

ADDRESSING AMERICA'S TRAFFIC SAFETY CRISIS: EXAMINING THE CAUSES OF INCREASING U.S. TRAFFIC FATALITIES AND IDENTIFYING SOLUTIONS TO IMPROVE TRAFFIC SAFETY



TRIP

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Founded in 1971, [TRIP](#)® of Washington, DC, is a nonprofit organization that researches, evaluates and distributes economic and technical data on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering and construction; labor unions; and organizations concerned with efficient and safe surface transportation.

Traffic fatalities fell in 2023 for the second straight year, three years after traffic fatalities surged in 2020 and 2021 as the nation grappled with the impact of the COVID-19 pandemic. However, despite the modest decrease in traffic fatalities over the past two years, traffic fatalities in 2023 remained significantly higher than a decade ago.

This report documents trends in traffic fatalities from 2013 to 2023 at the national and state levels, examines causes for the increase in traffic fatalities, and prescribes a broad, comprehensive approach to reducing traffic fatalities in the U.S.

RECENT TRAFFIC FATALITY TRENDS

In 2013, there were 32,893 traffic fatalities in the U.S., including motorists, motorcyclists, pedestrians and bicyclists, with traffic fatalities occurring at a rate of 1.09 per 100 million vehicle miles of travel (VMT).¹

The transportation impact of COVID-19 was significant, as most activity and travel were curtailed starting in March 2020 in an effort to slow the spread of the virus. Even though U.S. vehicle miles of travel (VMT) fell 11 percent from 2019 to 2020 as a result of the COVID-19 pandemic, U.S. traffic fatalities increased by seven percent from 2019 to 2020, from 36,355 to 39,007.² As a result of this significant increase in traffic fatalities in 2020 despite a significant decrease in VMT, the rate of U.S. traffic fatalities per 100 million VMT increased from 1.11 in 2019 to 1.34 in 2020 – an increase of 21 percent in just one year.³ In 2021, despite vehicle travel returning closer to pre-COVID levels, U.S. traffic fatalities and rate of traffic fatalities per 100 million VMT again increased to 43,230 and 1.38, respectively.⁴

In 2022, traffic fatalities dropped modestly to 42,514 and then fell again in 2023 to 40,990 – a five percent decrease from 2021 to 2023.⁵ However, despite decreases in fatalities in recent years, the number of traffic fatalities in 2023 was 25 percent higher than a decade earlier in 2013, while U.S. vehicle travel increased by nine percent from 2013 to 2023.⁶

Chart 1. Traffic Fatalities and Traffic Fatality Rate from 2013 to 2023.

U.S. TRAFFIC FATALITY AND FATALITY RATE PER 100 MILLION VEHICLE MILES OF TRAVEL									
	2013	2018	2019	2020	2021	2022	2023	2013-2023 Change	2021-2023 Change
Traffic Fatalities	32,893	36,835	36,355	39,007	43,230	42,514	40,990	+25%	-5%
Fatalities per 100 Million VMT	1.10	1.14	1.11	1.34	1.38	1.33	1.26	+15%	-9%

Source: TRIP analysis of National Highway Traffic Safety Administration and Federal Highway Administration data.

The report [Appendix](#) includes the number of fatalities and the fatality rate per 100 million VMT for every state and the District of Columbia for 2013 and 2018- 2023.

While motorcycle travel accounts for less than one percent of annual VMT in the U.S. (0.7 percent in 2022), there were 6,364 motorcyclist fatalities in 2023, representing 16 percent of all traffic fatalities.⁷ U.S. motorcyclist fatalities increased by 28 percent from 2018 to 2023, from 4,985 to 6,364.⁸ This coincides with the share of motorcyclists not wearing helmets, which increased from 20 percent in 2018 to 24.5 percent in 2022.⁹

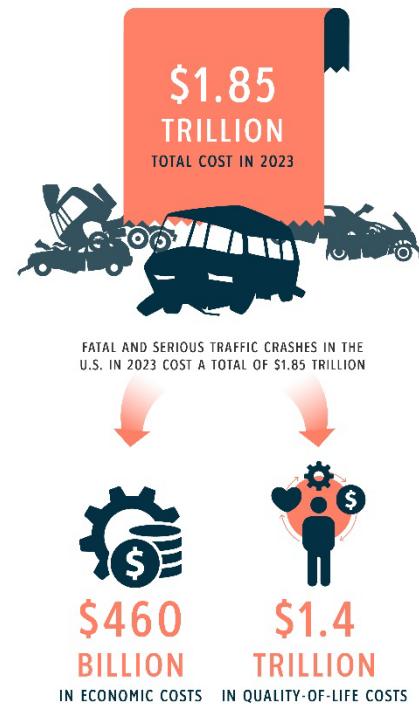
From 2018 to 2023, the number of pedestrians killed increased by 16 percent, from 6,482 to 7,522, and the number of bicyclists killed increased by 29 percent, from 859 to 1,105.¹⁰ From 2018 to 2023, the total number of pedestrians and bicyclists killed increased by 18 percent, from 7,341 to 8,627, and accounted for 21 percent of all traffic fatalities in 2023.¹¹

THE COST OF TRAFFIC CRASHES

Traffic crashes in the U.S. result in a significant economic burden. According to a [2023 National Highway Traffic Safety Administration \(NHTSA\) report](#), the tangible economic costs of traffic crashes can be estimated through empirical measurements, including medical care, lost productivity, legal and court costs, insurance administrative costs, workplace costs, congestion impacts (travel delay, excess fuel consumption and pollution), emergency services, and property damage.¹² NHTSA has also estimated the annual value of the lost quality-of-life cost of traffic crashes causing serious injury or death. The lost quality-of-life costs include the loss of remaining lifespan, extended or lifelong physical impairment, or physical pain.

Based on NHTSA's traffic crash cost methodology, TRIP estimates that fatal and serious traffic crashes in the U.S. in 2023 caused a total of \$1.85 trillion in the value of societal harm, which includes \$460 billion in economic costs and \$1.4 trillion in quality-of-life costs.¹³

The report [Appendix](#) includes the economic cost, the quality-of-life cost and the total societal harm cost of traffic fatalities for every state and the District of Columbia for 2023.



CAUSES OF THE INCREASE IN U.S. TRAFFIC FATALITIES

In 2011 U.S. traffic fatalities dropped to 32,749, the lowest level since 1949 when there were 30,246 traffic fatalities.¹⁴ By 2018, U.S. traffic fatalities had increased to 36,835.¹⁵ Beginning in March 2020, when initial restrictions due to the COVID-19 pandemic were implemented, the number and rate of traffic fatalities began to increase, even as the rate of vehicle travel decreased dramatically.

This significant increase in traffic fatalities, which started with the onset of the pandemic, appears largely related to increased risks being taken by drivers. In an [October 2021 report](#), the National Highway Traffic Safety Administration found that “after the declaration of the public health emergency in March 2020, driving patterns and behaviors in the United States changed significantly. Of the drivers who remained on the roads, some engaged in riskier behavior, including speeding, failure to wear seat belts, and driving under the influence of alcohol or other drugs.”¹⁶

NHTSA data indicates that the number of people killed in the U.S. in police-reported alcohol involved crashes increased 29 percent from 2018 to 2022 from 10,511 to 13,524.¹⁷

NHTSA found that the number of unrestrained occupants of passenger vehicles (those not wearing a seat belt) killed in the U.S. increased by 15 percent from 2018 to 2022, from 9,845 to 11,302.¹⁸ The share of adult front-seat passengers wearing seat belts reached 92 (91.9) percent in 2023, an increase from 90 (89.6) percent in 2018 and the highest rate yet recorded.¹⁹

NHTSA also found that the number of people killed in speeding-related traffic crashes in the U.S. increased by 21 percent from 2018 to 2023, from 9,579 to 11,608 -- 28 percent of U.S. traffic fatalities in 2023.²⁰ The number of people killed in speeding-related traffic crashes in 2022 was six percent lower than the 12,330 people killed in speeding-related crashes in 2021.²¹

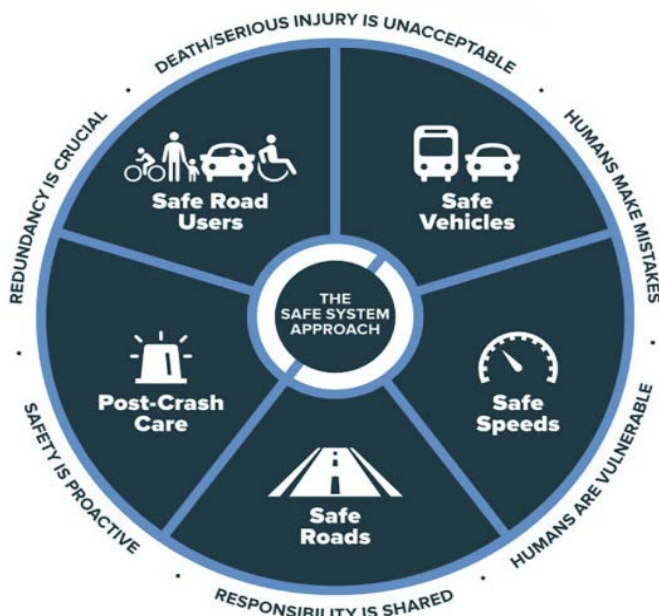
From 2018 to 2022, the number of fatalities in distraction affected traffic crashes increased by 16 percent, from 2,858 to 3,308.²² Driver distraction is a specific type of driver inattention that occurs when drivers divert attention from the driving task to focus on some other activity. Often discussions regarding distracted driving center around cell phone use and texting, but distracted driving also includes things such as eating, talking to passengers, adjusting the radio/climate controls, or adjusting other vehicle controls. A distraction-affected crash is any traffic crash in which a driver was identified as distracted at the time of the crash.²³

A PRESCRIPTION FOR REDUCING U.S. TRAFFIC FATALITIES

In 2022 the U.S. Department of Transportation adopted a comprehensive [National Roadway Safety Strategy](#), a comprehensive roadmap for addressing the nation’s roadway safety crisis based on a [Safe System](#) approach that acknowledges the following: humans make mistakes and are physically vulnerable; traffic deaths and serious injuries are unacceptable; traffic deaths and serious injuries need to be reduced by the provision of a redundant transportation system that reduces or minimizes crashes and ensures that, if crashes do occur, they do not result in serious injury or death.²⁴

Successfully implementing the safe system approach will require complimentary actions by governmental, non-profit, private, healthcare and academic organizations.

Chart 2. The Safe System Approach



Source: Federal Highway Administration

The Safe System approach, which is also being adopted by state and local transportation agencies has five objectives:

- [Safer People](#): Encourage safe, responsible behavior by people who use our roads, and create conditions that prioritize their ability to reach their destination unharmed.

- [Safer Roads](#): Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.
- [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, context-appropriate roadway design, targeted education and outreach campaigns, and enforcement.
- [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.

Improving safety on the nation's roadways will require that additional steps are taken to make further progress in achieving the Safe System's objectives. NHTSA, which provides states with roadway safety grants, requires states to submit a [state highway safety plan](#). The state plans outline numerous steps states are taking to improve traffic safety. Elements of these state roadway safety plans aimed at addressing the Safe System objectives include:

- Safer People: education on speeding, impaired or distracted driving; education on safe pedestrian and bicycling behavior; education on driving safely around large commercial vehicles; enforcement of commercial driver license and vehicle weight requirements; extension of safety belt laws and their enforcement to include all passenger vehicle occupants; enhancing enforcement action of speeding, impaired, aggressive and distracted driving, particularly at high-risk locations; increase penalties, particularly for repeat offender drivers; and increased enforcement at work zones.
- Safer Roads: converting intersections to roundabouts; removing or shielding roadside objects; the addition of left-turn lanes at intersections; improved signalization and lighting at intersections; adding or improving median barriers; improved roadway lighting; adding centerline or shoulder rumble strips; improving pedestrian and bicycle facilities, including sidewalks and bike lanes and providing pedestrian crossing islands; improved work zone safety measures; wider lanes and paved shoulders; upgrading roads from two lanes to four lanes; providing or improving lane markings; updating rail crossings; eliminating vertical pavement drop-offs; and providing large truck parking spaces.
- Safer Vehicles: Support the development, testing and deployment of connected and autonomous vehicle technology such as collision avoidance, lane departure avoidance systems and turning detection systems.
- Safer Speeds: Where appropriate, provide roadway features to encourage safer speeds, including traffic roundabouts and curb extensions; improved signage and dynamic speed signing at high-risk locations; education on the consequences of speeding; and increased speeding enforcement, particularly at high-risk locations.
- Post-Crash Care: Reduce crash response time including the use of emergency vehicle preemption technology; improve emergency response to multi-vehicle or hazardous material crashes; and increase access to level one or two trauma centers for seriously-injured crash victims.

The U.S. Department of Transportation (USDOT) has prepared an [analysis](#) of the effectiveness of 28 proven safety countermeasures that offer significant and measurable impacts to improving roadway safety.

The report titled “[Making Our Roads Safer: One Countermeasure at a Time](#),” provides descriptions of effective roadway safety measures and estimates of likely safety benefits. . The following chart describes some of the critical roadway safety improvements described in the report and the resulting benefits.

Chart 3. Effective Safety Countermeasures.

Roadway Countermeasure	Documented Benefits
Application of pavement friction treatments	Reduce total crashes at intersections by 20%
Bicycle lanes	Reduce bicycle/vehicle crashes by 53%
Center-line rumble strips	Reduce head-on fatal and injury crashes on rural two-lane roads by 44-64%
Crosswalk Visibility Enhancements	Reduce pedestrian injury crashes by 40%
Dedicated left-turn lanes	Reduce fatal and injury crashes by 36%
Improved lane markings and signage at intersections	Reduce injury and fatal crashes by 10% at all intersections and by 27% at rural intersections.
Improved lighting at intersections	Reduce nighttime crashes on rural and urban highways by 28%
Improved lighting, markings and signalization at crosswalks	Reduce pedestrian injury crashes by 40%
Improved signage and lane markings at curves	Reduce non-intersection fatal and injury crashes by 16%
Pavement friction management	Reduce intersection crashes by 20%
Retroreflective backplates on traffic signals	Reduce crashes by 15%
Roundabouts	Reduce fatal and injury crashes by 82%
Sidewalks	Reduce crashes involving pedestrians walking along the roadways by 65-89%
Wider edge lanes	Reduce fatal and injury crashes on rural two-lane roads by 37%

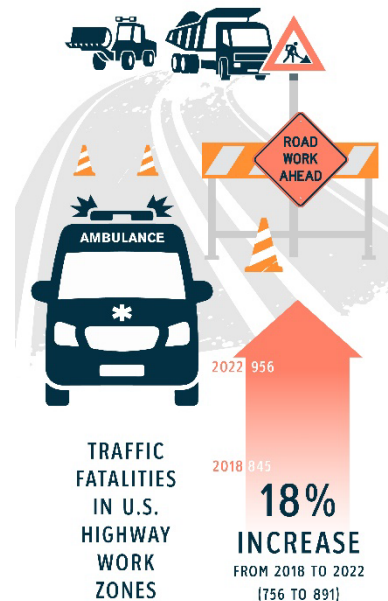
Source: USDOT

WORK ZONE SAFETY

From 2018 to 2022, crashes in U.S. highway work zones resulted in 4,316 fatalities, increasing 18 percent from 756 in 2018 to 891 in 2022.²⁵ The report [Appendix](#) includes the number of work zone fatalities in each state and nationwide from 2018 to 2022.

The safe and efficient movement of vehicles through roadway work zones is a critical priority for transportation officials, the highway construction industry, police agencies, commercial motor carriers and the public. The Federal Highway Administration [Work Zone Management Program](#) strives to provide transportation practitioners with high-quality products, tools, and information to assist in planning, designing, and implementing safer, more efficient, and less congested work zones

Consistent with the Safe System approach, safety at highway work zones can be improved by implementing a [comprehensive work zone safety strategy](#) that includes ensuring a proper work zone layout, prioritizing work zone safety training, ensuring the use of high visibility safety apparel and appropriate traffic control devices, creating an internal traffic control plan and implementing strategies to reduce aggressive driving.



FUNDING HIGHWAY SAFETY IMPROVEMENTS

Increasing investment in roadway safety improvements is likely to pay off in the form of reduced fatal and serious traffic crashes. The U.S. has a \$146 billion backlog in needed roadway safety improvements, according to a 2017 [report](#) from the AAA Foundation for Traffic Safety. The report found implementing these cost-effective and needed roadway safety improvements on U.S. roadways would save approximately 63,700 lives and reduce the number of serious injuries as a result of traffic crashes by approximately 350,000 over a 20-year period.

Additional funding for improved roadway safety has been provided by the bipartisan [Infrastructure Investment and Jobs Act](#) (IIJA), which was signed into law in November 2021, and provides a significant boost in federal investment in roads, bridges and transit, and offers an opportunity for the nation to make progress in improving the safety, reliability and condition of America's transportation system. The IIJA provides \$454 billion over the five-year period from 2022 to 2026 for investment in highways and transit, resulting in a 38 percent increase in federal investment starting in 2022.²⁶

The IIJA provides additional resources to address traffic safety, including the following programs: \$6 billion for the Safe Streets and Roads for All program; \$17 billion for the Highway Safety Improvement Program (HSIP); \$4 billion for improved crash data and vehicle, behavior, and truck safety programs; \$300 million for rural road safety; and \$120 million for tribal road safety.²⁷

The benefit of increased traffic safety funding provided by the IIJA has been reduced by the impact of inflation in highway construction costs. The Federal Highway Administration's national highway construction cost index, which measures labor and materials cost, increased by 44 percent in 2022 and the first three quarters of 2023, and has increased 69 percent since the beginning of 2021.²⁸

CONCLUSION

America faces a roadway safety crisis, with motorist, motorcyclist, pedestrian and bicyclist fatalities in 2023 at a level significantly higher than a decade ago. The tremendous toll of fatalities and serious injuries that occur on the nation's roadways are a significant economic and, more critically, personal burden on Americans. The causes of the increase in traffic fatalities in the U.S. appear largely to be the result of the public taking greater risks on the nation's roadways, including speeding, impaired driving and reduced motorcycle helmet use.

Addressing the nation's traffic safety challenge will require a comprehensive approach based on a belief that deaths and serious injuries on our roadways are unacceptable, and that people will make mistakes, but those mistakes should not lead to death or serious injury. Making a commitment to eliminating fatal and serious injuries on the nation's roadways will require robust investment and coordinated activities by transportation and safety-related agencies in providing the needed layers of protection for the nation's motorists, pedestrians and bicyclists, including safe road users, safe roads, safe vehicles, safe speeds and high-quality post-crash care.

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ENDNOTES

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- ³ Federal Highway Administration, Highway Statistics 2020 (2022).
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And U.S. Department of Transportation, National Highway Traffic Safety Administration (2024). Fatality Analysis Reporting System. <https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars>
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- ⁷ National Highway Traffic Safety Administration (2024). [Early Estimates of Motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories in 2023](#) and TRIP analysis of NHTSA data.
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- ¹⁶ National Highway Traffic Safety Administration (2021). Continuation of Research on Traffic Safety During the COVID-19 Public Health Emergency: January – June 2021. https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-10/Traffic-Safety-During-COVID-19_Jan-June2021-102621-v3-tag.pdf
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- ¹⁸ National Highway Traffic Safety Administration (2024). Occupant Protection in Passenger Vehicles. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813573>
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