

A silver car is shown from the side, with its rear wheel, door, and mirror visible. The background is filled with festive decorations, including several large balloons in blue and red, and a string of pennants in red and yellow. The text is overlaid on the balloons.

SHOPPING
FOR A
SAFER
CAR
2009

**INSURANCE INSTITUTE
FOR HIGHWAY SAFETY**

So you've decided to buy a car, minivan, SUV, or pickup. Now the question is, which one? If you factor safety into your choice (most people do), then you probably want to know, what's the safest one to buy? Safety includes numerous aspects, so there's no direct answer, although it's clear that some vehicles are safer than others. You can find safer vehicles in various price and style groups — and you can use this publication to help identify the best choices. Start by recognizing that safety involves **AVOIDING CRASHES** to begin with and **PROTECTING YOU IF AND WHEN A CRASH OCCURS**.

CRASH AVOIDANCE



*To choose from a list
of crashworthy cars, turn
the page to find the Insurance
Institute for Highway Safety's*
TOP SAFETY PICKS

All vehicles have basic features to reduce crash likelihood — lights so other motorists can see you, brakes to stop when needed, etc. Now innovative technologies are being added to help avoid crashes. These include features to alert you if you stray from your travel lane or warn if you're about to back into something. Most of these new features haven't been scientifically evaluated. We don't know yet if they reduce crashes, though some of them show promise. One that already is proving effective is **ELECTRONIC STABILITY CONTROL**. You'll find it by a variety of trade names (StabiliTrak, Stability Assist, etc.), but the systems are basically the same. They're extensions of antilock brake technology that help drivers maintain control in the worst situation — loss of control at high speed. Then electronic stability control engages automatically to help bring the vehicle back in the intended line of travel. This technology lowers the risk of a fatal single-vehicle crash by about half. It lowers the risk of a fatal rollover crash by as much as 80 percent. To see if a vehicle you're thinking of buying has electronic stability control, go to iihs.org/ratings/esc.aspx.

DON'T COUNT ON AVOIDING CRASHES.

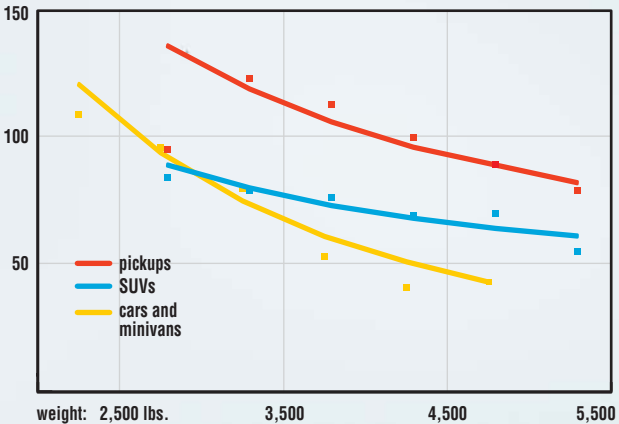
Despite everyone's best efforts, millions of crashes occur each year. Tens of thousands of them involve deaths. So the most important aspect of shopping for safety is to choose a crashworthy vehicle — one that reduces death and injury risk during a crash.

CRASHWORTHINESS

The first crashworthiness attributes to consider are vehicle size and weight. Small, light vehicles generally offer less protection than larger, heavier ones. There's less structure to absorb crash energy, so deaths and injuries are more likely to occur in both single- and multiple-vehicle crashes. If safety is one of your major considerations **PASS UP VERY SMALL, LIGHT VEHICLES**. This doesn't mean you have to buy the heaviest vehicle you can find. It wouldn't necessarily be safer because those weighing more than about 4,500 pounds afford only small injury risk reductions. Meanwhile they increase the injury risks for people in the other vehicles with which they collide.

BIGGER GENERALLY IS SAFER

**DRIVER DEATHS PER MILLION REGISTERED VEHICLES,
BY VEHICLE WEIGHT, 2001-04 MODELS DURING 2002-05**



Rates are adjusted to account for some differences in driver age and sex within and between vehicle types. Remaining differences in vehicle use patterns and driver demographics may account for some of the death rate differences.

While the risk of death generally is higher in lighter cars, SUVs, and pickups than in heavier ones, size and weight don't tell the whole story. Some light car models, for example, are safer than others. Some midweight SUVs are safer than others. And so on. This is because some models have more crashworthy designs. You can't tell this by looking at the vehicles. You need crash test results to make comparisons. Most popular vehicles have been tested, so buy a vehicle in your chosen size class with **GOOD FRONT, SIDE, & REAR CRASHWORTHINESS RATINGS**.

To shop for safety, first determine the vehicle type and size you want, keeping in mind that bigger generally is safer. Then it's easy to shop for a safe vehicle by choosing one that earns a **TOP SAFETY PICK** award.

These afford the best protection in crashes. They also have ESC to help avoid crashes. 2009 winners:

LARGE CARS

Acura RL
Audi A6
Cadillac CTS
Ford Taurus
Lincoln MKS
Mercury Sable
Toyota Avalon
Volvo S80

MIDSIZE CARS

Acura TL
Acura TSX
Audi A3
Audi A4
BMW 3 series
4-door models
Ford Fusion
with optional ESC
Honda Accord
4-door models
Mercedes C class
Mercury Milan
with optional ESC
Saab 9-3
Subaru Legacy
Volkswagen Jetta
Volkswagen Passat

MIDSIZE CONVERTIBLES

Saab 9-3
Volkswagen Eos
Volvo C70

SMALL CARS

Honda Civic
4-door models with optional ESC
except Si models
Mitsubishi Lancer
with optional ESC
Scion xB
Subaru Impreza
with optional ESC
Toyota Corolla
with optional ESC
Volkswagen Rabbit
4-door models

MINICAR

Honda Fit
with optional ESC

MINIVANS

Honda Odyssey
Hyundai Entourage
Kia Sedona

LARGE SUVs

Audi Q7
Buick Enclave
Chevrolet Traverse
GMC Acadia
Saturn Outlook

MIDSIZE SUVs

Acura MDX
Acura RDX
BMW X3
BMW X5
Ford Edge
Ford Flex
Ford Taurus X
Honda Pilot
Hyundai Santa Fe
Hyundai Veracruz
Infiniti EX35
Lincoln MKX
Mercedes M class
Nissan Murano
Saturn VUE
Subaru Tribeca
Toyota FJ Cruiser
Toyota Highlander
Volvo XC90

SMALL SUVs

Ford Escape
Honda CR-V
Honda Element
Mazda Tribute
Mercury Mariner
Mitsubishi Outlander
Nissan Rogue
Subaru Forester
Toyota RAV4
Volkswagen Tiguan

LARGE PICKUPS

Ford F-150
Honda Ridgeline
Toyota Tundra

SMALL PICKUP

Toyota Tacoma

To compare the crashworthiness of other passenger vehicles, go to www.iihs.org



CHOOSING A **CRASHWORTHY DESIGN**

The main aspects of design that determine vehicle crashworthiness are structure and restraints. A good **STRUCTURAL DESIGN** means a strong occupant compartment (safety cage), crumple zones to absorb the force of a serious crash, and a side structure that can manage the force of a striking vehicle or struck object.

Until recently **RESTRAINT SYSTEMS** typically included a basic lap/shoulder belt and frontal airbags. But now restraints are becoming more sophisticated. Crash-activated tensioners can reduce safety belt slack. Force limiters can reduce the chance of a rib injury from the belt itself. Advanced frontal airbags have inflation characteristics geared to specific crash circumstances, and other airbags are protecting people's heads and chests in side impacts. Even vehicle seats and head restraints, which can reduce the risk of neck injuries in rear impacts, are being upgraded.

The best way to evaluate a vehicle's structural design and restraint system is in dynamic tests that indicate how well people in real collisions would fare. Based on test performance, vehicles earn crashworthiness ratings from good to poor.

FRONTAL CRASHWORTHINESS

Crash testing for consumer information began with the federal government's New Car Assessment Program (NCAP) of 35 mph **FRONTAL CRASHES HEAD ON** into a rigid barrier. A demanding assessment of vehicle restraints, this test has led to numerous restraint system improvements. The Insurance Institute for Highway Safety (IIHS) also conducts frontal tests for consumer



IIHS and the government rate vehicles based on crash test results. Check the ratings ([iihs.org/ratings](https://www.iihs.org/ratings) and [safercar.gov](https://www.safercar.gov)) for vehicles that provide good protection in frontal crashes.

information. These **40 MPH OFFSET TESTS** complement NCAP tests and have spurred improvements in vehicle structures. IIHS and NCAP tests are barrier impacts, equivalent to a vehicle striking the front of an identical vehicle, so the tests are easier for smaller vehicles. But a small car, for example, wouldn't be expected to fare as well in a crash with a larger, heavier vehicle. These days most passenger vehicles earn good ratings in frontal tests conducted by both IIHS and NCAP. Make sure this is true of any vehicle you're considering for purchase, and then go on to assess its performance in side and rear tests.

SIDE CRASHWORTHINESS

IIHS and NCAP rate passenger vehicles based on tests that simulate **FRONT-INTO-SIDE** crashes. In the NCAP test, vehicles are struck by a moving barrier that mimics a car, so this test doesn't assess the risk to car occupants' heads when their vehicles are struck in the side by high-riding vehicles like SUVs and pickups. In the IIHS test, the moving barrier represents a pickup or SUV.



IIHS's side crash test is more demanding than the federal government's test. The striking barrier is higher, so the test mimics impacts that put occupants' heads at risk. Choose a vehicle that earns a good rating in the IIHS test. Vehicles that do are equipped with side airbags that protect people's heads.

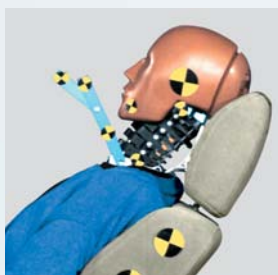
This higher profile means the IIHS test is more demanding. In real-world crashes like this test, there's an elevated risk of head injury. Performance in the IIHS test varies widely, and the vehicles rated good have side airbags that protect people's heads. Studies of real-world crashes indicate that these substantially reduce fatality risk in serious side impacts. Some side airbags also are designed to protect people in rollover crashes.

If side airbags are options in a vehicle you're thinking of buying, go ahead and purchase this option. Make sure the airbags are designed to protect your head, chest, and abdomen.



REAR CRASHWORTHINESS

Compared with front and side crashes, rear impacts are less likely to cause life-threatening injuries. Yet rear-enders occur frequently and often cause neck injuries to people in struck vehicles. Such injuries can be painful and involve costly, long-term consequences. When a vehicle is struck in the rear, an occupant suddenly moves forward with the seat, and if the head isn't supported it will lag behind the body. This bends and stretches the neck backward in a **WHIPLASH INJURY**. Seat/head restraints can reduce these injuries by keeping the head and body moving together in a rear impact. IIHS evaluates how well seat/head restraints accomplish this by first measuring restraint geometry (the higher and closer to the back of the head, the better) and then, if the geometry is at least acceptable, testing the seat and restraint together in a simulated



Good seat/head restraints start with good geometry. The restraints are positioned high and close behind the head.

rear impact. You'll have to shop carefully for a vehicle that has a good rear crashworthiness rating (not many do). A complication is that vehicles are sold with optional seat packages, so one model may include multiple seat/head restraint designs with different ratings. Match the seat package in the model you're buying to its rating (most seat packages have been rated). And before you drive away in your new car, check to see if the head restraint requires adjustment to extend as high as needed. If so, adjust it for optimal protection.

REMEMBER THE BASICS

Now that you know what safety aspects to look for — vehicle size matters, and so do crash avoidance features and crashworthiness ratings — you know how to factor safety

into your decision about a vehicle to purchase. You don't have to give up a stylish vehicle to get a safer one. You can have both.

To find and compare safety ratings for hundreds of vehicles, go to:
iihs.org/ratings
safercar.gov

1st Century Insurance
 AAA Mid-Atlantic Insurance Group
 AAA Northern California, Nevada, and Utah
 Affirmative Insurance
 Agency Insurance Company of Maryland
 AIG Agency Auto
 AIG Direct
 Alfa Alliance Insurance Corporation
 Alfa Insurance
 Allstate Insurance Group
 American Family Mutual Insurance
 American National Property and Casualty Companies
 Ameriprise Auto & Home
 Amerisure Insurance
 Amica Mutual Insurance Company
 Auto Club Group
 Auto Club South Insurance Company
 Bituminous Insurance Companies
 Bristol West Insurance
 Brotherhood Mutual Insurance Company
 Capital Insurance Group
 Chubb Group of Insurance Companies
 Concord Group Insurance Companies
 Cotton States Insurance
 COUNTRY Financial
 Countrywide Insurance Group
 Erie Insurance Group
 Esurance
 Farm Bureau Financial Services
 Farm Bureau Mutual Insurance Company of Idaho
 Farmers Insurance Group of Companies
 Farmers Mutual of Nebraska
 First Acceptance Corporation
 Florida Farm Bureau Insurance Companies
 Frankenmuth Insurance
 Gainsco Insurance
 The GEICO Group
 Georgia Farm Bureau Mutual Insurance Companies
 GMAC Insurance
 Grange Insurance
 Hanover Insurance Group
 The Hartford
 High Point Insurance Group
 Homeowners of America Insurance Company
 ICW Group
 Indiana Farm Bureau Insurance
 Kemper, A Unitrin Business
 Kentucky Farm Bureau Insurance
 Liberty Mutual
 Markel Corporation
 Mercury Insurance Group
 MetLife Auto & Home
 Michigan Insurance Company
 MiddleOak
 MMG Insurance
 Mutual of Enumclaw Insurance Company
 Nationwide Insurance
 Nodak Mutual Insurance Company
 Norfolk & Dedham Group
 North Carolina Farm Bureau Mutual Insurance Company
 Ohio Casualty Group
 Oklahoma Farm Bureau Mutual Insurance Company
 Oregon Mutual Insurance
 Palisades Insurance
 Pekin Insurance
 PEMCO Insurance
 The Progressive Corporation
 Response Insurance
 Rockingham Group
 Safeco Insurance Companies
 Samsung Fire & Marine Insurance Company
 SECURA Insurance
 Shelter Insurance
 Sampo Japan Insurance Company of America
 South Carolina Farm Bureau Mutual Insurance Company
 State Auto Insurance Companies
 State Farm
 Tennessee Farmers Mutual Insurance Company
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