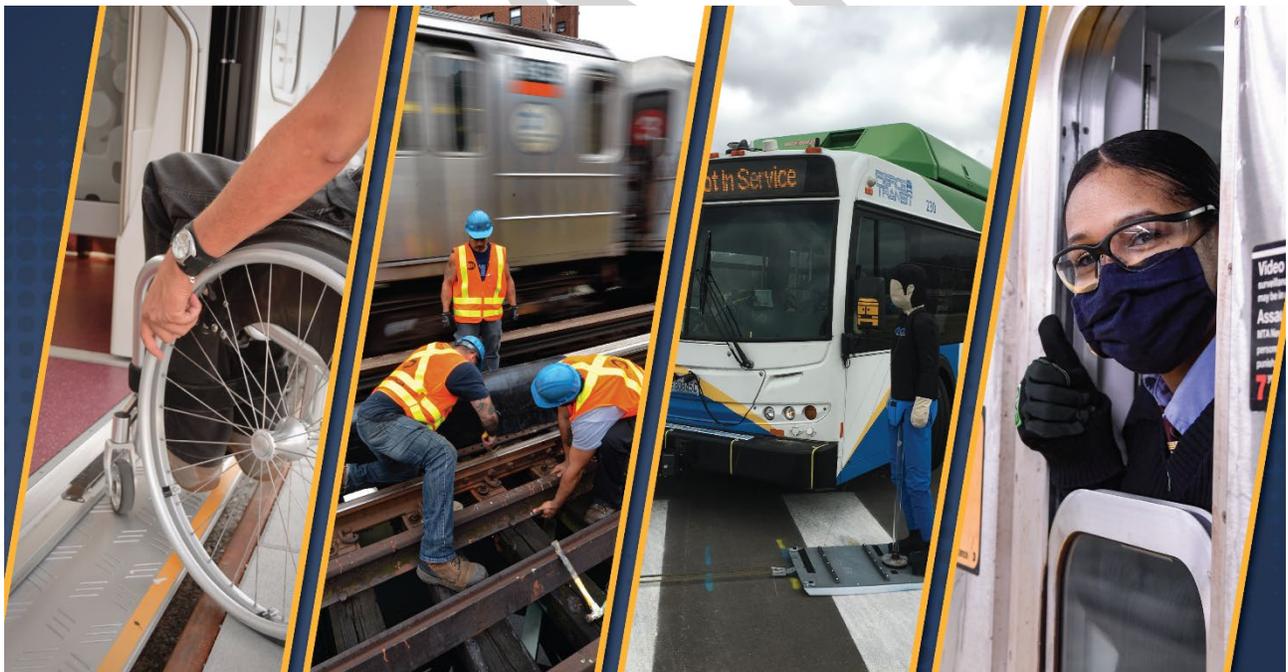


TRB Standing Committee On Transit Safety and Security (AP080)

Strategic Plan

January 2022 – December 2024



Final DRAFT – January 2022

TRB Standing Committee on Transit Safety and Security (AP080) Strategic Plan

PART I: COMMITTEE NAME AND SCOPE

TRB Standing Committee AP080, Transit Safety and Security, herein after referred to as the “Committee.”

Mission Statement

The Committee fosters and stimulates research and communication activities that advance public transit safety and security. This focus includes identifying research needs, formulating research problem statements to address those needs, supporting the development of best practices, informing the industry of relevant new and emerging technologies to address areas of greatest risk to the public transit industry, and supporting and sponsoring forums, publications, and conferences to inform the industry.

Scope

The Committee supports academic and applied research, best practices and syntheses, needs identification, and technology deployments, testing, and evaluation to reduce events and associated injuries and fatalities in the public transit industry and promote the institution of best practices, including workforce development and training programs.

The Committee is laser focused on meeting and exceeding TRB’s Mission Statement: “Provide leadership in transportation improvements and innovation through trusted, timely, impartial, and evidence-based information exchange, research, and advice regarding all modes of transportation” and associated goals [paraphrased], which drive the Committee scope:

1. Information exchange
2. Research – creating and expanding access to knowledge
3. Advise – timely and trusted
4. Collaboration – across sectors and among transportation providers, users, and other stakeholders
5. Workforce development - lifelong learning opportunities within an environment that enhances the transportation professional community
6. Communications – enhance the transportation community’s knowledge of TRB activities and their impacts; awareness of research contributions to transportation value; awareness of the importance of transportation to society.¹

The Committee promotes information exchange. It encourages the development of research problem statements and ideas for syntheses projects to communicate safety and security research needs from the public transportation industry. It sponsors and leads publications and events to

¹ http://onlinepubs.trb.org/onlinepubs/general/trb_strategic_plan.pdf

advise the industry and present relevant safety and security research findings (including those associated with cyber and pandemic threats). These activities have at their basis, collaboration across the industry, sectors of the industry, and with U.S. and international stakeholders. AP080 promotes workforce development through TRB's lifelong opportunities, and those of industry collaborators. In addition, the Committee actively pursues Young Members, Young Professionals in Transportation, and other individuals who are early in their careers to participate as members or friends of the Committee.

The Committee actively engages organizations, committees, including TRB committees and subcommittees, and other stakeholder groups focused directly or indirectly on transit safety and security, while preserving the exclusive mission of their federal partners or industry constituents. These include, but are not limited to the American Public Transportation Association (APTA), industry working groups, such as the Center for Urban Transportation Research/Federal Transit Administration (FTA) Transit Standards Working Group, the Community Transportation Association of America (CTAA), the National Rural Transit Assistance Program (National RTAP), the National Safety Council (NSC), the Federal Railroad Administration Railroad Safety Advisory Committee, the FTA Transit Advisory Committee for Safety (TRACS), and the U.S. Department of Transportation University Transportation Centers (CUTC) Program.

While TRB's Committee on Transit Safety and Security coordinates and engages with these organizations, agencies, and committees, it is important to recognize the unique qualities of the Committee and associated membership. The Committee brings subject matter experts from academia and the public transportation industry, including transit agency and union representatives and consultants, to jointly foster and stimulate research and communication activities that advance public transit safety and security. This cross-discipline expertise is necessary to successfully address the Committee's activities: identifying research needs, formulating research problem statements to address those needs, supporting the development of best practices, informing the industry of relevant new and emerging technologies to address areas of greatest risk to the public transit industry, and supporting and sponsoring forums, publications, and conferences to inform the industry.

PART II: COMMITTEE ACTIVITIES

2.1 Support for Research and Innovation

Committee-sponsored Sessions and Workshops

The Committee was designated in 2020 and in the two years prior to this designation functioned as the Task Force on Transit Safety and Security (AP018T). In the last three years, the Committee/Task Force conducted the following sponsored events in support of its mission:

- **2019 TRB Annual Meeting Task Force Sponsored Events**
 - **Lectern Session:** Selected Topics in Bus Transit Safety
 - **Lectern Session:** Selected Topics in Rail Transit Safety
 - **Poster Sessions:** Selected Topics in Transit Safety/Security and Emergency Management

- **2020 TRB Annual Meeting Task Force Sponsored Events**
 - **Workshop:** “Mitigating Public Transit Areas of Critical Safety Risk”
 - **Poster Session:** “Current Research in Transit Safety and Security
 - **Lectern Session:** “Safety and Security in Rail Transit”
 - **Lectern Session:** “Examination of Transit Bus Crash Contributors and Relational Aspects of Transit Operations”
 - **Co-Sponsored Event:** TRB Human Trafficking – Gathering of the TRB Community of Interest, USDOT Human Trafficking/NCHRP 20-121

- **2021 TRB Annual Meeting Committee Sponsored Events**
 - **Workshop:** FTA PTASP Compliance and SMS
 - **Lectern Session:** Passenger and Public Safety – Collision Warning/Avoidance and Vehicle Safety
 - **Lectern Session:** Transit Employee Safety and Security – Assaults and Bus Barriers
 - **Poster Session:** Transit Safety Events – Technologies and Practices for Collision Avoidance (Event 1277) – 3 presentations
 - **Poster Session:** Transit Emergency Management and Evacuation (Event 1208) – 3 presentations
 - **Poster Session:** Transit Security Events – Addressing Crime and Passenger Safety (Event 1185) – 4 presentations
 - **Poster Session:** Methods and Practices to Improve Transit Safety (Event 1234) – 4 presentations

- **Research Problem and Synthesis Statements Submitted**
 - **Synthesis Statements**
 - Success Stories: Utilization of Driver Monitoring Systems in Identifying Unsafe Behaviors and Reducing Transit Incidents
 - Bus Stop Design and Location: Balance Between Safety, Security, and Accessibility
 - Transit Operator Selection – From Job Description to Onboarding
 - Evaluation of Transit Bus Mirror Design Options to Increase Safety and Reduce Fixed Object Collisions
 - Evaluation of Fatigue Awareness as it Relates to Accident Prevention
 - **Research Problem Statements**
 - Mitigation Strategies for Deterring Transit Assaults
 - Mitigation Strategies for Deterring Trespassing on Transit Rail Rights of Way
 - Model Programs/Processes of SMS Implementation at Bus Transit Agencies
 - Cyber Resilience for Transit Systems

2.2 Support for the Exchange of Information

The Committee's website is: <https://www.trbtss.org/>

In November 2020, the Committee jointly sponsored the TRB National Transit Safety and Security Conference and APTA Mid-year Safety and Security Seminar with APTA.

Committee Collaborations

Table 1 identifies TRB committees that address public transportation safety or security (or other modal safety or security), passenger rail safety and security, critical transportation infrastructure, or operational practices that may have implications for public transportation safety or security within their scopes. The Committee will engage these committees and work with them on joint initiatives, which may include research and synthesis topic development, conference and workshop content, and *TR News* special editions, as examples. Most recently, the Committee worked with AR010, AR070, and AR080 on a joint 2022 TRB Annual Meeting workshop: "Trespassing and Technology: Existing and Future Detection and Mitigation Technology."

We continue to work with APTA and other TRB committees – the "TRB Community of Interest," examining human trafficking that occurs across USDOT modes. Initially, we collaborated with the NCHRP 20-121 research team.

Table 1. Committee Collaborations

Committee	Scope References
AP010 – Transit Management and Performance	AP010 Committee is concerned with the relationship between transit management actions and performance through the analysis and development of management techniques, identification of appropriate performance measures and their application for improvement of information for transit management decision-making.
AP015 – Transit Capacity and Quality of Service	AP015 is concerned with relationships among those physical and non-physical factors that are found to affect: the capacity of transit services, the comfort, convenience, safety and security of riders ; measurement techniques for obtaining such data; and acceptable standards of service based on measurable characteristics.
AP075 – Light Rail Transit	AP075 is concerned with the functional aspects of light rail transit are considered, including institutional structure for providing transit service, multimodal integration, modal management, planning, finance, design, construction, technology, labor, safety, security and fare payment systems, performance, joint development, transit-oriented development, and evaluation.
AR070 – Railroad Operational Safety	AR070 is concerned with human performance and human factors research issues related to railroad operations and draws upon the expertise of researchers and operating personnel to define, encourage, and disseminate the results of research that will enhance the safety, performance, efficiency, and comfort of those who are involved in and/or use railroad and rail-related transportation systems.
AR080 – Highway/Rail Grade Crossings	AR080 is concerned with the safety and other affected characteristics (including economic considerations, traffic flow and delay, and countermeasures) of both highway and rail traffic at points where they intersect at-grade, including the proximate surrounding environment, including rail transit facilities.
AR010 – Passenger Rail Transportation	AR010's mission is to build a better understanding of what it takes for passenger trains to play an effective role in making transportation systems economically, environmentally and socially sustainable.
ABR10 – Critical Transportation Infrastructure Protection	ABR10 is concerned with a full range of security issues including risk assessment, prevention, technology, procedures and applications, emergency preparedness and response, as well as the integration of security considerations in the planning and operation of the nation's transportation systems.
ABN70 – Truck and Bus Safety	ABN70 is concerned with motor carrier safety in all its aspects. This will include research and evaluation in human, roadway, vehicle, operational, organizational, and regulatory arenas as they relate to <i>motor carrier safety</i> .

2.3 TRB Goals for Diversity, Inclusion, and Representation

In January 2018, the Executive Committee approved the [TRB Diversity, Equity, and Diversity Strategic Plan](#), to ensure that diversity, equity, and inclusion become part of TRB's organizational culture by (1) formalizing and building on the practices that staff and volunteers were already doing, and (2) identifying other actions that staff and volunteers can take to ensure that TRB has the broadest possible array of perspectives and opinions on its committees and panels, contractors, staff, and programs and activities. In accordance with the Diversity, Equity, and Diversity Strategic Plan, inclusion and diversity will be core values for our committee that are consistently reflected in our activities, problem statements, sponsored events, and members and subcommittee selections and appointments, providing equitable opportunities for all.

2.4 Sub-Committees

At this time, the Committee has not established any substantive subcommittees.

PART III. FUTURE OUTLOOK AND 3-YEAR PLAN

3.1 Focus Areas

The primary transit safety and security-related focus areas for research and knowledge transfer activities supported and advanced by the Committee include, but are not limited to:

- **Emergency Management and Response**
 - Civil Unrest or other Security Response
 - Continuity of Operations Planning
 - Emergency Operations Center Coordination and Communication
 - Natural and Manmade Disaster Response
 - Training for Employees and other First Responders
- **Passenger and Public Safety**
 - Crashworthiness of Public Transit Vehicles
 - Reducing Highway/Rail Crossing Collisions
 - Reducing Passenger Injuries
 - Reducing Mobility Device and Lift Injuries
 - Technologies to Reduce Collision Events
- **Transit Employee Safety**
 - Reducing Transit Worker Assaults
 - Employee Health and Wellness
 - Maintenance Employees and Service of Advance Systems, including Electric Buses
 - Right of Way Worker Protection Systems and Practices
- **Transit Security Challenges**
 - Cyber Threats to Connected System Technologies
 - Human Trafficking Awareness
 - Persons Who Are Homeless
 - Persons with Mental Illness

The Committee addresses these areas of concern and consistently and effectively leverages TRB outreach opportunities, such as *TR News*, specialty conferences, including TRB's National Transit Safety and Security Conference and the APTA Mid-year Safety and Security Seminar, and the TRB Annual Meeting. To advance knowledge transfer and ensure heightened awareness of focus area research and other activities within the public transportation industry, the Committee works diligently with industry partners.

3.2 Goals and Strategies

The Committee pursues the following five goals, each with a set of implementation strategies:

Goal 1: Identify and address research needs, critical and emerging issues, and topics within the Committee's areas of interest.

Strategies:

- Identify critical issues in public transit safety and security requiring research and contribute to TRB's overview of critical transit issues.
- Identify critical issues in public transit safety and security to explore and communicate these issues.
- Develop and maintain research needs and problem statements and calls for papers, and conduct and promote workshops, sessions, and panel presentations focusing on research in safety/security.
- Promote the need for research in existing and emerging public transit safety and security focus areas.

Goal 2: Improve communications and dissemination of research findings and best practices in public transit to traditional TRB stakeholders as well as to other potentially interested groups and individuals.

Strategies

- Ensure critical issues are addressed in sessions sponsored by the Committee at the TRB Annual Meeting and other TRB safety or security-related sponsored events.
- Propose and organize sub-groups to address critical issue areas.
- Employ communication methods such as webinars to disseminate research findings and best practices in public transit safety and security.
- Conduct specialty conferences and workshops, as needed.

Goal 3: Encourage diversity of membership and participation in Committee and associated activities and foster involvement of women and minorities, as well as entry level professionals, while maintaining a broad cross section of stakeholder representation.

Strategies:

- Identify and recruit members and participants who reflect a broad cross section of public transit safety and security stakeholders.
- Promote mentor/mentee relationships to encourage engagement of new members in Committee activities.

Goal 4: Support activities and liaison and networking opportunities that contribute to the public's understanding of the importance of increased public transit safety and security measures and practices.

Strategies

- Through outreach activities, including the Committee's website and social media, provide critical public transit safety and security information, including practical and innovative research, technology deployments, testing, and evaluation, and model practices in workforce development and training.
- Promote, coordinate, and communicate with industry trade associations to ensure that Committee activities address emerging, relevant transit safety and security issues and that associated outcomes increase the industry and public's understanding of these critical issues.

3.3 Pertinence to TRB's Critical Issues

TRB's Critical Issues in Transportation 2019, and a subsequent addendum,² included the following twelve topics.

1. Transformational Technologies and Services
2. Serving a Growing and Shifting Population
3. Energy and Sustainability
4. Resilience and Security
5. Safety and Public Health
6. Equity
7. Governance
8. System Performance and Asset Management
9. Funding and Finance
10. Goods Movement
11. Institutional and Workforce Capacity
12. Research and Innovation

Each of these topics has relevance and play an integral role in transit safety and security. As such, these are important to the work the Committee and will be reflected in our sponsored conferences, Annual Meeting workshop, lectern, and poster sessions, special events, and research and synthesis problem statements.

3.4 Planned Special Activities

- 2023 TRB National Conference on Transit Safety and Security and APTA Mid-year Safety and Security Seminar
- *TR News* Special Edition on safety or security related topic
- Research problem statement submittals

² <https://www.nap.edu/catalog/25314/critical-issues-in-transportation-2019>

- Synthesis statement submittals
- Committee sponsored workshops, lecterns and poster sessions at TRB Annual Meetings

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