

Status Report

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How legal marijuana affects crash rates

Safety groups issue automated enforcement guide

Study tallies losses from disabled-vehicle crashes

Choosing a vehicle for a new grad





Crash rates jump in wake of marijuana legalization, new studies show

More evidence is emerging that crash rates go up when states legalize recreational use and retail sales of marijuana.

Crash rates spiked with the legalization of recreational marijuana use and retail sales in California, Colorado, Nevada, Oregon and Washington, a new study by IIHS and another by HLDI show.

However, the preliminary results of a separate IIHS study of injured drivers who visited emergency rooms in California, Colorado and Oregon showed that drivers who used marijuana alone were no more likely to be involved in crashes than drivers who hadn't used the drug. That is consistent with a 2015 study by the National Highway Traffic Safety Administration that found that a

positive test for marijuana was not associated with increased risk of crash involvement.

"Our latest research makes it clear that legalizing marijuana for recreational use does increase overall crash rates," says IIHS-HLDI President David Harkey. "That's obviously something policymakers and safety professionals will need to address as more states move to liberalize their laws — even if the way marijuana affects crash risk for individual drivers remains uncertain."

More than a third of U.S. states have legalized recreational marijuana for adults 21 and older. The hefty tax revenues those states are earning have others exploring similar legislation, and recent polls indicate that 68 percent of American adults favor legalization. Consumption also appears to be expanding rapidly, with self-reports of past-month marijuana use doubling from 6 percent to 12 percent of those surveyed between 2008 and 2019.

That's a potential concern for those who care about road safety. Driving simulator tests have shown that drivers who are high on marijuana react more slowly, find it harder to pay attention, have more difficulty maintaining their car's position in the lane and make more errors when something goes wrong than they do when they're sober. But such tests have also shown marijuana-impaired drivers are likely to drive at slower speeds, make fewer attempts to overtake and keep more distance between their vehicle and the one ahead of them.

To better understand the net impact on safety, researchers at IIHS and HLDI have conducted a series of studies since 2014 examining how legalization has affected crash rates and insurance claims in the first states to legalize recreational use.

The most recent of these studies from IIHS shows that injury and fatal crash rates in California, Colorado, Nevada, Oregon and Washington jumped in the months following the relaxation of marijuana laws in each state.

Combined, the impact of legalization and, subsequently, retail sales in the five states resulted in a 6 percent increase in injury crash rates and a 4 percent increase in fatal crash rates compared with other Western states where recreational marijuana use was illegal during the study period. Only the increase in injury crash rates was statistically significant.

That's consistent with a 2018 IIHS study of police-reported crashes — most of which did not involve injuries or fatalities — that found that legalization of retail sales in Colorado, Oregon and Washington was associated with a 5 percent higher crash rate compared with the neighboring control states.

Insurance records show a similar increase in claims under collision coverage, which pays for damage to an at-fault, insured driver's own vehicle, HLDI's latest analysis shows. The legalization of retail sales in Colorado, Nevada, Oregon and Washington was associated with a 4 percent increase

/i\ IIHS AND HLDI RESEARCH

"Changes in traffic crash rates after legalization of marijuana: results by crash severity" by C.M. Farmer, S.S. Monfort and A.N. Woods

"Recreational marijuana and collision claim frequencies" (HLDI Bulletin)

"Cannabis presentations to the emergency department after motor vehicle crashes in the era of legalization for recreational use" by E. Choo et al.

To request these papers, email researchpapers@iihs.org.

in collision claim frequency compared with other Western states over 2012-19. That's down slightly from the 6 percent increase HLDI identified in a previous study, which covered 2012-18.

Despite those increases in crash rates, studies of whether marijuana itself makes drivers more likely to crash have been inconsistent. The latest one from IIHS — which used data collected from injured drivers in three emergency rooms in Denver, Colorado; Portland, Oregon; and Sacramento, California — showed no increased crash risk associated with the drug, except when combined with alcohol.

At each location, researchers conducted surveys for more than a year, interviewing and drug-testing more than 1,200 patients. The results showed that the crash-involved drivers weren't any more likely to self-report or test positive for marijuana alone than other drivers who weren't involved in a crash and were at the emergency room for reasons other than an injury.

Just 4 percent of the drivers involved in crashes said they used marijuana by itself over the previous eight hours, compared with 9 percent of those who weren't involved

in a crash. Similarly, 13 percent of the crash-involved drivers tested positive for marijuana only, compared with 16 percent of the control set.

The reverse was true for the combined use of marijuana and alcohol, with 3 percent of the crash-involved drivers and fewer than 1 percent of the control drivers self-reporting use of both substances and 5 percent of the crash-involved drivers and fewer than 1 percent of the control drivers testing positive.

Those combined-use numbers could help explain why crash rates have increased. Legalization may be encouraging more people to drink and use marijuana together.

Studies comparing the simultaneous use of alcohol and marijuana in states where marijuana is legal with states where it is still against the law will be needed to test this hypothesis. But some early evidence has already emerged that shows self-reports of past-month marijuana and alcohol use have increased, while the reported use of alcohol alone has decreased, especially in states where recreational use of marijuana is now legal.

A nationally representative survey conducted recently by the AAA Foundation for

Traffic Safety also found that drivers who self-reported using both alcohol and marijuana were more likely than those who had only consumed alcohol to say they had driven while impaired and engaged in dangerous driving behaviors such as making aggressive maneuvers or speeding on residential streets.

Other factors related to how legalization has affected the way people use marijuana, rather than the physiological effects of the drug, may also be at play. For example, the larger spike in crash rates in Colorado — the first state to legalize recreational use — suggests a burst of enthusiasm that leveled off as the drug's new status became more commonplace. The first few states to legalize marijuana even used the legalization as part of their tourism promotions.

It's also possible that disparities in state and local regulations might be encouraging more travel by marijuana users. For example, marijuana users in counties that do not allow retail sales may drive to counties that do. Their increased travel could lead to more crashes even if their crash risk per mile traveled is no higher than that of other drivers. ■



Full story at go.iihs.org/news-marijuana-retailers

Retailers comply with marijuana age restriction

California's licensed marijuana retailers are taking laws prohibiting sales to people under 21 seriously, a new study shows.

Young-looking patrons without identification were denied entry at every marijuana retailer they visited for the experiment. IIHS partnered with researchers from NORC at the University of Chicago and the University of Minnesota to conduct the study.

"Licensed marijuana retailers are clearly keen to follow the rules. They're aware that the industry hasn't won everybody over yet, and they don't want to get shut down," says IIHS Senior Research Scientist Angela Eichelberger. "It also probably helps that similar laws have been around a long time for alcohol, so ID checks are an established routine."

Jurisdictions that have legalized the recreational use of marijuana have minimum marijuana use age laws similar to those that have long been in force for alcohol.

To understand how well the regulations work, the researchers recruited a young-

looking 22-year-old man and 23-year-old woman to visit marijuana retailers. Posing as customers, they tried to enter each establishment without showing identification. After being denied entry, they came back with valid ID and pretended to browse while they conducted an on-site survey of the store's inventory and apparent security practices.

The two pseudo-patrons visited 50 retail outlets, three of which they discovered only sold medical marijuana. All 47 stores catering to recreational users denied them entry until they returned with valid ID. ■

IIHS RESEARCH

"An examination of the legal marijuana use age and its enforcement in California, a state where recreational marijuana is legal" by J.C. Fell et al.

To request this paper, email researchpapers@iihs.org.

Safety groups create automated enforcement checklist to encourage well-designed programs

Red light and speed cameras are powerful enforcement tools that have been shown to reduce crashes, but programs must be carefully implemented to maintain community support. A new checklist released by AAA, Advocates for Highway and Auto Safety, the Governors Highway Safety Association (GHSA), IIHS and the National Safety Council (NSC) can serve as a roadmap for communities that are establishing or expanding automated enforcement programs.

“Research by IIHS and others has shown consistently that automated enforcement curbs dangerous driving behaviors and reduces crashes,” says IIHS President David Harkey. “We hope this document developed with our highway safety partners will help communities take full advantage of this tool.”

Speed is one of the biggest dangers on the road. In 2019, 9,478 deaths — more than a quarter of all traffic fatalities — occurred in speed-related crashes. Higher speeds make crashes more likely and make the crashes that happen more severe. Even as states have raised speed limits in recent years, drivers have continued to exceed those limits.

Red light running, meanwhile, kills hundreds of people and injures tens of thousands every year. In 2019, 846 people were killed and an estimated 143,000 were injured in red light running crashes. Most of those killed were pedestrians, bicyclists and people in other vehicles and not the red light runners or passengers riding with them.

“Red light running and speeding are known killers on our roads,” says Advocates President Cathy Chase. “Well-designed and implemented automated enforcement programs can deter these hazardous driving behaviors and reduce crash deaths and injuries. They can also provide an equitable, neutral option for upgrading safety. We urge states and localities to use this checklist together with road safety infrastructure improvements to help protect motorists, bicyclists, pedestrians and other vulnerable road users.”

Despite the large body of research showing the effectiveness of camera enforcement, the devices are not as widely used as they could be. Some 340 U.S. communities currently operate red light cameras, down from more than 500 during 2011-14. Speed cameras are less widespread, but their use has been going up slowly. Currently, 159 communities have automated speed enforcement programs.

The new checklist builds on one for red light cameras that was introduced in 2018 by AAA, Advocates, IIHS and NSC.

“We know from the AAA Foundation for Traffic Safety’s research that more than two people are killed every day on U.S. roads by impatient and reckless drivers blowing through red lights,” says Jill Ingrassia, AAA’s executive director of advocacy and communications. “Automated enforcement can play a role in a comprehensive strategy

to address dangerous driving behaviors and improve traffic safety for all road users. This new set of best practice guidelines is an excellent starting point in helping jurisdictions ensure these programs are well-designed, data-driven, transparent and equitably implemented.”

The addition of speed cameras to the checklist comes amid a growing awareness of the role speed plays in traffic deaths. As U.S. roads emptied out during the first part of the COVID-19 pandemic, those who remained on the road began speeding more frequently, resulting in more fatalities even amid a decrease in driving.

“After a year in which excessive speeding became commonplace nationwide and in the midst of a historic surge in pedestrian fatalities, we need to be considering all options to get drivers to slow down,” says GHSA Executive Director Jonathan Adkins. “States and communities should use this new resource to integrate automated enforcement into a comprehensive strategy to combat dangerous speeding.”

The checklist aims to address some common concerns about cameras. Public support for the programs can erode when they are poorly run or when people believe their purpose is to generate revenue rather than to prevent crashes.

“Automated enforcement is proven to reduce speeds and save lives as one tool in the safe system approach,” says Lorraine Martin, president and CEO of the National Safety Council and chair of the Road to Zero Coalition. “With inclusion of equity, transparency and community participation as critical planning and implementation components, the new automated enforcement checklist will enable stakeholders to focus on safety rather than financial gain and to address speed, reduce red light running and improve mobility.”

As the checklist makes clear, safety and transparency should guide all decisions about camera programs. If the cameras are doing their jobs, communities should expect revenue to decline over time as fewer drivers violate speed limits or run red lights. Any obvious problems with sightlines, signage or signal timing that are keeping drivers from obeying the law should be corrected before cameras are installed.

Public input is key. The checklist recommends convening an advisory committee made up of stakeholders such as law enforcement, victim advocates, civil rights advocates, school officials and residents to help make decisions about guiding principles and other aspects of the program.

Automated enforcement should be viewed as one tool among many that can be used to make roads and intersections safer. Even if a community proceeds with an automated enforcement program, roadway design improvements and other changes should also be considered. ■

TOW AWAY

SPEED
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AUTOMATED ENFORCEMENT PROGRAM CHECKLIST

For red light cameras and automated speed enforcement

Automated enforcement is an effective tool to make roads safer. Research shows that red light cameras reduce violations and injury crashes, especially the violent front-into-side crashes most associated with red light running. Speed cameras have been shown to reduce vehicle speeds, crashes, injuries and fatalities. Both types of programs should be designed, implemented and administered properly. Poorly run programs are less likely to be durable and may undermine support for automated enforcement generally.

Speed and red light camera programs augment traditional enforcement to improve traffic safety by deterring dangerous driving behaviors. Automated enforcement does not require traffic stops, and well-designed programs can improve safety for all road users in a neutral manner.

Successful programs are transparent and have a strong public information component. Communities should take into account racial and economic equity when making decisions about camera placement and fines. Automated enforcement programs should be data-driven and should prioritize safety, not revenue. In fact, communities should expect that revenue will decline over time as fewer drivers run red lights or violate speed limits.

This checklist assumes your community is already legally authorized to set up a program. It provides a minimum list of considerations to help you follow best practices. The goal is to operate a successful program that reduces crashes and prevents deaths and injuries while maintaining strong public support. Automated enforcement can be integrated into broader efforts to discourage unsafe driving that include optimizing speed limits for safety and improving roadway design.



FIRST STEPS

- Identify problem intersections and roadways.
 - Assess violation and crash data.
 - Conduct field observations.
 - Collect resident and roadway user input.
- Consider what role automated enforcement should play as part of a comprehensive traffic safety strategy.
- Make any engineering or signage changes needed to improve drivers' compliance with the law.
 - Ensure the road geometry conforms with guidelines from the American Association of State Highway and Transportation Officials, National Association of City Transportation Officials guidance or state road design manuals, as appropriate.
 - Remove sightline obstructions of signals and signage.
- For red light cameras:**
 - Ensure that yellow light timing conforms to the Manual on Uniform Traffic Control Devices and Institute of Transportation Engineers guidelines.
- For automated speed enforcement:**
 - Ensure the speed limit is appropriate and accounts for all road users. Follow guidance and use tools from the Federal Highway Administration, Institute of Transportation Engineers, and the National Association of City Transportation Officials.
 - Ensure the speed limit is appropriate for special conditions, such as work zones and school zones.
 - Assess whether engineering changes could be made to promote compliance with the speed limit.
 - Ensure adequate posting of speed limits.
- Establish an advisory committee comprised of stakeholders.
 - Consider including law enforcement, transportation department employees, victim advocates, equity and civil rights advocates, school officials, community residents, first responders, health officials and the courts.
 - Outline the committee's role. This may include developing guiding principles related to safety, equity, and transparency, as well as other aspects of the program.
 - Ensure committee meetings are open to the public and deliberations are transparent.
- Meet with the media, including newspaper editorial boards, to build support and educate the public.

SECOND STEPS

- Make program design decisions, consulting with the advisory committee as appropriate.

Program design considerations

Target violations with the greatest safety consequences. For example, you might decide not to ticket for right-turn-on-red violations when pedestrians, bicyclists, and oncoming vehicles are not present or to limit violations in work zones to when workers are present, provided the road configuration has not also been altered for construction.

Establish a reasonable fine structure. Create options for indigent violators such as payment plans or other alternatives.

Establish a threshold that must be crossed before a vehicle is photographed for a violation of red light running or speeding (i.e., a period after a light turns red or a certain mph over the posted speed). The point is to target flagrant, rather than marginal, infractions.

Programs should include a process for evidence review by appropriately trained personnel to determine if a violation occurred and issue a citation if warranted.

Establish clear procedures for contesting an alleged violation. Consider options to contest online or by mail.

When possible, red light camera violations should be recorded in real time video, and videos of the offense should be made available to the vehicle owner for review via the Internet.

Fines in excess of program costs should be allocated to transportation safety programs.

- Use safety data gathered in the first steps to determine camera locations, ensuring that particular neighborhoods are neither overlooked nor overrepresented.
- Publicize the extent of the safety problem and the need for innovative solutions.
- Secure a vendor and establish payment based on the vendor's actual costs, not the number of citations.
- Publicize procedures for contesting an alleged violation.
- Create a website and social media plan to publicize program details, such as how to pay and dispute tickets. Establish a method for answering questions accurately and in a timely manner.
- Develop an emergency action plan for handling problems, such as system malfunctions.

IMPLEMENTATION

- Hold a kickoff event with advisory committee members. Introduce a well-developed and sustained public education campaign focused on improving safety by changing driver attitudes and behavior.
- Connect the program to overall roadway safety in the community and identify the goal of zero tickets resulting from changes in driver behaviors.
- Install prominent warning signs.
- Start with a probationary period during which only warnings are issued.
- Follow current guidance from the U.S. Department of Transportation for implementation and operation of automated enforcement devices.
- Allow for due process. Minimize the number of days between the violation and citation issuance.

LONG TERM

- Publicize changes, including new camera locations. Reinstate the probationary period before ticketing begins at new locations.
- Monitor program operation and publicize results. Undertake periodic reviews and ensure racial, economic and other equity issues and public concerns are addressed.
- Require regular field reviews. Verify monthly camera calibration and synchronization with signals.
- Require regular evaluations of the traffic safety benefits of the program by collecting crash and infraction data. Before-and-after comparisons must use control intersections and roadways. Include control intersections and roadways that are not subject to spillover effects.
- Regularly meet with the advisory committee and media to review program status and sustain public support.
- Continue to improve programs based on new and updated guidance and best practices and look for opportunities to expand automated enforcement use.
- Consider other changes, including roadway design improvements, in order to reduce opportunities for unsafe driving.

AAA | Advocates for Highway Safety | Governors Highway Safety Association
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May 2023

Download the checklist at
iihs.org/ae-checklist.pdf



Stopped-vehicle crashes result in hundreds of fatalities per year

Hundreds of people are killed and thousands are injured each year in crashes involving stopped or disabled vehicles that may not have stood out enough to alert drivers to the danger they pose, according to a new study commissioned by a company that makes enhanced hazard lighting systems.

Using federal crash statistics, transportation data analysis firm Impact Research estimated that 566 people were killed and 14,371 injured each year over 2016-18 in crashes on all types of roads involving a disabled vehicle in which visibility was likely a factor. The annual societal cost of those crashes totaled around \$8.8 billion in medical payments, lost wages, and the less easily quantified costs of death or disability.

“This study identifies a part of the road safety equation that doesn’t get much attention, despite the size of the problem,” says David Zuby, IIHS executive vice president and chief research officer.

The federal crash databases include codes denoting crashes that involve stopped or disabled vehicles. To estimate how many of those might have resulted because the stationary vehicle wasn’t conspicuous enough, the authors analyzed detailed police reports from a subset of Florida crashes to determine the percentages of different types of collisions that involved a stopped vehicle that was too difficult for other drivers to see. Then they applied those percentages to the broader data set.

They found that 95 percent of these inconspicuous-vehicle crashes occur when

a vehicle traveling down the roadway collides with a stationary one. However, more than half the deaths and almost 1 in 5 serious injuries occur when a vehicle strikes a pedestrian who is leaving, working on, or returning to a stopped vehicle. On average, this type of crash kills 300 pedestrians a year, a number that has risen by more than a quarter since 2014.

That increase comes amid a steady rise in pedestrian fatalities, generally. Overall, 6,205 pedestrians were killed on U.S. roads in 2019, up from just 4,109 ten years earlier. An earlier IIHS study found that around 800 pedestrians a year are killed on U.S. interstates and other freeways — about 18 percent of them due to a disabled vehicle.

“These crashes illustrate the potential value of stopped-vehicle-ahead warnings, which are already provided by some navigation apps and could be integrated to work with advanced driver assistance features and more advanced driving automation,” Zuby says. “They’re also a reminder of why we put so much emphasis on good headlights as a vital crash avoidance technology.”

Crashes like these could potentially be eliminated with vehicle-to-vehicle communication, which enables vehicles to wirelessly exchange information about their speed, location, and heading. But long before that technology becomes commonplace, several simpler countermeasures could help, the report suggests.

Earlier research indicates that improving hazard lights so they flash brighter and

more frequently and are triggered automatically in the event a vehicle is disabled could reduce crashes. Nearly a third of the collisions in that study involved a stationary vehicle that had its hazards on. Emergency Safety Solutions, which commissioned the Impact Research report, makes one such enhanced hazard lighting system.

Adjustments to the “move over” laws that require drivers to change lanes to give police and emergency services vehicles more room to operate could also help, Impact Research concluded. Such laws are now in place in all 50 U.S. states. But first responders continue to be killed and injured in secondary crashes, prompting the U.S. Government Accountability Office to announce in June 2019 that it would conduct a study to review what might be done to make these laws more effective.

Better traffic management practices could also make a difference. Under one such policy, first responders dispatch two vehicles to every highway incident and use one vehicle primarily to shield the personnel working on the disabled vehicle from oncoming traffic, increasing the visibility of the scene with flares, safety cones and flashing lights.

However, more research is needed there, as well. The most recent Federal Highway Administration report on the subject was written in 2010, before many relevant technologies became available, and its authors were unable to identify specific traffic management procedures that were most effective in preventing secondary crashes. ■

IIHS, Consumer Reports update recommended vehicles for Class of '21

IIHS and Consumer Reports (CR) have updated their list of affordable, safe and reliable vehicles for teens for 2021.

The new recommendations come at a time when soaring demand and tight supply related to the COVID-19 pandemic have pushed used vehicle prices way up. Young drivers and their parents should be prepared to do a little more research and a little more hunting to find something suitable.

“With used car prices so high this year, it may be tempting to have a newly licensed teen make do with a clunker or to buy them the smallest, cheapest new car available,” says IIHS President David Harkey. “As usual, we’re asking families to put safety at the center of this decision. Very old cars often lack adequate airbags and structure to protect their occupants. And minicars, even those that are brand new, can’t keep their occupants as safe in a crash when compared with a larger vehicle.”

“In compiling these lists, we found that some of the same models that were on last year’s lists are actually more expensive now even though they’re a year older,” says Jennifer Stockburger, director of operations at the Consumer Reports Auto Test Center. “This list is intended to point buyers toward vehicles that excel in performance and reliability ratings from CR’s tests and survey data and earn high marks for crash protection and crash avoidance from IIHS while staying within a defined budget.”

Even in this tight market, it’s possible to find some good options for young drivers. IIHS and CR identified 61 used vehicles ranging from \$6,400 to \$19,800 that meet safety and reliability criteria. A separate list of new vehicles with state-of-the-art protection has 29 models ranging in price from \$19,900 to \$39,500.

Although the lists are intended specifically for teen drivers, they can be a resource for anyone looking for a safe, reliable and affordable vehicle. The new vehicle list is especially useful for parents of younger children who might be buying a vehicle for their own use with an eye toward handing it down to a new driver in the future.

Consumers who consult the list won’t find any sports cars or other vehicles with excessive horsepower because these vehicles can tempt teens to test the limits and put themselves in high-risk situations. In addition, there are no minicars or vehicles under 2,750 pounds. The biggest, heaviest vehicles, including those in the large SUV class, have also been left off the list because they can be hard to handle and often have increased braking distances.

The list of recommended used vehicles is divided into Good Choices and Best Choices, which offer a slightly higher level of safety. Both Good Choices and Best Choices have:

- ▶ standard electronic stability control
- ▶ above-average reliability, based on CR’s member survey, for the majority of the years listed
- ▶ average or better scores from CR’s emergency handling tests
- ▶ dry braking distances of less than 145 feet from 60 mph in CR’s brake tests
- ▶ good ratings in four IIHS crashworthiness tests — moderate overlap front, side, roof strength and head restraints
- ▶ four or five stars from the National Highway Traffic Safety Administration (if rated)

In addition, the Best Choices have a good or acceptable rating in the IIHS driver-side small overlap front test, launched in 2012.

The top tier of used vehicles also excludes vehicles that have substantially higher than average insurance claim rates under medical payment or personal injury protection coverage. Both coverage types pay for injuries to occupants of the insured vehicle. HLDI collects and publishes insurance loss data by make and model every year. The results are adjusted for driver age, gender and other factors that could affect risk.

The recommended new vehicles offer an even higher level of safety. All of them are winners of the IIHS *TOP SAFETY PICK* or *TOP SAFETY PICK+* award, meaning they have good ratings in all six of the Institute’s crashworthiness tests, advanced or superior ratings for front crash prevention, and acceptable- or good-rated headlights.

Only 2021 vehicles that come with vehicle-to-vehicle automatic emergency braking as standard equipment are included. In cases in which acceptable or good headlights aren’t standard, the list specifies the qualifying trim levels and options. The new models are ones that CR has judged to be at the top of their respective classes.

“The high prices for used cars may lead more families to consider buying a new vehicle for their teen,” Harkey says. “If you go that route, make sure you are investing in safety and reliability for the future.”

Used-car prices are 18 percent higher than they were a year ago, the vehicle valuation company Kelley Blue Book said in May. Demand for vehicles rose during the pandemic as some people abandoned public transit and others decided to put their government assistance checks toward cars. At the same time, supply chain issues have constrained new vehicle production. ■



See the full list of recommended used and new models at [iihs.org/teenvehicles](https://www.iihs.org/teenvehicles)



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IIHS is an independent, nonprofit scientific and educational organization dedicated to reducing deaths, injuries and property damage from motor vehicle crashes through research and evaluation and through education of consumers, policymakers and safety professionals.

HLDI shares and supports this mission through scientific studies of insurance data representing the human and economic losses resulting from the ownership and operation of different types of vehicles and by publishing insurance loss results by vehicle make and model.

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