

# Revolutionizing Road Safety: Overcoming Today's Challenges with Tomorrow's Tech

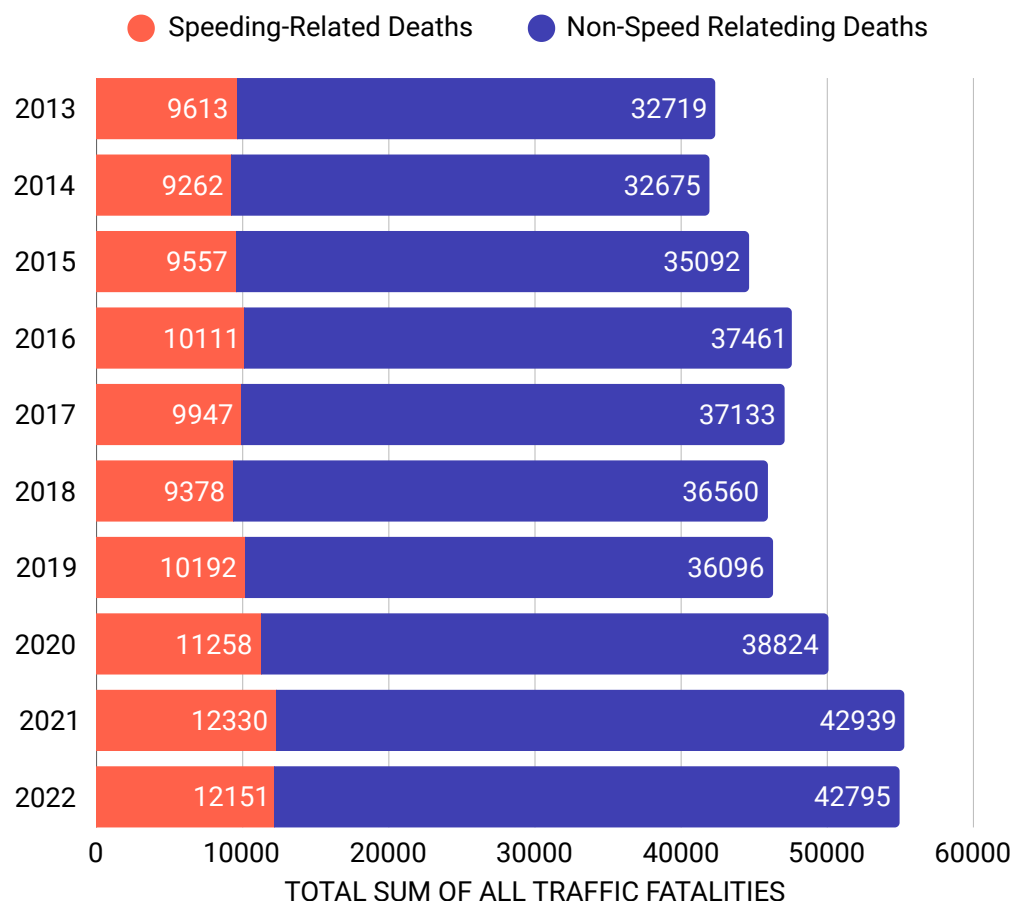
## Tackling High-Risk Areas with Smarter Enforcement and Infrastructure

Despite advancements in vehicle safety, road fatalities continue to rise, particularly in high-risk areas such as school zones, work zones, and intersections with frequent red-light violations. Speeding remains a factor in nearly one-third of all traffic deaths, and pedestrian fatalities have reached their highest levels in decades.

However, proven enforcement strategies — such as automated speed and red-light cameras — are reliably reducing dangerous behaviors and saving lives. In this infographic, we examine the current landscape of road safety challenges and new technologies and trends that drive progress.

From 2013 to 2022, nearly a third (26%-29%) of all traffic fatalities in the US, were speeding-related\*.

Source:  
National Highway Traffic Safety  
Administration (NHTSA),  
FARS Database



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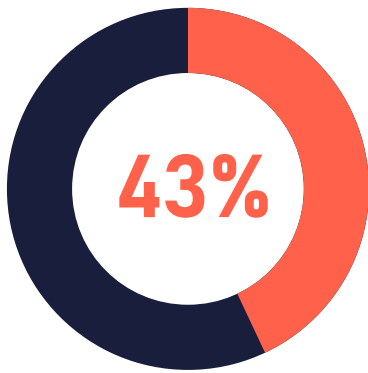


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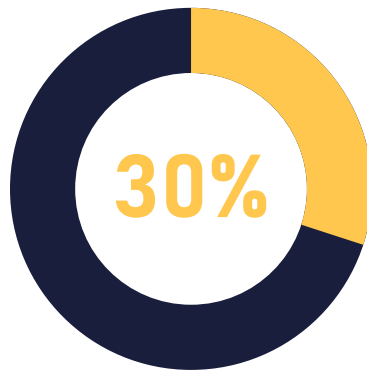


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Percentage (%) of All Driver and Passenger Deaths That Were Speeding-Related, 2015-2019:



Teen drivers and passengers  
(Ages 13-19)



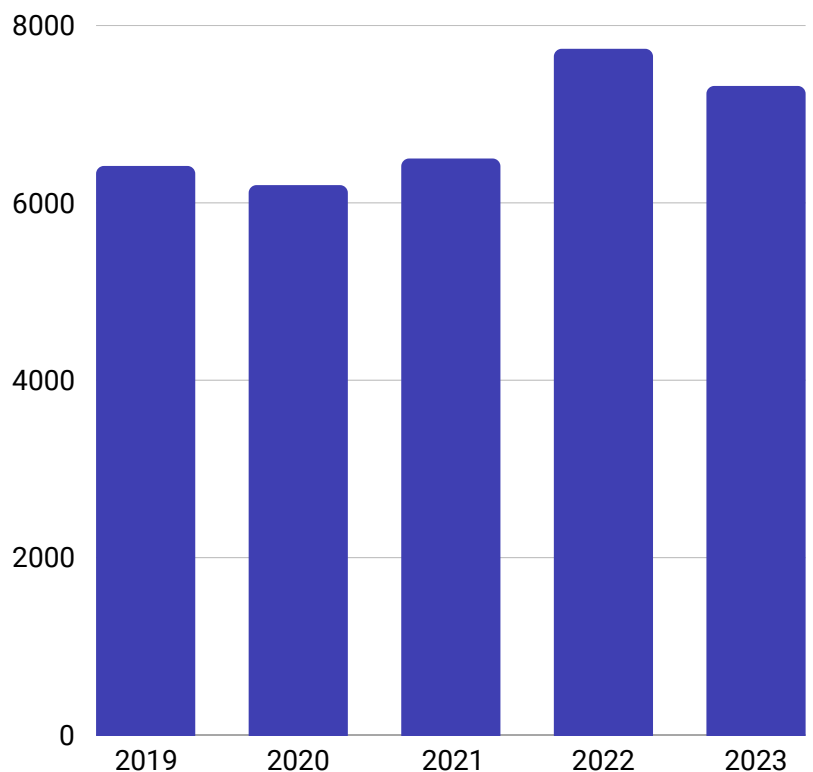
Drivers and passengers  
(Ages 20+)

1.25 million

1.25 million Road Traffic Deaths occur every year. It's the # 1 cause of death in the US, among those aged 15-29.



The Governors Highway Safety Association (GHSA) projects 7,318 pedestrians were killed in motor vehicle crashes in 2023. **This represents a 5.4% decrease from 2022 but is still 14.1% above 2019, the most recent pre-pandemic year.**



[https://www.ghsa.org/resource-hub/pedestrian-traffic-fatalities-state-2023-preliminary-data-january-december?utm\\_source=chatgpt.com](https://www.ghsa.org/resource-hub/pedestrian-traffic-fatalities-state-2023-preliminary-data-january-december?utm_source=chatgpt.com)

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## School Zone Facts



- More than 1 in 3 drivers speed in active school zones.
- 25,000+ children are injured in school zone crashes each year.
- Nearly 80% of school zones lack adequate traffic control measures.

### Main Factors:

- Distracted Driving – Many drivers are using phones, reducing reaction time.
- Inadequate Signage & Markings – Poorly visible signs lead to compliance issues.
- Lack of Enforcement Without proper monitoring, speeding remains a threat.

## Work Zone Facts

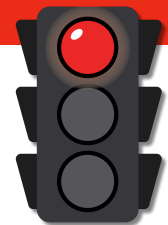


- 8,017 work zone crashes occurred in Michigan in 2023, one of the states with the highest crash rate, leading to 24 fatalities and 1,896 injuries
- Nationally, 891 fatalities and 37,701 injuries occurred in work zone crashes in 2022.

### Main Factors:

- Driver Inattention – Phone use and distractions reduce reaction time in work zones.
- Speeding – Drivers often ignore reduced speed limits, increasing crash risks.
- Complex Traffic Patterns – Sudden lane shifts and narrow work areas make navigation difficult.
- Limited Visibility – Night work and changing conditions make workers harder to see.

## Red Light Running Facts



- 1,149 fatalities occurred in 2022 due to red light running in the U.S.
- Over half of those killed were pedestrians, bicyclists, or occupants of other vehicles.
- More than 107,000 injuries resulted from red light running crashes in 2022.

### Main Factors:

- Intentional Red Light Running: Some drivers deliberately run red lights due to impatience, distracted driving or risk-taking behaviors.
- Inadequate Enforcement: Limited police presence at intersections leads to reduced deterrence for potential violators.
- Public Opposition to Automated Enforcement: Concerns about privacy and revenue generation can often hinder the implementation of red light cameras.

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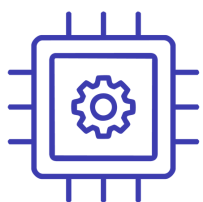


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## Top 5 Road Safety Tech Trends that will shape the future



### 1. Next-Gen Enforcement Tech

Advanced enforcement cameras now integrate machine learning and AI to detect a range of violations—from speeding and mobile phone use to seatbelt non-compliance—while state-of-the-art tracking radar and LiDAR technologies, including super-resolution imaging, enable simultaneous multi-lane monitoring and deeper insights into driver behavior.



### 2. Cutting-Edge Auto-Pilot & Anti-Crash Systems

Modern vehicles leverage high-definition cameras and ultrasonic sensors combined with AI-driven algorithms to continuously monitor road conditions, predict hazards, and autonomously adjust driving behavior to prevent collisions and optimize safety.



### 3. Integration with Big Data and Predictive Analytics

Automated enforcement systems are increasingly integrated with big data platforms, enabling predictive analytics to identify high-risk areas and optimize resource deployment. This integration aligns with broader smart city objectives, creating safer and more efficient urban environments.

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### 4. Implementation of ATE and AV Pilot Programs

Across North America, jurisdictions are launching pilot programs to test and refine automated traffic enforcement and autonomous vehicle technologies. For example, in 2025, the Town of Grand Valley, Ontario, initiated a two-year Automated Speed Enforcement pilot focused on enhancing road safety in community and school zones, while other municipalities such as Jacksonville, Florida, are exploring autonomous vehicle programs to create safer, smarter urban mobility systems.



### 5. Legislative Support, Social Equity and Public Awareness

Increased legislative backing and public awareness campaigns are facilitating the deployment of automated enforcement systems. For example, Oakland, California, is implementing up to 18 speed safety camera systems under Assembly Bill 645, with installations expected in Fall/Winter 2025. The initiative focuses on equity and privacy, with small fines for speeds 11 mph over the limit and provisions for fine reductions based on ability to pay.