

# Understanding the Prevalence of Mental Health and Behavioral Distress in Transit Assaults and Presenting Targeted Response and Mitigation Methods to Reduce Victimization Trends

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- Chicago Transit Authority (CTA), Chicago, Illinois
- Dallas Area Rapid Transit (DART), Dallas, Texas
- Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, California
- Miami Dade Transit (MDT), Miami, Florida
- New Jersey Transit Corporation (NJT), Newark, New Jersey
- Pinellas Suncoast Transit Authority (PSTA), St. Petersburg, Florida
- Tri-County Metropolitan Transportation District of Oregon (TriMet), Portland, Oregon
- Washington Metropolitan Area Transit Authority (WMATA), Washington, DC

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# Executive Summary

## Overview

In 2023, Americans took 6.9 billion trips on various forms of public transit, including buses, trains, and light rail systems, as reported in the Federal Transit Administration (FTA) National Transit Database (NTD). Transit riders and workers alike should feel safe on their journey and in their workplace. However, public transit systems and their riders and transit workers face a broad spectrum of safety incidents, including physical and verbal assault, sexual harassment, theft, and occasionally homicide and suicide.

This project included an extensive literature review and case studies of 10 public transit agencies that included:

- Ann Arbor Area Transportation Authority, Ann Arbor, Michigan
- Broward County Transit (BCT), Ft. Lauderdale, Florida
- Chicago Transit Authority (CTA), Chicago, Illinois
- Dallas Area Rapid Transit (DART), Dallas, Texas
- Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, California
- Miami Dade Transit (MDT), Miami, Florida
- New Jersey Transit Corporation (NJT), Newark, New Jersey
- Pinellas Suncoast Transit Authority (PSTA), St. Petersburg, Florida
- Tri-County Metropolitan Transportation District of Oregon (TriMet), Portland, Oregon
- Washington Metropolitan Area Transit Authority (WMATA), Washington, DC

The primary focus of each visit was on mental health, substance abuse, and assault prevention strategies within the transit system, particularly among unhoused individuals and individuals facing mental health crises.

## Key Takeaways

### Public Transit Major Assault Injuries and Trends

NTD data highlights a significant rise in assault-related injuries on public transit in the U.S., increasing by 152% from 2014 to 2023. Assaults now account for more than one-fifth of all transit injuries, with a majority occurring on vehicles or at transit stations. The trends indicate varying rates of assault injuries across transit modes, with rail showing higher rates compared to buses, posing challenges that transit agencies are actively addressing through targeted safety measures. In addition, these incidents have necessitated efforts across states, localities, and transit agencies to mitigate threats through comprehensive training and resources for transit personnel, thereby fostering safety for both workers and passengers. While definitions and responses to these incidents may vary across states, localities, and transit agencies, the overall aim remains consistent: to mitigate threats by understanding and addressing contributing factors.

The contributing factors to these assaults can include economic disparities, homelessness, scheduling issues, behavioral health challenges, and substance misuse. Addressing these incidents requires transit agencies to be cognizant of mental health-related incidents, which can range from minor inconveniences to assault events, and to effectively mitigate those events by recognizing the signs and symptoms that contribute to aggressive behavior and implementing targeted interventions. Additionally, the unpredictable nature of incidents and the critical gaps in transit vehicle operator preparedness necessitate enhanced training programs. Current practices emphasize comprehensive training protocols, federally mandated safety measures, and post-assault support, although inconsistencies in training and protocols due to varying local agency discretion present ongoing challenges.

### Mental Health-Related Actions and Assaults

In transit settings, individuals with untreated or inadequately managed mental health conditions experience a reciprocal relationship between victimization and perpetration, leading to incidents of verbal altercations, physical aggression, harassment, and vandalism rooted in symptoms such as psychosis, impulsivity, and perceived threats, highlighting the need for targeted interventions and enhanced safety measures.

Distinguishing these actions arising from mental illness, which could include symptoms such as hallucinations and impulsivity, that are a result of minor inconveniences such as transit fare disputes or schedule misunderstandings is crucial for developing effective intervention strategies in transit environments. Several symptoms of mental illness can contribute to aggressive behavior such as (1) psychosis and delusional thinking patterns, (2) trauma exposure and post-traumatic stress disorder (PTSD), and (3) impulsivity.

## Unpredictability of Incidents and Transit Operator Preparedness

Incidents on public transit systems are unpredictable due to diverse factors, including environmental conditions, human behavior, and security vulnerabilities. These factors impact operational reliability, passenger safety, and economic stability. It is critical that transit workers, specifically transit vehicle operators and other frontline workers, are prepared for these unpredictable occurrences. Transit frontline workers, particularly bus drivers, face significant challenges in managing incidents involving severe behavioral health symptoms and aggressive passenger behavior due to inadequate training in mental health awareness and crisis intervention. This is compounded by the nature of assault behaviors and personal traumas they may encounter, highlighting critical gaps in preparedness and the need for comprehensive training programs to ensure both operational safety and effective crisis management.

## National vs. Local Training and Protocol Requirements

In the U.S., inconsistencies in training and protocols for transit system assaults stem from limited federal regulations, with undefined de-escalation training being the only required measure. Additionally, other preventive efforts vary based on local agency discretion; barriers to additional measures include (1) funding constraints preventing enhanced physical barriers and comprehensive training, (2) staffing shortages affecting operator availability, and (3) varying definitions and consequences for assault among transit agencies. These all contribute to inconsistencies and unresolved issues at both the state and local levels.

## Case Study Summary and Project Lessons Learned

The 10 case study agencies that were a part of this research have made significant progress in recognizing and addressing the causal or contributing factors in assault events occurring on their systems and within their facilities. They have recognized the ever-evolving complexity of assaults, both those on transit workers and on passengers. For these case study agencies and many public transit providers across the U.S., mental/behavioral health, substance abuse, and the challenges individuals face who are experiencing homelessness have become more evident and have impacted the safety and security of those working within and riding those systems. Each case study transit agency has initiated diverse and multi-faceted mitigation strategies and community-based partnerships to help alleviate these burdens.

However, in general, across the transit industry, significant gaps remain, particularly in standardizing the definition and reporting of assaults, ensuring sufficient funding for training, and addressing systemic issues such as homelessness and substance misuse. These challenges highlight the need for coordinated national and agency-tailored approaches to improve safety and support within the transit sector. The lessons learned from case study agencies and the literature review conducted as a part of this study inform the recommendations to the public transit industry presented below.

- *Establishing a consistent and clear definition of assault is essential.* Transit agencies, both those who do and those who do not have dedicated law enforcement units, must work across jurisdictional boundaries. When there are many and sometimes conflicting definitions of assault, or battery, or related terms, arrests, prosecution, and associated penalties can create significant confusion and can limit transit agencies' ability to secure their systems and facilities. By harmonizing definitions, policymakers can enhance legal clarity, foster broader understanding among law enforcement and judicial entities, and ensure equitable treatment for individuals across these jurisdictions.
- *Expanding de-escalation training* to include mental health awareness, engaging with those who have mental illness or who may be experiencing drug induced outrage, and utilizing real-world scenarios in the training is a best practice. Ensuring frontline workers and law enforcement are equipped to recognize and respond to mental health challenges effectively and respectfully is critical. There are transit agencies who have effectively implemented or procured MHFA, other proprietary curriculum and programs, and Red Kite Program services, and have created their own curriculum with the help of community service groups, including mental health and substance abuse clinicians.
- *Implementing specialized training for frontline workers and supervisors that is focused on recognizing the signs and symptoms* of mental health challenges, substance abuse, fatigue, depression, or other symptoms is important. These conditions may or may not be related to assault events, threats, verbal abuse, and other daily interactions employees have with passengers. It could be associated with things they have observed within the agency, including assaults on others, or could be completely independent of their position. Recognition of these challenges is such a seminal activity for a transit agency with a mature safety culture, but recognition alone is not enough. The public transit industry must provide EAPs that provide protections for transit workers who utilize them. This can even include offsite counseling by independent third parties. Peer support programs and activities likewise can create positive benefit and are a best practice.
- *Expanding law enforcement presence and fostering collaborative relationships* with local law enforcement agencies and community-based organizations can prove significantly beneficial. This can take the form of co-responder units who can provide on-site crisis intervention support, ambassador programs, enhanced outreach, and connecting those with mental illness, substance abuse, and those who are experiencing homelessness to resources and services. In addition, strengthening collaboration with local law enforcement authorities and mental health and substance abuse organizations may help address the root causes of transit-related violence.
- *Increased law enforcement presence can also reduce the perception of assault risks* and make transit workers and passengers feel safer. This presence and rapid response law enforcement initiatives would further support transit workers by ensuring improved response times to transit assault events and other criminal activity.

- *Improving data collection and associated analyses in support of risk assessment and management activities are vital.* Tracking assaults by location, time of day, causal or contributing factors, and other information regarding the assault event can identify patterns and assist agencies in developing targeted interventions and evaluate their effectiveness. There are current applications and programs that can be leveraged to support these activities. One example is the Microsoft Power BI data visualization tool used by BCT.
- *Implementing operator safety barriers across the transit bus fleet and mandating their use are central to reducing transit worker assault-related injuries and fatalities.* Safety barriers can enhance the safety of operators and passengers alike, thereby promoting a secure transit environment.
- *Expanding and enhancing video surveillance systems* on buses, trains, and at transit centers, particularly in high-risk areas, can further deter potential assaults, other forms of victimization, and vandalism. There may be benefits to surveillance systems that include monitors that provide real-time, observable passengers and potential offenders images. AI-enabled video systems, as an example, can be used to identify high-risk behaviors or situations and improve safety. In addition, these systems can also generate data analytics to further support risk assessment and management activities.
- *Expanding community outreach campaigns* can be effective in addressing contributors to assault events. This can include outreach to social service agencies, mental health clinics, support service groups who work with at risk individuals, local high schools, churches, and other community-based organizations.
- *Actively pursuing legislative support at both the state and federal levels to protect transit workers is vital.* The legal protections afforded to transit workers vary considerably from across the U.S. Case study agencies felt strongly that national legislation should be passed that provides protections for transit workers, minimum penalties for those who assault transit workers, and evidentiary protections for individuals who report assault events. At the state level, there are significant differences in the laws that exist (if they exist) and associated penalties. For agencies that work across state boundaries or other jurisdictional boundaries that may have inconsistent protections, enforcing associated laws and ensuring the prosecution of those who assault transit workers can be challenging.
- *Establishing and/or strengthening court advocacy programs* for transit workers who have been victims of assault or observed assault events, and who may be called upon to participate in assault-related legal proceedings could increase the potential for prosecution and provide emotional and financial support for victims. This could include legal protections, financial support for legal services, paid leave for transit workers that would be engaged in legal proceedings, and follow-up support.

## Conclusions

The challenges transit agencies face in addressing safety, mental health, and socio-economic factors are complex but not insurmountable. Addressing the rising incidents of assault on public transit systems requires a multifaceted approach that involves understanding the diverse contributing factors, from economic and social disparities to behavioral health challenges. Effective intervention strategies must distinguish between actions arising from mental illness and those that are due to minor inconveniences, with targeted measures to manage both. Comprehensive training for transit personnel, enhanced security protocols, and consistent support systems for staff and passengers are essential to mitigate risks and ensure safety. Although federally mandated regulations provide a foundation, local agencies must adapt and expand their measures to address the specific needs of their communities. By prioritizing these efforts, transit agencies can create safer, more reliable environments for everyone.



# 1. Introduction

The United States Department of Transportation (USDOT) has established strategic goals and objectives, which include safety, economic strength and global competitiveness, equity, climate and sustainability, transformation, and organizational excellence, all of which drive its “transformational investments.” USDOT’s safety goal states: “Make our transportation system safer for all people. Advance a future without transportation-related serious injuries and fatalities.” This research project—Understanding the Prevalence of Mental Health and Behavioral Distress in Transit Assaults and Presenting Targeted Response and Mitigation Methods to Reduce Victimization Trends—focuses on the strategic objectives established to achieve this goal: safe public, safe workers, safe design, and safe system. The research team included faculty from the Center for Urban Transportation Research at the University of South Florida (USF) and USF’s Department of Mental Health Law and Policy (MHLP).

## 1.1 Background

In 2023, FTA’s National Transit Database (NTD) monthly ridership data reported that Americans took 6.9 billion trips on public transit systems (NTD, monthly ridership, 2024) across all modes, including buses, light rail, subways, commuter trains, streetcars, trolleys, and more. In addition to ridership information, NTD collects data on major safety and security events via the platform’s Safety and Security 40 (S&S-40) form when they meet a minimum severity threshold. This threshold varies between rail and non-rail modes but generally includes events with a fatality confirmed within 30 days, an injury requiring medical transport, and evacuations for life safety reasons (NTD, Quick Reference Guide, 2024). Non-rail modes also report events causing property damage of \$25,000 or more. While these major events do not capture all incidents on transit systems, they are crucial for identifying serious trends due to their significant impact.

U.S. public transit systems face a broad spectrum of incidents, ranging from physical and verbal assaults to more severe cases such as sexual harassment, theft, and even homicide and suicide. There were over 2,200 major assault injuries sustained on public transit vehicles or within transit environments in the U.S. in 2023, the highest annual number recorded in the history of the data collection (NTD, 2024). The contributing factors to these assaults include economic disparities, homelessness, scheduling issues, behavioral health challenges, and substance misuse.

Public transit agencies must recognize these contributing factors and implement targeted interventions to prevent or reduce incidents where these conditions are present. In addition, mental illness must be recognized, and transit workers must have an understanding of and recognize the symptoms that can contribute to aggressive behavior. These events are or can be unpredictable, and the critical gaps in transit vehicle operator preparedness necessitate enhanced training programs to include sensitivity training or content that helps workers recognize these symptoms. While current industry practices emphasize comprehensive training protocols, federally mandated safety measures, and post-assault support, there are inconsistencies in training, protocols, and other

countermeasures and practices. The prevalence of these incidents, and the associated injuries provided above, underscore the necessity for consistent efforts across states, localities, and transit agencies to mitigate threats through comprehensive training and resources for transit personnel, fostering safety for both workers and passengers.

## 1.2 Research Method

This research project was performed to better understand the prevalence of mental health and behavioral distress in transit assaults and to present corresponding targeted response and mitigation methods to reduce victimization trends. It includes a literature review, a data presentation, and an overview of reported public transit assault-related events. It also examines the factors contributing to those events and documents public transit agency case studies. The literature review discusses some of the misconceptions of mental illness and associated stigmas and discrimination that can occur in response to these misconceptions. It discusses various approaches and strategies that transit agencies have used to prepare transit vehicle operators and other frontline workers to better recognize mental health presentations and engage appropriately. This study also highlights the evidence-based practices transit agencies can use to better prepare their systems and provide tools that employees can use to better communicate with individuals who may be having mental health-related episodes.

The research team gathered additional insight from 10 public transit case study site visits. The primary focus of each visit was on mental health, substance abuse, and assault prevention strategies implemented within the transit system, particularly those that address unhoused individuals and individuals facing mental health crises. Case study agencies included:

- Ann Arbor Area Transportation Authority, Ann Arbor, Michigan
- Broward County Transit (BCT), Ft. Lauderdale, Florida
- Chicago Transit Authority (CTA), Chicago, Illinois
- Dallas Area Rapid Transit (DART), Dallas, Texas
- Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, California
- Miami Dade Transit (MDT), Miami, Florida
- New Jersey Transit Corporation (NJT), Newark, New Jersey
- Pinellas Suncoast Transit Authority (PSTA), St. Petersburg, Florida
- Tri-County Metropolitan Transportation District of Oregon (TriMet), Portland, Oregon

- Washington Metropolitan Area Transit Authority (WMATA), Washington, DC

The research team asked participants about assault events, the methods used to address assault-related challenges, and their successful community engagement and partnerships. Case study data collection was purposive and comprehensive. All site visits were audio recorded. The MHLP evaluation team also took notes and memos throughout the evaluation process. The research team additionally had biweekly debriefing meetings for an iterative and ongoing analysis approach.

The research team facilitated site visit qualitative data collection. An initial survey was sent to case study sites to help frame and better understand the current conditions at each transit agency (see *Appendix A*); a semi-structured, open-ended site visit protocol was developed iteratively by the research team (see *Appendix B*); and an interview questionnaire was developed for each site visit based on each agency's responses to the survey (sample included in *Appendix C*). This protocol was utilized to ensure data collection consistency. Data was collected between February and August of 2024 and stored in a password-protected and secure USF Box folder. Access to this folder was limited to members of the project team. Once uploaded into Box, all other forms of the files (audio, video recordings, field notes) were deleted from the team's computers.

Data management software was not used for analysis. Qualitative data was analyzed using a narrative analysis methodological approach (Braun & Clarke, 2006; Riessman, 2008). This approach allowed researchers to examine and interpret participants' shared lived experiences. Site visit data was transcribed verbatim for analysis utilizing Microsoft Stream through Microsoft Teams. The research team spent time immersed in the data to uncover underlying themes, patterns, and meanings embedded within the narratives. Findings were interpreted within the broader context of the evaluation research questions. Conclusions were validated through subjective assessment and debriefing during biweekly meetings with the research team.

The initial focus of the research team was an extensive literature review that is the topic of the following chapter.

## 2. Literature Review

### 2.1 Overview of Incidents that Occur on Public Transit Systems

Public transit systems are susceptible to a broad spectrum of incident types, reflecting the complex challenges faced by transit vehicle operators and passengers (Smith & Clark, 2000). According to the National Academies of Sciences, Engineering, and Medicine (2018) and Staes and Godfrey (2020), among the most prevalent are physical assault (such as hitting or spitting), verbal assault (such as threats or harassment), sexual harassment, theft, and, in rare cases, homicide and suicide. While definitions and responses to these incidents may vary across states, localities, and transit agencies, the overall aim remains consistent: to mitigate threats by understanding and addressing contributing factors (Davis et al., 2024; Melnik et al., 2024). This involves providing comprehensive training and resources to transit agency staff, including station personnel, security officers, transit vehicle operators, and fare collectors, to uphold safety and security within the transit environment (National Academies of Sciences, Engineering, and Medicine, 2018). By implementing proactive measures, a sense of security can be cultivated for both transit workers and passengers, thereby reinforcing the effectiveness and reliability of public transit systems.

According to the National Academies of Sciences, Engineering, and Medicine (2018) and Staes and Godfrey (2020), acts of assault against transit vehicle operators represent distressing incidents in which individuals, frequently passengers or external parties, resort to physical or verbal aggression against public transit personnel (e.g., transit vehicle operators, transit station staff, security personnel, etc.). These frontline workers endure reprehensible acts that not only endanger the emotional and psychological welfare of transit workers but also compromise passenger safety and undermine the seamless functioning and effectiveness of public transit networks (Silva & Assunção, 2015). Table 1 delineates the diverse array of incidents that can transpire within public transit systems, underscoring the multifaceted challenges transit personnel face and the imperative need for robust preventative measures and safeguards.

Table 1. Incident Types Occurring on Public Transit Systems

Type of Incident	Definition	Impact on Transit Agencies
Physical Assault	Any form of physical harm, such as hitting, kicking, punching, spitting, etc.	Physical assault can result in mild to severe bodily injury to transit vehicle operators and passengers. It can also compromise the safety of the entire vehicle and uninvolved passengers.
Verbal Assault	Any use of yelling, threatening, or offensive language towards another individual with the intent to provoke, or to elicit fear or emotional distress.	Verbal assault can contribute to a hostile work environment, impacting the mental health and job satisfaction of transit vehicle operators. Additionally, verbal assault can easily escalate to physical assault in some cases.
Assault with Weapons	Any act in which an individual attacks or threatens someone with a deadly weapon, such as a firearm or knife.	Threatening behavior or intimidation with a deadly weapon can create a sense of fear and insecurity for transit vehicle operators. Explicit threats can cause imminent risk to transit vehicle operators, the entire vehicle, passengers, and the general public.
Sexual Harassment	Unwelcome and inappropriate behavior of a sexual nature. This can include verbal, non-verbal, or physical misconduct.	Transit vehicle operators, especially women, are more vulnerable to experience direct sexual harassment and assault or to witness unwelcomed sexual behaviors and references.
Robbery/Theft	Unlawful obtainment of someone's property by force, intimidation, or threat.	Robbery and theft may be driven by criminal motives. Transit vehicle operators are vulnerable to experience these acts if barricades are not in place to protect them and their belongings.
Suicide	Intentionally causing one's own death.	According to the literature, transit vehicle operators, particularly those in transit rail have been the victims of witnessing suicides or suicide attempts. When these events occur, they have profound and often long-lasting emotional impacts on transit workers.

## 2.2 Contributing Factors to Assaults

To understand how to reduce assaults, it is imperative to understand the factors contributing to assault incidents. Transit assault is a complex issue influenced by various contributing factors, as elucidated in existing literature. Firstly, social and economic stress, often manifested through fare evasion, underscores the profound impact of economic disparities and financial strain on transit users (Melnik et al., 2024). These societal factors have the potential to escalate into confrontations with transit personnel or fellow passengers, thereby heightening the likelihood of assault incidents. Furthermore, homelessness emerges as a significant contributing factor, as individuals experiencing homelessness frequently rely on public transit facilities for shelter and mobility (Ding et al., 2022). Conflicts may arise from perceived territorial disputes or interactions with law enforcement, contributing to the prevalence of assault incidents within transit environments (Herring, 2019). Additionally, frustrations stemming from scheduling issues, such as delays or overcrowding, can precipitate altercations between passengers and transit personnel.

Secondly, individuals grappling with behavioral health challenges constitute a vulnerable demographic within transit environments (Smith et al., 2018). Those experiencing active mental health crises or episodes often face poverty and unstable housing circumstances, rendering them frequent users of transit systems with an inability to afford fare costs. Limited access to mental health resources, coupled with the unpredictable nature of such episodes, heightens the potential for confrontations and violent outbursts (Ahonen et al., 2019). Moreover, according to Robin et al. (2023), untreated mental illness can exacerbate the risk of substance misuse, as drug or alcohol intoxication can impair judgment and escalate aggressive behavior among transit users. Lastly, the presence of individuals with criminal intent poses a pervasive risk, with transit environments serving as venues for illicit activities such as theft, vandalism, and assault (Newton, 2014).

Addressing assaults within transit systems warrants a comprehensive approach that acknowledges and responds to these contributing factors. Implementing strategies such as enhancing security measures, providing staff training on conflict resolution, and establishing partnerships with social service agencies emerge as crucial avenues for creating safer and more secure environments for employees and passengers (National Academies of Sciences, Engineering, and Medicine, 2018). These findings underscore the necessity for transit authorities to adopt proactive measures informed by existing literature to mitigate assault risks and enhance the overall safety of transit environments.

## 2.3 Addressing Assaults in Transit Environments

Assault within transit environments is a paramount concern, with far-reaching implications for the safety and security of transit workers, passengers, bystanders, and the overall operational effectiveness of public transit systems. Recognizing the complexity of this issue, the literature advocates for a multifaceted approach as a best practice. According to FTA (2021), this approach entails several key components. Firstly, it could involve implementing various security measures such as surveillance cameras, emergency call boxes, and increased police presence. Additionally,

providing transit workers with comprehensive training covering conflict de-escalation strategies, self-defense techniques, and protocols for responding to assault incidents is deemed essential. Furthermore, promoting awareness campaigns to foster respectful behavior among passengers and facilitating incident reporting is a crucial mitigation strategy to address stigma (Babij et al., 2023). Moreover, collaboration with law enforcement agencies, community organizations, and a diverse range of stakeholders is recognized as indispensable for addressing the underlying factors contributing to violence in transit environments. Through the comprehensive implementation of these measures, transit authorities strive to cultivate a safer, securer, and more inclusive transit system, ensuring the well-being of all individuals (e.g., transit vehicle operators, passengers, bystanders, and the public) involved (Mackett, 2017).

## 2.4 Prevalence of Mental Health Symptoms, as Related to Assaults

One in five American adults reports having experienced a mental illness within the past year (NAMI, 2022), making it one of the most common health conditions in the U.S. While mental health symptomology does not equate to violence or aggression, some individuals with mental health diagnoses have aggressive behaviors and related symptoms. Mental health symptoms and their relationship with assaults in public transit settings have garnered increasing attention in recent years. Numerous studies (Smith & Clarke, 2000; Biggs et al., 2018; Davis et al., 2024) have highlighted the prevalence of mental health symptoms among individuals involved in assault incidents in public transit systems. Research by Smith et al. (2018) found that a significant proportion of perpetrators in transit-related assaults exhibited symptoms of various mental health disorders, including schizophrenia, bipolar disorder, and major depressive disorder. Similarly, a study by Jones and Brown (2019) reported a high prevalence of mental health issues among both perpetrators and victims of assault in urban transit settings.

Looking at the behavioral profiles of those involved in assaults, Jones and Brown (2019) revealed a notable prevalence of mental health issues among individuals involved in assault incidents, shedding light on the complex interplay between mental illness and aggressive behavior in public transit environments, with a substantial proportion of perpetrators and victims exhibiting symptoms indicative of various mental health disorders. The symptom expression of disorders ranges from mood and anxiety disorders to more severe conditions such as schizophrenia and bipolar disorder. This study, among others (Smith & Clarke, 2000; Posner & Sharp, 2019; Mackett, 2021), provides insights into the diverse range of mental health challenges faced by individuals navigating urban transit systems and underscores the significance of addressing these issues within the broader context of public safety and well-being.

## 2.5 Understanding Mental Illness-related Actions

It is imperative to acknowledge the difference between actions caused by mental illness and actions caused by inconveniences such as bus fare, not being able to find a seat, or misinterpreting the schedule. Distinguishing actions resulting from mental illness and those stemming from minor inconveniences such as bus fare disputes or seat availability can be challenging but crucial for

effective intervention strategies. While inconvenience-related conflicts often arise from situational stressors and interpersonal dynamics, actions associated with mental illness may involve erratic behavior, hallucinations, or delusions. Research by Patel and Lee (2020) suggests that individuals with mental health conditions may misinterpret transit schedules or experience heightened agitation due to environmental stimuli, leading to confrontations or aggressive outbursts.

Several symptoms of mental illness can be potential contributing factors to aggressive behavior. Psychosis and delusional thinking patterns can cause individuals to exhibit aggressive behavior, particularly when they perceive threats or feel a need to defend themselves against harm (real or imagined); this can be particularly true for delusions, which may lead to heightened paranoia and defensive reactions (Swanson et al., 2006). Irritability and mood instability can be common symptoms of mental illnesses such as mood disorders, including bipolar disorder and disruptive mood dysregulation disorder, leading to an increased risk of aggressive outbursts and agitation (Matthies et al., 2012). These dysregulated mood states can include anger, agitation, and aggression, leading to more impulsive behaviors (Matthies et al., 2012).

Further, trauma exposure and post-traumatic stress disorder (PTSD) are linked to increased aggression, particularly in response to trauma-related triggers or reminders of past traumatic experiences (Elbogen et al., 2014). Hyperarousal symptoms, such as hypervigilance and exaggerated startle response, can heighten individuals' reactivity to perceived threats, leading to defensive or retaliatory aggression (Elbogen et al., 2014). Substance misuse is a risk factor for impulsivity, reckless behavior, and aggression as well. Intoxication can impair judgment, disinhibit impulses, and escalate conflict situations (Fillmore et al., 2005; Paruzel-Czachura, et al., 2023). Research indicates that individuals with co-occurring substance use disorders and mental illness are at heightened risk of engaging in aggressive acts, particularly when under the influence of drugs or alcohol (Chermack et al., 2012).

Impulsivity, a core feature of specific mental health conditions such as attention-deficit/hyperactivity disorder (ADHD) and borderline personality disorder (BPD), can contribute to reckless or aggressive behavior (Rosellini et al., 2010). Individuals with impulsivity-related disorders may have more difficulty inhibiting their responses or considering the consequences of their actions, leading to reactivity in emotionally charged situations (Rosellini et al., 2010). Within the transit system, reactive responses could be triggered by traffic, transit arrival time (e.g., if they are late), and being disturbed by other passengers. Cognitive distortions are another common feature of many mental health disorders. These can include misattributions and misinterpreting social cues, contributing to suspicions, paranoia, resentment, and hostility toward others, leading to confrontational responses (Dodge et al., 2006).

Overall, the literature underscores the complex interplay between mental illness symptoms and aggressive behavior. A general lack of understanding and knowledge about mental health disorders leads to misconceptions and stereotypes. This lack of understanding can contribute to fear, stigma, and discrimination towards people with mental illnesses. As a result, behaviors that may be attributed to symptoms of mental illness, such as agitation or paranoia, are often misunderstood as



intentional aggression. This can be particularly true within transit systems, as passengers may not be well known, or known at all, to transit vehicle operators.

## 2.6 Misconceptions of Mental Illness

Misconceptions surrounding mental illness persist in society and contribute to stigmatization, discrimination, and negative attitudes toward affected individuals. Studies have identified widespread misconceptions, including the belief that individuals with mental health conditions are inherently violent or unpredictable. Such stereotypes exacerbate public fear and reluctance to interact with individuals displaying symptoms of mental illness, further isolating and marginalizing this population.

Misconceptions of mental illness as they relate to assault, including transit assaults, are deeply ingrained in societal perceptions and have significant implications for how individuals with mental health conditions are perceived, treated, and understood. The literature offers several explanations for these misconceptions. One prominent contributing factor is media portrayals. Films, television shows, and news reports often depict individuals with mental illnesses as dangerous, unpredictable, and prone to committing violent acts. This portrayal reinforces negative stereotypes and creates a perception that mental illness is inherently linked to aggression and criminal behavior (Bibaj et al., 2023).

Confirmation bias acts as an additional contributing factor to the misconception of mental illness. When a high-profile case involves individuals with mental illness committing acts of violence, these instances are often sensationalized, reinforcing the misconception that such behavior is typical of all individuals with mental health conditions. However, the majority of people with mental illnesses are not violent (Applebaum, 2020). An attribution error often drives this misconception; when individuals hear about or witness a violent incident involving a person with mental illness, the blame is often mistakenly placed on the mental health diagnosis rather than considering the contextual factors or underlying causes. This oversimplification causes the role of social, environmental, and situational factors to be overlooked and speaks to the imperative need for sensitivity training within de-escalation training or to provide specific training addressing mental illness and behavioral health.

Misconceptions of mental illness contribute to the stigmatization of individuals with mental illness, leading to discrimination and social exclusion. This stigma can further perpetuate negative stereotypes and reinforce the belief that people with mental illnesses are dangerous or unpredictable. Public stigma related to mental illness leads to individuals with mental illness having decreased self-esteem and self-efficacy (Babij et al., 2023). Further, stigma leads individuals with mental health diagnoses to delay treatment and have more difficulty in securing housing and employment (Babij et al., 2023), all of which results in an exacerbation of symptom expression and interpersonal difficulties. These difficulties can lead to a lack of sustained employment and other financial hardships, increasing the propensity of transit utilization. Research by Corrigan et al. (2017) indicates that public stigma often leads to social distancing, employment discrimination,

and reluctance to seek help for mental health issues. In the context of public transit, stigma may manifest as avoidance behavior or discriminatory treatment towards passengers exhibiting symptoms of mental illness, exacerbating their feelings of alienation and distress.

## 2.7 Types of Mental Health-related Assaults

There is a reciprocal relationship between victimization and perpetration among individuals with mental health conditions in transit settings (Jones & Brown, 2019; Segal et al., 2019). Untreated or inadequately managed mental health symptoms increase vulnerability to victimization while also contributing to the perpetuation of aggressive acts. Most death-related incidents are a result of suicide, a direct result of mental illness (Rombom & Lopez, n.d.). While no incidents of assault are unique to persons with mental illness, a diverse range of behaviors and motivations underlie such incidents.

Verbal altercations involving individuals with mental illness are common in transit settings and can escalate into aggressive confrontations or threats. These altercations may arise from misunderstandings, frustration, or paranoia related to transit conditions, such as delays, overcrowding, or mistreatment (real or perceived) by transit staff or passengers (Jones & Brown, 2019). Physical aggression may also arise from psychiatric distress, such as pushing, shoving, or assaulting other passengers or transit employees. Factors contributing to physical aggression may include untreated symptoms of psychosis, impulsivity, or perceived threats to personal safety (Smith et al., 2018).

Transit assaults involving mental illness may also manifest as harassment or intimidation directed toward passengers, such as verbal harassment, stalking, or unwanted advances (Patel & Lee, 2020). Some transit assaults involving individuals with mental illness may involve acts of vandalism or property damage, such as defacing transit property, breaking windows, or vandalizing seating areas. These behaviors may be driven by impulsivity, frustration, or the desire to exert control or retaliate against perceived injustices in the transit environment (Rombom & Lopez, 2021). In contrast, the least common sexual assault incidents involving persons with mental illness as perpetrators can result from psychosis, distorted perceptions, a lack of awareness of social norms and boundaries, and/or cognitive deficits (Jones & Brown, 2019).

Assault incidents involving individuals with mental illness encompass a spectrum of behaviors and motives. While some assaults may result from untreated symptoms such as paranoia or aggression, others may stem from perceived threats or misunderstandings in transit environments. Studies have identified various forms of assault, including verbal abuse, physical aggression, and harassment, perpetrated by individuals experiencing acute psychiatric distress (Jones & Brown, 2019; Smith et al., 2018) or under the influence of substances (Chermack et al., 2012). Understanding the underlying factors and triggers for these assaults is essential for implementing targeted interventions and enhancing safety measures in public transit systems. The intersection of mental health symptoms and assault in public transit settings presents complex challenges requiring a multifaceted approach. Addressing the prevalence of mental health issues among

individuals involved in assault incidents, dispelling misconceptions, combating public stigma, and categorizing types of assault related to mental illness are crucial steps toward fostering safer and more inclusive transit environments. Future research should focus on developing evidence-based interventions, enhancing mental health literacy among transit staff and passengers, including mental health literacy in future training curriculums, and promoting community partnerships to support individuals with mental health conditions in public spaces.

## 2.8 Unpredictability of Incidents on Public Transit Systems

The unpredictability of incidents on public transit systems poses significant challenges for both transit agencies and passengers alike. A myriad of factors contribute to this unpredictability, ranging from environmental variables such as weather conditions and infrastructure vulnerabilities to human factors such as individual behavior and security threats. Delays, service disruptions, accidents, and even criminal activities can disrupt the smooth operation of transit networks, leading to inconvenience, safety concerns, and economic impacts. Moreover, the complexity and interconnectedness of urban transit systems amplify the potential for incidents to occur, making it difficult to predict and prevent them proactively. Understanding the multifaceted nature of these contributing factors is crucial for developing effective strategies to enhance the resilience, safety, and reliability of public transit systems in the face of unpredictability.

### *Inadequate Surveillance and Security Measures*

Inadequate surveillance and security measures pose significant challenges within public transit systems, compromising passenger safety and overall operational efficiency (Smith & Clarke, 2000). A central concern highlighted in prior studies is the lack of comprehensive camera coverage or the presence of blind spots in monitoring (van Lierop & El-Geneidy, 2016). These gaps in surveillance create vulnerabilities, making it difficult for transit agencies and transit vehicle operators to notice escalating situations in real-time. Without a complete view of activities within transit vehicles, stations, and environments, authorities are often unable to intervene promptly, allowing disturbances to potentially escalate rapidly without proper and safe intervention.

The absence of robust security measures in public transit systems is not just a minor inconvenience but a significant threat to passenger safety (Martin Wachs & Loukaitou-Sideris, 2015; van Lierop & El-Geneidy, 2016). This is evident in insufficient security personnel or a lack of visible security presence, which heightens feelings of vulnerability among passengers. This is particularly pronounced in bus operations, where security resources may be scarcer than subway systems. Prior literature has indicated that the presence of transit officers aboard vehicles can effectively deter violent incidents, underscoring the critical need to enhance security personnel to ensure passenger safety.

As noted, addressing security concerns in public transit systems requires a comprehensive approach (Roberts et al., 2015). One key strategy is the implementation of clear signage within transit systems, explicitly stating the consequences of aggressive behavior. This not only serves as a

deterrent but also informs passengers of the repercussions of their actions. By raising awareness of the consequences of violent acts or disruptive conduct, transit agencies can potentially mitigate instances of aggression and cultivate a safer environment for all passengers. This strategy, along with investing in advanced surveillance technologies and increasing the deployment of security personnel, is crucial for enhancing the overall security infrastructure of public transit systems (Martin Wachs & Loukaitou-Sideris, 2015). These efforts are essential for fostering a sense of security and trust among commuters, while enhancing their overall experience and well-being.

### *Unpredictability Due to Individual Circumstances*

The unpredictability of assault acts on public transit systems often stems from the complex interplay of the individual circumstances affecting those involved (Davis et al., 2024). A contributing factor to this unpredictability lies in the limited understanding of passengers' backgrounds, including their triggers, trauma histories, and external influences that might precede their use of the transit system, such as job loss or interpersonal conflict. The absence of insights into these personal dynamics leaves transit authorities and personnel ill-equipped to anticipate or effectively manage potentially violent situations (Tse et al., 2006).

Individuals who perpetrate assault on public transit may be grappling with a range of personal struggles, spanning unresolved traumas to recent life stressors. These intrinsic or extraneous circumstances can significantly impact their emotional well-being and conduct (Garg et al., 2022). For example, individuals with a history of trauma may find themselves triggered by certain stimuli encountered during transit, resulting in heightened aggression. Similarly, external factors such as confrontations, unemployment, or housing instability can exacerbate feelings of frustration, anger, or desperation, potentially culminating in violent outbursts upon entering transit system environments.

Furthermore, the unpredictability of assault incidents on public transit is compounded by the presence of behavioral health issues among specific individuals (Garg et al., 2022). Mental health conditions, as mentioned previously, ranging from mood disorders to personality disorders, can significantly impact behavior and emotional regulation. Individuals grappling with such challenges may experience fluctuations in mood and impulse control, contributing to unpredictable and sometimes volatile interactions within transit settings. Moreover, societal stigmatization surrounding mental health may deter individuals from seeking or receiving appropriate support, exacerbating the potential for triggering or distressing incidents to occur while utilizing public transit or when provoked by another passenger (Blais & El-Geneidy, 2014). Effectively and appropriately responding to passengers with behavioral health issues requires a nuanced approach, encompassing both enhanced mental health resources within transit systems and broader community-wide efforts to reduce stigma and promote mental health awareness (Summer et al., 2020). By acknowledging and navigating these complexities, transit authorities can work towards creating safer and more inclusive environments for all passengers.

## 2.9 Transit Vehicle Operator Preparedness

Transit vehicle operators' readiness to manage incidents on public transit systems, particularly regarding the presentation of severe behavioral health symptoms and aggressive passenger behavior while ensuring operational safety, is a pressing concern (Lincoln & Gregory, 2015). Existing literature highlights a prevailing sentiment among transit vehicle operators, notably bus drivers, who feel inadequately equipped to handle such situations effectively. This deficiency in preparedness stems from several underlying factors, such as ridership changes, a lack of uniform training, and the unpredictable nature of assault behaviors.

Transit vehicle operators are susceptible to the traumas and triggers they encounter in their daily duties, complicating their ability to manage incidents impartially (Essenbert, 2003). Personal experiences may evoke heightened emotional responses, potentially leading transit vehicle operators to retaliate or respond aggressively when confronted with disruptive passenger behavior. Such reactions compromise the safety of transit vehicle operators and passengers and undermine the professionalism and impartiality essential to their roles (Nobili et al., 2023).

Moreover, insufficient training compounds the issue, leaving transit vehicle operators without the necessary skills and strategies to navigate complex and potentially volatile scenarios that could affect their own mental health status (Cendales et al., 2024). Specifically, the absence of dedicated training in mental health awareness and crisis intervention further exacerbates their sense of unpreparedness.

## 2.10 Current Training, Practices, and Protocols

While not universally applied, transit vehicle operators are typically equipped with a comprehensive training protocol. This training is crucial as it equips operators with the necessary skills and tools to identify, mitigate, and de-escalate instances of assault. Implemented training covers various areas, including conflict resolution and de-escalation, emergency protocols, mental health awareness, Mental Health First Aid (MHFA), and crisis management. Furthermore, transit vehicle operators are usually provided with psychological support post-assault, such as counseling through the employee assistance program, workers' compensation, in-house mental health counselor assistance, and/or connection to contracted mental health professionals.

### *Evidence-based Practices*

Numerous evidence-supported practices and training exist for transit organizations to provide to their staff. However, minimal federally required safety-related training is also required for transit staff. De-escalation training is one such federally required training. In 2023, FTA amended the Public Transportation Agency Safety Plan (PTASP) requirements by adding requirements related to de-escalation training (US Department of Transportation, n.d.). The Transit Advisory Committee for Safety (TRACS) notes that, at a minimum, training in customer service and security awareness should also be provided (TRACS, 2015). De-escalation training is crucial in

equipping transit staff with the communicative tools to verbally de-escalate a situation before an assault occurs. These skills can be applied to passenger-on-passenger, passenger-on-transit vehicle operators, operator-on-operator, and any other assault situation that arises while in transit. Many transit agencies have refresher de-escalation training opportunities as well. These can be mandated, voluntary, or provided following an assault incident and are determined by the individual transit organization. While not mandated, several transit organizations have implemented additional and supplementary training to equip staff with the tools to manage assault-related incidents.

*Crisis Intervention.* Several organizations have implemented crisis intervention training. This type of training provides education on mental health awareness, strategic empathy, stigma, behavior, psychiatric medications, and avoiding triggers. Assertiveness training is an additional component, along with Crisis Intervention Team (CIT) de-escalation training and tools specific to transit employees and geared toward avoiding assault. For example, in Pennsylvania, Crisis Awareness Training (CAT) is provided by the local law enforcement agency and CIT trainers (Pittsburg Transit Authority Police CIT, n.d.).

*MHFA.* Some transit agencies have implemented evidence-based training on mental health for their employees. Psychological First Aid (PFA) and/or MHFA training for their transit workers. For example, in Pinellas County, Florida, the Pinellas Suncoast Transit Authority (PSTA) has partnered with a local nonprofit mental health organization to provide their staff with valuable training on mental health symptoms and strategies for crisis intervention (e.g., suicide). In Portland, Tri-County Metropolitan Transportation District of Oregon (TriMet) workers are provided with PFA, with plans to provide MHFA in the future. In Philadelphia, the Southeastern Pennsylvania Transportation Authority (SEPTA) will have their existing trainers become MHFA trainers to allow them to provide the training widely to their staff.

#### *Other Training and Support Initiatives*

*Mental Health.* FTA provides several resources on mental health for transit workers, noting that the provided resources are aimed at supporting transit industry workers during challenging times (Federal Transit Administration, n.d.). The resources provided by FTA for transit agencies include mental health, wellness, and self-care (e.g., mental health toolkit, coping with stress, behavioral health treatment services locator), PFA, suicide prevention (e.g., prevention hotlines, warning signs of suicide, action steps for helping someone in emotional pain, depression interventions), suicide postvention (e.g., responding to grief, trauma, and distress after a suicide), and active shooter preparation (e.g., active shooter emergency action plan, warning signs, and what you can do). While these resources are not required materials for transit workers to review, FTA recommends widespread distribution across the public transit industry.

*Self-Care and Burn-Out Reduction.* All transit agencies are experiencing staffing shortages and high turnover rates (American Public Transportation Association (APTA), 2022). This can be attributed to long working hours, difficulty with the work being provided, and fear. One way to reduce this is to provide training on self-care, stress management, and burn-out reduction. Some

organizations have implemented support in these areas through training and support groups to assist their employees in reducing stress and reducing burnout. Organizations partner with mental health organizations in the community or utilize their in-house mental health providers for these types of training, where applicable. One example is TriMet, where they have training classes and support groups for employees aiming to reduce burnout, teach stress management, and increase self-care activities.

### *National vs. Local Training and Protocol Requirements*

Throughout the nation, there is a general lack of consistency regarding training and protocols related to assaults on transit systems. This is partly due to limited federally mandated training regulations through FTA for transit agencies. The only assault-related requirement is de-escalation training; the other preventative efforts are at the discretion of the local agencies. While all agencies agree that assault-related training and preventative measures are crucial, there are several barriers to implementing additional required training and/or preventative measures. Two significant barriers to implementation are funding and staffing. Many agencies cannot afford improved barriers for transit vehicle operators, other physical mitigation strategies, or additional training. This is further complicated by the lack of adequate staffing across transit systems, making it challenging to pull transit vehicle operators from their routes for additional training. Additional inconsistencies arise in relation to the definition of assault and the consequences of assault behavior within the transit system and on transit vehicle operators among individual transit agencies. Without agreed-upon definitions and regulations at the local agency level, each agency is left to navigate these issues at the state and community level, often encountering roadblocks and a lack of resolution.

## 2.11 Mitigation – Assault and Crime Prevention Strategies

Transit agencies worldwide have implemented mitigation strategies to increase safety and reduce assaults. Many of these strategies have involved physical changes to buses, rails, stations, and signage. These include adding lighting at previously unlit stops, adding additional cameras with reduced blind spots and audio capabilities, and implementing panic buttons for transit vehicle operators. Signage at stops and in transit has been increased, and verbiage has been added that notifies passengers of the presence of video surveillance and the consequences of assault. A key physical change for assault prevention has been the installation of improved safety shields around transit vehicle operators, particularly bus operators. These improved shields may prevent individuals from reaching bus operators. Moreover, fully enclosed bus operator compartments or shields that extend to the windshield can significantly reduce or eliminate assaults on bus operators. Some transit agencies, such as LA Metro, have installed or are in the process of installing polycarbonate or other bullet-resistant shields to reduce the risk of gun-related assault against transit vehicle operators.

Many mitigation strategies that are *not* physical changes to facilities and equipment include changes in practices, additional security presence, and community collaborations. A fundamental

change in transit operation practices includes changes in fare collection. Fare evasion contributes to transit assault (National Academies of Sciences, Engineering, and Medicine, 2018; Smith & Clarke, 2020). Some transit agencies have made it a policy that transit vehicle operators ask only once and then let passengers ride without payment. Others have implemented fare collection stations that are *not* inclusive of the transit vehicle operators. Examples include automated messages requesting the fare and virtual fare payments done before boarding. Another fare evasion strategy includes increasing the height of rail station entry gates to reduce the likelihood of passengers jumping over the fare collection station gate. An additional procedural change some locations are implementing is the ability for transit vehicle operators to stop between designated stops during certain times of the day (e.g., overnight), reducing passengers' risk perception of where they are disembarking.

Additional mitigation strategies include collaborations with community partners and increased security personnel. Many transit agencies have increased security staffing, and some have their own police force. At the same time, others have strengthened their relationships with local police departments. These changes have allowed uniformed and nonuniformed officers to be present at stations and on buses and rails. This increased presence decreases the chance of assault (Sobol, 2016). In addition to officers, other transit ambassadors and service agencies have increased their presence on-site, which also positively impacts aggressive and assaultive behaviors. Several transit agencies have also partnered with other community organizations to implement co-responder and collaborative models that provide resources, treatment, and root-cause interventions. For example, DART, TriMet in Portland, and WMATA have programs involving law enforcement, social workers, and community service providers, which have provided positive results in reducing assault and addressing the root cause of assaultive behaviors. These types of efforts have shown preliminary effectiveness in reducing assault (Transit Center, 2021).

In addition to mitigation efforts, prevention is a crucial area of focus for transit agencies. Prevention efforts are not universally mandated or implemented across transit systems but have shown promise of effectively reducing assaults.

*Surveillance Systems.* Increased ability to observe activities on platforms, stations, and inside vehicles is crucial for deterring criminal behavior and assault. Additionally, these systems provide video evidence for prosecution of assault behaviors. Video monitoring, particularly monitoring inclusive of audio, provides real-time awareness of activities and assists law enforcement in responding to criminal activities.

*Emergency Call Capabilities.* Emergent situations require immediate response. Several transit organizations have installed emergency call boxes at stations and platforms to enable passengers and transit vehicle operators to request emergency assistance. Silent emergency call buttons have been installed on many transit vehicles, allowing transit vehicle operators to request help without an aggressor's awareness.



*Crime Prevention through Environmental Design (CPTED).* The principles of CPTED involve design changes to stations, vehicles, and platforms that encourage safe behavior and deter criminal activity. Some design changes include increased lighting, clear sightlines, and removing spaces for individuals to hide.

*Public Awareness Campaigns.* Informing the public about safety and security within the transit system is crucial in preventative efforts. Education campaigns on safe behaviors and how to report suspicious behaviors are essential. Additional public awareness is garnered through posters, announcements, and digital displays in stations and vehicles.

*Collaboration with Law Enforcement Agencies.* Collaborative efforts with local law enforcement agencies have proven effective prevention efforts. These collaborations occur through training (e.g., CAT program), visible security presence at transit stations and on vehicles, and the ability to conduct joint operations to prevent and address criminal activity within the transit system. Some agencies have coordinated patrols and share information freely with local law enforcement.

*Community Engagement.* Involving the community is a prevention effort that many organizations, such as DART, TriMet, and WMATA, are implementing. These efforts include outreach programs, youth engagement programs, town hall meetings, and neighborhood watch initiatives. These collaborative efforts foster community collaboration in preventing crime and enhancing safety.

*Data Collection.* The FTA requires public transit agencies to report major events to the NTD. NTD reporters provide various data related to major events, including data on the event information, service information (e.g., changes or disruptions to service schedules), ridership data, performance metrics, incident data, customer feedback, coordination efforts, and costs and expenses. This data allows for an understanding of the trends, identification of crime hotspots, the development of evidence-based practices, and patterns of criminal activity and assault. With this data, targeted interventions can be deployed to prevent and address assaults and other criminal activities.

*Employee Training.* Ensuring employees, particularly transit vehicle operators, are appropriately trained in mitigating assault behaviors is a top priority for prevention efforts (TRACS, 2015). Such training includes skills to de-escalate situations, how to recognize and respond to suspicious activities, and emergency procedures.

*Technological Solutions.* Many organizations are leveraging advanced technological solutions for preventative measures. Some examples include using smart card systems, implementing fare gates, using artificial intelligence to identify prior perpetrators of assault and weapons, using real-time video footage, and using mobile applications for reporting incidents and accessing assistance.

### 3. Data Presentation

It is imperative to understand the vulnerabilities and risks within public transit and the causal or contributing factors in transit safety events to address those risks and event contributors effectively. This comes through the collection and analysis of transit safety-related data. Safety event data provide valuable insights into the challenges faced by transit agencies and help in devising strategies to enhance passenger safety and service reliability. Transitioning from this broader analysis, a closer examination of major assault injuries reported by transit agencies is vital. NTD S&S-40 assault-related data are presented in the following section for the purpose of better framing the assault discussion, including the scope and complexity of assault events.

#### 3.1 Transit Major Assault Injuries

Focusing on the major safety and security data that U.S. transit agencies report to the NTD, the number of assault-related injuries on public transit has increased by 152% from 2014 to 2023, as shown in Figure 1.

Figure 1. Assault Injuries by Mode

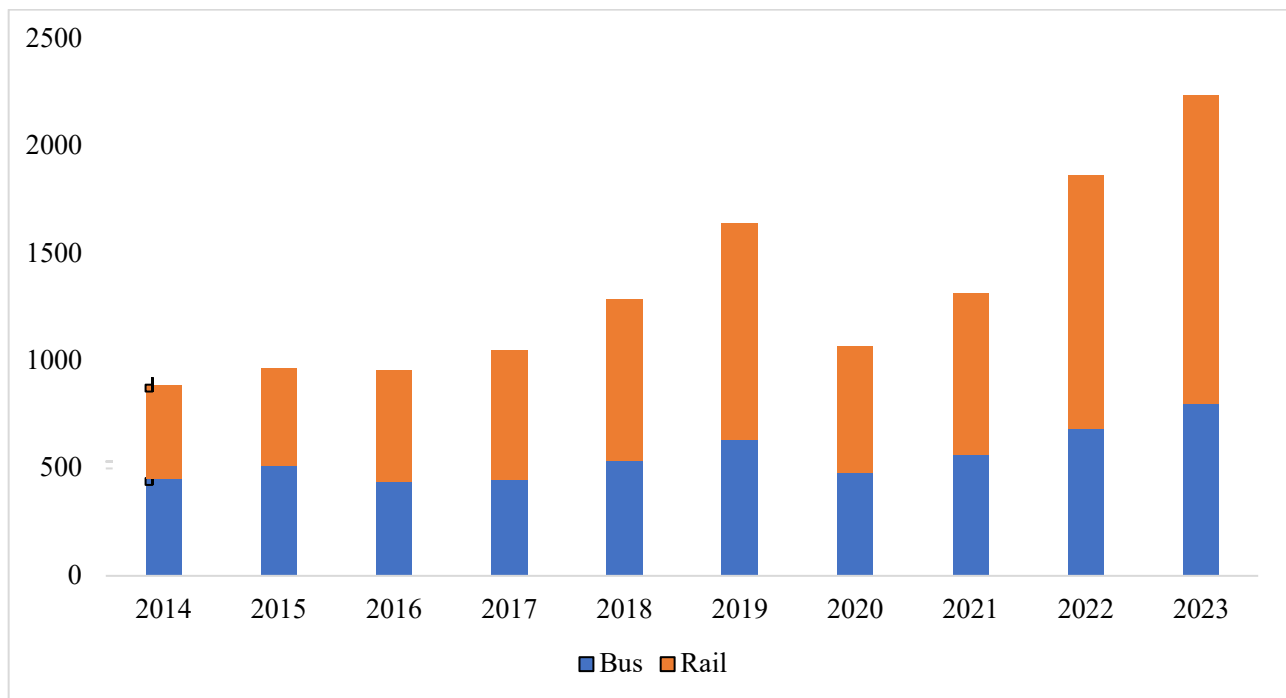
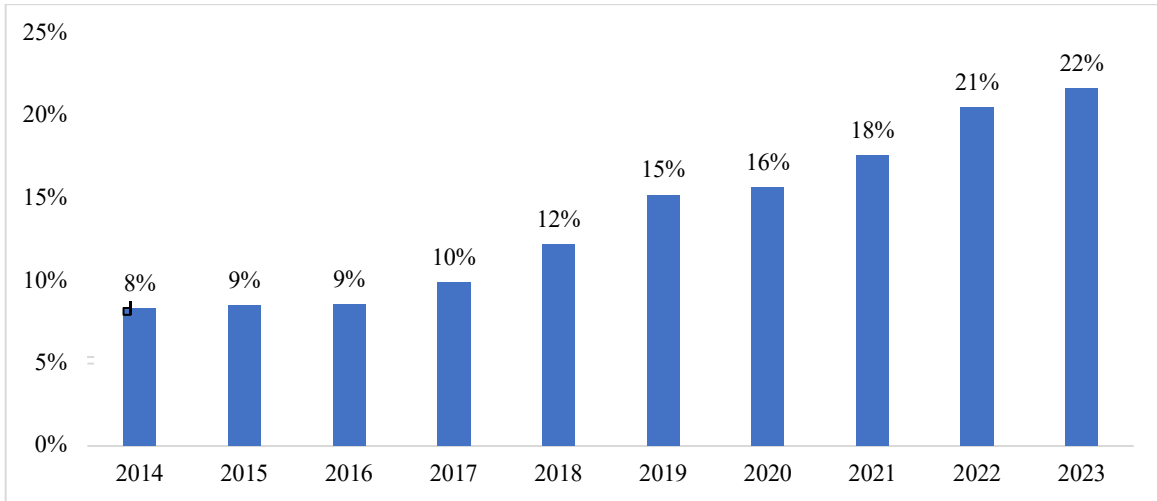


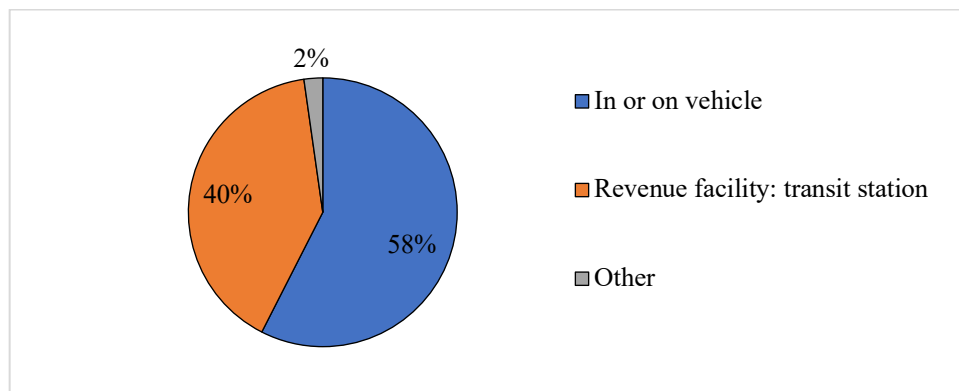
Figure 2 displays the trend in the share of assault injuries as a share of total transit injuries. The majority of transit injuries are still sustained through collision events, though the share of injuries due to assault has increased to more than one in every five injuries as of 2022.

Figure 2. Assault Injuries as a Share of All Injuries



When considering the location of the assault injuries, the majority of injuries are sustained in or on a vehicle or at a transit station, as shown in Figure 3. Between 2014 and 2023, more than half of all assault injuries (58%) were sustained on the vehicle, while 40% were sustained at the transit station.

Figure 3. Assault Injuries by Location, 2014–2023



Normalizing the data over passenger trips allows for an examination of assault injuries over time, based on exposure risk. Figure 4 displays the trend in the number of assault injuries that occur for every 10 million unlinked passenger trips. The data show that the risk of assault injuries on transit rail is higher than the risk of assault injuries on transit buses, though the rate of assault injuries on all mode types has been increasing over the past decade.

Figure 4. Assault Injury Rate / 10M Unlinked Passenger Trips

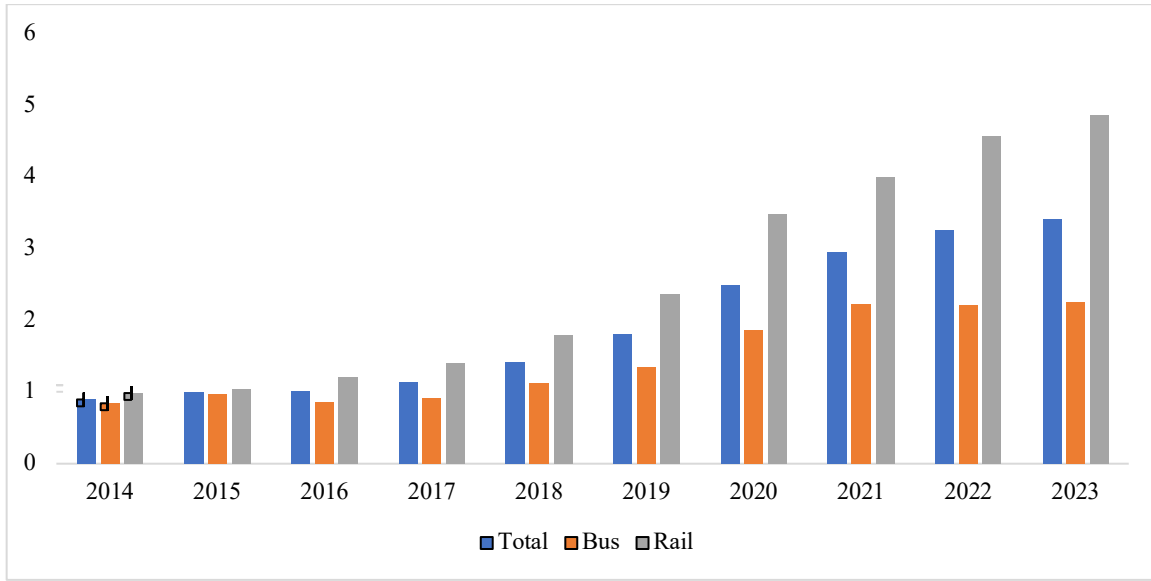
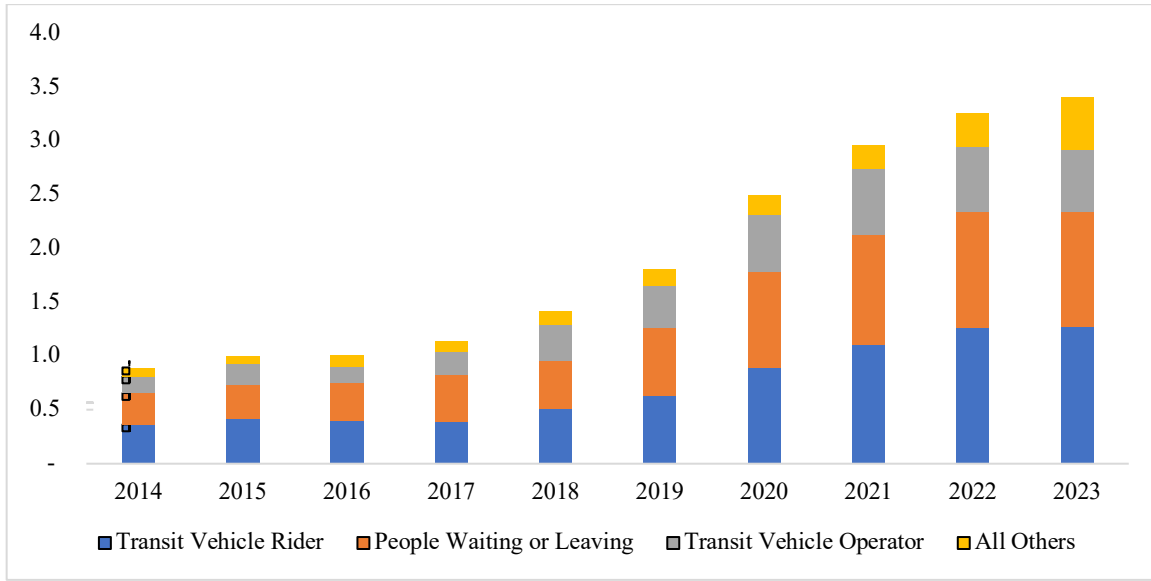


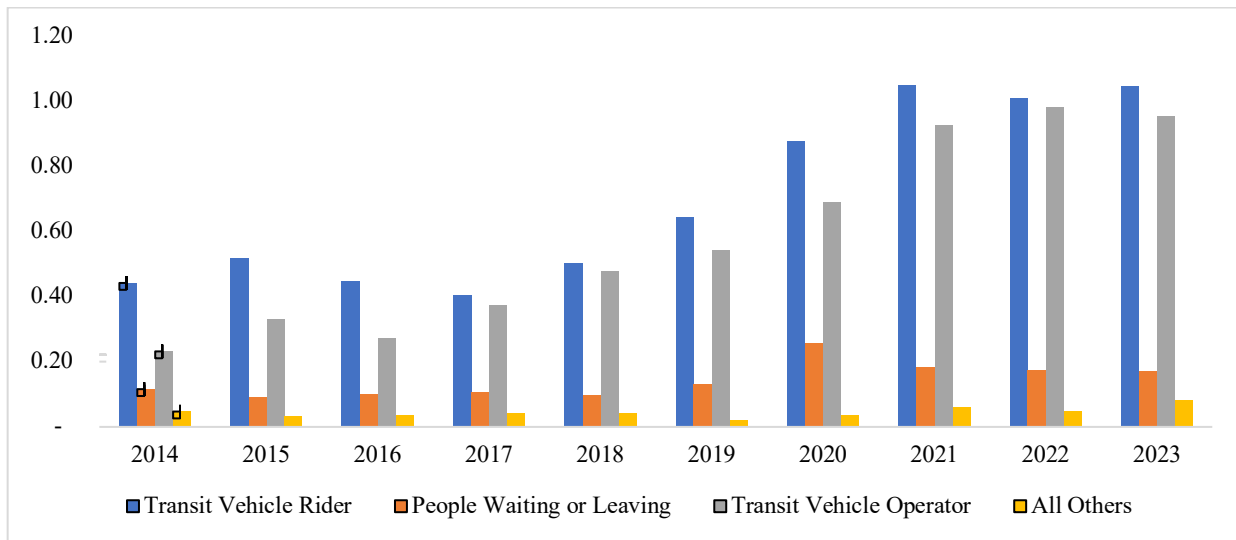
Figure 5 shows the trend in the assault injury rate by person type from 2014 through 2023 with a consistently increasing total rate. Transit vehicle riders and people waiting or leaving account for the majority of assault injuries per 10 million unlinked passenger trips. It is worth noting that transit vehicle operators have an increased exposure risk due to the amount of time that they are on the bus. In other words, the unlinked passenger trip is not necessarily as direct of a normalizing factor, given that the operator does not have the option to exit the transit vehicle. It is also notable that when each person type is considered individually, each shows increasing rates from 2014 through 2023.

Figure 5. Assault Injury Rate by Person Type / 10M Unlinked Passenger Trips



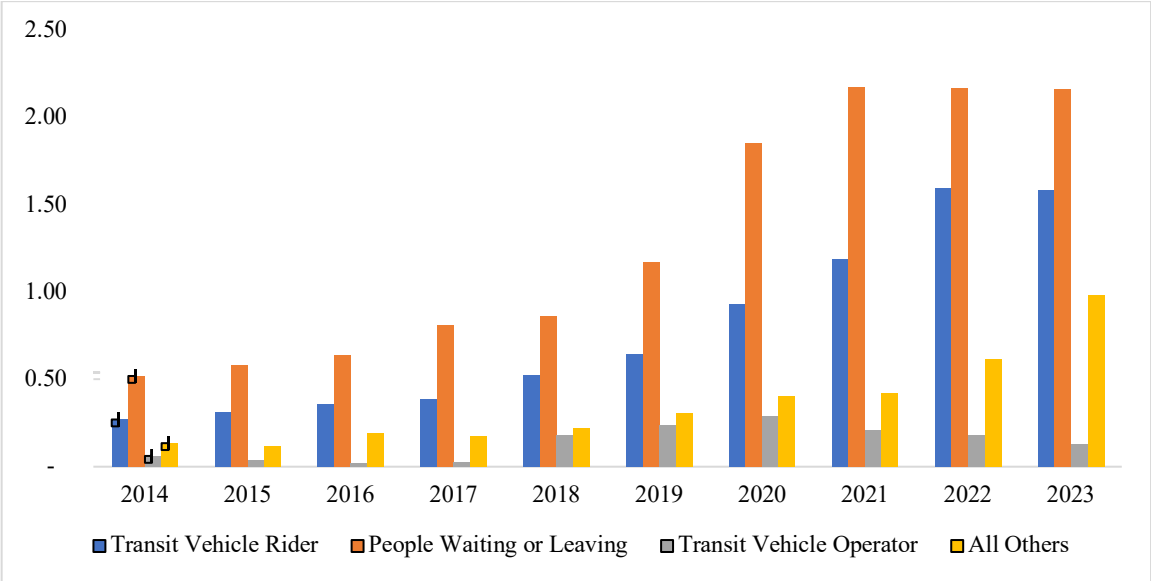
The trends in assault injuries in the major safety and security event database reveal significant challenges facing transit agencies as they deliver service throughout their communities. The assault injury trends reveal that all person types have witnessed increases in assault injury rates, but those increases are not homogeneous among transit modes. Figure 6 displays the trend in the bus assault injury rates from 2014 through 2023, showing that transit vehicle riders have the highest injury rate consistently each year, followed by transit vehicle operators. Another notable trend is the increasing rate of every person type over the past decade.

Figure 6. Bus Assault Injury Rate by Person Type / 10M Unlinked Passenger Trips



Similar to Figure 6, the trend shown in Figure 7 displays the assault injury trend by person type from 2014 through 2023, but this time for rail transit. A notable difference between the bus and rail injury rate figures is the value of the vertical axis: while the bus assault injury rate peaks at 1.05 assault-related injuries per 10 million unlinked passenger trips, the rail assault injury rate peaks at 2.18 assault-related injuries per 10 million unlinked passenger trips, more than double the highest rate for bus. Similar trends are witnessed in both bus and rail modes, as Figure 7 shows, and all person-type rates have increased since 2014. On rail transit, the highest assault injury rate by person type is for people waiting or leaving, followed by transit vehicle riders. The transit vehicle operator has a lower assault injury rate for rail than for bus, consistently each year, likely due to the operating environment differences associated with bus versus rail transit operations. While a bus operator is often exposed to the riding passengers, the rail operator is often in a confined cab that is not accessible by passengers. There is a noticeable increase that exemplified the assault injury rate between 2018 and 2022.

Figure 7. Rail Assault Injury Rate by Person Type / 10M Unlinked Passenger Trips



### 3.2 Data Summary

The data show that assault injuries on transit buses and rail are increasing both nominally and at a rate per passenger trip, which is a challenge that many transit agencies are attempting to mitigate. These assaults are not caused by public transit; rather, they are an example of the societal challenges many communities across the country are facing, challenges which are much larger than the resulting assault injuries. As the literature review reveals, many of the challenges transit agencies face are not unique to transit operations. However, transit agencies are well-positioned to help implement and enforce solutions that reduce assaults and resulting injuries.

## 4. Transit Agency Case Studies

The research team conducted case studies of 10 public transit agencies that were selected because they have demonstrated progress in partnering with stakeholders to reduce transit assaults. Case study agencies include:

- Ann Arbor Area Transportation Authority, Ann Arbor, Michigan
- Broward County Transit (BCT), Ft. Lauderdale, Florida
- Chicago Transit Authority (CTA), Chicago, Illinois
- Dallas Area Rapid Transit (DART), Dallas, Texas
- Los Angeles County Metropolitan Transportation Authority (LA Metro), Los Angeles, California
- Miami Dade Transit (MDT), Miami, Florida
- New Jersey Transit Corporation (NJT), Newark, New Jersey
- Pinellas Suncoast Transit Authority (PSTA), St. Petersburg, Florida
- Tri-County Metropolitan Transportation District of Oregon (TriMet), Portland, Oregon
- Washington Metropolitan Area Transit Authority (WMATA), Washington, DC

The primary focus of each visit was on mental health, substance abuse, and assault prevention strategies within the transit system, particularly among unhoused individuals and individuals facing mental health crises. The responses are summarized in each of the case study summaries presented below.

### 4.1 Ann Arbor Area Transit Authority (The Ride)

The site visit at The Ride took place on June 13, 2024 at the agency's Dawn Gabay Operations Center located at 2700 South Industrial Highway, Ann Arbor, Michigan. Present at the meeting were representatives of The Ride and research team members. Discussions centered around the rise in assaults, trends associated with mental health issues, and strategies for managing these risks through partnerships, safety measures, and employee support programs.

#### *Organizational Assault*

At The Ride, assault is defined as any verbal or physical threat, including spitting, which could escalate to more severe attacks. Since the pandemic, there has been an increase in assaults,

especially in high-traffic areas, including instances of passenger-on-passenger and passenger-on-operator altercations. Repeat offenders, particularly unhoused individuals, contribute significantly to this issue by utilizing transit centers for shelter.

### *Assaults Caused by Mental Health and Related Factors*

Mental health issues, compounded by substance misuse and homelessness, are prevalent contributing factors to many assaults within the system. The Delonis Center, the largest homeless shelter in the area, is situated next to a major bus stop, where many incidents of vandalism, loitering, and assaults occur. Resources such as the Ozone House support unhoused youth, but there is a significant gap in treatment services for adults experiencing mental health crises.

### *Mitigation Strategies for Assaults*

The Ride has implemented several strategies to reduce assault incidents, including:

- *Surveillance*: Every bus and facility are equipped with 24/7 video surveillance, though passengers are often unaware they are being recorded.
- *Employee Assistance Programs (EAP)*: Provides mental health support and workers' compensation for post-assault recovery.
- *De-escalation Training*: Currently being tailored in partnership with CUTR to better equip operators and supervisors to handle confrontational situations involving mental health and substance abuse issues.
- *Narcan Administration*: Security personnel and information specialists are trained in Narcan administration to manage drug overdose incidents. There have been 2–3 overdoses per month, with Narcan being successfully administered in several cases.

### *Community-Based Collaboration Efforts*

The Ride has forged partnerships with local organizations such as Ozone House, New Vision, and Neutral Zone, focusing on supporting unhoused populations and youth. However, coordination with some organizations, such as the Delana Center, remains challenging. Despite these partnerships, the absence of sufficient mental health treatment facilities in the area exacerbates the issue, with individuals often cycling through homelessness and addiction without receiving proper treatment.



### *Potential Improvements*

- *Training Expansion:* The need for expanded de-escalation and mental health training for all frontline staff is critical, particularly to better manage interactions with high-risk passengers.
- *Improved Surveillance Awareness:* While surveillance is extensive, more transparent communication and signage about ongoing recording could deter potential offenders.
- *Strengthening Partnerships:* Enhancing collaboration with community organizations to provide comprehensive support for unhoused individuals and those facing mental health issues could reduce assaults.

### *Observations*

The Ride could benefit from the following:

- Expand mental health and de-escalation training for frontline employees and supervisors, focusing on real-world scenarios involving mental health crises and substance misuse.
- Strengthen partnerships with community-based organizations such as Ozone House to ensure consistent outreach and resources for unhoused youth and adults.
- Enhance the visibility of surveillance systems on buses and at transit centers to deter potential assaults and vandalism.
- Improve data tracking on assaults to identify patterns and develop targeted interventions.

### *Concluding Summary*

The Ride has recognized the growing issues surrounding mental health, substance misuse, and homelessness as significant contributors to the rise in agency-level assaults. The agency is working to address these challenges through community partnerships, improved safety measures, and expanded training. However, continued efforts to enhance mental health resources and community outreach are necessary to create a safer and more supportive transit environment for both employees and passengers.

## 4.2 Broward County Transit (BCT)

The BCT site visit took place on July 15, 2024 at its headquarters located at 1 North University Drive, in Plantation, Florida. This visit provided insights into BCT's current strategies to address safety concerns and reduce incidents of assault, especially those linked to individuals experiencing homelessness or mental health crises.

### *Organizational Assault*

At BCT, assault is categorized by severity, aligning with the NTD definitions for consistent reporting. BCT has recently adopted a unified definition to capture incidents accurately, with staff viewing assaults through both legal and operational lenses. Assault reports have included both physical and verbal altercations, with recent trends indicating an increase in incidents involving passengers experiencing homelessness and mental health issues.

### *Assaults Caused by Mental Health and Related Factors*

Mental health crises, homelessness, and substance misuse are significant contributors to assaults within the BCT system. Many individuals use BCT facilities as temporary shelters, and incidents often arise when these individuals face distress or resource scarcity. For instance, recent reports describe individuals experiencing mental health episodes who have become confrontational toward transit staff. BCT is engaged in efforts to connect these individuals with local resources, though challenges persist due to gaps in mental health support services.

### *Mitigation Strategies for Assaults*

BCT has implemented several strategies to manage and reduce assault incidents:

- *Surveillance and Mapping:* BCT has introduced active mapping through Microsoft's Power BI system, which color-codes assault locations by type, allowing for real-time tracking of high-risk zones.
- *Increased Security Presence:* Over the past year, BCT has expanded its armed security force by 35% and added dedicated law enforcement officers from the Ft. Lauderdale Police Department to assist with patrols and incident response.
- *Training Programs:* Comprehensive de-escalation training is mandated for all employees, including "The Art of Diffusing Conflict," "SUNsational Service," "Assault Awareness," and "Welle Training," each designed to improve staff capability to identify and manage escalating behaviors effectively.
- *Community-Based Services:* BCT partners with local organizations such as Broward Health Point and the Broward Area Recovery Center, which offer crisis intervention and support services, including housing assistance and mental health case management.

### *Community-Based Collaboration Efforts*

BCT has fostered partnerships with several community agencies, aiming to provide alternatives to arresting individuals in crisis. Programs such as Project Homeless Connect and the Continuum of Care offer essential services such as housing, job skills training, and mobile health services. Despite

these efforts, coordination with law enforcement remains a challenge, as many assaults go unprosecuted, leading to frustration among transit staff. However, BCT continues to engage in initiatives such as the "Ride with Courtesy" campaign, encouraging the public to respect transit operators as valued community members.

#### *Potential Improvements*

- *Enhanced Training:* Increasing the frequency of mental health and de-escalation training, especially scenario-based learning, could better equip frontline employees to handle high-stress encounters.
- *Strengthening Law Enforcement Collaboration:* Improved communication with local law enforcement and the State Attorney's office could ensure more consistent follow-up on assault cases, thereby enhancing staff morale and confidence.
- *Expanding Health Services Access:* Continued expansion of mobile health services and case management for those in crisis could prevent incidents before they escalate.

#### *Observations*

- BCT could benefit from the expansion of its scenario-based training. Incorporating more realistic, hands-on training sessions for BCT employees may help them better respond to those experiencing mental health crises or exhibiting disruptive behavior.
- Building stronger law enforcement partnerships, including collaborative relationships, and exploring models such as co-responder units to provide on-site crisis intervention support may provide additional benefit to BCT.
- Increase public awareness campaigns about acceptable behaviors on transit to reduce the frequency of conflicts with staff and expanding other outreach campaigns could be beneficial.
- Leveraging the Power BI mapping tool to identify assault trends and deploy targeted safety measures in high-risk areas will support BCT's long-standing data-driven risk assessment and mitigation programs.

#### *Concluding Summary*

BCT is actively addressing the intersecting challenges of homelessness, mental health crises, and substance misuse through expanded security, community partnerships, and employee training. While these measures have had a positive impact, ongoing support from law enforcement and increased access to mental health resources remain crucial. With these sustained efforts, BCT aims to foster a safer transit environment supporting passengers and employees.

### 4.3 Chicago Transit Authority (CTA)

The CTA site visit was conducted on July 16, 2024 at the agency's headquarters located at 567 West Lake Street in Chicago, Illinois. The visit provided an overview of CTA's initiatives to enhance safety, such as de-escalation training, social services outreach, and protective measures for operators.

#### Organizational Assault

CTA observes FTA's definition of assault on transit worker found at 49 U.S.C. § 5302(1), which encompass both verbal and physical altercations. They also maintain assault data for other individuals who have been assaulted on transit property, including vehicles and transit facilities in accordance with NTD reporting requirements. CTA's reported assaults reflect a slight downward trend this year, though incidents persist, mainly stemming from fare disputes, mental health crises, and conflicts when riders use transit spaces as shelters.

#### *Assaults Related to Mental Health and Other Factors*

CTA indicated that mental health crises, homelessness, and substance misuse are key contributors to assaults within their system. For some, transit facilities serve as temporary shelters, leading to confrontations when individuals are asked to leave or comply with fare policies. CTA's partnership with social service agencies has facilitated outreach, leading to housing for 24 individuals and engagement with over 1,200 individuals experiencing homelessness or other crises. However, additional mental health resources remain a necessity due to Chicago's fluctuating populations.

#### *Mitigation Strategies for Assaults*

CTA has implemented several strategies to address safety and reduce assaults:

- *Operator Barriers:* Bus driver barriers have been upgraded to full enclosures, reducing the risk of direct physical assaults on operators.
- *De-escalation Training:* An eight-hour interactive training program was rolled out in early spring of 2024 for bus operators, covering real-world scenarios, de-escalation techniques, and safety protocols, including keeping barriers closed.
- *Public Awareness Campaigns:* The CTA has launched campaigns such as "Meet Our Operators" to humanize transit staff and encourage passengers to treat them with respect. Signage emphasizing the legal consequences of assault has also been enhanced.
- *Social Services Collaboration:* CTA has invested \$2 million in partnerships with social services, deploying outreach teams on high-traffic routes during peak hours to connect with vulnerable populations and build trust.

### *Community-Based Collaboration Efforts*

CTA collaborates closely with the Chicago Police Department (CPD) and local social service organizations to manage safety and address homelessness on the transit system. Additionally, a new ridership suspension policy enables CTA to legally ban repeat offenders, working through a structured process with law enforcement and judicial support.

### *Potential Improvements*

- Expanding mental health education for operators could improve their ability to handle crisis situations effectively. Feedback indicates that current training lacks sufficient focus on customer service and mental health awareness.
- Strengthening communication with law enforcement regarding court dates and offender tracking would assure operators that cases are being followed up adequately.
- A more substantial on-site police presence would improve the perception of safety for both transit operators and passengers.

### *Observations*

- CTA would benefit from the incorporation of mental health and customer service modules into operator training programs to better equip staff for managing crises and maintaining respectful interactions.
- Developing and launching a mental health awareness campaign to promote mental health resources and create awareness may help reduce confrontations due to misunderstandings.
- Enhancing rapid response protocols, which could improve response times for law enforcement to assist during incidents, may prove valuable as operators have reported significant delays in police response.

### *Concluding Summary*

CTA is actively working to create a safer transit environment through upgraded security measures, de-escalation training, and expanded social service engagement. While positive progress has been made, challenges remain, particularly in handling mental health crises, strengthening law enforcement support, and refining data collection. Continued efforts in training, public outreach, and police collaboration are essential for fostering a safer and more supportive transit environment for all.

## 4.4 Dallas Area Rapid Transit (DART)

The DART site visit was conducted on April 18, 2024, at the agency's headquarters located at 1401 Pacific Avenue, Dallas, Texas, with participants including DART Chief Safety Officer and members of the research team. This site visit primarily focused on DART's mental health and assault mitigation efforts, with a significant emphasis on the DART Cares program, a crucial initiative launched in 2023. DART discussed recent trends in assaults, primarily verbal confrontations often linked to mental health issues, and the measures in place to address these challenges, including enhanced training, operator safety barriers, and upgraded surveillance systems. The organization is also working collaboratively with community organizations and highlighted the importance of legislative efforts to protect transit workers.

### *Organizational Assault*

Assault at DART is broadly defined as any unwarranted attack, whether physical, verbal, or involving a threat. Verbal assaults and threats are the most common incidents, with some linked to individuals experiencing mental health issues. Physical confrontations, while less frequent, include cases of theft and altercations. DART has reported an uptick in verbal assaults, often related to mental health issues, particularly among unhoused individuals. Physical assaults, such as cell phone thefts by younger adults, are less frequent but prevalent. Gun violence is also slowly rising, but most physical altercations are passenger-on-passenger incidents. This comprehensive understanding of the types of assaults experienced at DART is crucial for developing effective safety strategies.

*Assaults Caused by Mental Health-related Factors.* Mental health issues have been a significant contributing factor in several assault cases, particularly verbal confrontations. DART noted that these concerns have increased since the pandemic, with unhoused individuals frequently using transit spaces. However, the DART Cares program—launched to address these issues by providing mental health support and partnering with internal departments, mental health professionals, and community organizations—has shown promising results in engaging with high-risk communities and reducing incidents.

*Mitigation Strategies for Assaults.* DART has implemented several strategies to address assaults and improve safety:

- *DART Cares Program* focuses on mental health outreach and safety by partnering with the DART Police Department, community health providers, licensed mental health professionals, and emergency medical technicians, deploying them to high-traffic areas for education and support.
- *Operator Safety Barriers* are being installed on buses to protect drivers from potential assaults, with plans to expand these barriers to all new buses.

- *Increased Surveillance* includes revamping camera systems on buses and trains as part of a larger system modernization initiative to enhance safety.
- DART offers *de-escalation training* for frontline employees that has been revamped to better equip operators and staff to handle confrontations, focusing on managing mental health issues and mental health-related crises. The training was paused during the pandemic but resumed in 2023. As part of the DART Cares initiative, there are plans to enhance the training to better address mental health awareness and recognition of symptoms, though the status of this rollout needs to be confirmed.

### *Community-Based Collaboration Efforts*

As part of the DART Cares initiative, DART collaborates with organizations such as Union Gospel Mission and Habitat for Humanity to address homelessness and mental health crises on their transit system. These partnerships provide resources and services beyond transportation, including physical health checks and support in finding housing, focusing on high-traffic areas.

### *Potential Improvements*

DART has identified key areas for improvement focused on enhancing safety, training, and legislative protections. The agency recognizes the need for expanded mental health and de-escalation training for frontline staff to better equip them in handling crises, particularly those involving mental health, ensuring safer resolutions. They are also looking at developing and instituting new training initiatives and resources to address agency and personnel needs. To bolster safety, DART plans to deploy AI-driven technology to monitor high-risk areas, aiming to prevent potential threats before they escalate. Additionally, DART is advocating for federal legislation that would classify assaults on transit workers as a federal offense, offering stronger legal protection and deterrence against such acts. Together, these initiatives reflect DART's commitment to creating a safer, more supportive environment for both employees and the public.

### *Observations*

DART has taken significant steps toward mitigating assaults, particularly those related to mental health, through the DART Cares program and various safety improvements. To further enhance safety, DART could prioritize the mandatory installation of operator barriers on all new buses and expand mental health training and community outreach programs. Strengthening collaboration with local authorities and health organizations would help address the root causes of transit-related violence. Legislative support to protect transit workers could also bolster overall security for the system. The following may benefit or enhance DART's operational processes:

- Continue expanding mental health training for frontline employees to ensure they are well-equipped to handle mental health-related incidents.

- Accelerate efforts to improve bus and train surveillance, particularly in high-risk areas, and explore AI-driven solutions to enhance safety by identifying high-risk behaviors or situations.
- Continue installing operator safety barriers across the fleet and mandate their use on all new buses.
- Support legislative efforts to elevate the consequences of assaults on transit workers by making them a federal offense.

### *Concluding Summary*

DART has made significant progress in mitigating assaults and improving safety for operators and passengers through the DART Cares program, enhanced training, and upgraded safety measures, including operator barriers and improved surveillance. While these efforts have shown positive results, continued investment in training, technology, and legislative support would further ensure the safety and security of both operators and passengers.

## 4.5 Los Angeles County Metropolitan Transportation Authority (LA Metro)

The LA Metro site visit occurred on August 20, 2024, at the agency’s headquarters at 1 Gateway Plaza, in Los Angeles, California. A detailed discussion was held with key LA Metro personnel, covering assault prevention, mental health challenges, homelessness, and community collaboration. Participants highlighted efforts to enhance safety measures, improve employee training, and strengthen community partnerships to tackle systemic challenges effectively. Discussions emphasized data-driven strategies, technological innovations, and the pressing need for comprehensive solutions to mitigate assaults and improve transit system safety.

### *Organizational Assault*

At LA Metro, assault encompasses various behaviors, including physical and verbal threats, spitting, and violence against employees and passengers. Assault incidents are categorized as passenger-on-passenger, passenger-on-operator, or directed at other frontline staff, such as custodians. Assault tracking follows California Penal Code standards and incorporates local law enforcement definitions. Since the pandemic, assaults have increased significantly, particularly among unhoused individuals and those struggling with mental health and substance misuse. Repeat offenders are a critical issue, contributing to a perception of insecurity in the system.

### *Assaults Caused by Mental Health and Related Factors*

Mental health crises and homelessness have exacerbated the frequency and severity of assaults. LA Metro has observed a notable impact of individuals with mental health challenges or substance misuse issues on passenger and employee safety. Specific concerns include assaults involving gang



activity, disputes over fare evasion, and behavioral escalations due to drug use. Homelessness further complicates the issue, as many individuals seek refuge within transit facilities. In collaboration with Los Angeles County agencies, LA Metro's homeless outreach teams are integral to addressing this issue, providing shelter referrals and mental health services to those in need.

*Mitigating Strategies for Assaults*

LA Metro has implemented multiple measures to mitigate assault incidents, including:

- Barriers for Operators:
  - Installation of shatterproof glass barriers in buses, offering full enclosure for operators.
  - A mandatory use policy for barriers, with expedited plans to retrofit 2,200 buses by the end of the year (2024).
- De-Escalation and Crisis Training:
  - Mandatory de-escalation training for all employees, with tailored live training for frontline staff.
  - Mental health and first-aid courses to help employees manage crises effectively.
- Surveillance Systems:
  - Buses equipped with 14–16 cameras, with live streaming activated during emergencies.
  - Enhanced CCTV analytics under pilot programs to detect behavioral anomalies, such as fights or collapsed individuals.
- Increased Security Presence:
  - Deployment of bus-riding teams on high-risk lines.
  - Sweeps at rail terminals to clear unauthorized individuals.
- Community-Based Solutions:
  - Partnerships with agencies such as the Los Angeles Homeless Services Authority (LAHSA) for mental health and homelessness support.

- Pilot programs such as "mosquito" noise deterrents, classical music, and access-controlled restrooms to reduce loitering.

### *Community-Based Collaboration Efforts*

LA Metro collaborates extensively with local law enforcement, social services, and community organizations. Its multi-layered safety ecosystem includes law enforcement, transit ambassadors, and outreach teams, all working towards creating a safer environment. Programs such as "tap to exit" aim to reduce fare evasion, while pilot programs enhance access control at transit stations.

### *Potential Improvements*

- *Advanced Analytics for Real-Time Monitoring:* Expand real-time surveillance capabilities for buses and trains to proactively detect and respond to incidents.
- *Improved Operator Support:* Ensure assaulted employees receive immediate and sustained support, including medical care, counseling, and paid recovery time.
- *Legislation for Harsher Penalties:* Advocate for stricter penalties for assaults on transit workers to deter repeat offenses.

### *Observations*

- The expansion of real-time CCTV analytics, leveraging AI, will help LA Metro monitor behavioral anomalies systemwide and dispatch appropriate responses efficiently.
- LA Metro would benefit from enhanced training programs that focus on comprehensive mental health and expansion of de-escalation training for all employees, particularly frontline staff.
- Strengthening partnerships and deepening collaboration with community organizations can help provide additional wraparound services for vulnerable populations.
- LA Metro, as well as its peer agencies, would benefit from the collection and analysis of more granular assault data to identify trends, high-risk areas, and the efficacy of safety measures for better-informed decision-making.

### *Concluding Summary*

LA Metro faces significant challenges related to mental health, homelessness, and rising assaults. The agency is actively implementing innovative solutions, including advanced technologies, employee training, and community collaboration, to enhance transit safety. However, continued focus on prevention, resource allocation, and robust partnerships will be critical to sustaining these efforts and ensuring a safer transit system for employees and passengers alike.

## 4.6 Miami-Dade Transit (MDT)

MDT's case study site visit was conducted on February 22, 2024 at the agency's headquarters at 601 NW 1<sup>st</sup> Court, Miami, Florida, with several MDT personnel participating. MDT provides various transportation services, including Metrorail, Metrobus, Metromover, and Special Transportation Services, which provides on-demand services. The focus group participants included those from both the bus and rail divisions. First, the team met with transportation management personnel that included representation from numerous departments and ranks, including executives, training staff, supervisors, security personnel, and rail management. The second focus group's participants were transit operators who met with the research team following the first interview segment.

Each focus group began with a discussion of assaults and how they impact their organization. Focused topics included the impact of mental health, substance misuse, and homelessness on assault trends, reasons for assaults, training initiatives, future plans, and ideas for improvement. Collaboration and open communication among and between departments were evidenced by members of each focus group displaying an eagerness to share, openness, and attentive engagement. The organizational culture appeared to allow for free, honest sharing among all attending members. Individuals expressed an understanding of their agency's needs regarding mental health awareness, de-escalation training, and assault preparedness.

### *Organizational Assault*

The focus group members defined assault as “unwanted verbal or physical interaction potentially resulting in assault.” Assaults within the Miami-Dade transit system include “everything under the sun...from verbal to physical, [they experience] it all.” Primary definitions of assault included physical contact and injury, particularly from a rail management perspective. Despite being fully enclosed, operators often deal with being spat on and assaulted through the windows on the side of the driver compartments. Additionally, they are navigating passenger assaults, employee-on-employee assaults, and robberies. While bus management also includes physical battery as assault, they share a broader definition, expanded to include verbal abuse and threats. Operators are faced with managing verbal assaults routinely throughout their daily shifts. For example, customers are often aggravated with delays, which leads to verbal assault from customers towards operators.

Many factors contribute to transit assaults in Miami-Dade, with fare-related disputes as the leading cause of incidents. Additional contributing factors include mental health, homelessness, and substance misuse. Operators and management alike share that mental health is a primary concern when it comes to assaults. Management explained that individuals released from psychiatric hospitals and jails, without other transportation, often take the bus. This becomes an issue because many of these individuals have recently experienced a crisis or are not receiving psychiatric management. Drivers are not equipped for psychiatric crisis management, increasing the risk of escalation. Both management and operators explain that substance misuse is prevalent,

especially in the station restrooms and on the buses. Homelessness exacerbates both mental health and substance use concerns with individuals camping at stations, in bathrooms, and on the buses.

Assaults are primarily managed through a law enforcement perspective, focusing on the legal recourse available. Physical changes are the next most common strategy for assault mitigation. For example, Miami-Dade has shields for operators, signage, and audio and video recordings. To mitigate assaults, operators are given several tools, training, and tips. For example, operators are encouraged not to stand by the doors or openly use their cell phones in an effort to reduce robbery on the Metrorail. Administrators shared that a crucial aspect of their mitigation strategies is training that helps operators not personalize the behavior of customers and provides them with tools to manage their behavior and response in the face of assault. In addition, management explained that they have seen a correlation between an operator's upbringing and how they respond to assault by a triggering customer.

### *Training Initiatives and Resources*

When an operator experiences a traumatic event, such as an assault, the Miami-Dade Employee Support Services (ESS) program provides support to that individual. This program offers counseling and support services for employees; however, many operators are unaware of the program or choose not to use the program at all. Operators are often more comfortable speaking with the union representative rather than their supervisors due to the perception that by sharing this information with supervisors they could be removed from their current position, required to take leave, or moved to a different position, all of which lead to a loss of income. Miami-Dade has implemented apps as an additional resource for both operators and passengers. “*MDT Transit Watch*” and “*GO Miami Dade*” are apps linked directly to the central control center. These apps allow users to report incidents as they occur. They can add a photo and description and note the type of incident occurring in real-time.

Miami-Dade also provides many opportunities for assault-related training. All training is conducted in person and includes customer service, security, and new hire classes. The new hire training lasts for nine weeks, for eight hours per day, for a total of 72 training hours. Forty hours of security training are provided each year. Training specifically in mental health is not provided.

### *Community-Based Collaboration*

Collaboration among agencies and organizations strengthens assault mitigation strategies within the agency. One such collaboration with the Transport Workers Union (TWU) ensures frontline workers have the resources and are provided with the services they need. Additional collaboration between the transit agency and law enforcement helps strengthen security, safety, and assault response. Collaborations with Dade County mental health and grief counselors are integral for supporting operators during times of crisis.

### *Potential improvements*

Focus group participants had several suggestions for potential improvements, including changes to training and resources for operators. Participants would like the ESS program to become more readily available to operators. They would also like to see hotlines and anonymous services for operators. Further, they want grief and mental health counselors integrated into the organization. For training, they would like to see mental health professionals as the trainers and the integration of drug and alcohol training.

### *Observations*

MDT is well-equipped for many aspects of assault mitigation and management, particularly regarding physical and environmental protection against assault. However, the agency could benefit from providing additional and confidential access to support for its operators to seek support and guidance when assaulted. Training specific to mental health mitigation, mental health signs and symptoms, and drug and alcohol use would also benefit the agency. Finally, standardized training would be beneficial across all transit types (e.g., rail, bus) and employee types (e.g., supervisor, operator, administration).

### *Concluding Summary*

Miami-Dade has made substantial strides in reducing assaults and enhancing safety for operators and passengers by implementing apps, signage, advanced training, and upgraded safety measures, such as operator barriers and improved surveillance. Although these initiatives have yielded positive outcomes, it is advisable to persist in investing in training, technology, and legislative backing to reinforce the safety and security of both operators and passengers.

## 4.7 New Jersey Transit (NJT)

The NJT site visit occurred on August 2, 2024 at the agency's headquarters located at One Penn Plaza East, in Newark, New Jersey. The visit focused on the challenges and solutions related to assaults within the transit system, emphasizing the needs and strategies to protect employees and passengers. Discussions highlighted the rise in assaults, safety concerns due to societal shifts, and protective measures currently in place and under consideration.

### *Organizational Assault*

New Jersey Transit defines assault broadly to include physical threats, verbal harassment, and actions such as spitting, all of which contribute to unsafe working conditions. In recent years, there has been an increase in reported assaults, which affects both bus and rail operators, particularly in urban and high-density service areas. Assault incidents are more prevalent in bus operations than rail due to the proximity between operators and passengers, as well as fare disputes, which remain a primary trigger.

### *Assaults Caused by Mental Health and Related Factors*

A significant factor in the rise of assaults is attributed to societal challenges, including disrespect for authority, mental health issues, and homelessness. Assaults frequently stem from fare disputes, especially on high-traffic lines and bus stops near large public areas. NJ Transit personnel noted societal changes, such as an increased tolerance of hostile behavior, which exacerbate assault risks within the system.

### *Mitigating Strategies for Assaults*

NJ Transit has implemented several protective strategies to reduce assault incidents:

- *Protective Barriers:* Barriers have been installed on all buses, with recent upgrades to improve coverage and reduce accessibility to the driver. New bus models come with full barriers that enhance safety.
- *De-escalation Training:* Operators receive de-escalation training, including a module introduced in collaboration with the NJ Transit police. The training is periodically reinforced, especially for employees with high rates of customer complaints or frequent fare disputes.
- *Surveillance:* NJ Transit buses are equipped with video and audio surveillance systems, although these recordings are typically inaccessible to passengers in real time.
- *Court Advocacy Support:* NJ Transit provides court advocates who support employees through legal processes following an assault. This assistance has reportedly improved employees' confidence in reporting incidents.

### *Community-Based Collaboration Efforts*

NJ Transit works with local law enforcement and community organizations to address the broader social issues impacting the transit system, such as homelessness and mental health. Their partnership with New Jersey's diversion programs aids low-level offenders in accessing resources rather than entering the traditional criminal justice system, reducing repeated offenses.

### *Potential Improvements*

- *Expanding Training:* Increasing the frequency and accessibility of de-escalation training for all operators and relevant personnel may decrease the potential for assault events.
- *Increasing Surveillance Transparency:* Implementing visible onboard surveillance monitors may remind passengers that they are being recorded and dissuade undesired behaviors.

- *Strengthening Court Advocacy:* Enhancing the support program for employees going through the court system to help ensure legal protections and follow-up support may provide employees with more confidence in the support they receive from the agency.

### *Observations*

- *NJT would benefit from expanding training offerings,* including increased frequency and accessibility of de-escalation training for all operators and relevant personnel.
- *NJT may find increased surveillance transparency to be beneficial.* This could include the implementation of visible onboard surveillance monitors to remind passengers they are being recorded.
- *Enhancing the support programs for employees,* including strengthening its court advocacy program for those going through the court system, will help ensure legal protections and follow-up support for NJT employees.

### *Concluding Summary*

NJ Transit is facing significant challenges related to assaults on transit operators, exacerbated by social issues such as homelessness and mental health crises. The agency is actively working to mitigate these risks through safety enhancements, partnerships, and improved resources for employees. Continued collaboration with law enforcement and community groups and state support for transit safety initiatives will be essential to fostering a safer environment across New Jersey's transit system.

## 4.8 Pinellas Suncoast Transit Authority (PSTA)

The PSTA site visit occurred on February 26, 2024, at the agency's headquarters located at 3201 Scherer Drive North, in St. Petersburg, Florida. This site visit primarily focused on PSTA's mental health and assault mitigation efforts, with a significant focus on available and attempted mental health trainings, including MHFA, a collaborative initiative with Directions for Living to provide 40 hours of mental health training to PSTA's staff that began in 2020.

PSTA discussed recent trends in assaults, explaining that many of their attempted mitigation efforts (i.e., barriers around drivers) have *not* resulted in reduced incidents of assault. PSTA has emphasized that training its employees is the primary focus to date. They seek to teach employees practical crisis management skills to effectively address agitated customers while reducing the escalation risk. The organization actively works with community organizations and highlights the importance of budgetary changes to allow both time and financial support to properly train all transit employees.

## *Organizational Assault*

Assault at PSTA is broadly defined as any unwarranted attack, whether physical, verbal, or involving a threat, including battery. Verbal assaults and threats are the most common incidents, with some linked to individuals experiencing homelessness or mental health issues. PSTA explains that verbal threats often include a customer screaming at an operator due to a late bus or fare dispute. Physical confrontations, while less frequent, occur routinely. PSTA explains that the front glass of the bus is punched out approximately 20 times monthly despite physical barriers around the operators.

PSTA uses a color-coding system (yellow, orange, red) for assault reporting. The color-coding system works like a Likert scale, with yellow indicating a disturbance and red indicating a physical threat. Over the past four years, assaults of all kinds, particularly those related to mental health concerns and individuals experiencing homelessness, have increased. To develop a comprehensive assault mitigation and response protocol, it is imperative to have a complete understanding of the types of and contributing factors to assault PSTA is experiencing.

### *Assaults Caused by Mental Health/Related Factors*

Mental health issues have been a significant contributing factor in several assault cases, including suicidality. PSTA explains that suicidal ideations have increased by 800% since 2020, which prompted the collaboration with Directions for Living to implement MHFA training for employees. MHFA is the equivalent of physical first aid for assisting with mental health crises. It helps trainees understand mental health while providing practical skills for assisting someone experiencing a mental health crisis. However, PSTA indicated that many employees have not been trained due to budgetary and staffing constraints.

PSTA noted unhoused individuals frequently using transit spaces as camps have been a growing concern, particularly since the pandemic (since the pandemic, approximately 90% of all assaults are mental health-related). Additionally, there has been a sharp increase in overdose-related incidents. PSTA recognizes the need for community collaborative efforts to address these concerns and is open to additional community partnerships to assist those with mental health and housing needs.

### *Mitigating Strategies for Assaults*

PSTA has implemented several strategies to address assaults and improve safety:

- *Mental Health First Aid* training focuses on mental health education and de-escalation. PSTA provides this training by partnering with Directions for Living, a local community mental health agency. As of February 2024, 60 employees received MHFA training in the prior 30 days.



- *New hire and de-escalation training* offered through PSTA focusing on security and situational awareness, the difference between someone in crisis versus a threat, verbal and assault awareness, sensitivity to ADA, TSI customer relations, and in-house and FDT verbal and assault training. These training courses are also offered as refresher courses.
- *Development of new training initiatives and resources.* PSTA has plans to work with Directions for Living to provide training on homelessness, severe mental illness, and general mental and emotional unwellness.
- *Operator Safety Barriers* are being installed on buses to protect drivers from potential assaults, with plans to expand these barriers to all new buses.
- *Increased Surveillance* including enhancing camera systems on buses for real-time monitoring of situations and potential threats.

### *Community-Based Collaboration Efforts*

As part of PSTA's commitment to providing its employees with practical and effective mental health training, it collaborates with Directions for Living, one of the local community mental health agencies, to provide MHFA training to its transit employees. This partnership provides resources and education to PSTA employees on how to identify and manage incidents involving mental health, including suicidality and psychosis. Additional training opportunities through this agency are also currently being evaluated.

### *Potential Improvements*

PSTA has identified several opportunities to improve the safety and security of its staff and passengers. To address the increase in overdose incidents, PSTA plans to start training personnel on Narcan use and having it available at transit facilities. The agency acknowledges the necessity for expanded mental health and de-escalation training for frontline staff to better prepare them in handling crises, especially those involving mental health, ensuring safer resolutions.

While MHFA has been effective, PSTA would like to have a transit-specific MHFA type of training. This would reduce the duration of the course and make it more applicable to transit employees. This would also reduce the costs associated with training and allow for more employees to be trained more quickly.

To enhance safety, PSTA plans to continue its physical safety efforts by ensuring all buses have operator barriers. Additionally, they plan to enhance surveillance and monitor high-risk areas to prevent potential threats before they escalate into assaults. Additionally, PSTA is advocating for increased funding opportunities for training. Together, these initiatives reflect PSTA's commitment to creating a safer, more supportive environment for both employees and the public.

## *Observations*

PSTA has made significant progress in reducing assaults, particularly those related to mental health, through collaborative community mental health efforts and other safety improvements. To further enhance safety, PSTA should prioritize the mandatory installation of operator barriers on all new buses and expand mental health training and community outreach programs. Expanding collaboration with local authorities, community agencies, and health organizations will help address the root causes of homelessness, overdose events, and transit-related violence. Budgetary changes allowing for funded trainings would dramatically assist PSTA in their efforts to address mental health-related assaults. The following recommendations could bolster the safety and security efforts of PSTA:

- Continue MHFA (or a truncated, transit-specific mental health version) training for frontline employees to ensure they are well-equipped to handle mental health-related incidents.
- Accelerate efforts to enhance bus surveillance in high-risk areas and explore AI-driven solutions to identify high-risk behaviors or situations and improve safety.
- Continue installing operator safety barriers across the entire fleet and require their use on all buses.
- Seek additional funding sources (i.e., grants) and community collaborations for training opportunities.

## *Concluding Summary*

PSTA has made significant strides in minimizing assaults and enhancing safety for both operators and passengers through their partnerships with the community, improved training, and upgraded safety measures, such as extensive training opportunities, the installation of operator barriers, and enhanced surveillance. While these initiatives have yielded some positive outcomes, the prevalence of assault, mental health-related incidents, and homelessness suggests the ongoing need for investment in training, technology, and budgetary support to ensure the safety and security of all stakeholders.

### 4.9 Tri-County Metropolitan District of Oregon (TriMet)

The TriMet's site visit was conducted on May 3, 2024 at 12:00 p.m. at TriMet's headquarters located at 101 SW Main Street, #700, Portland, Oregon. The meeting was well attended, with representation from CUTR and several members of TriMet upper management. This collaborative site visit primarily focused on TriMet's mental health and assault mitigation efforts, with a significant focus on homelessness, outreach, and substance misuse. TriMet faces many barriers to mitigating assault, particularly related to local policy and resources. TriMet has done well in

developing in-house programs to address the community's needs and reduce assaults. They have also begun to strengthen training, enhance security measures, and increase community visibility.

### *Organizational Assault*

At TriMet assaults include not only physical violence against employees, but also threats of violence, harassment, and menacing behavior. TriMet has also adopted the FTA's definition of assault on a transit worker, in accordance with 49 U.S.C. 5302(1).

Overall, assaults are trending downward at TriMet, though immediate stats were not readily available at the time of the site visit. They currently have a database for tracking security incidents, which includes assaults but does not include the type of assault, severity level, or contributing factors. TriMet will be instituting a new tracking system, which will include full-service dispatching software with data storage. The system will also support TriMet's SMS risk assessment and mitigation processes.

During exit interviews with a few of TriMet's bus operators, it was mentioned that the agency has not historically been perceived as supportive of its employees during and following an assault, adding that there are employees who have indicated that they do not feel supported or safe. TriMet management are actively working to correct this perception and have increased employee support programs, enhanced their security measures, and improved training programs.

### *Assaults Caused by Mental Health/Related Factors*

For TriMet, mental health, substance misuse, and homelessness are a three-pronged problem and have been a significant contributing factor to assaults. TriMet has many legal and policy issues to navigate regarding substance misuse (e.g., S.B. 15513; H.B. 4002). Both homelessness and substance misuse are leading issues in the Portland area, with tents and drug use along the sidewalks and at transit stations throughout the area. Personal possession is legal in the TriMet's service area, which has led to heightened visibility of active use, overdoses, and paraphernalia. TriMet is working to collaborate with community organizations to help mitigate these issues and reduce instances of mental health-related assaults on transit systems.

### *Mitigation Strategies for Assaults*

TriMet has implemented several strategies to address assaults and improve safety:

- *Mental health-related training:* MHFA is available for some TriMet employees, including the Safety Response Team (SRT). Several TriMet employees and contracted employees have completed the MHFA train-the-trainer course and are in the process of developing structured classes for TriMet's safety and security teams.

- *De-escalation* training (8 hours) is required of all safety and security personnel and is offered to other frontline staff. There are two additional de-escalation trainings provided (4 hours each) that are unique and provide follow-up skills (second training) and stress management (third training). Since the onset, approximately 400 employees have been trained.
- *Station redesign*, including more cameras and lighting. This includes camera trailers for the operators stationed in more rural areas. All cameras are capable of digital, pan-tilt, and zoom.
- *Increased perception of surveillance* highlights the use of video surveillance. Signage is also used to show riders the ramifications of assault.
- *Operator safety barriers* are on all buses. They are all retrofitted with new shields.
- *Customer safety supervisor* is responsible for code enforcement, education, and customer service throughout the system.

### *Community-Based Collaboration Efforts*

TriMet's SRT was launched in 2021. TriMet has authorized 70 SRT positions, comprised of people from diverse backgrounds, including people with professional, educational, and lived experiences. In addition to new hire training, these employees receive three weeks of training on effective communication, de-escalation, MHFA, and safety awareness tactics. Some SRT staff are also provided with Certified Peer Training. The SRT team work to have visibility with customers, engage customers, complete outreach, and connect to community-based partners for resources. They also carry a backpack with supplies to help with basic needs (e.g., toiletries, bus passes, socks).

TriMet aims to address all livability issues on transit or transit properties without involving police or medical staff, when it is safe to do so. This includes calls for individuals who are experiencing mental health issues when there is no overt evidence of threats or violence. Calls involving people in crisis who are threatening or engaged in violent behavior are referred to security and police. This team aims to meet people where they are, at the human level, before involving police, medicals, and other officials, if possible. Additionally, TriMet also collaborated with certified crisis intervention specialists and deploys a co-responder model, which includes law enforcement officers and licensed clinicians who respond to all mental health calls.

### *Potential Improvements*

TriMet has identified several areas for potential improvement:

- Live camera feed on trains with an immediate link to responding law enforcement.
- Install additional blue light phones on platforms (12 have already been installed).

- Provide scenario-based de-escalation training.
- Formalize partnerships and agreements across agency and county barriers to help with homelessness, provide treatment, and reduce assaults.

### *Observations*

Establishing a consistent and clear definition of assault is essential, particularly when working alongside lawmakers and policymakers in the TriMet. As the agency navigates the implications of substance use legalization, having a precise understanding of what constitutes assault becomes increasingly important in their efforts to mitigate substance-related incidents within transit systems.

To address these challenges effectively, it is crucial to implement specialized mental health training for all transit personnel. While TriMet currently offers MHFA training to its SRT and safety employees, extending this training, or an alternate mental health training, to all frontline staff would be beneficial. Equipping them with the skills to recognize the signs and symptoms of mental health issues and to engage in crisis intervention will not only enhance the safety of the transit environment but also foster a more compassionate approach to dealing with individuals in distress.

### *Concluding Summary*

TriMet is acutely aware of the needs of both its transit system and the wider community. The agency has undertaken significant efforts to develop in-house programs that address these needs and work towards reducing incidents of assault. Furthermore, TriMet has begun enhancing training programs, improving security measures, and increasing community visibility. A notable example of TriMet's commitment to passenger safety is its SRT program, which has equipped members with MHFA training and plans to extend this training to additional staff.

Nonetheless, TriMet encounters several challenges in mitigating assaults, particularly regarding local policies and resource allocation. As mentioned previously, to strengthen their efforts, the agency would benefit from establishing a consistent definition of assault and implementing a policy advocate within its framework.

## 4.10 Washington Metropolitan Area Transit Authority (WMATA)

The WMATA site visit was conducted on April 17, 2024 at 1:00 p.m. The meeting was well attended, with representation from CUTR; WMATA, including Metro Transit Police Department (MTPD); and community agency representatives. This collaborative site visit primarily focused on WMATA's mental health and assault mitigation efforts, with a significant focus on efforts already made by WMATA to reduce assault events.

WMATA has made great efforts to collaborate with local agencies, enhance security, provide training, and educate the public to reduce assaults and the impact of subsequent trauma. WMATA provided several presentations for the meeting including ones on (1) recent trends in transit assaults, (2) a discussion on the MTPD's crime reduction strategy, (3) fare evasion strategies, and (4) enhanced visibility and partnerships. They explained that while gun violence is down, substance-related crimes (e.g., fentanyl-related incidents) are on the rise. WMATA has a keen awareness of trauma and its impact and is actively working to address it. They provide counseling services and seek to teach employees practical crisis management skills to effectively address agitated customers while reducing the escalation risk. The organization actively works with community organizations and highlights the importance of community awareness to provide safety to passengers and operators alike.

### *Organizational Assault*

WMATA broadly defines assault to include physical, verbal, or sexual assault that also includes battery. WMATA provides services in Maryland; Virginia; and Washington, D.C., and all three have their specific definitions of assault, which can make record keeping and enforcement challenging. Verbal assault is the most common form of assault experienced at WMATA, with spitting and substance-related assaults the next most frequent. In addition to assaults, WMATA focuses on the other types of traumatic experiences their employees face, including attempted and actual suicide events, vehicle accidents, and community violence.

As mentioned previously, verbal assaults and threats are the most common incidents, with some linked to individuals experiencing homelessness or mental health issues. Physical confrontations, while less frequent, occur routinely as well. Homelessness and the homeless camps that have been established in and around WMATA facilities have resulted in heightened crime and assaults for the agency. This has, however, improved greatly, with law enforcement enforcing camps to relocate and connect those experiencing homelessness to support services. WMATA reports that crime has dropped 24% compared to last year (2023). As of April 2024, there had been 57 total transit worker assault victims, including 32 bus operators, 6 station managers, 6 other employees, and 6 contractors. Of these assaults, 7 were related to expectorating, 22 included personal weapons (e.g., hands, feet), 12 involved thrown objects, and 16 involved weapons. These assaults primarily began with disorderly behavior, a fare dispute, or a verbal altercation. Ten of the attacks were unprovoked and possibly the result of untreated mental illness. WMATA notes that many of their assaults are perpetrated by repeat offenders.

### *Assaults Caused by Mental Health/Related Factors*

WMATA indicated that mental health issues have been a significant contributing factor in several assault cases, particularly when involving the homeless or substance misuse populations. The agency recognizes the need for community collaborative efforts to address these concerns and is open to additional community partnerships to assist those with mental health and housing needs.

The fentanyl crisis has resulted in more crimes related to robbery, auto crimes, and assaults. The increase in fentanyl deaths on transit has also increased. WMATA has provided Narcan for MTPD officers and Crisis Intervention Teams to utilize in these situations.

### *Mitigation Strategies for Assaults*

WMATA has implemented several strategies to address assaults and improve safety:

- *Mental health-related training:* WMATA staff from their Employee Assistance Program, in the Office of Health and Wellness, speak during new employee training about signs and symptoms. However, there is currently no formal mental health training. On the police side, mental health training is covered as a part of the crisis intervention training for officers and the civilian crisis intervention training. After a critical event, they will also reach out proactively and peer-to-peer before it escalates. The internal EAP program additionally provides crisis intervention, supervisory consultations, tailored trainings, and support groups.
- *Metro de-escalation and stress management* training is provided and focuses on building skills to manage oneself, enhance awareness, and improve communication. This training aims to equip staff with the skills needed to de-escalate situations while also developing self-resilience.
- *The “I Got Your Back” support group* is a service WMATA provides employees returning to duty after a work-related assault or traumatic incident. This group offers a safe and supportive space with other employees who have been through similar incidents, providing empathy and understanding. Social workers facilitate these groups and aim to provide staff with the space and skills to work through anxiety and fear before returning to work.
- *Increased perception of surveillance* highlights the use of video surveillance. Signage is also used to show riders the ramifications of assault.
- *Enhanced police presence:* MTPD has taken a very active role in mitigating assaults. They have increased Special Police Officers, increased faregate enforcement, increased the visibility of crisis intervention and special police officers, and enhanced community outreach.
- *Operator Safety Barriers* are installed on all buses to protect drivers from potential assaults, with plans to install fully enclosed barriers on all buses.
- *Increased Surveillance* through CCTV allows for immediate awareness and intervention. WMATA has developed the Metro Integrated Command and Communication Center (MICC), which allows for the immediate transmission of real-time crime information.

- *Emergency Buttons* allow operators (or any staff) to notify the MICC of an emergent situation. MICC personnel can then log into the transit camera associated with the situation and develop a plan for intervention immediately. The emergency alarm also activates a "Call Police" message on the destination sign, opens the covert microphone for the MICC personnel to listen in on the bus over the radio, and makes a time mark on the CCTV and DriveCam video systems for later review if necessary. This feature is available on all buses.

### *Community-Based Collaboration Efforts*

As part of WMATA's commitment to mitigating assaults and the resulting trauma, they have made several collaborative community relationships. WMATA has partnered with homeless outreach, providing a link between MTPD and social services who can support those individuals who are challenged. Additionally, WMATA has worked to become an active part of the community through additional outreach services.

- **Youth Outreach Programs:** WMATA provides mentoring, college programs, and safe rides for DC public school students. WMATA also participates in the Restorative Justice program with the DC Office of the Attorney General.
- **Engagement through Outreach:** WMATA has weekly outreach events at Metro stations to provide awareness for crime prevention and safety. In doing these events, they partner with community organizations across the DMV.
- **Community Police Academy:** This is an eight-week program to provide community members with the experience of different types of police training.
- **Narcan Use and Deployment:** MTPD officers and CIT specialists are issued Narcan.

### *Potential Improvements*

WMATA has identified several areas for potential improvement:

- Continue to focus resources and innovative action to identify and prosecute offenders, utilizing all tactics available, e.g., bans from the system.
- Continue to deliver and grow training programs specific to personal security.
- Create job aid on personal security to distribute to all Metro and contracted staff.
- Add personal security announcements at rail stations during the after-hours.
- Develop signage to inform passengers of the legal consequences of assaulting transit workers.



### *Observations*

Developing a uniform definition of assault across Washington, D.C.; Virginia; and Maryland could provide ease in policing and prosecution. Currently, variations exist in the statutory language, definitions, and classifications of assault in these three regions. Harmonizing these definitions could enhance legal clarity, foster broader understanding among law enforcement and judicial entities, and ensure equitable treatment for individuals across these jurisdictions. A collaborative effort to reconcile the differences in legal definitions could promote consistency in legal proceedings and outcomes, ultimately reinforcing the principles of justice and equity in matters of personal safety.

Additionally, the implementation of operator safety barriers across the entire fleet is underway, and WMATA mandates their use on all buses. This initiative aims to enhance the safety of operators and passengers alike, thereby promoting a secure transit environment. Continued efforts in this area reflect WMATA's commitment to reducing operational hazards and fostering a culture of safety within public transit systems.

It is important to implement specialized training focused on mental health for transit personnel. Currently, WMATA includes discussions by specialist EAP staff during new employee training sessions to address the identification of signs and symptoms related to mental health issues. Expanding this mental health training curriculum may prove beneficial. Mental health training is integrated into the MTPD's crisis intervention training programs, both for law enforcement officers and civilian personnel engaged in crisis intervention and could be expanded. Furthermore, proactive outreach efforts are initiated following critical incidents, emphasizing peer support before situations escalate. This comprehensive approach underscores the efficacy of enhanced mental health training within the transit sector, ensuring that staff are equipped to recognize and respond to mental health challenges effectively.

### *Concluding Summary*

WMATA has made significant advancements in mitigating assaults and improving responses to incidents of violence. Notably, the use of problem-oriented policing and enhanced visibility of MTPD, crisis intervention teams, and the provision of counseling services for trauma response, demonstrate a commitment to enhancing safety and support for affected individuals. WMATA's collaborative efforts with community organizations have also fostered a safer and more informed workforce and public.

Furthermore, WMATA has taken proactive measures to address assaults associated with mental health issues through various community initiatives and enhanced safety protocols. To build upon these achievements, it is imperative that WMATA prioritize the development and implementation of mental health-specific training for transit staff. This training should encompass the identification of signs and symptoms of mental health crises, effective crisis intervention

techniques, and de-escalation strategies, thereby equipping staff with the necessary skills to better serve the community and enhance the overall safety of the transit environment.

## 5. Summary & Conclusions

### 5.1 Situational Summary

NTD data highlights a significant rise in assault-related injuries on public transit in the United States, increasing by 152% from 2014 to 2023. Assaults now account for more than one-fifth of all transit injuries, with a majority occurring on vehicles or at transit stations. The trends indicate varying rates of assault injuries across transit modes, with rail showing higher rates compared to buses, posing challenges that transit agencies must actively address through targeted safety measures.

### 5.2 Lessons Learned

The case study agencies who were a part of this research have made significant progress in recognizing and addressing the causal or contributing factors in assault events occurring on their systems and within their facilities. They have recognized the ever-evolving complexity of assault events, both those against transit workers and those against passengers. For these case study agencies and many public transit providers across the U.S., mental/behavioral health, substance abuse, and the challenges individuals face who are experiencing homelessness have become more evident and have impacted the safety and security of those working within and riding those systems.

Agencies such as LA Metro have implemented robust surveillance and community partnership programs, emphasizing early intervention and support for vulnerable populations. Other agencies, such as PSTA and TriMet, focus on innovative training initiatives, such as MHFA, to address the rising challenges of mental health crises. Furthermore, DART's DART Cares program exemplifies how agencies can integrate mental health outreach with operational safety measures.

Significant gaps remain, particularly in standardizing the definition and reporting of assaults, ensuring sufficient funding for training and addressing systemic issues such as homelessness and substance misuse. These challenges highlight the need for coordinated national and agency-tailored approaches to improve safety and support within the transit sector. There are lessons learned from case study agencies and the literature review conducted as a part of this study that are the sources of the recommendations to the public transit industry that are presented below.

- *Establishing a consistent and clear definition of assault is essential.* In addition, transit agencies, both those who do and those who do not have dedicated law enforcement units, must work across jurisdictional boundaries—municipalities, counties, or even states. Much of the challenge of a single definition of assault is often related to state or regional laws and corresponding definitions. What is known is that when there are many and sometimes conflicting definitions of assault, battery, or related terms, arrests, prosecution, and associated penalties can create significant confusion and can limit a transit agency's ability

to secure their systems and facilities. By harmonizing definitions, policymakers can enhance legal clarity, foster a broader understanding among law enforcement and judicial entities, and ensure equitable treatment for individuals across these jurisdictions. Collaborative efforts to reconcile the differences in legal definitions could promote consistency in legal proceedings and outcomes, ultimately reinforcing the principles of justice and equity in matters of personal safety.

- *Expanding de-escalation training* to include mental health awareness, engaging with those who have mental illness or who may be experiencing drug induced outrage, and utilizing real-world scenarios in the training is a best practice. Ensuring frontline workers and law enforcement are equipped to recognize and respond to mental health challenges effectively and respectfully is critical. There are transit agencies who have effectively implemented or procured MHFA, other proprietary curriculum and programs, and Red Kite Program services and have created their own curriculum with the help of community service groups, including mental health and substance abuse clinicians.
- *Implementing specialized training for frontline workers and supervisors that is focused on recognizing the signs and symptoms* of mental health challenges, substance abuse, fatigue, depression, or other symptoms is important. These conditions may or may not be related to assault events, threats, verbal abuse, and other daily interactions that employees have with passengers. It could be associated with things they have observed within the agency, including assaults on others, or it could be completely independent of their position. Recognition of these challenges is such a seminal activity for a transit agency with a mature safety culture, but recognition alone is not enough. The public transit industry must provide EAPs that provide protections for transit workers who utilize them. This can even include offsite counseling by independent third parties. Peer support programs and activities likewise can create positive benefit and is a best practice.
- *Expanding law enforcement presence and fostering collaborative relationships* with local law enforcement agencies and community-based organizations can prove significantly beneficial. This can take the form of co-responder units who can provide on-site crisis intervention support, ambassador programs, enhanced outreach, and connecting those with mental illness, substance abuse, and those who are experiencing homelessness to resources and services. In addition, strengthening collaboration with local law enforcement authorities and mental health and substance abuse organizations may help address the root causes of transit-related violence.
- *Increased law enforcement presence can also reduce the perception of assault risks* and make transit workers and passengers feel safer. This presence and rapid response law enforcement initiatives would further support transit workers by ensuring improved response times to transit assault events and other criminal activity.

- *Improving data collection and associated analyses in support of risk assessment and management activities are vital.* Tracking assaults by location, time of day, causal or contributing factors, and other information regarding the assault event can help identify patterns, assist agencies, develop targeted interventions, and evaluate their effectiveness. There are current applications and programs that can be leveraged to support these activities. One example is the Microsoft Power BI data visualization tool used by BCT.
- *Implementing operator safety barriers across the transit bus fleet and mandating their use are central to reducing transit worker assault-related injuries and fatalities.* Safety barriers can enhance the safety of operators and passengers alike, thereby promoting a secure transit environment.
- *Expanding and enhancing video surveillance systems* on buses, trains, and at transit centers, particularly in high-risk areas, can further deter potential assaults, other forms of victimization, and vandalism. There may be benefits to surveillance systems that include monitors that provide real-time images of passengers and potential offenders. AI-enabled video systems, as an example, can be used to identify high-risk behaviors or situations and improve safety. In addition, these systems can also generate data analytics to further support risk assessment and management activities.
- *Expanding community outreach campaigns* can be effective in addressing contributors to assault events. This can include outreach to social service agencies, mental health clinics, support service groups who work with at risk individuals, local high schools, churches, and other community-based organizations.
- *Actively pursuing legislative support at both the state and federal levels to protect transit workers is vital.* The legal protections afforded to transit workers vary considerably from across the U.S. Case study agencies felt strongly that national legislation should be passed that provides protections for transit workers, minimum penalties for those who assault transit workers, and evidentiary protections for individuals who report assault events. At the state level, there are significant differences in the laws that exist (if they exist) and associated penalties. For agencies that work across state boundaries or other jurisdictional boundaries that may have inconsistent protections, enforcing associated laws and ensuring the prosecution of those who assault transit workers, can be challenging.
- *Establishing and/or strengthening court advocacy programs* for transit workers who have been victims of assault or who have observed assault events and may be called upon to participate in assault-related legal proceedings. This would include legal protections and follow-up support.

### 5.3 Conclusion

The challenges that transit agencies face in addressing safety, mental health, and socio-economic factors are complex but not insurmountable. By implementing targeted recommendations, such as standardized assault definitions, more robust data collection and analyses, enhanced training, and community collaborations, transit agencies can create safer and more inclusive environments for employees and passengers. Continued investment in technology, staff support, and policy advocacy will be pivotal in sustaining these efforts, ensuring the long-term resilience and effectiveness of public transit systems across the U.S.

# Appendix A – Survey Instrument

In this survey, “assault” includes any type of verbal, sexual, or physical violence.

The following questions address assault incidents and mitigation strategies:

1) My transit agency has experienced a significant increase in assaults on operators in the past five years.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

2) My transit agency has witnessed an increase in mental health-related assaults in the past five years.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

3) My transit agency has implemented measures to prevent passenger assaults on operators.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

4) My transit agency provides operators with adequate resources to help them transition back to duty after an assault has occurred.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

5) My transit agency measures the documented outcomes of assault mitigation strategies, such as the use of community-based initiatives, including the success rates.

- a) Yes   b) No   c) Unsure

6) My transit agency maintains data on contributing factors to assaults, including the likelihood of mental illness, drug abuse, or other conditions.

- a) Yes   b) No   c) Unsure

7) Please describe any additional policies, procedures, and/or methods the agency uses to address operator and passenger assaults.

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The following questions address agency safety and security:

8) My transit agency responds quickly and consistently to the operator's concerns about particular routes or passengers that present an increased security risk.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

9) My agency has immediate safety protocols and procedures in place when an assault occurs.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

10) My agency has extensive security measures to protect transit operators and prevent assault incidents.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

11) Please indicate any suggestions that can be made to improve safety and security to reduce assaults.

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The following questions address training and protocols:

12) My transit agency has established easy-to-follow protocols and procedures for all pertinent personnel for passenger communication in emergency situations.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

13) My transit agency has trained all employees on recognizing the warning signs and contributing factors impacting assaults on transit system workers and passengers

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

14) My transit agency has trained all employees on recognizing signs and symptoms related to mental distress, substance misuse, and other contributing factors.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

15) Expand more on the details of the mental health training that you've received or is provided by your agency [i.e., the focus of the training, how the training was developed, duration, training frequency (daily, weekly, monthly, annually, less than annually), new employment training requirements].

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The following questions address mental health, substance misuse, and contributing factors.

16) My transit agency effectively communicates policies and procedures related to handling the signs and symptoms of mental distress, substance misuse, and other contributing factors.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

17) I feel that my transit agency's policies and procedures assist in reducing the likelihood of assaults due to signs and symptoms of mental distress, substance misuse, and other contributing factors.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

18) My transit agency provides transit employees with an efficient amount of training and resources related to incidents caused by the escalation of signs and symptoms of mental distress, substance misuse, and other contributing factors.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree

19) My transit agency is greatly impacted by assaults caused by the escalation of signs and symptoms of mental distress, substance misuse, and other contributing factors.

a) Strongly Disagree b) Disagree c) Neutral d) Agree e) Strongly Agree



20) Expand more on the details of what your transit agency’s procedures and/or protocols are for the de-escalation of signs and symptoms of mental distress, substance misuse, and homelessness in passengers.

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The following questions address community-based collaboration.

21) My transit agency has established coordination/collaboration with community-based organizations to connect passengers in need with resources.

- a) No   b) Yes (if yes, indicate all that apply)
- a) mental health or behavioral specialists   b) local health department
- c) homelessness coalitions   d) other \_\_\_\_\_

22) My transit agency has collaborated with local law enforcement agencies to ensure seamless communication when reporting mental health challenges on the transit system.

- a) Strongly Disagree   b) Disagree   c) Neutral   d) Agree   e) Strongly Agree

23) My transit agency utilizes transit ambassadors or trained mental health professionals who are dispatched when an event occurs where mental illness or substance use is expected.

- a) No   b) Yes

24) Expand more on the details of what occurs when a transit ambassador or trained mental health professional is dispatched when an event occurs where mental illness or substance use is expected. of the mental health training that you’ve received or is provided by your agency [i.e., focus of the transit ambassadors, duration, how often are they used (daily, weekly, monthly, annually, less than annually), new employment training requirements].

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25) Please feel free to comment below on any challenges you’ve encountered that were not mentioned in the questions above

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Thank you for taking this survey!

# Appendix B – Focus Group Protocol

1. \*How would you define assault?
2. [*Individualize per survey*] Can you please discuss {*insert primary concern here*} within your workplace environment?
  - Probing Points:
    - Direct Assaults
    - Mitigating mental health or crisis episodes
    - Witnessing various types of incidents
    - Substance Misuse
    - Homelessness
  - Follow-up Question: What is the most challenging issue to mitigate?
3. \*Do you feel comfortable identifying mental health symptoms (e.g., depression, anxiety, schizophrenia, substance use, overdoses, general crisis, etc.)? If so, why do you feel comfortable, or why not?
  - Do you feel prepared to mitigate those symptoms?
  - Do you believe the front-line transit employees feel comfortable in identifying those symptoms?
  - Do you believe that front-line transit employees feel comfortable in mitigating those symptoms?
4. [*Individualize per survey*] With the training initiatives available to you, have you utilized those resources? Why or why not?
  - Are these training initiatives required?
  - If you haven't engaged in training, why have you not utilized those resources?
  - If you've participated in training opportunities, did you feel equipped to handle various scenarios previously mentioned above?
5. \*Do you feel supported by your agency pertaining to assaults, mental health symptom identification, and training opportunities? How so?
6. \*Are there any experiences (personal or someone you may know) that you would feel comfortable sharing?
7. \*What do you think needs to be done to do better, and what improvements can be made based on what we've discussed today?
  - Policy
  - Training Opportunities
  - Safety Measures
8. \*Is there anything we did not mention that you would like to bring up before we end?

\*standardized question / do not modify

# Appendix C – Interview Questionnaire (Sample)

Agency Name:  
Transit Worker and Rider Safety Project  
Site Visit Agenda

Date:

## Introductions and entrance interview

- Review of project objectives
- Discussion of most critical concerns including any anecdotal points of what may be working

Discussions with safety personnel and any community partners

- Review surveillance protocol and coverage – can patrons see themselves being recorded?
- Review signage – mitigations and effectiveness
- Review security initiatives – station design/ operational modifications/ increased personnel or security presence/route changes/etc.
- Review training curriculum, including de-escalation or mental health awareness training
- Bus operator compartment door design(s) or upcoming changes
- Current and planned policing and enforcement visibility (including ambassadors and private security)
- Remnant pandemic challenges
- Technologies/AI use
- Mental health-related conversations
- Any other challenges/mitigation measures/partnerships

Conduct exit interview

- Discuss observations and obtain input
- Follow up on any interview questions or discussion points
- Process for report preparation (ensuring agency review of their section of the case study report)

Conclude

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Dr. Moore is the Executive Director at USF Louis de la Parte Florida Mental Health Institute (FMHI). She also serves as a Research Professor in the Department of Mental Health, Law, and Policy and was the lead project advisor on this MCEEST research project. She received her Ph.D. in Health Psychology from Kent State University and completed a postdoctoral fellowship at Duke University Medical Center. For the past 22 years, she has collaborated with community-based agencies on numerous projects at the local, state, and national level on various grants and contracts focusing on substance use and mental health co-occurring disorders. Her focus is on program evaluation centering on both quantitative and qualitative methodology, bridging the gap between research and practice. Dr. Moore has been Co-PI on numerous NIH-related grants and has been PI on over 12 SAMHSA grant projects within drug court and treatment agencies. These grant-related projects have resulted in peer-reviewed publications, technical reports, and professional presentations at local, statewide, and national meetings. She has a demonstrated record of collaborating with academic colleagues, students, practitioners, and policymakers, generating high-quality peer-reviewed research and scholarship. Additionally, as the Executive Director of FMHI, Dr. Moore provides leadership for statewide research and training initiatives related to behavioral health and providing leadership for strategic planning to identify future priorities.

## **Emilie Ellenberg, MA**

Emilie Ellenberg is a current doctoral candidate in USF's College of Behavioral and Community Sciences Ph.D. program. She is also a Licensed Mental Health Counselor (FL-MH13313). Her primary research interests are exploring the mental health needs of adults with autoimmune diseases. Specifically, in the impact of perceived diagnostic overshadowing on behaviors that promote and deter mental health service provision, integrated medical and mental health care, and appropriate and specified mental health screening of adults with autoimmune diseases.

Emilie has worked in many roles within the Tampa Bay community mental health field including state hospital diversion, forensic mental health, and child welfare. Emilie has worked as an adjunct faculty instructor in the Department of Mental Health Law and Policy since August 2020. Currently, she operates a small private practice, provides qualified supervision for registered Florida mental health counseling interns, and works as a graduate research associate under the supervision of Dr. Kathleen Moore on many community-based projects including mixed methods program evaluation.

## **Melissa Carlson, BS**

Melissa Carlson is a Research Project Manager in the Department of Mental Health Law and Policy at the University of South Florida (USF). She earned her Bachelor of Science in Behavioral Healthcare with a focus on Adult Community Sciences from USF and is currently pursuing a Master of Research Administration at the University of Central Florida. With over a decade of experience, Ms. Carlson has partnered with principal investigators in behavioral health, addressing complex challenges related to substance use, mental health, and co-occurring disorders to support adults, children, and families in need within the Tampa Bay community. She has contributed to over 25 grant-funded projects and contracts as a research project manager, leading to numerous peer-reviewed publications, technical evaluation reports, and conference presentations across local, state, and national levels.

## **Jodi Godfrey, MSCE**

Jodi Godfrey has been a Senior Research Associate at the Center for Urban Transportation Research (CUTR) at USF for 12 years, where she works in the Transit Safety and Workforce Development Program group. Ms. Godfrey received her bachelor's and master's degrees in civil engineering from USF. Jodi is the faculty advisor of the USF ITE Student Chapter, the co-chair of the International Women in ITE Committee, the secretary of the Transportation Research Board's Standing Committee on Transit Safety and Security (AP080), and a member of the TRB Women and Gender in Transportation Committee (AME20). Ms. Godfrey also serves as the vice chair of the American Public Transportation Association Bus Safety Committee. Jodi is passionate about safety, improving diversity in the transportation industry, and fighting to end human trafficking.

## **Lisa Staes, MSM**

Ms. Lisa Staes is CUTR's associate director and was the project manager of this MCEEST project. She was appointed by U.S. Department of Transportation Secretary, Pete Buttigieg to the Transit Advisory Committee for Safety (TRACS) and serves as its vice chair; is the chair of TRB's Standing Committee on Transit Safety and Security (AP080); Advisory Board Member of Elsevier's Transportation Research Interdisciplinary Perspectives Journal; and former chair of APTA's Bus Safety Committee. She is currently conducting an additional transit assault research project—FTA's Transit Worker and Rider Safety research project. She was also CUTR's project manager for FTA's Transit Standards Development Research and is now a consultant for APTA managing FTA's current Transit Standards Development Program. She also serves as the project manager for FTA's Safety Research Demonstration Evaluation programs, where she is actively involved in transit research and stakeholder involvement activities. She was the lead consultant on TCRP Synthesis SA-38 – *Successful Practices and Training Initiatives to Reduce Transit Bus Accidents and Incidents at Transit Agencies*, TCRP Synthesis SA-45 – *Onboard Technologies to Prevent Transit Bus Incidents*, and TCRP F-27 – *Characteristics and Elements of Non-Punitive Employee Safety Reporting for Public Transportation*. Sample research topics include transit assaults, collision/crash

energy management for transit buses, mitigations for rail trespassing and suicides, fitness for duty/fatigue risk management, simulator training and its impact on transit safety, training and certificate programs and elements of success, and other topics.

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