Transit Advisory Committee for Safety (TRACS)
Meeting Minutes

Conference Date and Time:
June 7, 2023 (10:00 AM EDT – 5:00 PM EDT)
June 8, 2023 (10:00 AM EDT – 2:00 PM EDT)

Conference Location:
Virtual Conference conducted via Zoom for Government Webinar
In-Person at the U.S. Department of Transportation Event Center (Washington, D.C.)

Contents

Day One

TRACS Member Attendance:

Committee Members		
Edward Abel	Laura Karr	Ashley Porter
Brian Alberts	Jim Keane	Patrick Preusser
Johanna Cockburn	Thomas Lamb	Reggie Reese
Beverly Edwards	Brian Lapp	Adam Sharkey
Rebecca Frankhouser	Ray Lopez	Justin Sobeck
David Harris	Rachel Maleh	Lisa Staes
Molly Hughes	Santiago Osorio	Gardner Tabon
Donna Johnson	Karen Philbrick	

Federal Support Attendance:

FTA	Contract Support	Volpe National Transportation Systems Center (Volpe Center)
Donna Aggazio	Justin Bouyer	Jeff Bellone
Joe DeLorenzo	Kim Devilla	Meghan Boydston
Sara Richmond	Sam Rosenblatt	Don Fisher
Matt Welbes	Abigail Wolfgram	Michael Green
Bridget Zamperini		Sean Laffey
		Gina Melnik
Additional FTA Attendance		
Valerie Beck	Angela Dluger	Jacob Migdall
Anna Curtiss	Frank Hackett	Richard Price
Matthew DeDonato	Patrick Mehler	Heather Ueyama

Public Attendance

Public Attendees		
Cindy Aldworth	Susan Crawford	Joshua Katz
Matt Ankley	Carla de Mendonca	Christopher Lott
Chris Bell	Enjoli DeGrasse	J. Michael McLaughlin
Sabrina Blais	Timothy Doddo	Jessica Rio
Michael Blauvelt	Sergio Gomez	Mike Smith
Brian Brady	Carl Hamann	Kara Waldrup

Shamaine Cash	Jason Hovde	Tina Williams

Day One – Introduction

The goal of the meeting was to bring together Transit Advisory Committee for Safety (TRACS) members in person and virtually to discuss subcommittee progress, hear from guest speakers, conduct working sessions, and receive feedback from all members on each subcommittee's progress.

Bridget Zamperini, TRACS Program Manager, initiated the meeting with welcoming remarks, a safety briefing, and roll call. Following Bridget, Joe DeLorenzo, Associate Administrator for Transit Safety and Oversight (TSO) and Designated Federal Officer for TRACS, discussed the Federal Transit Administration's (FTA) recent history with TRACS, the importance of each subcommittee topic, and the goal of the hybrid meeting. Following Joe, Matt Welbes, FTA Executive Director, concluded FTA's introduction discussing FTA's committed support to the committee and its goals.

Jim Keane and Lisa Staes, the TRACS Chairperson and Vice Chairperson, respectively, provided an update on TRACS activities to date and the committee's overall progress since the January 31, 2023, kickoff meeting. During the last six months, each subcommittee (Reducing Bus Collisions, Cyber and Data Security Systems, and Advancing Rider and Worker Safety) identified areas of improvement in their respective safety focus area by leveraging guest speaker presentations, literature reviews, and members' professional experiences in the communities they represent. Each subcommittee conducted four virtual meetings that drew on a combination of these elements. Following Jim Keane and Lisa Staes, each subcommittee lead (Gardner Tabon for Reducing Bus Collisions, Brian Alberts for Cyber and Data Security Systems, and Ray Lopez for Advancing Rider and Worker Safety) provided a short summary of their specific subcommittee's activities, followed by a presentation from a subject matter expert or safety specialist on a topic related to each subcommittee.

Advancing Rider and Worker Safety – Amalgamated Transit Union Presentation

TRACS member Laura Karr, Associate General Counsel from the Amalgamated Transit Union (ATU), presented on ATU's ongoing efforts to advance safety. ATU's focus areas include retrofits for buses currently in service, comprehensive bus operator workstation redesign for future bus procurements, and effective joint labor management safety committees. Under bus retrofits, Laura Karr described an ideal vision for a system barrier that protected operators from potential hostile interactions. The barriers are easy-open and easy-close windows, vibration resistant, use anti-reflective glass, do not restrict boarding of passengers using mobility devices, can adapt to most bus models, and can be installed in most system maintenance shops. Laura Karr stated that the vision may require Buy America waivers. The barriers have two main designs. In one design, boarding takes place in the middle and/or rear doors of the bus, reducing interaction between the driver and the riders. In the second design, boarding takes place across all doors and passengers would walk past the driver while separated by a door and glass panel. Laura Karr noted that in addition to the above benefits, the panels can help with blind spot reduction, infectious disease protection for operators, and improved workstation air quality.

Q&A and Discussion

The bullets below summarize questions, answers, and discussions among TRACS members regarding Laura Karr's presentation. These remarks came exclusively from TRACS members and are not attributable to FTA.

- Committee members recommended getting feedback from end users on any new technologies, such as the driver barrier, as they are the direct end users.

- One committee member asked if these retrofits exist for school buses.

    - Laura Karr said that it is unclear. However, worker assault on school buses is as big of an issue as on transit buses.

- One committee member noted that in 2014, TRACS discussed barriers, which have come a long way and are impactful.

- One committee member noted that there is an operator view that the transit agency isn't looking out for the drivers. A retrofit is good, but an imbedded design is better.

    - Laura Karr said that de-escalation training has been deployed. However, on several occasions, the training has not been effective, and issues were escalated. How can the training be improved and implemented?

    - Laura Karr said that there needs to be improvements to training. The trainings need to be updated to meet some sort of minimum standard. The trainings also need to reflect how adults learn.

    - Laura Karr said that one cannot engineer-out human behavior. Drivers sometimes will forget training in stressful situations and "get out" of the situation as quickly as possible. It is best to ensure the driver is not in the situation in the first place.

- One committee member asked, is there legislation to protect the driver?

    - Laura Karr said that this would be State-by-State, and they are not consistent. Some States include spitting as a huge offense, while others only consider it a minor offense.

    - Laura Karr said that in most cases, there are no police officers on buses. Fines for offenses after the matter are only so effective.

- One committee member said that human factors need to be considered when procuring buses and updating the bus design. Some committee members recommend incorporating end-user feedback to get to the best design with prototypes.

Cyber and Data Security Systems – Mineta Transportation Institute Presentation

Scott Belcher, President and Chief Executive Officer of SFB Consulting LLC and an Associate from the Mineta Transportation Institute (MTI), presented on existing cyber and data security threats in the field of Transportation. Scott Belcher noted that most transit agencies face many threats, sometimes in the hundreds or thousands of attacks a day range. Examples of cybersecurity lapses in transportation include:

- Bay Area Rapid Transit's (BART) delayed expansion due to 10,000 pirated switches;

- Translink's shutdown and payment due to exposure of personally identifiable information (PII) of 25,000 employees;

- Ransomware attack on the Washoe Tribe that lost 100 gigabytes of data to the dark web; and

- Data breach in Carson City where customer data was exposed.

Scott Belcher discussed industry research such as the MTI study on the transit industry's preparedness for cyber-attacks and potential policy recommendations, including aligning the transit industry and its vendors in the face of increasing cyber risk and identifying and addressing cybersecurity challenges. According to an MTI survey, 22 percent of public transit agencies indicated they have suffered a cybersecurity incident.

Scott Belcher noted that some Federal mandates related to cybersecurity already exist, including:

- Transportation Security Administration (TSA) Security Directive for Rail Transit and Passenger Rail (1582-21-01)

- Omnibus Appropriations Act of 2022

  - Requires incidents affecting "critical infrastructure" to be reported within 72 hours of detection and ransoms to be reported within 24 hours of payment.

- Executive Order – 14028

  - Updated Federal contract language with more stringent incident reporting rules.

- Cybersecurity Maturity Model Certification (CMMC)

  - Updated to a new version in November 2021, this certification applies to Department of Defense contractors.

- Infrastructure Investment and Jobs Act (IIJA)

  - Requires the Federal Highway Administration to develop a cybersecurity tool for transportation agencies based on the National Institute of Standards and Technology framework.

- [National Defense Authorization Act for Fiscal Year 2022](#)

    o Directs TSA to update cybersecurity guidance on handling Sensitive Security Information.

At the end of presentation, Scott Belcher recommended agencies start regular training to recognize phishing/email scams if they don't already have one, implement Multifactor Authentication, segregate data and users, perform a cybersecurity vulnerability assessment, and develop and execute a plan for continuous cybersecurity awareness and improvement to make it part of agencies' culture.

Q&A and Discussion

The bullets below summarize questions, answers, and discussions among TRACS members and Scott Belcher regarding his presentation. These remarks came exclusively from TRACS members and Scott Belcher and are not attributable to FTA.

- One committee member asked, how does the TSA security directive apply to transit agencies? What size agencies fall under the directives?

    o Scott Belcher said that TSA makes the transit security grant program available to the top 111 agencies. These are the highest-risk agencies because they have the most traffic. However, there are over 4,000 agencies in the U.S., so figuring out how to help these agencies is important. The Cybersecurity Assessment Tool for Transit (CATT) was developed to help address this issue.

- One committee member asked, how can we make this TRACS report useful to meet a gap for smaller systems?

    o Scott Belcher said that FTA needs to get the report into the hands of the smaller agencies to make them aware it exists (through the Community Transportation Association of America and other organizations set up to service the smaller agencies)

    o Scott Belcher said that the report can be simple because small agencies typically have less-robust IT departments. The report should make the systematic changes talked about seem achievable.

Reducing Bus Collisions – Presentation from Pierce Transit

TRACS member Reggie Reese, Chief Safety Officer from Pierce Transit, presented to the committee on recent efforts by Pierce Transit in reducing bus collisions. Based in Lakewood, Washington, Pierce Transit has an estimated 1,000 employees and currently owns and operates an active fleet of 674 service vehicles, including 192 fixed route buses, 379 vanpool vehicles, 100 paratransit shuttles, and three seasonal trolleys. Reggie Reese discussed the concepts of safety programs and safety culture and how safety personnel identify risks, hazards, and unsafe habits to proactively mitigate safety issues. Pierce Transit uses Heinrich's Law as part of their approach to understand the subject of safety incidents and reduction. According to Heinrich's Law, for every 300 unobserved, unreported, and uncorrected unsafe acts, there are an estimated 29 near misses or minor events and one major, catastrophic event.

Reggie Reese noted that Pierce Transit has experienced a 65 percent reduction in preventable collision events from 2018 to 2022. Reggie Reese discussed the importance of communication monitors across different locations and transit agencies. These monitors would allow agencies to display safety data and alerts, broadcast unique hourly radio safety messages, report hazards and mitigation to employees in real time, ensure pre-trip inspections are audited by management, honor status and achievements of transit staff, hold regular safety meetings that stay on the topic of safety, and mirror other stations.

Q&A and Discussion

The bullets below summarize questions, answers, and discussions among TRACS members regarding Reggie Reese's presentation. These remarks came exclusively from TRACS members and are not attributable to FTA.

- One committee member said that cameras can benefit transit agencies in smaller areas by helping the agency learn more about their operators and how they are driving.

- One committee member asked, are there incentives to report hazards or report deviations from procedures?

    o Reggie Reese said that Pierce Transit has a "safety starts with me" award and winners are published in a newsletter. Another thing that is important is to follow through in addressing a complaint and then loop back with the employee to explain how it was resolved. The agency also will publicize that it corrected the problem and which employee reported it. This way, employees know that management will act on complaints.

- One committee member asked, can employees report errors without fear of reprisal?

    o Reggie Reese said that there is a safety hotline where employees can report errors anonymously. Telematics can help with this. Also, being up front with employees and being respectful leads to robust reporting without punitive action. This fosters a "we are us" system.

- One committee member said that transit agencies can address safety issues that are cross-jurisdictional.

Subcommittee Breakout Sessions

Following the introduction and initial presentations, each subcommittee met independently in a breakout session to discuss their initial draft subtopic areas and to brainstorm potential recommendations.

Reducing Bus Collisions Breakout Discussion

The following section summarizes the breakout discussion among TRACS subcommittee members and includes the main topic areas identified by the TRACS subcommittee on Reducing Bus Collisions along with possible recommendations and areas of interest within the topic. These remarks came exclusively from TRACS members and are not attributable to FTA.

- **Preliminary recommendations and themes**

  - Bus design

  - Oversight

  - Training

  - Marketing and partnerships

  - Service management

  - Transit agency resources

- **Bus Design**

  - Operators are not incorporating the fundamentals into their use for the bus.

  - FTA's Office of Research, Demonstration, and Innovation (TRI) is currently doing work related to bus design that could be of relevance to this subcommittee.

  - FTA has the Research to Practice program to explore how to apply modern research efforts in the transit industry. (Calstart is in this program, and Thomas Lamb is part of this effort).

  - There is a lack of standard on what the back of a bus should look like.

  - There should be line of sight analysis for the drivers when designing a bus. The input of frontline employees is needed to get this right.

- **Oversight**

  - Discussion question: How are transit agencies monitoring drivers? Are there any standards across the industry?

  - Thomas Lamb shared examples from his previous work in a chemical plant. The industry adopted a standard that encouraged everyone to report unsafe conditions, close calls, and near misses. This resulted in less accidents.

  - There needs to be a focus on positive reinforcement. At First Transit, they use an approach where if one has something negative to cite, then they need to balance that with three positive things at the same time.

  - Agencies need the ability to see what the driver is doing and reinforce the positive behavior. Then, they can coach the negative behavior.

  - Hours-of-Service: There is a need to harmonize hours-of-service rules across the transit industry.

- Transit agencies need to take into consideration factors, such as commutes home and the effect of second jobs on operators. For example, there is a concern that drivers are also working for rideshare companies.

- Federal Motor Carrier Safety Administration standards can serve as a model for FTA. These standards are already tailored for transit.

○ Pierce Transit has a well-developed coaching program. They also use a tracking system of drivers and cameras (Lytx) that has been successful.

- **Training**

  ○ Discussion question: What is the level of training needed for drivers?

    - Factors to consider include length versus quality; instructor to student ratio affecting program length; the need for additional training requirements due to different types of fleets.

    - European training appears to be lengthier than American training.

  ○ Discussion question: Can the U.S. standardize training?

    - There should be a base level of training requirements or curriculum. Reviewing contractor bids through existing requests for proposals (RFPs) shows that the hourly requirement can vary from 20 to hundreds of hours needed for training.

  ○ RFPs are another source of information that describe every safety program. These plans include the minimum standards across many private groups.

    - However, the level of quality varies across these safety programs. It is important to note that these documents are only plans. It is not clear if they are executed well. Additionally, there are agencies not well-suited to provide the oversight needed to ensure the contractor is doing their job, regardless of what the safety program says.

  ○ Refresher training and factors to consider:

    - Who should take them? How often?

    - What are key performance indicators used to guide these choices?

    - What topics should be included in a training?

  ○ FTA could recommend to transit agencies what their approach could be, not necessarily should be.

- Some States have mandatory trainings for bus operators, but this is not standard across the U.S.

- Transit agencies should consider mentoring and have experienced staff guide new hires. This might also help with staff retention.

  - Mentoring is more "cadetting," teaching in the beginning.

  - Mentoring by a standard means they will learn the best way of doing something, and do it better over time, which will help with reducing collisions over time.

- **Marketing and Partnerships**

  - Discussion question: How do we improve the understanding of Safety Management Systems (SMS)? How do we get agencies to better execute SMS?

  - Partnership success example: In one city, new buildings were resulting in narrower lanes. This was brought to the attention of the transit agency through community partnerships. Local individuals or groups are the ones seeing the problems arise firsthand. Without strong partnerships, these types of issues might go unnoticed.

  - There are scenarios where the problem is not the bus or the driver but more the route and local infrastructure. In these cases, the transit agency needs to work with the local road agencies to come up with a solution.

  - Strong safety campaigns can help transit agencies reduce poor pedestrian behaviors.

  - In the past, marketing had a large impact as large campaigns were more common. The prioritization of public safety campaigns appears to have gone down.

  - In one transit agency, they have transit education. The agency worked with a rail safety group to promote transit safety on the back of buses.

- **Service Management**

  - There needs to be an emphasis on safety over schedule. The goal is to manage service with the aim of improving safety.

  - There needs to be a system to evaluate unsafe behaviors and unsafe locations along routes.

  - There are agencies that have multiple garages. Sometimes operators that are unfamiliar with certain routes get asked to work on those routes. There should be a requirement to know that route before working on it.

  - Often new employees are assigned difficult routes. This may result in more accidents and higher attrition rates. FTA can encourage better distribution of route assignments.

- Regarding split runs versus long runs, the goal for transit agencies should be to get new employees on straighter, simpler routes.

- Regarding fatigue management, the better a line is managed, the less likely a driver might get into an accident.

  - Having this responsibility fall outside of operations allows for a more impartial review.

- Route design should consider turns and intersections. In addition, route design should consider how some routes can be two to three hours long, while others can be much shorter.

- **Agency Resources**

  - There is an impression that most FTA resources these days go to non-safety issues.

  - Transit agencies need help in obtaining access to resources and allocating resources to safety.

  - Third parties are often needed to help with safety. Smaller agencies are challenged financially to get third parties and vet them. Transit agencies need the right messaging and skillsets within their own staff to execute safety practices but lack the resources to hire or assign these individuals. Federal financial resources should allow agencies to use funds for these safety efforts.

  - Incorporate safety systems in grant funding. This is a challenge particularly for mid- to small-sized agencies.

- **All Other Comments**

  - The American Public Transportation Association (APTA) can help in marketing success stories across all topics.

  - There is value is getting input from the private sector. The private sector has done a lot of this work, even though they don't follow an industry standard.

  - There is a disconnect between existing bus collision mitigations and the overall trend in bus collisions. The trend should be lower since there are so many positive mitigations, but collisions across the industry have increased.

Cyber and Data Security Systems Subcommittee Breakout Session

The following section summarizes the breakout discussion among TRACS subcommittee members and includes the main topic areas identified by the TRACS subcommittee on Cyber and Data Security Systems along with possible recommendations and areas of interest within the topic. These remarks came exclusively from TRACS members and are not attributable to FTA.

- **Preliminary recommendations and themes**

  - Vendor/ contractor management issues

  - Lack of knowledge

  - Many agencies lack a cyber program

  - Procurement is an issue

  - FTA basic cybersecurity course would be helpful

  - Roll security into SMS

- There are three important themes to consider in cybersecurity:

  - Operations,

  - Operator Security, and

  - Insurance.

- It was noted that 22 percent of U.S. agencies have reported having cybersecurity issues while 89 percent of agencies around the world have.

- The group had a discussion involving the size of agencies and their likelihood to be attacked:

  - Members of the group suggested that 89 percent may have resources that make them targets. Smaller agencies (i.e., agencies with 50 buses or fewer) may be less likely to face an attack because they have less resources to pay a ransom.

  - Other members suggested that small agencies may have a perception that they are less likely to be targeted. However, this makes them an easier target because they will have vulnerabilities. Members suggested that:

    - There is a cybersecurity risk gap.

    - The biggest cybersecurity incentive is to incorporate it into the triennial review because it can be measured.

    - Resources FTA can provide include technical procurement guidance. Procurement guidance would help show the cybersecurity issues agencies could face.

- Resources that FTA can provide include:

  - Broad best practices;

- General cybersecurity training to agencies, especially for the smaller agencies;

- Develop a self-assessment tool so agencies can understand their threats, what are their risks, and where are their risks (i.e., their cyber hygiene); and

- A cybersecurity resource library that is populated by other agencies and that agencies can access.

- It is possible that device procurement has come far enough that built-in cybersecurity is enough.

- SMS should be put in place for large agencies (i.e., agencies with over 100 vehicles).

- Cybersecurity should be built into SMS, not a stand-alone item.

- The Public Transportation Agency Safety Plan (PTASP) Rule (49 CFR part 673) is documentation of SMS.

- There is some confusion about how much oversight States have over cybersecurity. FTA needs to be careful about where and how they regulate cybersecurity but, by convening this committee, FTA is showing their desire to incorporate cybersecurity. TSA generally has oversight of security plans. In 2022, Transportation Systems Management and Operations published a document saying cybersecurity was under their jurisdiction.

- FTA incorporating cybersecurity:

  - Cybersecurity and physical security should be tied together.

  - FTA needs to tread the line between requiring something or making a recommendation.

  - Recommend that cybersecurity should be integrated into the transit agency:

    - Bus and rail transit typically hasn't been involved.

      - TSA has applied cybersecurity to interstate travel.

      - FTA does not handle cybersecurity. FTA looks at the big-picture, but FTA can start filling in gaps for small and medium-sized agencies who do not interact with TSA.

    - TSA hasn't interacted with transit agencies. FTA can identify and come to locations near "critical areas" like military bases.

  - TSA does look at cybersecurity in their base assessment, but the group is not sure to what level of detail it is incorporated. The TSA rules primarily impact rail (specifically, commuter and light rail).

- Guidance and agency involvement is not clear, based on agency size. The group would like to see FTA create a matrix that details what directives apply to agencies of different sizes.

- A common cybersecurity threat is that there are only a few (e.g., three or four) positive train control providers.

- The Federal Railroad Administration has evaluation metrics that can be transferable.

- It could be helpful for other agencies to come in and talk about cybersecurity properties they have control of.

- Initial actions:

  - Incorporation into triennial reviews,

  - Procurement guidance,

  - What are risks—precursor to CATT,

  - Define roles and differences of TSA and FTA for cybersecurity,

  - Overview of what directives apply to each agency, and

  - List of resources.

Advancing Rider and Worker Safety Breakout Session

The following section summarizes the breakout discussion among TRACS members and includes the main topic areas identified by the TRACS subcommittee on Advancing Rider and Worker Safety along with possible recommendations and areas of interest within the topic. These remarks came exclusively from TRACS members and are not attributable to FTA.

- **Preliminary recommendations and themes**

  - Community/partnership involvement

  - Research

  - Infrastructure Design/Security Features/Other Tools

  - Training

  - Reporting and data

  - Worker involvement

- **Community Partnership and Involvement**

- Discussion question: Are public marketing campaigns effective at reducing assaults, if so what works?

  - Public marketing campaigns work if they are well deployed. Campaigns can be used for educating the public on rules of riding the bus and fare amount.

  - Rachel Maleh has been involved in several campaigns about rail safety. It is important to consistently update social media. Social media posts can range from storytelling to showing data. One challenge is the cost for distribution.

  - Ray Lopez suggested a dedicated employee for social media updates.

  - BART has a "Not one more girl campaign" that targets gender-based violence on transit. It collaborated with organizations such as Alliance for Girls and Black Girl Magic. The goal of the program is outreach educating potential victims on transit and advises them to be watchful and prevent incidents.

  - Metropolitan Atlanta Rapid Transit Authority has a campaign called "Ride with Pride." Lisa is not aware of data on whether they were successful but anecdotally the campaign has been effective. King County and TriMet updated their messaging on the buses. Many agencies have the code of conduct posted on their buses and transit agencies.

  - Chicago Transit Authority (CTA) works with family and support services to help unhoused people on their property. The agency has a support structure in place to dispatch mental health professionals.

  - Denver Regional Transportation District (RTD) partners with mental health clinics and dispatches mental health professionals to emergency calls with violent events where there may be mental health issues. Mental Health Center of Denver pays 50 percent of the cost through Medicaid.

  - There was a campaign that Los Angeles County Metropolitan Transportation Authority (LA Metro) completed that had mixed reviews, some were concerned that the graphics used in the campaign were too edgy and violent. Educating riders on the transfer process, such as if paper transfer tickets are used, can help avoid disputes.

  - Another solution to avoid disputes over fares or rules is to post the rules on the bus. At some agencies, the operator isn't supposed to enforce the fare but simply quote the fare. A lot of people interpret the operator quoting the fare as enforcing the fare.

  - It is important to consider where to post the rules. At one transit agency, the rules are posted in the front of the bus by fare box. It is better to post the rules at the back of the bus or at bus stops where people could read the rules. At LA

Metro, there is a recording on buses quoting the fare amount and asking people to have their fare ready.

- Question: What are examples of community-based partnerships that promote safety while reducing disproportionate policing in black/brown communities?

    - Ray Lopez said that LA Metro has a transit ambassador program, and the main function is to interact with the public. The program is receiving good results.

    - Patrick Preusser asked: is there any difference in the approach to the ambassador program on bus vs. rail side? Are there any specific goals or outcomes being measured with the current ambassador program?

        - Ray Lopez said that the ambassador program is rail-focused and now is now transitioning to the bus. The challenge for the program on buses is that the service area is usually wider. The ambassadors have tablets to collect data. They have outreach units to assist with the unhoused.

- Discussion question: What funding opportunities are needed to promote partnerships?

    - Security grants could be useful.

    - The City and County of Honolulu Department of Transportation Services is doing research and exploring recommendations associated with creating funding opportunities and partnerships with emergency responders and transit agencies. The Substance Abuse and Mental Health Services Administration has funds for reaching out to the unhoused.

    - Soft programs are often underfunded, and it is unclear where they would receive funding.

- Discussion question: What organizational partnerships can be established to promote community awareness or buy-in (e.g., school field-days, town halls)

    - One example is that LA Metro does a grassroots school-based program.

    - There is no school bus system in Adam Sharkey's community so transit transports all the kids. They educate the kids by partnering with Boys and Girls club and local YMCA. The training covers the importance of riding the bus, using vehicles, and the proper way to sit.

    - If the transit agency gives the students information to take home to their parents, it expands the education to their siblings and families.

    - The Island of Oahu is a county that is structured to have close relationship with mayor. The mayor has had town halls across the island. Transportation and safety are components of the town halls, and the discussion is well received.

The major functional areas, such as chief of police, fire, EMS, etc. attend. This gives the stakeholders awareness collectively on what the transit agency is doing. That has really helped with cross-department communication and coordination. Town halls let the transit agency know what is most important to the community.

- Ray Lopez would like to see more elected officials involved before a transit-related tragedy takes place instead of just making comments about concern for incident.

○ Music as deterrent for loitering:

- LA Metro is using music as a deterrent for loitering.

- The Port Authority bus terminal in Manhattan played classical music.

○ Mental and physical health:

- Having a person with a mental health issue on train is not necessarily a security issue but it could deter other riders.

- Many riders are uncomfortable seeing unhoused people or people doing drugs.

- We can explore how transit agencies could leverage partnerships.

- Transit agencies could communicate their message through youth programs and government agencies.

- **Research**

○ Discussion question: What additional research, if any, is needed regarding assault prevention or mitigation standardization?

- We need to expand this discussion to rider assault prevention on public transportation. Some transit agencies don't think they have any impact on passenger-on-passenger assaults. Do we need more research in this area?

- Department of Homeland Security sends rider alerts about riders as crime victims, including murder. Community-based strategies and mitigation strategies that are a whole community effort are needed. These incidents are impacting ridership and the ability to collect fares. Many people are no longer comfortable and fear for their personal safety riding transit. The industry must address it. Transit Cooperative Research Program is completing a research project on this. Lisa is concerned with challenges the industry is facing in returning to pre-pandemic ridership. If the media is controlling the message (versus the transit agency) and communities are afraid that riding public transportation is risky, ridership will continue to suffer.

- There is a trickle-down effect and when people experience violence in person, they will find ways to avoid the situation again.

- There is a big gap in rider assault information.

- **Infrastructure Design/Security Features/Other Tools**

    o Cameras

    - Sometimes transit agencies have cameras that don't work. There needs to be standards or recommendations.

    o Barriers

    - There is an adoption problem for barriers. More demand is needed; demand would come with standards. It is hard to build manufacturing capacity. Canadian and French companies are making barriers. The unions' position is that it is time to mandate it.

    - LA Metro could create a demand for barriers since they are a big transit agency. They are encountering issues with vehicle standards and with vehicle polycarbonate materials. LA Metro is hoping to make a difference in the industry.

    - Do customers feel safe with the driver behind a barrier?

    - Some compare a bus with a barrier to communities with bars on the windows. Barriers are now installed on all LA Metro buses because it was required during the pandemic.

    - State of the art dividers are retractable, and the operators can decide when the retract them.

    o Infrastructure Design

    - Lighting improves riders' feeling of security. Another security feature is silent alarms on buses. There is a need to address communication issues in rural areas without cell service. LA Metro is considering having body cameras worn by the operators. The cost for live cameras is still high.

    - Other considerations are fare gate replacement, platform design, and crime prevention by environmental design principles. It is important to keep bus stops clean and well maintained. The landscaping around the bus station is important. Sometimes security perception is as important as reality.

- **Training**

- De-escalation training

  - There are gaps in knowledge about the most effective de-escalation training content, delivery methods and frequency.

  - Requirements of de-escalation training are not available—FTA just pointed to the National Transit Institute. LA Metro created their own in-house de-escalation training but has not done full implementation. Transit agencies need to evaluate what de-escalation training would be most effective.

  - Transit agencies should consider hands-on and in-person training because online training doesn't work for everyone's learning style.

  - The new online training is interactive with a scenario and questions.

  - In Santa Monica, operators completed a self-defense program to learn defensive tactics like how to defend oneself from the sitting position.

  - Other things to consider are training cost and providing de-escalation training to new operators.

- **Reporting and Data**

  - Local and international unions sometimes have challenges interpreting data which makes it hard for safety committees from unions to understand what's been reported. This is important for transparency and accountability.

- **Worker Involvement**

  - Frontline worker involvement issues

    - Should frontline worker involvement issues be a separate category or built into each recommendation?

    - The group decided to add a new category: Worker Involvement.

    - One way to involve frontline workers is to show operators prototypes and ask for feedback. Worker involvement is an important piece that sometimes management misses.

    - It is commendable for transit agencies to get feedback, but they need to consider what role it will play in the decision-making.

    - At River Cities Public Transit, the drivers were asked for input on design for a bus redesign. The transit agency found out through this process that the windows were getting a glare and led to many accidents.

Recommendations

Following this discussion, the subcommittee discussed potential recommendations in more detail. The following are the draft recommendations for the advancing rider and worker safety subcommittee:

- **Training**

    o FTA should develop a standard course or certification that can be universally available.

    o FTA should provide clear guidance for de-escalation training (e.g., terminal outcomes, core competencies)

    o Discussion:

        ▪ This would include evaluating the effectiveness of de-escalation training for workers. There are current courses—FTA could work with a transportation institute to develop a standard course that all transit agencies could use or access. It would be consistent across agencies.

    o **Reporting and Data**

        ▪ FTA should provide consistent, accurate data collection that is easily accessible/understandable

        ▪ FTA should provide minimum requirements for reporting on rider and worker data—more granular regarding both rider and worker assaults

        ▪ FTA should clearly define reporting requirements (around what must be reported and by whom)

        ▪ Discussion:

            • Does the new National Transit Database data seem adequate or are transit agencies having trouble applying definitions?

            • At some agencies, spitting is assault. Some authorities consider an altercation with police as assault, some do not.

            • River Cities Public Transit is not required to report data—rural agencies don't have to report. Adam Sharkey thinks everyone should have to report data, it should not be based on the funding the agency receives. Ray agrees it should be required for all.

            • Perhaps there are different kinds of data FTA would want to capture. In previous discussions, people acknowledged different types of programs. It is hard to understand the impacts of programs, there could be

minimum reporting requirements around initiatives so the rest of the industry could see what is successful.

- There are no current means to track the causal activities leading to assaults. Should that be required to report?

- There is a need to communicate the root cause of assault to be captured in the minimum requirement of reporting.

- **Infrastructure Design/Security Features/Other Tools**

  o FTA should provide mandatory security features for vehicles and facilities

  o FTA should research best practices for security features

  o Discussion:

    ▪ The committee needs be clearer about the economic factor of the security feature requirements—who pays?

    ▪ Silent alarms could be mandatory.

    ▪ How does freight rail communicate in areas with no service?

    ▪ Freight rail uses radio and has infrastructure for their radio system.

    ▪ It is good to have silent alarms available to passengers. Silent alarms can also alert the customer of an issue. These are features on the bus and rail system.

    ▪ When thinking about mandatory security features one question the committee should ask is, can a requirement be specific enough? Otherwise, it could go under the research section.

    ▪ Ray doesn't think there's enough research on the physical security aspects on buses.

- **Community/Partnership Involvement**

  o FTA should identify funding channels for these types of programs

  o FTA should research best practices for establishing or strengthening community partnerships (e.g., Boys and Girls Club of America, YMCA, political presence, etc.)

  o Discussion:

    ▪ This could include training for emergency first responders. In a recent incident, the police didn't know how to open the bus.

- There may be opportunities to share resources. Transit agencies should be proactive about sharing on pilots and experimentation.

- **Research**

  o FTA should determine legislative disparities between States and their impact on worker safety

  o FTA should conduct research on passenger assaults

    - TRI's new research project, [Transit Worker and Rider Safety Best Practices](), directs research across victim types

  o FTA should identify permanent designs shown to increase safety and security on vehicles/facilities

  o Discussion:

    - One research topic is a list of different penalties for assaulting an officer.

    - Congress issued FTA to do a study on recommendations for vehicle design and other issues eight years ago, so it remains an important item.

- **Worker Involvement**

  o FTA should define best practices for how transit safety committees address (e.g., collect and implement) the previous topic areas

  o FTA should provide best practices for how smaller transit systems effectively engage frontline transit workers regarding the previous topic areas

  o Discussion:

    - Need to make it clear that we are making recommendations on workers and riders. The PTASP Notice of Proposed Rulemaking (NPRM) that is out for public comment says that the document is for transit workers. It includes risk reduction steps and strategies. There is not much in the PTASP NPRM on rider assaults.

    - Riders are not included in many materials.

    - Perhaps FTA needs to issue guidance that risk reduction efforts should also consider riders.

Day Two

TRACS Member Attendance:

Committee Members		
Edward Abel	Laura Karr	Ashley Porter
Brian Alberts	Jim Keane	Patrick Preusser
Johanna Cockburn	Thomas Lamb	Reggie Reese
Beverly Edwards	Brian Lapp	Adam Sharkey
Rebecca Frankhouser	Ray Lopez	Justin Sobeck
David Harris	Rachel Maleh	Lisa Staes
Molly Hughes	Santiago Osorio	Gardner Tabon
Donna Johnson	Karen Philbrick	

Federal Support Attendance:

FTA	Contract Support	Volpe National Transportation Systems Center (Volpe Center)
Donna Aggazio	Justin Bouyer	Jeff Bellone
Joe DeLorenzo	Kim Devilla	Meghan Boydston
Sara Richmond	Sam Rosenblatt	Don Fisher
Matt Welbes	Abigail Wolfgram	Michael Green
Bridget Zamperini		Sean Laffey
		Gina Melnik
Additional FTA Attendance		
Valerie Beck	Jacob Migdall	
Anna Curtis	Richard Price	
Frank Hackett	Heather Ueyama	
Patrick Mehler		

Public Attendance

Public Attendees		
Cindy Aldworth	Enjoli DeGrasse	J. Michael McLaughlin
Matt Ankley	Timothy Doddo	Jessica Rio
Chris Bell	Sergio Gomez	Michael Sniegocki
Shamaine Cash	Carl Hamann	Tina Williams
Susan Crawford	Joshua Katz	
Carla de Mendonca	Christopher Lott	

Day Two – Introduction

Bridget Zamperini, TRACS Program Manager, started Day Two of the meeting with welcoming remarks and a safety briefing. Following the introduction, each subcommittee presented a summary of their discussion and findings from the previous day.

Reducing Bus Collisions Subcommittee Presentation and Discussion

Gardner Tabon presented to TRACS members a summary of the discussion and outcomes of the Reducing Bus Collisions subcommittee breakout session from Day One.

- The subcommittee decided on the following common themes:

    o Training: establish a minimum or baseline curriculum, evaluate hiring practices, and retrain the workforce.

    o Oversight: requirements for fatigue management and hours-of-service and increasing positive reinforcement to promote safety.

    o Bus design: promote a standard bus design.

    o Marketing and communication: establish working groups with local governments and police to improve communication with the public.

    o Service management: improve route assignment to reduce the risk of collisions for new operators on difficult routes.

    o Agency resources: tie safety considerations to Federal grant funding.

The bullets below summarize the discussion among TRACS members, with some comments attributed to specific TRACS members. These remarks came exclusively from TRACS members and are not attributable to FTA.

- Discussion – Fatigue:

    o The committee should investigate the report by Amanda Emo [et al.], *The Transactional Model of Driver Stress and Fatigue and its Implications for Driver Training*. She is working on fatigue in the freight industry. It is important to let family know the importance of sleep.
    o The fatigue management issue is important. Workers have long commutes. Dedicated people in transit have multiple jobs, so there should be a focus on total hours-of-service.

- Discussion – Mitigations:
    o One committee member said that TRACS could have an hours-of-service recommendation. If FTA published an Advanced Notice of Proposed Rulemaking (ANPRM) on fatigue management, the public could provide input. Outcomes could be a rule, no rule, or a couple of rules based on responses.

    o Awareness needs to be elevated on the potential burden of operators' commutes to work. Sometimes transit operators are commuting long distances.

    o Patrick Preusser said that he applauds the marketing and communications piece around safety. He agrees baseline information should be available. He also suggests the

committee emphasize the use of safe driving technology to assist operators from a safety perspective. In addition, he suggests schedule quality is real issue.

o Brian Alberts said that he has heard of two-hour to three-hour commutes for bus drivers. Transit agencies are in urban areas that are often expensive, so many operators live far away from the city center.

o The industry should move away from a blame culture. In aviation, they have open and transparent ways to report near-misses. This is not as common on the transit side.

o Overall, the committee noted that the public could provide feedback on these topics to FTA's upcoming Fitness for Duty ANPRM.

o The committee should look at rideshare companies because some drivers work for them after shifts.

o Bus mirrors should be electronic. Getting rear-ended is a problem for transit vehicles. Sometimes people do not look before crossing in front of a bus.

o ATU is involved in a bus Design of the Future. Laura Karr will send the design document to the committee. The bus has external cameras with 240-degree visibility in front.

o Vehicles have censors and automatic braking systems, and these features could be incorporated into the bus.

o What is driving the operators to commute long distances to work and take extra jobs? It is because the wages have not kept pace with the cost of living.

o How many operators report outside driving employment even if an agency has a policy?

   ▪ That is a salient point on the reality of people trying to make ends meet.

   ▪ The committee could discuss split shifts.

   ▪ California has stringent rules regarding on-duty versus non-driving—they have a limit. As the committee moves forward, there are guidelines it can review regarding on-duty-not-driving time cause by split shifts.

o At the beginning of his career, Adam Sharkey had experience with transportation driving and split shifts. It is strenuous for one's body. Guidelines for split shifts already exist; however, are not being applied.

o Transit agencies can look at the average run length. Higher run lengths lead to higher incident rates. There's a growing number of operators with less than five years of experience. Patrick investigated schedule quality—it is a major or minor contributing factor when it comes to accident rates. The target shift was eight hours, 45 minutes.

When it got to 9.5 to ten hours, there was an upwards trend in accident and incident rates.

Cyber and Data Security Systems Presentation and Discussion

Brian Alberts presented to TRACS members a summary of the discussion and outcomes of the Cyber and Data Security Systems subcommittee breakout session from Day One.

- The subcommittee decided on the following common themes:

    o The transit industry lacks broad awareness of cybersecurity risks.

    o Smaller agencies do not know about rules or do not think rules apply to them.

    o The State Safety Oversight Rule (49 CFR part 674) should cover cybersecurity issues.

        ▪ However, mid-size and smaller agencies need Federal guidance as well.

    o Procurement resources are needed; security should be built into the procurement process.

    o RFPs should include provisions regarding cybersecurity.

    o Operations equipment and IT equipment (e.g., computers) need security.

    o There is a lack of best practices for cybersecurity in transit. Cybersecurity should be built into SMS and safety risk management and FTA should develop training standards.

The bullets below summarize the discussion among TRACS members, with some comments attributed to specific TRACS members. These remarks came exclusively from TRACS members and are not attributable to FTA.

- Discussion

    o As technology matures, cybersecurity risks increase.

    o As technology use increases in operations, the risk of an attack also grows exponentially.

    o There are a lot of unknowns with cybersecurity.

    o How do transit agencies manage bad actors once an attack happens? It can take professional help and attorneys to get through. A cyber-attack is inevitable. Transit agencies should determine if they should negotiate with the bad actors. Maybe products could be shared across agencies to monitor for cyber security.

    o A best practice would be to install software that monitors a system and detects threats.

- o If systems have a backup that allows an agency to maintain service and operations, there is less of a need to negotiate with bad actors. However, PII can still be taken.

- o Cybersecurity insurance is expensive. Larger agencies are choosing to self-insure.

- o Potential research topics should be considered. Other APTA working groups may have research ideas.

- o The committee recommends the following high level next steps:

    - ▪ Confirm existing opportunities to help small and mid-sized agencies.

    - ▪ Develop technical guidance for procurement.

    - ▪ Create a self-assessment process.

    - ▪ Launch a public information campaign.

    - ▪ Establish a baseline cybersecurity training.

    - ▪ Create a clear summary of rules, regulations, and guidelines.

    - ▪ Clarify FTA's role in cybersecurity.

    - ▪ Clarify how incidents should be reported and to whom these reports should be made.

    - ▪ Create a library of resources that can be managed by a University Transportation Center.

Advancing Rider and Worker Safety Presentation and Discussion

Ray Lopez presented to TRACS members a summary of the discussion and outcomes of the Advancing Rider and Worker Safety subcommittee breakout session from Day One.

- • The subcommittee decided on the following common themes:

    - o Community and partnership involvement

    - o Research

    - o Infrastructure design, security features, and other tools

    - o Training

    - o Reporting and data

    - o Worker involvement

The bullets below summarize the discussion among TRACS members, with some comments attributed to specific TRACS members. These remarks came exclusively from TRACS members and are not attributable to FTA.

- Discussion

  - There is room for transit agencies to work with law enforcement. Metropolitan Transit Authority of Harris County is doing a survey on whether riders feel protected and have heard from customers that there's a lack of enforcement. Agencies should consider having security.

  - LA Metro has a transit ambassador program. They are not law enforcement. Agencies hear that transit is unsafe because unhoused people ride the trains. Unhoused people on transit does not necessarily equate to a security issue.

  - CTA, Dallas Area Rapid Transit, Central Ohio Transit Authority, Denver RTD, and Denver Homeless Navigator Coordinator have additional examples of working with community-based organizations to address security concerns from unhoused people on trains

  - Capital Metropolitan Transportation Authority has a community intervention program. It is a proactive unit that includes social workers, site inspection, and informs people struggling with addiction and unhoused people. For some people, it takes over a year or two to find a home. With this program, operators don't have to call on police for non-police matters. Law enforcement gave the program good feedback.

  - Partnerships help transit agencies avoid having to "recreate the wheel."

Public Comments

Following the subcommittee presentation and discussions, members of the public were given the opportunity to share their comments. The following summarizes the public comments:

- **Sue Crawford (American Council of the Blind)**: Sue represents a nationwide membership organization that promotes economic self-sufficiency. She is the co-chair of the American Council of the Blind's Pedestrian Environmental Access Committee.

  - To reduce collisions between buses and bicycles, cities have built curb-adjacent bike lanes with floating bus stops between the bike lanes and travel lanes. If an individual can't see, it is hard to find the floating bus stop and navigate from the floating bus stop to the sidewalk. Challenges include wayfinding and knowing when to cross the street. One solution is installing a pedestrian hybrid beacon at midblock bus stop crossings. It includes a push button and people know to wait to cross the bike lane to a bus stop. It is accessible to people who are vision impaired. These beacons can be placed on the sidewalk and on the other side at bus stop. Sue recommends that beacons are placed at the shortest distance from the sidewalk.

o   Responding to Sue Crawford's comment, Gardner Tabon discussed a new bus rapid transit system being designed at his agency. In the planning process, they are passionate about ensuring safety of all people. They have a director of systemwide accessibility who makes sure the city understands that, even if they are meeting the regulatory minimums, the agency may need to go beyond to be truly accessible.

Conclusion and Action Items

At the end of Day Two, the TRACS committee members discussed next steps and upcoming activities concerning the next round of subcommittee meetings. Each group decided on the following action items:

- **Reducing Bus Collisions**

    o   Share the report on fatigue in freight industry, *The Transactional Model of Driver Stress and Fatigue and its Implications for Driver Training*, with the committee.

    o   Share the ATU Design of the Future document with the committee.

- **Advancing Rider and Worker Safety**

    o   Share LA Metro Presentation on its Ambassador Program with the committee.

    o   Presentation on addressing issues arising with substance abuse and unhoused people on transit systems.

    o   Discuss community partnerships at a future subcommittee meeting.

    o   Research security feature best practices.

        ▪   Research the requirements for security features to see if there is enough research to make a recommendation.

    o   Investigate whether the LA Metro bus design "white book" document is updated.

- **Cyber and Data Security Systems**

    o   Review MTI report on cybersecurity preparedness in the transit industry.

    o   Request that FTA identify a TSA contact to speak to the subcommittee at a future meeting.

The next meeting of the full TRACS committee is scheduled to be held on December 6 –7, 2023.