



**Congressional
Research Service**

Informing the legislative debate since 1914

Federal Traffic Safety Programs: In Brief

Updated January 11, 2024

Congressional Research Service

<https://crsreports.congress.gov>

R43026

Contents

Introduction	1
Measuring Traffic Safety	2
Federal Efforts to Promote Traffic Safety	3
Federal Highway Administration: Roadway Safety Improvements	4
Highway Safety Improvement Program	5
Safe Streets and Roads for All	5
Railway-Highway Grade Crossing Safety	6
National Highway Traffic Safety Administration: Driver Behavior and Vehicle Design	6
Encouraging Safer Driving Behavior.....	6
Vehicle Safety Improvements	8
Federal Motor Carrier Safety Administration: Commercial Transportation Safety	9
Safety Programs	10
Selected Issues	10

Figures

Figure 1. U.S. Traffic Deaths and Fatality Rates, 1966-2020.....	2
Figure 2. U.S. Traffic Deaths and Fatality Rates, 2007-2021.....	3

Contacts

Author Information.....	12
-------------------------	----

Introduction

The United States has one of the highest traffic death rates among industrialized countries: twice that of Canada, three times that of Germany, and four times that of the United Kingdom.¹ Driving is one of the riskiest activities the average American engages in, and motor vehicle crashes are one of the leading causes of preventable deaths.² Unlike in most other comparably industrialized countries, the number and rate of traffic deaths in the United States have risen in recent years, despite new vehicle safety technologies. In 2021, an estimated 42,939 people were killed in police-reported motor vehicle crashes in the United States, and an estimated 2.5 million people were injured.³ Many of the people who die in traffic crashes are relatively young and otherwise healthy (motor vehicle crashes are among the leading causes of death for children and are the leading cause of death for people between the ages of 17 and 21).⁴ As a result, while traffic crashes are now the 13th leading cause of death overall, they rank seventh among causes of years of life lost (i.e., the difference between the age at death and life expectancy).⁵

In addition to the emotional toll exacted by these deaths and injuries, traffic crashes impose a significant economic toll. The U.S. Department of Transportation (DOT) estimated that the annual cost of motor vehicle crashes in 2010 was \$242 billion in direct costs and \$836 billion when the impact on quality of life of those killed and injured was included.⁶ When DOT reexamined the cost of crashes for 2019, those estimates had increased to \$340 billion in direct costs and almost \$1.4 trillion when quality of life impacts were included.⁷ For the 2019 estimate, the lost productivity of those killed and injured accounted for \$106 billion of the \$340 billion; property damage accounted for \$115 billion; present and future medical costs represented \$31 billion; the value of time lost due to congestion caused by crashes was estimated at \$36 billion; and the remainder came from the costs of insurance administration, legal services, workplace costs,⁸ and emergency services.⁹

Federal support for traffic safety is provided primarily through traffic safety programs administered by DOT's National Highway Traffic Safety Administration (NHTSA) and Federal Motor Carrier Safety Administration (FMCSA), as well as through infrastructure grant programs

¹ *Traffic death rate* is defined as road traffic deaths per 100,000 people. World Health Organization, *Global Status Report on Road Safety 2018*, Table A2, <https://www.who.int/publications/i/item/9789241565684>.

² Preventable deaths are those that occur before the end of a person's natural life span (typically defined as some age over 80 in contemporary industrialized countries) due to behaviors that could have been avoided (e.g., reckless or impaired driving).

³ National Highway Traffic Safety Administration (NHTSA), *Summary of Motor Vehicle Traffic Crashes: 2021 Data*, DOT HS 813 515, October 2023, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813515>.

⁴ NHTSA, *Traffic Safety Facts Research Note: Motor Vehicle Traffic Crashes as a Leading Cause of Death in the United States, 2016 and 2017*, DOT HS 812 927, July 2020, p. 1.

⁵ *Ibid.*, p. 1.

⁶ NHTSA, *The Economic Impact of Motor Vehicle Crashes 2010*, DOT HS 812 013, May 2015. Direct costs include tangible losses resulting from crashes and those costs required to restore crash victims, as far as possible, to their pre-crash physical and financial status. These include medical costs, lost productivity, legal and court costs, insurance administrative costs, and property damage. The quality of life costs reflect the intangible value of death and injury to the victims: in the case of death, the loss of the victims' remaining lifespan, and in the case of serious injury, the resulting impairment and physical pain. See p. 113 of the report cited for more details.

⁷ NHTSA, *The Economic and Societal Impact of Motor Vehicle Crashes, 2019 (Revised)*, DOT HS 813 403, February 2023, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813403>.

⁸ Costs of workplace disruption due to the loss or absence of an employee.

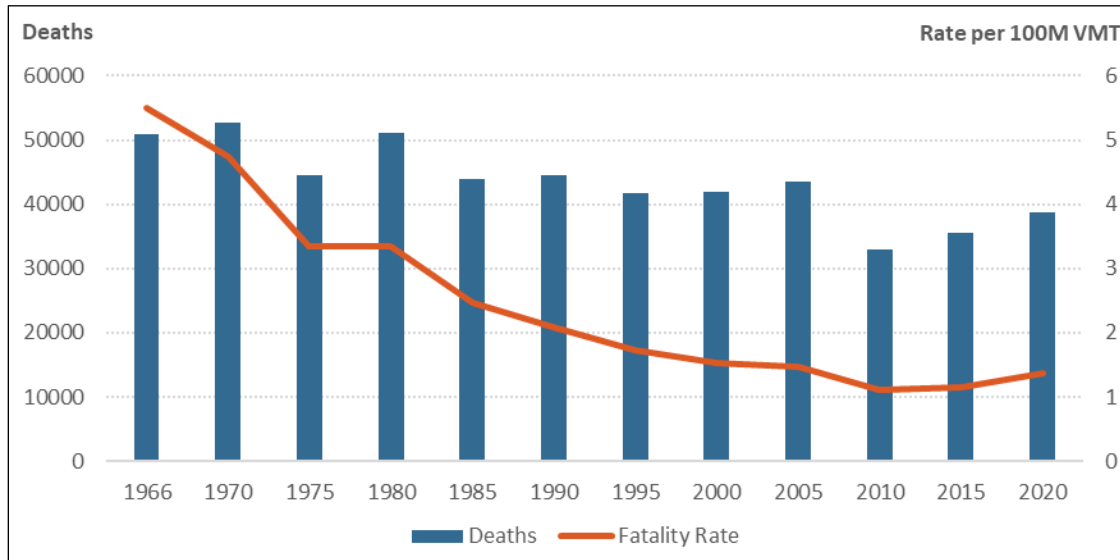
⁹ NHTSA, *The Economic and Societal Impact of Motor Vehicle Crashes, 2019 (Revised)*, DOT HS 813 403, February 2023, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813403>.

administered by the Federal Highway Administration (FHWA) and the Federal Railroad Administration (FRA). The federal traffic safety programs were last authorized from FY2022 through FY2026 as part of the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58). As with previous authorization acts, the IIJA funds traffic safety programs from the Highway Trust Fund and the general fund of the U.S. Treasury. The IIJA also provided supplemental funding with a multiyear advance appropriation from the general fund.

Measuring Traffic Safety

The most commonly cited measure of traffic safety is the number of annual deaths. That number held steady from 1985 to 2007 at around 42,000, leading to claims that traffic safety was not improving. But the raw number of traffic deaths does not take into account changes in the number of drivers, the number of vehicles, or the number of miles being driven. While the raw number of deaths in traffic crashes did not vary much between 1985 and 2007, the number of fatalities per 100 million vehicle miles traveled (VMT)¹⁰ fell by almost half (see **Figure 1**).

Figure 1. U.S. Traffic Deaths and Fatality Rates, 1966-2020



Source: Prepared by CRS using data from National Highway Traffic Safety Administration (NHTSA), *Traffic Safety Facts 2020*, DOT HS 813 375, Table 2.

Note: *Fatality rate* is the number of deaths resulting from motor vehicle crashes divided by the total number of miles traveled by motor vehicles that year (“vehicles miles traveled,” or VMT); the unit measure for VMT is 100 million.

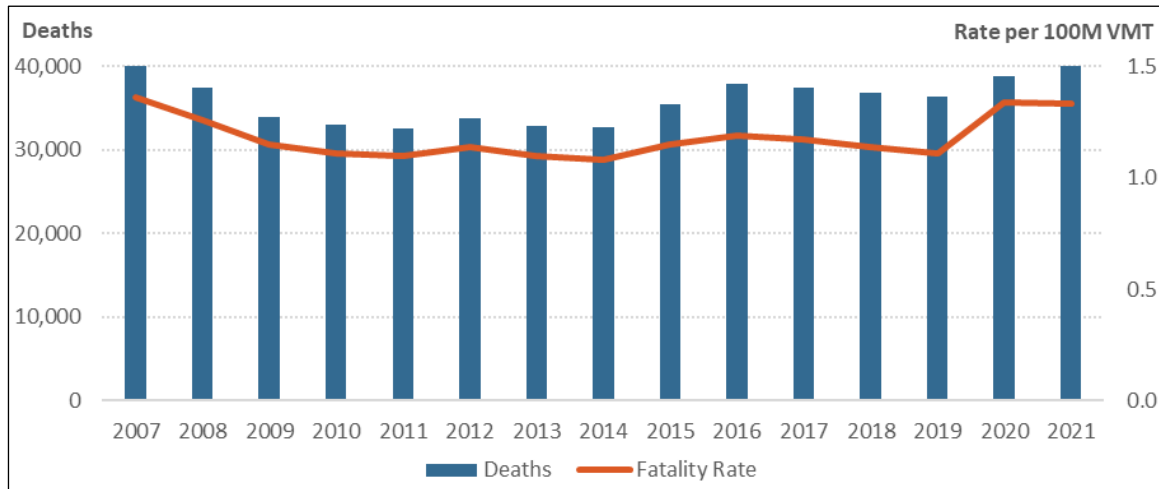
The improvement accelerated between 2007 and 2009, with the number of traffic deaths dropping to around 33,000, and the fatality rate dropping another 15% (see **Figure 2**). Part of this decline

¹⁰ The traffic fatality rate can be calculated in different ways. Basing the rate on a person’s total amount of driving is generally preferred, as the exposure of the population to the risk of injury or death from a crash involving a motor vehicle is affected by how much motor vehicle driving occurred during a time frame. In the example of the rate falling between 1985 and 2007, it shows that although roughly the same number of people died in traffic crashes between those years, the risk of a person dying in a traffic crash declined in that time because the total amount of driving (measured in miles) in that period increased from 1.78 billion to 3.0 billion miles per year. This rate depends on having reliable estimates of the number of miles driven. When such information is not available, or for certain other analytical purposes, a traffic fatality rate may be based on the population size or the number of motor vehicles in use (i.e., registered).

was likely due to weak economic conditions; traffic deaths and injuries typically decline during economic downturns and rise as the economy recovers.¹¹ Although the decline in traffic deaths after 2007 was heralded by some as evidence that traffic safety interventions were working, the number and rate of fatalities has risen since 2014 as the economy resumed growing. This suggests that the improvement in traffic safety numbers from 2007 to 2014 was probably due to broader societal factors along with the traffic safety interventions.

In 2020 and 2021, the number of traffic deaths rose despite a sharp reduction in the amount of travel in 2020 related to the Coronavirus Disease 2019 (COVID-19) pandemic (see **Figure 2**). In 2021, the fatality rate declined slightly from 2020 as total miles traveled returned to close to the pre-pandemic level; the number of traffic deaths in 2021 increased to 42,939, a 10% increase over the number of traffic deaths in 2020. In addition, 2021 was the first year since 2007 that more than 40,000 people died in traffic crashes in a single year, and the third year since 1990 with as many traffic deaths (2002 and 2005 being the other two years). Early estimates indicate that the number of crash deaths in 2022 was similar to 2021 but that there was a 3% decline in the number of crash deaths in the first half of 2023 compared with the same period in 2022.¹²

Figure 2. U.S. Traffic Deaths and Fatality Rates, 2007-2021



Source: Prepared by CRS using data from NHTSA, *Traffic Safety Facts 2020*, DOT HS 813 375, October 2022, Table 2 (the 2021 data are from NHTSA, *Summary of Motor Vehicle Crashes: 2021 Data*, DOT HS 813 515, October 2023).

Federal Efforts to Promote Traffic Safety

Four basic tools are available to government to improve traffic safety outcomes: engineering, education, enforcement, and emergency response. These tools may be used to reduce injuries and fatalities by reducing the number of crashes; reducing the severity of crashes; and providing speedier medical care for people injured in crashes. These tools are primarily in the hands of the

¹¹ The explanation for this phenomenon is not clear. The exposure to the risk of crashing—the number of vehicle miles traveled (VMT)—tends to stagnate or decline during recessions, but the percentage decline in deaths and injuries is typically much greater than the percentage decline in VMT. For example, from 2008 to 2009, VMT declined by less than 1%, but traffic fatalities declined by 9%.

¹² NHTSA, *Early Estimate of Motor Vehicle Traffic Fatalities For the First Half (January–June) of 2023*, DOT HS 813 514, September 2023, Table 1, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813514>.

states and localities, as states and localities build the roads, license drivers, enact and enforce traffic laws, and provide emergency responses to crashes.

DOT programs primarily support and encourage state efforts to improve traffic safety. FHWA provides funding to build new and improve existing roads (engineering).¹³ FRA has a new grant program for activities to reduce the risk of crashes where roads intersect with rail lines (engineering). NHTSA regulates safety-related aspects of vehicle design (engineering) and provides funding for programs targeting driver behavior (education and enforcement).¹⁴ FMCSA administers programs focusing on the safety of commercial drivers and vehicles (education), as well as directly regulating some aspects of that industry (enforcement).¹⁵

Federal involvement in education and enforcement of safe driving practices has come mostly in the form of funding for state activities. The behavior of passenger car drivers is largely under the authority of states, not the federal government, thus Congress is not able to regulate driver behavior. Instead, it has relied on both carrots (incentive grants) and sticks (penalties that reduce federal transportation funding amounts or opportunities) to encourage state governments to adopt and enforce traffic safety measures affecting driver behavior. In recent years, Congress has largely restricted itself to using incentives rather than penalties to influence state enforcement efforts.¹⁶

Congress typically amends federal traffic safety programs in the periodic reauthorization of federal surface transportation programs. Recent reauthorizations were enacted in 2015 and 2021; the current authorization expires at the end of FY2026. Occasionally, changes are made in stand-alone legislation¹⁷ or as part of other legislation such as the DOT appropriations act.¹⁸

Federal Highway Administration: Roadway Safety Improvements

The design of roads influences their safety. One example is the Interstate Highway System. Although interstate highways are heavily trafficked by vehicles traveling at high speeds, they are the safest category of road, due in part to design factors, such as having long sight lines, gentle curves, wide lanes, and no intersections. Road designs change over time as research identifies characteristics that can reduce the likelihood of crashes. One benefit of improved road design is that it can reduce the incidence of driver misbehavior (such as speeding) without additional enforcement measures.¹⁹

¹³ For more information, see CRS Report R47022, *Federal Highway Programs: In Brief*, by Robert S. Kirk. Congressional offices may contact Section Research Manager Alice B. Grossman for further information.

¹⁴ For more information, see CRS Report R44394, *Federal Highway Traffic Safety Policies: Impacts and Opportunities*, by David Randall Peterman.

¹⁵ For more information, see CRS Report CRS Report R44792, *Commercial Truck Safety: Overview*, by David Randall Peterman.

¹⁶ For more information, see CRS Report R44394, *Federal Highway Traffic Safety Policies: Impacts and Opportunities*, by David Randall Peterman.

¹⁷ For example, in 2008 Congress passed the Cameron Gulbransen Kids Transportation Safety Act of 2007 (P.L. 110-189), which directed the Department of Transportation (DOT) to initiate two safety-related rulemakings: to require that power windows in cars be designed to reverse direction when they encounter an obstacle (to prevent children from being injured or killed) and to improve the driver's view of the area behind the vehicle (to reduce the risk of a driver running over a child while backing up).

¹⁸ For example, the FY2001 DOT appropriations act provided that states that had not passed a law making driving with a blood alcohol content level of 0.08 illegal by FY2004 would have a portion of their federal highway formula funding withheld (P.L. 106-346, §351).

¹⁹ Federal Highway Administration (FHWA), *Self-Enforcing Roadways: A Guidance Report*, FHWA-HRT-17-098, January 2018, <https://www.fhwa.dot.gov/publications/research/safety/17098/17098.pdf>.

Roadway design is a particular concern for vulnerable road users, such as pedestrians and bicyclists. Roadway designs to protect these road users include the presence of sidewalks, protected bike lanes, crossing islands and raised medians, and other traffic-calming measures.²⁰

FHWA supports research on road safety measures and provides technical assistance and information.²¹ It also makes grants to states to improve roadway safety. Safety improvements are eligible expenses under most FHWA grant programs but are a particular focus for some programs, including the Highway Safety Improvement Program (HSIP), Safe Streets and Roads for All (SS4A), and the Railway Highway Grade Crossing Safety program.

Highway Safety Improvement Program²²

HSIP distributes more than \$3 billion annually to states for road safety improvements. Projects are chosen by state DOTs. To qualify to use their dedicated funding, states must develop highway safety plans that use crash data to identify hazardous road locations or features and identify measures to address the problems.²³ FHWA is encouraging a shift in emphasis from design standards to safety outcomes as measured by changes in crash data.²⁴ The IIJA amended HSIP to allow states to use HSIP funds to purchase, operate, or maintain an automated traffic enforcement system (e.g., speed cameras, red-light-running cameras). The IIJA also instituted a requirement that when vulnerable road users (i.e., non-motorists, such as pedestrians and bicyclists) account for 15% or more of all annual crash fatalities, in the following year, the state must obligate at least 15% of its HSIP funds for projects to address vulnerable road user safety. The federal share of HSIP projects is generally 90%.

Safe Streets and Roads for All²⁵

A new competitive discretionary grant program created in the IIJA,²⁶ SS4A offers at least \$1 billion annually in grants for activities to prevent roadway deaths and injuries. The program funds two types of grants: *action plan* grants for communities to prepare comprehensive safety action plans, and *implementation* grants to implement strategies or projects that are consistent with a qualifying action plan or its equivalent. Activities eligible for grants include planning, infrastructure improvements, behavioral change efforts, and operational efforts to protect all roadway users, including pedestrians, bicyclists, public transportation passengers, personal conveyance and micromobility (e.g., scooters) users, motorists, and commercial vehicle drivers. The federal share of a SS4A activity is 80%.²⁷

²⁰ *Traffic calming* refers to using physical features (e.g., speed bumps) to slow driver speeds or reduce traffic volumes on streets. NHTSA, *Advancing Pedestrian and Bicyclist Safety: A Primer for Highway Safety Professionals*, DOT HS 812 258, April 2016.

²¹ See, for example, the entries at FHWA, “Proven Safety Countermeasures,” <https://highways.dot.gov/safety/proven-safety-countermeasures>.

²² For more information, see FHWA, “Highway Safety Improvement Program (HSIP),” <https://highways.dot.gov/safety/hsip>.

²³ These measures may include replacing intersections with roundabouts, adding medians and pedestrian crossing islands to urban and suburban streets, limiting highway access points, and adding rumble strips to two-lane roads. For more information, see FHWA, “Proven Safety Countermeasures,” <http://safety.fhwa.dot.gov/provencountermeasures/>.

²⁴ See, for example, FHWA, “Highway Safety Manual,” <https://safety.fhwa.dot.gov/rsdp/hsm.aspx/>.

²⁵ For more information, see DOT, “Safe Streets and Roads for All (SS4A) Grant Program,” <https://www.transportation.gov/grants/SS4A>.

²⁶ P.L. 117-58, §24112, enacted November 15, 2021.

²⁷ For more information, see DOT, *Notice of Funding Opportunity for the Safe Streets and Roads for All (SS4A)* (continued...)

Railway-Highway Grade Crossing Safety

There are hundreds of thousands of places where roads cross railroad tracks at the same level (“at-grade”), and crashes at these crossings result in several hundred deaths each year. Congress has created two programs to reduce the risk of such crashes. The Railway-Highway Crossing Safety Formula Program under FHWA, funded at \$245 million annually through FY2026, provides money to states for activities to reduce the risk of crashes at grade crossings, typically through either eliminating the crossing or installing warning devices and gates.²⁸ The FRA Railroad Crossing Elimination Program, newly created in the IIJA and funded at \$600 million annually through FY2026, provides competitive grants to states and other entities for activities to reduce the risk of crashes at grade crossings.²⁹

National Highway Traffic Safety Administration: Driver Behavior and Vehicle Design

NHTSA establishes safety performance standards for motor vehicles, investigates defects in motor vehicles, conducts research on driver behavior and traffic safety, and provides grants and technical assistance to state and local governments to support local highway safety programs.

Encouraging Safer Driving Behavior

A significant portion of crashes is caused, at least in part, by drivers behaving unsafely. Prominent among these behaviors are speeding,³⁰ driving while under the influence of alcohol or other drugs,³¹ and driving while distracted.³² Fatalities are also increased by failure to wear seat belts³³ (or in the case of motorcyclists, helmets).³⁴ Use of seat belts, among the most effective safety

Discretionary Grant Opportunity: Amendment 1, <https://www.transportation.gov/sites/dot.gov/files/2022-08/SS4A-NOFO-FY22-Amendment-1.pdf>.

²⁸ For more information, see FHWA, “Railway Highway Crossing Program Overview,” <https://highways.dot.gov/safety/hsip/xings/railway-highway-crossing-program-overview>.

²⁹ For more information, see Federal Railroad Administration, “Railroad Crossing Elimination Grant Program,” <https://railroads.dot.gov/grants-loans/competitive-discretionary-grant-programs/railroad-crossing-elimination-grant-program>.

³⁰ In 2021, 29% of traffic fatalities involved speeding. NHTSA, *Traffic Safety Facts: Speeding: 2021 Data*, DOT HS 813 473, July 2023, p. 1, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813473>.

³¹ In 2021, 31% of traffic fatalities involved alcohol-impaired drivers. NHTSA, *Traffic Safety Facts: Alcohol-Impaired Driving: 2021 Data*, DOT HS 813 450, June 2023, p. 1, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813450>. There is some overlap between the percentages of fatal crashes involving speeding and those involving alcohol-impaired drivers.

³² An estimated 8% of fatal crashes in 2021 involved distracted drivers. NHTSA, *Traffic Safety Facts Research Note: Distracted Driving in 2021*, DOT HS 813 443, May 2023, p. 1.

³³ In 2018, half of fatally injured passenger vehicle occupants were not wearing seat belts or in child restraints. NHTSA, *Traffic Safety Facts: Summary of Motor Vehicle Traffic Crashes: 2021 Data*, DOT HS 813 515, October 2023, p. 6. Overall seat belt use by front seat occupants was estimated at 92% in 2022. NHTSA estimated that seat belt use had saved the lives of 14,955 people involved in crashes in 2017, and that another 2,549 lives could have been saved if seat belt use had been 100% (most recent data available). See NHTSA, *Traffic Safety Facts Crash Stats: Lives Saved in 2017 by Restraint Use and Minimum-Drinking-Age Laws*, DOT HS 812 683, March 2019, Table 1.

³⁴ Nationwide use of DOT-compliant motorcycle helmets in 2022 was estimated at 67%, down from a recent high of 71% in 2018 and 2019; in the 18 states where helmets are required for all riders, the estimate was 82% versus 56% in the states where helmets are not required for all riders. NHTSA, *Motorcycle Helmet Use in 2022—Overall Results*, DOT HS 813 505, August 2023, Table 1, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813505>. Requiring all riders to wear a helmet—a universal helmet law—has been estimated to reduce motorcyclist fatalities by (continued...)

features in a vehicle, has risen from 58% (1994) to 92% (2022).³⁵ Since 2000 the use of motorcycle helmets, the most effective safety feature for a motorcyclist, has varied from a high of 71% (2000, 2018, 2019) to a low of 48% (2005), ranging between 61% and 71% over the past decade.³⁶

The driving behaviors of two groups are of particular concern. Young male drivers (aged 16-24) are far more likely to be involved in fatal traffic crashes than any other age group.³⁷ Also, the fatality rate for motorcyclists (most of whom are male) is over 20 times the rate for occupants of other motor vehicles.³⁸

Since driver behavior is a contributing factor to most crashes, regulating driver behavior is a way of reducing the number of crashes. Regulating driver behavior is a power reserved to the states.³⁹ Congress has encouraged states to pursue safety initiatives affecting driver behavior either by providing money to states to do certain things (incentive grants) or by withholding money from states that do not do certain things (sanctions).⁴⁰

Safety Grants

NHTSA's largest safety grant programs are the State and Community Highway Safety Grant Program and the National Priority Safety Programs.

State and Community Highway Safety Grant Program. Also known as NHTSA's Section 402 grants (from its statutory designation, 23 U.S.C. §402), this program provides annual formula grants to states that may be used for a wide range of activities to reduce deaths and injuries from motor vehicle crashes. At least 40% of the funds must be spent by local governments or be used

20% or more. National Cooperative Highway Research Program, *Effectiveness of Behavioral Highway Safety Countermeasures*, Report 622, 2008, p. 41.

³⁵ NHTSA, *Traffic Safety Facts Research Note: Seat Belt Use in 2022—Overall Results*, DOT HS 813 407, January 2023, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813407>.

³⁶ NHTSA, *Traffic Safety Facts Research Note: Motorcycle Helmet Use in 2022—Overall Results*, DOT HS 813 505, August 2023, Figure 1, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813505>.

³⁷ NHTSA, *Traffic Safety Facts 2020*, Table 62, DOT HS 813 375, October 2022, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813375>.

³⁸ In 2020, the fatality rate per 100 million VMT for motorcyclists was 31.64, compared to an overall motor vehicle fatality rate of 1.34. NHTSA, *Traffic Safety Facts 2020*, Tables 2 and 10, DOT HS 813 375. In 2020, 5,579 motorcyclists were killed in crashes.

³⁹ For example, the federal government can require vehicle manufacturers to put seat belts in vehicles, but cannot require that people use them. States can make failure to use seat belts a legal offense.

⁴⁰ Two of the current traffic safety sanctions sometimes have been characterized as “weak” sanctions. This is because they do not withhold any transportation funding from a state that is not in compliance, but redirect a relatively small portion of a state's federal highway construction funding to its safety programs (including its Highway Safety Infrastructure Program). One sanction requires states to prohibit open alcoholic containers in vehicles; 12 states were sanctioned for noncompliance in FY2024. Another requires states to impose certain minimum penalties for repeat offenders convicted of driving while intoxicated; 21 states were sanctioned for noncompliance in FY2024. See FHWA, “Notice N 4510.880, Apportionment of Federal-Aid Highway Program Funds for Fiscal Year 2024, #6,” <https://www.fhwa.dot.gov/legisregs/directives/notices/n4510880.cfm>, for lists of the states subject to these sanctions.

In contrast, the sanction that requires states to set a blood alcohol concentration of 0.08 as the legal level of driving while intoxicated could be characterized as a “strong” sanction. This is because states not in compliance lose a portion of their federal highway construction funding. Every state is compliant with this requirement, according to the Governors Highway Safety Association, *Alcohol-Impaired Driving*, “Laws,” <https://www.ghsa.org/issues/alcohol-impaired-driving>.

for the benefit of local governments. In FY2023, NHTSA provided a total of \$407 million in Section 402 grants to the states, territories, the District of Columbia, and Puerto Rico.⁴¹

National Priority Safety Programs. Also known as NHTSA’s Section 405 grants (from their statutory designation, 23 U.S.C. §405), these are incentive grant programs to encourage states to take specific actions to promote seat belt and child restraint use (“occupant protection”); reduce impaired and distracted driving; require graduated licenses for teen drivers; address the safety of motorcyclists, bicyclists, and pedestrians; and improve the quality of state traffic safety information systems. States, territories, the District of Columbia, and Puerto Rico qualified for a combined total of \$343 million in incentive grants in FY2023.⁴²

Vehicle Safety Improvements

NHTSA began establishing minimum standards for passenger vehicles (known as Federal Motor Vehicle Safety Standards, or FMVSS) in the 1960s based on provisions in highway and traffic safety acts enacted in that period.⁴³ Existing standards are amended and new standards are added from time to time at the direction of Congress, at NHTSA’s own initiative, or as a result of a request from the public. New standards and amendments to existing standards must go through the federal rulemaking process, which provides for public review and comment on proposed changes. Standards currently under consideration include requiring speed limiting devices on trucks, vehicle design changes to reduce the risk of injury to pedestrians struck by cars, vehicle to vehicle communication about vehicle speed, brake status and related information, automatic emergency braking on cars and heavy trucks, impaired driving prevention technology, and audible notifications for rear seat belt usage.⁴⁴ NHTSA also tests vehicles for compliance with safety standards, rates the crashworthiness of vehicles, and monitors consumer complaints about vehicles for evidence of safety defects that may necessitate a vehicle recall.⁴⁵

Improvements in vehicle design, such as the use of crumple zones, have made vehicles structurally safer over the past few decades. NHTSA also mandated safety features such as airbags, which have been required in all passenger vehicles since model year 1997. Improved design and safety features have contributed to a reduction in the deadliness of crashes; the percentage of crashes in which vehicle occupants are killed or injured has dropped from around 33% (during the 1990s) to around 29% (2021).⁴⁶

Developments in electronic technology are shifting the focus of vehicle safety research from an emphasis on *crashworthiness* (a vehicle’s ability to protect occupants in the event of a crash) to crash avoidance. For example, electronic stability control systems automatically apply braking force to individual wheels to reduce the risks of skidding or rollover; this has been required on all

⁴¹ NHTSA publishes tables showing the amount awarded to each recipient; see the annual reports of NHTSA, “Grant Funding Table,” <https://www.nhtsa.gov/highway-safety-grants-program>.

⁴² Not every state or territory qualified for a grant under each incentive program. NHTSA publishes an explanation of the determinations for each grant; see the annual reports of NHTSA, “Grants Determination and Deficiencies in State Applications,” <https://www.nhtsa.gov/highway-safety-grants-program>.

⁴³ These are found in Part 571 of Title 49 of the *Code of Federal Regulations*.

⁴⁴ DOT, *September 2023 Significant Rulemaking Report*, <https://www.transportation.gov/regulations/report-on-significant-rulemakings>.

⁴⁵ Manufacturers typically voluntarily recall vehicles that have a defect but, if necessary, NHTSA can order a manufacturer to recall a defective vehicle.

⁴⁶ NHTSA, *Traffic Safety Facts 2020*, Table 1: Crashes by Crash Severity, DOT HS 813 375, October 2022, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813375>; NHTSA, *Summary of Motor Vehicle Traffic Crashes*, Table 1, DOT HS 812 515, October 2023. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813515>.

new passenger vehicles since the 2012 model year. Other technologies, such as adaptive cruise control (which automatically maintains a safe distance from the car ahead), forward collision mitigation (which automatically brakes to prevent the vehicle from striking an object in its path), and lane departure warning, are available as options on some vehicles. The National Transportation Safety Board has recommended that NHTSA add several of these new technologies to the list of mandatory safety standards for all new vehicles because of their potential to prevent crashes.⁴⁷

NHTSA and the Insurance Institute for Highway Safety announced in 2016 that 20 automakers, representing 99% of the U.S. auto fleet, had agreed to make automatic emergency braking (AEB) with forward collision warning a standard feature on all their cars by September 1, 2022. NHTSA said this agreement would result in the near universal availability of this safety feature at least three years sooner than by going through the regulatory process to make it a legal requirement. In June 2023, NHTSA observed that approximately 90% of new vehicles have an AEB system.⁴⁸ Following an increase in pedestrians killed by passenger vehicles over the past decade, Congress directed NHTSA to require all passenger vehicles be equipped with AEB, as AEB should help prevent such crashes. NHTSA issued a related notice of proposed rulemaking on AEB in June 2023.⁴⁹

NHTSA is also beginning rulemakings to develop a safe method of on-road testing of advanced vehicle technologies, such as automated driving systems, and to identify current regulations that may hinder the introduction of advanced vehicle technologies.⁵⁰

Federal Motor Carrier Safety Administration: Commercial Transportation Safety

The federal government lacks authority to regulate the behavior of ordinary drivers, which is under state jurisdiction. However, the behavior of commercial drivers who engage in interstate commerce is subject to federal regulation. For example, Congress has required that commercial drivers satisfy certain requirements for training, licensing, and medical fitness and that they undergo periodic drug and alcohol testing. Further, Congress has prohibited commercial drivers from texting or using handheld mobile phones while driving and has limited how much time they can spend driving each day (generally, no more than 11 hours for drivers hauling freight and 10 hours for drivers transporting passengers).⁵¹

Federal regulations concerning commercial vehicles and drivers are enforced by FMCSA and state authorities, who conduct both on-site and roadside inspections. Enforcement is challenging, given the scale of the industry; there are over 700,000 commercial truck and bus carriers with

⁴⁷ National Transportation Safety Board, *Most Wanted List: Require Collision-Avoidance and Connected-Vehicle Technologies on all Vehicles*, <https://www.nts.gov/Advocacy/mwl/Pages/mwl-21-22/mwl-hs-04.aspx>.

⁴⁸ NHTSA, “Notice of Proposed Rulemaking: Federal Motor Vehicle Safety Standards: Automatic Emergency Braking Systems for Light Vehicles,” 88 *Federal Register* 38632, June 13, 2023, p. 38634, <https://www.federalregister.gov/documents/2023/06/13/2023-11863/federal-motor-vehicle-safety-standards-automatic-emergency-braking-systems-for-light-vehicles>.

⁴⁹ Ibid.

⁵⁰ DOT, *September 2023 Significant Rulemaking Report*, available at <https://www.transportation.gov/regulations/report-on-significant-rulemakings>.

⁵¹ Federal Motor Carrier Safety Administration (FMCSA), *Summary of Hours of Service Regulations*, <https://www.fmcsa.dot.gov/regulations/hours-service/summary-hours-service-regulations>.

millions of vehicles and drivers.⁵² FMCSA inspectors and law enforcement officials have the power to remove a vehicle from service, and FMCSA can order a carrier to suspend operations in the event of serious violations. Fines for less severe violations are imposed by state authorities.⁵³

Safety Programs

FMCSA awards grants for activities to improve safety. Grants are available for state governments, training providers, nonprofit organizations, colleges and universities, and certain other entities; individual commercial drivers are not eligible for FMCSA grants but may be eligible for assistance from programs in the U.S. Departments of Education and Labor. Grants are available to support state and local law enforcement efforts (Motor Carrier Safety Assistance Program Grant) for certain safety-related activities, including using innovative technology (High Priority Grants) to support the integrity and efficiency of state commercial driver licensing programs (Commercial Driver's License Program Implementation Grant) and to expand the availability of commercial driver safety training (Commercial Motor Vehicle Operator Safety Training Grant).⁵⁴

In an effort to improve the safety performance of new carriers, FMCSA created the New Entrant Safety Assurance Program in 2003. New motor carriers operating in interstate commerce are to be monitored during their initial 18 months of operation, are to receive a safety audit, and will be granted permanent operating authority if evaluated as operating safely at the end of the 18-month period.⁵⁵

Selected Issues

One safety issue relates to automated driving systems. One of the most significant opportunities for improvement in commercial vehicle safety is the application of automated driving systems that supplement the role of the driver. NTSB, in calling for greater use of such technologies for commercial vehicles, noted that

In a 2015 study by the University of Michigan Transportation Research Institute, researchers found that in the large motor carriers they surveyed, [Lane Departure Warning Systems] reduced crashes by 14 percent, electronic stability control by 19 percent, [Forward Collision Warning Systems] by 14 percent, blind spot detection by 5 percent, and vehicle communications systems by 9 percent.⁵⁶

In May 2019 FMCSA issued a request for public comment about Federal Motor Carrier Safety Regulations that may need to be updated, modified, or eliminated to facilitate the safe introduction of commercial motor vehicles equipped with automated driving systems. FMCSA issued a supplemental notice regarding this rulemaking on February 1, 2023.⁵⁷

⁵² FMCSA, *2022 Pocket Guide to Large Truck and Bus Statistics*, December 2022, p. 7, <https://www.fmcsa.dot.gov/safety/data-and-statistics/commercial-motor-vehicle-facts>.

⁵³ For more information about FMCSA enforcement activities, see <https://www.fmcsa.dot.gov/registration/commercial-drivers-license/law-enforcement-and-judiciary>.

⁵⁴ See FMCSA, *Understanding FMCSA Grants*, <https://www.fmcsa.dot.gov/grants> for additional information.

⁵⁵ FMCSA, *New Entrant Safety Assurance Program*, <https://www.fmcsa.dot.gov/safety/new-entrant-safety-assurance-program>.

⁵⁶ National Transportation Safety Board, *2017-2018 Most Wanted List of Transportation Safety Improvements: Increase Implementation of Collision Avoidance Technologies: Highway*, <https://www.nts.gov/safety/mwl/Documents/2017-18/2017MWL-FctSht-CollisionAvoidance-H.pdf>.

⁵⁷ FMCSA, "Supplemental Advanced Notice of Proposed Rulemaking: Safe Integration of Automated Systems (ADS)-Equipped Commercial Motor Vehicles (CMVs)," 88 *Federal Register* 6691, February 1, 2023, <https://www.govinfo.gov/content/pkg/FR-2023-02-01/pdf/2023-02073.pdf>.

A second issue pertains to the efficient use of enforcement resources. In 2010, FMCSA adopted a new enforcement approach called the Compliance, Safety, Accountability program (CSA). CSA is a monitoring program that seeks to make better use of enforcement resources by using data collected through federal and state inspections and crash data to identify high-risk carriers who can then be targeted for interventions. Questions have been raised about the CSA, particularly its Safety Measurement System component, which uses data to identify high-risk carriers. Congress directed that the program be reviewed by the National Academy of Sciences. The resulting report concluded that the Safety Measurement System is structured in a reasonable way and made several recommendations for improving its effectiveness.⁵⁸ In addition, in August 2023, FMCSA requested comments on several topics related to improving their safety fitness determinations of motor carriers, including whether to use the Safety Measurement System methodology to make the determinations.⁵⁹

A third issue pertains to driver fatigue. In December 2011, FMCSA’s Motor Carrier Safety Advisory Committee and its Medical Review Board made recommendations regarding screening of commercial drivers for sleep apnea, a medical condition that causes frequent disruption to breathing during sleep, interfering with restful sleep and causing drowsiness during the day. Obesity is linked to sleep apnea, and commercial drivers have above-average rates of obesity, due in part to sitting behind the wheel of a vehicle for up to 11 hours a day, which leaves little time for exercise, as well as often limited options for healthy eating while on the road and often irregular sleep patterns. Sleep apnea can be a medically disqualifying condition for a commercial driver, though there are medical treatments that can permit a commercial driver to continue to drive. The FMCSA advisory committees recommended that medical examiners should routinely test commercial drivers who are extremely obese (BMI 35+)⁶⁰ for sleep apnea. FMCSA would have to go through the rulemaking process in order to make that recommendation a requirement.⁶¹ FMCSA has not proposed a rule to that effect.

For several decades, federal hours of service (HOS) regulations have limited the duty and driving hours of commercial drivers to reduce the risk of fatigued drivers causing crashes. Surveys indicated that drivers often violated those limits, but violations often were concealed because drivers kept track of their own hours in a paper log. Highway safety groups had long called for Congress to require that commercial drivers use an automated system to track their driving time in order to limit violations.

In response to a congressional directive,⁶² since December 2017, most truckers have been required to use an electronic logging device (ELD) to record how many hours they spend on duty and driving each day. Some sectors of the commercial trucking industry, particularly livestock haulers, expressed concern that the ELD requirement—which is to say enforcement of the HOS rules that have been in place for many years—makes it hard for them to conduct their businesses. Since 2017, Congress has granted livestock haulers a temporary reprieve from the ELD

⁵⁸ National Academies of Sciences, Engineering, and Medicine, *Improving Motor Carrier Safety Measurement*, 2017, <https://doi.org/10.17226/24818>.

⁵⁹ FMCSA, “Advance Notice of Proposed Rulemaking and Request for Comments: Safety Fitness Determinations,” 88 *FR* 59489, August 29, 2023, <https://www.federalregister.gov/documents/2023/08/29/2023-18494/safety-fitness-determinations>.

⁶⁰ BMI stands for Body Mass Index, and is a measure of a person’s weight divided by his or her height.

⁶¹ In 2013, Congress provided that FMCSA would have to go through the rulemaking process to implement screening, testing, or treatment of commercial drivers for sleep disorders. See P.L. 113-45.

⁶² The congressional directive is in §32301(b) of P.L. 112-141 (2012). FMCSA finalized the rulemaking for this mandate in 2015 (the final rule is at <https://www.gpo.gov/fdsys/pkg/FR-2015-12-16/pdf/2015-31336.pdf>). The mandate took effect in December 2017.

mandate.⁶³ In addition, FMCSA has granted an exemption to the HOS rule for drivers operating between a point 150 air miles from the source of the livestock and a point 150 air miles from the place where the livestock will be delivered.⁶⁴ In 2022, FMCSA denied a petition from livestock groups that would allow them to drive up to 15 hours.⁶⁵

Author Information

David Randall Peterman
Analyst in Transportation Policy

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.

⁶³ The exemption has been provided in each year's DOT appropriation act, in the administrative provisions under the FMCSA section. Because the current exemption works by prohibiting FMCSA from using funding provided by that year's appropriations act to enforce the electronic logging device (ELD) requirement on livestock haulers, the exemption is temporary and must be included in each year's DOT appropriations act to continue in effect.

⁶⁴ FMCSA, *ELD Hours of Service (HOS) and Agriculture Exemptions*, <https://www.fmcsa.dot.gov/hours-service/elds/eld-hours-service-hos-and-agriculture-exemptions>.

⁶⁵ FMCSA, "Hours of Service of Drivers," 87 *Federal Register* 73390, November 29, 2022, <https://www.federalregister.gov/documents/2022/11/29/2022-25999/hours-of-service-of-drivers-national-cattlemens-beef-association-livestock-marketing-association>.