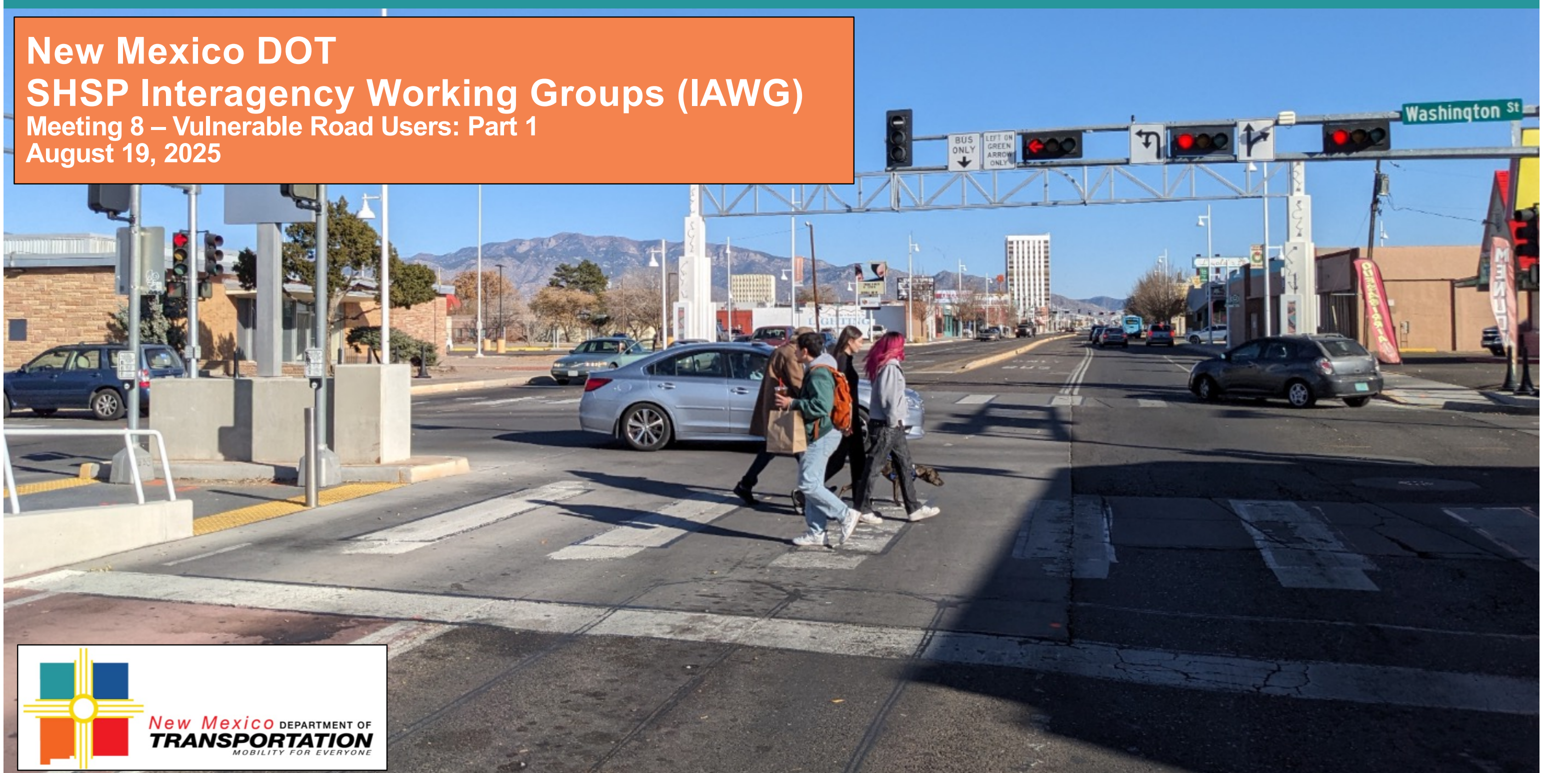
New Mexico DOT
SHSP Interagency Working Groups (IAWG)
Meeting 8 – Vulnerable Road Users: Part 1
August 19, 2025



New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

Housekeeping notes

- Meeting is being recorded
- Please keep yourself on mute when not speaking to avoid background noise
- Video off unless speaking
- The meeting is expected to take 60 minutes; time for questions in the middle and end
- Chat is being monitored for questions
- Joining from a different Zoom account → Richard Perce: richard@anthropop.com
- Tech issues: please direct message Richard in the Zoom chat or you can email at richard@anthropop.com

Agenda (60 min)

Recap from July 17th (4 min)

Questions from the chat (4 min)

Vulnerable Road Users data categories (6 min)

Breakout Instructions (3 min)

Breakout rooms with Mural (30 min)

Next steps (4 min)

Q&A (8 min)

Recap from 7/17/2025 meeting

- Review of Intersections Part 2
  - Intersection Related, Rail Involvement
- Safe System Approach and Design Hierarchy
- Mural – implementation countermeasures

EMPHASIS AREA: **INTERSECTION**

SAFE **ROADS**

Design protected intersection features for vulnerable road users

- **Advanced Infrastructure:** Protected intersections, setback stop lines, dedicated signal phases.
- **Separated Facilities:** Physically separated bike lanes, pedestrian refuge islands (min. 8 ft), raised crosswalks.
- **Accessibility Features:** Accessible pedestrian signals, countdown timers with audio, tactile guidance systems.
- **Conflict Reduction:** Corner visibility (daylighting), no right-turn-on-red, dedicated pedestrian phases.

Improve intersection visibility and lighting

- **Smart Lighting:** Adaptive LEDs based on weather, time, and traffic.
- **Intersection Highlighting:** Overhead lights, backlit signs, lit medians.
- **Retroreflective Features:** High-visibility markings and signal hardware.
- **Emergency Lighting:** Backup systems and portable units.

Install advanced warning signs and enhanced pavement markings

- **Multi-language Support:** Bilingual, international symbol usage.
- **Enhanced Visibility Materials:** Wet-weather markings, LED pavement markers, thermoplastics with glass beads.
- **Intersection ID:** Advance, overhead guide signs, street name signs.
- **Behavioral Cues:** Colored, rumble strips, optical illusions.

Convert high-risk intersections to roundabouts

- **Enhanced Visibility:** Central, approach lighting systems, enhanced pavement markings.
- **Pedestrian Accommodations**: Pedestrian, tactile guidance systems, enhanced crossing signals.
- **Cyclist Integration:** Separated, dedicated cyclist

SAFE **ROAD USERS**

Enhance intersection safety education campaigns

- **Age-Specific Programs:** Senior refresher courses (intersection focus), teen education with peer mentoring, tech updates for middle-aged drivers.
- **Community Partnerships:** School traffic safety programs, employer-led training, healthcare outreach for at-risk groups.
- **Professional Development:** Continuing education for engineers, specialized training for law enforcement and emergency responders.
- **Multilingual Resources:** Multi-language materials, culturally tailored messaging, community liaison support.

Implement targeted enforcement at high-risk intersections

- **Automated Enforcement:** Red-light, speed, and wrong-way detection.
- **Behavioral Intervention:** Warnings, education, and diversion programs.
- **Equity Considerations:** Community input, reinvested revenue, alternative penalties.
- **Intersection Performance Monitoring:** Track enforcement impact, adjust strategies by results, share intersection safety data transparently.

Provide specialized training for high-risk drivers

- **Age and Medical Condition Programs:** Senior vision/reaction checks, medication impact education, training for medical conditions, adaptive equipment guidance.
- **Commercial Driver Training:** Truck/bus safety, delivery hazards, periodic retraining.
- **High-Risk Behavior:** Courses for aggressive, impaired, and distracted driving.
- **Skill-Based Training:** Hazard perception, emergency maneuvers, tech & weather training.

Develop public awareness programs about common intersection crashes

- **Crash & Seasonal Education:** Training on left-turn and rear-end crashes, pedestrian visibility, winter driving, and holiday safety.
- **Media & Tech Integration:** Social media campaigns, crash videos, safety apps, real-time

SAFE **SPEEDS**

Install speed management features approaching intersections

- **Physical Speed Control Devices:** Install rumble strips, humps, and lane narrowing to physically slow vehicles before intersections.
- **Geometric & Environmental Design:** Shape road layout with curves, chicanes, and landscaping to naturally influence driver speed and attention.
- **Visual Communication Tools:** Use signs, countdown markings, and multimodal pavement symbols to inform and guide drivers near intersections.
- **Context-Sensitive Design Strategies:** Customize intersection treatments for rural-urban transitions, business zones, residential areas, and transit corridors.

Implement automated speed enforcement at high-risk intersections

- **Advanced Detection:** Multi-lane speed tracking, red-light camera integration, night vision, and license plate recognition.
- **Community & Equity:** Public input on camera placement, safety-focused revenue use, transparent policies, and fair penalties.
- **Progressive Enforcement:** Warnings for minor violations, scaled fines, safety education, and first-time offender diversion.
- **Monitoring & Legal Framework:** Program evaluations, fast citation processing, clear appeals, and court coordination.

Use dynamic speed feedback signs

- **Adaptive Feedback:** Speed-based messaging, weather-responsive guidance, traffic-adaptive signals, and color-coded alerts.
- **Multi-Modal & Behavioral:** Feedback for various vehicle types, motorcycle detection, positive reinforcement, and peer comparisons.
- **Data & Analytics:** Anonymous speed tracking, effectiveness monitoring, predictive modeling, and public access to data.
- **Community & Maintenance:** Public involvement, custom messaging, solar-powered signs, and vandal-resistant designs.

Create speed transition zones before intersections

- **Graduated Speed Zones:** Step-down speed limits with clear signs, distance-based reductions, and enforcement at transitions.

SAFE **VEHICLES**

Promote intersection crash avoidance technologies

- **Driver Assistance Systems:** Intersection warnings, emergency braking, blind spot alerts, and motorcycle detection.
- **Tech Incentives:** Insurance discounts, fleet safety requirements, public awareness, and aftermarket programs.
- **Commercial Vehicle Focus:** Safety tech for trucks, buses, delivery, emergency vehicles, and motorcycles.
- **Monitoring & Improvement:** Effectiveness reviews, crash data analysis, tech upgrades, and retrofit programs.

Support red-light violation warning systems

- **Infrastructure & Communication:** Signal timing broadcasts, approach warnings, vehicle detection, and real-time traffic integration.
- **Behavioral Education:** Peer messaging, positive reinforcement, driver training, and warning system education.
- **Technology & Analytics:** Predictive violation detection, behavior analysis via machine learning, and crash reduction tracking.
- **Commercial & Emergency Vehicles:** Fleet monitoring, driver scoring, scoring, emergency alerts (preemption), and responder coordination.

Implement vehicle-to-infrastructure communication

- **Deployment & Integration:** Roadside units at high-risk intersections, signal integration, emergency vehicle comms, traffic center coordination.
- **Real-Time Data:** Traffic updates, intersection status, weather and construction info, predictive traffic tools.
- **Privacy & Reliability:** Encrypted channels, anonymous data, cybersecurity protocols, and reliability audits.
- **Scalability & Performance:** Phased rollout, cost-effective solutions, expansion partnerships, crash reduction tracking, and cost-benefit analysis.

Promote automated emergency braking systems

- **Regulatory Support:** AEB standards for fleets, new vehicles, retrofits, and regulation alignment.
- **Intersection Systems:** AEB for crashes.

POST-CRASH **CARE**

Optimize emergency response routes to high-crash intersections

- **Route Planning:** GIS-based analysis, traffic pattern review, redundant routing, and coordination across fire, police, and EMS.
- **Real-Time Optimization:** Dynamic GPS routing, live traffic monitoring, and integration with traffic management centers.
- **Multi-Agency Coordination:** Mutual aid planning, resource sharing, unified command, and cross-agency training.
- **Performance & Community Planning:** Response time tracking, route effectiveness, land use for access, and public education on right-of-way.

Develop intersection-specific crash response plans

- **Site Planning:** High-risk intersection plans, geometry, hazards, and equipment needs.
- **Agency Command:** Unified structure, clear roles, communication, and joint training.
- **Incident Management:** Traffic control, alternate routes, public info, and coordination.
- **Medical Response:** Trauma centers, landing zones, mass casualty, and hazmat protocols.

Improve crash data collection at intersections

- **Automated Data Collection:** Crash reconstruction tech, drones for scene documentation, automated reporting, and GPS accuracy systems.
- **Real-Time Communication:** Integration with traffic systems, automatic alerts, agency data sharing, and mobile terminals.
- **Accuracy & Standardization:** Standardized reporting, quality assurance, timeliness protocols, and multi-agency data agreements.
- **Predictive Analytics:** Machine learning for crash prediction, pattern recognition, video analysis, and near-miss detection.

Enhance coordination between emergency responders

- **Communication:** Interoperable radios, unified platforms, real-time sharing, and dispatch

NMDOT SHSP website

We need your help! Here are a few ways for people to get involved:

- Official sign-up for IAWG
- Attend meetings and join us at local events
- Past meeting materials posted
- Updated VRU report

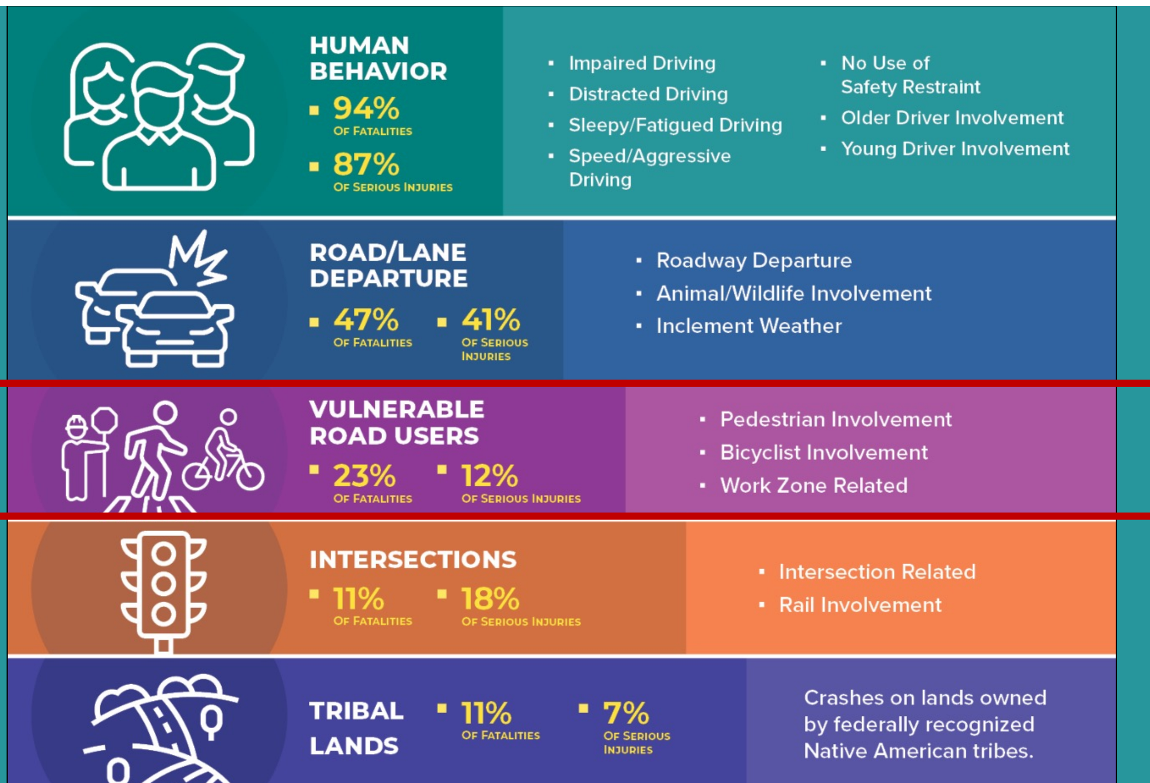
https://newmexicodotshsp.com/

Questions from the chat…?

Emphasis Areas from 2021 SHSP

Safety Emphasis Area*	% Fatalities in New Mexico (2,208 total from 2019-2023)	% Serious Injuries in New Mexico (5,349 total from 2019-2023)
Impaired Driving	55.9%	18.6%
No Use of Safety Restraint	51.3%	27.3%
Roadway Departure	41.5%	35.2%
Speed/Aggressive Driving	41.2%	46.0%
Distracted Driving	38.5%	44.5%
Pedestrian Involvement	21.5%	9.5%
Heavy Vehicle Involvement	17.6%	10.1%
Older Driver Involvement**	16.3%	16.6%
Young Driver Involvement**	14.7%	18.7%
Motorcycle Involvement	12.2%	13.5%
Tribal Lands	11.3%	7.4%
Intersection Related***	11.1%	18.3%
Inclement Weather	8.9%	10.9%
Sleepy/Fatigued Driving	1.9%	2.4%
Bicyclist Involvement	1.8%	2.2%
Transit/Bus Involvement	0.6%	0.9%
Animal/Wildlife Involvement	0.4%	0.5%
Work Zone Related	0.2%	0.2%
Rail Involvement	0.05%	0.02%

*Multiple emphasis areas may be assigned to one crash - they are not mutually exclusive.
**Older drivers are of age 65 and over. Younger drivers are of age 15-20.
***Data on intersection related emphasis area is unavailable for 2019 crash data. Percentage may be underrepresented.



Note: These emphasis area groups are not mutually exclusive.

Vulnerable Road Users (VRU) Data Categories

(2019-2023; 518 fatalities and 625 serious injuries)

Pedestrian Involvement

Any crash involving a driver of a vehicle within the public right-of-way including any person on foot, sitting, lying down, or operating a mobility assistance device.

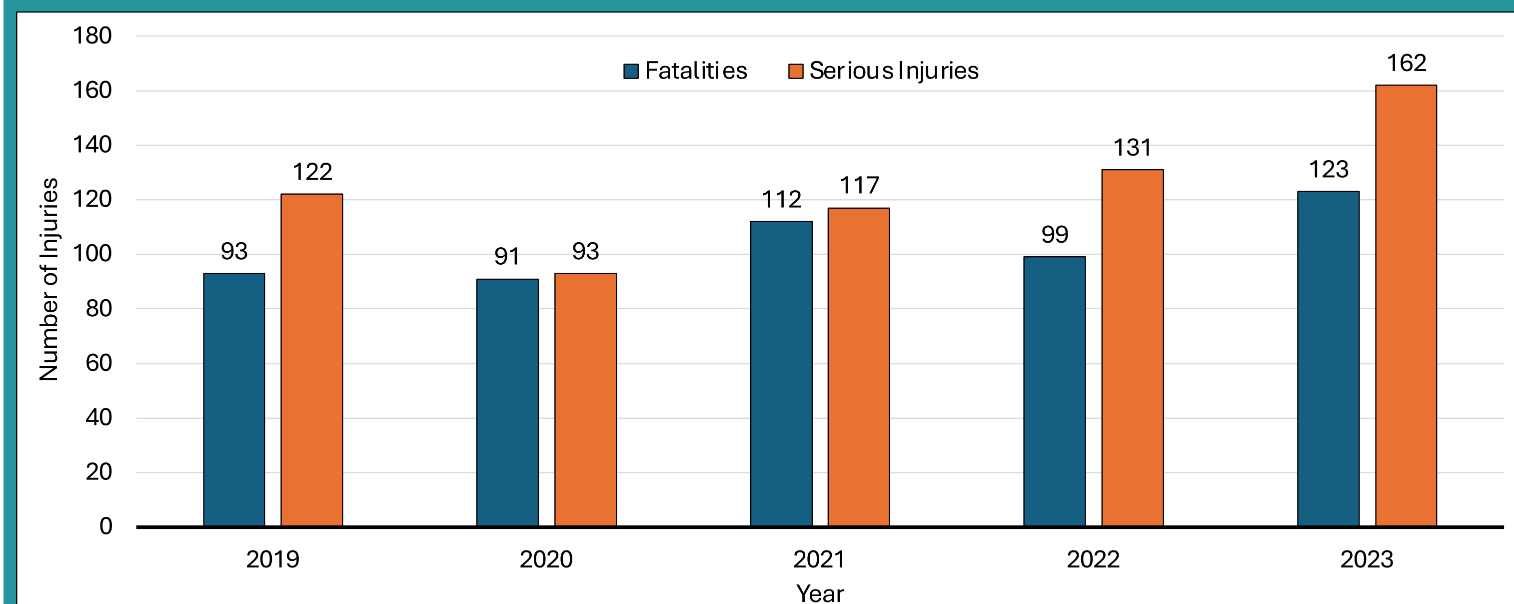
Bicyclist Involvement

Any crash involving a bicyclist/pedalcyclist-vehicle encounter.

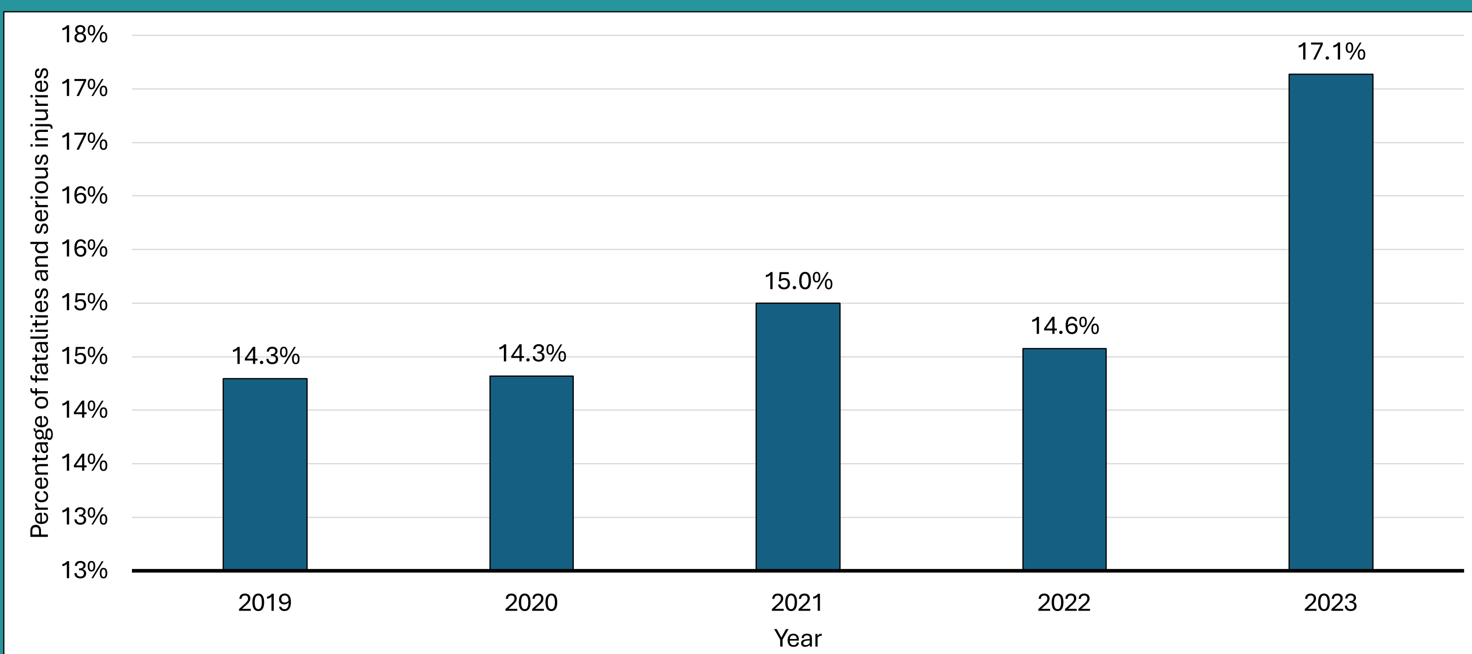
Work Zone Related

Any crash that occurs with work zone construction or involves maintenance equipment.

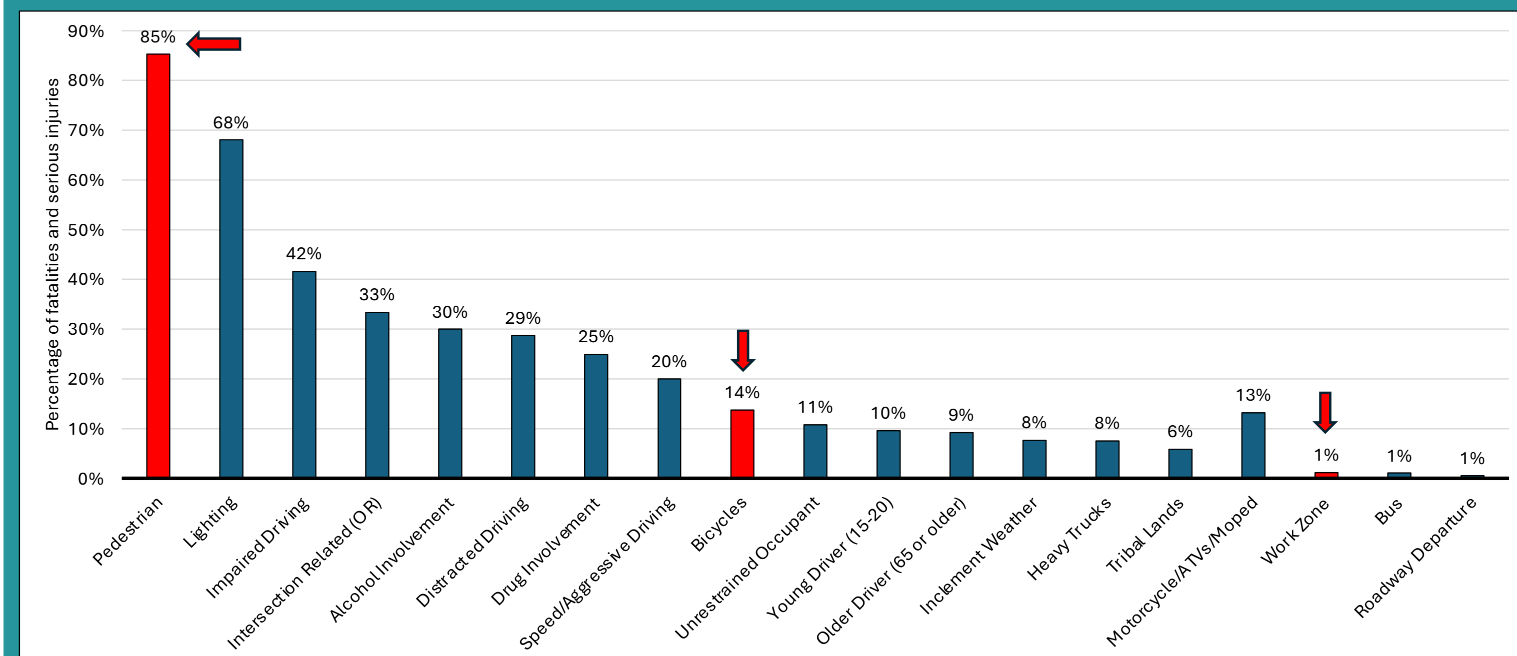
Trend of VRU Data Categories - Frequency
(2019-2023; 518 fatalities and 625 serious injuries)



VRU Fatalities and Serious Injuries as Percentage of All Fatalities and Serious Injuries per Year

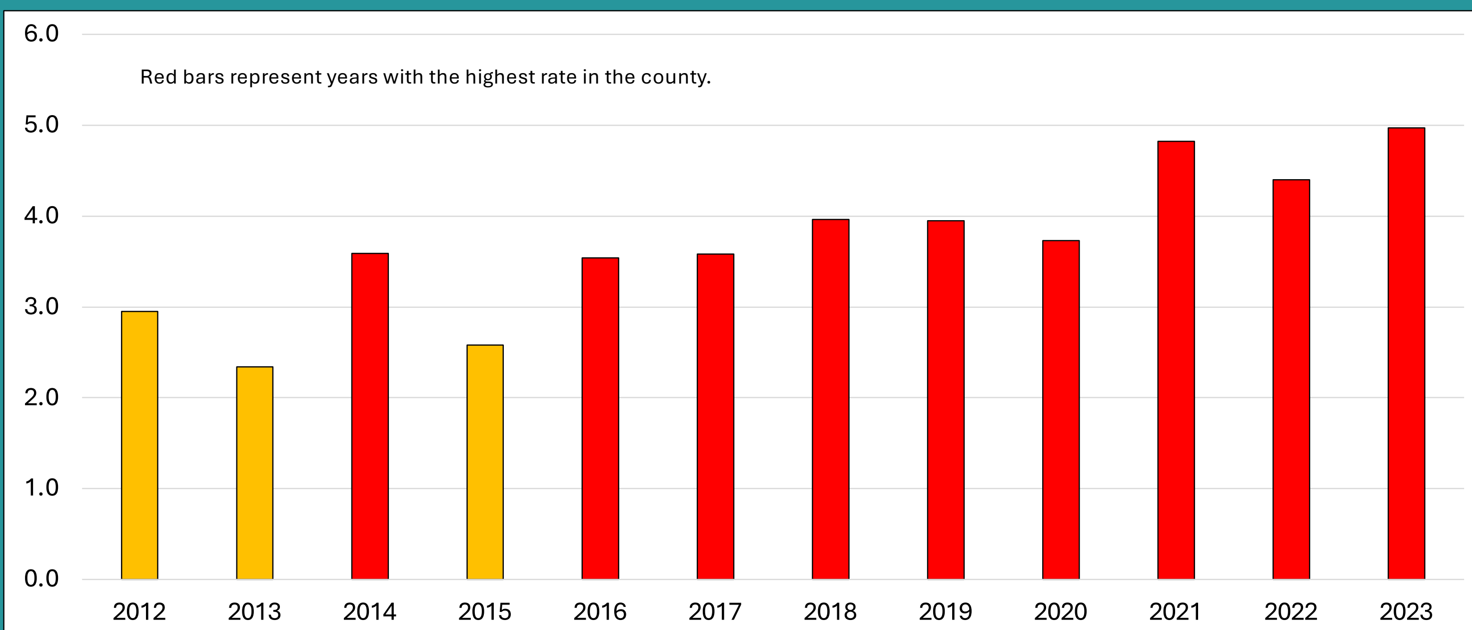


Overlap of VRU with other data categories



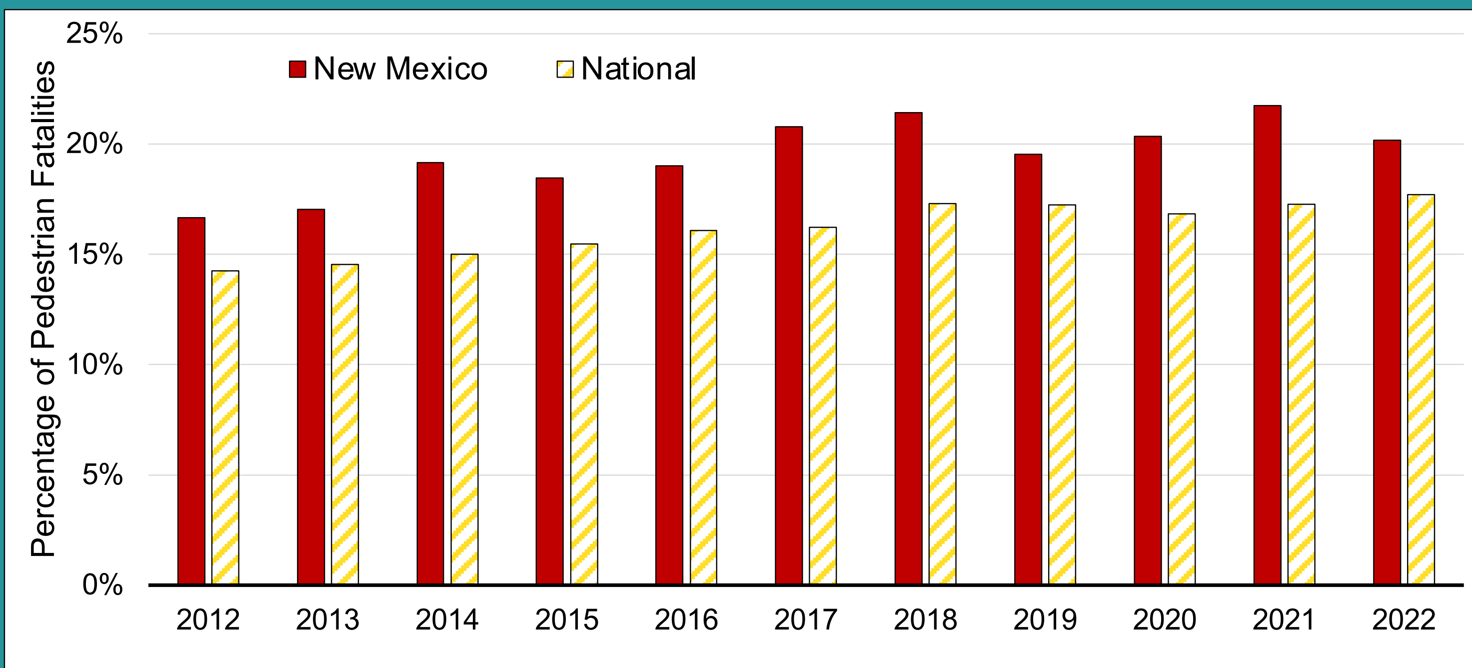
Note 1: The sum of these percentages exceeds 100% since individual crashes may be classified under different EAs - they are not mutually exclusive.
Note 2: Railroad and sleepy/fatigued driving excluded from data categories due to numbers being below 0.5%.

Pedestrian Fatality Rate per Capita

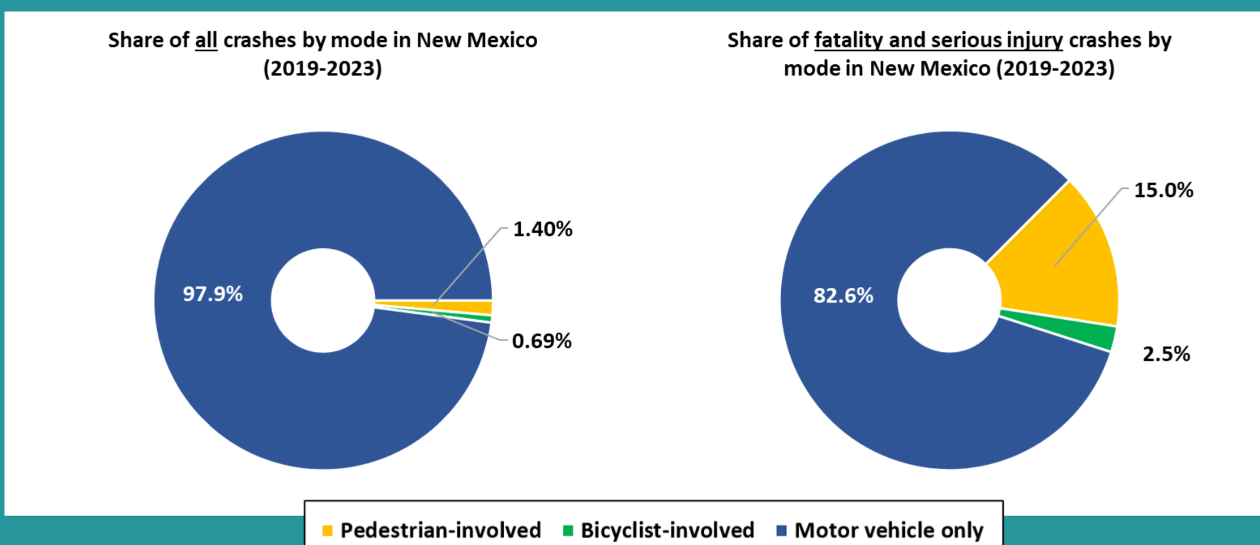


Source: https://www-fars.nhtsa.dot.gov/states/statespedestrians.aspx

Pedestrian Fatalities as a Percentage of Total Fatalities: New Mexico vs. National



Pedestrian-involved crashes are 1.4% of all severity crashes but 15.0% of fatal and serious injury crashes

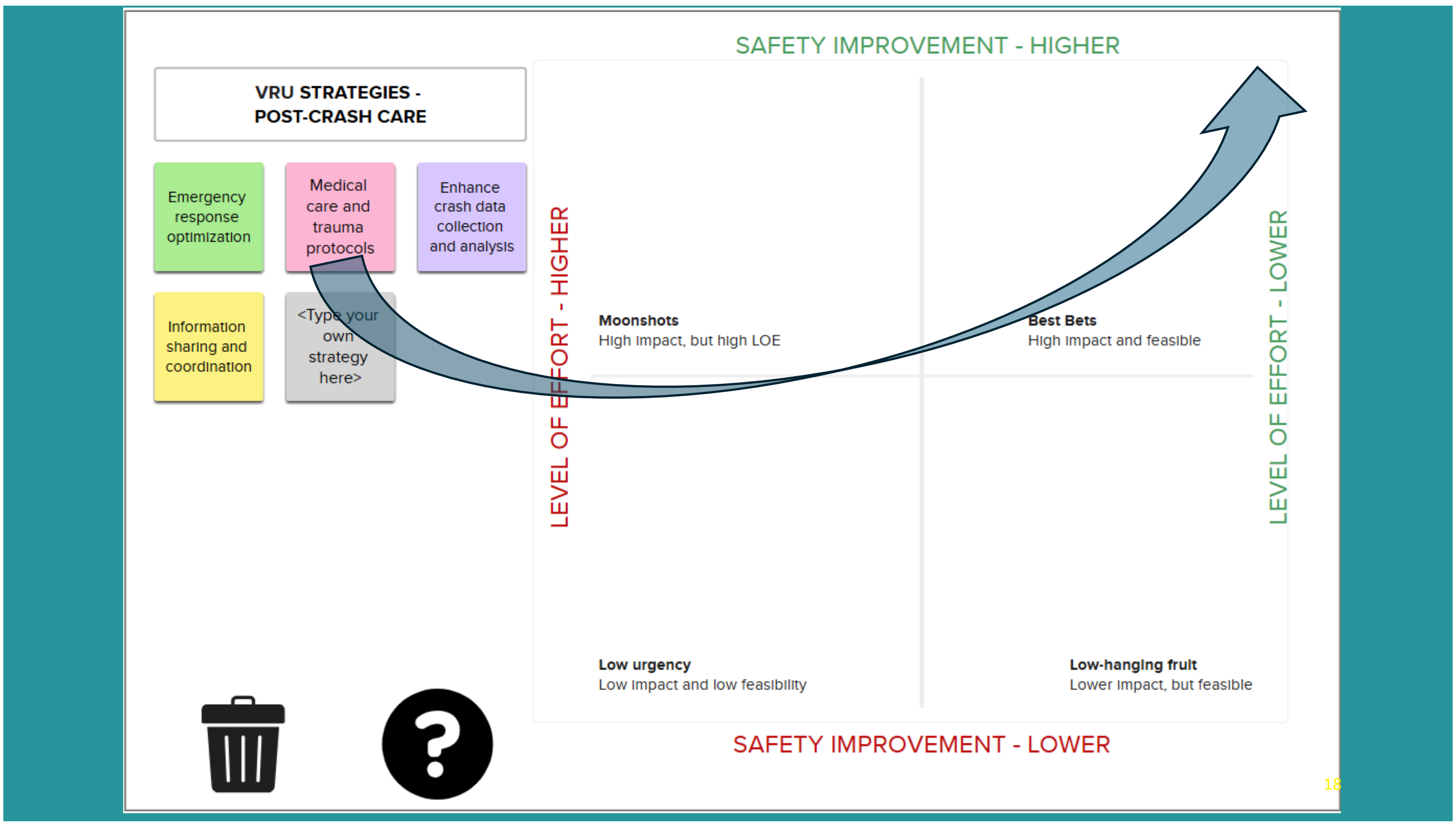


Note: Numbers in the ring charts do not add up to 100% due to rounding.

Discussion – Mural

- Share new or missing:
    - Strategies
    - Ideas
- Comprehensive approach
- Feedback will steer the implementation guide with specific countermeasures
    - High safety improvement + low LOE = more desirable

Facilitator will insert Mural link in each breakout room for attendees to access the Mural.


VRU STRATEGIES -
POST-CRASH CARE
Emergency response optimization
Medical care and trauma protocols
Enhance crash data collection and analysis
Information sharing and coordination
<Type your own strategy here>
SAFETY IMPROVEMENT - HIGHER
SAFETY IMPROVEMENT - LOWER
LEVEL OF EFFORT - HIGHER
LEVEL OF EFFORT - LOWER
Moonshots
High impact, but high LOE
Best Bets
High impact and feasible
Low urgency
Low impact and low feasibility
Low-hanging fruit
Lower impact, but feasible

EMPHASIS AREA:

VULNERABLE ROAD USERS

	STRATEGY
SAFER **ROADS**	Install dedicated pedestrian/bicycle infrastructure
	Enhance visibility and lighting
	Create separated/protected paths and crossings
	Implement infrastructure and geometric improvements
	Comprehensive data collection and studies
	Create/update standards and policies with VRU focus
	Strengthen collaboration with local agencies
	Motorcycle-friendly infrastructure design
SAFER **ROAD USERS**	Comprehensive VRU safety education programs
	Enforcement and legal framework enhancement
	Public awareness and community outreach
	School and institutional programs
SAFE **SPEEDS**	Speed limit establishment and management
	Speed enforcement and automated systems
	Speed management devices and infrastructure
SAFE **VEHICLES**	Specialized vehicle safety
	Advanced VRU detection and communication technology
	VRU-focused vehicle design and safety standards
	Intelligent vehicle operation and driver support systems
POST-CRASH CARE	Emergency response optimization
	Medical care and trauma protocols
	Enhance crash data collection and analysis
	Information sharing and coordination

Questions on goals for breakout rooms or strategies?

Head to your breakout rooms – 30 minutes!
See you back here at 2:48PM

Your assignments/homework

- Share recommendations with the project team
- Share the project website with your networks
  - https://newmexicodotshsp.com/
- Propose future meeting topics
- Recruit more IAWG members – direct them to the website!
- Support implementation of strategies
- Review and provide input on upcoming deliverables
- Attend next meeting:
  - Wednesday, August 28th, 2025 @ 10AM
    - Topic: Vulnerable Road Users (VRU) – Part 2

Questions from the chat…?

Contact info

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