ADDRESSING AMERICA'S TRAFFIC SAFETY CRISIS:

EXAMINING THE CAUSES OF INCREASING U.S. TRAFFIC FATALITIES AND IDENTIFYING SOLUTIONS TO IMPROVE ROAD USER 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.

Starting in 2020, as the nation grappled with the impact of the COVID-19 pandemic and the rate of U.S. vehicle travel decreased, the number and rate of traffic fatalities in the U.S. surged. This trend of increasing traffic fatalities continued in 2021 as vehicle travel returned to near pre-pandemic levels.

This report documents the increase in traffic fatalities and fatality rates from 2019 to 2021 at the national and state levels, examines possible causes for this increase, and prescribes a broad, comprehensive approach to reducing traffic fatalities in the U.S.

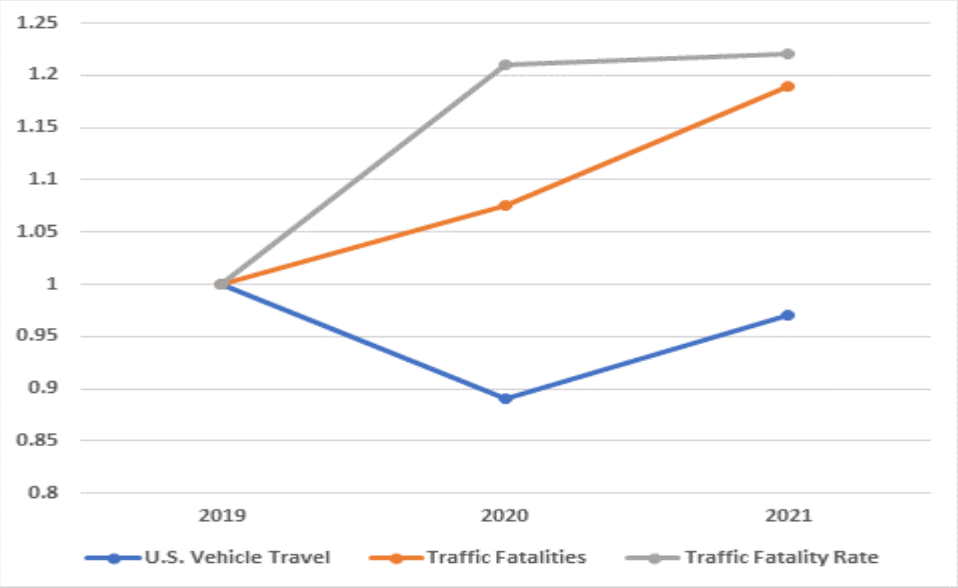
TRAFFIC FATALITIES AND VEHICLE TRAVEL DURING COVID-19

In 2019, there were approximately 3.3 trillion miles of travel on the nation's roads and highways and 36,096 traffic fatalities, including motorists, pedestrian and bicyclists, resulting in a traffic fatality rate of 1.11 traffic fatalities per 100 million miles of vehicle travel.[1]

Starting in March 2020 the transportation impact of COVID-19 was significant, as most activity was largely curtailed in an effort to slow the spread of the virus. By April 2020 vehicle travel in the U.S. was 40 percent lower than in April 2019.[2] But by October 2020, U.S. vehicle travel had rebounded to within nine percent of October 2019 levels.[3] Overall U.S. vehicle travel in 2020 was 11 percent lower than in 2019.[4]

However, at the same time that vehicle travel decreased, the number of traffic fatalities soared. From 2019 to 2020, U.S. vehicle travel dropped by 11 percent, but the number of traffic fatalities increased by eight percent and the traffic fatality rate per 100 million vehicle miles of travel increased by 21 percent.[5] From 2019 to 2020, vehicle miles of travel decreased from 3.3 trillion to 2.9 trillion. However, the number of traffic fatalities increased from 36,096 to 38,824, and the traffic fatality rate per 100 million miles of travel increased from 1.11 to 1.34. [6].

Chart 1. Percent Change in U.S. Vehicle Travel, Traffic Fatalities and Traffic Fatality Rate from 2019 to 2021.



Source: TRIP Analysis of U.S. DOT data.

In 2021, with COVID-related restrictions gradually being lifted, U.S. vehicle travel increased by approximately 10 percent over 2020 levels, to approximately 3.2 trillion miles. Despite the rebound, 2021 vehicle travel was still three percent below 2019's pre-pandemic level.[7] From 2020 to 2021 the number of traffic fatalities increased by approximately 11 percent (from 38,824 to 42,915), roughly on

pace with the 10 percent increase in vehicle travel during the same time. The number of 2021 traffic fatalities is 19 percent higher than in 2019 and the highest number since 2005. [8] The traffic fatality rate in 2021 rose to 1.35 traffic fatalities per 100 million miles of travel.[9]

Pedestrians and bicyclists account for approximately one-fifth of roadway traffic fatalities. From 2019 to 2021, the number of pedestrians killed increased by 18 percent, from 6,205 to 7,342. The number of bicyclists killed increased by 16 percent, from 846 to 985.[10] From 2019 to 2021, the total number of pedestrians and bicyclists killed increased by 18 percent, from 7,051 to 8,327, and accounted for 19 percent of all traffic fatalities in 2021.[11]

Data for the number of fatalities, fatality rate and vehicle miles of travel for every state and the District of Columbia for 2019, 2020 and 2021 can be found in the Appendix.

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.[12] By 2019, U.S. traffic fatalities had increased to 36,096.[13] Beginning in March 2020, when initial restrictions due to the COIVD-19 pandemic were implemented, the number and rate of traffic fatalities began to increase.

This significant increase in traffic fatalities since 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."[14]

The AAA Foundation for Traffic Safety (AAAFTS) drew similar conclusions about the role of increased risks being taken by drivers upon the onset of the pandemic. A survey taken of drivers in October and November 2020 by the AAAFTS asked whether their level of driving had decreased, remained the same or increased since the beginning of COVID-19 related restrictions, and whether the motorist had engaged in a variety of risky driving behaviors in the previous 30 days. The survey found that 59 percent of drivers reported reducing their level of driving since the onset of the pandemic, 37 percent had maintained their level of driving and four percent had increased their level of driving.[15]

In a February 2022 brief about the survey, the AAAFTS noted that drivers who maintained or increased their pre-COVID travel levels indicated that they were more likely to engage in risky driving behavior. "It is possible that many of the individuals who were willing to travel—and even increase their travel—despite the health risks associated with the pandemic were already more willing than average to take other risks," the AAAFTS report found.[16]

Chart 2. Self-Reported Risky Driving Behavior in Previous 30 Days by Level of Driving During COVID-19 Pandemic.

Driving Behavior	Reduced Driving	No Change	Increased Driving
Speeding on freeways	45%	44%	65%
Speeding on residential streets	35%	34%	51%
Unbelted driving	9%	17%	21%
Alcohol-impaired driving	5%	7%	13%
Talking on cellphone	34%	42%	43%
Reading text messages	31%	36%	50%
Changing lanes aggressively	19%	22%	43%

Source: AAA Foundation for Traffic Safety

National Highway Traffic Safety Administration data (NHTSA) indicates that the number of people killed in the U.S. in police-reported alcohol involved crashes increased by nine percent from 2019 to 2020, and by five percent from 2020 to 2021.[17] In 2021, 8,174 people died in police-reported alcohol involved crashes, 19 percent of U.S. traffic fatalities.[18]

NHTSA found that the number of unrestrained occupants of passenger vehicles (those not wearing a seat belt) killed in the U.S. increased by fifteen percent from 2019 to 2020, and by three percent from 2020 to 2021.[19] In 2021, 12,522 unrestrained occupants of passenger vehicles were killed in traffic crashes, representing 29 percent of U.S. traffic fatalities.[20]

NHTSA also found that the number of people killed in speeding-related traffic crashes in the U.S. increased by eleven percent from 2019 to 2020, and by five percent from 2020 to 2021.[21] In 2021, 11,780 people were killed in speeding related traffic crashes, 27 percent of U.S. traffic fatalities.[22]

Another indication of the increased severity of traffic crashes following the beginning of the COVID-health emergency is an analysis of the share of patients treated by emergency medical services (EMS) at traffic crashes who were evaluated as having severe injuries. In 2020, the share of patients treated by EMS at vehicle crashes who had severe injuries was 21 percent higher than in 2019.[23] Through the first eight months of 2021, the share of patients treated by EMS at vehicle crashes who had severe injuries was 17 percent higher than in 2019.[24]

"The 2020 average of 1.21 percent strongly suggests an increase in the severity of crashes, especially considering the relatively low percentages prior to week 12 of that year," noted NHTSA in a October 2021 research note.

A PRESCRIPTION FOR REDUCING U.S. TRAFFIC FATALITIES

In early 2022 the U.S. Department of Transportation adopted a comprehensive National Roadway Safety Strategy, a 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.[25]

Chart 3. 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 annually 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 disadvantaged 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.

FUNDING HIGHWAY SAFETY IMPROVEMENTS

Traffic crashes in the U.S. result in a significant economic burden. According to a 2015 National Highway Traffic Safety Administration (NHTSA) report, the economic costs of traffic crashes includes work and household productivity losses, property damage, medical costs, rehabilitation costs, legal and court costs, congestion costs and emergency services.[26] Based on NHTSA's traffic crash cost methodology, TRIP estimates that the economic cost of fatal and serious traffic crashes in the U.S. in 2021 was $391 billion.[27]

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 in 2022.[28]

The IIJA provides additional resources to address traffic safety, including $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.[29]

The federal Highway Trust Fund (HTF) is the primary source of revenue for the IIJA and receives its revenues exclusively from highway user fees – taxes on motor fuels and other specified motorist purchases - and from interest on its existing balance (owed by the federal government on money borrowed from the Trust Fund). The HTF is deficit proof, financing road, bridge, safety and transit improvements on a pay-as-you-go basis. The federal motor fuel tax is 18.4 cents per gallon for gasoline and 24.4 cents per-gallon for diesel fuel.

CONCLUSION

America faces a roadway safety crisis, with motorists, pedestrians and bicyclists fatalities in 2021 reaching their highest level in nearly two decades. 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 recent surge 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 safety belt 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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