transit agency respondents. However, the limited focus on defensive driving for a few respondents may require additional discussion. One survey respondent indicated that their agency provides one to two hours defensive driving training with a second respondent indicating three to four hours. The majority of agencies represented provide seven training hours or more on the topic of defensive driving.

17. How much training time does your agency offer in each of the following safety and security areas?

[Download](#)

Number of hours								
	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Defensive driving	0.0% (0)	10.0% (1)	10.0% (1)	10.0% (1)	30.0% (3)	0.0% (0)	40.0% (4)	10
Assault prevention	0.0% (0)	80.0% (8)	20.0% (2)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	10
Identifying hazards	0.0% (0)	30.0% (3)	50.0% (5)	10.0% (1)	0.0% (0)	0.0% (0)	10.0% (1)	10
Health and wellness (fatigue, ergonomics, stress)	0.0% (0)	40.0% (4)	40.0% (4)	10.0% (1)	10.0% (1)	0.0% (0)	0.0% (0)	10
Customer safety	0.0% (0)	27.3% (3)	45.5% (5)	9.1% (1)	0.0% (0)	0.0% (0)	18.2% (2)	11
Emergency procedures (fire, evacuation, etc.)	0.0% (0)	27.3% (3)	54.5% (6)	18.2% (2)	0.0% (0)	0.0% (0)	0.0% (0)	11
Medical emergencies	0.0% (0)	54.5% (6)	36.4% (4)	9.1% (1)	0.0% (0)	0.0% (0)	0.0% (0)	11
Security emergencies (bombs, hijacking, suspicious behavior)	9.1% (1)	18.2% (2)	36.4% (4)	9.1% (1)	27.3% (3)	0.0% (0)	0.0% (0)	11

18. How much time does your agency dedicate to on road training for bus operators?

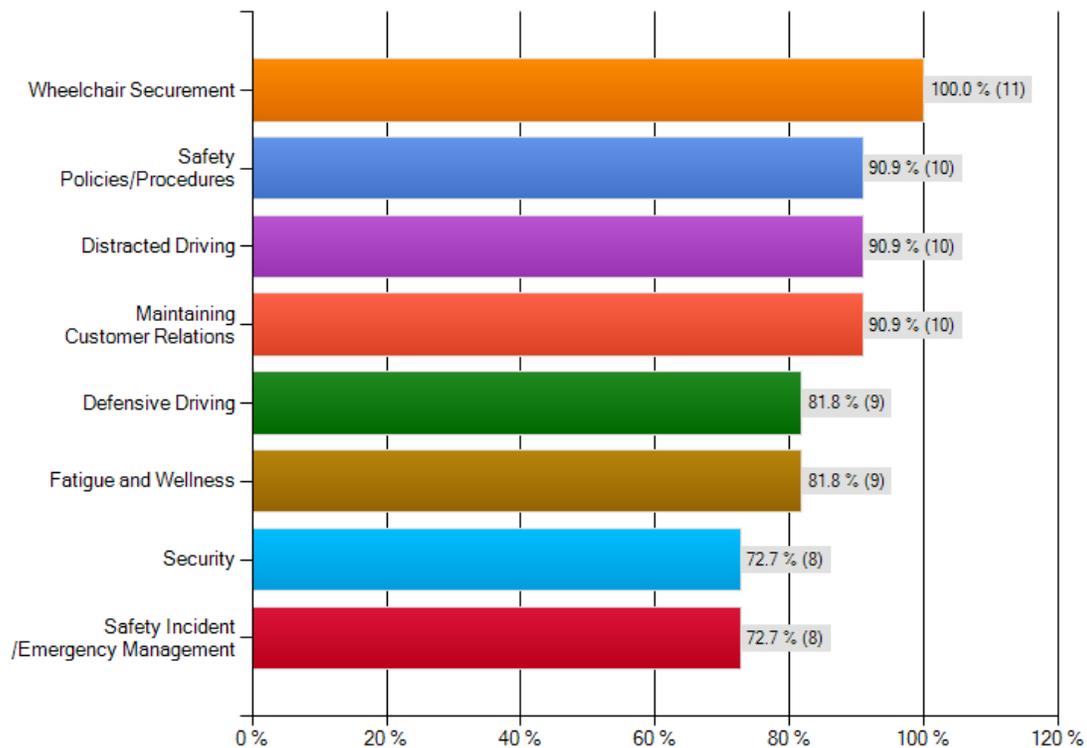
[Download](#)

Number of hours											
	0	1-10	11-21	22-32	33-43	44-54	55-65	66-76	77-88	89 or more	Response Count
Road Training	0.0% (0)	0.0% (0)	0.0% (0)	9.1% (1)	0.0% (0)	9.1% (1)	9.1% (1)	0.0% (0)	18.2% (2)	54.5% (6)	11

Refresher Training Provided

The survey then requested information on the type of training and the number of training hours provided to existing bus operators to “refresh” their skills and knowledge. In response to the first question in this section of the questionnaire, all respondents indicated that they provide refresher training for their bus operators. When probed deeper, the following graphic indicates the type and frequency of the training provided by the responding agencies.

If yes, please mark all safety subjects that are included in operator refresher safety training:



The following table provides estimates of the number of hours provided for refresher training.

21. How much training time does your agency dedicate to providing refresher training?								Download
Hours of training	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
	Refresher	0.0% (0)	9.1% (1)	36.4% (4)	18.2% (2)	18.2% (2)	9.1% (1)	9.1% (1)

Remedial and Post Incident Training Provided

The final questions in the survey asked about the agency policies and practices in providing remedial and/or post incident training. In response to the first question in this section of the questionnaire, all respondents indicated that they provided some form of remedial training for their bus operators. With that said, it was emphasized that type and amount of refresher or remedial training was determined on a case-by-case basis.

23. How much training time does your agency dedicate to providing remedial/post incident training?								Download
Hours of training	0	1-2	3-4	5-6	7-8	9-10	11 or more	Response Count
Remedial/Post Incident	0.0% (0)	9.1% (1)	81.8% (9)	0.0% (0)	9.1% (1)	0.0% (0)	0.0% (0)	11

Transit Training Observations and Recommendations

The following observations were made based on the data analysis performed by the research team, the review of literature on the topic of transit training, and two separate surveys, a Transit Safety Survey that received responses from transit agencies across the United States and Canada and a FON Training Survey sent to transit agencies in Florida. Recommendations are also provided consistent with these observations.

Observation 1: Content

Both the Transit Safety Survey and the FON Training Survey reflect transit agency consistency in providing comprehensive driver training programs. However, absent regulatory minimum requirements for training content and hours associated with that training, there is great variability in the specific training topics contained within that training curriculum and the time allocations for those topics within the training program. As an example, it is unknown if agencies that conduct training in the area of defensive driving, but only attribute one to two hours on the topic, have more major or minor incidents because of what could be considered a level of training that is less than that provided by their peers.

In the Transit Safety Survey, of the 53 individuals who responded to Question 33 (safety subjects that are included in operator refresher safety training), 52 indicated that their operator refresher safety training includes safety policies/procedures. However, in the review of the responses to Question 33 and those of Question 25 related to causal factors, the majority of those who indicated “Human Factor Errors (Not Following Policy/Procedure)” as a primary causal factor are also those who include safety policies and procedures within their refresher training. Operators within these agencies are receiving training on safety related policies and procedures. However, there are a few operators who have received this safety training and have failed to consistently follow the policies and procedures established by their agencies. It is unknown whether this is a function of the quality of the training

curriculum or an operator's inability to retain training materials due to the delivery method utilized.

Recommendation

Working with the FON, FTSN, and FPTA, identify minimum training curriculum for Florida bus operators, including specific content and minimum training hours for each topic. Minimum training curriculum should be prescriptive, not source specific, allowing transit agencies to have options in course development and delivery methods within the framework established.

Observation 2: Delivery Methods

When asked about the number of times per year operators receive training and by what methods, the majority of the respondents to the Transit Safety Survey indicated that classroom (50 out of 56 respondents) and behind-the-wheel training (43 out of 53 respondents) are the most common. Most agencies provide classroom and behind-the-wheel training to their operators only one time per year. Very few agencies use computer-based/online training (14 out of 47 respondents) or simulator training (7 out of 42 respondents) in their annual training programs. For agencies that are using these methods, the majority provide this training to their operators only one time per year.

While there are agencies that employ alternate training methods, for many agencies the use of classroom training is still the most predominant training delivery method used. With the changing demographic of the transit workforce, transit agencies must be positioned to respond to the different learning styles that become prominent. For younger operators to successfully learn material and retain the curriculum delivered, the use of classroom training must be supplemented by the use of electronic learning (e-learning) platforms, and transit agencies must be positioned to effectively transition to these technologies.

Recommendation

Transit agencies must provide transit safety training in multiple platforms recognizing the variability in learning styles and response to allow the most effective retention among their participants.

Training Needs Based on Safety Performance

As presented in previous sections, transit training that is focused on improving a transit agency's safety performance is imperative and should be directly tied to a transit environment grounded in the SMS structure. The discussion within this chapter focuses on risk management, as expressed by NTD lagging data and reflected in transit safety focus areas, and the way in which transit safety training can improve the system-wide safety of a public transit agency.

A Training and Development Strategy

The Training and Development Strategy 11, established in TCRP Report 162, places a high priority on safety-related training recognizing that training for new hires and refresher training are critical to the continued safe operation of public transit systems. Key implementation steps included within Strategy 11 and consistent with FTA's SMS approach are:

- “Conduct hazard, threat, and vulnerability assessments using formalized methodologies to identify safety hazards and safety and security vulnerabilities that can be reduced.
- Develop training programs to address hazards and vulnerabilities using both internal and external expertise to ensure that the training adequately addresses all aspects of hazards and vulnerabilities.
- Identify knowledgeable individuals to serve as trainers for the programs. . .
- Deliver training both in the classroom and on the job.
- Conduct post-training assessments of all skills that should have been acquired during training to make sure that training is effectively teaching the safety and security skills.
- Monitor post-training employee performance to ensure safety and security skills are being used appropriately on the job.
- Using coaching, counseling, and discipline to reinforce positive safety and security performance.”⁴⁷

The narrative provided in the following section discusses the current hazards and vulnerabilities of the nation’s public transit systems. These hazards or critical areas of safety concern identified through a data-centric transit safety analysis are presented below. At a minimum, transit safety training should incorporate content to reduce the incidence of injuries, fatalities, and collisions within these categories and mitigate the risk for public transit agencies.

Discussion of Safety Hazards and Safety Vulnerabilities

FTA conducted a *Transit Safety Research Roadmap (TSRR)*⁴⁸ study and corresponding *Strategic Transit Safety Research Plan*⁴⁹ to assist the agency in prioritizing and implementing transit safety research. The efforts were built upon an extensive examination of transit safety data for all transit modes reported to the NTD for the 2008 through 2011 reporting years. Annual NTD reports summarize transit service and safety data, and the Safety and Security portion of the reports were used in the TSRR to capture relevant information on transit collisions, fatalities, and injuries reported in all transit modes. According to NTD definitions, a transit event is reported as a “Major Safety Incident” if it meets at least one of the following thresholds:

- A fatality (30 days or less from the collision and not due to natural causes)
- An injury requiring immediate medical attention away from the scene
- Property damage greater than or equal to \$25,000
- Evacuations due to life safety reasons (imminent danger)

This section identifies those public transit safety areas of critical concern, including those issues identified through the data collection and analysis performed in the TSRR. For the purpose of this report, the research team will focus on those findings related to motorbus and demand response transit modes.

⁴⁷ Ibid.

⁴⁸ “Draft Transit Safety Research Roadmap,” US DOT, Federal Transit Administration, October 2013.

⁴⁹ “Draft FTA Strategic Transit Safety Research Plan, US DOT, Federal Transit Administration, October 2013.

Research Priorities and Areas of Concern to Address in Training Curriculum

A discussion of collisions, injuries, and fatalities by mode is summarized below for those transit modes for which the findings are significant. Based on the data collection and analysis, research priorities were identified. Prioritization factors included the significance of injuries and fatalities, both expressed as a percentage of total injuries and fatalities and the actual number of each, the level of exposure of the mode (with exposure expressed as passenger miles), and the actual number of incidents, injuries and fatalities of those modes. These research priorities and associated safety findings should drive the identification of the minimum content-related requirements for public transit safety training for bus operators.

- *Collisions with People*

Collisions with people represented the second highest collision category across all transit modes, with collision with motor vehicles the type of collision occurring with greater frequency. The rate of collision with person (expressed as rate per 100 million PMT) was significant in demand response and motorbus.

In “Transit Vehicle Collision Characteristics for Connected Vehicle Research Applications,”⁵⁰ the researchers filtered NTD data and, through the use of a sample of records, were able to make specific observations regarding the characteristics of motor bus collisions with pedestrians (Table 5-1). The majority of pedestrian collisions occurred at intersections when motor buses are going straight, followed by mid-block collisions with pedestrians when the bus is going straight. Transit agencies should perform an evaluation of these collisions to determine if modifications are needed to current training curriculum to mitigate these events.

Table 5-1. Motor Bus Collisions with Pedestrians

Category	Motor Bus Movement	Number	% Pedestrian Collisions
Collisions at Intersections (51.6%)	Going straight	130	28.9%
	Turning left	73	16.2%
	Turning right	29	6.5%
Mid-Block Collisions (26.0%)	Going straight	117	25.9%
Collisions at Bus Stops (22.4%)	Leaving a bus stop	58	12.8%
	Making a bus stop	42	9.3%
TOTAL		449	100%

Source: “Transit Vehicle Collision Characteristics for Connected Vehicle Research Applications,” 2013.

- *Sideswipe Collisions in Motorbus and Demand Response Modes*

In motorbus, collisions with motor vehicles were significant (82.7% of total collisions). Of all collisions reported in motorbus, side impact collisions with motor vehicles were the most frequently occurring, representing almost 24 percent of all collisions in 2011. Likewise, in demand response, collisions with motor vehicles were

⁵⁰ “Transit Vehicle Collision Characteristics for Connected Vehicle Applications Research—Analysis of Collisions Involving Transit Vehicles and Applicability of Connected Vehicle Solutions,” US DOT, Research and Innovative Technology Administration and ITS Joint Programs Office, January 2013.

also the most frequent by a critical margin (85.5% of total collisions). While the majority of demand response collisions with motor vehicles were rear-ended collisions (vehicle strikes the back of the bus) at 31.89 percent of all collisions, side-impact collisions were significant, representing more than 22 percent of all collisions reported in demand response in 2011.

- *Rear-end Collisions in Motorbus and Demand Response Modes*
In demand response, the majority of all collisions were characterized as rear-ended collisions, at over 31 percent. While the majority of collisions reported in motorbus are side impacts with another motor vehicle, rear-ended collisions were significant, representing more than 20 percent of all collisions reported in 2011.
- *Passenger Injuries on Motorbus and Demand Response Modes*
Passenger injuries on motorbus and demand response were noteworthy. Passenger injuries on motorbus comprised almost 71 percent of all injuries reported, with passenger injuries in demand response accounting for almost 62 percent of all injuries reported. This is a significant area of risk for transit agencies, particularly as it relates to claims against the agency. More must be understood about these injuries and their causes—if they are due primarily to aggressive braking and maneuvering by the bus operator or to other external factors.
- *Injuries and Fatalities of Occupants of Other Vehicles Involved in Transit Collisions*
Injuries and fatalities sustained by occupants of other vehicles involved in transit collisions project a critical risk level in motorbus and demand response. In motorbus, 36.2 percent of all fatalities and 11 percent of all injuries reported were to occupants of other vehicles. For demand response, 48 percent of all fatalities and almost 15 percent of all injuries reported were for occupants of other vehicles involved in collisions with transit vehicles.
- *Collisions with Bicycles*
Injuries to bicyclists, while not a frequently-cited injury reported for motorbus, are increasing. In addition, this is an area of great concern identified by public transit agencies and a leading indicator that should be considered in the development of training curriculum.

Findings from Data Analyses

In summary, the impact of transit collisions cannot be overstated. The data reflected previously, coupled with the validation that is presented in documents such as “Transit Vehicle Collision Characteristics for Connected Vehicle Applications Research,” confirm the need for transit safety training for bus operators that consistently and aggressively address these collisions and the reduction of passenger injuries and fatalities.

Recommended Minimum Transit Safety Training Content

Based on the data presented in this chapter and in response to the findings from the Transit Safety Survey, recommendations are presented for consideration as the minimum transit safety-related training content for public transit agencies. Consistent with the SMS framework discussed in Chapter 5, these recommendations are based on nation- and state-

wide transit safety data. Transit agencies should monitor the risks and vulnerabilities within their systems and supplement this minimum content with training that addresses their own unique areas of risk.

Transit Agency Policies and Procedures

Based on the responses to the Transit Safety Survey, a significant majority of transit agencies provide ongoing safety training for their operators (96.5% adjusted based on review of subsequent responses and follow-up with agency representatives). The training topics most prevalent (indicated by 52 of the 53 respondents to this question) are:

- Safety policies and procedures
- Defensive driving
- Distracted driving

In general, safety training is being conducted by transit agencies. However, in the examination of causal factors identified for transit incidents, there were significant observations that those incidents occurred due to “human factor errors not following policy/procedure.” As reflected above, one of the training topics most frequently indicated as a part of annual refresher training is a review of safety policies and procedures. It is unknown whether this is a function of the quality of the training curriculum or an operator’s inability to retain training materials due to the delivery method utilized.

Recommendation

Agencies must identify those policies and procedures that are indicated in transit incidents and modify safety policy and procedure training to account for those errors. At a minimum, safety policies and procedure training should incorporate topics such as:

- Fatigue (driver hours, use of over-the-counter medications), and outside employment
- Distractions
- Operating procedures specific to the safe operation of the bus at stops, transfer locations, pulling into traffic, use of signals, proper lift utilization, and loading/alighting passengers

Reduction in transit vehicle collisions with other vehicles and with pedestrians and bicyclists

As provided in the responses to the Transit Safety Survey defensive driving is one of the most prevalent transit safety training topics. Situational awareness, proper use of mirrors and signals, and other content may improve the ability of a bus operator to avoid collisions with other vehicles.

Recommendations

Transit agencies must monitor the causal and contributing factors present in transit incidents and be vigilant in taking a proactive stance in identifying risks and addressing those risks responsively. The development and utilization of training curriculum that is designed to mitigate risks and prevent vehicle collisions will be the key to improving overall system safety. Minimum safety training topics could include subjects such as:

- Proper use of signals
- Proper use of mirrors
- Improved situational awareness
- Defensive driving
- Remedial training for bus operators who have been involved in vehicle to vehicle or vehicle to pedestrian/bicyclist collisions

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Appendix A - Consolidated Literature Review

This literature review was conducted to provide a solid and necessary foundation for each of the original RTAs for this research.⁵¹ The review provides a comprehensive overview of transit bus operator safety, including those bus operator practices that distract them from providing safe and effective transit services, as well as the threat of assaults on bus operators that come from those riding the system and the general public. It included the review of literature that addresses the complexity and relevance of these topics identified through a search of the Transit Research International Database (TRID), as well as Google and other internet search tools.

The literature review also included the identification and collection of safety-related procedures, policies, regulations, and rules established by Florida's public transit agencies, as well as those across the U.S. It also included an examination of formal publications and newspaper and online news articles; guidelines and recommended practices developed by industry groups, including the Amalgamated Transit Union, Transportation Workers United labor organizations, and the American Public Transportation Association (APTA); and, other research reporting sources.

The literature review is organized by each Research Topic Area, as presented in the scope of services for the research project and reflected in this final report.

Research Topic Area #1 – Bus Operator Distractions

A brief overview of the complexities and demands of operating a bus is discussed in the next section followed by a closer look into what distracts operators and the methods suggested in the studies reviewed to mitigate these issues, in particular developing a safety culture and effective training programs. Finally, this review looked into the future of in-vehicle technologies that are aimed at improving safety.

Overview of Distracted Driving

Distraction.gov, the official US government website on distracted driving, identifies distraction types within three general categories:

1. Manual: taking one's hands off the wheel
2. Visuals: taking one's eyes off the road
3. Cognitive: taking one's mind off driving

In *The Impact of Driver Inattention on Near-Crash/Crash Risk: An Analysis Using The 100-Car Naturalistic Driving Study Data* (S. G., Klauer, T. A. Dingus, et al.), the authors presented the results of a National Highway Traffic Safety Administration (NHTSA) research study that conducted an in-depth analysis of driver inattention using data collected

⁵¹ The original scope of services for this project, under which this literature review was conducted, included an examination of distracted driving. This topic was changed at the request of the sponsoring agency to examining the safety functions within public transit agencies. Therefore, the literature review covers four topic areas, three of which remain within the modified scope of services for this project.

in a naturalistic driving study. The authors established direct relationships between driving behavior and crash and near-crash involvement.⁵²

In that study, with driving being the primary task, a 'secondary task' was identified as any task unrelated to driving which requires subjects to divert attention resources from the driving task. In the published report, a remarkably-sizable list of secondary tasks was provided that included 57 items of distraction. Table A-1 was excerpted from the report to provide examples of secondary tasks.

Table A-1 – Example of Secondary Tasks

Wireless Device	
Talking/listening	Driver is clearly conversing on the cell phone.
Head-set on/conversation unknown	Driver has a hands-free head-set on but the conversation is unknown
Dialing hand-held cell phone	Driver is attempting to dial a hand-held cell phone while the vehicle is in gear.
Dialing hand-held cell phone using quick keys	Driver is attempting to use quick keys to dial a hand-held cell phone while the vehicle is in gear.
Dialing hands-free cell phone using voice activated software	Driver is attempting to dial a hands-free cell phone using voice activation while the vehicle is in gear.
Locating/reaching/answering cell phone	Driver is attempting to locate the cell phone by reaching for it in order to use it or answer it while the vehicle is in gear.
Cell phone: other	Any other activity associated with a cell phone i.e., looking at a cell phone for time, or screening calls but not dialing, or talking while the vehicle is in gear.
Locating/reaching for PDA	Driver is attempting to locate a PDA by reaching for it in order to use it or to answer it while the vehicle is in gear.
Operating PDA	Driver is using (looking at, using stylus, or pressing buttons) while the vehicle is in gear.
Viewing PDA	Driver is only looking at a PDA, no stylus or button presses, while the vehicle is in gear.
Vehicle-Related Secondary Task	
Adjusting climate control	Driver is looking at and/or reaching to adjust the HVAC system while the vehicle is in gear.
Adjusting the radio	Driver is looking at and/or reaching to adjust the radio/stereo system while the vehicle is in gear.
Inserting/retrieving cassette	Driver is inserting or retrieving a cassette while the vehicle is in gear.
Inserting/retrieving CD	Driver is inserting or retrieving a compact disc while the vehicle is in gear.
Adjusting other devices integral to vehicle	Driver is looking at and/or reaching to adjust another in- dash system while the vehicle is in gear.
Adjusting other known in-vehicle devices	Driver is looking at and/or reaching to adjust another in-vehicle system (i.e., XM Radio) while the vehicle is in gear.

⁵² Klauer, S. G., Dingus, T. A., Neale, V. L., Sudweeks, J. D., & Ramsey, D. J., 2006. The Impact of Driver Inattention on Near-Crash/Crash Risk: An Analysis Using the 100-Car Naturalistic Driving Study Data. DOT HS 810 594. Washington, DC: National Highway Traffic Safety Administration.

The findings concluded that:

- driving while drowsy results in a four- to six-times higher near-crash/crash risk relative to alert drivers
- driving while engaging in visually and/or manually complex tasks have a three-times higher near-crash/crash risk than drivers who are attentive
- specific environmental conditions in which engaging in secondary tasks or driving while drowsy is more dangerous, including intersections, wet roadways, and areas of high traffic density
- glances totaling more than 2 seconds for any purpose increase near-crash/crash risk by at least two times that of normal, baseline driving

That naturalistic study helps provide a deeper appreciation of sources of distractions in general. For a bus operator, the primary task of driving also involves keeping schedules, helping customers, providing information, communicating with agency, etc.

In *Multivariate Statistical Analysis of Public Transit Bus Driver Distraction* (K. D'Souza and S. Maheshwari), bus drivers were asked to categorize each distracting activity according to their perception.⁵³ The total responses from the bus drivers were ranked from highest to lowest. The number of driver responses for distracting activities in each category was graded as a percentage (%) relative to the highest visual (19 driver responses), cognitive (33 driver responses), and manual (11 driver responses). Table A-2 is excerpted from the publication by the authors and it included graded scores and distraction risk index for each distracting activity.

Table A-2 – Distraction Activities and Ratings Derived from a Self-Administered Bus Driver Survey

Distraction Activities	Distraction Rating (% of highest)
Passengers Using Mobile Phones	100%
Passengers (Moving Around, Standing Next to Driver's Cabin, Talking Next to Driver's Cabin)	84%
Passengers Not Following Etiquette (Eating, Drinking, Smoking, Noisy)	95%
Passengers Trying to Talk to Driver	90%
Ticket Machine	61%
Fatigue/Sickness	85%
Other Road Users	79%
Pedestrians	71%
On-Board Rattles	75%
Passengers with Infants	76%
Climate Controls	56%
Reading (e.g., Route Sheet)	57%
Passengers with Disabilities	56%

⁵³ D'Souza, K. A. and Maheshwari, S. K., 2012. "Multivariate Statistical Analysis of Public Transit Bus Driver Distraction," *Journal of Public Transportation*. 15 (3): 1-23. Accessed November 29, 2012 at http://www.nctr.usf.edu/wp-content/uploads/2012/10/jpt_15.3.pdf

Audible Alerts	67%
General Broadcasts	71%
Personal Broadcasts	67%
Driver Mobile Phone	64%
Advertisements	51%
Others	20%

Source: K. A. D'Souza, and S. K. Maheshwari. 2012. "Multivariate Statistical Analysis of Public Transit Bus Driver Distraction," *Journal of Public Transportation*. 15 (3): 1-23.

In addition to those distraction activities listed in Table A-1, other distractions identified by drivers included:

- high pitch buzzing sound from bus dashboard
- driver was required to write while driving
- driver's back rest required constant adjustments

Some of the sources of distractions are preventable and can be better managed to minimize risks. Understanding the actions that cause a high risk of distraction and its liable causes may afford additional input to policy makers while shaping legislation and regulations statewide or nationwide.

A detailed analysis of 44 drivers from an Australian transit provider was described in ***Distraction on the Buses: a Novel Framework of Ergonomics Methods for Identifying Sources and Effects of Bus Driver Distraction***, (P. M. Salmon, K.L. Young, and M. A. Regan).⁵⁴ Data collection involved conducting a review of relevant company documents, interviews with four drivers, three focus group discussions involving 18 current bus drivers, and observational studies of three bus drivers driving a range of representative routes. The observational studies were undertaken naturalistically during standard bus operation, with the observers located in the passenger area of the bus in close proximity to the bus drivers. According to the study of driver behavior, the distractions were grouped in seven main categories including 1) technology related; operational; passenger-related; environmental; bus-cabin; and personal. Technology-related distractions included mobile phones, CD players, the broadcast radio and handset, and the ticket machine. Operational distractions included operating the ticket machine, communicating with the agency, listening to general and personal broadcasts and reading and/or modifying the route journal. Passenger-related distractions included listening to passenger conversations, monitoring passenger behavior, talking to passengers, issuing tickets, providing passenger assistance, dealing with unruly passengers and listening to passengers talking loudly on mobile phones. Other distractions include environmental (e.g. sun glare, adjusting the climate controls, etc.), bus cabin-related (e.g., cabin door, ticket machine, adjusting seat, or road advertising), and personal (e.g. fatigue, incapacitation, and medication).

⁵⁴ Salmon, Paul M., Young, Kristie L., and Regan, Michael A., 2011. "Distraction on the Buses: a Novel Framework of Ergonomics Methods For Identifying Sources and Effects of Bus Driver Distraction," *Applied Ergonomics*, Volume 42, Issue 4, May 2011, Pages 602-610, Accessed January 7, 2013 at <http://www.sciencedirect.com/science/article/pii/S0003687010001420>

Training Programs

Recommendations from the *APTA Standards Development Program, Recommended Practice – Reducing Driver-Controlled Distractions While Operating a Vehicle on Agency Time*,⁵⁵ included:

- Educating employees about the industry wide issues of operator distraction
- Developing training programs to include driver distractions training
- Ensuring policies and procedures include enforcement and disciplinary actions
- Analyze data to determine effectiveness of agency policies and training

Training courses designed to bring a better understanding of distracted driving prevention that emphasize the facts and figures about the problem, can be effective in offering the operators a valid perspective on safety as a priority. In the training course offered by Center for Urban Transportation Research (CUTR), *Curbing Transit Operator Distracted Driving Training*, participants completing the course become familiar with how the term “distracted” is defined while emphasizing the risk of driving while distracted.⁵⁶ The course identifies practical tips for preventing distracted driving, provides the opportunity for bus operators to learn about their agencies’ policies and procedures for non-agency authorized wireless technologies, as well as relevant state laws and regulations.

The goal of such training is that public transportation employees are better educated about the dangers and consequences of driving distracted. Visuals, such as demonstrated in Figure A-1, are used to emphasize the importance of managing distractions to ensure safety.



Figure A-1: A Visual from the Course, “Curbing Transit Operator Distracted Driving Training”

⁵⁵ APTA Standards Bus Safety Working Group, 2009. APTA Standards Development Program, Recommended Practice – Reducing Driver-Controlled Distractions While Operating A Vehicle on Agency Time. Accessed January 29, 2013 at http://www.aptastandards.com/portals/0/Bus_Published/APTA-BTS-BS-RP-005-09_employee_controlled_distractions.pdf

⁵⁶ Center for Urban Transportation Research, *Curbing Transit Operator Distracted Driving Training, Participant and Instructor Guides*, developed through the cooperation of the Florida Department of Transportation and the US D.O.T.’s Transportation Safety Institute. <http://www.transitoperations.org/distracteddriving/ParticipantGuide.pdf> and <http://www.transitoperations.org/distracteddriving/InstructorGuide.pdf>

The importance of training is also underscored in ***APTA Standards Development Program, Recommended Practice: Reducing Agency-Controlled Distractions While Operating a Vehicle on Agency Time.***⁵⁷ Initial and periodic training (new hire, recertification, refresher and retraining) is recommended to all drivers and operators on distractions. To benefit from improved safety performance and reduced operational costs, this Recommended Practice urges agencies to develop policies and procedures that reduce or eliminate distractions. Training on distractions must follow the established agency policy guidelines and include instructions on all items identified during a safety assessment. The Practice also emphasized accident investigation training for supervisors that would incorporate the recognition of operator's distractions as a contributing factor to the incident.

A 2008 study, ***Driver Distraction: A Review of the Current State-of-Knowledge*** (Ranney, T. A.), reviewed the state of the knowledge in distracted driving and confirmed the need of adequate and representative data of the driving population. That study estimated that drivers engage in distracting secondary tasks approximately 30 percent of the time their vehicles are in motion.⁵⁸ The study suggests that standard behavioral countermeasures, including laws, enforcement, and sanctions, are unlikely to be effective because distraction is a broad societal problem associated with lifestyle patterns and choices although research and development of guidelines for in-vehicle information systems interface design did render improvements.

Future Technologies to Improve Safety

A growing area of research and development addressing crash avoidance with in-vehicle and vehicle-to-vehicle communication systems that alert the driver or stops the vehicle before an incident occurs. This may reduce the risk of collisions due to driver distractions. Although major strides have been accomplished and innovations will continue to improve ways to avoid crashes, new sources of distractions are constantly competing for the attention of drivers and all road users. From a transit agency perspective, responsibility of safety will continue to involve both vehicle innovations and training operators on awareness and prevention techniques.

In the future, the progress in advanced driver-assistance technologies will better monitor drivers' visual behavior to manage the flow of information to the driver, thus decreasing distraction due to information flow received by driver. This study suggested that innovative research that provides objective and representative data on distraction incidence and crash risk will enhance these technologies.

In addition to new technologies that manage information, in ***Trends in Transit Bus Accidents and Promising Collision Countermeasures*** (Yang, C. Y. D.), the author observed other technologies that utilize radar, lidar (which is similar to radar but works at near-infrared wavelengths), video, or ultrasonic sensor to detect potential driving hazards

⁵⁷ APTA Standards Bus Safety Working Group, 2009. APTA Standards Development Program, Recommended Practice – Reducing Agency-Controlled Distractions While Operating a Vehicle on Agency Time. Accessed January 29, 2013 at http://www.aptastandards.com/portals/0/Bus_Published/APTA-BTS-BS-RP-006-09_agency_controlled_distractions.pdf

⁵⁸ Ranney, T. A., 2008. Driver Distraction: A Review of the Current State-of-Knowledge. National Highway Traffic Safety Administration. DOT HS 810 787.

and issue warnings to bus operators.⁵⁹ Examples of these new technologies include Obstacle Detection System (ODS), Integrated Collision Warning System (ICWS), and Transit Integrated Vehicle Based Safety System (Transit IVBSS)

In *Driver Distraction: Theory, Effects, and Mitigation - A Practical Resource for Understanding, Preventing, and Managing Driver Distraction*⁶⁰ 2008, (Regan, M.A.), the editor of this comprehensive resource suggested that the majority of distractions identified in transit operations can be reduced through the development of strict enforcement of company policy, rules and regulations, and the provision of training programs to discourage drivers from engaging in distracting tasks while coping with the unavoidable ones. It was also concluded that simple ergonomic cabin design and efficient maintenance procedures can remove sources of distraction within the bus cabin such as faulty sun visors and annoying rattle. Finally, this resource agreed with the above literature that intelligent technologies within the cabin such as speed adaption, following distance warning, automatic lane keeping, and others could be used to mitigate the effects of distraction by reducing driver overload.

Notes

To understand the critical issues associated with bus operator safety, the complexities of the demands made on bus operators have to be recognized. Research studies in occupational stress of bus operators reveal that some issues associated with well-being and stress prevention can be better managed through policies and mandatory training. However, identifying the concerns and consequences associated with distracted driving from the perspectives of the driver and/or the agency does not necessarily address *all* the critical issues associated with managing distractions. A more comprehensive, deeper understanding of who, what, where, when, and how these distractions occur will help researchers and policy makers mitigate the impacts of distracted driving.

Research Topic Area #2 - Bus Operator Assaults and Return-to-Duty Model Practices

The objective of this RTA was to examine bus operator assaults and those return to duty procedures that agencies have implemented for their operators who have experienced assaults. This literature review was conducted to provide an overview of this complex topic and included the review of literature identified through a search of the Transit Research International Database (TRID), as well as Google and other internet search tools.

Many interrelated issues add complexity to this research topic including efforts to understand how, where, and why assaults takes place; training bus operators on ways to de-escalate conflicts and self-defense training; customer service and behavioral assessment training; transit operations decision support system and emergency communications; and preventative strategies aimed at deterring assaults such as cameras, plexiglass shields,

⁵⁹ Yang, C.Y.D., 2007. "Trends in transit bus accidents and promising collision countermeasures," *Journal of Public Transportation*, 10(3), 119-136.

⁶⁰ Regan M., (Editor) 2008. *Driver Distraction: Theory, Effects, And Mitigation: A Practical Resource for Understanding, Preventing, and Managing Driver Distraction*. CRC Press.

uniformed and off-duty police officers. Also, agency policies and legislation in different states consider assaults on transit workers either a first-degree felony or a misdemeanor. An understanding of how these issues are compounded facilitates in developing comprehensive plans to increase safety of both drivers and passengers. While assaults on bus operators is a topic of great focus in the bus safety literature summarized below, there is little discussion within these publications of those policies and programs offered by transit agencies to their bus operators to treat any post event trauma.

The news media is rife with stories about assaults on transit bus drivers, with many of these articles reporting increases in the number of events at transit agencies across the country. Headlines such as: "Bus driver safety on public transit draws more attention after attack on SEPTA bus driver," "Metro bus drivers concerned about their safety," "Rise in transit worker assaults prompts summit seeking solutions," "Transit violence signals need for more security," "Metro bus driver shot dead by passenger in West Hollywood," and "Atlanta bus driver attacks on the rise," confirms what appears to be a national trend.

The author of *"Burnaby bus driver returns to work, takes aim at 'injustice system' - Assaulted on the job, Charles Dixon says his attacker should be in jail,"* (D. Ward), reported on the driver's first day back on the job after being out for 14 months following an assault.⁶¹ The driver received a concussion, a brain injury, and facial injuries while his 24-year-old son who was on the bus at the time of the incident was hit by a piece of wood after chasing the assailant. Figure A-2 shows the driver making a statement to the news reporters (he did take the gloves off to drive the bus, but maintained he will wear the headgear until he retires).



Figure A-2 - Bus Driver Charles Dixon Makes a Statement by Wearing a Sparring Helmet and Boxing Gloves.
Photograph by: Stuart Davis, Vancouver Sun

⁶¹ Doug Ward. "Burnaby bus driver returns to work, takes aim at 'injustice system' - Assaulted on the job, Charles Dixon says his attacker should be in jail," *Vancouver Sun*, May 11, 2012. Accessed February 21, 2013 at <http://www.burnabynow.com/Burnaby+driver+returns+work+takes+injustice+system/6548231/story.html#ixzz2LY9vLp78>

On July 19, 2012, a Hillsborough Area Regional Transit (HART) a driver was attacked while driving and suffered a concussion.⁶² The perpetrator was subsequently arrested and charged with battery on a public transit employee. In a Tampa Tribune article, "**HART union seeks investigation on attack on bus driver,**" (T. Jackovics) the author reported that a female driver with over five-years-experience told HART board members that she wanted to convey on behalf of the injured driver and herself the occasional dangers she and her colleagues endure in their line of work. She said that being pushed and shoved while working happened regularly. She further explained that drivers wanted to feel that they are safe, and that if something were to happen, somebody will be there. This incident was being investigated because emergency communications after the driver alerted dispatcher were unresponsive.

Some alarming recent statistics in the State of New York show that subway workers and bus drivers were physically assaulted 94 times in 2011 and that is up from 72 recorded incidents in 2010. Transit workers were harassed, including being spit upon 1,092 times in 2011, after 936 such incidents were logged in 2010. In May 2012, the Amalgamated Transit Union (ATU) with Transport Workers Union TWU Local 100, ATU 1056, and ATU 726 in New York City convened the *First National Transit Workers Assault Conference: The Driver's Seat of a Bus Should Not Be a Crime Scene*.⁶³

In May 2012, due to the increase of assaults on bus and train operators, Massachusetts Bay Transportation Authority (MBTA) transit police launched the first-in-the-nation policy of collecting DNA samples after assault events.⁶⁴

A recent article by Mike Hendricks of the Kansas City Star, "**Attacks on bus drivers appear on the rise, fueling safety concerns,**" offered the perceptions of some veteran drivers on why bus operators' assaults were on the rise.⁶⁵ After 30 years of driving buses in New York City, one perception was the recent downturn in the economy forcing agencies to reduce schedules, cut service, and/or raise fares. The visible person representing the transit agency to the users of the system is the bus driver and exasperated riders get out their frustration on the drivers. The article noted that NYC saw a 30 percent increase in attacks in 2012 than the year before, while attacks on Philadelphia transit workers doubled from 2010 to 2011. The article also discussed how thirty states have some kind of statute that gives crimes against workers a special status; however that was not the case in Missouri where legislation to make it a felony to assault a bus driver was not passed. In Pennsylvania, causing serious bodily injury to a transit worker is a first-degree felony, while in California there is of \$2,000 fine, one year in jail or both. In New York, it is a felony to

⁶² Ted Jackovics. "HART union seeks investigation on attack on bus driver," *Tampa Tribune*, July 25, 2012. Accessed Jan <http://www2.tbo.com/news/breaking-news/2012/jul/25/hart-union-seeks-attack-investigation-ar-441933/>

⁶³ ATU, 2012

⁶⁴ "T board briefed on worker assaults, discusses Green Line project costs," *Needham Times*, May 3, 2013. Accessed January 17, 2013 at <http://www.metrowestdailynews.com/archive/x1942603513/T-board-briefed-on-worker-assaults-discusses-Green-Line-project-costs#ixzz21x0EOdaQ>

⁶⁵ Mike Hendricks, *the Kansas City Star*, November 14, 2012. Accessed January 22, 2013 from the Missouri Public Transit Association website at http://mptaonline.typepad.com/missouri_public_transit_a/2012/11/attacks-on-bus-drivers-appear-on-the-rise-fueling-safety-concerns.html

assault a Metropolitan Transit Authority employee - an offense punishable with up to seven years in prison.

In a Metro Magazine article, *"Is enough being done to stop the assault on bus operators?"*⁶⁶ (A. Roman), Greg Hull, the director of Operations, Safety and Security Programs at the American Public Transportation Association (APTA), agreed that an economic downturn could definitely have an impact. "We aren't hearing that there are any dramatic spikes going on," he said. "We do know, however, that events can happen in waves sometimes and it can often be attributed to local economic conditions."⁶⁷

In researching the topic of assaults on bus operators and protective measures taken by agencies, a New York State Senate Bill S.5371 amendment to penal law that was passed May 13, 2011 authorized conductors and motormen to carry Tasers or electronic stun guns during the performance of his or her duties, after a required training course.⁶⁸

Initially written for Amtrak, it was later advocated for bus drivers, subway conductors and other transit workers to be able to protect themselves and passengers from crazy riders, criminals and even would-be terrorists. In April 2012, Senator Adams stated when suggesting an additional amendment to New York Senate Bill S.5371⁶⁹:

"This Bill will not authorize the issuance of Tasers to every transit authority employee. Instead, it will change current law to grant the MTA and Amtrak the right to decide whether to implement a pilot program that includes the use of Tasers.

...

Many people are unaware that during periods of commuter travel there are intervals when a train or bus is far removed from the protection of law enforcement personnel: when a train crosses a bridge, goes through an East River tunnel, or traverses the long distances between express stops and when a bus is moving late at night through a desolate area. Currently, an individual who attempts to use a weapon or detonate a bomb can cause a devastating calamity without fearing intervention from unarmed transit employees. Tasers will afford the transit crew the power to temporarily incapacitate an offender until law enforcement arrives."⁷⁰

⁶⁶ Alex Roman, "Is enough being done to stop the assault on bus operators?" *Metro Magazine*, Volume 105, Issue Number 7, August 2009. Accessed January 23, 2013 at <http://www.metro-magazine.com/article/story/2009/08/is-enough-being-done-to-stop-the-assault-on-bus-operators.aspx>

⁶⁷ Ibid.

⁶⁸ "NYS Senator Eric Adams will introduce legislation which will enable Amtrak to provide Taser guns and training to Amtrak train conductors and motormen," *Senator Eric Adams Blog*, May 18, 2011. Accessed January 24, 2013 at <http://www.nysenate.gov/press-release/nys-senator-eric-adams-will-introduce-legislation-which-will-enable-amtrak-provide-tas>

⁶⁹ "Statement from NYS Senator Eric Adams regarding the issuance of Tasers for transit authority employees," *Senator Eric Adams Blog*, April 17, 2012. Accessed January 17, 2013 at <http://www.nysenate.gov/blogs/2012/apr/17/statement-nys-senator-eric-adams-regarding-issuance-tasers-transit-authority-emplo>

⁷⁰ Ibid.

An article in the New York Daily News "**Brooklyn state Senator Eric Adams wants transit workers to be armed with Tasers - Transport Workers Union Local 100 supporting measure as a way to protect workers,**" (P. Donohue) records the endorsement of the president of TWU Local 100, John Samuelsen, of the legislative effort, because as he put it, the Local was tired of its members being "*treated like punching bags*" by irate riders.⁷¹

In the April 17, 2012 edition of the Philadelphia Weekly, an article by Randy LoBasso, "**Still no solution to deterring attacks on SEPTA drivers: legislation that would protect the transit workers is stalled in Harrisburg,**"⁷² quoted the SEPTA spokeswoman Jerri Williams saying,

"We don't really know why [the assaults are increasing]. We tend to surmise that it has something to do with the general frustrations about the economy and about employment and that the operator just happens to be a target, kind of sitting there."

According to a TWU Local 234 Operator and Public Safety survey returned by 472 SEPTA operators, 40 percent had witnessed or suffered an assault while on the job.⁷³ The first six weeks of 2012, twelve assaults were reported by SEPTA operators. In 2011, there were 91 reported assaults and incidents including spitting on operators, pouring soda down their backs, getting sprayed with pepper spray and being cut with a razor blade. These aggressive behaviors are not considered uncommon by operators but are just now getting attention.

What constitutes "harassment" or "anti-social behavior" may be interpreted to identify different degrees and instances of threat by different agencies. However, in many studies, repeated harassment on a route or at a bus station is signaling a potentially volatile pattern, a potential "hotspot" that can be mitigated to reduce the risk before the occurrence of an incident, for example, hiring off-duty police to patrol bus stops and ride some buses on the route. As reported in many studies, many incidents go unreported because no physical altercation took place and also because operators think they may be blamed or reprimanded for the incident.

One detailed study that included an extensive survey of households, transit managers, bus operators, **Research to Investigate the Extent and Impact of Anti-Social Behavior on Scottish Buses**, (Granville S. and Campbell-Jack D.), defined anti-social behavior as

⁷¹ Pete Donohue, "Brooklyn state Sen. Eric Adams wants transit workers to be armed with Tasers - Transport Workers Union Local 100 supporting measure as a way to protect workers," *New York Daily News*, April 16, 2012, . Accessed January 17, 2013 at <http://www.nydailynews.com/new-york/brooklyn-state-sen-eric-adams-transit-workers-armed-tasers-article-1.1062688#ixzz2lG1TLMAY>

⁷² Randy LoBasso. April 17, 2012. "Still no solution to deterring attacks on SEPTA drivers: Legislation that would protect the transit workers is stalled in Harrisburg." *Philadelphia Weekly*. Accessed January 22, 2013 at <http://www.philadelphiaweekly.com/news-and-opinion/147797505.html#ixzz2lJfjV5lL>

⁷³ TWU Local 234 Operator and Public Safety Report: Preliminary recommendations based on task force discussions, the operator survey, and meetings with SEPTA. March 5, 2012. Accessed January 22, 2013 at <http://dc.streetsblog.org/wp-content/uploads/2012/06/TWU-Local-234-Operator-Public-Safety-Preliminary-Rpt-3-5-12-Final.3.pdf>

behavior that threatens the physical or mental health, safety or security of individuals or causes offence or annoyance to individuals including⁷⁴:

- Harassment and intimidating behavior that creates alarm or fear, towards bus drivers and / or other passengers, including verbal or physical abuse
- Drunken and abusive behavior towards bus drivers and / or other passengers
- Assault of bus drivers and / or other passengers
- Vehicle crime such as vandalism, graffiti, throwing missiles or other deliberate damage to buses or bus company property
- Dumping litter or rubbish on buses
- Conflicts or racist abuse / incidents
- Engaging in threatening behavior in large groups at bus stops or on buses
- Smoking of cigarettes or illegal drug-taking on buses or at bus stops

In ***Transit Cooperative Research Program (TCRP) Synthesis 93: Practices To Protect Bus Operators From Passenger Assault***, (Y. J. Nakanishi and W. C. Fleming), the authors defined “assault” of a bus operator broadly as acts of aggression that may or may not cause physical injury to the operator.⁷⁵ Assault was defined as, “*overt physical and verbal acts by a passenger that interfere with the mission of a bus operator—to complete his or her scheduled run safely—and that adversely affect the safety of the operator and customers.*”

In the TRCP Synthesis 93, the authors summarized survey and literature review results of bus operator protection measures ranging from policing, personnel, and training to technology, information management, policy, and legislation. When agencies selected and implemented security measures, a variety of involved institutional, legal, and budgetary constraints were considered. It was found that some measures were more appropriate for preventing certain types of attacks. For example, conflict mitigation training was appropriate for reducing assaults from disputes but barriers were useful in protecting the operator against spontaneous attacks. Emergency communications and vehicle location technologies improved incident response. Video surveillance was found to be effective for deterrence and post-assault identification and prosecution of assailants whereas audio surveillance was found specifically useful in addressing verbal attacks and threats.

Agencies have helped in passing legislation on enhanced penalties for operator assault and have established agency policies such as suspending service for violating transit agency rules. The authors of the TCRP Synthesis 93 also concluded that the socio-demographic characteristics of assailants influence the protection method and the use of school outreach programs could be a method used by transit agencies to mitigate assaults by teens. This

⁷⁴ Sue Granville and Diarmid Campbell-Jack. *Research to Investigate the Extent and Impact of Anti-Social Behavior on Scottish Buses*. 2005. George Street Research Limited. Accessed January 7, 2013 at <http://www.scotland.gov.uk/Publications/2005/03/20782/53859>

⁷⁵ Yuko J Nakanishi and William C Fleming. *TCRP Synthesis 93: Practices to Protect Bus Operators from Passenger Assault*. Washington, DC: The National Academies Press, 2011. Accessed January 22, 2013 at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_93.pdf

particular prevention measure was shared as one of the anticrime practices as reported by *TCRP Synthesis 80 – Transit Security Update, 2009* (Y. Nakanishi).⁷⁶

Among other practices the author listed as part of the effective counterterrorism and anticrime practices, as identified by the synthesis survey, case studies, literature review, and input from industry experts were:

1. Crime statistics maps are valuable visual tools for transit police and are useful for the strategic deployment of officers. Providing passengers with access to up-to-date crime data through interactive, user-friendly crime statistics maps increases their perception of control over their transit trip.
2. Plainclothes officers within the transit system are used to catch perpetrators in the act of committing a crime. The use of unmarked vehicles is also an effective practice in transit park-and-ride or other parking facilities.
3. Training bus drivers in customer relations, conflict mitigation, and gang-related violence provides bus drivers with increased confidence and knowledge in dealing with the public.
4. Codes of conduct are rules that passengers must follow within the transit system. Enforcing codes of conduct can assist agencies in detecting and deterring crime and in enhancing the perception of security within their transit systems.⁷⁷

An example of #3 above is the train-the-trainer workshop, **“Managing for Performance-Safety, Customer Service, Conflict and Work Ethic: A Guide for Transit Operator Trainers”**⁷⁸ offered by the Florida Department of Transportation, in cooperation with the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF). The workshop emphasizes learning how to manage through self-awareness, self-regulation and motivation. The workshop also reviews those skills that give a social competence; namely, empathy, and a series of social skills that groom the individual to be adept at enduring desirable responses in others, especially in conflicting situations. Emotional competence is a learned capability based on emotional intelligence that results in outstanding performance at work.

An illustration of the last recommendation (#4) in the list provided above is Figure A-3, a poster from a King County Metro bus in Washington State, providing passengers with code of conduct.

⁷⁶ Yuko J Nakanishi. *TCRP Synthesis 80 – Transit Security Update, 2009*. Washington, DC: The National Academies Press. Accessed January 22, 2013 at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_80.pdf

⁷⁷ Ibid.

⁷⁸ Workshop announcement, “Managing for Performance-Safety, Customer Service, Conflict and Work Ethic: A Guide for Transit Operator Trainers”. The Florida Department of Transportation, in cooperation with the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF). Accessed February 21, 2013 at <http://www.transitoperations.org/pdfs/training/ManagingforPerformanceSafety02202113.pdf>



Figure A-3 – “Don’t touch the driver” poster inside a King County Metro Transit bus⁷⁹.

The authors recommended the following efforts as strategies to minimize anti-social behavior:

- Reporting of incidents by bus drivers and companies should be improved, with particular emphasis on ensuring accurate data is kept on the frequency and nature of incidents.
- Wherever possible, information should also to be kept on the type of individual committing each act of anti-social behavior.
- Detailed records of costs relating to anti-social behavior should be kept by bus companies.
- Training for drivers (both as part of initial training and on an on-going basis) should be introduced at each company and improved where necessary.
- There should be increased emphasis on partnership working across organizations dealing with anti-social behavior on buses.
- There should be further focus on educational initiatives for dealing with problems in more holistic manner.
- Effort should be made to ensure that bus drivers and bus companies feel adequately protected, both in terms of initiatives and the legal system.
- A range of different initiatives encompassing physical, preventative and diversionary approaches should be introduced.
- An ongoing assessment of the cost-effectiveness of different initiatives, particularly those involving diversionary approaches, should be undertaken.

⁷⁹ Source: Oran Viriyincy's photostream at <http://www.flickr.com/photos/viriyincy/with/4300020950/>

- Good practice across bus companies should be shared. The number of prosecutions for anti-social behavior should be increased wherever possible

A 1996 working paper (Kompier, M.) by the Department of Work and Organizational Psychology, University of Nijmegen, Netherlands, titled, ***Bus Drivers: Occupational Stress and Stress Prevention***, emphasizes both stress intervention and prevention.⁸⁰ The paper describes the tasks of a bus driver as mentally demanding with conflicting requirements. The agency and the public demand a service-oriented driver, assisting and providing information to passengers while keeping to a tight schedule in addition to the need to drive safely. The author highlights the additionally increasing stress of being subjected to threats and violence from disorderly and disruptive passengers. Based on practical examples, the paper recommends preventing and combating work stress among bus drivers by instating measures to adjust the work environment to the abilities and needs of workers, through a better person-environment fit while utilizing the traditional approaches, usually by counseling individuals or small groups of employees on ways to adapt to, or cope with various occupational stressors and/or their consequences.

That paper contains examples of policies on re-education on stress management training, improving ergonomics, addressing shift schedules and the quality of break periods, team work and consultation, individually adjusted schedules, rehabilitation and social medical guidance, and other measures as well. Some examples of preventing aggression and violent behavior included closing off driver cabins at night and on high-risk routes, increasing the frequency of inspection and ticket control, installing an alarm button, maintain direct contact with mobile control teams, training drivers on dealing with aggressive passengers, training supervisors in coping with drivers who have been assaulted or intimidated, and arranging individual work resumption plans for those drivers who have suffered from violence.

Post Event

While there is fairly extensive literature devoted to training bus operators, or otherwise preparing them for violent engagements with passengers or others, there is little literature available that describes the methods applied after an event to assist bus operators cope with assaults and help them successfully return to their jobs.

Among other policies to prevent and mitigate risk of assaults on bus drivers, First Leeds, a bus company in the Yorkshire Division, UK, has a policy of providing up to six months of full sick pay for drivers who are assaulted while performing their duties for the company.⁸¹ This sick leave policy helps to reduce the risk of compensation claims from drivers, but it can mean there is less incentive for drivers to return to work.

⁸⁰ Kompier, M., 1996. *Bus Drivers: Occupational Stress and Stress Prevention*, Department of Work and Organizational Psychology, University of Nijmegen, Netherlands. Accessed January 3, 2013 at <http://www.bvsde.paho.org/bvsast/i/fulltext/bustress/bustress.pdf>

⁸¹ The Health and Safety Executive is an independent regulator and acts in the public interest to reduce work-related death and serious injury across Great Britain's workplaces. *Work-Related Violence Case Studies*. Undated. Accessed January 24, 2013 at <http://www.hse.gov.uk/violence/hslcasestudies/first.htm>

As mentioned above in the 1996 working paper (Kompier, M.) by the Department of Work and Organizational Psychology, University of Nijmegen, Netherlands, titled, ***Bus Drivers: Occupational Stress and Stress Prevention***, the paper provides examples of agency issued policies to assist bus drivers and includes those that train supervisors to help drivers who have been assaulted or intimidated cope with their experience, and arranging individual work resumption plans for those drivers who have suffered violence.

As previously stated, documentation of policies or recommendations related to post event activities are limited. In ***Bus Drivers: Occupational Stress and Stress Prevention***, (M. Kompier, 1996),⁸² the author advocates developing individual work resumption plans for those drivers who have suffered from violence in cooperation with management, the company doctor, the driver, and the personnel department. Additionally, the author recommended the management be clear in explaining the expectation of company policy for resumption plans.

A New York Times article, "***When passengers spit, bus drivers take months off***," (M. Grynbaum), reported that of all the assaults that prompted a bus operator to take paid leave in 2009, a third of them, 51 in total, "involved a spat upon," according to statistics the MTA.⁸³ On average, paid leave involved 64 days off work, the equivalent of three months with pay, and one driver spent 191 days on paid leave. John Samuelsen, the president of the TWU Local 100, was quoted in the article, "If transit workers are assaulted, they are going to take off whatever amount of time they are going to take off to recuperate."

While scanning the available literature was a useful exercise showing the increasing trend of violence against drivers, it also showed the lack of available practices to assist the drivers on resuming work after an incident. This research study will address this gap by identifying any progressive measures transit systems are utilizing to return drivers to their positions. In addition, the study will suggest practices to assist bus operators in coping with the assaults from both physical and psychological perspectives.

Research Topic Area #3: Model Policies and Procedures for Driver's License and Criminal History Background Checks

To better ensure the safety of passengers and the public, transit agencies perform driver's license and criminal history record reviews for new bus operator hires to confirm their eligibility to drive. The reviews ensure that the individuals selected are free from any criminal history that would disqualify them from a position that requires engagement with passengers and the public on an ongoing basis. Transit agencies also periodically perform these record reviews on existing employees to monitor record changes. The project team conducted a search of the literature to find the safety-related policies, procedures, regulations and rules used by public transit agencies in Florida and nationwide, to guide the conduct of commercial driver license (CDL) checks and criminal history background checks.

⁸² M. Kompier, *Bus drivers: Occupational stress and stress prevention*, 1996. Department of Work and Organizational Psychology, University of Nijmegen, Netherlands. Accessed January 3, 2013 at <http://www.bvsde.paho.org/bvsast/i/fulltext/bustress/bustress.pdf>

⁸³ Michael Grynbaum, "When Passengers Spit, Bus Drivers Take Months Off," *New York Times*, May 24, 2010. Accessed February 21, 2013 at http://www.nytimes.com/2010/05/25/nyregion/25spit.html?_r=0

The literature review included the regulations of the Federal Motor Carrier Safety Administration and a search of the circulars, regulations and online resources of the Federal Transit Administration. The literature review included the Florida Statutes and Florida Administrative Code, requirements of the Florida Department of Highway Safety and Motor Vehicles, and resources of the Florida Department of Law Enforcement.

The literature review also included keyword searches of the Transit Research International Database (TRID) and the websites of research programs including Transit Cooperative Research Program syntheses and reports, Transportation Research Records of the Transportation Research Board, the Journal of Public Transportation and web site resources of professional organizations, including the American Public Transportation Association (APTA), the Florida Public Transportation Association, the Community Transportation Association of America (CTAA), and the Canadian Urban Transit Association.

The literature review also included the websites for the Amalgamated Transit Union and Transportation Workers United labor organizations, industry newsletters and magazines, as well as a general search on Google and of general circulation newspapers. Finally, the literature review also included a search of public transit agency websites in Florida. The literature review found that many available national level guidance documents were ten or more years old. The discussion below on legal foundation lays out the minimum requirements to provide context for the literature review.

Legal Foundation for Commercial Driver Licensing

Requirements to obtain a commercial driver license have been developed by the Federal Motor Carrier Safety Administration (FMCSA), per the Commercial Motor Vehicle Safety Act of 1986, and the Motor Carrier Safety Improvement Act of 1999.

Title 49 CFR Part 384 provides federal regulation requiring states to comply with federal standards for a commercial driver license program. This includes 49 CFR §384.206 and 49 CFR §384.225 that require states to keep records of those holding CDLs. This information becomes part of the Commercial Driver License Information System (CDLIS) to which all states have access. These records must include the names of all states where the applicant has previously been licensed to operate any type of motor vehicle in the past ten years and the complete driver record from each state where the applicant was licensed. Within 30 days, the state must supply driver records to motor carriers that request them, and must implement penalties to drivers upon notification of adverse information or convictions regarding the holder of a CDL.

The most recent federal transportation reauthorization, Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law July 6, 2012 (Public Law 112-141), provides a number of changes to the Driver Record Notification Systems of states (Title II Commercial Motor Vehicle Safety Enhancement Act of 2012, Subtitle C—Driver Safety). MAP-21 requires that these systems, upon request, must automatically furnish an employer with a report on a change in status of an employee's driver license (49 U.S.C. §32303). States are now awaiting the issuance of minimum standards for driver record notification systems by

the USDOT Secretary, including standards for accuracy, consistency, and completeness of the information provided (49 U.S.C. §32303). MAP-21 now also requires employers to periodically review driver records furnished by the state's driver record notification system. This means that public transit agencies employing bus operators are now required every 12 months to contact the state to request information on any changes to the status of a bus operator's CDL due to a conviction for a moving violation or other adverse event. Copies of these reports must be maintained in the bus operator's qualification file (49 U.S.C. §32303 amending §31304).

By July 2013, states must use their Commercial Driver's License Information Systems (CDLIS) to receive and submit conviction and disqualification data electronically (49 U.S.C. §32305 amending §31311). Furthermore, by the summer 2014, the Secretary of the Department of Transportation will issue recommendations and a plan for the expansion of the CDLIS to include a *national* driver record notification system. This plan will include an estimate of the fees that an employer (such as public transit agencies) must pay to offset the operating costs of a national system (49 U.S.C. 32303). The plan will specify a date by which all states will be operating a CDLIS that is compatible with the modernized information system (49 U.S.C. §32305 amending §31309).

Since January 30, 2012, the Federal Motor Carrier Safety Administration (FMCSA) requires each operator possessing a commercial driver license to certify the type of operation the driver expects to conduct. The issuing state must post the driver self-certification to the driver's driver history record. MAP-21 now requires CMV operators to present a certification of completion of driver training (49 U.S.C. §32304 amending §31308).

Title 49 CFR Part 383 provides federal regulation regarding commercial driver license (CDL) standards, requirements, and penalties that all states must issue in order to maintain certification to grant CDLs. It requires states to give knowledge and skills tests to applicants for CDLs that meet Federal standards. For example, the **2012 Florida CDL Handbook** (FLDHSMV) reflects these federal standards.⁸⁴ The USDOT Secretary conducts audits of state CDL programs. Under the requirements of MAP-21, states must submit a state commercial driver's license program plan to the USDOT Secretary to prioritize and implement a schedule of actions that will address any deficiencies identified in the latest audit (49 U.S.C. §32305 amending §31311).

Presently, the State of Florida has a **Strategic Highway Safety Plan**, by the Florida Department of Transportation, adopted November 2012.⁸⁵ It is a collaborative effort among federal and state agencies, one of the signatories of which is FMCSA. However, it does not reference the requirement of federal law for a Commercial Motor Vehicle Safety Plan. The *Plan's* chapters are primarily organized according to various safety issues, such as intersection crashes and lane departure crashes. The roadway user types that the *Plan* explicitly targets for interventions are "vulnerable users" (bicyclists, pedestrians, motorcyclists) and "at-risk drivers" (teens and the elderly).⁸⁶ The Plan does not specifically

⁸⁴ Florida Department of Highway Safety and Motor Vehicles, *2012 Florida CDL Handbook*, Tallahassee, Florida.

⁸⁵ Florida Department of Transportation, *Strategic Highway Safety Plan*, Tallahassee, Florida, November 2012.

⁸⁶ *Ibid.*

discuss commercial motor vehicle operators. There is also a Florida ***DHSMV Strategic Plan 2012-2013***.⁸⁷ This Plan is organized according to goals, objectives, strategies, and measures but also does not specifically address commercial motor vehicle operators.

Presently, there is a Colorado state pilot program underway by the Federal Motor Carrier Safety Administration (FMCSA) to test an employer notification system (ENS). It is to be a nationwide system that notifies employers when there is a change in the driving record of an employee. The system alerts an employer via email when a driver has been convicted of a traffic related offense <http://www.dot.gov/citizens/privacy/pia-employer-notification-service-state-pilot-test>.

Federal regulations prohibit a commercial motor vehicle operator from having more than one driver license, require drivers to notify their employer and their state of residence of certain traffic convictions, require a driver to provide previous employment information as a commercial motor vehicle driver for the last ten years, prohibit an employer from allowing a driver with a suspended license to operate a commercial motor vehicle, and establish penalties and driver disqualification for certain offenses. Section 322.61, Florida Statutes (F.S.) implements Federal regulations by reflecting these disqualifying offenses. Such disqualifications are offenses for which a driver license check and a criminal background check would uncover. These include driving with possession of or under the influence of alcohol or a controlled substance, leaving the scene of an accident, causing a fatality through negligent operation of a commercial motor vehicle, or committing a felony involving the use of a motor vehicle. Disqualification may also occur due to serious traffic violations. A bus driver must notify his or her employer within 30 days of conviction or any traffic violations except parking.

Federal regulations also establish testing and licensing requirements, and define commercial motor vehicle groups and endorsements. For example, bus drivers require a Class B commercial driver license to operate a single vehicle with a gross vehicle weight rating over 26,000 pounds, with a Passenger endorsement. A Passenger endorsement also requires a knowledge and skills test, as specified in 49 CFR 383.117. If the motor vehicle is an articulated bus, bus drivers must have a Class A commercial driver license with a Passenger endorsement. If a vehicle has a gross vehicle weight rating of 26,000 pounds or less but is designed to carry 16 passengers or more people, including the driver, then the bus driver must have a Class C commercial driver license with a Passenger endorsement.

To obtain a CDL, one must pay a license fee and pass a general knowledge test, a passenger transport test, and a skills test. The skills test includes a pre-trip vehicle inspection, an air brakes test if applicable, a basic vehicle control test and an on-road test in the type of vehicle that an operator will be driving.

The CDL also has several required qualifications. To obtain a CDL in Florida, one must be a resident of Florida and must surrender any other Florida license or any from another state. The driver must provide proof of social security number, be at least 18 years old to drive on

⁸⁷ Florida Department of Highway Safety and Motor Vehicles, *DHSMV Strategic Plan 2012 – 2013*, Tallahassee, Florida, 2012

intrastate highways and at least 21 years old to drive on the interstate system. The driver must not be under license suspension, revocation, cancellation or disqualification in Florida or any other state. These qualifications reflect federal requirements.

When a driver seeks a new CDL or seeks to renew an existing CDL, the issuing state must perform a check of its own database, a check of the national Commercial Driver's License Information System (CDLIS), and the National Driver Register to make sure the driver is not disqualified and does not possess another license. The state must request the complete driving record of the applicant from all jurisdictions where the driver was previously licensed in the last 10 years. Likewise, according to the **2012 Florida CDL Handbook**, to apply for a position as a commercial motor vehicle operator in Florida, the applicant must provide the employer with information on all driving jobs held within the last 10 years.⁸⁸

49 CFR Part 659 includes the designations of State Safety Oversight Agencies for public transit agencies. For example, the Florida Department of Transportation (FDOT) implements state law regarding bus system safety. Chapters 334.044(2), 341.041(3), and 341.061(2), F.S. provide authority to FDOT to establish rules for safe operation, assign responsibilities, and develop and implement bus transit safety standards.

Rule Chapter 14-90.004, Florida Administrative Code (F.A.C.), Bus Transit System Operational Standards, which implements state law, requires each bus system to develop a System Safety Program Plan (SSPP) that achieves at least the minimum safety standards set forth in the Rule, and that addresses, among other things, bus driver and employee selection. Rule 14-90.004(3)(b) and (c), F.A.C. requires bus systems to establish criteria and procedures for the selection and qualification of all drivers, including driving and criminal background checks for all new drivers, and verification and documentation of valid driver licenses for all drivers.

Section 14-90.006, F.A.C., Operational and Driving Requirements, provides that a bus transit system shall not allow a bus operator to drive a bus when the operator's driver license has been suspended, cancelled, or revoked.

FDOT provides a Bus Transit SSPP Template to assist Florida transit agencies to comply with the minimum requirements of Rule 14-90.004, F.A.C. Section 6 of the FDOT template addresses qualification and selection of drivers. Section 6 provides the complete Rule 14-90.004(3), F.A.C. verbatim, and also lists the minimum requirements, including the following.

- Possession of a valid Florida driver license of appropriate class (does not specify class)
- Criminal background check
- Driving records check

⁸⁸ Florida Department of Highway Safety and Motor Vehicles, *2012 Florida CDL Handbook*, Tallahassee, Florida.

These requirements above are non-specific because Rule 14-90.004(3), F.A.C. is also nonspecific. The transit agency can select and adopt more specific criteria. The FDOT SSPP template provides suggestions for background checks to be conducted in coordination with local law enforcement and the Florida Department of Law Enforcement and to also include:

- Instant Social Security Number validations
- Instant identification of applicant's county of residence for the past seven years
- County felony criminal history checks for up to three counties per applicant and other criminal records checks
- Education verification
- Employment reference checks
- Personal reference check
- Workers' Compensation claims

The FDOT SSPP template also lists, for informational purposes, examples of other minimum hiring standards of some transit agencies with regard to driving history and criminal history, of which other transit agencies may want to consider one or more. These include the following.

- Must not have had a suspended or revoked driver's license within the immediate past two years, except for administrative suspensions caused by failure to pay child support.
- Must not have had any conviction at any time for DWI or DUI, reckless driving, vehicular manslaughter, or any conviction of operating any kind of motorized vehicle under the influence of alcohol or any illegal drug or controlled substance.
- Must not have had a chargeable accident within the immediate past three years.
- Must not have more than five points against their driving license within the immediate past three years.
- Must not have had at any time any felony convictions for any crime against a person, to include, but not limited to, those specified in the Florida State Statutes.
- Must not have had at any time any misdemeanor convictions for any crime against a person. All other misdemeanor convictions must not have occurred within three years of date of hire.

The ***Manual for the Development of Bus Transit System Safety Plans*** (APTA) was issued in 1998, for the purpose of use in the Bus Safety Management Program and to provide a recommended format and resource for individual transit agencies to develop their own.⁸⁹ It was the result of more than 15 years of joint effort between the rail and transit industries. There are many similarities between the APTA ***Manual's*** list of System Safety Elements and the FDOT SSPP template table of contents, issued in 2011. The APTA ***Manual*** contains a Training and Certification Review/Audit Element that simply contains the following statement.

⁸⁹ American Public Transportation Association, *Manual for the Development of Bus Transit System Safety Program Plans*, Rev. 5/1999.

Proper qualification of operating and maintenance personnel is a vital part of a safe transit environment. The System Safety Program Plan should require that all necessary training is conducted and documented. Not only should complete and accurate certification records of operating (including maintenance) personnel be maintained, but the content and presentation of material and testing, including grading processes, should have requirements that ensure completeness and validity of course content and testing. While the level of detail presented in the System Safety Program Plan for training/certification requirements is at the discretion of the transit system, a training/certification policy/procedure should be in place at the transit system and referenced in this section.⁹⁰

FDOT Procedure 725-030-009-j implements the statutory requirements of Sections 341.041, 334.044(2), and 341.061(2)(a), F.S. for bus system safety and safety standards set forth in Rule 14-90, F.A.C. This includes carrying out on-site bus safety and security reviews by the FDOT District Modal Development/Public Transportation Office and ensuring follow-up to see that any required corrective actions have been implemented. One of the checklist criteria for equipment and operational standards is the presence of criteria and standards for the qualification, selection, and training of drivers.

The Florida Department of Highway Safety and Motor Vehicles (DHSMV) website provides an application form for requesting driver license records. There is a rate sheet that provides the cost to obtain driver license records. For a 3-year driver history record, it costs \$8.00. For a 7-year driver history record, complete or certified, it costs \$10.00. Public transit agencies have two methods of electronic access to driver history and motor vehicle records. The first method is requests for less than 5,000 records per month. The second method is requests for 5,000 or more records per month. For requests of less than 5,000 records per month, the DHSMV web site provides a listing of private vendors, with whom public transit agencies can contract, which have interactive access to the DHSMV driver license history file and motor vehicle records. For requests of 5,000 or more records per month by an individual transit agency or by a business (known as a network provider) that provides a service to several other businesses that collectively submit at least 5,000 transactions per month, the network provider works directly with the DHSMV Division of Motorist Services.

There is a pre-employment Screening Program (PSP) that is a national program which allows motor carriers and commercial drivers electronic access to their driving records. These are records from the Federal Motor Carrier Safety Administration's (FMCSA) Motor Carrier Management Information System (MCMIS). Access to the records requires payment of a subscription fee based on user type—an industry service provider would pay \$100 yearly to allow ten users access to the system, and \$10.00 per record.

In ***A Challenged Employment System: Hiring, Training, Performance Evaluation, and Retention of Bus Operators, A Synthesis of Transit Practice*** (TCRP), written in 2001, a survey of transit agencies regarding techniques used in bus operator selection

⁹⁰ Ibid.

found that 86 percent of respondents used a DMV record check and 62 percent of respondents used a court record check.⁹¹

In ***Federal and State Licensing and Other Safety Requirements for Commercial Motor Vehicle Operators and Equipment*** (TCRP), written in 2001, federal regulations governing commercial motor vehicles (CMV) and commercial driver licensing (CDL) are summarized.⁹² Results of a nationwide survey are presented that compiled a comparison of state laws regarding CMVs and CDLs with federal law. At the time of this research, it was found that not all states had laws or regulations that fully complied with the regulations of the Federal Motor Carrier System Administration. Those that did comply did so in a variety of ways including compliance through state law, administrative regulation or by reference. All states used as a model, the American Association of Motor Vehicle Administrators (AAMVA) Model CDL Manual.⁹³ Information was also compiled regarding the states that require a CDL of transit bus drivers. In a survey question regarding passenger vans carrying eight to 15 passengers, 52 percent of public transit agencies that responded to the survey said that a CDL was required for the van operator, 77 percent of respondents indicated that they provide in-house training and assistance to operators to obtain a CDL, and 81 percent indicated use of a training manual. Copies of training manuals collected for this Legal Research Digest indicated widely varying training curricula for bus operators.

In ***Commercial Driver's License Effectiveness Study***, the FHWA Office of Motor Carrier Research and Standards commissioned a study to evaluate the effectiveness of the national commercial driver license program, established pursuant to the Commercial Motor Vehicle Safety Act (CMVSA) of 1986.⁹⁴ The study found that the number of CDL holders with multiple licenses was greatly reduced, successfully limiting the practice of spreading out multiple driver convictions among several states. The testing requirements eliminated many dangerous drivers. All states revised their laws to be consistent with violations listed in the federal CMVSA. Most states had established a single record of all CMVSA convictions to make it possible to identify CDL holders with multiple convictions and impose penalties. The study also found that county and municipal law enforcement officers were less trained in understanding the CDL requirements. The study recommended that FHWA implement a formal program of review and improvement of state level implementation of the CDL program. This study also recommended raising minimum standards for CDL testing and measuring and enforcing state compliance with the CDLIS System Specifications and CDLIS state procedures.

Legal Foundation for Background Checks

A Passenger Endorsement requires a knowledge and skills test, as specified in 49 CFR 383.117. However, federal law does not require a background check for commercial motor vehicle operators seeking a Passenger endorsement.

⁹¹ Transit Cooperative Research Program, *A Challenged Employment System: Hiring, Training, Performance Evaluation, and Retention of Bus Operators, A Synthesis of Practice*, 2001.

⁹² Transit Cooperative Research Program, *Federal and State Licensing and Other Safety Requirements for Commercial Motor Vehicle Operators and Equipment*, 2001.

⁹³ American Association of Motor Vehicle Administrators, *2005 CDL Test System Model Commercial Driver Manual*.

⁹⁴ Federal Highway Administration, Office of Motor Carrier Research and Standards, *Commercial Driver's License Effectiveness Study*, Tech Brief, Publication No.: FHWA-MCRT-99-012, May 1991.

In Florida, Chapter 435, F.S. provides employment screening requirements whenever a background security check is required to be conducted pursuant to the requirement of the chapter. The intent of the law is to protect children, the elderly, and persons with disabilities by screening potential employees who come in contact with them. It lists offenses for which an applicant would be disqualified. The law defines a "Level 1" screening as a condition of employment, and continued employment, to include an employment history check, a name-based statewide criminal correspondence check through the Florida Department of Law Enforcement (FDLE), a check of the Dru Sjodin National Sex Offender Public Website, and may include local criminal records checks through local law enforcement agencies. A "Level 2" screening must include fingerprinting for statewide criminal history records checks through FDLE, a national criminal history records check through the Federal Bureau of Investigation (FBI), and may include local criminal records checks through local law enforcement agencies. This is both a state and a national fingerprint based check. Rule Chapter 14-90.004(3)(b), F.A.C. for bus transit agencies, requires criminal background checks, but there is no reference to Chapter 435, F.S. or to Level 1 or Level 2 screenings. There is no requirement for finger printing or a national background check.

A national criminal history record check by an agency can be required if there is a statute requiring it or if the agency is part of a county or a municipality and these entities have adopted ordinances (Sec. 125.5801, F.S. and Sec. 166.0442, F.S., respectively) requiring the background checks, including fingerprinting, and expressly authorizing the use of FBI records. Therefore, if a bus transit agency is a part of county or municipal government that has such an ordinance, it can become a "qualified entity."⁹⁵ Not all bus transit agencies are a part of a county or municipal government. Some, particularly regional transit authorities, are created by charter or by statute. A check of such charters and enabling legislation found no explicit provisions for requiring employment screenings. However, some statutory language provided that the regional transit authority can "...do all acts and things necessary and convenient for the conduct of its business..." and "...prescribe and promulgate necessary rules and regulations...." This might be interpreted to mean that the transit agency can grant itself the authority to require federal background checks, but this is not clear.

According to the Florida Department of Law Enforcement, a background check is a record check of criminal history. It includes a search of databases. A state level check costs \$24.00 (as of March 19, 2012 FDLE fee schedule) and involves a check of the Florida Computerized Criminal History (CCH) Central Repository for Florida arrests. A state criminal history check is based on a name or other descriptors or fingerprints. A state plus federal check for each employee submission costs \$40.50 and includes a check of both the CCH and the national criminal history database of the FBI. A national criminal history record check is based on fingerprints. A third database available in Florida is the Hot Files Check for warrants and domestic violence injunctions. Local criminal history checks can also be conducted by directly contacting each county. The county will have a record of criminal activity only within that county.

⁹⁵ A qualified entity is a business or organization that could be public, private, for profit, not-for-profit, or voluntary, which provides care or care placement services.

The FDLE website notes that criminal history background checks are current only to the date that the background check was made. It is also noted: "Some employees are required by law or policy to have periodic state and/or national criminal history record checks through the regulatory or licensing agency. The recheck may be required at regular intervals as decided by legislative policy."

On the FDLE website, it provides instructions regarding volunteer and employee background checks through the FDLE Volunteer & Employee Criminal History System (VECHS). This is a program pursuant to The National Child Protection Act of 1993 (Public Law 103-209) that establishes procedures for national criminal background checks for child care providers. The VECHS program also is pursuant to Sec. 943.0542, F.S. that provides access to criminal history information provided by FDLE to qualified entities. A qualified entity is a business or organization that could be public, private, for profit, not-for-profit, or voluntary, which provides care or care placement services.⁹⁶ According to the state law, "care" means the provision of care, treatment, education, training, instruction, supervision, or recreation to children, the elderly, or persons with disabilities. The definition of care does not explicitly include transportation.

An organization must register to become a qualified entity before submitting a request for applicant screening information. Each request must be accompanied by a fee for a statewide criminal history check, as established by FDLE, plus an amount prescribed by the FBI for a national criminal history check. Presently, the fee is \$40.50 for each employee electronic submission.

Chapter 427, F.S. requires employment screenings with regard to the transportation disadvantaged (TD) but does not address employment screening of bus operators who come in contact with TD clients. It only addresses "candidates for appointment" to the Commission for the Transportation Disadvantaged.

If a bus transit agency is not a qualified entity or otherwise required to conduct a national background check by order of other statutory provisions, then a national screening is not allowed, according to the FDLE Criminal History Record Check Fee Schedule.

The conduct of a background screening requires access to certain records. State law establishes the circumstances under which otherwise private records may be disclosed. Section 119.071(2)(c)1., F.S. provides that active criminal intelligence information and active criminal investigative information are exempt from requirements to provide them as public records. However, law enforcement may disclose this information to another public agency "...in the furtherance of its official duties and responsibilities" (Sec. 119.071(2)(h)2.c., F.S.).

With regard to social security numbers, an agency may not collect an individual's social security number unless the agency has stated in writing the purpose of its collection and unless it is "...Imperative to the performance of that agency's duties and responsibilities as

⁹⁶ An organization cannot become a qualified entity under the VECHS program if it is required to do background screenings per other statutory requirements.

prescribed by law” (Sec. 191.071(5)(a)2.a.II., F.S.). Rule Chapter 14-90, F.A.C. does not address authorization to conduct social security number traces, though APTA guidance identifies the SSN trace as an element of a background check. A scan of available bus operator employment applications of Florida public transit agencies indicates that some agencies do not request Social Security numbers. Another public transit agency requests the SSN on its employment application but does not cite Sec. 119.071(5)2, F.S. as required, which describes legal authorization to collect Social Security numbers. An example of a thorough application form is from Volusia County. It provides a Pre-Employment Physical Instructions packet that is a compilation of all forms needed from an applicant, and cites legal authorizations to request certain information, such as Social Security numbers.

Since the events of September 11, 2001, background screenings have expanded beyond common crimes to also include politically-motivated terrorist activity. In ***Implementing Recommendations of the 9/11 Commission Act of 2007*** (Public Law (P.L.) 110-53), Section 1411, Threat Assessments, requires that all public transportation frontline employees undergo a name-based security background check against the consolidated terrorist watch list and an immigration status check.

P.L. 110-53, Section 1414, Security Background Checks of Covered Individuals for Public Transportation, defines a security background check as including a search of relevant criminal history databases, database searches to determine the status of an alien under U.S. Immigration laws, and a search of any other databases as determined by the Secretary of the Department of Homeland Security. It specifies that any guidance by the Secretary for security background checks should contain recommendations as to the scope and application of the background check, the time period covered, the types of disqualifying offenses, and a redress process for affected individuals.

In ***Conducting Background Investigations***, guidance is given to public transit agencies regarding how to select the best background investigation method, based upon considerations such as transit agency size, regulatory requirements, cost, and the unique vulnerabilities of the location as well as of the transit operation.⁹⁷ For example, the cost of a background check increases the more that an applicant has moved to multiple residential locations. The cost of background checks must be weighed against the level of depth of the investigation, as well as the level of frequency needed of reinvestigations. Smaller transit agencies may have fewer resources to devote to background investigations and may consider tailoring the level of background investigation against the particular vulnerabilities of its operation and the nature of the responsibilities of the position. The guidance suggests that transit agencies consider Department of Homeland Security vulnerability information, collaborate with local law enforcement in their assessment of security vulnerabilities, and partner with another public agency or integrate their investigations with larger municipal or regional efforts.

The document provides a concise description of four different methods of background checks. These include the Social Security number trace, the nationwide county background

⁹⁷ American Public Transportation Association, *Conducting Background Investigations*, Recommended Practice APTA-SS-SRM-RP-004-11, February 2011,

check, the nationwide federal background check, and the database criminal background investigation. The document summarizes requirements of federal law and guidelines of the Federal Transit Administration and the Transportation Security Administration. It advises that transit agency background investigation policies and procedures should at the very least comply with Public Law 110-53 and use the federally approved list of permanent and interim disqualifying offenses as a basis for employment decisions, per 49 CFR 1572.103.

The document identifies the basic elements in a program of personnel background investigations and lists recommendations for policies and procedures. The recommendations include the selection of position types for which background checks are needed. It recognizes the need for background checks of similar quality and frequency for contracted employees. It suggests that priority should be placed upon using primary data sources unless it is cost prohibitive. It notes that a transit agency should ensure compliance between its background investigation program and Fair Credit Reporting Act (FCRA) requirements (15 U.S.C. 1681 et seq.). Overseen by the Federal Trade Commission, the FCRA regulates credit reports but also establishes specific requirements for compiling and handling preemployment background reports. The document suggests that transit agencies ensure consistency between their background investigation program and labor agreements, and provision of an appeals process for employees similar to federal regulations governing hazmat and port employees.

TSA/FTA Security and Emergency Management Action Items for Transit Agencies provides an Action Item list appearing on the FTA website, of which Item #14 is "Conduct Background Investigations of Employees and Contractors."⁹⁸ It reads as follows.

- a. "Conduct background investigations (i.e., criminal history and motor vehicle records) on all new front-line operations and maintenance employees, and employees with access to sensitive security information and security critical facilities and systems.
- b. Conduct background investigations on contractors, including vendors, with access to sensitive security information and security critical facilities and systems.
- c. Ensure that background investigations are consistent with applicable laws.
- d. Document the background investigation process, including criteria for background investigations by employee type (operator, maintenance, safety/security sensitive, contractor, etc.)."⁹⁹

In ***Additional Guidance on Background Checks, Redress, and Immigration Status***, it is recommended that public transit agencies use the federal list of disqualifying crimes applicable to hazardous materials drivers, and transportation workers at ports, as specified in 49 CFR 1572.103.¹⁰⁰ Public transit agencies might also consider using an appeals process also applicable to hazardous materials drivers and transportation workers at ports as specified in 49 CFR 1515. This provides an opportunity to correct court record mistakes and instances of mistaken identity, as well as consideration of facts surrounding a conviction that might eliminate the security concern. Public transit agencies may also consider using

⁹⁸ Transportation Security Administration and Federal Transit Administration, *TSA/FTA Security and Emergency Management Action Items for Transit Agencies*, 2006.

⁹⁹ Ibid.

¹⁰⁰ Transportation Security Administration, *Additional Guidance on Background Checks, Redress, and Immigration Status*, 2008.

the Social Security Administration's Social Security Number Verification System (SSNVS) for identity verification. The report also noted that public transit agencies may also consider using the Systematic Alien Verification for Entitlements (SAVE) database to determine whether a non-citizen has a lawful presence in the United States.

In "**Applying Good Business Practices: Hiring, Training and Evaluating Employees,**" guidance is given to small and mid-sized transit systems.¹⁰¹ In conducting driving and criminal background checks, transit agencies are reminded that it is important that the criteria for these checks are clear to the applicants, including a statement of what offenses are relevant and what offenses will disqualify an applicant, what other factors will be considered, and how the applicant's information and rights will be protected. For a criminal background check, it is necessary to obtain a signed agreement from the applicant allowing background and credentials to be checked. The article advises that once the information is collected, it should be presented to the applicant for review, to provide opportunity to correct any inaccuracies.

In **Preemployment Background Screening Guidelines** (ASIS International),¹⁰² guidelines for the security industry were developed through a consensus-based process of the ASIS membership. ASIS is a worldwide organization for security professionals. This document points out that a properly crafted preemployment screening program gives all applicants equal consideration and does not impose disparate treatment upon anyone or any group. The document discusses terminology, written documentation and the ongoing process of policy development and update. The document provides detailed information about all the federal and state laws that affect the employment application process and that must be considered when conducting preemployment screening. These include protecting the applicant's privacy and preventing identity theft. For example, there is the Driver's Privacy Protection Act (18 U.S.C. §2721 et seq.) that establishes that the information on a person's driver license must be protected against unauthorized disclosure and establishes those purposes for which disclosure is permitted.

These laws also include employer requirements and responsibilities, fair treatment and avoidance of discrimination, and record retention and disposal. For example, the Fair Credit Reporting Act (FCRA) regulates information obtained from a third party consumer reporting agency (CRA). The FCRA limits the time period to seven years in which arrest information may be reported by a CRA as part of a background screen. Conviction records may be reported regardless of time frame. Some states may restrict the reporting of criminal records beyond seven years and may have different consent requirements for the use of information. The Equal Employment Opportunity Commission (EEOC) has specific guidelines about use of criminal records in background screening. For example, disqualifying an applicant must be based on the nature and gravity of the offense, the time that has passed, and the nature of the job duties. The document also discusses the review of social networking sites, blogs, and chat rooms and cautions that some sites may have privacy notices limiting use. The document discusses the use and design of the employment

¹⁰¹ Community Transportation Association of America, "Applying Good Business Practices: Hiring, Training, and Evaluating Employees," Technical Assistance Brief No. 2, Spring 2006.

¹⁰² ASIS International, *Preemployment Background Screening Guidelines*, ASIS GDL PBS 09 2006.

application as the first step in a screening process. It lists important questions to ask and information to collect, as well as the importance of how questions are worded. The document also describes the elements of verifying identify, personal history, and credentials and preemployment drug screening.

In *InTransit* Magazine, the Official Journal of the Amalgamated Transit Union, a 2009 magazine article, was printed "Know Your Rights: US Fair Credit Reporting Act Protections."¹⁰³ In this article, concern is expressed about the potential misuse of information uncovered in consumer reports about transit employees. The article summarizes the main points about the Fair Credit Reporting Act (FCRA) and the rights of transit employees and applicants relative to the FCRA. These include that the transit agency must notify the applicant or transit worker about its intent to request a consumer report from a credit reporting agency (CRA) and that the transit agency must secure written permission from the applicant or employee before acquiring the consumer report. If a transit agency intends to use information from a consumer report of a CRA to deny a job, re-assign or terminate an existing employee, then the transit agency must issue a written pre-adverse action disclosure to the applicant or employee five days prior to taking the adverse action. This five-day time period allows the applicant or employee to investigate the contents of the consumer report and dispute inaccurate information. An applicant or employee can also appeal an adverse action already taken by the transit agency, and sue the transit agency in federal court for violations of the FCRA. The article indicates that it is the labor union's agreement with the transit agency, and not the FCRA, that determines whether an employee can be discharged on account of a criminal conviction.

RTA #4 Literature Review: Safety Training for Bus Operators - Improving the Training Process and Model Programs

The goal of Research Topic Area #4 is to provide recommendations on how transit agencies can improve their training processes to be more effective in dealing with both the safety and security related issues discussed in this research. The literature review focused on identifying representative examples of existing bus operator training approaches, and describing training practices and delivery mechanisms that are recommended by authoritative sources. The literature review provides an overview of minimum bus operator training requirements by federal and Florida state laws, policies, regulations and rules, as well as training resources developed through the Federal Motor Carrier Safety Administration (FMCSA), the National Rural Transit Assistance Program (RTAP) of the Federal Transit Administration (FTA), the Transportation Safety Institute (TSI) of the USDOT Research and Innovative Technology Administration (RITA), the National Transit Institute (NTI) at Rutgers University, and the Florida Department of Highway Safety and Motor Vehicles (DHSMV).

The literature review included a search for publications of professional organizations, including the American Public Transportation Association (APTA), the Community Transportation Association of America (CTAA), the Florida Public Transportation Association

¹⁰³ Amalgamated Transit Union, "Know Your Rights: US Fair Credit Reporting Act Protections," printed in *InTransit Magazine*, Vol, 118, No. 5, September/October 2009, pp. 17-18.

(FPTA), and the Canadian Urban Transit Association (CUTA). The literature review also included a scan of reports and syntheses of the Transit Cooperative Research Program (TCRP), relevant research from the Transportation Research Board (TRB), including Transportation Research Records, and the Mineta Transportation Institute at San Jose University. The literature review also included a search for articles and white papers issued by the Amalgamated Transit Union and Transportation Workers United labor organizations, a search of the Transit Research International Database (TRID), and a search on Google. The literature review also included a search on the websites of Florida public transit agencies; however, no actual bus operator training manuals for public transit agencies were found to be publicly available online. Two templates for training manuals were found and described below. The references are listed chronologically, with the latest materials listed first.

In general, the literature review found that recommendations for bus operator training often are provided in the form of bullet lists of important topics, but without specific descriptions for addressing them. The recommendations were consistent across sources.

Training Requirements of the Law

Federal and state law provides the baseline for evaluating bus operator training for adequacy in addressing at least the minimum requirements of the law.

The Code of Federal Regulations bullet lists the specific knowledge and skills required of CMV operators that would be the basis for driver training. These include 49 CFR §383.111, Required knowledge; 49 CFR §383.113 Required skills; and 49 CFR §383.117, Requirements for passenger endorsement.

The most recent federal transportation reauthorization, Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law July 6, 2012, (Public Law 112-141), addresses commercial motor vehicle operator training, known as the Commercial Motor Vehicle Safety Enhancement Act of 2012. It amends the title of Section 31305 to “General driver fitness, testing, and training.” The Act requires that by July 2013, the USDOT Secretary must issue final regulations establishing minimum entry-level training requirements, both classroom and behind-the-wheel training, for an individual to operate a commercial motor vehicle (CMV). A certification of such knowledge and skills must be obtained by an operator before receipt of a commercial driver license, and also includes specific training for a passenger endorsement (49 U.S.C. §32304 amending §31305). By July 2014, the USDOT Secretary will evaluate the current knowledge and skill testing requirements for a passenger endorsement, to determine what improvements are needed and submit a plan to implement any changes needed to the knowledge and skills tests (49 U.S.C. §32309).

MAP-21 also establishes that the training provider must demonstrate that the training meets the minimum requirements in the regulations (49 U.S.C. §32304 amending §31305). By July 2014, the USDOT Secretary also must submit a report describing the feasibility, benefits, and costs of establishing a certification for schools and motorcoach operators that provide driver training (49 U.S.C. §32708).

Rule 14-90.004, F.A.C. Bus Transit System Operational Standards, provides that each transit system shall develop and adopt a system safety program plan (SSPP) that addresses bus driver training. "As part of the driver training program, specific procedures, and training shall be implemented to instruct the driver on how to safely approach and depart from a transit bus stop to avoid contact with pedestrians and other hazards" (Rule 14-90.004(1)(a)6., F.A.C.). In addition, the SSPP will address the development of a driver education training program that addresses the proper use of a wireless communications device and its associated hazards while driving (Rule 14-90.004(1)(a)14., F.A.C.). Furthermore, the Rule requires bus transit systems to establish criteria and procedures for training all drivers. The criteria include:

"Training and testing to demonstrate and ensure adequate skills and capabilities to safely operate each type of bus or bus combination before driving on a street or highway unsupervised. As a minimum requirement, drivers shall be given explicit instructional and procedural training and testing in the following areas:

1. Bus transit system safety and operational policies and procedures.
2. Operational bus and equipment inspections.
3. Bus equipment familiarization.
4. Basic operations and maneuvering.
5. Boarding and alighting passengers.
6. Operation of wheelchair lifts and other special equipment.
7. Defensive driving.
8. Passenger assistance and securement.
9. Handling of emergencies and security threats.
10. Security and threat awareness.
11. Driving conditions. (14-90.004(3)(d), F.A.C.)

In addition,

"Bus transit systems shall provide written operational and safety procedures to all bus drivers before driving on streets or highways unsupervised. At a minimum, these procedures and instructions shall address the following:

1. Communication and handling of unsafe conditions, security threats, and emergencies.
2. Familiarization and operation of safety and emergency equipment, wheelchair lift equipment, and restraining devices.
3. Application and compliance with all applicable federal and state laws, rules, and regulations." (Rule 14-90.004(3)(e), F.A.C.)

Part of this procedural instruction for bus operators would need to include familiarization with requirements in Rule 14-90.006, F.A.C. regarding Operational and Driving Requirements, such as knowing to prohibit passengers from standing in the stepwell while the bus is in motion.

The FDOT **Bus Transit System Safety Program Plan (SSPP)** template also provides guidance in Chapter 7 on Driver Safety Training and Testing. It is emphasized in the Preface of the template that bus transit systems are not required to use the template but that it provides guidance only. This recognizes that every bus transit agency must plan for its individual needs. Chapter 7 of the template is presented in mostly green text, indicating that the text is provided as an example of how a bus transit agency might address the requirements to provide training. The guidance suggests that a Safety Training Manager be designated to train, test, document training activities, and develop and maintain training manual. The guidance suggests using a computer training module for bus operators to learn basic bus operations and maneuvering. The guidance separately addresses beginner training of new hires and refresher training for experienced operators. For new hires, the guidance suggests training in the following areas: agency general rules, personal appearance and conduct, customer service, traffic laws, fare handling, Americans with Disabilities Act requirements, radio procedures, report writing, substance abuse policy, and standards of the Occupational Safety and Health Administration (OSHA), such as procedures to address exposure to blood-borne pathogens and other health hazards.

The guidance suggests that experienced bus operators should participate in refresher training at least once every three years. Additionally, the guidance suggests that remedial training with targeted content be provided to bus operators by supervisor recommendation or who were involved in a serious collision or associated with persistent customer complaints.

FDOT Procedure 725-030-009-j, Bus Transit System Safety Program, carries out Rule 14-90.004, F.A.C. by serving an oversight, review, compliance reporting, and sanctioning function to make sure federal and state regulatory requirements are met and that safety and security standards are incorporated into training programs of bus transit systems. In **Safety, Security and Emergency Preparedness Roadmap**, “guidelines at a glance” are provided.¹⁰⁴ Driver training is recognized as one of the most powerful tools to create an environment of safety and security, to include a training focus on the areas of vehicle inspection, defensive driving, customer assistance, emergency/crisis management, and transit agency specific skills.

In **Defensive Driving Tips for CMV Drivers: An Internet-Based Approach**, defensive driving information for CMV operators was developed based upon naturalistic data collected on video during the Drowsy Driver Warning System Field Operational Test.¹⁰⁵ This is a webpage on the FMCSA website¹⁰⁶ with information made freely available to the public. The webpage was designed to be user-friendly and accessible to CMV drivers. The information includes specific driver behavior errors and preventive measures. The webpage has 20- to 35-second video clips of CMV driver errors of many types. Training exercise questions follow the video clips. Topics include the following.

¹⁰⁴ Federal Transit Administration, Office of Safety and Security, *Safety, Security and Emergency Preparedness Roadmap*, 2012.

¹⁰⁵ Virginia Tech Transportation Institute, *Defensive Driving Tips for CMV Drivers: An Internet-Based Approach*, 2012.

¹⁰⁶ <http://www.fmcsa.dot.gov/about/outreach/education/driverTips/index.htm>

- Failure to Buckle Up
- Too Fast for Conditions
- Unfamiliar Roadway
- Inadequate Surveillance
- Driver Fatigue
- Driver Distraction
- Following Too Closely
- Inadequate Evasive Action

In ***Training Adult Learners: How to Reach and Engage Your Audience***, this technical brief provides information on the characteristics of adult learners, describes the learning process, and provides pointers on how to plan and deliver a program.¹⁰⁷ It also discusses how to create an environment conducive to learning and describes self-paced learning as an alternative to traditional training. Self-paced learning is often provided by an interactive online or software program.

In ***Safety, Security and Emergency Preparedness Plan (SSEPP)***, there is a section on bus operator training within the context of emergency preparedness and response.¹⁰⁸ It includes detailed bullet lists of all content of bus operator training within the categories of Defensive Driving and Accident Prevention, Passenger Sensitivity and Assistance Training, Radio Usage, Crisis Management Training, and First Aid.

In ***Emergency Procedures for Rural Transit Drivers: The Latest Safety and Security Training Module***,¹⁰⁹ (NRTAP, 2011) an overview of the many types of emergencies is presented as well as how to prepare for them and the protocols for crisis management. The information includes case studies for discussion and quizzes. The course materials include a Learner's Guide, an Instructor's Guide, videos, a PowerPoint presentation, a DVD, and an eLearning disc.

In ***Exceptional Customer Service Across Generations: How to Harness the Power of Generational Dynamics to Drive Your Transit Organization Forward***,¹¹⁰ (NRTAP, 2010), a five-part series was developed regarding major trends shaping the future of public transportation customer service needs. This third technical brief discusses differences among generations and recommended: "Train drivers ... to appreciate generational dynamics: Incorporate generational perspectives into your ongoing training programs. Introduce drivers to new generational icon posters. Share customer satisfaction research, sorted by generational perspectives, to reinforce your generational orientation."¹¹¹

¹⁰⁷ National Rural Transit Assistance Program, *Training Adult Learners: How to Reach and Engage Your Audience*, 2012.

¹⁰⁸ Caltrans, *Safety, Security and Emergency Preparedness Plan (SSEPP)*, Section 3.3a Vehicle Operator/Driver Training, December 2011.

¹⁰⁹ National Rural Transit Assistance Program, *Emergency Procedures for Rural Transit Drivers*, 2010.

¹¹⁰ National Rural Transit Assistance Program, *Exceptional Customer Service Across Generations: How to Harness the Power of Generational Dynamics to Drive Your Transit Organization Forward*, Technical Brief – 3rd of 5-part series, 2010.

¹¹¹ Ibid.

In ***Simulators and Bus Safety: Guidelines for Acquiring and Using Transit Bus Operator Simulators***,¹¹² guidance is provided on how to use simulators effectively for bus operator training. One of the main conclusions is that a transit agency should not just drop a simulator into an existing training program. Getting the best use from a simulator requires adjusting the overall bus operator training program and matching the capabilities of simulation to the training needs of the bus operators.

In ***Mobile Driver Training Simulators***,¹¹³ this technical brief provides information about the advantages of using simulators and how they work, discusses simulator types and manufacturers, and describes study findings indicating that the use of simulators decreases crash rates. TCRP Report 72 (***Simulators and Bus Safety...***), discussed above was the primary reference document for this technical brief.

In ***Safety Training & Rural Transit (START)***,¹¹⁴ a Learner's Guide, an Instructor's Guide and a CD are provided that contain comprehensive lesson plans, exercises and exams with answer keys provided in the areas of vehicle safety, driver safety, and passenger safety. It is an easy-to-read, illustrated handbook that was originally developed in 1988. Its contents can now be delivered by multiple media. It contains the same main topics as those recommended to be addressed in a system safety program plan, but also has a section, "A Day in the Life of a Bus Driver," that provides a brief narrative and chronology of activities encountered by a bus driver and his professional responses to unexpected events. It contains a list of supplemental information sources and literature on topics such as customer service, healthy lifestyle, ADA information and CDL test preparation. It also contains samples of pre-trip and post-trip vehicle inspection forms and defect report forms. The *START* program is also provided as a workshop presented in locations throughout the nation.

In ***Recommended Practice for Transit Bus Operator Training***,¹¹⁵ subject areas are identified for which minimum standards in training of bus operators should be set. The ***Recommended Practice*** recognizes the individual needs of each bus transit agency while adhering to transit industry standards. The subject areas include government regulations, local agency requirements, customer service, skills needed to safely operate a transit vehicle, and all other elements of safety and security. For each of these subject areas, the document provides a detailed outline and listing of topics. It also includes a list of training elements for which training documentation by the transit agency is required. As best practices, the guidance recommends the standardization of training documents, periodic retraining, targeted retraining with performance monitoring, and probationary reviews at 30, 60 and 90 days. It also recommends use of incentives, rewards and safety awards, daily training assessments, health and wellness programs, meeting persons with disabilities to share their experiences, and having bus operators experience first-hand a "disability."

¹¹² Transit Cooperative Research Program, *Simulators and Bus Safety: Guidelines for Acquiring and Using Transit Bus Operator Simulators*, TCRP Report 72, Transportation Research Board, National Research Council, 2001.

¹¹³ National Rural Transit Assistance Program, *Mobile Driver Training Simulators*, 2008.

¹¹⁴ National Rural Transit Assistance Program, *Safety Training and Rural Transit (START)*, 2008.

¹¹⁵ American Public Transportation Association, *Recommended Practice for Transit Bus Operator Training*, APTA BTS-BO-RP-001-07, 2007.

In *The Workforce Challenge: Recruiting, Training and Retaining Qualified Workers for Transportation and Transit Agencies*,¹¹⁶ an overall assessment of the transportation workforce is given with recommendations on professional capacity building efforts. Much of the focus is on recruiting, training and retaining professional management. However, the document points out that usually over 75 percent of transit agency staff are maintenance technicians and transit vehicle operators. It evaluates the federal and state agency roles and the changing demographics of the workforce. The report indicates that there is an extensive array of education and training opportunities for transportation agency staff. However, these opportunities and information about them are highly fragmented and uncoordinated. For skills-based training, community colleges are identified as having the curriculum flexibility to meet changing industry needs.

The document provides an overview of federal and state agencies and professional associations that provide technical assistance and training, but specific programs for bus operators were not cited. The training needs of bus operators are changing as well. For example, newer vehicles rely increasingly on electronic controls for fare boxes, destination signs, engines, transmissions, doors, multiplexed wiring systems, antilock brakes, air conditioning, and automatic vehicle location, for which bus operators are increasingly relied upon to troubleshoot when vehicle breakdowns in the field occur. However, much of the innovation in use of online training or special classes offered by industry manufacturers is targeted to information technology, mechanics, technicians and professional management staff.

The document indicates that alternatives to traditional classroom instruction can be more cost-effective, including web-based instruction, distance learning, computer-based training, and web-based professional networks.¹¹⁷ Other training techniques include job rotation, on-the-job training, self-directed learning, mentor relationships, and on-the-job coaching. The document also cites various partnerships, such as union-management partnerships to train transit employees. The study found that exemplary transit organizations spend at least two percent of their budgets on staff training, the equivalent of about 40 hours of training per employee per year, indicating that training is viewed by these agencies as an investment. Other training practices that are considered to have potential include union and agency agreements that advancement of staff is based upon skills attainment rather than seniority and to focus training programs on specific licensing and certification goals aimed at strategic agency needs. An important element of training programs is monitoring and application of performance measures to determine impact of training on productivity and service delivery.

In *Managing Transit's Workforce in the New Millennium*,¹¹⁸ the quality of bus operator training is discussed as a means to retain employees and lessen high dropout rates during new hire training. The experience of several public transit agencies was used to develop

¹¹⁶ Transportation Research Board, *The Workforce Challenge: Recruiting, Training and Retaining Qualified Workers for Transportation and Transit Agencies*. Special Report 275, Committee on Future Surface Transportation Agency Human Resource Needs: Strategies for Recruiting, Training, and Retraining Personnel, 2003.

¹¹⁷ Ibid.

¹¹⁸ Transit Cooperative Research Program, *Managing Transit's Workforce in the New Millennium*, TCRP Report 77, Transportation Research Board, National Research Council, 2002.

case studies on effectiveness. Some of the techniques employed in bus operator training included the following.

- Make training less of a “boot camp” and more of a supportive learning environment.
- Tailor instruction to the needs of specific students.
- Fast-track students who already have a CDL.
- Provide extra assistance to help students pass written tests.
- Offer oral tests instead of written tests.
- Provide bilingual instructors.
- Allow some students additional training time.
- Increase the probationary time period.
- Use role playing techniques to learn customer service skills.
- Offer voluntary advanced training.
- Assume more of a coaching role as a supervisor, rather than a “transit cop.”

In *PennSCORE Operator Training Manual*,¹¹⁹ a comprehensive hiring and training program is presented for use by transit agencies in Pennsylvania. It represents a 100-hour training and certification program for transit bus operators. It is written as a template that transit agencies can use to individualize and create as their own training manual. It was developed in coordination with the Pennsylvania Public Transportation Association and the Pennsylvania Department of Transportation.

In *Problem Passengers: Challenging Situations*,¹²⁰ a Resource Guide and a DVD video provide information on dealing with problem passengers. Instruction is in five categories: maintaining authority, maintaining control, protecting rights, using interpersonal skills, and handling challenging situations. An introductory video is on the NRTAP website but not the content.

Chapter 3 of *A Challenged Employment System: Hiring, Training, Performance Evaluation, and Retention of Bus Operators, A Synthesis of Transit Practice*,¹²¹ is devoted to bus operator training. It is a synthesis of public transit operator practices resulting from a survey conducted in 2000 of 75 transit agencies with over 100 employees in the U.S. and Canada. Unlike most other references that provide recommendations for bus operator training, this report described what transit agencies actually do. In recognition of this, the following summary of this document provides a bit more detail. Many newer documents referenced this report.

The document reported that 63 percent of new hires come from a non-transit background and, according to concerned transit agencies, “...must frequently be taught professional driving skills from the ground up.”¹²² New hire training programs were reported to be between 10 and 60 days. Factors influencing the length of training included size of the

¹¹⁹ Pennsylvania Transportation Institute, *PennSCORE Operator Training Manual*, April, 2002.

¹²⁰ National Rural Transit Assistance Program, *Problem Passengers: Challenging Situations*, 2002.

¹²¹ Transit Cooperative Research Program, *A Challenged Employment System: Hiring, Training, Performance Evaluation, and Retention of Bus Operators – A Synthesis of Transit Practice*, TCRP Synthesis 40, Project J-7, Topic SF-7, Transportation Research Board, National Research Council, 2001.

¹²² Ibid.

system; scope of equipment; prior trainee experience driving a CMV; whether trainees learn to drive all routes or just some; and choice of focus on different training elements. Agencies with training of longer duration reported higher voluntary turnover rates. The report offered some possible reasons for this but these reasons were not further explored.

The survey conducted for the synthesis found variation of focus among transit agencies on the types of training provided. The following are the percentages of surveyed transit agencies that provide training in various competencies.

- 100% Safe driving practices
- 96% Knowledge of and adherence to policy and procedure
- 96% Radio communications
- 96% Schedule adherence
- 93% Interpersonal interactions with customers
- 93% Knowledge and handling of fares
- 93% Serving customers with disabilities
- 93% System (area) knowledge
- 82% Customer support
- 71% Interpersonal interactions with peers and staff
- 61% Personal health and fitness for duty
- 61% Written communication
- 57% Organizational knowledge

The survey found that competencies were primarily measured with observation/checklist, and written test. Less used techniques were peer assessments, probationary operative statistics, observation with pass/fail criterion, training turnover, computer based training, computer tests, and simulators.

The document also reported on methods used to accomplish training. All survey respondents reported that they provide in-classroom training for all newly hired bus operators, 96 percent provide training time on in-service buses, and 31 percent use some type of simulation. Training is provided by varying combinations of trainers. These include a full-time professional trainer on the transit agency staff, a bus operator who is qualified to train, and in-service bus operators. Classroom training is usually provided by a full-time professional trainer on the transit agency staff. In-the-bus (not in service) training is usually provided by full time training staff or a bus operator trainer. Training provided on the bus while in service is usually provided by an in-service bus operator. Training by simulation is usually provided by full time training staff.

New York City Transit and the Metropolitan Transit Authority studied simulator effectiveness and reported a reduced accident rate and a reduced training washout rate as a result of using simulation. Many other transit agencies reported using simulation training at this time.

The report provided examples of training of various public transit agencies. For example, San Diego Transit uses interactive CD-ROM driver training programs that test

comprehension. At the end of each module, the program loops back to any subject matter pertaining to those questions missed by the student until the student answers all questions correctly. At the time of this report, these programs were available through the National Transit Institute (NTI) and it was reported that over 150 transit agencies were using them. At the time, San Diego Transit was also working with NTI to develop training to help students pass their CDL test. Major elements of other training programs addressed:

- Consistency between training and real life bus operation experience.
- Establishing cross-functional teams, including union representatives, to review training competencies and design.
- Combining the training manual and the policy manual into one integrated handbook.
- Incorporating adult learning research into training design, such as providing materials for different learning styles.
- Using fully-interactive and semi-interactive simulator technology to enhance training effectiveness and cut costs over time.

The document also reported that the areas where bus operators most often require remedial training is in customer service, dealing with difficult customers and in defensive driving, safety and accident prevention. At the time of this report, 36 percent of surveyed transit agencies required annual refresher training for their bus operators. It was suggested that this low percent might be due to perception that the benefits of refresher training do not outweigh the added costs. It was suggested that alternative learning models, such as computer training, might serve to reduce costs. Interestingly, training for spouses and significant others was also mentioned as having value to creating a more supportive home environment for the bus operator by helping spouses understand the reasons for variable and unusual shift work.

Lastly, the report addressed the use of techniques to successfully transition trainees to work. The techniques with the highest benefit to cost ratio were those that involved personal interaction, including assignment to a mentor, graduation ceremonies, assignment to a supervisor, and probationary evaluation.

In *Effective Practices to Reduce Bus Accidents*,¹²³ a directory of practices was developed. Bus operator training was cited as one of the most important practices. Transit agencies with low bus crash rates were identified and their defensive driving courses were described. Most of the courses used by the transit agencies were NSC DDC, training materials from TSI, Smith System™, and a computer-based training program from Professional Development Associates. Use of driving simulators was also described.

In *Transit Operator's Pocket Guide* (Easter Seals Project Action), explanations and instructions are given on how to better serve persons with disabilities. It includes general guidelines and describes customer responsibilities, wheelchairs and other mobility devices, service animals, pre-trip accessibility inspection, priority seating, and calling out stops. Easter Seals Project Action (ESPA) is funded through a cooperative agreement with FTA to

¹²³ Transit Cooperative Research Program, *Effective Practices to Reduce Bus Accidents*, TCRP Report 66, Transportation Research Board, National Research Council, 2001.

promote universal access to transportation for people with disabilities. ESPA provides technical assistance and training, outreach. ESPA provides a variety of online and distance learning training opportunities on subjects relating to customer service for persons with disabilities. Topics include courses with content relevant to the duties of a bus operator, including "Service Animals and Transportation: It's Really All about Mobility," and "Stop Announcements: Guideposts on the Path to a Successful Trip."

Other organizations have developed and provided training programs and materials. The Community Transportation Association, a national nonprofit member organization, has developed training and certification programs for community transportation systems. Topic areas include non-emergency medical transportation, transportation service coordination, operations and human resource management; however, the coursework appears to be geared more to the work tasks of management level employees.

The National Rural Transit Assistance Program (NRTAP) offers training modules and technical briefs on a wide range of rural transit issues. NRTAP references are presented above within the chronology of references.

The Florida Rural Transit Assistance Program of the FDOT Public Transit Office is administered by the Transit Safety and Workforce Development Program at the Center for Urban Transportation Research (CUTR). The program coordinates and delivers a number of courses each year to Florida's rural and small urban transit providers. Florida RTAP works with the National Transit Institute, other workforce development curriculum instructors, as well as CUTR staff to deliver this training.

In addition, CUTR, under contract with the Florida Department of Transportation, works in partnership with the Transportation Safety Institute (TSI) of the USDOT to provide the Transit Operator Training Program to train and certify Florida Bus operator trainers. TSI offers a system of federal and state certified classes mainly to train bus operator trainers. Courses relating to bus operator training include the following.

- FT00541 1-Day Bus Operator Trainer Course
- FT00542 1-Day Paratransit Operator Trainer Course
- FT00555 Curbing Transit Employee Distracted Driving
- FT00558 Fatigue and Sleep Apnea Awareness for Transit Employees
- FT00562 Instructors Course in Bus/Paratransit Operator Training

The National Transit Institute (NTI) at Rutgers, The State University of New Jersey also provides training, education and clearinghouse services to the public transportation industry. The following courses are provided to transit trainers as well as delivered directly to bus operators.

- Infectious Disease Awareness and Prevention
- Musculoskeletal Disorder Awareness and Prevention
- Toolbox for Transit Operator Fatigue: Putting the Report into Action (TCRP Report 81)

- Transit System Security Awareness for Transit Employees
- Violence in the Transit Workplace: Prevention, Response and Recovery

The Canadian Urban Transit Association (CUTA) has a Transit Ambassador Program. This is a series of train-the-trainer modules in customer service with information developed to teach bus operators how to handle a variety of situations. Course titles provide a sense of the topic areas covered, including:

- Essentials of Customer Service
- Effective Communications
- Managing Customer Feedback
- Managing Stress
- Difficult Situations
- Dangerous Situations
- Diversity in Transit
- In the Driver's Seat
- Advanced Customer Service Training for Experienced Operators
- Customer Inside and Out
- The Customer-Focused Organization
- Special Needs Situations
- Effective Announcements

The National Safety Council provides online Defensive Driving Courses (DDC) and state certified defensive driving programs in 11 states, including Florida. The Florida DHSMV has currently approved the Basic Driver Improvement course for use by motor vehicle drivers in Florida; however, it is not for those who have a commercial driver license. TCRP Report 66, ***Effective Practices to Reduce Bus Accidents***, cited the DDC as training used by some transit agencies.¹²⁴

The Smith System™ Driver Improvement Institute, Inc. provides fleet driver safety training. The Smith System™ provides on-road training and web-based courses. TCRP Report 66 reported that the Smith System™ was also used by some transit agencies.¹²⁵

¹²⁴ Transit Cooperative Research Program, *Effective Practices to Reduce Bus Accidents*, TCRP Report 66. Transportation Research Board, 2001.

¹²⁵ Ibid.

Appendix B – Transit Safety Survey

The Center for Urban Transportation Research at the University of South Florida conducted a study supported by the National Center for Transit Research that examined public transportation safety policies, trends, and industry best practices. This project was conducted to improve transit safety research long-term goals to focus on improving public transit safety, and reducing risk. The safety survey was conducted to support this research. The Transit Safety Survey was comprised of a series of questions related to the system, their safety cultures within which the system operates, and other relevant safety related topics.

Survey Background

The survey instrument was designed to capture a variety of quantitative and qualitative information from public transportation agencies within Florida and across the United States (U.S.), and Canada to determine the safety characteristics of their systems, the way in which safety data is reported, evaluated and used to further the safety culture of their agencies, and allow researchers to gauge those areas that need further examination and analysis. The survey consisted of 37 questions.

The survey was finalized in early January 2013 and was released electronically to public transportation agencies through the various listservs managed by the American Public Transportation Association (APTA). It was also released to Florida's Transit Operations Network (FON), a network that includes representatives from the majority of Florida's public transportation systems, through their listserv. Following the initial distribution of the survey, subsequent reminder e-mails were distributed on two separate occasions in February and April of 2013.

The survey was closed in late May 2013 with 69 unique responses. The respondents did reflect a cross section of public transportation agencies in the size, geographic location, and variation in the number of transit modes operated.

Transit Safety Survey Results

Survey Question 1 collected contact information from survey participants. The responses to this question are not provided within this summary.

Q2. Which modes does your agency either directly operate or operate using a contractor?

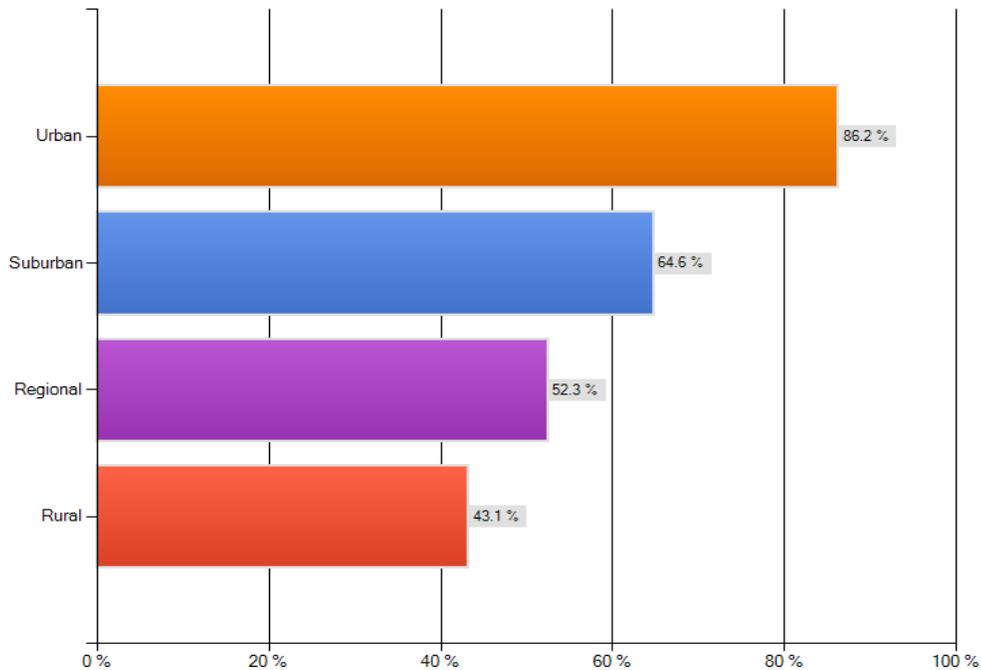
Type Operation	Operate	Contract	Both*	Totals
Demand Response	22	23	5	50
Bus	49	7	5	61
Trolley Bus	6	0	0	6
Bus Rapid Transit	11	1	0	12
Heavy Rail	3	0	0	3
Light Rail	11	1	0	12
Commuter Rail	3	4	1	8
Totals	105	36	11	152

*Agency both operates and contracts transit services. As an example, there were five agencies that indicated they both operate and utilize a contractor to provide demand response and bus transit services.

After capturing the survey responder’s identifying information, this question was the first of a series of questions that were intended to profile the 69 survey respondents. This question allowed for multiple responses.

The responses indicate a good balance between systems that provide transit services directly, contract the services out, or do both. Similarly, while 73 percent of the respondents operated typical demand response and bus services, there was also a good representation of other modes, including bus rapid transit, trolley bus, heavy rail, light rail, and commuter rail.

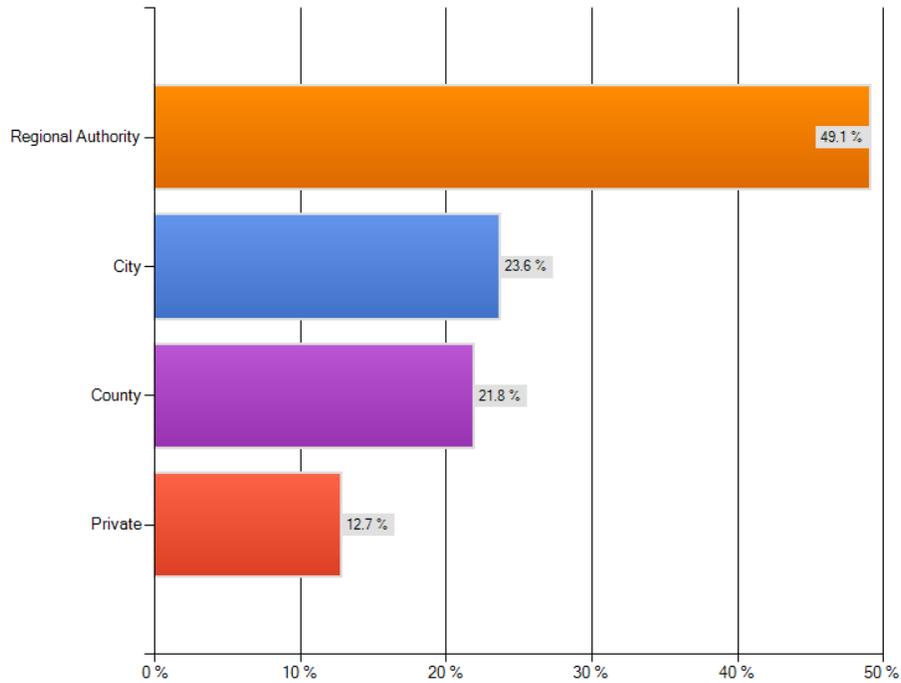
Q3. What type of areas do you serve?



This question, which also permitted respondents to provide multiple responses, focused on the types of areas served by the transit agencies. The options provided included urban, suburban, regional, or rural. Most agencies indicated they operated in more than one type of service area. Many of those operating in urban environments also operate in suburban or regional areas. A few respondents operate in both rural and regional settings. The options provided included urban, suburban, regional, or rural.

With total responses ranging from 43.1 percent for rural service areas to 86.2 percent for urban area service, the systems responding represented a broad spectrum of service area coverage and provided services in our four operating environments.

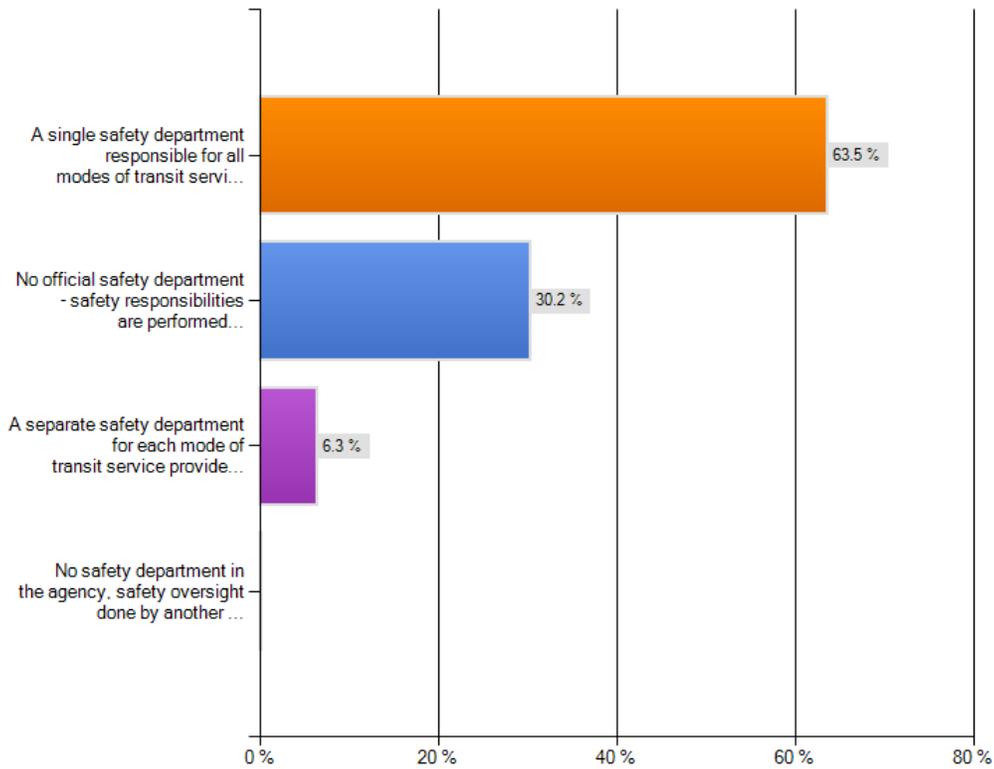
Q4. Which of the following manages your agency?



This question, which permitted respondents to provide multiple responses, focused on the type of entity under which a respondent is administratively managed. As an example, there were respondents who work for transit management companies who selected regional authority and private, as an example. There were also regional authorities or those transit agencies organized within a council of government structure that also selected county or city.

Close to 50 percent of the respondents were regional authorities. Over 45 percent were operated by local governments, split almost equally between city and county agencies. While 87.3 percent of the agencies were publicly managed systems, 12.7 percent of the responding systems were privately managed.

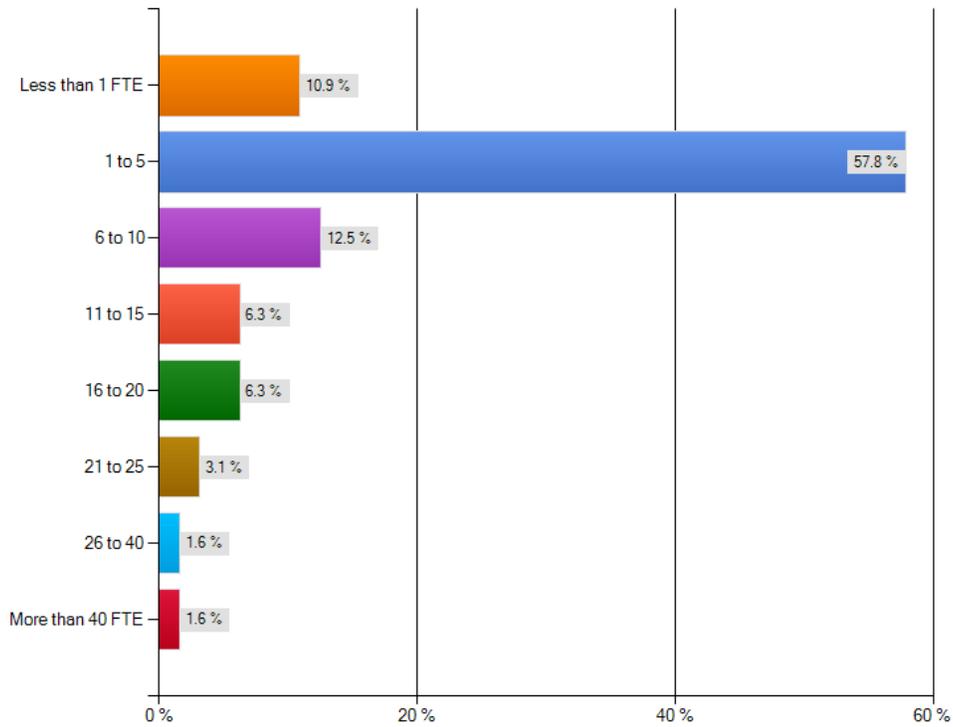
Q6. Which of the following describes the safety department at your agency?



This question, which did not allow more than one selection, inquired about the respondent's safety department organizational status. Of the respondents, 63.5 percent indicated they had a safety department that was responsible for all modes of transit service provided by their agency. Approximately 30 percent responded that they had separate safety departments for each mode of transit service provided by their agency. The balance of the respondents stated that they did not have an official safety department, rather that the safety responsibilities were handled by multiple units within their agency.

All respondents had some safety-related functions and maintained those functions within their organization. There were no respondents who indicated that their agency relies solely on outside agencies for their safety oversight.

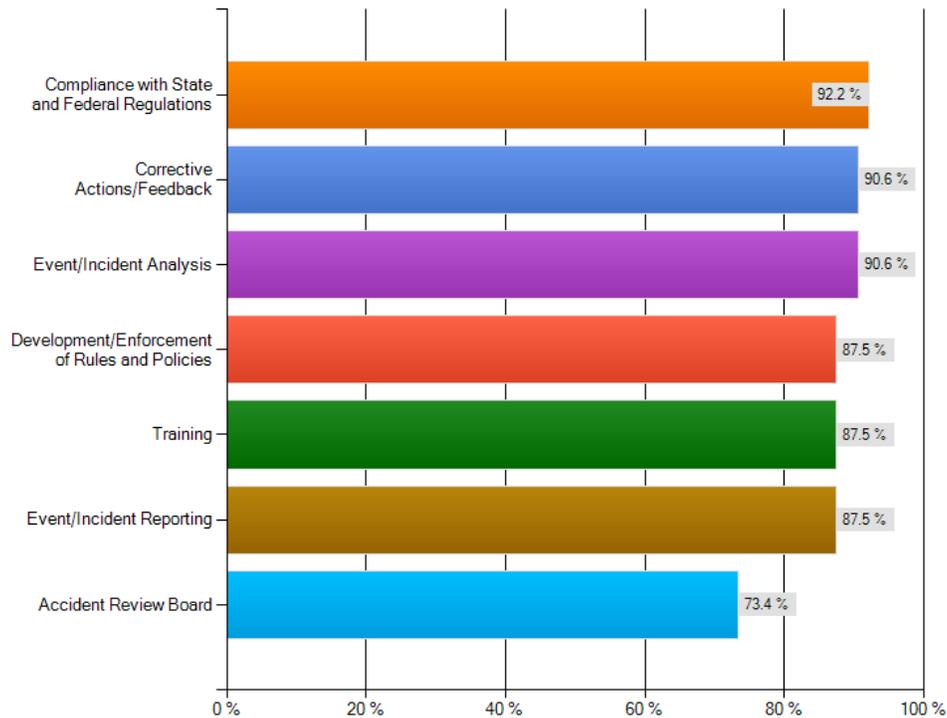
Q7. Approximately how many full time employees are responsible for safety at your agency? If your agency does not have a safety department, please estimate the total time spent on safety activities by personnel in other departments and convert it to an equivalent number of full time employees.



This question, which was limited to only one response selection, probed to determine the number of full time employees that the agency assigned to safety related functions. Based on the review of individual survey responses, there is a direct correlation to the size of the transit agency and the number of FTEs assigned to safety activities.

When combining the first three options, it reveals that over 80 percent of the agencies had 10 or less full time equivalent employees dedicating their time to safety activities. These safety staffing levels would be a function of the diversity and size of the transit agencies, as noted above.

Q8. What are the functions of your safety management/department?



This question, which permitted respondents to provide multiple responses, focused on the functions of the agency's safety department.

All possible selections received over 70 percent responses, with most functions receiving 90 percent or more, as illustrated above and summarized below.

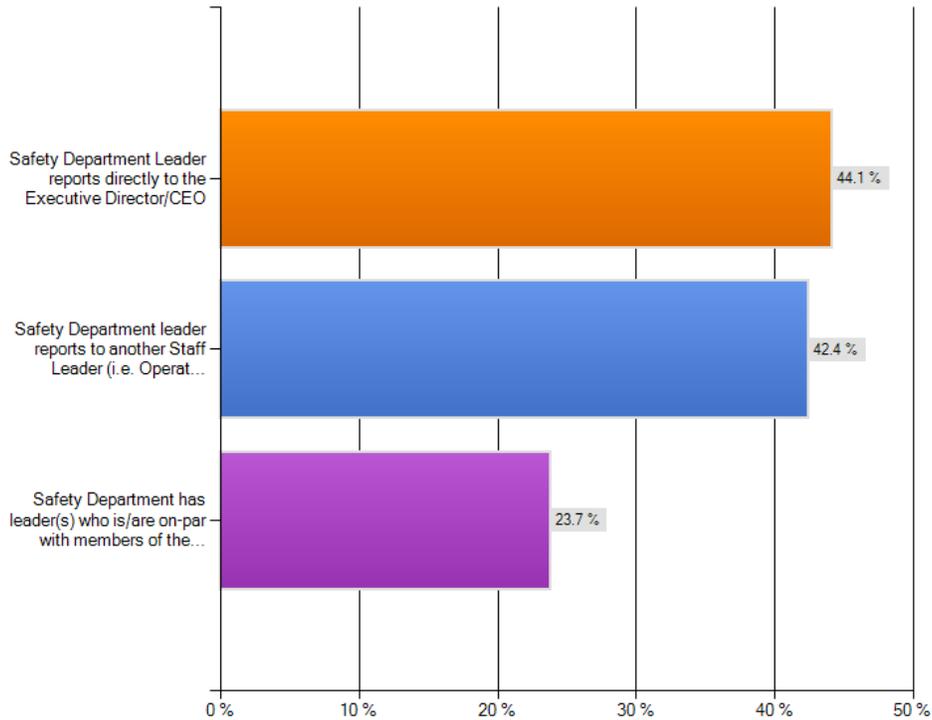
- Compliance with State and Federal Regulations 92.2%
- Corrective Actions/Feedback 90.6%
- Event/Incident Reporting 90.6%
- Development/Enforcement of Rules and Policies 87.5%
- Training 87.5%
- Event/Incident Analysis 87.5%
- Accident Review Board 73.4%

It is important to address the respondents that included accident review board as a function of the safety office. In the discussion of Question 11 (Q11: Does your agency have an accident review board?) that follows, we learn that the majority of the transit agencies do have a formal accident review board (adjusted to 87 percent). Eight of those respondents that answered "no" to Question 11 selected accident review board as a function of their safety office.

The majority of the 26.4 percent of the respondents to Question 8 who did not identify "accident review board" as a function of their agencies' safety offices did indicate the

existence of a formal accident review board within their agency. For some of these agencies, a member of the safety office is included as a member of the accident review board.

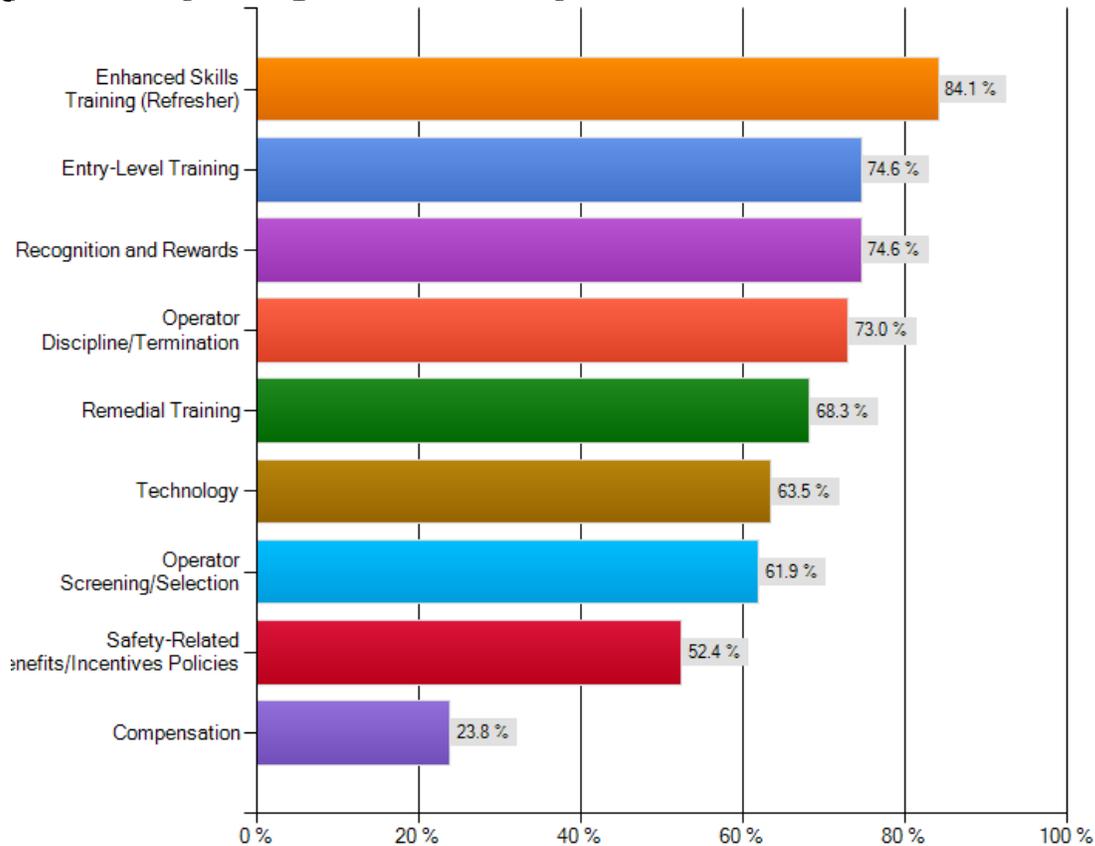
Q9. What is the reporting relationship of the Safety Department/Function to the Executive Director/CEO and/or upper management team?



This question, which permitted respondents to provide multiple responses, inquired about the reporting relationships of the safety department or safety function to the Executive Director/CEO and upper management team.

Less than half (44.1%) of the respondents indicated that the safety department had a direct reporting relationship with the agency Executive Director. In 42.4 percent of responses, it was indicated that the safety department leader reported to another staff leader (i.e., Operations or HR manager) and not directly to the Executive Director. The final response, with 23.7 percent, indicated that the safety department leader was on-par with other members of the executive team.

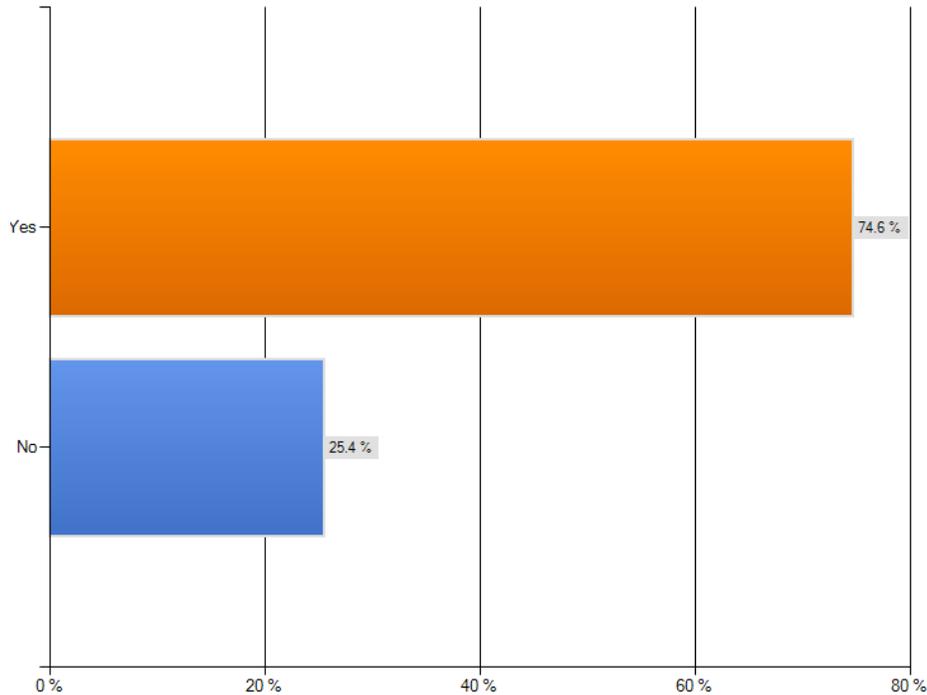
Q10. Indicate the areas below where operational and capital decisions are integrated with your organization's safety activities



This question, which permitted respondents to provide multiple responses, focused on determining what operational and capital decisions were integrated with the organization's safety activities.

The responses are listed in priority order, from most to least responses. The majority of respondents indicated that their agencies decisions related to enhanced skills training (refresher) were influenced by the organization's safety activities and performance. Few agencies relied on their safety departments to make compensation related decisions.

Q11. Does your agency have an Accident Review Board?



Approximately 75 percent of the respondents indicated that their agency used an accident review board as part of their safety program. However, upon close examination of the individual survey responses, it was determined that over 87 percent of respondents have an accident review board function. There were eight respondents who indicated that “accident review board” was a function of their safety office. These responses are included within the 87 percent expressed in the narrative above. Additional respondents have an accident review function within their agencies, but did not indicate a specific “accident review board.” For these agencies, they indicated that activities such as accident review, accident/incident reporting, and corrective actions were functions of their safety office. A few respondents provided that the review of accidents and incidents was used to identify safety issues and determine corrective actions as necessary.

Question 12 provided respondents the opportunity to describe the composition of the accident review board. The composition of the accident review boards does vary from agency to agency, as represented by the individual responses. However, the majority of the respondents indicated that their boards include the driver or their representative, a union representative, the employee’s supervisor, and the operations manager or member of the agency’s management team. There were a few agencies that either had members of the board who were from outside the agency or had boards that were comprised entirely of individuals from outside the agency.

Q12. Please describe the make-up of your Accident Review Board: (How many people are on the Board? What departments do they represent? Is there outside agency participation?)

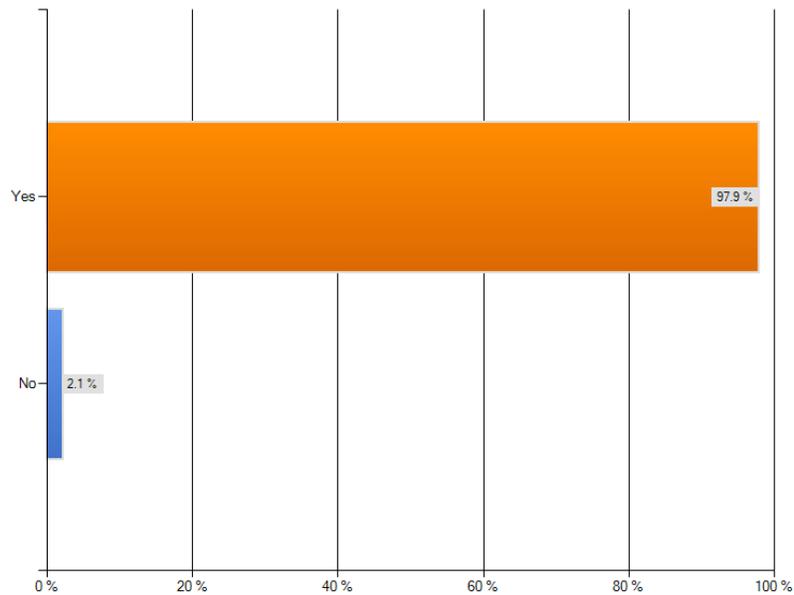
Opened Ended Responses:

- No outside agency participation; bus operators, supervisors, training and operations are represented on the board.
- The transit department sends our accidents to an accident review board comprised of 7 individuals from other departments (risk management, line maintenance, streets, animal control, waste management, etc.) within the City of Oklahoma City.
- Four members from Safety, Training, Service Supervisor, and the Union representative.
- ATU Driver Union Members (3), AFSCME Supervisors Union Members (3), and Outside Independent Party (1).
- 3 for each review, selected from a pool of 8 comprised of drivers and supervisors
- 2 union members, 2 non-union members, and 1 non-employee (currently from National Safety Council)
- Two members of the management team and two operators. No outside agency participation
- We have 2 levels of review for accident disputes. The first level is a REREAD which is chaired by a Safety Officer who did not make the initial judgment and votes only in the event of a tie. The other 2 members at this level are a Union Executive Board member and an Operations Chief. The Accident Review Board is the operator's next opportunity. This is a committee of 4 members - 2 senior operators (20+ years of safe driving) and 2 Chiefs in the operations arena and often includes the Superintendent of Instruction. This review is chaired by a Safety Officer. The committee deliberates after the driver and Safety Officer present their findings and respond to questions from the committee. The committee deliberates privately and vote via secret ballot - the ballots passed to the Safety Officer. Our Accident Review Board is to review Performance of the Operator. As implied in the next question, we don't have a specific panel to deal with NTD reportables or other significant events. That is done by the collective of the Transit Safety Staff.
- Director of Transportation and Operations Supervisors
- Total of 7 members: 3 Operations Supervisors, Senior Dispatcher, Maintenance Director, Driver (Union), and Director of Operations
- Safety Officer, 2 Managers, and 2 Senior Operators
- There are five employees that make up the accident Review Board. The Risk Manager, two ATU members, an Operations Supervisor, and a Maintenance Supervisor
- Engineering, Operations, Safety, and Police Department
- 3 to 4. One must be a director or a manager and training in collision investigation only takes 2 to judge often it 3 for a tie breaker, the safety manager is the non-voting chair and oversees the process

- GoBus Safety Committee is comprised of the Operations Manager, the Associate Director of Transportation, and the Director of Human Resources plus a driver for accident review.
- 6 employees; one from each of the following departments, Human Resource, Accounting, Operations, Maintenance, Facility Management, and Planning.
- 4 members - Maintenance, Operations, Field Service Manager and risk management assistant, along with COO.
- Safety Committee is made up of 2 management members and 1 union member of contractor providing fixed route service. Safety Task Force is Chief Safety Officer and two management members from contracted firm.
- 5 members, representing all divisions
- 2 bus operators from the union, 2 staff members appointed by the director, 1 chairman from County risk management
- Departments of the City of Key West are appointed by the Risk Management and City Manager which include Fire, Police, Transportation, Code and others.
- Three members: one union, one company representative, and one neutral party from Pupil Transport Safety Institute
- Three (3) members and ex-officio member: 1 representing transit operations, 1 representing maintenance and 1 representing coach operators. Ex-officio member represents safety & training.
- 6 people to include bus operators, managers, supervisors and administrative personnel
- HR Rep, 1 Bus Operations Supervisor, 2 Union Rep.-Bus Operators. Outside reviewer outside the agency for ties. Safety does not have a representative on the review board.
- Chairperson-Safety Officer 6 members from: Facilities/Security, Paratransit, Driver Rep, Fleet, Operations Manager, and Drivers Trainer
- 5 members on board. 2 from management, 2 from bargaining unit, and 1 from PTSI.
- There is a city-wide safety committee who chair and two others serve these functions. It is actually fairly loosely organized and rarely implemented. It is usually only activates if an employee feels a supervisor made an incorrect determination.
- The board is made up of five members, two appointed by the Union, two appointed by Management and one neutral member. The neutral is a metro policeman and only votes in the case of a tie.
- Accidents are reviewed at the weekly Training and Safety Committee meetings that is composed of seven agency managers (Maintenance Manager, Chief Operating Officer, Paratransit Manager, Training Manager, Transportation Manager, Risk Manager, and Service Management Manager). Accidents determined to be preventable can be contested by the employee and presented to the Accident Appeals Board that is composed of a department manager that did not make the preventability determination, two supervisors who did not participate in the investigation, and two members of the department of the employee appealing the preventability determination.

- There are two layers. An initial committee consists of a one union operator and two frontline supervisors. A rebuttal committee consists of a Department Head, Claims supervisor, and one outside person (e.g., police officer)
- Two members of Supervision, Two Union Officials, representing Bus, Paratransit, Fleet Maintenance
- 5 members: Fixed Route Operator of the year, Demand Response Operator of the year, Maintenance Person of the year, Operations Supervisor of the year, and assigned Operations and Management person
- Agency Chief Operating Officer, Maintenance Manager, Contract Manager, Operations Manager, and Safety Manager
- A member of each department is represented with Accident Review Board, including a driver. No outside agency participation.
- Terminal superintendent's serves as the Accident Review Board with all major accidents referred to the Board of Review for final corrective action.
- Safety Service Delivery - Operations Claims Union Representative
- 7 person member accident review board: 4 full time operators, 2 part time operator, and 1 maintenance employee
- Operators may appeal an accident grading to a board comprised of supervisors and selected operators. There is not outside agency participation.
- 7 members from various departments within the county including: Fleet, Risk Management, Public Transportation, Utilities, Safety, Parks and Recreation and Fire and Rescue
- Labor and Operations Staff
- Executive safety and security committee, consists of AGMs of all departments, reviews accident data, does not review individual accidents for determinations
- The board only reviews accidents by City employees, not the transit contractor.
- The board consist seven people as follows: The Operations/Safety Director, four bus operators and two Maintenance people.
- 2 Drivers//1 Mechanic//1 Facilities Maintenance//Safety Manager//1 Alternate (Driver)
- 5 members and one chairperson (the chair does not vote) we try to include a person from each department, the chair read the TSI guidelines and the operator is allowed to tell his/her side, then video or other evidence is reviewed and then the committee votes and presents the decision to management

Q13. Does your Accident Review Board review accidents/incidents that fall below NTD major-reportable thresholds?

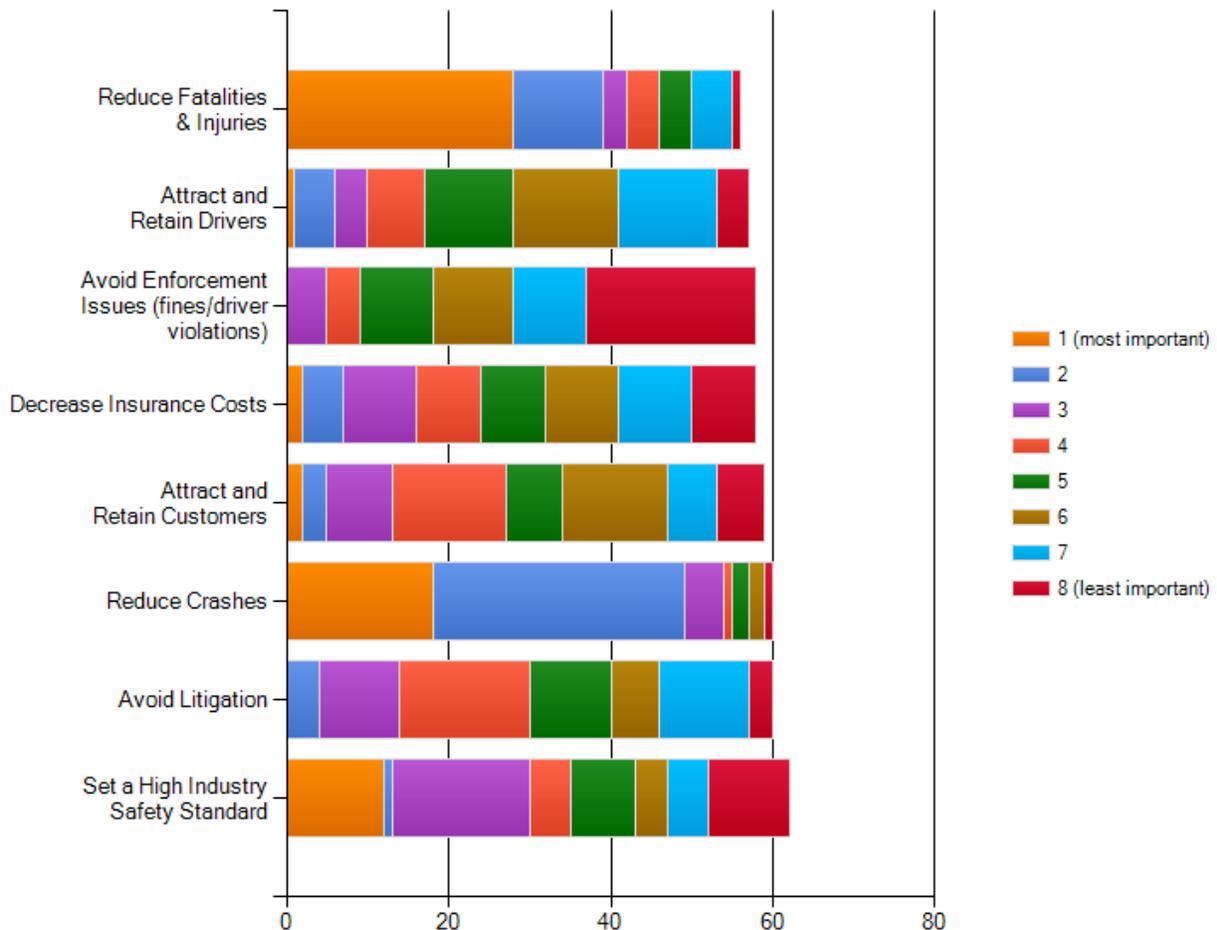


As defined in the NTD, a major incident is one that meets at least one of the following thresholds:

- A fatality (30 days or less from the collision and not due to natural causes)
- An injury requiring immediate medical assistance away from the scene
- Property damage greater than or equal to \$25,000
- Evacuations due to life safety reasons
- Any mainline derailment (rail transit systems)

Close to 98 percent of the respondents to Question 13, indicated that their agencies' accident review boards review accidents and incidents that fall below these NTD major-reportable thresholds.

Q14. Please rank order the following seven motivations for improving agency safety 1 through 8, with 1 being the most important, and 8 being the least important.



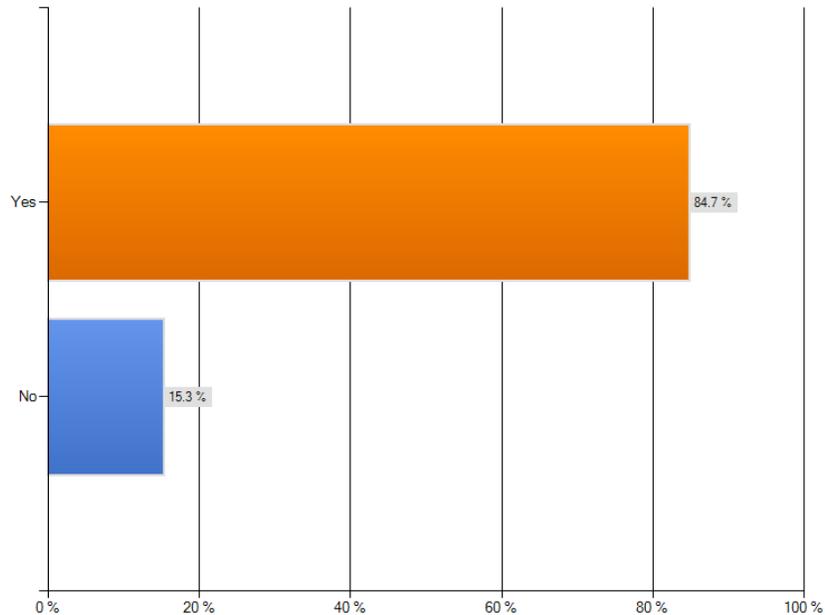
For this question, respondents were limited to one selection per category (from 1 to 8, with 1 being the most important to 8 being the least important).

The intent of this question was to rank the importance of the motivations for improving an agency safety program. For each selection, the responses are presented from most important (on the left) to the least important (on the right) in the responding color of the importance.

Selections with the greatest amount of orange (#1), dark blue (#2), and purple (#3) would be those rated of most importance by the respondents. These selections include:

- Reduce Fatalities and Injuries (almost 30 percent of respondents selected this category as “most important”)
- Reduce Crashes
- Set a High Industry Safety Standard

Q15. Does your agency have established safety performance measures?



Approximately 85 percent of the respondents indicated that their agencies have established and track safety performance measures; just over 15 percent (9 respondents) indicated that they do not track performance measures. Upon further review of the individual survey responses, there were two out of the nine agencies that indicated they did not track performance measures. However, they responded to question 16 with a list of those measures collected. In addition, there were respondents that contracted all transportation services, providing no directly operated service. It is likely in these cases that the contractor has established and is tracking performance measures that are then reported to the agency.

Question 16 provides the responses of survey participants to the open-ended request to list the safety performance measures their agencies track. The responses are reflected verbatim as provided by the respondent. The responses have not been altered or edited.

The performance measure most frequently indicated by the survey respondents was accidents per 100,000 miles (with minor variation). A number of agencies also track preventable accidents. A few respondents also indicated that they track workers' compensation and personal injury claims.

Q16. Please list the safety performance measures your agency tracks:

Opened Ended Responses:

- Our measures include: accidents per 100,000 miles, injury claims per 100,000 miles, security incidents per 200,000 passengers, number of on the job injuries (OJIs), number of safety classes conducted, number of employees trained, total OJI cost per

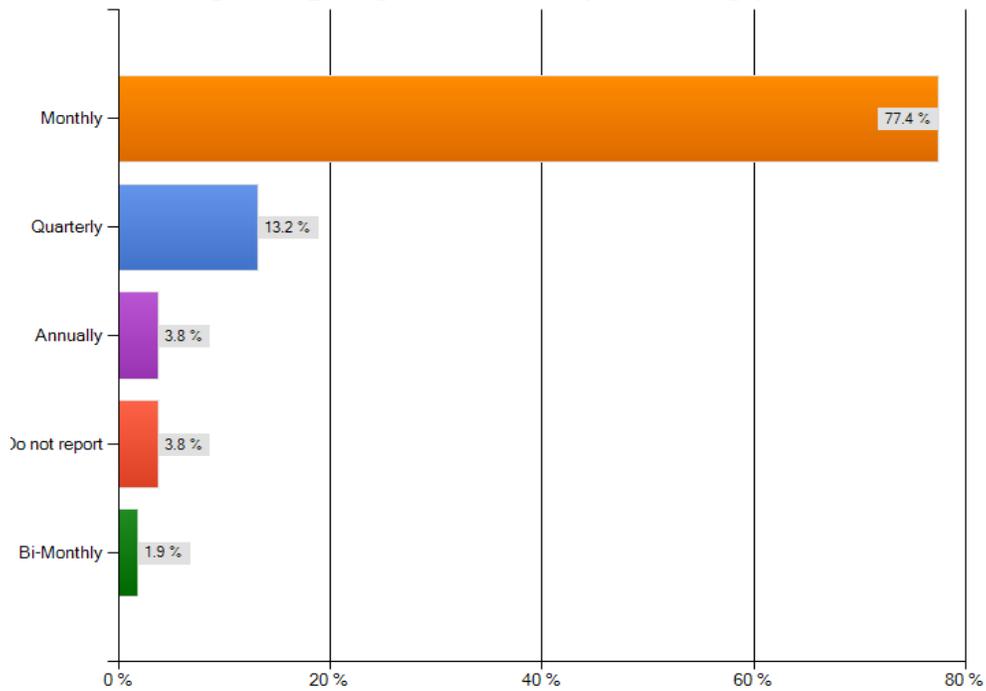
worker, claims closed, total claims expenditures, total claims filed, total percentage of at fault accidents, and number of safety assessments completed.

- We track the following safety performance measures: employee claims by cost center, employee claims by seniority, employee claims by injury type, employee claims by day of week, employee claims by gender, employee lost time claims/100 employees, accident description, accident by Category, accident by location, accident by gender, accident by day of the week, accident by seniority, accident by cause code, accident by vehicle number, accident by time of day, accident frequency per 100,000 miles, and accident by route.
- Accidents per 100,000 miles, preventable versus non-preventable, new claims
- Preventable accidents per 100,000 miles driven
- All accident and all injuries
- Awards/Recognition
- Accidents, hard stops, citations, safety policy violations
- Accidents per 100,000 miles for each mode
- Accidents, incidents, violations, inspections
- Accidents per mile accident preventability
- We use the old NTD codes for performance measures by trending all incidents, collisions, etc.
- Daily inspections of all vehicles, oil changes and tire rotations, driver safety training
- Reduction in insurance costs, accidents and incidents per 10,000 miles of service
- Severity of claims, number of preventable accidents, miles between preventable accidents, and timely submittal of accidents/claims
- Vehicle incidents and client incidents
- Number of accidents per quarter, per year, by driver, and number of incidents, including customer service issues that are non-vehicle related.
- Type and causation of accidents
- Accidents/incidents per 100k miles, preventable and non-preventable incidents, workplace safety, workers compensation claims, vehicle defects, and employee lost time
- Collisions, types of collisions, preventability, complaints by customers and general public with whom we share the road, training.
- Vehicular Collisions, Employee Injuries, Customer Injuries,
- Preventable accidents per 100,000 miles, 100% compliance with state mandated annual training, 100 % OSHA and CalOSHA compliance.
- # of accidents, # injuries due to accidents, # of passenger injuries/non accident
- Accidents and Incidents
- preventable accidents and incidents
- Preventable and non-preventable accidents, passenger injuries
- Accidents, road calls
- Accident Frequency Rate = preventable accidents per 100,000 miles traveled. Number of years per operator without a preventable accident. Injuries per department.
- Claims costs, accidents per mile
- Collisions, Injuries, Incidents, Industrial Injuries, Assaults, Threats, Disputes

- Accidents, Complaints, Incidents, On Time Performance, Training, Post Accident Training
- OTJ injuries, lost time from work, incidents/accidents, customer safety complaints, motorist safety allegations, ride-along safety analysis, on the road follow up safety observations
- All collisions preventable and non-preventable as well as employee behavior with regard to injuries. We also utilize DriveCam for retraining when necessary
- Accidents per 100,000 miles, raw number bus accidents - no more than 44 per month, raw number rail accidents - no more than 4 per month, employee injuries - no more than 22 per month
- Preventable accidents Collision type (fixed object, vehicle, pedestrian, passenger, bike, etc.), injuries, service and age evaluation, point of contact and location evaluation
- Traffic accident/100,000 miles; passenger accidents/100,000 passengers; accidents graded preventable, accident liability claims, claims in suit, claims by reserve amount, OJI claims involving lost days
- Accidents, road calls, complaints, incidents and injuries.
- Accident/Incidents per 1000 trips
- All accidents are track by type, location, operator and vehicle. Analysis generates potential and contributing causes which are also tracked.
- Accidents per 100,000 miles
- Number of accidents per 100,000 miles.
- Potential for injury/damage cost of injury/damage accidents/100,000 miles passenger accidents/100,000 miles
- Preventable accidents preventable incidents Workers comp claims Personal injury claims

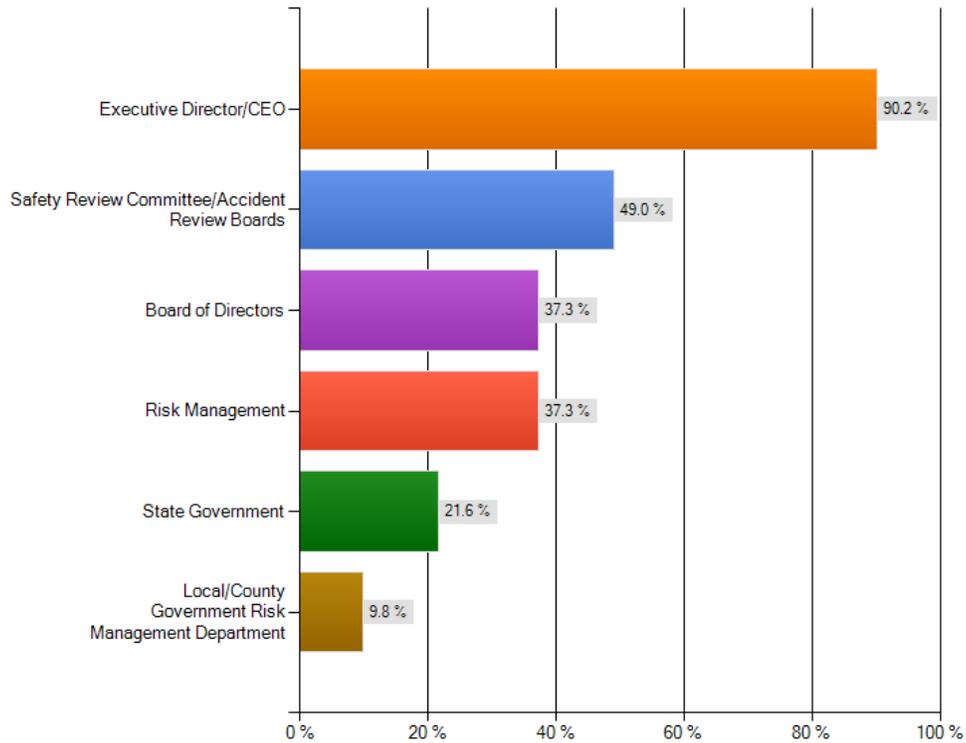
The next two questions seek information on the frequency that the agencies track and report safety and performance measures, as well as to whom the safety measures are reported.

Q17. How often does your agency track and report safety performance measures?



The majority 77.4 percent (41 out of 53 respondents to the question) of the agencies reported that they track and report safety and performance measures on a monthly basis. Quarterly (13.2%) was the next most mentioned frequency represented by seven respondents.

Q18. To whom do you report safety performance measures?

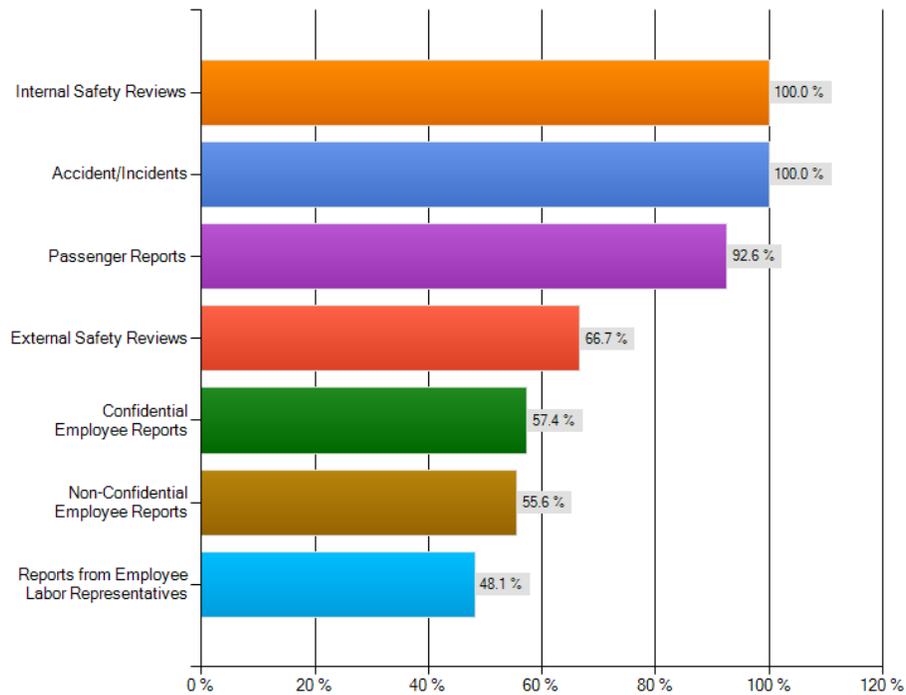


Question 18 asked respondents to identify those individuals or organizations to which safety performance measures are reported. The majority of the agencies represented report performance measures to the executive director or chief executive officer. Almost half of the respondents indicated that their agencies provide performance measures to a safety review committee or accident review board. Depending on the organizational structure of the agency, a few also report to a local or county government office, such as risk management.

Over 21 percent also provide performance measures to state government. The significance of this response may be related to the composition of the survey respondents. There were 13 respondents to this question who were from agencies operating in Florida. As a requirement of receiving Florida Transit Block Grant funding (available to FTA Section 5307 recipients), these agencies are required to post performance measures on an annual basis. A number of those that indicated the reporting of performance measures to “state government” included these representatives.

Question 19 allowed multiple responses to the way in which transit agencies are identifying safety related issues.

Q19. How does your agency identify safety related issues?



This question, which permitted respondents to provide multiple responses, probed to determine how the transit agencies identified safety related issues. The three most frequent responses included:

- Internal safety reviews
- Accidents and incidents investigations and reports
- Passenger reports

The next question, which allowed separate responses for bus and rail, asked the transit agencies to detail which safety technologies were being utilized and to indicate the primary safety concern they are meant to address. The two tables below reflect the responses received for Question 20, first for safety concerns for bus and then those for rail.

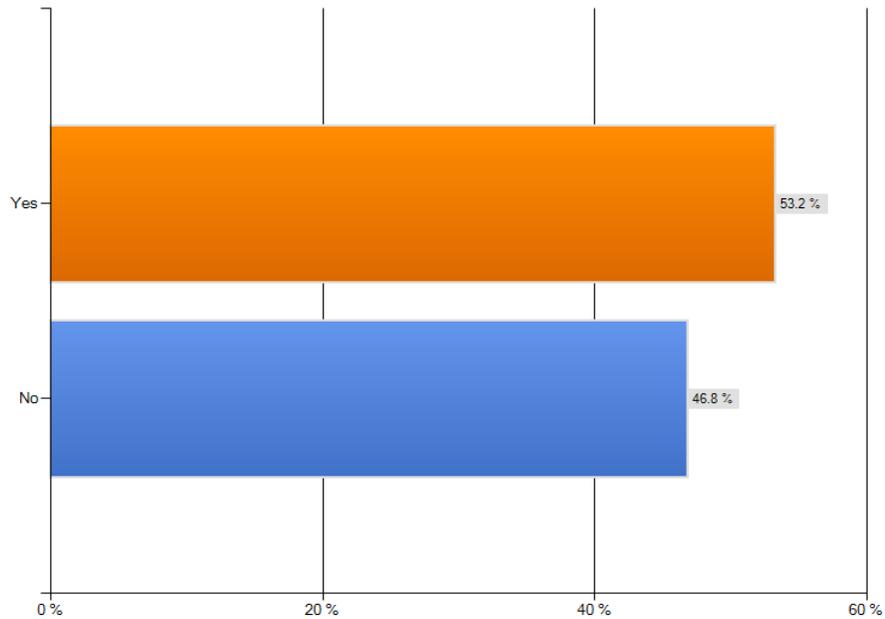
Q20. Please identify which safety technologies are utilized by your transit agency and the primary safety concern they address:

Safety Concern Addressed (Bus)						
	Reduces Accident/ Incidents	Improves Driver Performance	Improves Passenger Safety	Improves Employee Safety	Not Applicable	Response Count
Stop Announcements	5.2% (3)	24.1% (14)	43.1% (25)	3.4% (2)	24.1% (14)	58
Security Cameras Onboard Vehicles	16.7% (10)	16.7% (10)	38.3% (23)	16.7% (10)	11.7% (7)	60
Security Cameras Facilities	9.8% (6)	1.6% (1)	39.3% (24)	26.2% (16)	23.0% (14)	61
Electronic Data Recorders (EDR)	16.4% (9)	23.6% (13)	3.6% (2)	3.6% (2)	52.7% (29)	55
Video Data Recorders	10.5% (6)	15.8% (9)	7.0% (4)	14.0% (8)	52.6% (30)	57
Driver-Activated Emergency Button	0.0% (0)	1.8% (1)	16.1% (9)	73.2% (41)	8.9% (5)	56
Vehicle Tracking System	3.4% (2)	54.2% (32)	8.5% (5)	13.6% (8)	20.3% (12)	59
Collision Avoidance	7.1% (4)	5.4% (3)	0.0% (0)	0.0% (0)	87.5% (49)	56

Safety Concern Addressed (Rail)						
	Reduces Accident/ Incidents	Improves Driver Performance	Improves Passenger Safety	Improves Employee Safety	Not Applicable	Response Count
Stop Announcements	0.0% (0)	5.6% (1)	38.9% (7)	5.6% (1)	50.0% (9)	18
Security Cameras Onboard Vehicles	0.0% (0)	0.0% (0)	42.9% (9)	9.5% (2)	47.6% (10)	21
Security Cameras Facilities	5.0% (1)	0.0% (0)	40.0% (8)	5.0% (1)	50.0% (10)	20
Electronic Data Recorders	26.3% (5)	15.8% (3)	0.0% (0)	5.3% (1)	52.6% (10)	19
Video Data Recorders	5.6% (1)	16.7% (3)	5.6% (1)	0.0% (0)	72.2% (13)	18
Driver-Activated Emergency Button	0.0% (0)	0.0% (0)	15.8% (3)	21.1% (4)	63.2% (12)	19
Vehicle Tracking System	5.3% (1)	10.5% (2)	10.5% (2)	10.5% (2)	63.2% (12)	19
Collision Avoidance Detection Device	0.0% (0)	5.6% (1)	5.6% (1)	0.0% (0)	88.9% (16)	18
Positive Train Control	22.2% (4)	5.6% (1)	0.0% (0)	0.0% (0)	72.2% (13)	18

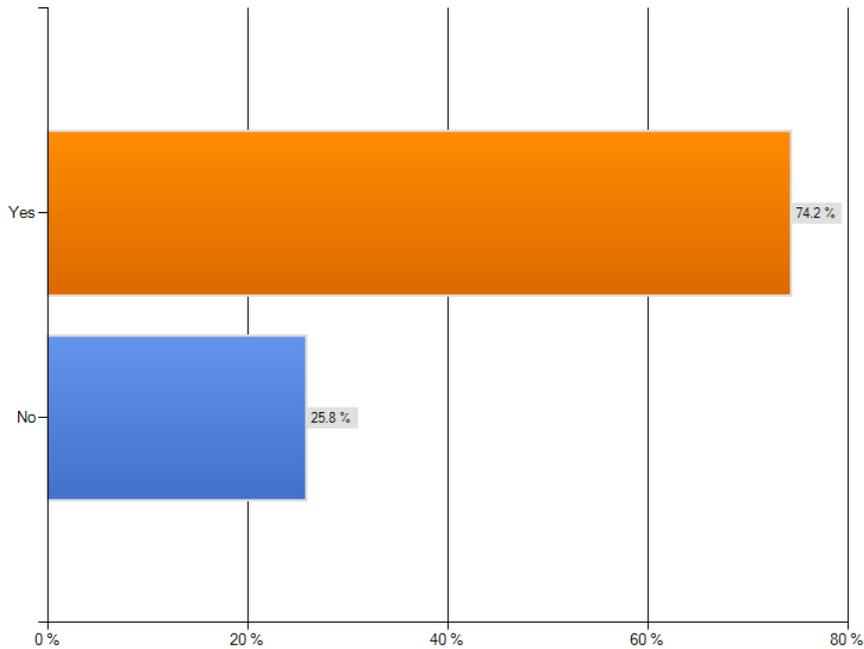
The next two questions probe the transit agencies' safety reporting practices. Specifically, whether the respondent reports safety incidents that fall under the minimum NTD reporting thresholds, and whether any other (non NTD) databases were used to track safety incidents.

Q21. Does your agency voluntarily report safety incidents that are under NTD's minimum reporting thresholds to NTD or to other entities?



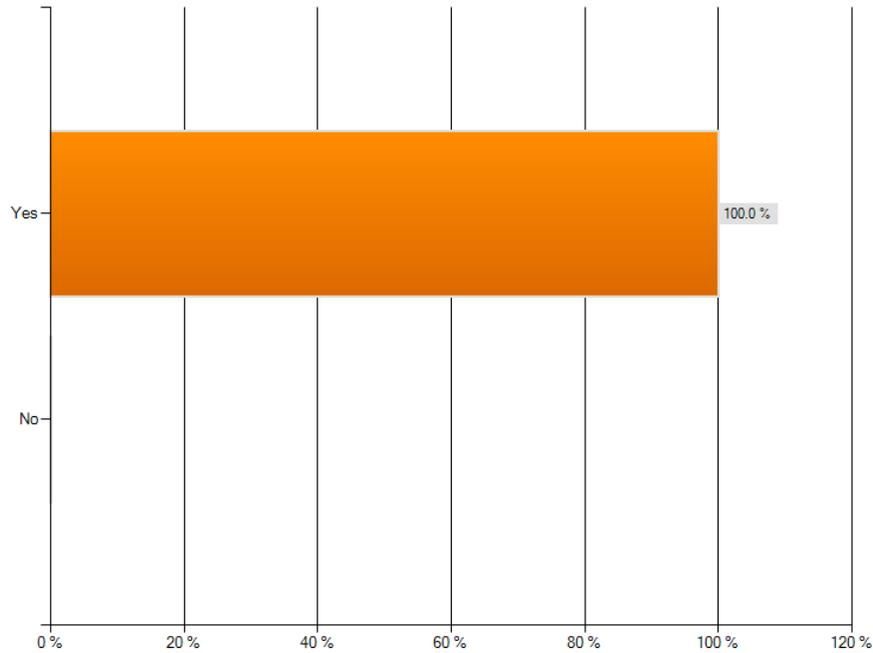
The majority (53.2%) of the respondents to Question 21 indicated that they do voluntarily report safety incidents the fall below NTD's thresholds for major incidents to either NTD or other entities.

Q22. Do you use a database or electronic reporting system (other than NTD or SSO Program Safety Data reporting) to track the agency's safety incidents?



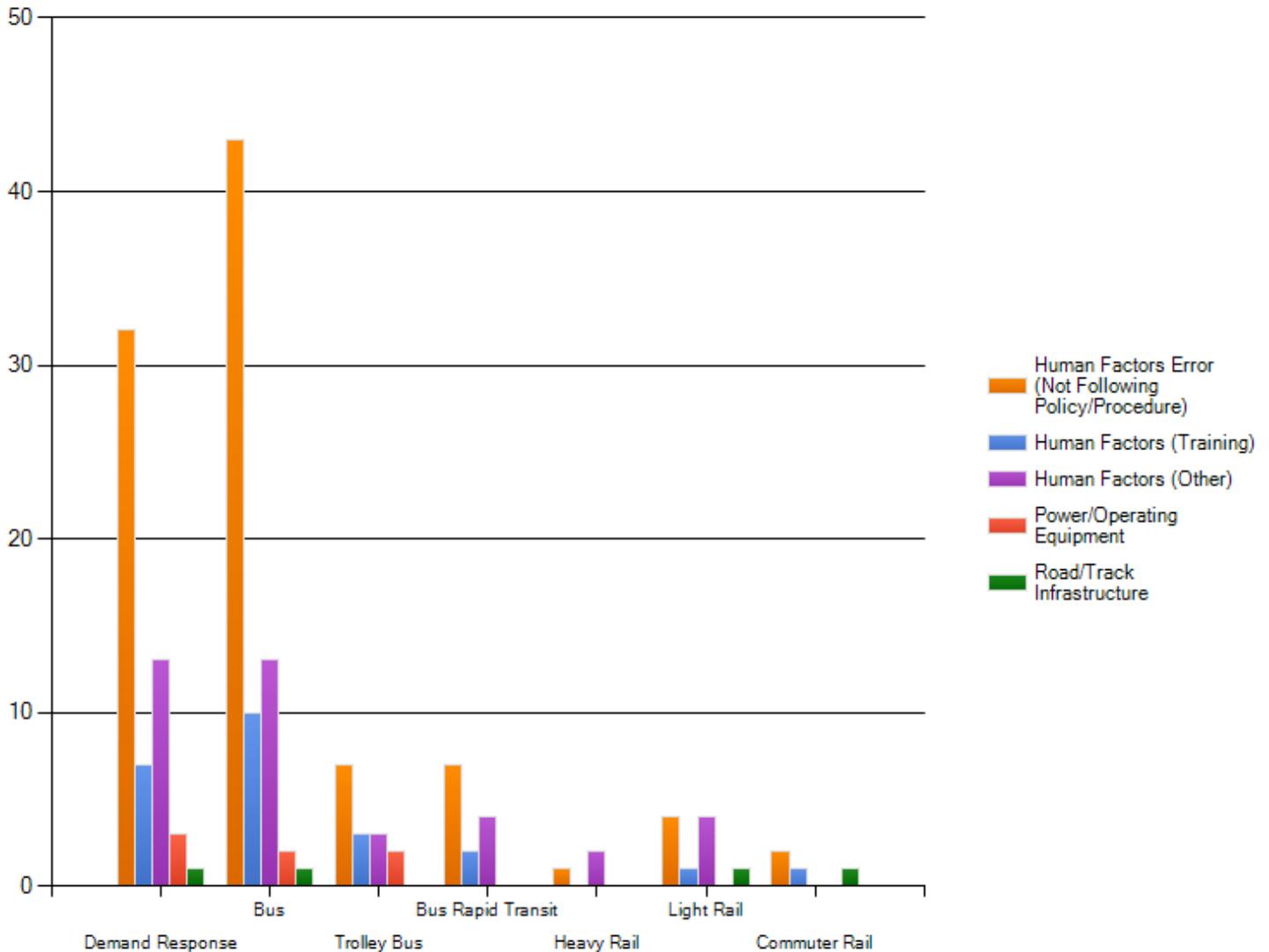
A significant number of respondents (74.2%) indicated that they do utilize a database or electronic reporting system to track their agency's safety incidents. This would include systems other than NTD or the State Safety Oversight Program safety data reporting tool.

Q23. Are you examining accident/incident causal factors during your safety incident investigations (contributing factors, probable cause, etc.)?



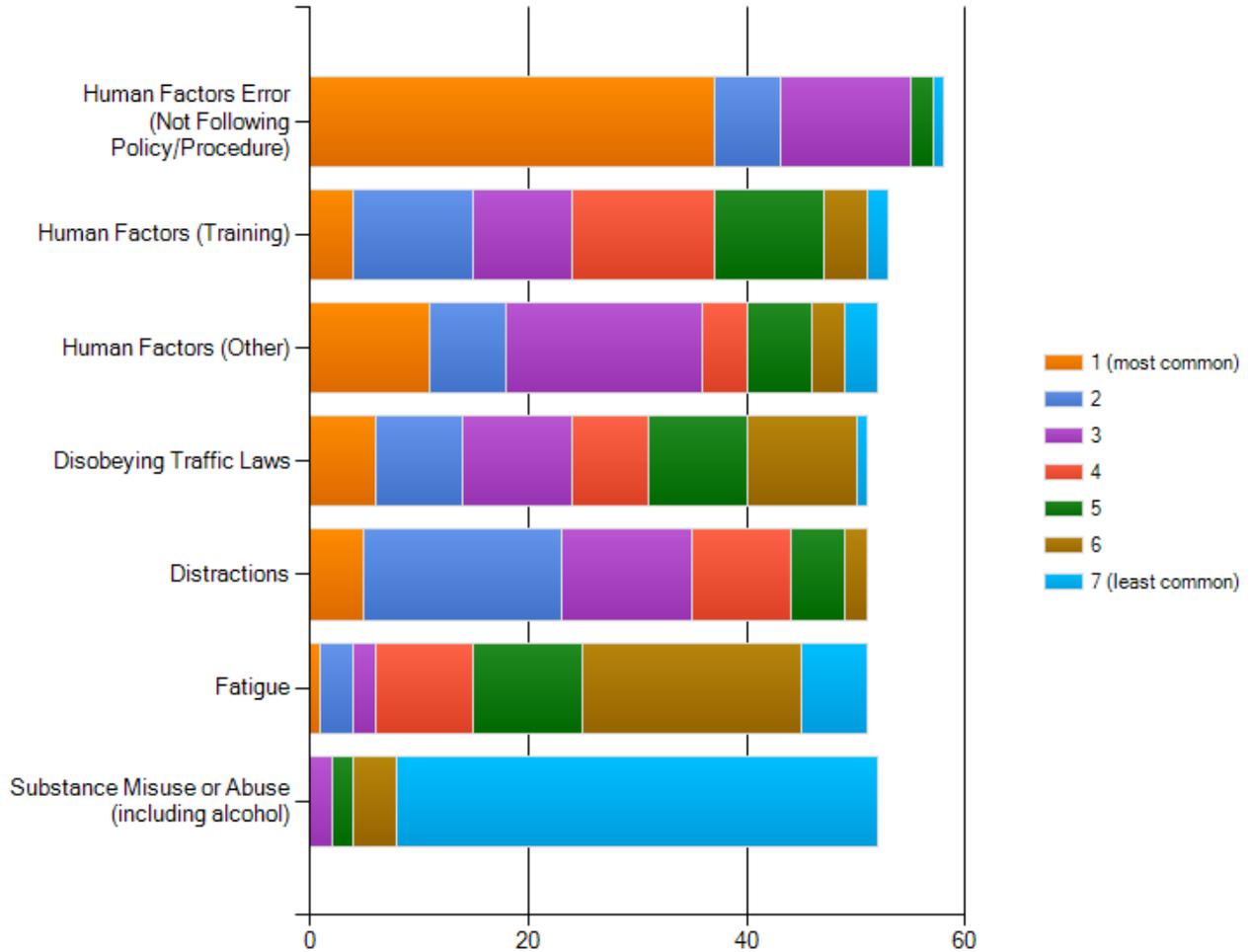
All of the responding agencies reported that they examine the casual factors of incidents during their safety incident investigations.

Q24. Based on the data you collect, indicate for each mode below the type of causal factors that are most prevalent (please select the most prevalent causal factor for each mode – select only one causal factor for each).



For this question, respondents were limited to the selection of one causal factor per mode. The intent of this question was to determine, based on the causal or contributing data collected by each agency, those factors most prevalent for that agency. With the exception of heavy rail, “human factor errors (not following policy and procedure)” is the most prominent causal factor in transit incidents.

Q25. If you have identified human factors as causal factors, please rank your agency's common causal factors:



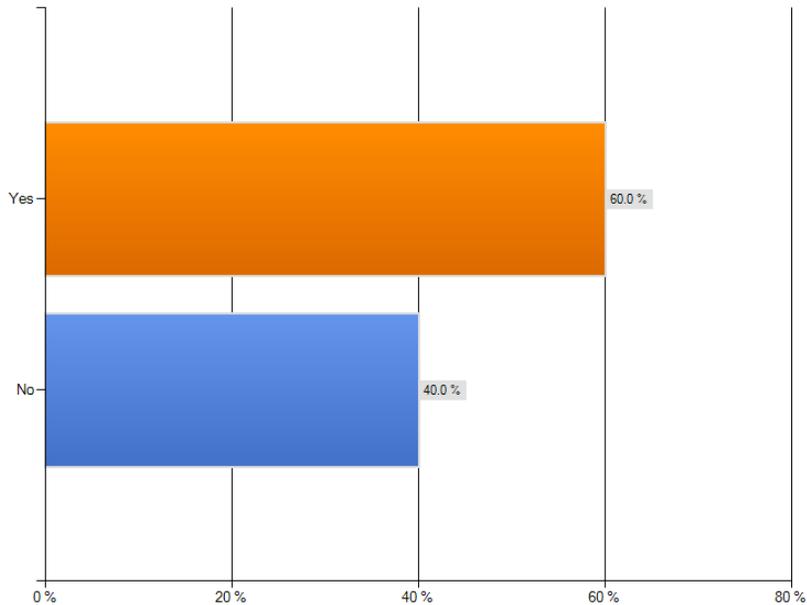
For this question, respondents were limited to one selection per category (from one to seven, with one being the most common and seven the least common). The purpose of this question was to have the agencies rank the most common human casual factors. For each selection, the responses are presented from most common (on the left) to the least common (on the right) in the responding color ranking. Selections with the greatest amount of orange (#1), dark blue (#2), and purple (#3) would be those rated as most common by the respondents. These selections include:

- Human Factor Errors (Not Following Policy/Procedure)
- Human Factors (Other)
- Disobeying Traffic Laws
- Human Factors (Training)

The following series of yes/no questions are related to agency policies and procedures in the areas of:

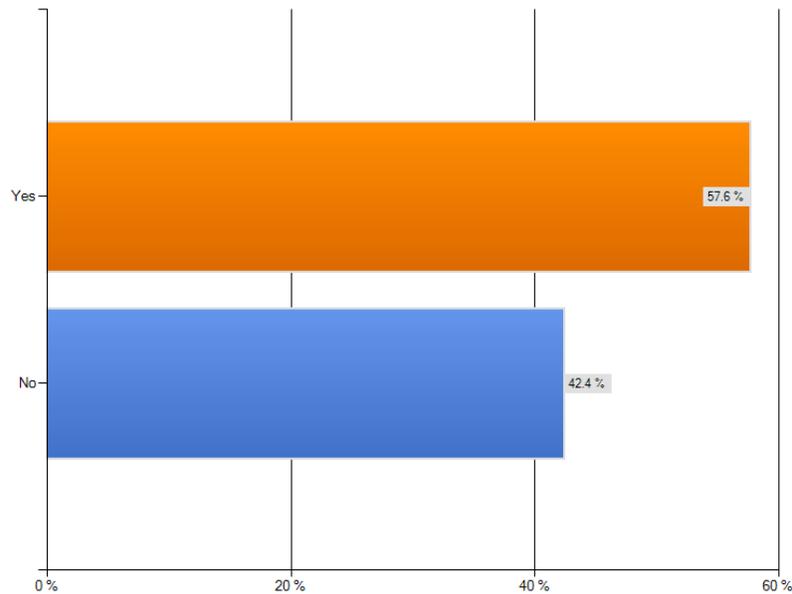
- Reporting of over the counter prescriptions
- Reporting of outside employment
- Distracted driving policies
- Operator hours

Q26. Does your agency require operators to report the use of over the counter medications?



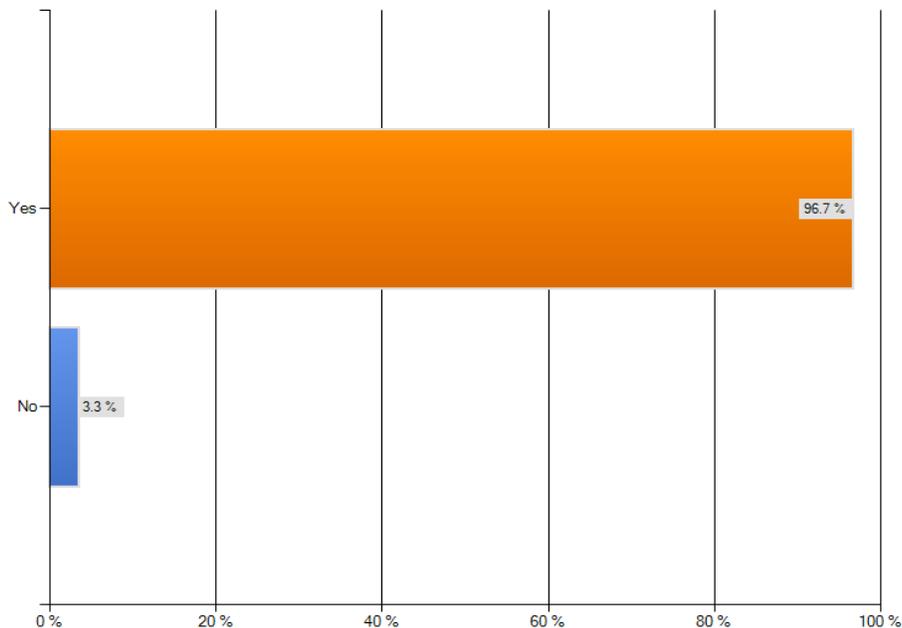
The majority of the respondents to the survey indicated that their agencies do require their operators to report the use of over the counter medications. At this time, there are no Federal regulations requiring transit operators to report their use of over the counter medications.

Q27. Does your agency require operators to report outside employment?



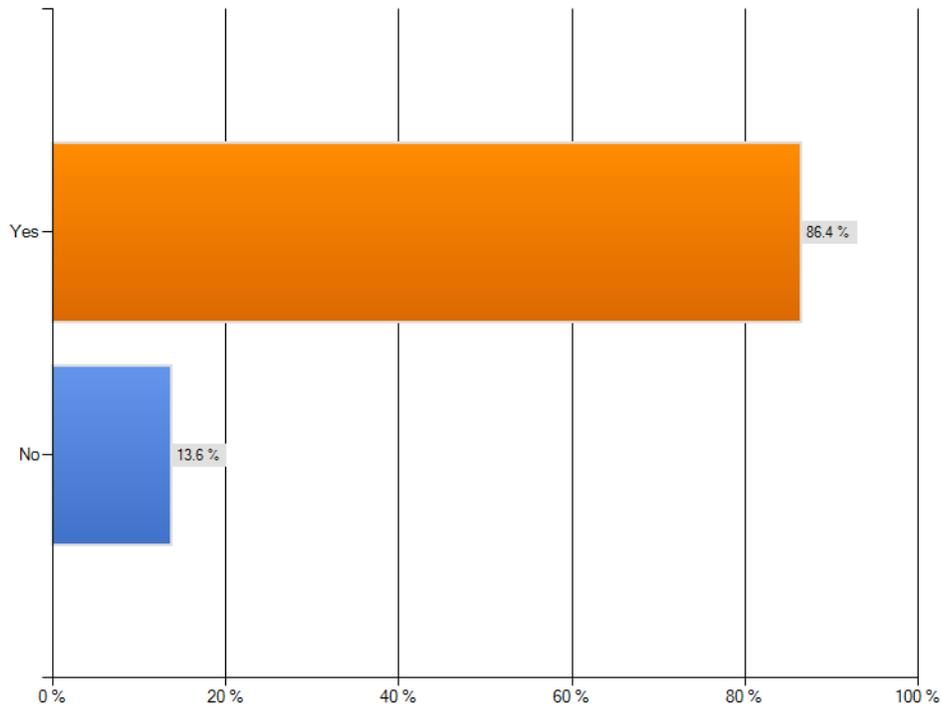
The majority of the respondents to Question 27 indicated that their agencies do require operators to report outside employment. At this time, there are no Federal regulations requiring transit operators to report outside employment.

Q28. Does your agency have a policy on distracted driving (including cell phones)?



A significant majority (96.7%) of respondents to Question 28 indicated that their agencies do have a policy.

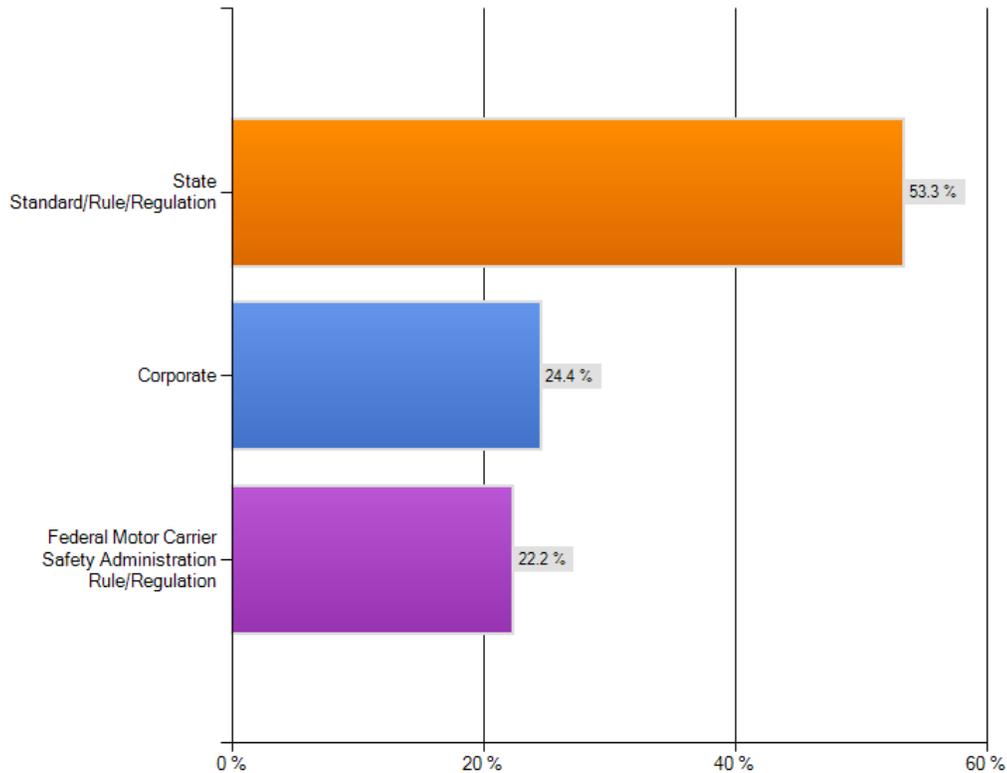
Q29. Does your agency follow a rule, policy or regulation related to operator hours?



The majority of respondents to this question (86.4%) indicated that their agencies are following a rule, policy or regulation related to operator hours. Those that responded “no” to Question 29 included representatives from small not-for-profit transportation agencies to large regional authorities and councils of government. There appears to be no correlation between the absence of rules, policies, or regulations and the size, location, or type of transit agency that responded.

Question 30 is the first of a series of questions probing further into agency policies related to operator hours. This question attempted to determine the source of the rule, policy, or regulation used by the agency for setting their operator hour limits and practices. Respondents could select “state standard/rule/regulation,” “corporate,” or “Federal Motor Carrier Safety Administration” issued.

Q30. Which of the following does your agency use as a rule, policy or regulation related to operator hours?



The majority (53.3%) of the agencies responded that they rely on state rules, regulations or policies. Of the 24 survey respondents who indicated the presence of a state standard or regulation on operator hours, 13 were representatives of Florida transit agencies that are required to comply with the hours of service terms found in Chapter 14-90, Florida Administrative Code. The influence of these agencies is also reflected in the responses to Question 31. Those respondents who indicated “corporate” primarily include those working for transit management companies. Compliance with Federal Motor Carrier Safety Administration rules and regulations was reported by 22.2 percent of the respondents.

Q31. In the text boxes below, please enter the number of hours related to your rule/policy/regulation on operator hours:

Operators may not drive more than ____ hours in a 24 hour period

Operators may not be on duty more than ____ hours in a 24 hour period

Operators must be provided at least ____ consecutive hours off-duty between the end of one work period and the beginning of the next

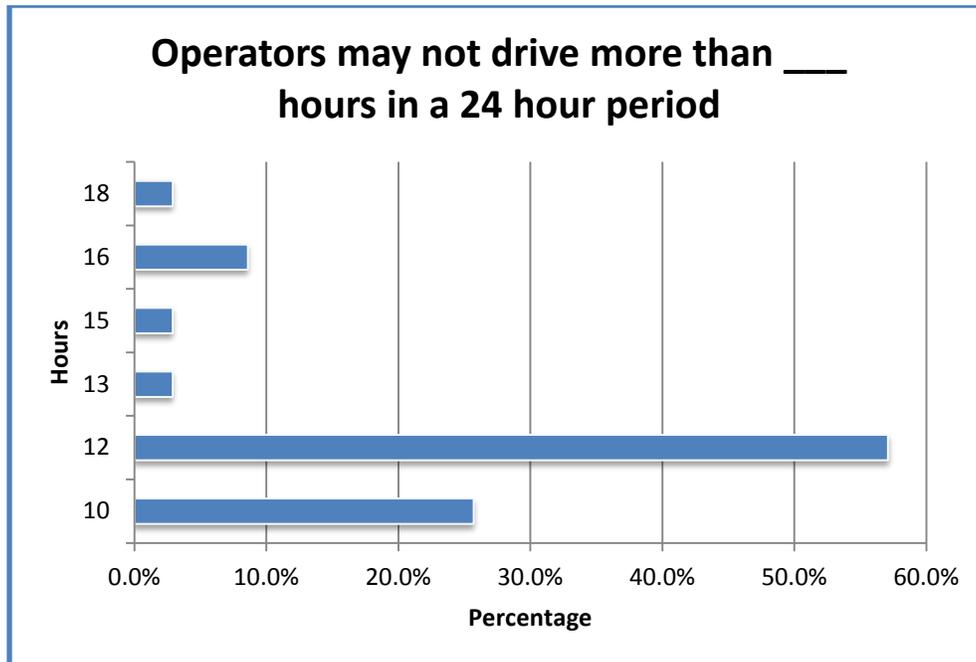
Operators must be given the opportunity to take a break after ____ minutes of work.

These breaks are ____ minutes in length.

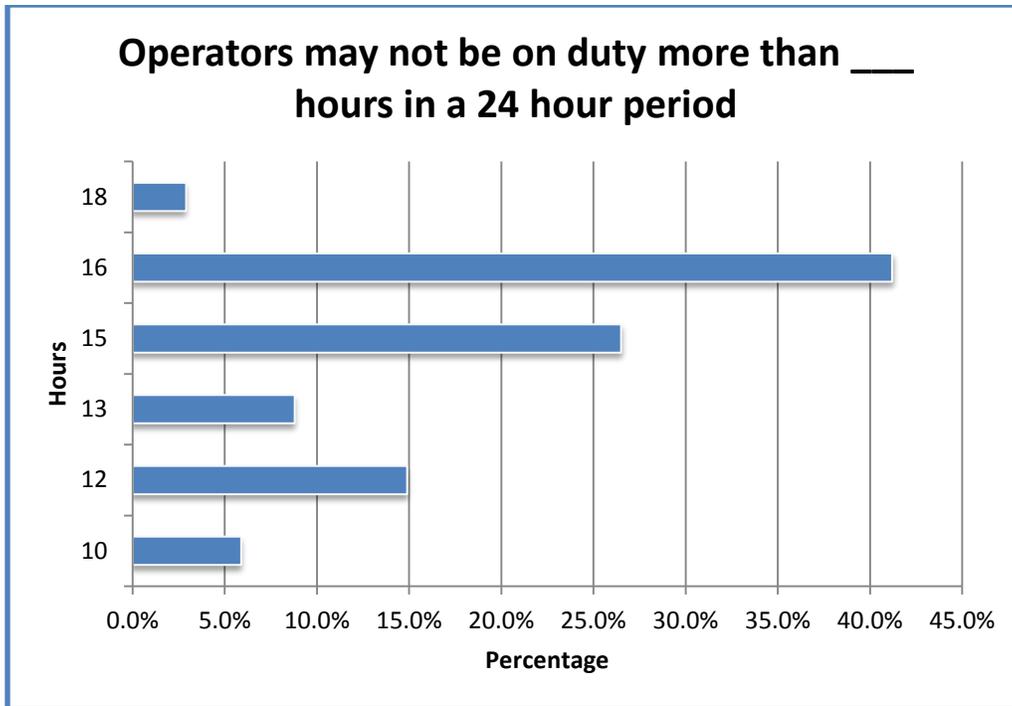
A operator shall not be permitted or required to be on duty more than ____ hours in any period of seven consecutive days.

Operators must observe ____ consecutive off duty hours at the end of seven consecutive days (off duty)

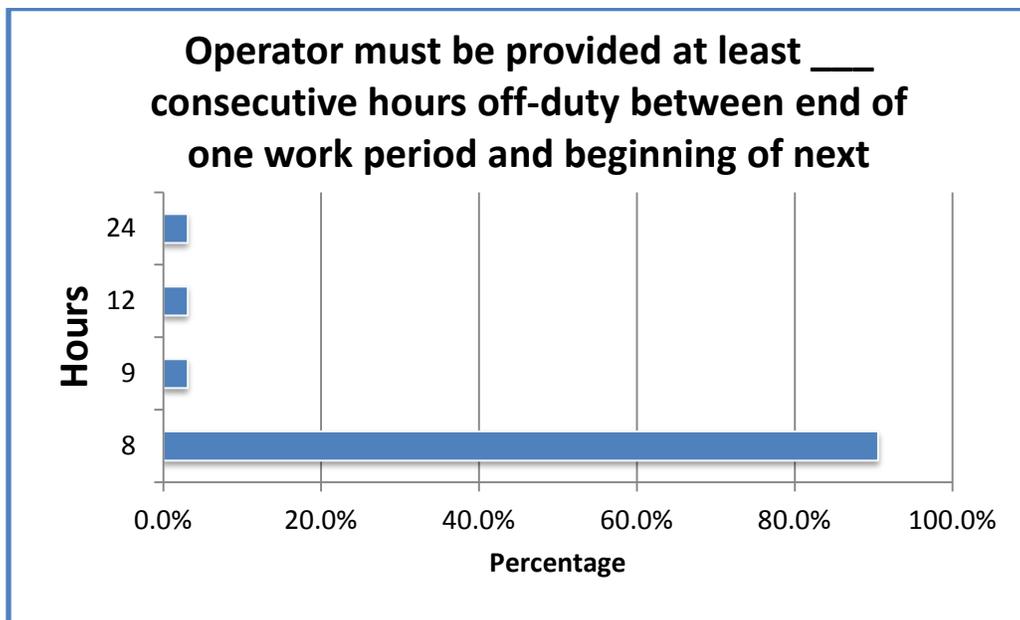
The responses to these questions are summarized on the following series of tables.



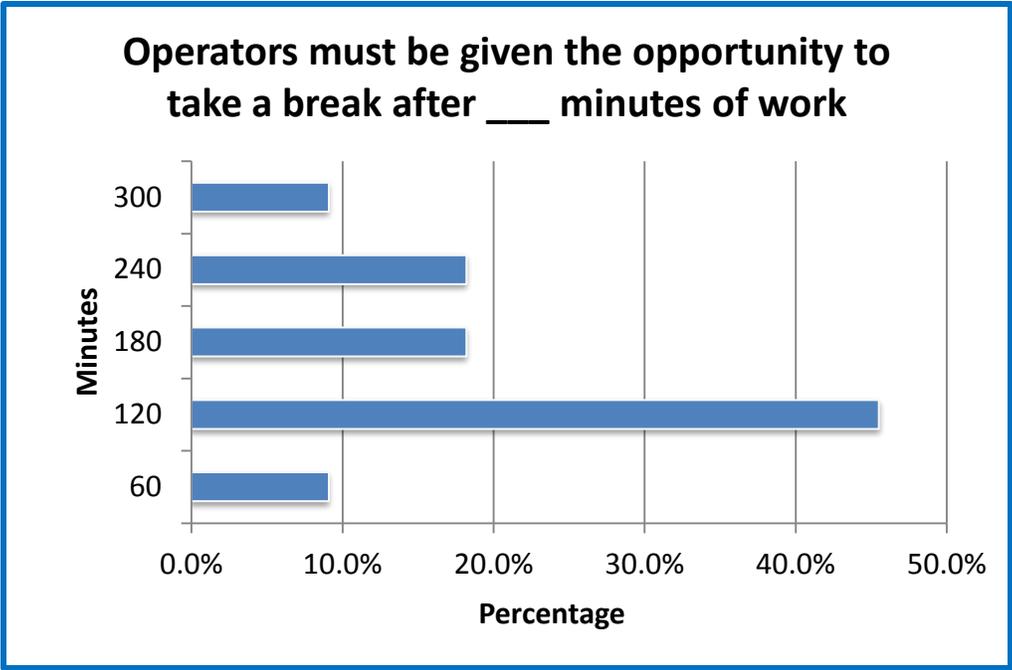
The most frequently cited standard for driver hours was not more than 12 hours in a 24 hour period. This was followed by not more than 10 hours in a 24 hour period.



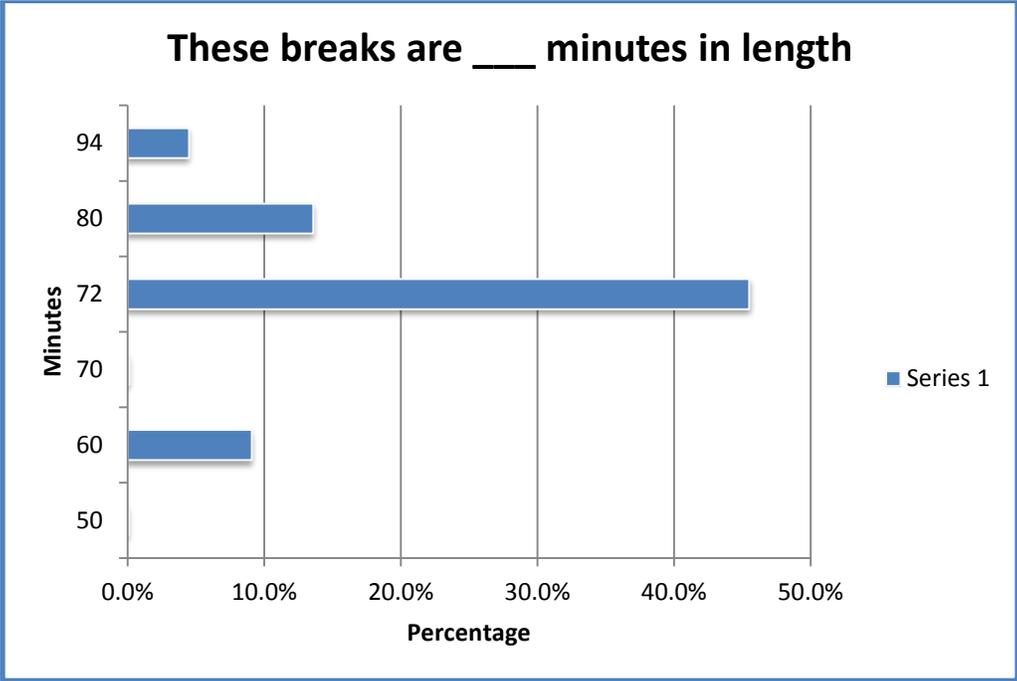
The most prevalent response to this question was not more than 16 hours on duty in a 24 hour period. This was followed by those that follow a 15 hours on duty per 24 hour period standard.



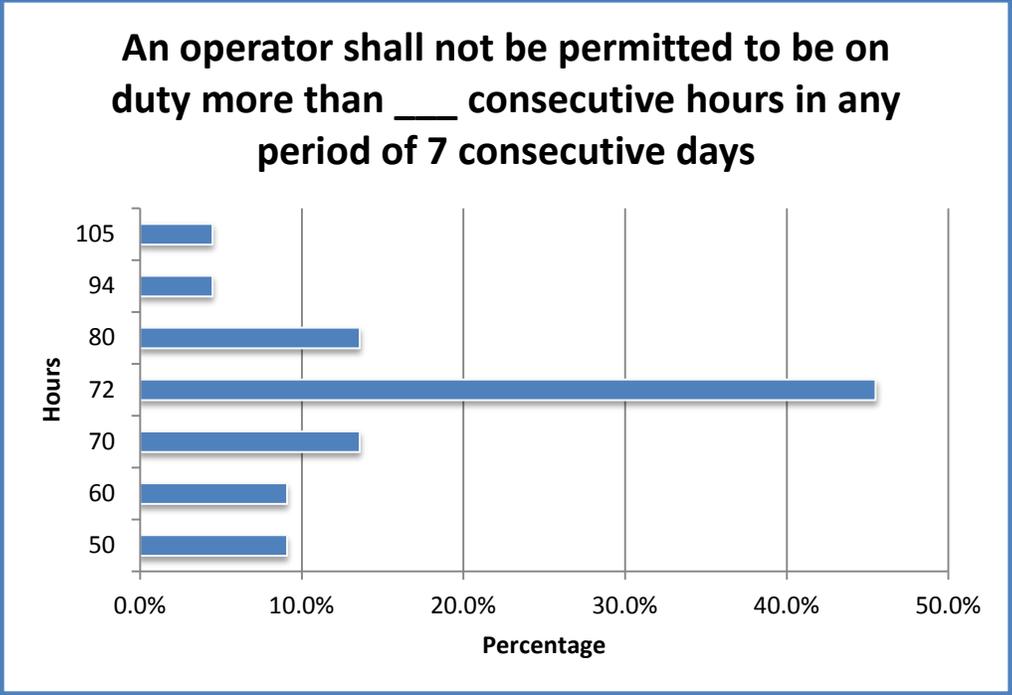
A significant majority of agencies require drivers to be provided at least eight consecutive hours off-duty between the end of one work period (shift) and the beginning of the next.



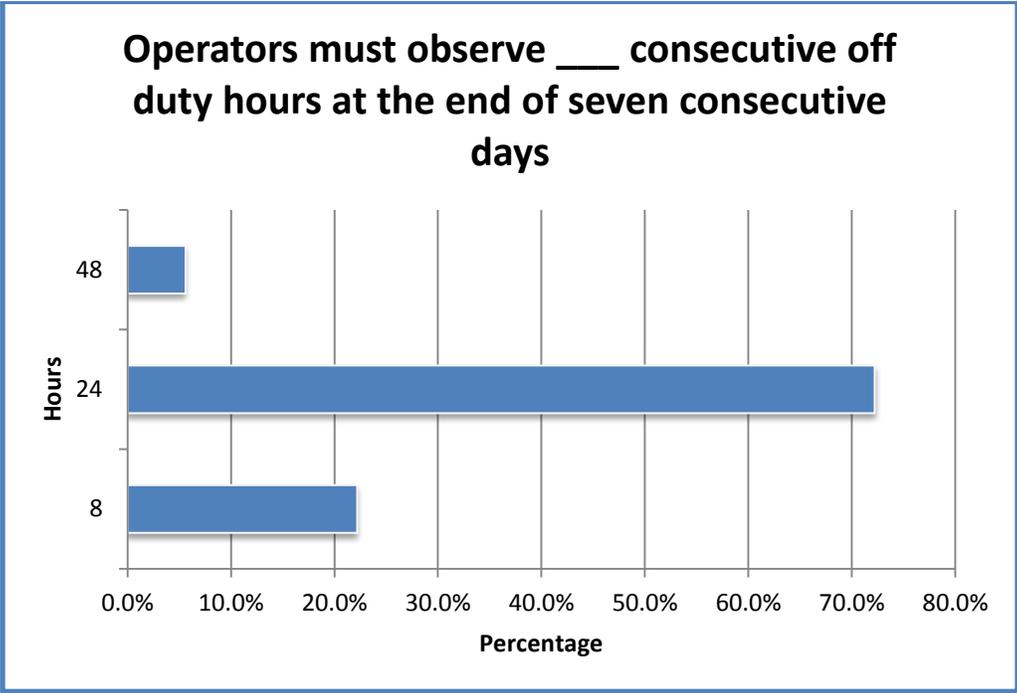
A significant number of respondents indicated that their operators are given the opportunity to take a break after 120 minutes (2 hours) of work.



The most prevalent response to this question was a break time of 72 minutes in length.



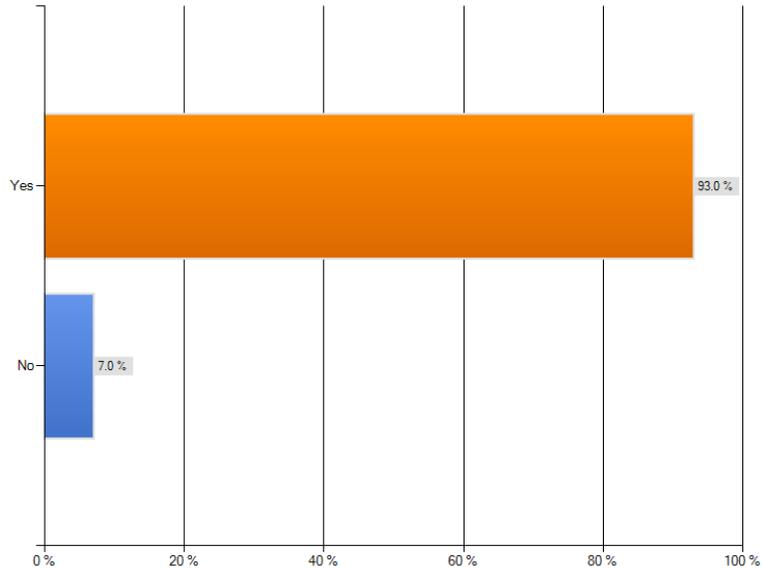
The majority of the responses to this question reflected a standard of not more than 72 consecutive hours on duty within a period of seven consecutive days.



The most prevalent response to this question was an observance of 24 hours off duty at the end of seven consecutive days.

The next series of questions and associated responses are related to training.

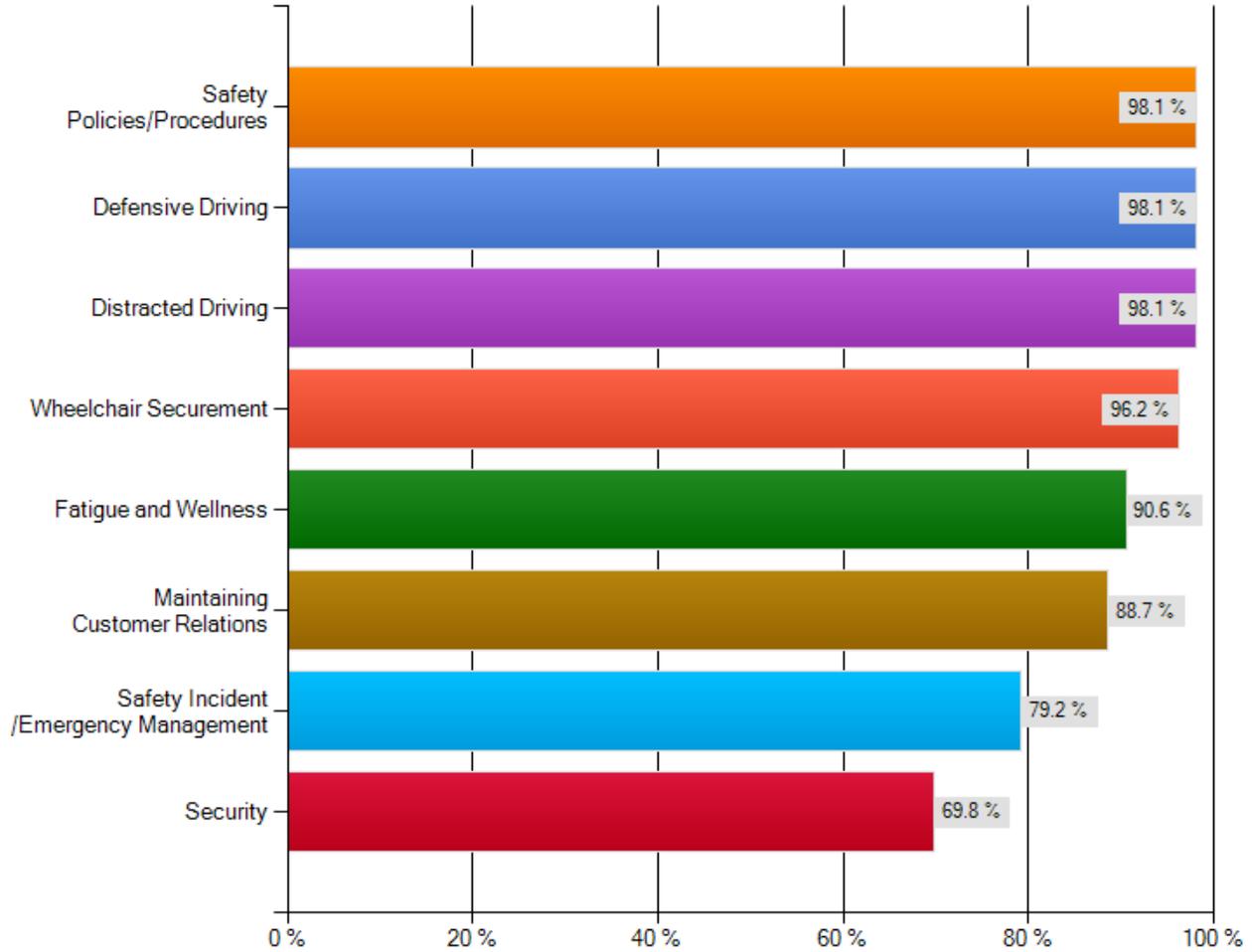
Q32. Do you offer ongoing safety training for operators?



Ninety-three percent (53 out of 57) of the respondents indicated that their agencies had ongoing safety training for their operators. The four respondents who indicated that their agencies did not provide ongoing safety training for their operators tended to be those agencies that did not directly operate any transit services. It is likely that the transportation management company or transit provider may be providing this training to the operators within the system.

Question 33 asked the respondents to mark all safety subjects that are included within their operator refresher safety training.

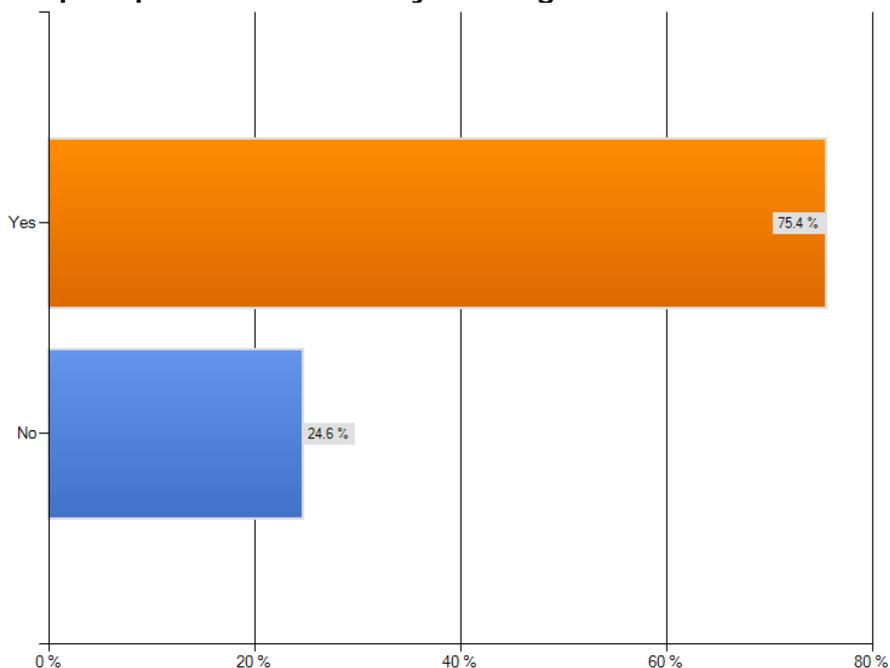
Q33. If yes, please mark all safety subjects that are included in operator refresher safety training:



Out of the 53 individuals who responded to this question, 52 indicated that their operator refresher safety training includes safety policies/procedures, defensive driving and distracted driving. A significant majority of the agencies represented by the respondents also consistently provide training in the areas of wheelchair securement (51 out of 53 responses) and fatigue and wellness (48 out of 53 responses).

In the review of the responses to this question and those of Question 25 related to causal factors, the majority of those that indicated “Human Factor Errors (Not Following Policy/Procedure)” as a primary causal factor are also those that include safety policies and procedures within their refresher training. Operators within these agencies are receiving training on safety related policies and procedures. However, there are a few operators who have received this safety training and have failed to consistently follow the policies and procedures established by their agencies.

Q34. Do you require post incident safety training?



There were 57 responses to this question. Of these responses, 43 individuals (75.4%) indicated that their agencies require post incident safety training for their bus operators. Those that did not require this training included representatives from both large and small agencies, operating in urban, suburban, regional, and rural environments, in various states.

The following open-ended question was provided to gather additional insight from respondents on the type of delivery mechanisms utilized for this training.

If yes: Individual or group? Classroom? In-vehicle? Or, both classroom and in-vehicle?

As previously discussed, just over 75 percent of the respondents indicated that their agency requires post incident safety training. Agencies responding in the positive were asked to provide further detail. Those responses are listed below.

Opened Ended Responses:

- Both
- It depends on the incident, but it can be individual or group in both the classroom and/or vehicle.
- Individual - both classroom and in-vehicle
- Only if determined to be preventable or if the operators actions could not be completely discounted as a cause.
- Individual performance coaching
- Both
- Both classroom and in vehicle

- Preventable Accident Only - Ride Check for the first preventable accident, followed by 1 day and then 3 day depending on frequency of preventable accidents over time
- Individual; classroom and In-vehicle
- Individual, classroom and on the road training in a vehicle
- Classroom and vehicle
- Working toward implementation of such a program.
- Individual classroom and in-vehicle
- Both individual and group. Smith System
- Both - depending on the incident
- If driver is at fault, he will have a check ride to determine course of action.
- After two or more preventable accidents or a known serious safety incident.
- Individual classroom and on road prior to restoring to revenue service.
- After each preventable accident.
- Both in classroom and in vehicle
- Individual
- For individuals if it involved a preventable accident. Generally in vehicle refresher.
- Both classroom and in-vehicle.
- Classroom
- Depends on the nature and severity of the incident.
- All of the above.
- Both class room and simulator individual and group onboard ride checks.
- Individual, three hours combined classroom and in vehicle depending on incident
- This is done on a one/one basis and is conducted on each situation
- Safety training is both classroom and in-vehicle training sessions.
- Classroom / simulator / in-vehicle
- Usually one on one.
- Individual

Q35. For the average operator, how many times per year are the following conducted?

	Times per Year							Response Count
	0	1	2	3	4	5	more	
Classroom Safety Training	10.7% (6)	42.9% (24)	16.1% (9)	3.6% (2)	8.9% (5)	1.8% (1)	16.1% (9)	56
Computer/Online Training	70.2% (33)	19.1% (9)	4.3% (2)	2.1% (1)	0.0% (0)	0.0% (0)	4.3% (2)	47
Behind the Wheel	18.9% (10)	50.9% (27)	20.8% (11)	1.9% (1)	0.0% (0)	3.8% (2)	3.8% (2)	53
Simulator Training	85.7% (42)	10.2% (5)	2.0% (1)	0.0% (0)	0.0% (0)	0.0% (0)	2.0% (1)	49

Question 35 asked respondents to indicate how often their average operator received one of the four categories (e.g., classroom, computer/online, behind the wheel, and simulator training) of safety related training identified in the question. For the majority of respondents, classroom and behind the wheel training are provided one time per year.

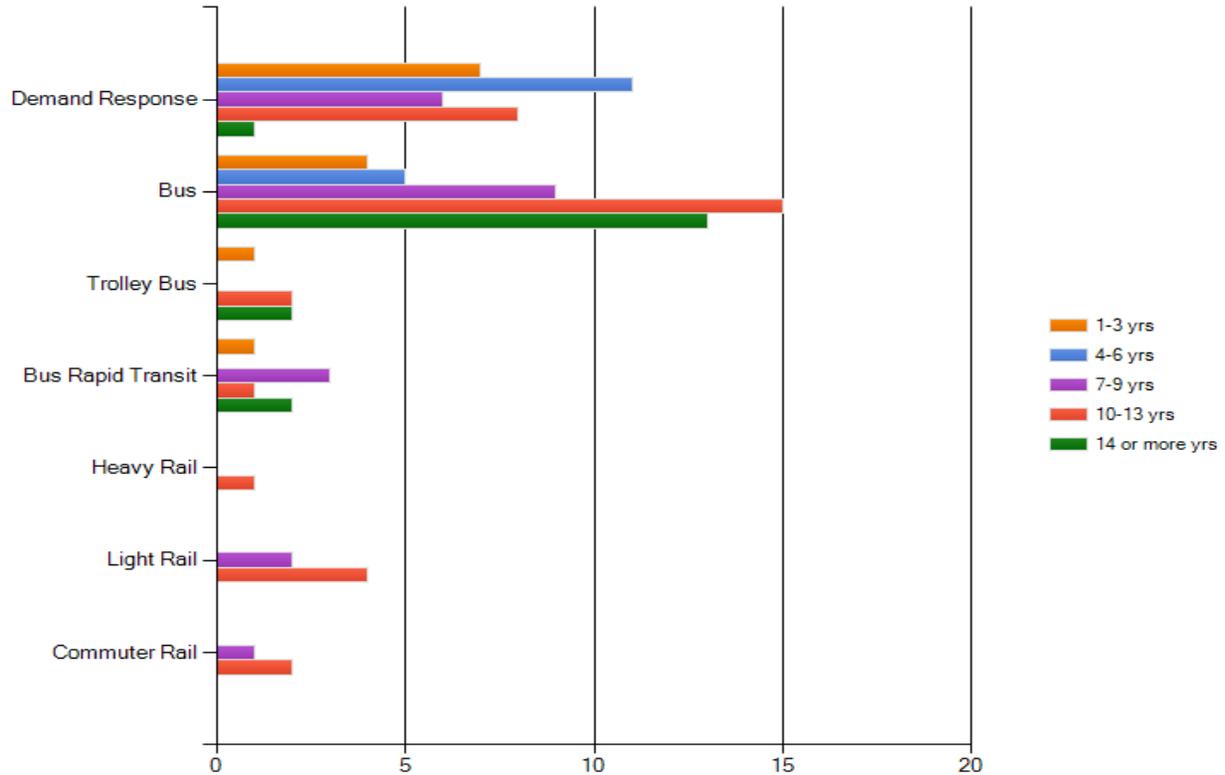
The responses also reflect the level of use of alternate training delivery methods. In the responses, 70.2 percent stated that they do not utilize computer/online training and 85.7 percent indicated that they are not utilizing simulators in their training programs.

The reluctance to provide computer based or online training for bus operators may be attributed to operator retention issues on topics such as safety related policies and procedures, especially for operators in transit bus and demand response services. When you review the responses to Question 36 below, for operators within demand response or bus transit service operations, the average length of service tends to be shorter than that for other modes. The age of these employees may be a factor both in the length of service and the level of training topic retention.

In "A Contemporary Model: The Culture of Progressive Longitudinal Training in the Public Transit Industry," the authors reflected on the evolution of adult learning, the shift from the standard practice of classroom training to training platforms that make greater use of technology. With the changing demographic of our workforce, influenced by those young adult workers, the authors provide that "curriculum must be developed that complement and leverage society's growing dependency on immediate access to information (electronically), allowing facilitators to design curricula and questions of sufficient breadth that students must use digital access to properly learn and examine the answer...students create 'virtual textbooks' that redefine the act of acquiring useful information. . . ." ¹²⁶ For younger transit operators to successfully learn and retain the curriculum delivered, the use of classroom training must be supplemented by the use of electronic learning (e-learning) platforms. Transit agencies must be positioned to effectively transition to these technologies.

¹²⁶ Reep, A. and E. Bart, "A Contemporary Model: The Culture of Progressive Longitudinal Training in the Public Transit Industry." *Transportation Research Board 2013 Annual Conference Compendium*, paper number 13-0589, Transportation Research Board of the National Academies, Washington, DC., 2013. Available at: <http://aonline.trb.org/2vccsm/2vccsm/1>

Q36. What is the average length of service of your operators?



One of the last questions asked the respondents to indicate the average length of service of their operators. The majority of the respondents to this question represent agencies that provide demand response (33 out of 51 respondents) and bus services (46 out of 51). The agencies that operate demand response services indicated that the majority of their bus operators have only four to six years of experience at the agency. Agencies that operate transit bus service indicated that the majority of their bus operators have an average length of service between 10 and 13 years. Operators working at agencies that provide rail service tend to have longer lengths of service.

Q37. Are there any other safety related issues, considerations or best practices, etc. not addressed in the survey that would like to share?

The final survey question provided the respondents with an opportunity to include their input on other safety related issues.

Opened Ended Responses:

- I am noticing generational differences in the workplace. We have to modify our training to serve various cultures and adult learners while staying on message.
- Professional development for Safety Department personnel (succession planning), industry certification of safety personnel, shortage of transit specific safety personnel in the industry, standardized/consistent classification of accident type, standardized/consistent classification of preventable accidents, safety

equipment/tools, MAP 21 safety standards, outside/external training for safety department personnel, % of agency budget directed to safety department, % of agency budget directed to safety training, % of agency budget directed to training safety personnel.

- System security training to follow up our Emergency Preparedness Training Matrix; 24 topics per year trained two topics monthly, and Customer Service training 7.5 hours (Three sessions) per employee (all staff, both agency and contract provider annually).
- Weather related safety plans for the location itself, vehicles, and all employees. We maintain action plans for winter weather, hurricanes, floods, etc. Communication is the key so everyone is on the same page
- Accident investigation results can generate changes to your equipment or at location with problems. The use of this data is critical.
- Safety performance measures between a governmental agency and a contractor (i.e. liquidated damages).

Transit Safety Survey Conclusions

The following conclusions are based on the responses to the survey questions and a thorough review and comparison of responses to questions that have a cause and effect relationship. The survey conclusions are provided below and are organized by topic.

Conclusion 1: Safety Department/Function Organization

The majority of respondents to the survey indicated the existence of a single safety-department within their agency (63.5%). Several other respondents indicated that there was no organized safety department, but that there were safety functions that were the responsibility of other departments within the agency (30.2%). A slight majority of respondents indicated that the leader of their agency safety department reports directly to the Executive Director or CEO of the agency (44.1%), with slightly fewer respondents (42.4%) indicating that their safety department or function leader reports to a department director. Only 23.7 percent of respondents indicated that the safety department leader was “on-par” with other members of the executive team. With the tremendous emphasis placed on transit safety in the advent of MAP-21 and in anticipation of upcoming regulations and guidance on the topic, it would seem critical to allow an agency’s safety lead to be on an equal footing with members of the leadership team. While there is no evidence available in the responses to the survey to suggest that this diminishes the influence or focus on safety for an agency, it does require additional reflection.

When asked about the number of full time equivalent positions dedicated to safety functions within these agencies, over 80 percent of respondents indicated that there are 10 or fewer FTEs assigned to safety functions. It is recognized that the staffing levels fluctuated depending upon the diversity and size of the transit agency.

There was insufficient detail provided in the responses to make any observations about the most effective structure of a safety department or function, nor a standard for the number of FTEs and agency should dedicate to those safety related functions.

Conclusion 2: Safety Functions

The safety functions that are consistently applied in those agencies represented by the survey respondents include (in order of prevalence):

- Compliance with state and Federal regulations
- Establishment of corrective action plans and providing feedback to management
- Event and incident reporting
- Development of and enforcement of safety related rules and policies
- Training
- Event and incident analysis
- Accident review board

Of considerable importance to these agencies are event and incident reporting and analysis coupled with the establishment of corrective action plans. Central to these activities is the thorough review of accidents and incidents. The majority of respondents indicated that they review a significant majority of all accidents and injuries occurring within their systems, including those that are below the “major incident thresholds” established for NTD reporting.

While “accident review board” was not one of the most prevalent responses to this survey question, further examination of this question and Question 11 related to the existence of a formal accident review board within the agency confirm that the accident review board function has prevalence within those transit agencies represented. Responses to Question 12, an open-ended question of the composition of the accident review board, suggest variability in the representatives assigned to the board. Yet, for the majority of respondents, whether the accident review board was independent of a single office within a transit agency or simply a part of the safety functions performed by the agency, there was diverse representation from within the agency (and in a few cases, from outside the agency). A significant number of the accident review boards that exist within the agencies represented include the driver (or representative), union representative, the employee’s supervisor (or operations manager), and member of the management team.

There was insufficient detail to perform any analysis to suggest any standards related to the minimum safety functions that should be employed by transit agencies. However, each of the functions delineated above are recognized as critical to the safety performance of a transit agency.

The way in which the accident review board is organized within transit agencies represented and the membership of these boards are inconsistent. However, there is consistency in the recognition that the function is necessary and that representation must include members from a cross section of the agency.

Conclusion 3: Safety Data, Performance Measures, and Risk Assessment

Transit agencies are motivated to improve their safety performance, listing the most common motivators as:

- Reducing fatalities and injuries
- Reducing crashes
- Setting a high industry safety standard

The activities they undertake to improve their safety performance and further the safety goals for their agencies, include those activities performed through the safety functions discussed in the previous section. But, these activities are grounded in the collection of safety data, the establishment and tracking of performance measures, and risk assessment.

A considerable majority of respondents indicated that their agencies have established and are tracking performance measures. The most frequently cited performance measure was accidents per 100,000 miles (with variation), with many also tracking preventable accidents, workers' compensation and personal injury claims. The majority of these agencies are reporting safety measures at least monthly (77.4%), with other respondents indicating quarterly (13.2%), annually (3.8%), and bi-monthly (1.9%). Only 3.8 percent of respondents reported that they do not report performance measures. Of those agencies that do report on a regular basis, the majority are reporting their safety performance measures to the Executive Director/CEO (90.2%). Others are reporting to a safety review committee or accident review board (49.0%), the agency's board of directors (37.3%), or the risk management department (37.3%).

The tracking and monitoring of safety data is ubiquitous across agencies. The majority of respondents indicated that they track safety data for incidents that are below NTD's thresholds for major incidents and are reporting those to NTD or other entities. In addition, they are utilizing databases or electronic reporting systems other than NTD or the SSO safety data reporting system.

Risk assessments are an integral part of the safety function. While risk may become evident in the review of accident and incidents, there are additional activities performed by transit agencies that are carried out to heighten the awareness of risks and effectively respond to those risks. The most prevalent tools utilized to identify safety related issues are internal safety reviews and accident and incident investigations and reports, both selected by 100 percent of survey respondents. Passenger reports was also indicated as a way in which transit agencies identify safety related issues (92.6% of respondents).

Conclusion 4: Transit Incident Causal or Contributing Factors

A vital element to risk assessment is the identification of causal or contributing factors to incident events. All survey respondents indicated that their agencies are examining causal or contributing factors during safety event investigations. With the exception of those agencies operating heavy rail transit, the most prevalent factor in transit incidents are those related to human error, specifically those in which the employee was not following an agency policy or procedure. It is expressed overwhelmingly in both transit bus and demand response. The most significant human factors contributing to incidents include, in order of rank: not following policies or procedures; human factor other; disobeying traffic laws; and human factors due to training.

Conclusion 5: Safety Related Technology Applications

Transit agencies are employing a variety of technology applications in an effort to improve transit system safety. These applications can address a number of safety concerns including:

- Reducing the number of incidents and accidents
- Improving driver performance
- Improving passenger safety
- Improving employee safety

For bus transit systems, the most widely implemented technologies include the following (with the safety concern most frequently cited appearing in parentheses).

- Security cameras on transit vehicles (improves passenger safety)
- Driver-activated emergency buttons (improves employee safety)
- Security cameras in transit facilities (improves passenger safety)
- Vehicle tracking systems (improves driver performance)

For rail transit systems, the majority of respondents in all categories with the exception of “security cameras on transit vehicles” indicated “not applicable.” Of those who did indicate that specific technologies had been applied in their agencies, the technologies most frequently referenced include the following (with the safety concern most frequently cited appearing in parentheses).

- Security cameras on transit vehicles (improves passenger safety)
- Security cameras in transit facilities (improves passenger safety)
- Stop announcements (improves passenger safety)
- Electronic data recorders (reduces accidents/incidents)

Conclusion 6: Safety Training

A significant majority of respondents indicated that their agencies do provide ongoing safety training for their operators (96.5% adjusted based on review of subsequent responses and follow-up with agency representatives). The training topics most prevalent (indicated by 52 of the 53 respondents to this question) are:

- Safety policies and procedures
- Defensive driving
- Distracted driving

Transit agencies are also providing post incident training to their operators (75.4%).

In general, safety training is being conducted. However, in the examination of causal factors identified for transit incidents, there were significant observations that those incidents occurred due to “Human Factor Errors (Not Following Policy/Procedure.” We later learn, as reflected above, that one of the training topics most frequently indicated as a part

of annual refresher training is the review of safety policies and procedures. It is unknown whether this is a function of the quality of the training curriculum or an operator's inability to retain training materials due to the delivery method utilized.

When asked about the number of times per year operators are training and by what training methods, the majority indicated that classroom (50 out of 56 respondents) and behind the wheel training (43 out of 53 respondents) are the most common methods. Most agencies are providing classroom and behind the wheel to their operators only one time per year. There are very few agencies that are utilizing computer based/online training (14 out of 47 respondents) or simulator training (7 out of 42 respondents) in their annual training programs. For agencies that are utilizing these methods, the majority are only providing this training to their operators one time per year.

While there are agencies that are employing alternate training methods, for many agencies, the use of classroom training is still the most predominant training delivery method utilized. With the changing demographic of the transit workforce, transit agencies must be positioned to respond to the different learning styles that become prominent. For younger operators to successfully learn material and retain the curriculum delivered, the use of classroom training must be supplemented by the use of electronic learning (e-learning) platforms and transit agencies must be positioned to effectively transition to these technologies.

Conclusion 7: Other Policies, Rules and Regulations

Other policies, rules and regulations followed by the agencies represented by survey responses include:

- The reporting of over the counter medications (60.0% of respondents)
- The reporting of outside employment (57.6% of respondents)
- A policy on distracted driving (96.7% of respondents)
- Operator hours of service (86.4% of respondents)
-

The majority of survey respondents (53.3%) indicated that their agencies are following a state standard/rule/regulation for operator service hours. This was followed by corporate (24.4%) and FMCSA rule/regulation (22.2%).

The most frequently cited standards reflected in the survey responses include:

- Operators may not drive more than 12 hours in a 24 hour period.
- Operators may not be on duty more than 16 hours in a 24 hour period.
- Operators must be provided at least 8 consecutive hours off-duty between the end of one work period and the beginning of the next.
- Operators must be given the opportunity to take a break after 120 minutes (2 hours) of work.
- These breaks are 72 minutes in length.
- Operators shall not be permitted or required to be on duty more than 72 hours in a period of 7 consecutive days.

- Operators must observe 24 consecutive off duty hours at the end of 7 consecutive days (off duty).

(While a number of survey respondents represent Florida transit properties, the cited standards above are not specific to Chapter 14-90, Florida Administrative Code and should not be assumed to be the standard for Florida.)

Summary

Overall, the agencies represented by the survey respondents are operating within safety focused environments. They actively evaluate the safety of their systems through internal and external monitoring and evaluation, investigating; analyzing and reporting safety incidents; addressing safety issue areas with corrective actions, policy and procedural changes, and training; and they have defined safety performance measures that they actively track and review.

Safety training does appear to be effective in general. However, in the examination of causal factors identified for transit incidents, there were significant observations that those incidents occurred due to "Human Factor Errors (Not Following Policy/Procedure." We later learn that one of the training topics most frequently indicated as a part of annual refresher training is the review of safety policies and procedures. It is unknown whether this is a function of the quality of the training curriculum or an operator's inability to retain training materials due to the delivery method utilized.