

REGIONAL TRANSPORTATION SAFETY TRENDS AND FINDINGS FROM INVENTORY OF ROADWAY SAFETY STRATEGIES

Janie Nham
TPB Transportation Planner

Nicole Waldheim
Fehr & Peers Principal

Transportation Planning Board
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Agenda

- 01 Regional Roadway Safety Trends
- 02 Regional Response to Safety Trends
- 03 ATE Effectiveness
- 04 Recommendations



Background

- In July 2020, the TPB adopted Resolution R3-2021 that “reaffirms road user safety as a top priority and prioritizes the implementation of projects, programs, and policies to reduce the number of fatal and serious injury crashes on the region's roadways.”
 - The resolution identified four areas for jurisdictions to focus efforts: increase seat belt use, reduce unsafe speeds, and reduce impaired and distracted driving
- In October 2024, the TPB held a Regional Safety Summit where the TPB made several recommendations to support roadway safety including:
 - An evaluation of the region's progress against R3-2021
 - A compilation of research on the effectiveness of Automated Traffic Enforcement (ATE)
- From June 2025 through February 2026, staff conducted an assessment of regional strategies and a white paper of ATE effectiveness
- An update of the 2020 Regional Safety Study was also pursued throughout 2025

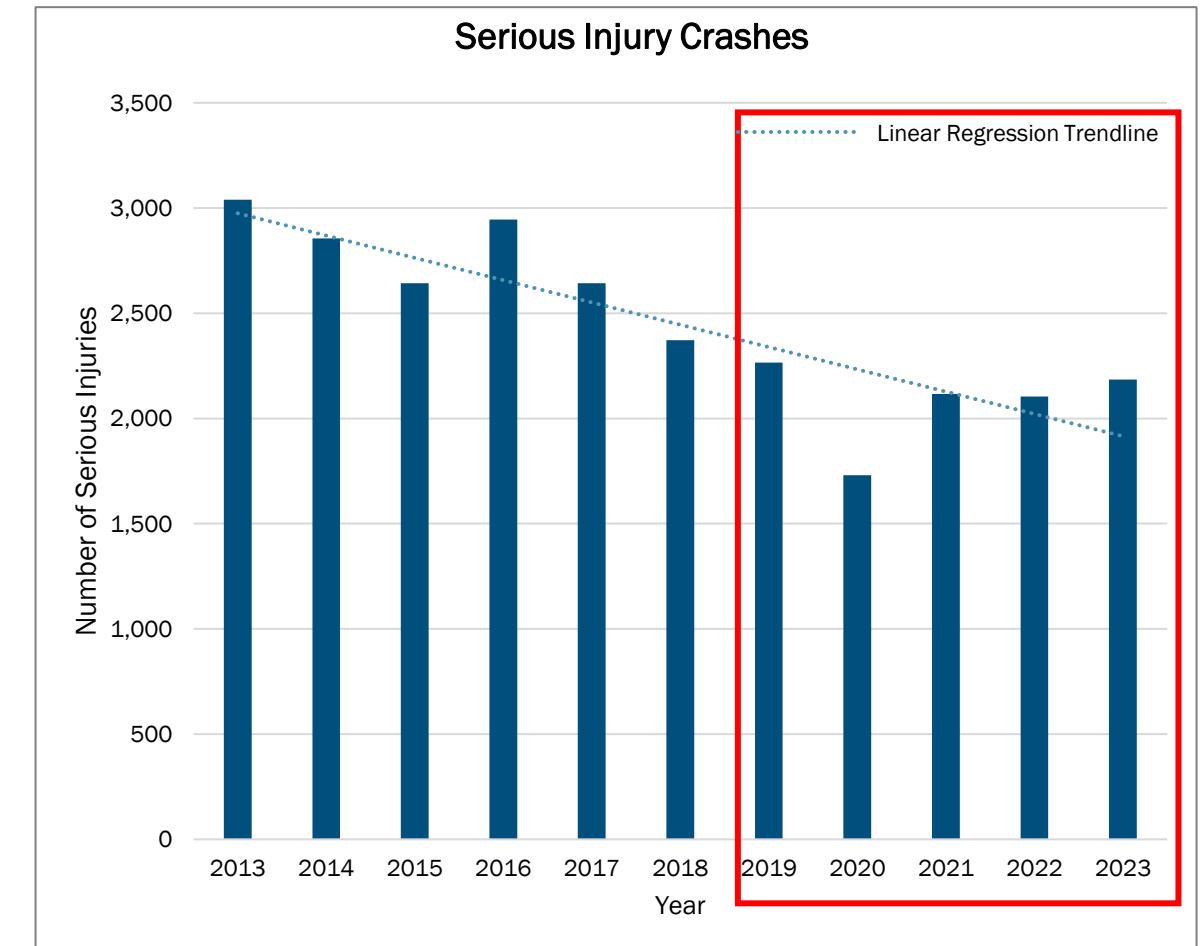
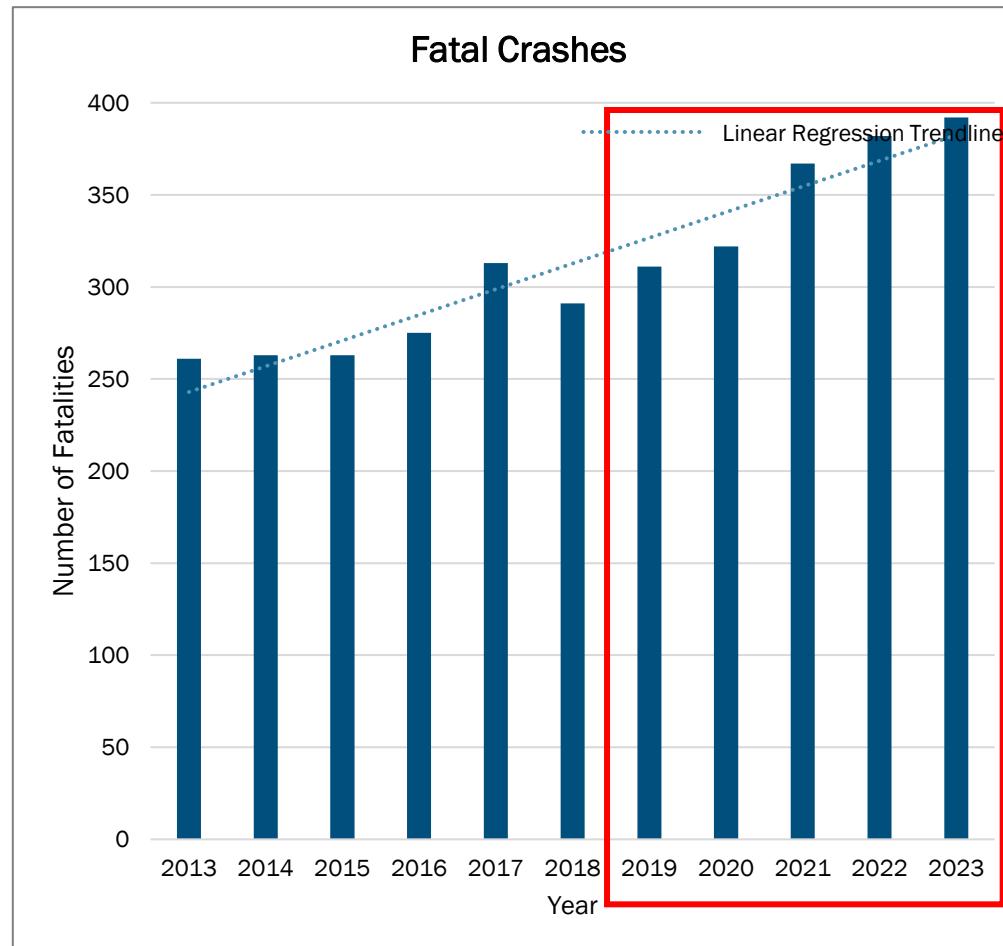


01

REGIONAL ROADWAY SAFETY TRENDS

Regional Roadway Safety Study Update

Fatalities are up but serious injuries are down

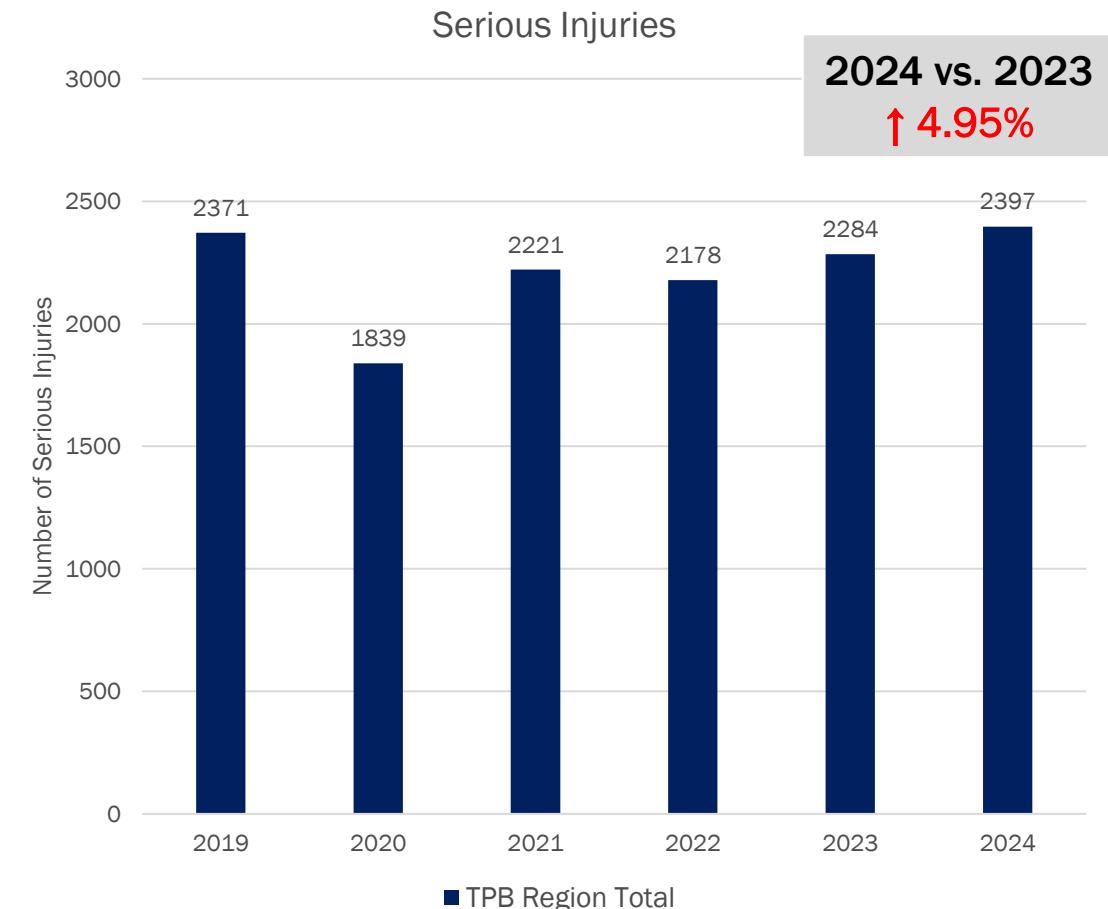
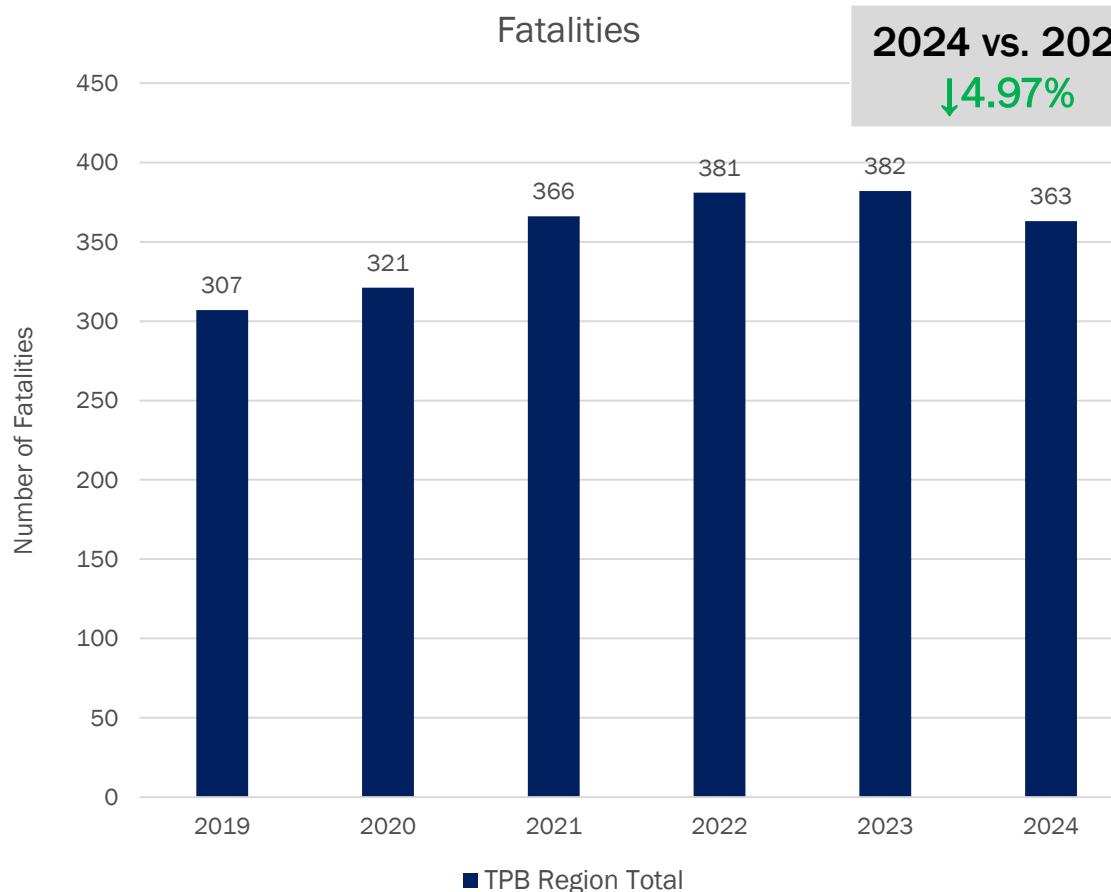


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[Source: District Department of Transportation (DDOT), Virginia Department of Transportation (VDOT), and Maryland Department of State Police]

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Fatalities declined but serious injuries increased in 2024



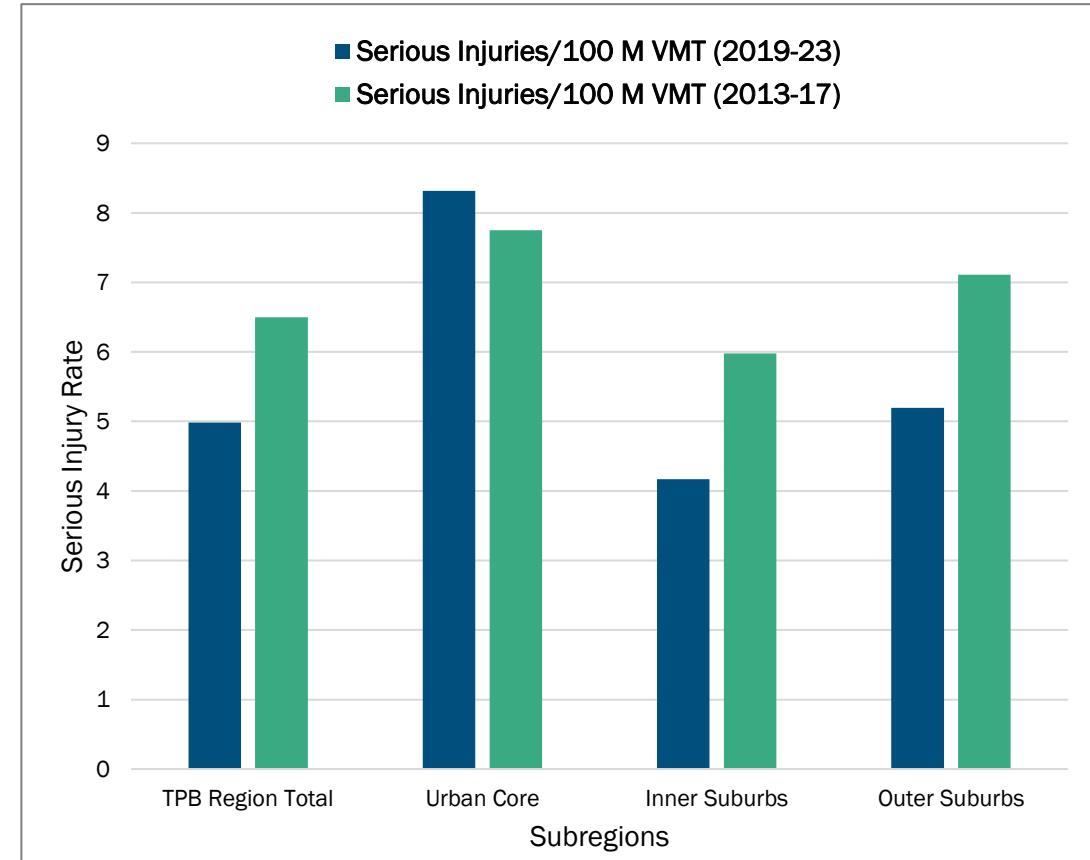
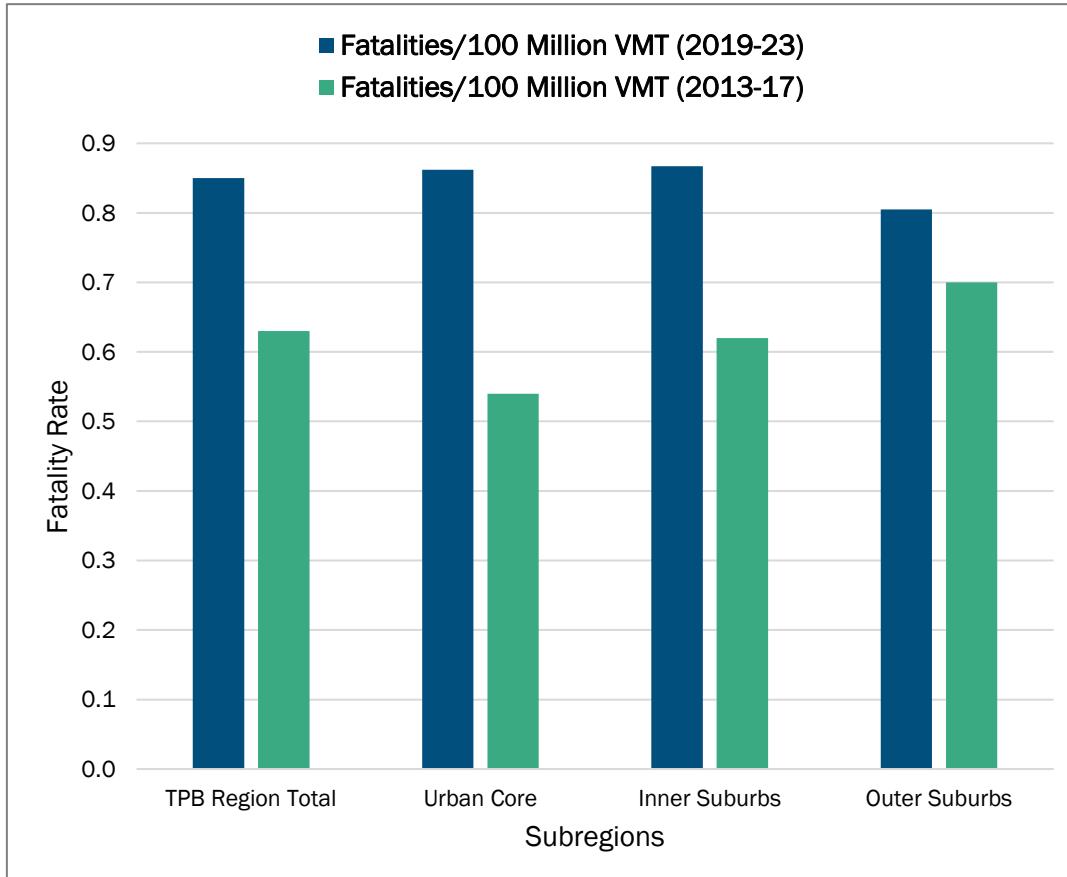
NOTE: Figures listed for 2024 are from preliminary state fatality data; 2024 FARS data not yet published.



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Rate of Fatalities and Serious Injuries in Subregions

Mid-decade Trend Reversal

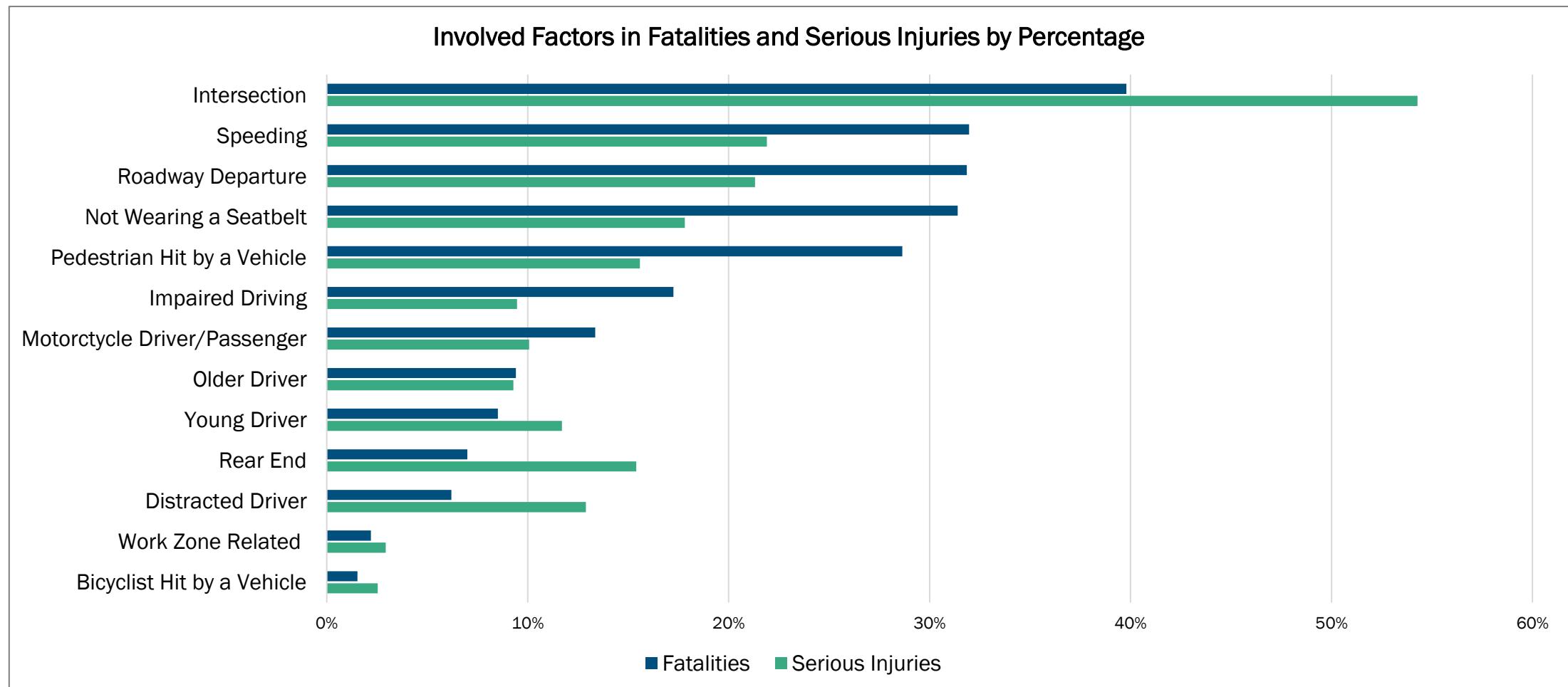


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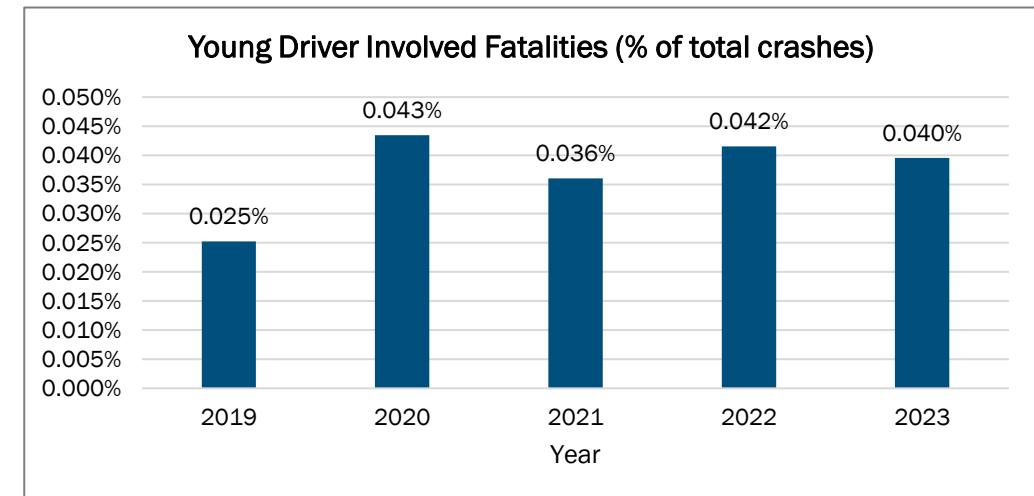
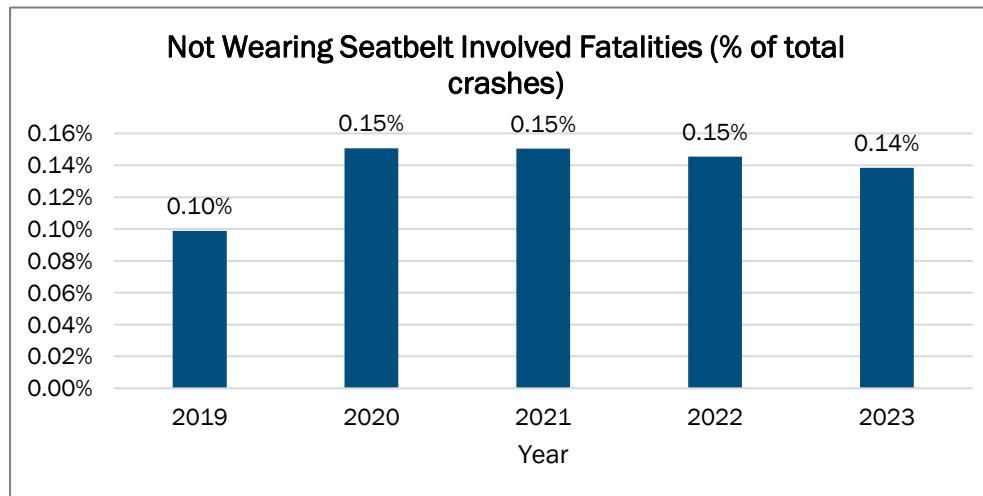
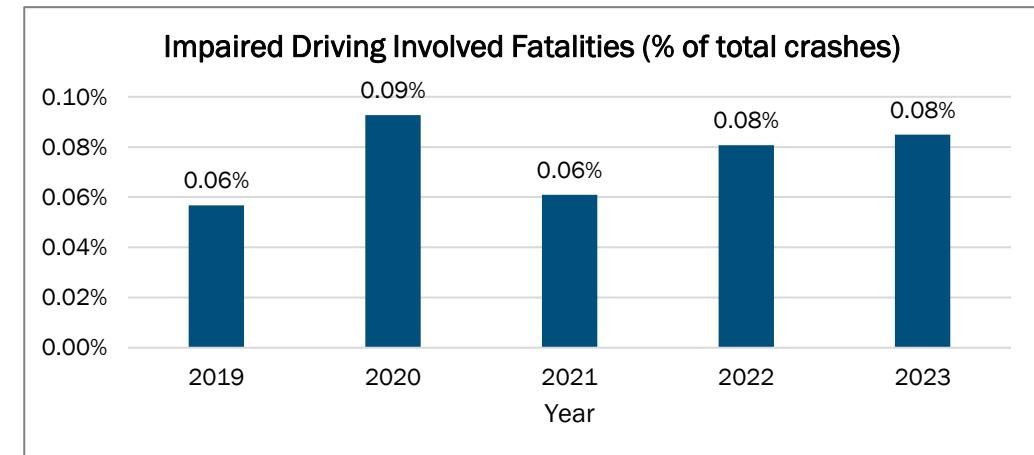
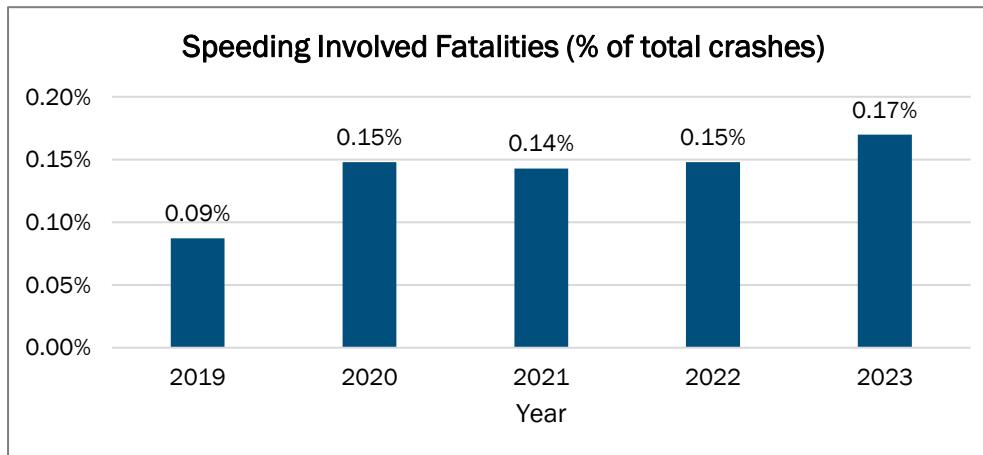


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Involved Factors for Fatalities and Serious Injuries 2019-2023



COVID crash statistics showed concerning behavioral trends



[Source: DDOT, VDOT, and Maryland Department of State Police]



2020-2024 NCR Previous Performance vs. Targets

Performance Measure (5-year rolling average)	Adopted 2020- 2024 Targets (Dec 2023)	Actual 2020-2024 Performance	Status
# of Fatalities	<u>253.0</u> ¹	362.6 ²	Not met
Fatality Rate (per 100 MVMT)	<u>0.588</u> ¹	0.872 ²	Not met
# of Serious Injuries	1,675.7	2,183.8	Not met
Serious Injury Rate (per 100 MVMT)	3.222	5.247	Not met
# Nonmotorist Fatalities & Serious Injuries	473.5	540 ¹	Not met

1. Underlined targets were capped (not increased from previous year).

2. Fatality figures for 2024 are from preliminary state data pending release of 2024 FARS data.



Key Takeaways

Fatal crashes are increasing despite fewer overall crashes:

- From 2019 to 2023, fatal crashes rose steadily. Fatalities began to decline in 2024 but remain elevated compared to pre-pandemic levels
- Possible causes include higher speeds on less congested roads post-COVID; increased vulnerable road user exposure; and behavioral factors (impaired or distracted driving, and not wearing seatbelts)
- Pedestrians make up roughly 29 percent of total traffic fatalities (2019-2023), an increase compared to the previous five years

Crash rates show an uneven safety landscape:

- The Inner Suburbs have the highest fatality rate per VMT and per capita, indicating a mismatch between infrastructure and current traffic volumes
- The Urban Core has the highest serious injury rate per VMT and per capita, likely due to higher exposure of non-motorized users

Involved factors emphasize behavioral and infrastructure failures:

- The most common contributors to fatal and serious injury crashes include: intersections, roadway departures, and speeding. Many crashes involve multiple compounding factors



02

REGIONAL RESPONSE TO SAFETY TRENDS

Regional Inventory of Roadway Strategies

The Safety Assessment spotlights regional safety concerns

Adopted in July 2020, R3-2021 identifies road user safety as a top priority and urges its members to prioritize the implementation of projects, programs, and policies to reduce roadway fatalities and serious injuries.

Four key safety areas were identified as behaviors for jurisdictions to address:



Speeds



Distracted Driving



Impaired Driving

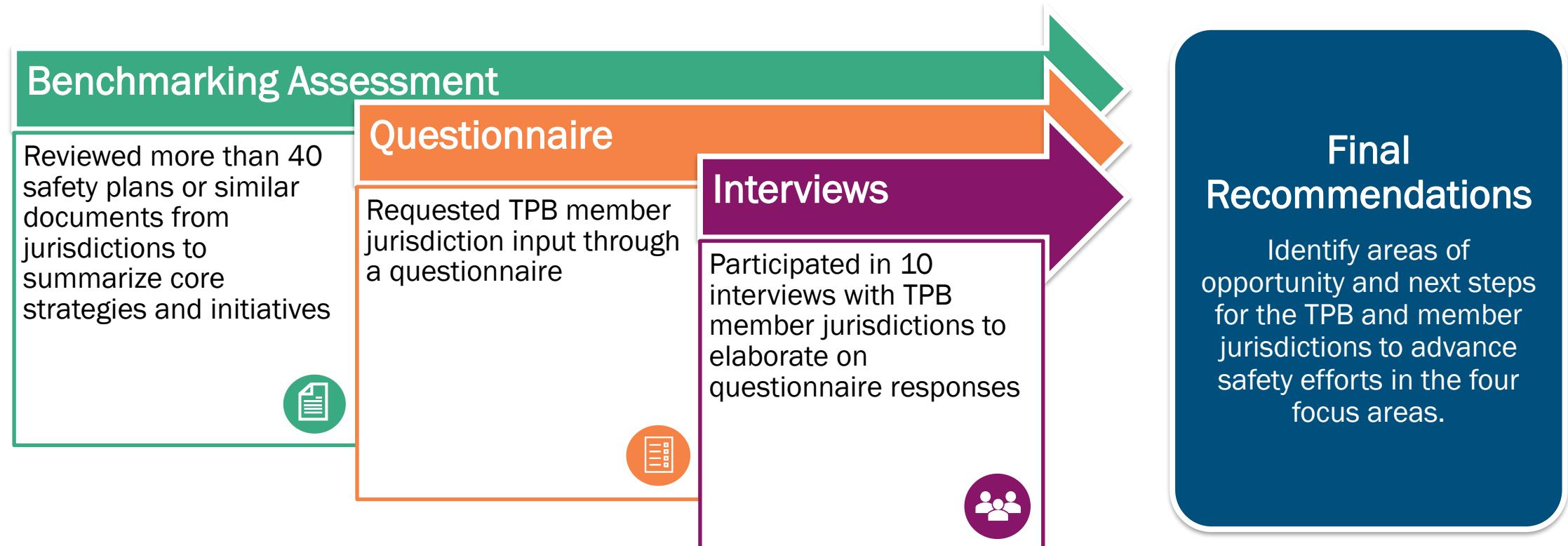


Seatbelt Use



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Three touchpoints with jurisdictions were used to understand safety alignment



Key Findings

Key findings highlight themes that were consistently identified through all three touchpoints



Theme 1: Most jurisdictions are adopting safety planning and agency culture norms



Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions



Theme 3: Impaired driving and unbelted driving countermeasures are typically led by police departments and State Highway Safety Offices



Theme 4: Local governments, state DOTs, and police departments share common ground to address distracted driving



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Theme 1: Most jurisdictions are adopting safety planning and agency culture norms



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Plan Creation

- Most TPB jurisdictions are advancing Safety or Vision Zero Action Plans.
- Alexandria, DC, Montgomery County, Prince George's County, Arlington County, and Rockville have more mature Vision Zero programs.



15 of the 22 TPB jurisdictions have

- already completed a Plan
- are developing one now
- have secured funding to begin the process





Theme 1: Most jurisdictions are adopting safety planning and agency culture norms

Limited Safety Staff

- Limited safety staffing constrains jurisdictions' ability to deliver comprehensive safety programs.
- Larger jurisdictions typically have 1–3 staff dedicated to safety.
- Smaller jurisdictions often rely on a single staff member with safety added to other duties.



77% of questionnaire respondents listed "staffing shortages" as a barrier, but many interviewees cited the RRSP as critical safety funding for addressing their gaps.





External and Internal Coordination

- Effective safety project delivery depends on strong internal and external coordination.
- Engaging partner agencies and internal divisions is time-intensive.
- Sustaining participation beyond core job responsibilities remains a challenge.



Despite 17 jurisdictions documenting their emphasis on collaboration as a goal, 70% of questionnaire respondents listed “interdepartmental coordination” as a barrier





Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions



Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions

Traffic Calming Efforts

- Jurisdictions primarily use traffic calming to manage speeds on local roads.
- Common treatments include crosswalks, curb extensions, and speed bumps/tables.
- Key challenges include emergency responder buy-in and limited prioritization methods for treatment locations.



20 jurisdictions highlight traffic calming measures in their documents, and 77% of questionnaire respondents listed them as effective.





Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions

Road Diets

- Some jurisdictions are implementing road diets, often supported by before-and-after studies.
- More than half of respondents view road diets as effective.
- Public and political pushback drives careful site selection and targeted communication.



The City of Rockville has found success through transparent before and after results and messaging other benefits of road diets, such as the economic benefits to local businesses.





Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions

Police Department Collaboration

- Safety outcomes improve when planners and engineers collaborate with police departments.
- Common coordination includes crash data sharing, Automated Traffic Enforcement (ATE) placement, and fatal crash reviews.



The City of Alexandria finds success through their collaborative efforts with the Alexandria Police Department, which together review fatal and severe injury crash data to determine next steps.





Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions

Automated Traffic Enforcement

- Automated Traffic Enforcement (ATE) is widely viewed as an effective speed management tool across DC, Maryland, and Virginia.
- Many Maryland and Virginia jurisdictions want to expand ATE to high-injury networks and all-hour operations but are constrained by state regulations.



16 jurisdictions are using ATE in some capacity, and 69% of questionnaire respondents listed speed cameras as effective.





Theme 2: Speed reduction countermeasures in the Resolution are used most frequently by local jurisdictions

Speed Limit Reductions

- Some jurisdictions have lowered posted speed limits on select roadways.
- Speed limit reductions alone are perceived as minimally effective.
- Effectiveness increases when paired with traffic calming and roadway design changes.



Based on the questionnaire and interviews, many respondents felt that speed limit reductions alone were not an effective strategy to reduce speed.





Theme 3: Impaired driving and unbelted driving countermeasures are typically led by police departments and State Department of Motor Vehicles



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Police Department Focus on Impairment

- Jurisdictions largely defer impaired and unbelted driving strategies to police departments.
- Police impaired driving efforts center on education, marketing, and targeted enforcement.
- Tactics include midnight patrols, deploying strategic enforcement, and coordination with bars and vendors.



The questionnaire revealed that media campaigns and providing ride share programs and/or late-night transit service are typical deployed impaired driving countermeasures





Theme 3: Impaired driving and unbelted driving countermeasures are typically led by police departments and State Department of Motor Vehicles

Ignition Interlock

- Ignition interlocks are not actively addressed by transportation or police departments.
- Only two jurisdictions note support for ignition interlock efforts in formal documents.
- Both planners/engineers and police defer ignition interlock requirements to the courts.



62% of questionnaire respondents were unsure of the use of ignition interlocks in their jurisdiction, and 23% did not implement them.





Theme 3: Impaired driving and unbelted driving countermeasures are typically led by police departments and State Department of Motor Vehicles

Seatbelt Laws and Campaigns

- Seat belt enforcement is challenging in states where violations are a secondary offense.
- Limited enforcement authority contributes to low effectiveness.
- Most efforts rely on Click-It-or-Ticket grant cycles or social media messaging.



Only 1 jurisdiction was identified as supporting state-level primary seat belt legislation in their documentation.





Theme 4: Local governments, state DOTs, and police departments share common ground to address distracted driving



Theme 4: Local governments, state DOTs, and police departments share common ground to address distracted driving

Dynamic Messaging

- Dynamic messaging was cited as highly effective in reducing driver cellphone use.
- Police data-informed strategic placement to maximize impact.



A partnership between DDOT and DC HSO led the strategic placement of distracted driving trailers with dynamic, community-focused messaging





Theme 4: Local governments, state DOTs, and police departments share common ground to address distracted driving

Co-benefits of Safety Countermeasures

Local governments are highlighting safety countermeasures like centerline hardening, curb bump-outs, speed humps, road diets, bike lanes, and other traffic calming measures to combat distracted driving. In the event of a distracted-driving-related crash, other safety countermeasures can lessen the impact and reduce the chance of death or serious injury.



03

AUTOMATED TRAFFIC ENFORCEMENT EFFECTIVENESS

Automated Speed and Red-Light Enforcement White Paper

Purpose of the ATE Assessment

1. How effective is automated traffic enforcement (ATE), especially speed and red-light cameras, in reducing severe crashes?
2. What practices can ensure fair, reliable, and publicly supported implementation of ATE throughout the region?



Evaluates the safety performance of speed and red-light cameras using regional, national, and international evidence.



Identifies the program design features that influence fairness, reliability, and long-term public support.



Synthesizes lessons learned across D.C., Maryland, and Virginia to highlight factors that shape effective implementation.



Provides a shared knowledge base the TPB can use to support regional understanding of ATE and its role in broader safety strategies.



Proven Countermeasure

NHTSA and FHWA identifies ATE as a proven countermeasure for reducing fatal and severe crashes.



[NHTSA](#) states that ATE cameras supplement traditional speed management strategies and helps reduce speeding behaviors. NHTSA rates speed camera effectiveness as five out of five stars.



[FHWA](#) identifies these systems as a Proven Safety Countermeasure, with studies showing a 20 to 37 percent reduction in fatalities and injuries.





Crash Reduction

Automated enforcement consistently reduces crashes, with measurable benefits across regional, national, and international programs.

Metropolitan Washington Region

- **Montgomery County, MD**
39% reduction in likelihood of KSI crashes in enforced corridors
- **Alexandria & Fairfax**
Programs show early reductions in localized crash risk
- **Washington, D.C.**
~30% reduction in injury crashes near early camera sites

Other US Cities

- **Large U.S. Cities Study**
21% fewer fatal red-light running crashes. 14% fewer fatal crashes overall at signalized intersections
- **New York City (24/7 Program Expansion)**
8% reduction in injury crashes during overnight/weekend periods
- **Bellevue, WA**
Sustained low crash rates at school-zone camera sites

Global Evidence

- **France**
25–35% fatal crash reduction (varies by roadway type)
- **Italy**
32% overall reduction in crashes following speed camera rollout





Speed Management

Automated enforcement reliably reduces excessive speeding and curbs the most dangerous high-end speed behaviors.

Metropolitan Washington Region

- **Montgomery County, MD**
10% reduction in mean speeds
- **Alexandria, VA**
14–30% speed reductions in school zones within first weeks
- **Fairfax County, VA**
15–27% drop in violations in first year

Other US Cities

- **New York City**
30% decline in speeding violations after 24/7 operation began
- **Philadelphia**
Roosevelt Blvd: >90% reduction in excessive speeding violations
- **Bellevue, WA**
Continuous long-term decline in school-zone speeding violations

Global Evidence

- **Australia, France, Finland, Norway, Netherlands, UK**
50–70% reduction in vehicles exceeding limits by >15 km/h (~10 mph) and 2–10 km/h (~1–6 mph) reduction in average speeds
- **Italy (Motorways)**
Significant reductions in mean speed and extreme speeding following deployment



04

PRIORITY RECOMMENDATIONS

Proposed Near Term TPB Priority Recommendations

The project team identified five potential priority recommendations that can be implemented in the near term to address common needs across member jurisdictions:

- 1. TPB Safety Subcommittee Meeting on Enforcement Collaboration** - TPB will hold an “Invite Your Enforcement” safety subcommittee meeting focused on coordination between DOTs and law enforcement.
- 2. Impaired Driving Strategies** – TPB will compile and share a concise set of regional best practices on impaired driving prevention.
- 3. Technical Assistance for Small Agency Staff** – TPB will contact member agencies with smaller staff to identify safety technical assistance needs that TPB can support.
- 4. Before-and-After Analyses** – TPB will inventory project studies that conducted before-and-after evaluations, then synthesize results, methods, and metrics
- 5. Ticket Reciprocity and Broader ATE Deployment** – TPB will coordinate with COG to promote enabling broader deployment in MD and VA (beyond school zones, work zones, and buses) and encourage ticket reciprocity as a legislative priority.



Proposed Member Jurisdiction Recommendations

The project team identified five potential priority recommendations for member jurisdictions:

1. **Participate regularly in TPB Safety Subcommittee meetings** to hear from agencies with similarly sized safety staff and share challenges.
2. **Develop an inter-departmental safety working group** to include staff from other departments at the local agency, such as maintenance, design, construction, and others.
3. **Further advance RRSP projects** that would benefit from additional/continued work after completion. Explore best practices for post-project follow-up and identify scalable ways to monitor implementation.
4. **Establish monthly or quarterly fatal and serious injury crash review teams.** These are used by several local governments and cited as an effective method to increase stakeholder collaboration with enforcement and EMS.
5. **Review existing before and after studies** (or identify gaps or barriers for conducting one) to improve consistency and inform future evaluations.



Key Takeaways

- Speeding, impaired driving, and unbelted driving remain top contributing factors to fatal and serious injury crashes in the region
 - These factors were highlighted the 2020 Regional Roadway Safety Study and 2020 TPB Safety Resolution
 - The COVID-19 pandemic created conditions that exacerbated these behaviors
- To address these areas, local jurisdictions have generally focused on infrastructure-based safety strategies, while policy-based strategies have been led by state agencies
 - Speed-reduction strategies show the highest level of adoption among jurisdictions, with traffic calming programs, and road diets emerging as the most widely implemented tools
 - Automated traffic enforcement has also been used effectively to manage speed and reduce red-light running
 - Impaired, distracted, and unbelted driving efforts are led by state agencies
- Roadway fatalities and serious injuries are beginning to decline, but the region still falls short of meeting its targets
 - Expanding safety staff capacity and funding, facilitating cross-department collaboration, and adopting before and after evaluations to track effectiveness have been identified as jurisdictional needs



Janie Nham

TPB Transportation Planner

jnham@mwcog.org

mwcog.org

777 North Capitol Street NE, Suite 300
Washington, DC 20002



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