



SHOPPING FOR A

**SAFER  
CAR**

2010

**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 vehicle to buy? Safety has 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 then **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, etc. New technology is being added to help avoid crashes in the first place. These features alert you if you stray from your lane or get too close to a car in front of you.

Most of the new features haven't been scientifically evaluated yet, but some show promise and one already is proving effective: **ELECTRONIC STABILITY CONTROL.**

You'll find it by various 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. These systems engage automatically to help bring a vehicle back in the intended line of travel.

Electronic stability control 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/esc.aspx](http://iihs.org/ratings/esc/esc.aspx).

### **DON'T COUNT ON AVOIDING CRASHES.**

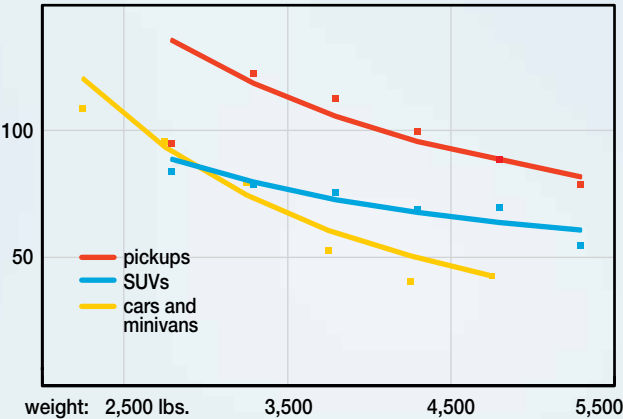
Despite everyone's best efforts, millions of crashes occur each year. Tens of thousands of them involve deaths. So the most important aspect of shopping for safety is to choose a crashworthy vehicle — one that reduces death and injury risk during a crash.

# 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. At the same time, they increase the injury risk for people riding in other vehicles with which they collide.

## BIGGER GENERALLY IS SAFER

DRIVER DEATHS PER MILLION REGISTERED VEHICLES



*Note: 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 smaller and lighter cars, SUVs, and pickups, vehicle size and weight don't tell the whole story. There are safety differences among vehicles that are similar in size and weight. 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** than others. You can't tell the difference by looking at the vehicles. You need to compare their crash test results. Most popular vehicles have been tested, so buy one with **GOOD CRASHWORTHINESS RATINGS** in front, side, rollover, and rear-end crashes.

To shop with safety in mind, 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 safer vehicle by choosing one that earns the top award from the Insurance Institute for Highway Safety.

Winners afford good protection in front, side, rear, and rollover crashes. They have electronic stability control to help motorists avoid crashes. Winners for 2010:

### **LARGE CARS**

Buick LaCrosse  
Ford Taurus  
Lincoln MKS  
Volvo S80

### **MIDSIZE CARS**

Audi A3  
Chevrolet Malibu built after November 2009  
Chrysler Sebring 4-door with optional ESC  
Dodge Avenger with optional ESC  
Mercedes C class  
Subaru Legacy  
Subaru Outback  
Volkswagen Jetta sedan  
Volkswagen Passat sedan  
Volvo C30

### **SMALL CARS**

Honda Civic 4-door with optional ESC, except Si  
Kia Soul  
Nissan Cube  
Subaru Impreza except WRX  
Volkswagen Golf 4-door

### **MIDSIZE SUVs**

Dodge Journey  
Subaru Tribeca  
Volvo XC60  
Volvo XC90

### **SMALL SUVs**

Honda Element  
Jeep Patriot with optional side torso airbags  
Subaru Forester  
Volkswagen Tiguan

To compare ratings for other vehicles, go to [www.iihs.org](http://www.iihs.org).



# CHOOSING A **CRASHWORTHY DESIGN**

Structure and restraints are the main aspects of a vehicle's design that determine its crashworthiness. Good **STRUCTURE** means a strong occupant compartment (safety cage), crumple zones to absorb the force of a serious crash, side structure that can manage the force of a striking vehicle or struck object, and a strong roof so it doesn't collapse in on you in a rollover. Until recently **RESTRAINTS** included a basic safety belt and frontal airbags. Now there's more. Crash-activated tensioners reduce belt slack. Force limiters can reduce rib injury risk from the belt itself. The inflation characteristics of advanced frontal airbags are geared to specific crash circumstances. Other airbags protect your head and chest in side impacts. Seats and head restraints are being upgraded to reduce neck injuries in rear crashes. The best way to evaluate a vehicle's structural design and restraints is in a dynamic test. Based on test performance, a vehicle earns a crashworthiness rating from good to poor.

## **FRONTAL CRASHWORTHINESS**

Crash testing for consumer information began with the federal government's New Car Assessment Program 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 also conducts frontal tests for consumer information. These **40 MPH OFFSET TESTS** complement the government tests, spurring improvements in vehicle structure so that now most passenger vehicles earn good ratings. Look for good ratings in both sets of tests.



Go to [iihs.org/ratings](https://www.iihs.org/ratings) and [safercar.gov](https://www.safercar.gov) to find and compare vehicle crashworthiness based on frontal crash tests. Pick a vehicle to buy that has the highest ratings in these tests.

## SIDE CRASHWORTHINESS

The government and the Insurance Institute for Highway Safety rate vehicles based on tests that simulate **FRONT-INTO-SIDE** crashes. In both tests, vehicles are struck by a moving barrier, but the barriers differ so that the government test doesn't assess the risk to people's heads when their vehicles are struck by high-riding ones. Look for good ratings in both tests, especially the one that assesses head protection in side impacts, and make sure any vehicle you're thinking of buying has side airbags that protect people's heads. Studies of real-world crashes indicate that these substantially reduce fatality risk. If side airbags are optional in a vehicle you're thinking of buying, go ahead and purchase them. Some side airbags also are designed to protect you in a rollover.



In the Insurance Institute for Highway Safety's side crash test, the striking barrier is higher than in the federal government's test, so it mimics crashes in which occupants' heads are at risk. Choose a vehicle that earns a good rating in this test.

## ROLLOVER CRASHES

When vehicles roll, their roofs hit the ground and crush. Stronger roofs crush less, so the Insurance Institute for Highway Safety rates roof strength to help consumers pick vehicles that are crashworthy in rollovers. To earn a good rating, a roof must withstand a force 4 times the vehicle's weight before reaching 5 inches of crush. A roof this strong reduces injury risk in a single-vehicle rollover by about 50 percent, compared with a roof meeting only minimum safety requirements.



# REAR CRASHWORTHINESS

Compared with front, side, and rollover crashes, rear impacts are less likely to threaten your life. 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. Here's how the injuries happen: When a vehicle is struck from behind, an occupant suddenly goes forward with the seat. If the head isn't supported it will lag behind, bending and stretching the neck in a **WHIPLASH MOTION**. Vehicle seats and head restraints can be designed to reduce whiplash injuries, so the Insurance Institute for Highway Safety first measures restraint geometry (the higher and closer to the back of the head, the better). If head restraint geometry is at least acceptable, then a simulated rear impact of the seat and restraint together completes the evaluation. Look for vehicles that earn good ratings to minimize



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

neck injury risk in rear-end crashes, but be careful. You'll have to pay close attention to the seat options.

A complication is that vehicles are sold with optional seat packages, so one model may include multiple seat designs that earn different ratings. You'll have to match the seats in a vehicle you want to buy with the specific rating for that seat package. Before you drive away, check to see if the head restraint needs to be adjusted to fit behind your head. If it does, **ADJUST IT** for good protection.

## REMEMBER THE BASICS

Now that you know how to factor safety into your choice of a vehicle to buy, keep this in mind: Vehicle size matters. So do crash avoidance features and crashworthiness ratings.

You don't have to forego buying a stylish vehicle to get one that's safer. You can have both.

TO FIND AND COMPARE  
SAFETY RATINGS FOR  
HUNDREDS OF VEHICLES,  
GO TO [IIHS.ORG/RATINGS](http://IIHS.ORG/RATINGS)  
AND [SAFERCAR.GOV](http://SAFERCAR.GOV)

# INSURANCE INSTITUTE FOR HIGHWAY SAFETY

21st Century Insurance	Kemper, A Unitrin Business
AAA Mid-Atlantic Insurance Group	Kentucky Farm Bureau Insurance
AAA Northern California, Nevada, and Utah	Liberty Mutual
Affirmative Insurance	Markel Corporation
Agency Insurance Company of Maryland	Mercury Insurance Group
Alfa Alliance Insurance Corporation	MetLife Auto & Home
Alfa Insurance	Michigan Farm Bureau Insurance
Allstate Insurance Group	Michigan Insurance Company
American Family Mutual Insurance	MiddleOak
American National Property and Casualty Company	MMG Insurance
Ameriprise Auto & Home	Mutual of Enumclaw Insurance Company
Amerisure Insurance	Nationwide
Amica Mutual Insurance Company	Nodak Mutual Insurance Company
Auto Club Group	Norfolk & Dedham Group
Auto Club South Insurance Company	North Carolina Farm Bureau Mutual Insurance Company
Bituminous Insurance Companies	Oklahoma Farm Bureau Mutual Insurance Company
Bristol West Insurance Group	Old American County Mutual Fire Insurance
Brotherhood Mutual Insurance Company	OneBeacon Insurance
California Casualty	Oregon Mutual Insurance
Capital Insurance Group	Palisades Insurance
Chubb Group of Insurance Companies	Pekin Insurance
Concord Group Insurance Companies	PEMCO Insurance
Cotton States Insurance	The Progressive Corporation
COUNTRY Financial	Response Insurance
Countrywide Insurance Group	Rockingham Group
Discovery Insurance Company	Safeco Insurance
Erie Insurance Group	Samsung Fire & Marine Insurance Company
Esurance	SECURA Insurance
Farm Bureau Financial Services	Sentry Insurance
Farm Bureau Mutual Insurance Company of Idaho	Shelter Insurance
Farmers Insurance Group of Companies	Sompo Japan Insurance Company of America
Farmers Mutual of Nebraska	South Carolina Farm Bureau Mutual Insurance Company
Fireman's Fund Insurance Company	State Auto Insurance Companies
First Acceptance Corporation	State Farm
Florida Farm Bureau Insurance Companies	Tennessee Farmers Mutual Insurance Company
Frankenmuth Insurance	Tokio Marine Nichido
Gainsco Insurance	The Travelers Companies
GEICO Group	Unitrin
Georgia Farm Bureau Mutual Insurance Company	USAA
GMAC Insurance	Virginia Farm Bureau Mutual Insurance
Grange Insurance	West Bend Mutual Insurance Company
Hanover Insurance Group	Zurich North America
The Hartford	
High Point Insurance Group	FUNDING ASSOCIATIONS
Homeowners of America Insurance Company	American Insurance Association
ICW Group	National Association of Mutual Insurance Companies
Indiana Farm Bureau Insurance	Property Casualty Insurers Association of America

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