



June 4, 2026

2027-2031 WEST VIRGINIA STRATEGIC HIGHWAY SAFETY PLAN



Today's Agenda



- What is an SHSP?
- Why Update? – Purpose and Process
- SHSP History in West Virginia
- Current SHSP
- Safe System Approach
- State of the State – West Virginia Serious Injuries and Fatalities
- SHSP Goal and Objective
- Emphasis Area Selection
- Next Steps

What is a Strategic Highway Safety Plan (SHSP)?



- Comprehensive transportation safety plan with a goal of reducing highway fatalities and serious injuries on all public roads
- Establishes consistent statewide goals, objectives, emphasis areas, priorities, and countermeasures with stakeholders and across other transportation plans
- Makes effective use of highway safety related data to determine data-driven priorities
- Addresses engineering, management, operation, education, enforcement, and emergency medical services through common goals and strategies



SHSP Requirements



- Multidisciplinary approach and coordination
 - Enforcement, Education, Engineering, and Emergency Medical Services
- Analyze and make effective use of safety data
- Consider the safety needs of all public roads
- Adopt performance-based goals
- Implementation and Evaluation
- FHWA Special Rules
 - High Risk Rural Roads
 - Older Drivers and Pedestrians
 - Vulnerable Road Users
- Plan must describe the update process
- Be completed no later than 5 years from the date of the previous approved version
- Be approved and signed by the Governor of the state or designee
- Provide strategic direction for other state/local safety plans



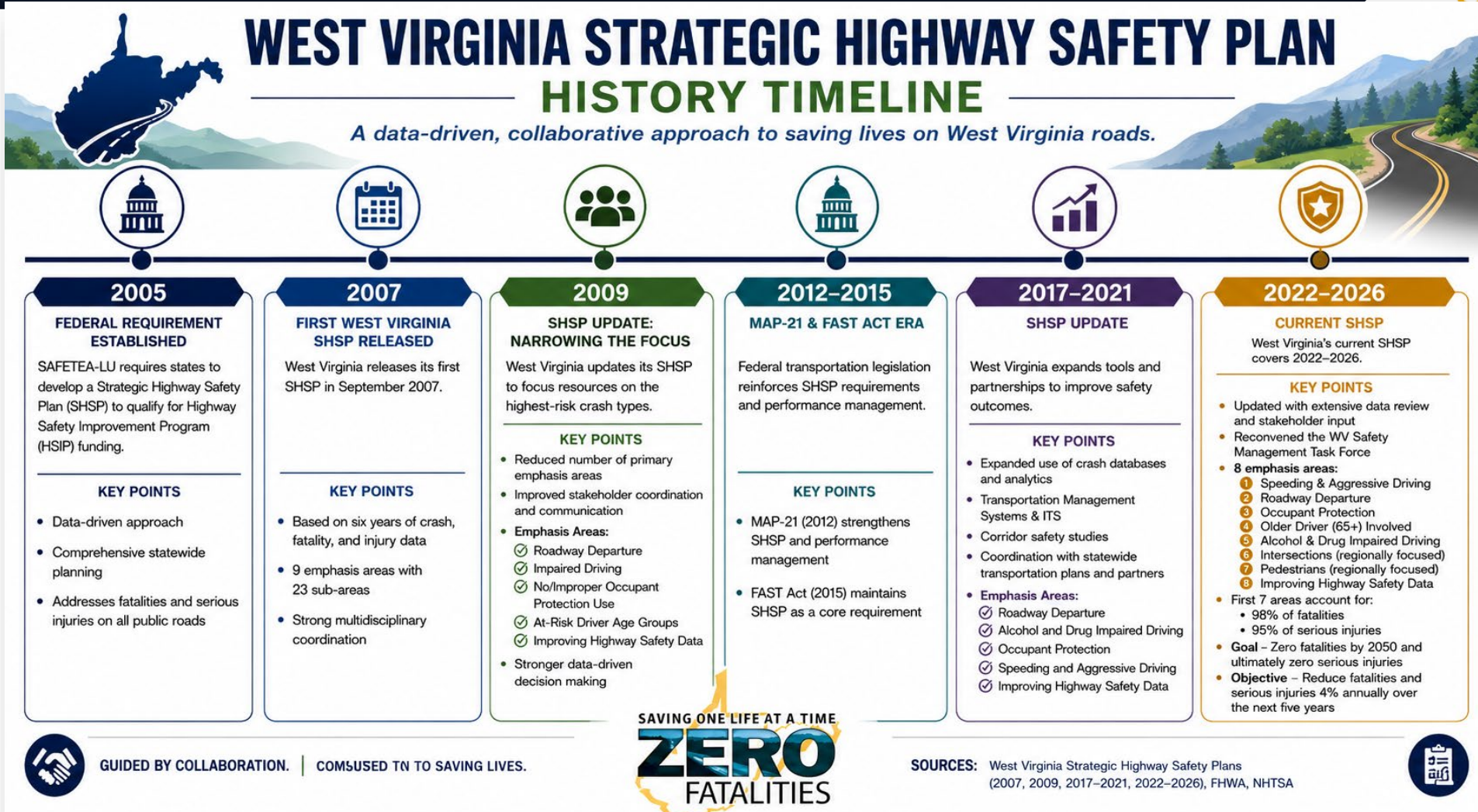
SHSP Stakeholders



- State GHSP representative
- MPOs and regional transportation planning organizations
- Representatives of major modes of transportation
- State and local traffic enforcement officials
- Highway-rail grade crossing safety representative of the Governor
- Motor Carrier Safety program representative
- Motor vehicle administration
- Non-motorized user representatives
- Other safety stakeholders



WV SHSP History



SHSP Update – Purpose



- Why update?
 - FHWA says we have to!
 - 23 CFR 924.9(a)(3)(i) – SHSP shall be updated no later than 5 years from the previous approved version
 - 2022 – 2026 SHSP signed by Secretary Justice in June 2022
 - Refresh data analysis and emphasis areas
 - Identify changes in data trends – crashes, population, etc.
 - Include new emphasis areas where data is trending in the wrong direction (more fatalities or serious injuries compared to previous five years)
 - Consider removing emphasis areas that may be trending in the correct direction
 - Address changes in Federal rulemaking or guidance
 - Vulnerable Road User Safety Assessment
 - NPRM issued in 2024, but withdrew in 2025 – no changes to 23 CFR Part 924
 - Address changes in state laws, policy, guidance

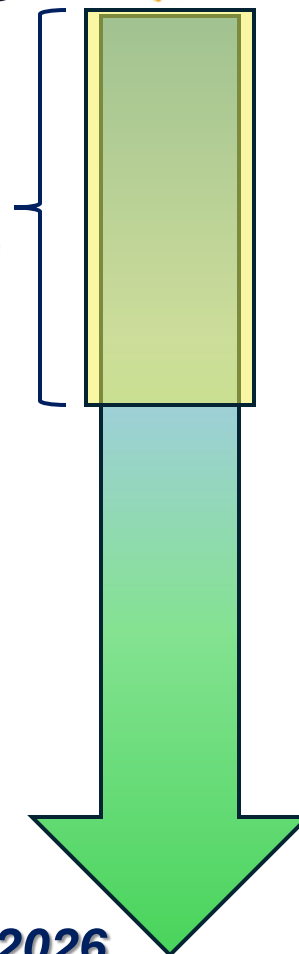


SHSP Update - Process



- SHSP Update Kick-off meeting
- Analysis of fatalities and serious injuries
- SHSP goal and objective review
- Emphasis area selection
- Evaluate past performance
- Identify emphasis area performance-based objectives
- SHSP coordination with other safety and transportation plans
- Identify strategies
- Obtain SMTF approval
- Obtain Governor's approval (or designee)

May 2026
We are here



Dec. 2026
Plan approval

SHSP Update – Process Approval Checklist



- FHWA approves the update process, not the actual SHSP document
- A state's SHSP update process will be approved if:
 - The SHSP is consistent with section 148 of 23 U.S.C.
 - The process used by the state to update the SHSP is consistent with section 148 of 23 U.S.C.
- Update process is approved by the FHWA Division Administrator
- FHWA provides and approval checklist
 - Used as a guide to develop the SHSP in consultation with the SMTF



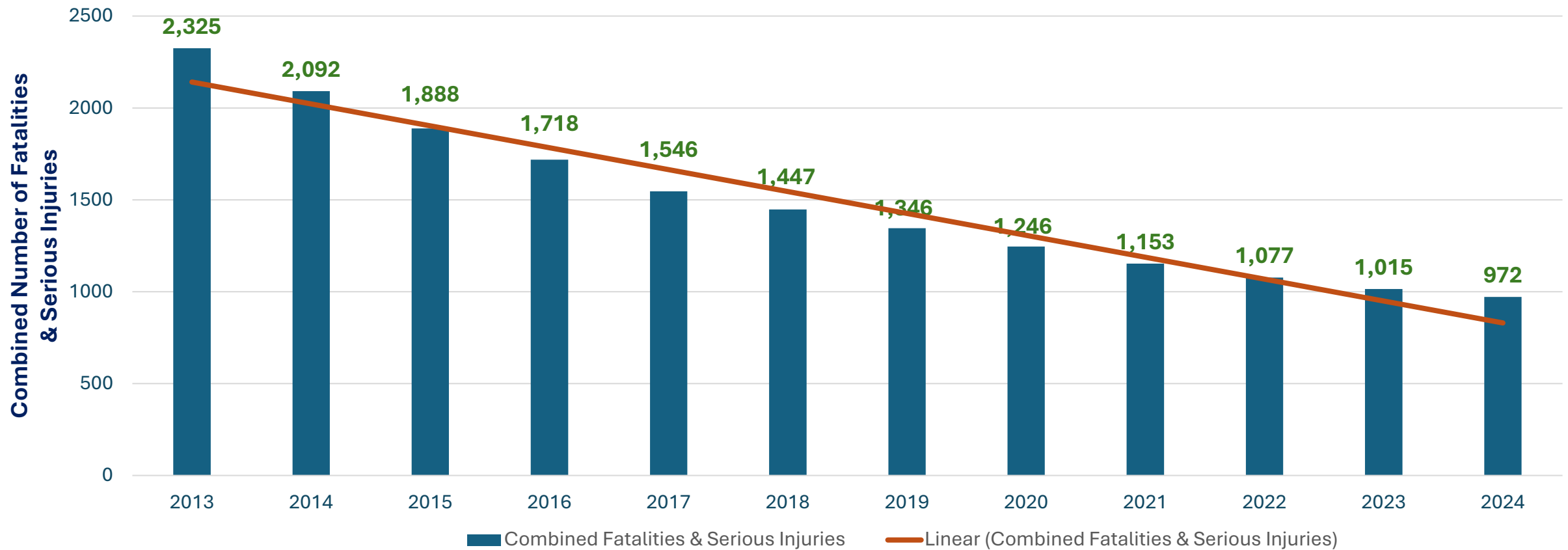
West Virginia Fatalities and Serious Injuries



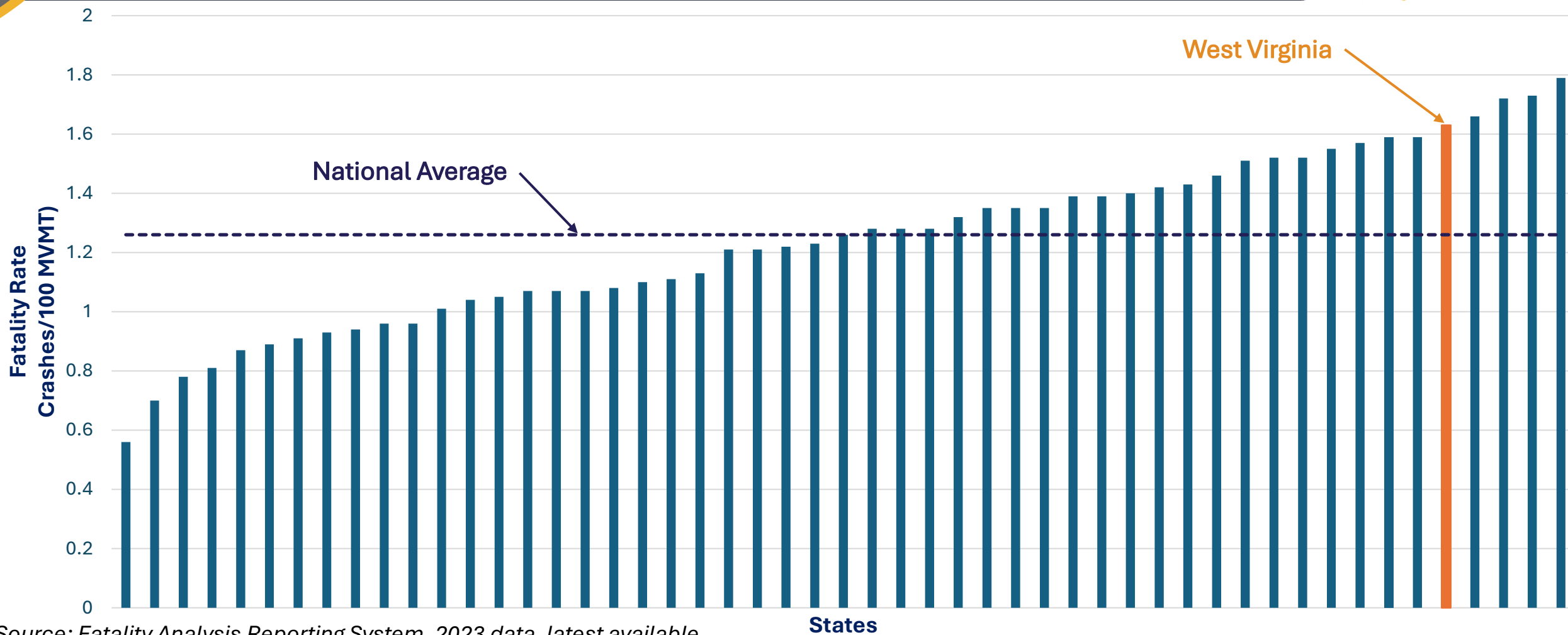
Fatalities and Serious Injuries



Combined Fatalities & Serious Injuries (2013 – 2024)
5-year Rolling Average



West Virginia and the Nation



Source: Fatality Analysis Reporting System, 2023 data, latest available





Goals and Objectives



Goal and Objective



- 2022 – 2026 WV Strategic Highway Safety Plan goal:
Work cooperatively to improve roadway safety, eliminating fatalities and serious injuries through the coordinated efforts of enforcement, education, emergency medical services, and engineering.
- 2022 – 2026 WV Strategic Highway Safety Plan objective:
Achieve zero fatalities by 2050 and ultimately zero serious injuries on our roadways, by reducing fatalities and serious injuries 4% annually over the next five years.





Introduction to the Safe System Approach



Safe System Approach



- Safe System Approach has been adopted by the U.S. DOT as the guiding paradigm to address roadway safety
 - Supports implementation of the National Roadway Safety Strategy
- Shift from our conventional reactive safety approach
 - Focuses on both human mistakes AND human vulnerability
 - Designs a system with many redundancies in place
- Multiple layers of protection to both prevent crashes from happening in the first place and minimizing the harm caused to those involved when crashes do occur



Safe System Approach



- Comparison of traditional approach to safety and the Safe System Approach

TRADITIONAL APPROACH VS. SAFE SYSTEM APPROACH

PREVENT CRASHES	→	PREVENT DEATH AND SERIOUS INJURIES
IMPROVE HUMAN BEHAVIOR	→	DESIGN FOR HUMAN MISTAKES/LIMITATIONS
CONTROL SPEEDING	→	REDUCE SYSTEM KINETIC ENERGY
INDIVIDUALS ARE RESPONSIBLE	→	SHARE RESPONSIBILITY
REACT BASED ON CRASH HISTORY	→	PROACTIVELY IDENTIFY AND ADDRESS RISKS



Safe System Approach - Principles



1 DEATH AND SERIOUS INJURIES ARE UNACCEPTABLE:

A Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries.

2 HUMANS MAKE MISTAKES:

People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation system can be designed and operated to accommodate many types and levels of human mistakes and avoid death and serious injuries when a crash occurs.

3 HUMANS ARE VULNERABLE:

Human bodies have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates physical human vulnerabilities.

4 RESPONSIBILITY IS SHARED:

All stakeholders – including government at all levels, industry, non-profit/advocacy, researchers, and the general public – are vital to preventing fatalities and serious injuries on our roadways.

5 SAFETY IS PROACTIVE:

Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and reacting afterwards.

6 REDUNDANCY IS CRUCIAL:

Reducing risks requires that all parts of the transportation system be strengthened so that if one part fails, the other parts still protect people.

Safe System Approach - Objectives



- Safer People
 - Encourage safe, responsible driving and behavior by all road users
 - Create conditions that prioritize their ability to reach their destination unharmed
- Safer Vehicles
 - Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants
- Safer Speeds
 - Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed limit setting, targeted education, outreach campaigns, and enforcement



Safe System Approach - Objectives



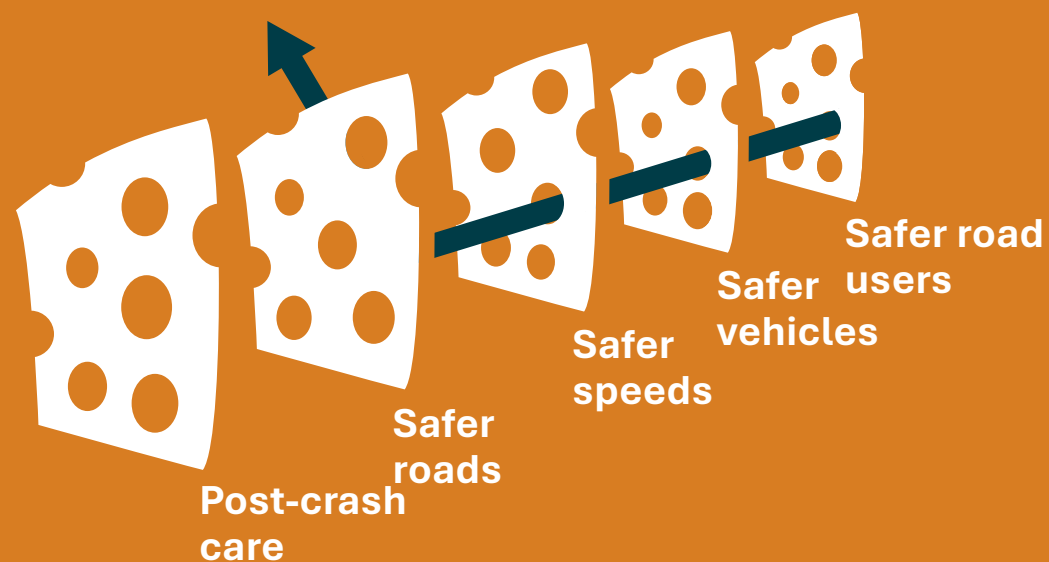
- Safer Roads
 - Design roadway environments to:
 - Mitigate human mistakes and account for injury tolerance
 - Encourage safer behaviors
 - Facilitate safe travel by the most vulnerable users
- Post-Crash Care
 - Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices



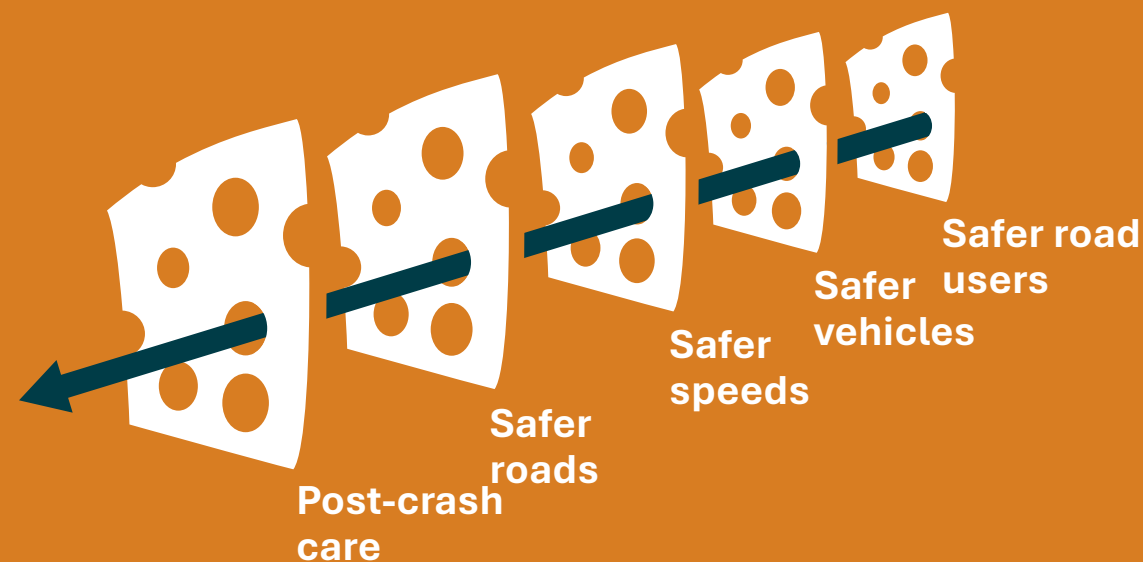
Safe System Approach



The “Swiss Cheese Model” of redundancy creates layers of protection



Death and serious injuries only happen when all layers fail



Safe System Approach



- Incorporating the Safe System Approach into the WV SHSP
 - Organize the SHSP around the Safe System Approach principles and elements
 - The 4 E's (enforcement, education, engineering, and emergency services) should address the six principles of the Safe System Approach
 - Build strategies around the six principles and the 4 E's in each emphasis area
 - Identify where emphasis areas may overlap the five elements of the Safe System Approach
 - Implement cross-cutting countermeasures to address multiple elements





Emphasis Areas



SHSP Emphasis Areas

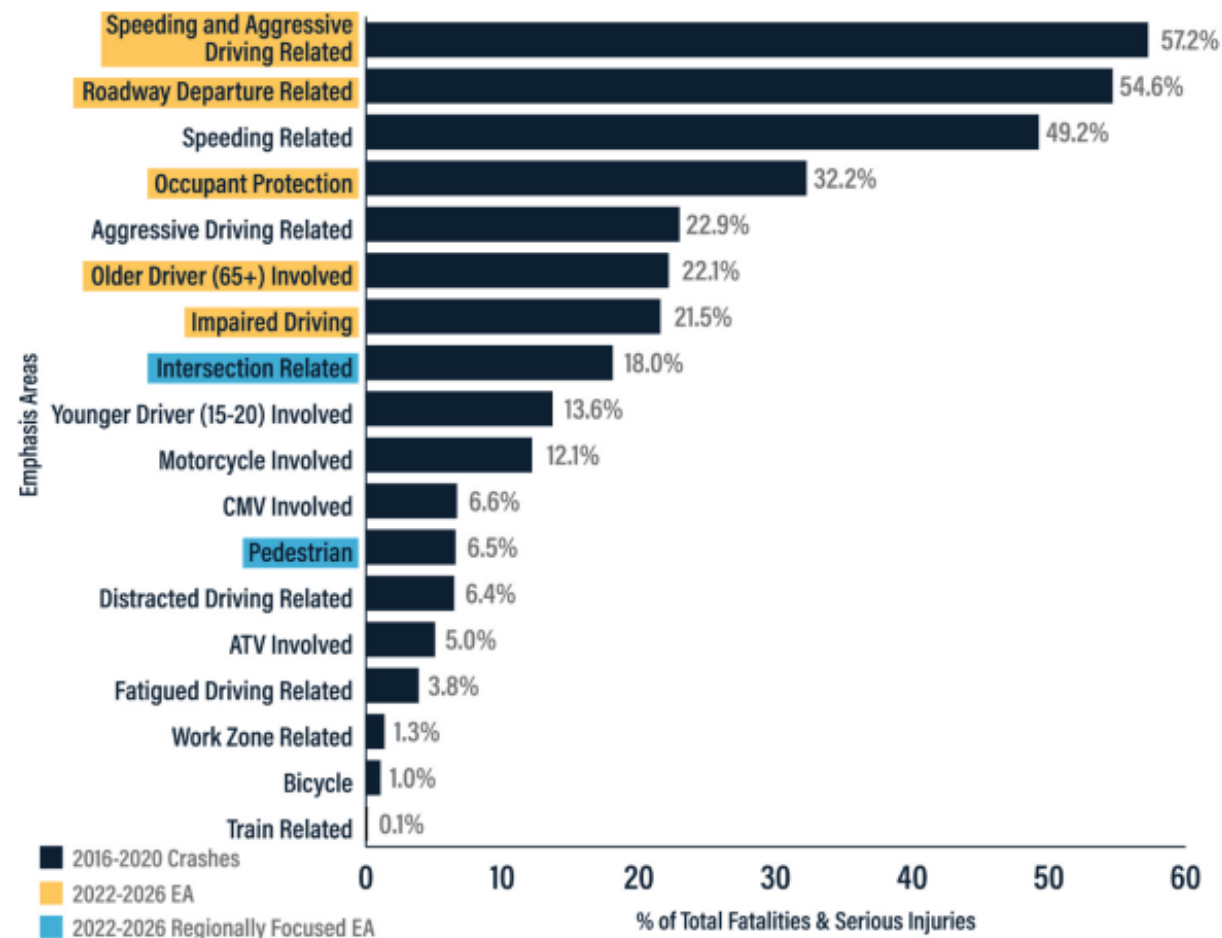


- 2022 – 2026 SHSP Emphasis Areas

2022-2026 SHSP EMPHASIS AREAS

1. Speeding and Aggressive Driving
2. Roadway Departure
3. Occupant Protection
4. Older Driver (65+) Involved
5. Alcohol and Drug Impaired Driving
6. Intersections – *Regionally Focused*
7. Pedestrians – *Regionally Focused*
8. Improving Highway Safety Data

2022-2026 SELECTED EMPHASIS AREAS

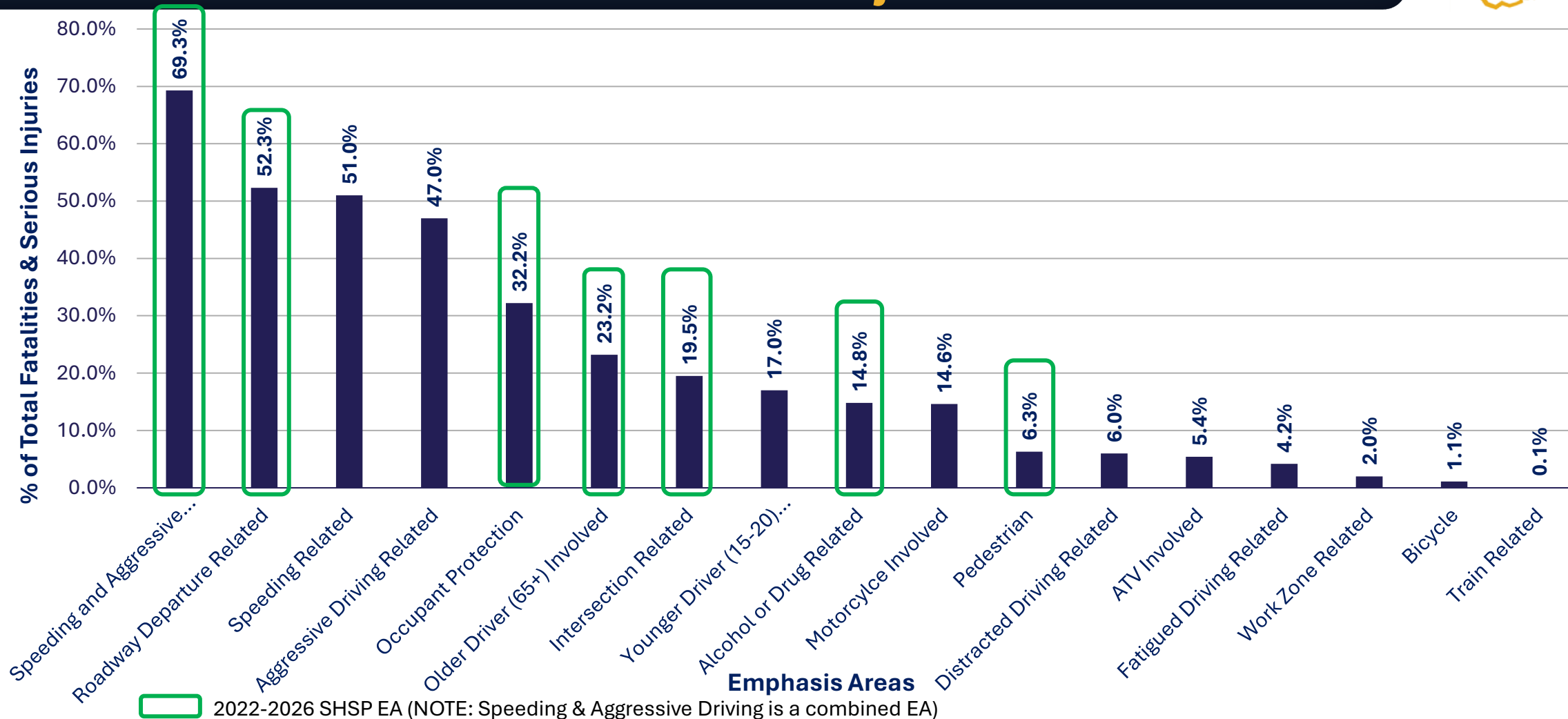




Emphasis Area Selection



Potential SHSP Emphasis Areas Combined Fatalities & Serious Injuries



2027-2031 Potential SHSP Emphasis Areas



1. Speeding & Aggressive Driving
2. Roadway Departure
3. Occupant Protection
4. Older Driver (Age 65+)
5. Intersections
6. Younger Drivers
7. Alcohol & Drug Impaired Driving
8. Motorcycles & ATVs
9. Vulnerable Road Users – Pedestrians & Bicyclists
10. Work Zones
11. Improving Highway Safety Data
12. Traffic Incident Management & Response



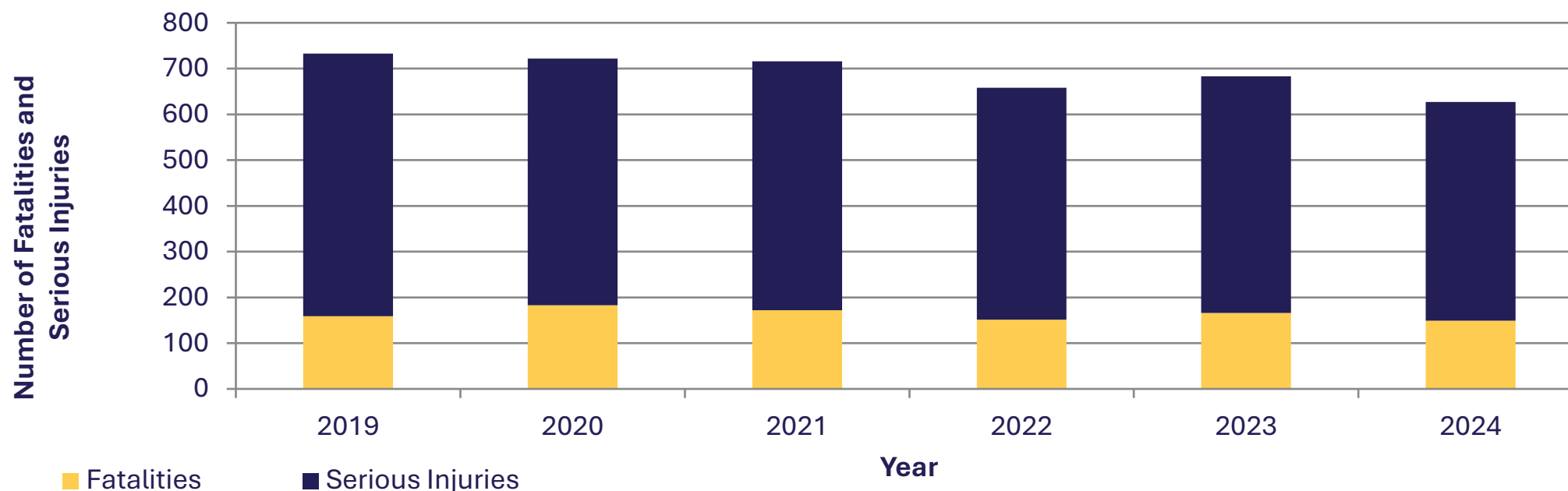
Speeding & Aggressive Driving



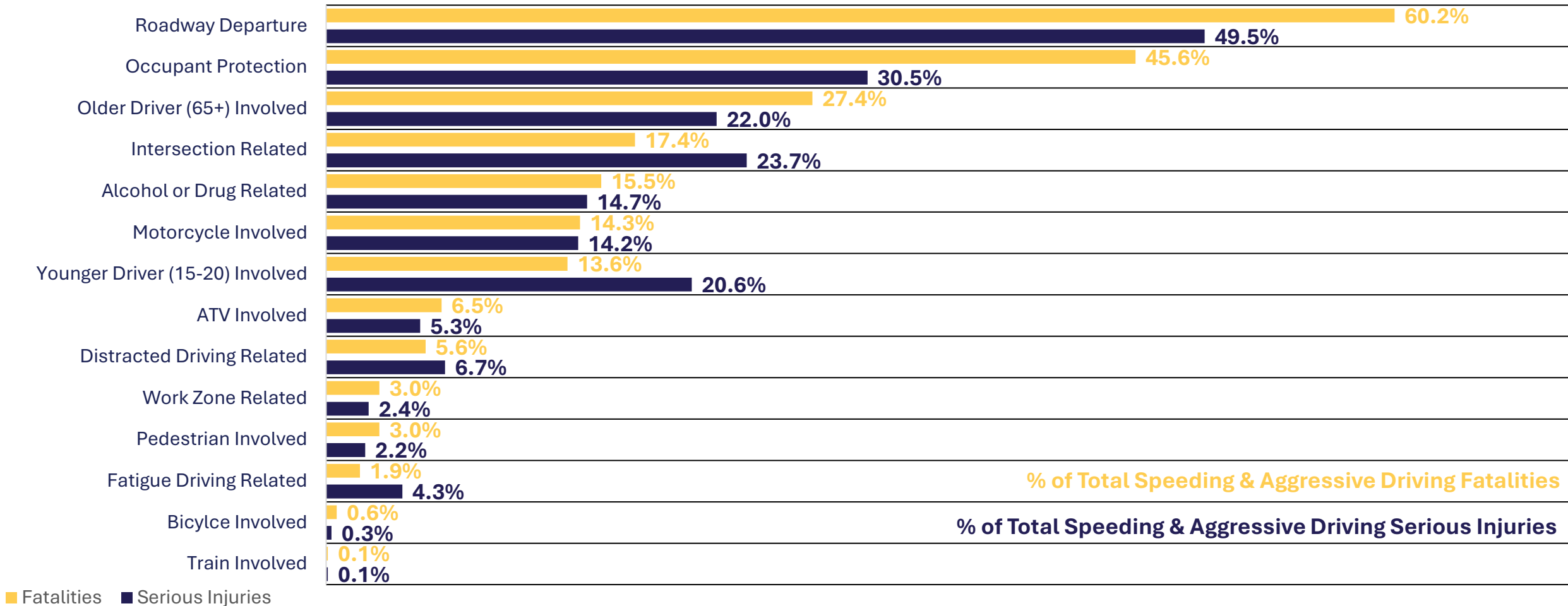
Speeding and Aggressive Driving Annual Fatalities and Serious Injuries



Speeding and Aggressive Driving Related	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	57.4%	65.4%	↑
% of total serious injuries	57.2%	70.6%	↑



Speeding and Aggressive Driving Causal Factors





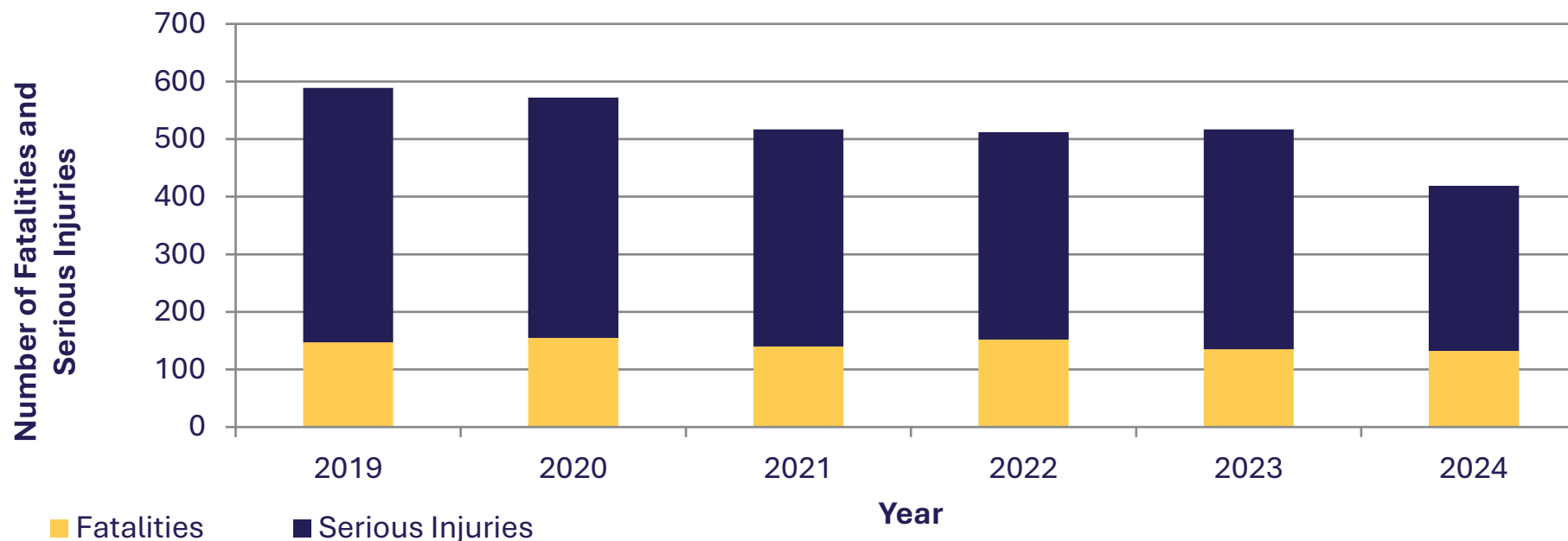
Roadway Departure



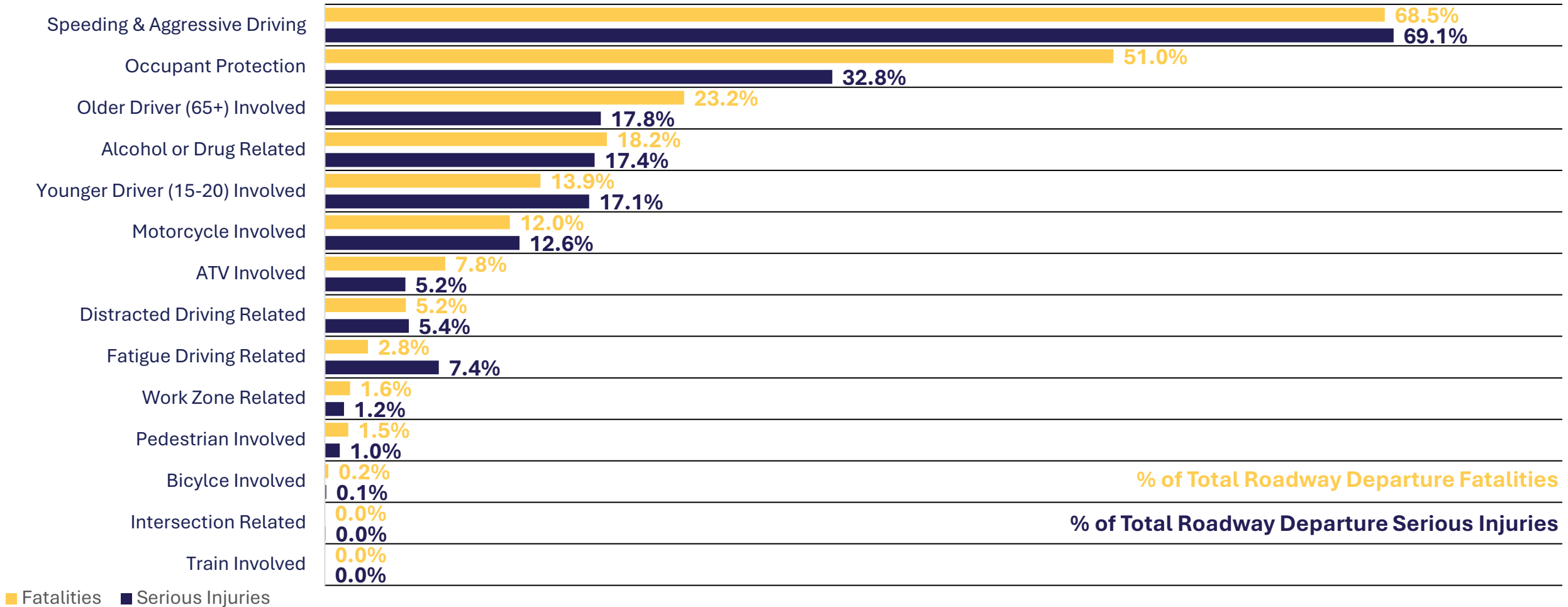
Roadway Departure Annual Fatalities and Serious Injuries



Roadway Departure Related	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	62.2%	57.5%	↓
% of total serious injuries	52.6%	50.6%	↓



Roadway Departure Causal Factors





Occupant Protection

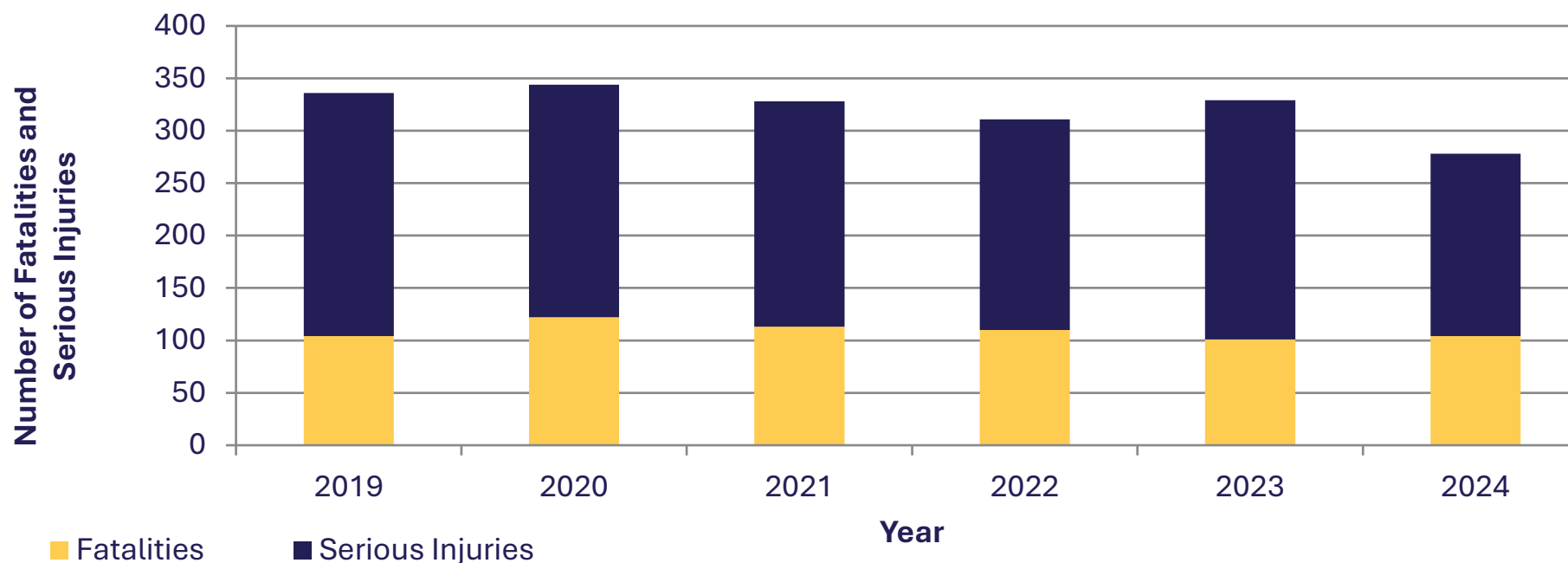


Occupant Protection

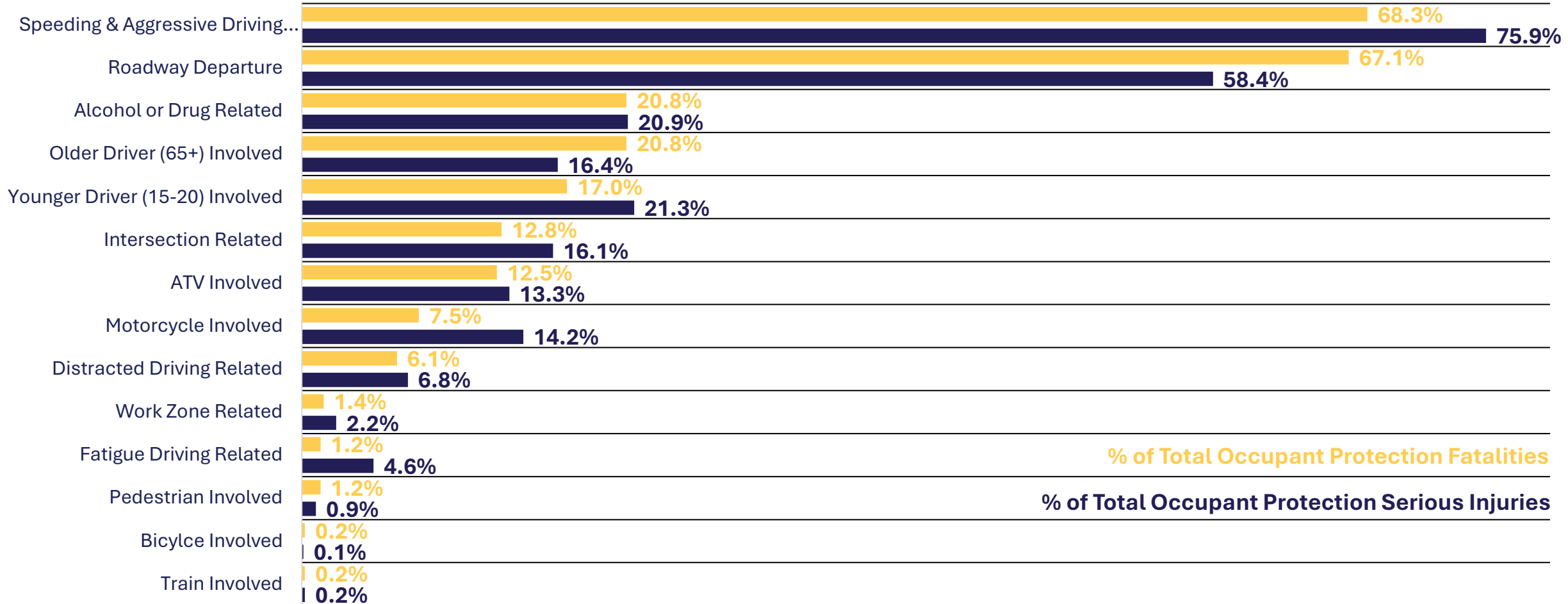
Annual Fatalities and Serious Injuries



Occupant Protection	2022-2026 SHSP '16-'20 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	44.9%	43.7%	↓
% of total serious injuries	28.7%	28.4%	↓



Occupant Protection Causal Factors



■ Fatalities ■ Serious Injuries

% of Total Occupant Protection Fatalities

% of Total Occupant Protection Serious Injuries



Occupant Protection

West Virginia Observed Seat Belt Use Rate



Source: 2025 WV Observational Seat Belt Survey Report





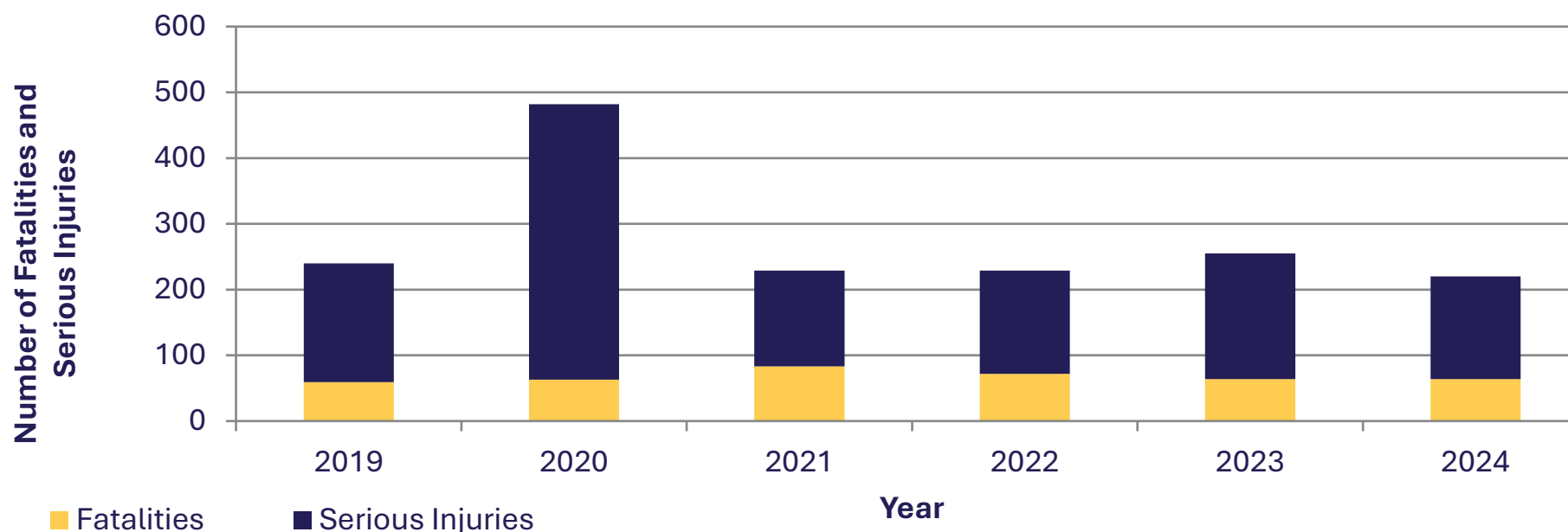
Older Drivers (65+) Involved



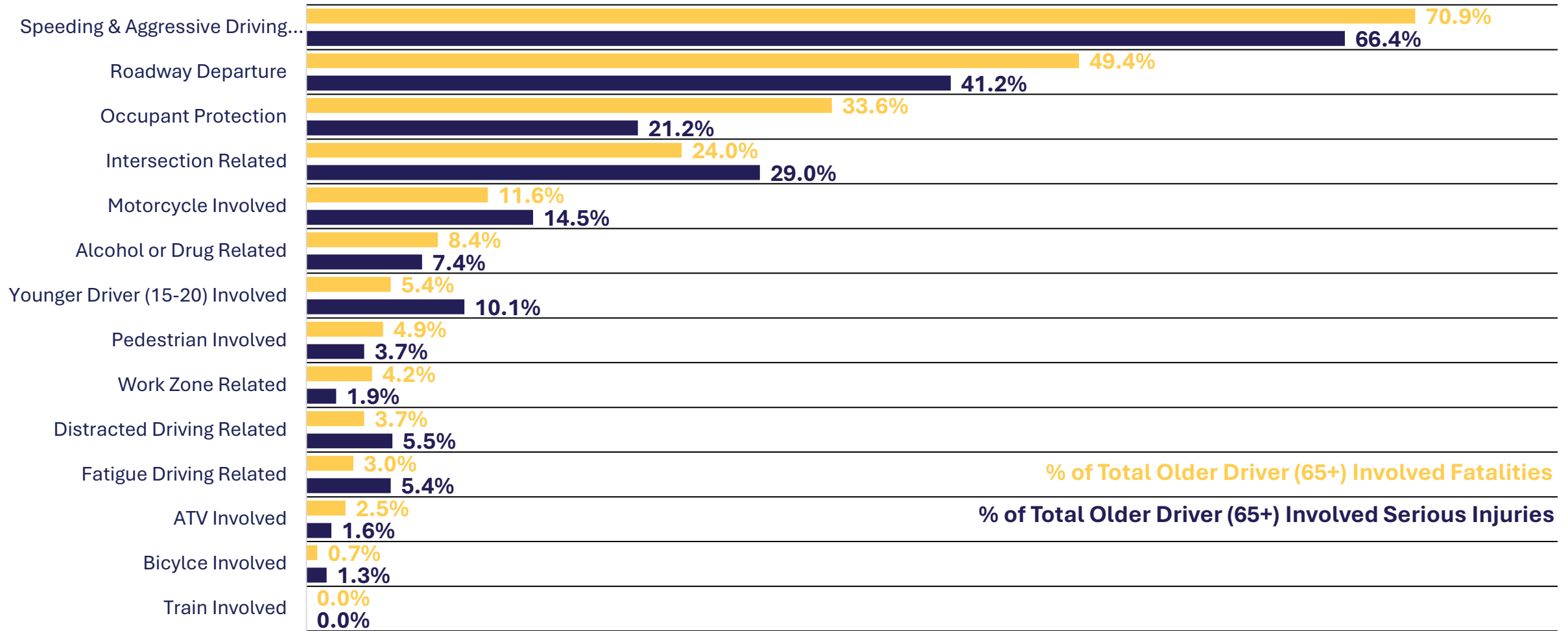
Older Driver (65+) Involved Annual Fatalities and Serious Injuries



Older Driver (65+) Involved	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	27.4%	27.0%	↓
% of total serious injuries	20.6%	21.9%	↑



Older Drivers (65+) Involved Causal Factors



■ Fatalities ■ Serious Injuries



Intersections

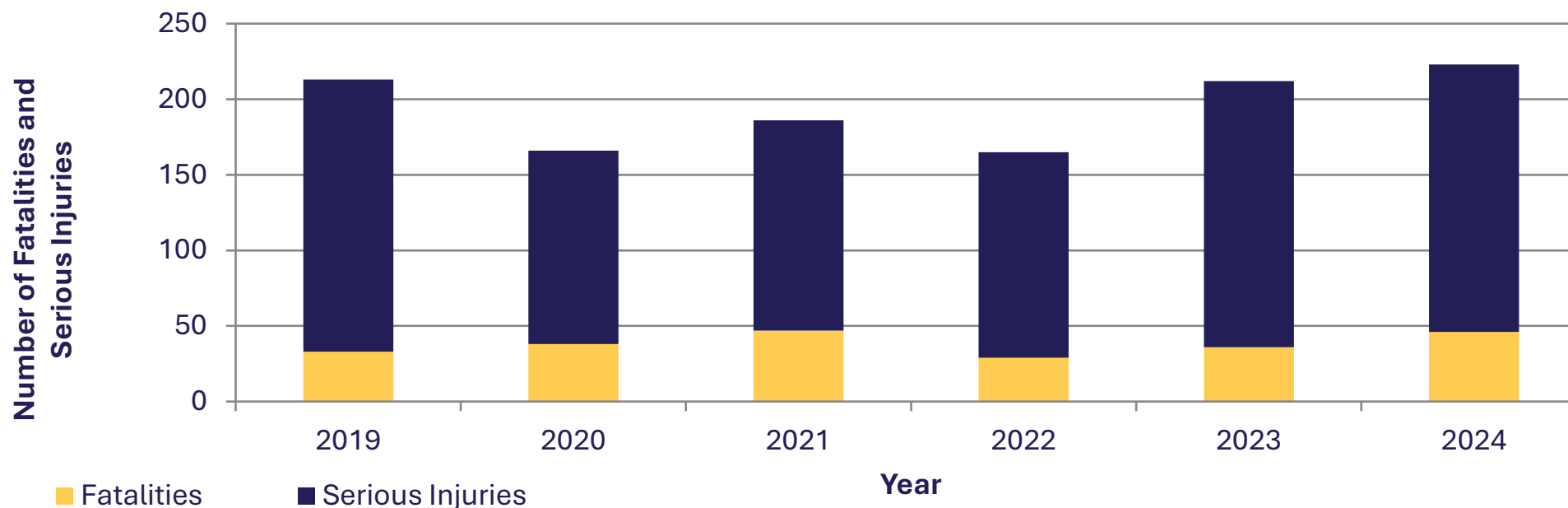


Intersections

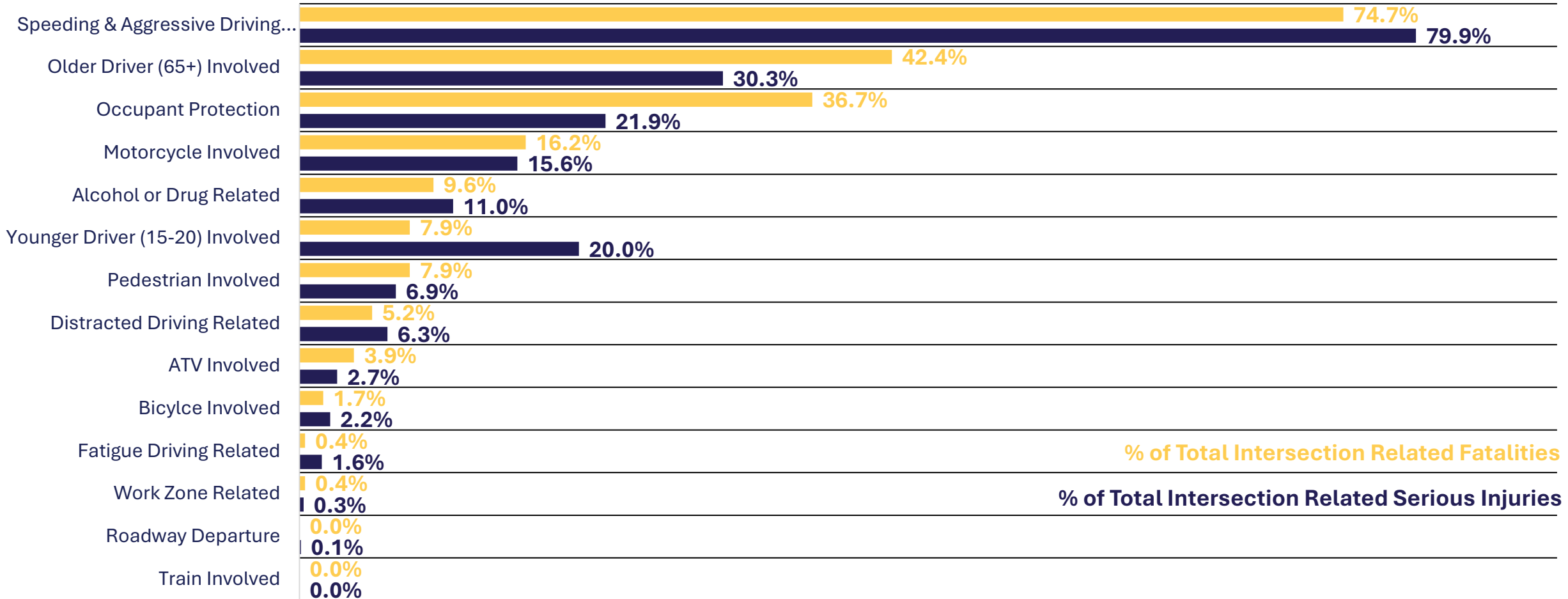
Annual Fatalities and Serious Injuries



Intersection Related	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	13.8%	15.3%	↑
% of total serious injuries	19.2%	20.9%	↑



Intersections Causal Factors



■ Fatalities ■ Serious Injuries





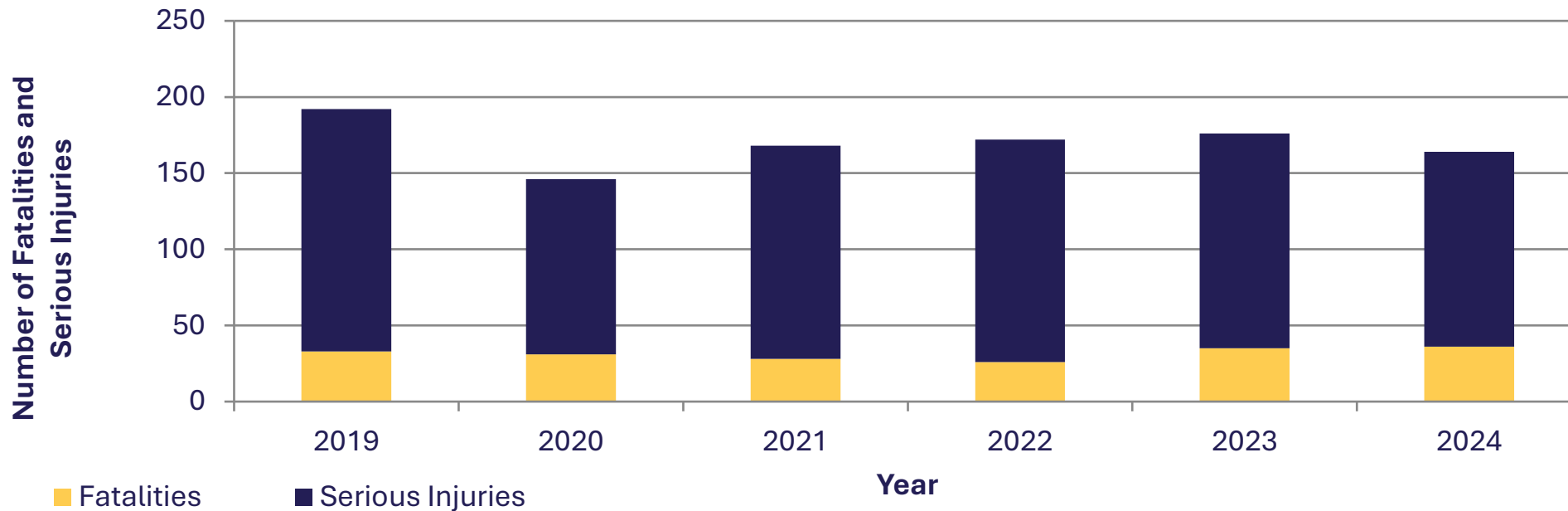
Younger Drivers



Potential Emphasis Area Trends



Younger Driver (Age 15-20) Involved	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	11.0%	12.6%	↑
% of total serious injuries	14.3%	18.5%	↑





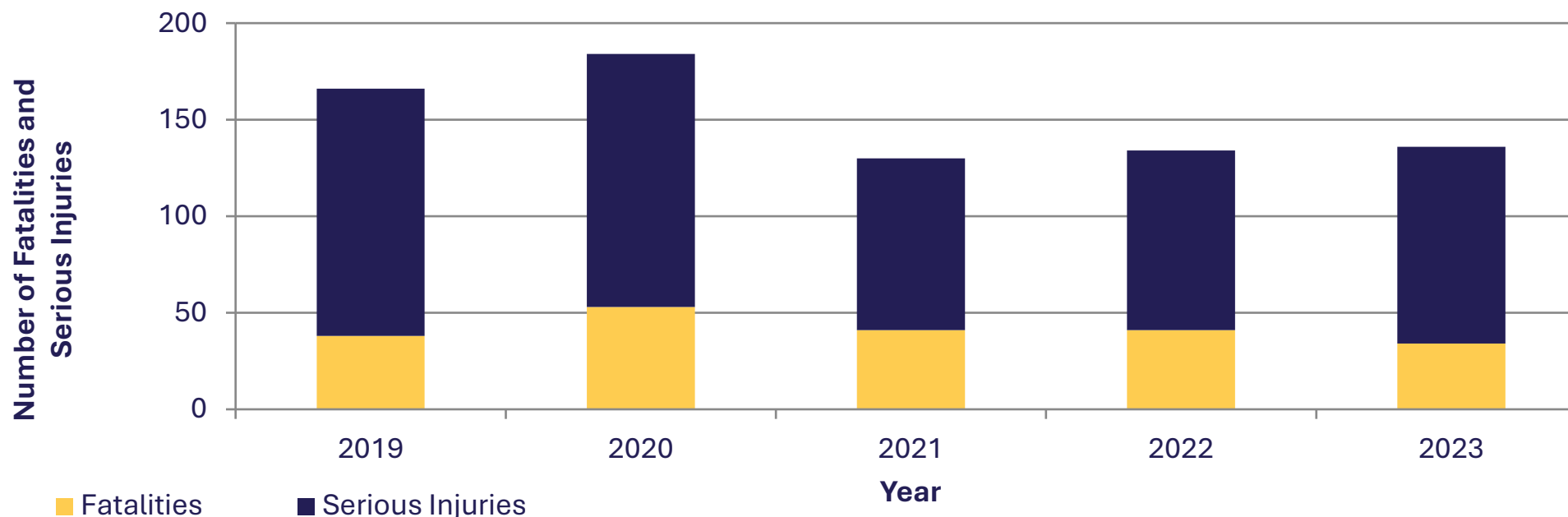
Impaired Driving



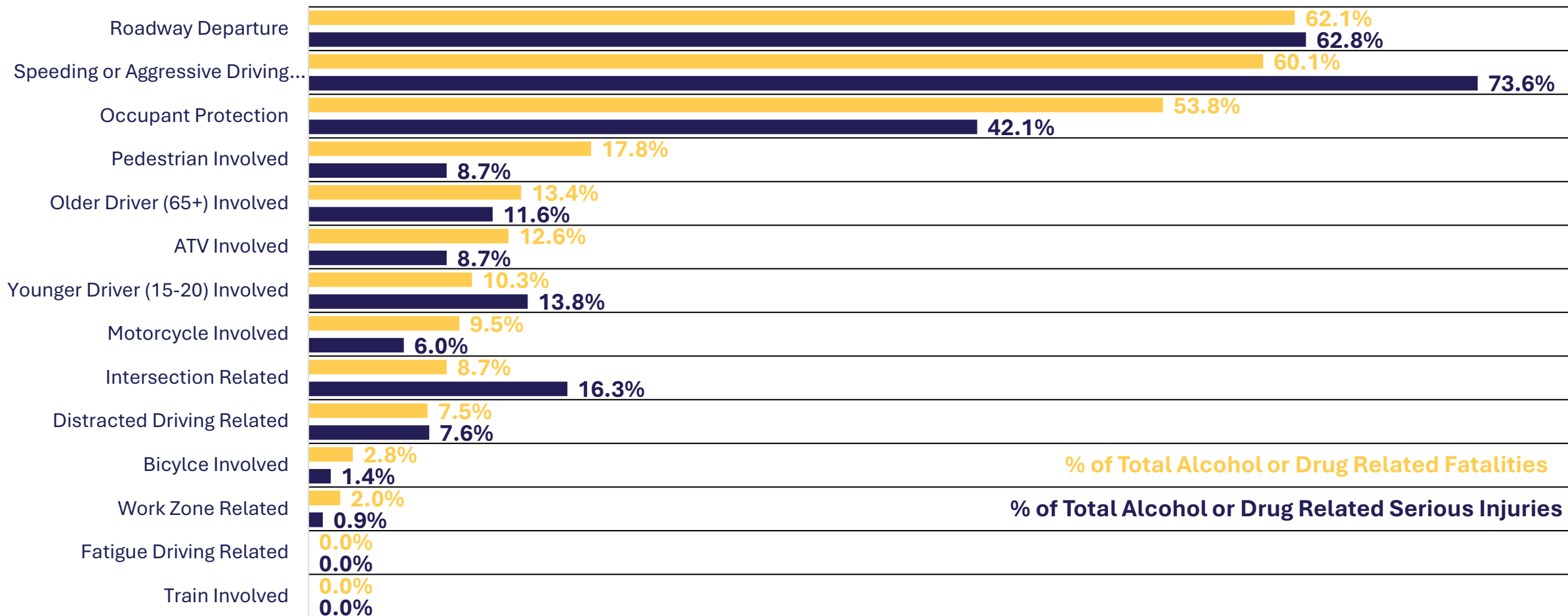
Impaired Driving Annual Fatalities and Serious Injuries



Alcohol or Drug Related (Impaired Driving)	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	24.2%	16.9%	↓
% of total serious injuries	20.8%	14.1%	↓



Impaired Driving Causal Factors



% of Total Alcohol or Drug Related Fatalities

% of Total Alcohol or Drug Related Serious Injuries

■ Fatalities ■ Serious Injuries



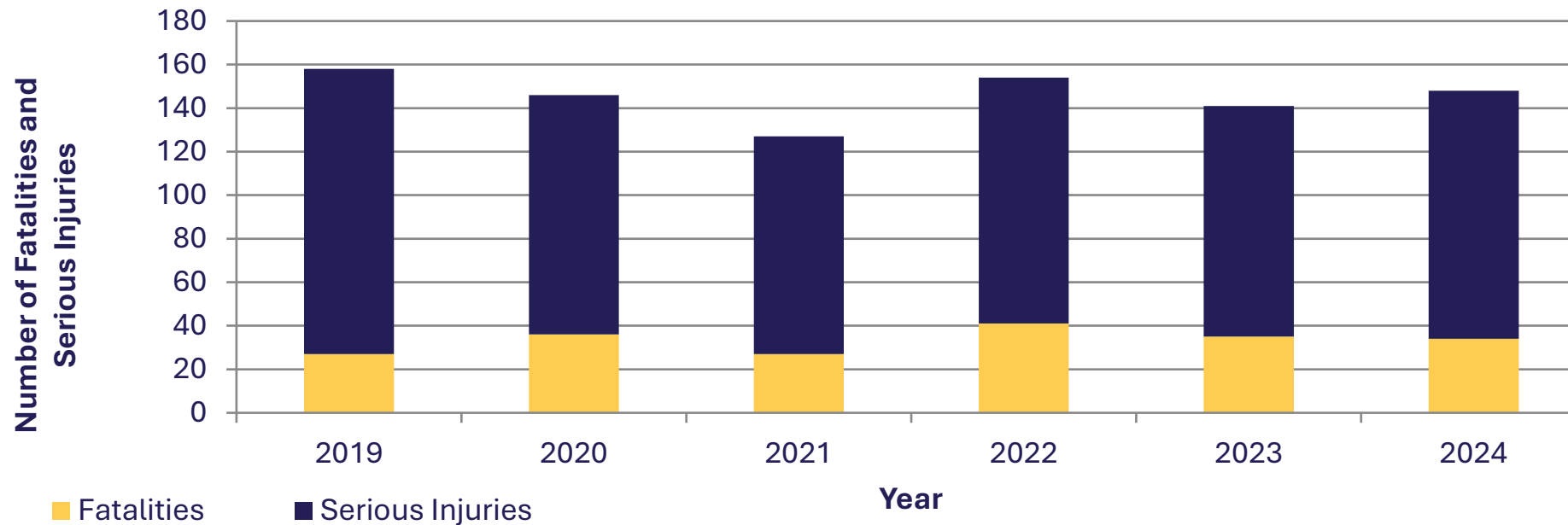
Motorcycles & ATVs



Potential Emphasis Area Trends



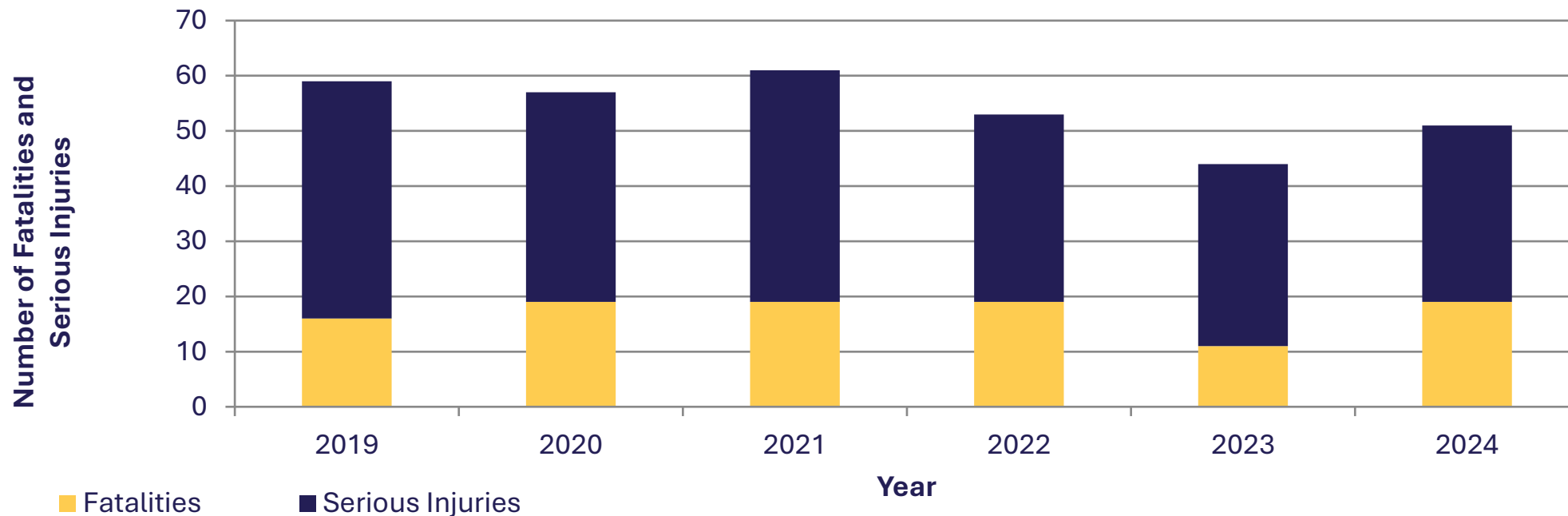
Motorcycle Involved	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	11.6%	13.4%	↑
% of total serious injuries	12.2%	15.1%	↑



Potential Emphasis Area Trends



ATV Involved	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	6.4%	6.9%	↑
% of total serious injuries	4.7%	5.0%	↑





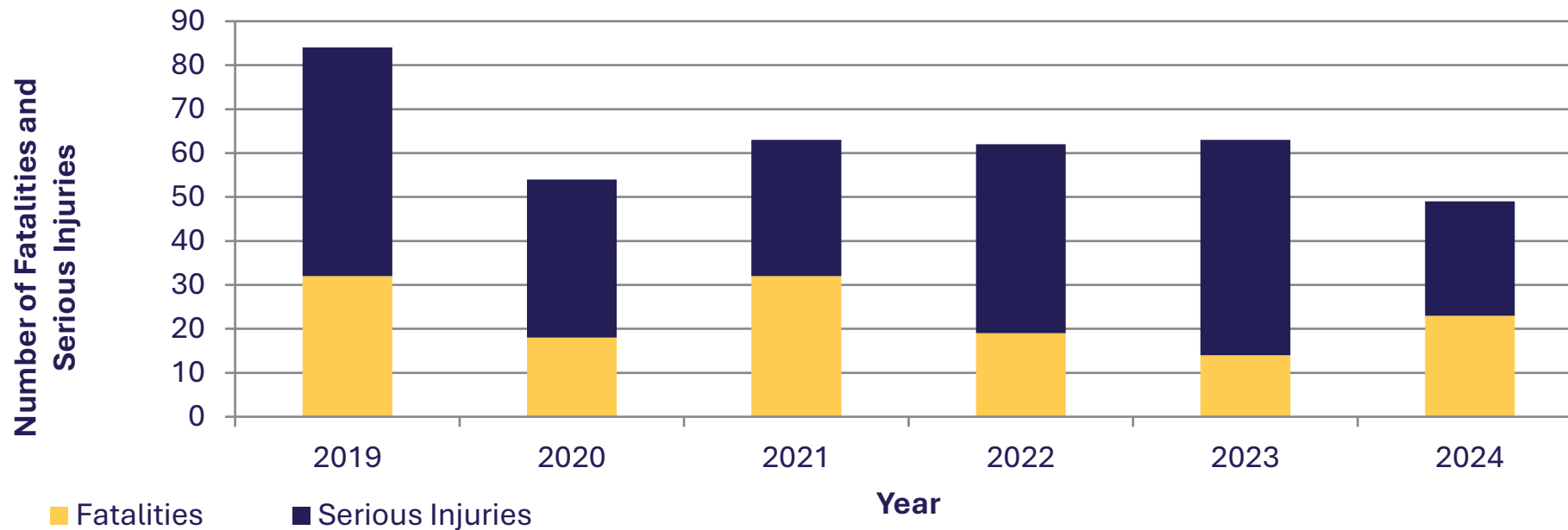
Vulnerable Road Users



Potential Emphasis Area Trends



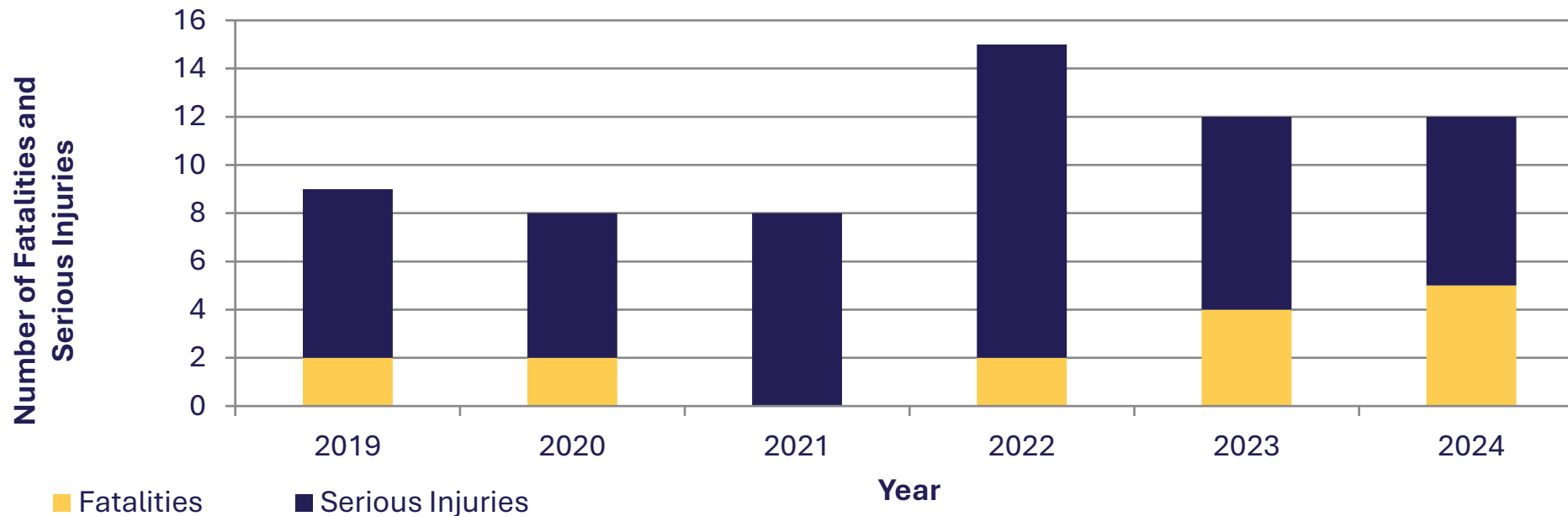
Pedestrians	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	9.1%	9.2%	↑
% of total serious injuries	5.7%	5.3%	↓



Potential Emphasis Area Trends



Bicycle	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	0.9%	1.0%	↑
% of total serious injuries	1.1%	1.1%	-





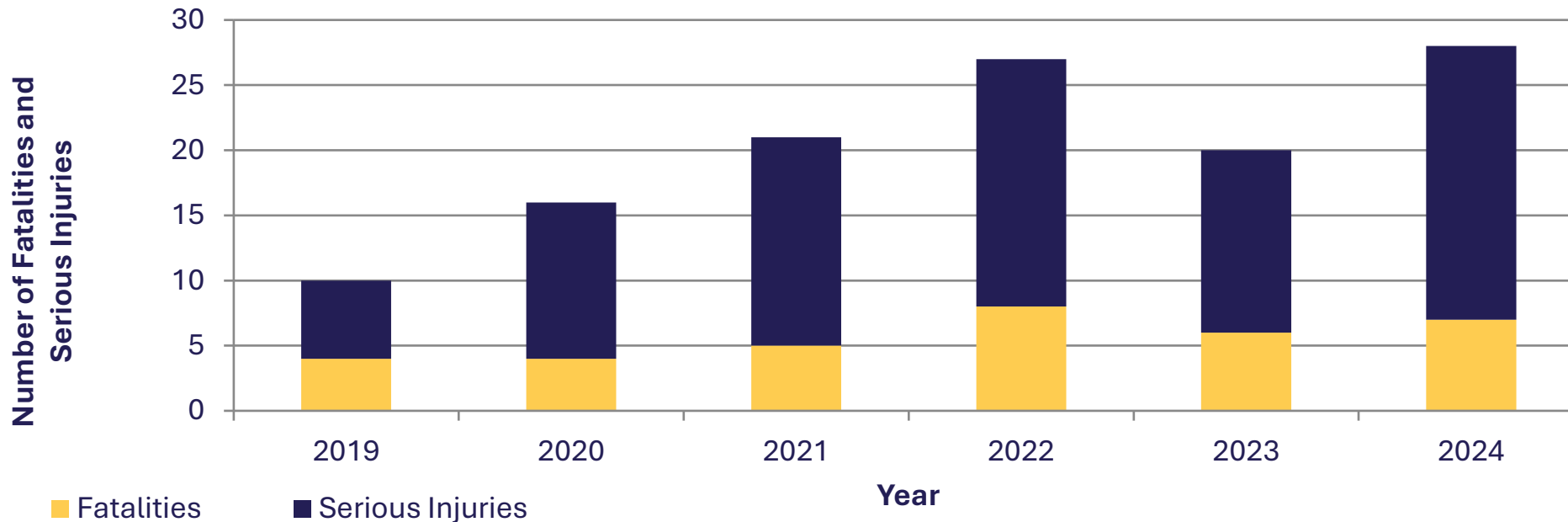
Work Zones



Potential Emphasis Area Trends



Work Zone Related	2022-2026 SHSP '15-'19 Crashes	2027-2031 SHSP '19-'24 Crashes	Trend
% of total fatalities	1.6%	2.3%	↑
% of total serious injuries	1.1%	2.0%	↑





Applying the Safe System Approach



Viewing Proposed Emphasis Areas Based on the Safe System Approach



- Safer People
 - Occupant Protection – 32.2% combined fatalities and serious injuries
 - Older Drivers (65+) Involved – 23.2% combined fatalities and serious injuries
 - Young Drivers (15-20 years old) Involved – 17.0% combined fatalities and serious injuries
 - Alcohol and Drug Related (Impaired Driving) – 14.8% combined fatalities and serious injuries
 - Pedestrians – 6.3% combined fatalities and serious injuries
 - See Vulnerable Road User Safety Assessment



Proposed Emphasis Areas Based on the Safe System Approach



- Safer Vehicles
 - Motorcycles – 14.6% combined fatalities and serious injuries
- Safer Roads
 - Roadway Departure – 52.3% combined fatalities and serious injuries
 - Intersections – 19.5% combined fatalities and serious injuries
 - Work Zone Related – 2.0% combined fatalities and serious injuries



Proposed Emphasis Areas Based on the Safe System Approach



- Safer Speeds
 - Speeding and Aggressive Driving – 69.3% combine fatalities and serious injuries
- Post Crash Care
 - Improving Highway Safety Data
 - Traffic Incident Management
 - Improving Emergency Response Times





Next Steps

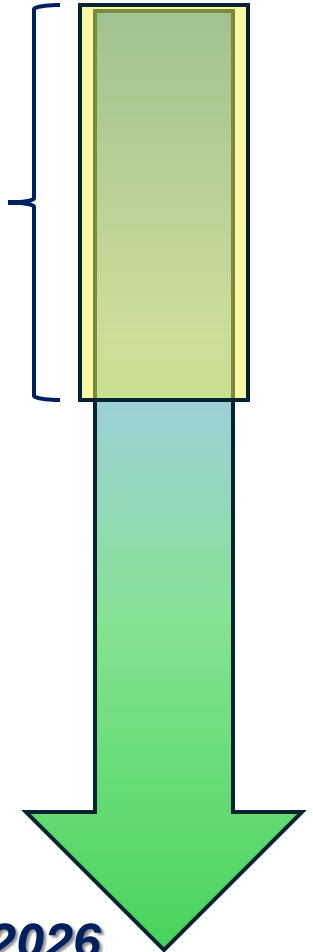


Next Steps



- Current progress
 - SHSP Update Kick-off meeting
 - Analysis of fatalities and serious injuries
 - SHSP goal and objective review
 - Emphasis area selection
- Next steps
 - Evaluate past performance
 - Identify emphasis area performance-based objectives
 - SHSP coordination with other safety and transportation plans
 - Identify strategies
 - Prepare draft plan and submit to SMTF for review
 - Address comments and finalized plan
 - Obtain SMTF approval
 - Obtain Governor's approval (or designee) & FHWA approval of process

May 2026
We are here



Dec. 2026
Plan approval



Thank you!

*Marsha K. Mays, P.E., WVDOH,
Strategic Safety Planning & Analysis Engineer
Marsha.K.Mays@wv.gov*

