

Status Report

Insurance Institute for Highway Safety | Highway Loss Data Institute

Safe seats

Record 27 new boosters
earn highest IIHS rating

ALSO IN
THIS ISSUE

Vol. 49, No. 9
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- ▶ Many kids using safety belts should ride in boosters
- ▶ Colliding with deer is costly, especially for some models

The ranks of top-rated booster seats continue to grow as manufacturers design models to earn high marks in the Institute's annual booster seat evaluations, plus offer the style and convenience parents look for when it's time to pick a safe seat for their booster-age children.

Among the 41 models new for 2014, there are 27 BEST BET seats — more than in any prior year — and three GOOD BETs. Eight boosters are in a category the Institute calls "Check Fit," and there are three new models that the Institute doesn't recommend using as boosters. Prices for BEST BET boosters start around \$25 and go up to about \$370, depending on features, and several models are LATCH compatible.

Boosters earn a rating of BEST BET, GOOD BET, Check Fit or Not Recommended, based on a protocol that involves measuring how three-point lap and shoulder belts fit a child-size test dummy seated in the booster on a

vehicles. Correct belt fit means that the lap belt lies flat across a child's upper thighs, and the shoulder belt crosses snugly over the middle of the shoulder.

The Check Fit designation means that the booster may provide good belt fit for some children in some vehicles, but not as many as boosters that earn either of the top two ratings. Belt fit can vary depending on child size and vehicle model. Before buying these boosters, parents should try them out to see if they properly position safety belts on their children in the vehicles they will ride in.

In addition to information on models new this year, consumers can find IIHS ratings for older booster seats still on the market at iihs.org/boosters. Altogether, IIHS has ratings for 69 BEST BET and eight GOOD BET boosters, 35 Check Fit boosters and five Not Recommended seats for 2014.

"Buying a booster seat can be confusing," says Jessica Jermakian, a senior research scientist at



Some highback boosters are combination seats that come with an internal harness for use as a forward-facing child restraint. Three highback models from Britax are among the BEST BET boosters that offer this capability. They are the Frontier 90, Pinnacle 90 and Pioneer 70.

stationary test fixture. Measurements are taken under four conditions spanning the range of safety belt configurations in passenger vehicles. The evaluations focus on belt fit and don't involve crash tests.

A BEST BET booster correctly positions belts on a typical 4-to-8-year-old child in almost any car, minivan or SUV. A GOOD BET provides acceptable belt fit in most

the Institute and an expert on child passenger safety. "There are lots of models and features to choose from. Until we started our ratings six years ago, parents couldn't be sure that the booster they'd put in their shopping cart would actually provide the right belt fit for their child once they unpacked the seat and installed it in the family vehicle. Our ratings take the guesswork out of purchasing a booster seat."



She notes that most new models in recent years earn a BEST BET or GOOD BET rating, and many manufacturers check in with the Institute during the development process to gauge how their designs will rate.

Missing the mark

In a setback this year, three new boosters landed in the Not Recommended category.



They are the highback Diono Olympia and Diono Pacifica and the Kids Embrace Batman No Back Booster.

Shoulder belt fit is the issue with both Diono models. Highback boosters have guides to route lap and shoulder belts and can offer some head support. The shoulder belt guides on the Olympia and Pacifica put the belt

in a position that touches the face in several safety belt configurations instead of placing the belt across the center of the chest. The guides aren't adjustable. In contrast, another new Diono model, the Rainier, earns a GOOD BET rating when used as a highback booster. The Rainier's adjustable headrest allows parents to change

There are 41 new models for 2014, including 27 BEST BET boosters, 3 GOOD BETs, 8 Check Fit and 3 boosters that aren't recommended. There are more BEST BET boosters this year than ever before.

BEST BET

- Baby Trend Hybrid 3-in-1 (backless mode)
- Baby Trend Hybrid No Back (backless)
- Britax Frontier 90 (highback)
- Britax Pinnacle 90 (highback)
- Britax Pioneer 70 (highback)
- BubbleBum Neon (backless)
- Cybox Solution X-Fix (highback)
- Diono Solana (backless)
- Dream On Me Turbo Booster (highback mode)
- Eddie Bauer Deluxe Belt-Positioning Booster (highback mode)
- Eddie Bauer Deluxe Highback 65 (highback)
- Evenflo Chase (highback)
- Evenflo Symphony 65 (highback)
- Graco Argos 80 Elite 3-in-1 (backless mode)
- Graco Argos 80 Elite 3-in-1 (highback mode)
- Graco 4Ever All-in-1 (backless mode)
- Graco 4Ever All-in-1 (highback mode)
- Graco Milestone All-in-1 (highback)
- Graco Nautilus 3-in-1 with Safety Surround (highback mode)
- Kids Embrace Teenage Mutant Ninja Turtle (highback)
- Maxi-Cosi Rodi AP (highback mode)
- Maxi-Cosi RodiFix (highback)
- Peg Perego Viaggio HBB 120 (highback mode)
- Recaro Performance Booster (highback)
- Safety 1st Store 'n Go (highback mode)
- Safety 1st Store 'n Go No-Back (backless)
- Safety 1st Summit 65 (highback)



GOOD BET

- Baby Trend Hybrid 3-in-1 (highback mode)
- Cybox Solution Q-Fix (highback)
- Diono Rainier (highback)

Check Fit

- Dream On Me Coupe Booster (backless)
- Dream On Me Turbo Booster (backless mode)
- Eddie Bauer Deluxe Belt-Positioning Booster (backless mode)
- Graco Nautilus 3-in-1 with Safety Surround (backless mode)
- Harmony Folding Travel Booster (highback)
- Maxi-Cosi Rodi AP (backless mode)
- Peg Perego Viaggio HBB 120 (backless mode)
- Safety 1st Store 'n GO (backless mode)

Not Recommended

- Diono Olympia (highback)
- Diono Pacifica (highback)
- Kids Embrace Batman No Back Booster (backless)

the position of the shoulder belt guide to achieve acceptable shoulder belt fit.

Lap belt fit is the problem with the Batman No Back booster. The armrests that serve as the lap belt path keep the belt too far out on the thighs. A better choice for kids who dig superheroes would be a highback model from Kids Embrace, the Teenage Mutant Ninja Turtle booster, which is a BEST BET. Kids Embrace also sells a highback Batman and a highback Spider-Man booster, which would rate the same as the highback Ninja Turtle. Other BEST BET backless-only options are the Baby Trend Hybrid No Back and the Diono Solana.

The Institute continues to advise consumers to avoid using as boosters two carry-over models from Dorel Juvenile, the Safety 1st All-in-One and Safety 1st Alpha Omega Elite. These seats have been on the Not Recommended list since 2009 because they don't provide proper belt fit. They leave the lap belt too high on the abdomen and the shoulder belt too far out on the shoulder.

As with any child safety seat, consumers should be on the lookout for manufacturer recalls. The Institute includes recall information for booster seats on its ratings page at ihs.org/boosters.

Improved design

Three redesigned highback boosters from Britax made the BEST BET list this year. They are the Frontier 90, Pinnacle 90 and Pioneer 70. Last year's models were designated as Check Fit boosters, and Britax has discontinued them. The new models have an improved armrest design that puts the lap belt in the correct position for proper fit. In addition to

Dueling superheroes: The Teenage Mutant Ninja Turtle highback booster is a BEST BET, but the Batman No Back Booster isn't recommended because of poor lap belt fit. Both models are from Kids Embrace.

highback boosters, these combination seats can be used as a harness-equipped forward-facing child restraint. Parents in the market for a BEST BET combination seat could consider any of these Britax seats, plus the Eddie Bauer Deluxe Highback 65 Booster.

Some seats show up twice in the ratings list. That's because they can be converted for use as either a highback booster or a backless booster. The Institute treats these as two distinct seats for ratings purposes. Consumers should pay attention to each rating and consider how they will use the seats in their vehicles.

Ratings for dual-use models can vary by how they are used. For example, the Safety 1st Store 'n Go is a BEST BET when used as highback booster, but it is designated a Check Fit when used as a backless booster. For the right shoulder belt fit in backless mode, the booster needs an accessory belt clip, which isn't included in the box and must be ordered separately. Safety 1st also sells a backless-only version of the Store 'n Go. The Store 'n Go No-Back Booster comes with a shoulder belt clip that puts the belt in the right place for proper fit, making it a BEST BET. Backless models usually need a plastic clip to properly position shoulder belts.

Another example is the Maxi-Cosi Rodi AP. The seat is a BEST BET when used as a highback booster and designated a Check Fit when used as a backless booster.

For new parents looking for the convenience of a single child restraint that will take their baby through the

grade school years, there are some good options on the 2014 ratings list.

The Graco 4Ever All-in-1 and the Graco Milestone All-in-1, both BEST BETs, also can be used as rear-facing and forward-facing child restraints. The 4Ever accommodates infants from 4 pounds as a rear-facing seat all the way up to 120 pounds when used with older children as a backless booster. The Milestone can be used as a rear-facing child restraint for babies weighing 5 to 40 pounds, forward-facing for children 20 to 65 pounds, and as a highback booster for kids up to 100 pounds.

More LATCH-compatible boosters

This year 15 of the newly introduced models use LATCH to secure the booster to the vehicle for use when a child is in the booster. LATCH, or Lower Anchors and Tethers for



Children, is a system intended to make it easier to attach child restraints securely. Typically, LATCH has only been used with rear-facing or forward-facing child restraints. With or without LATCH, a booster provides significant safety benefits.

With all boosters, the job of restraining a child is done by the vehicle safety belts, not the booster. Consumers should check their seat instruction manual to see when the manufacturer recommends using LATCH. Some recommend using the attachment system only when the booster is unoccupied.

Among BEST BETs, these 2014 models specify using LATCH when the booster is occupied: Britax Frontier 90, Pinnacle 90 and Pioneer 70; Cybex Solution X-Fix; Diono Solana; Graco 4Ever All-in-1 and Milestone All-in-1; Evenflo Chase and Symphony 65; Kids Embrace Teenage Mutant Ninja Turtle; Maxi-Cosi RodiFix and Peg Perego Viaggio HBB 120. Among GOOD BETs, the Baby Trend Hybrid 3-in-1, Cybex Solution Q-Fix and Diono Ranier also have LATCH for use when the booster is occupied.

Shopping considerations

“With backless BEST BET boosters retailing for as little as \$25 and top-rated highback versions starting at about \$60, parents should be able to find a booster seat to fit their budget and transportation needs,” Jermakian says.

“It’s also important to consider whether your child is big enough to graduate to a booster seat,” she adds. “Don’t put your child in a booster seat if they still fit in a forward-facing child restraint.”

Children should stay in a harness-equipped child restraint in the back seat as long as possible, up to the height and weight limits of the seat as recommended by the seat manufacturer. Parents can find this information on the child seat label and in the instruction manual. When children outgrow child restraints, they should use boosters until adult belts fit properly. For some children, that’s not until about age 12.

Children ages 4-8 in boosters are 45 percent less likely to sustain injuries in crashes than kids restrained by belts alone. Children who are using improperly fitted belts are at risk of a host of crash injuries known as “seat belt syndrome.” These include spine injuries and internal organ injuries. Boosters help by elevating a child into position and guiding the belts for better protection. ■

Many kids using safety belts should ride in booster seats

Deciding when to switch a child from a booster seat to an adult safety belt alone is still confusing for many parents. In a national online survey of 1,000 parents of booster-age children, 9 of 10 parents had moved their child out of a booster seat before they were big enough for belts.

The Safe Kids Worldwide survey found 7 of 10 parents of children 4 to 10 years old didn’t know that a child should be at least 4 feet 9 inches tall to ride in a car using a safety belt without a booster seat.

When asked what was the deciding factor in moving their child out of a booster seat to a lap/shoulder belt, 56 percent of parents cited reasons other than height and weight. These included state laws, their child’s comfort and their spouse’s opinion.

Carpools are especially tricky for some parents, Safe Kids found. One in five parents whose children carpool say they “bend the rules” when they drive, allowing children to ride without belts or without the booster or child restraint they would normally use. Two-thirds of parents say they notice other carpool drivers bending the rules, too. What’s more, 21 percent of parents of children who carpool at least one day a week say they rarely or never talk to the other people driving the carpool about the type of restraint their own child uses.

“We found there’s a need to remind parents, and anyone who drives a child, about the importance of using a booster seat until a seat belt alone fits safely,” says Kate Carr, president and chief executive of Safe Kids Worldwide. “Here’s an easy tip: A child needs to be at least 57 inches tall and between 80 and 100 pounds to ride with just a seat belt.”

Parents are advised to keep children up to age 13 in the back seat, but 16 percent of parents in the survey said their child sometimes rides in the front seat. Reasons parents gave for letting children ride in front included short trips (28 percent), single passenger (20 percent) and when the back seat is full (19 percent).

Kids too big for child restraints should use a belt-positioning booster in the back seat until adult safety belts fit properly. Some boosters provide better belt fit than others. The shoulder belt should fit snug across the center of the shoulder and not across the neck or face or slipping off the shoulder. The lap belt should lie flat across the upper thighs and not on the tummy.

To use a safety belt, the National Highway Traffic Safety Administration recommends that children should be able to keep their back against the seat, with their knees naturally bent over the seat edge and their feet flat on the floor.

Every state and the District of Columbia has a child restraint law, but these differ when it comes to booster-age children and don’t always reflect best practices recommended by the American Academy of Pediatrics. The age at which belts can be used instead of child restraints differs among the states. In 30 states and D.C., child restraint laws cover children until their 8th birthday, with exceptions for kids who are big for their ages. Wyoming and Tennessee require boosters to age 9.

Download the September 2014 Safe Kids Worldwide report “Buckle up: booster seats” at www.safekids.org/research-report/buckle-booster-seats-september-2014. ■



Kids too big for a child restraint should use a booster seat until adult belts fit properly.

Colliding with deer is costly, especially for some vehicles

West Virginia leads states in frequency of November animal-strike claims

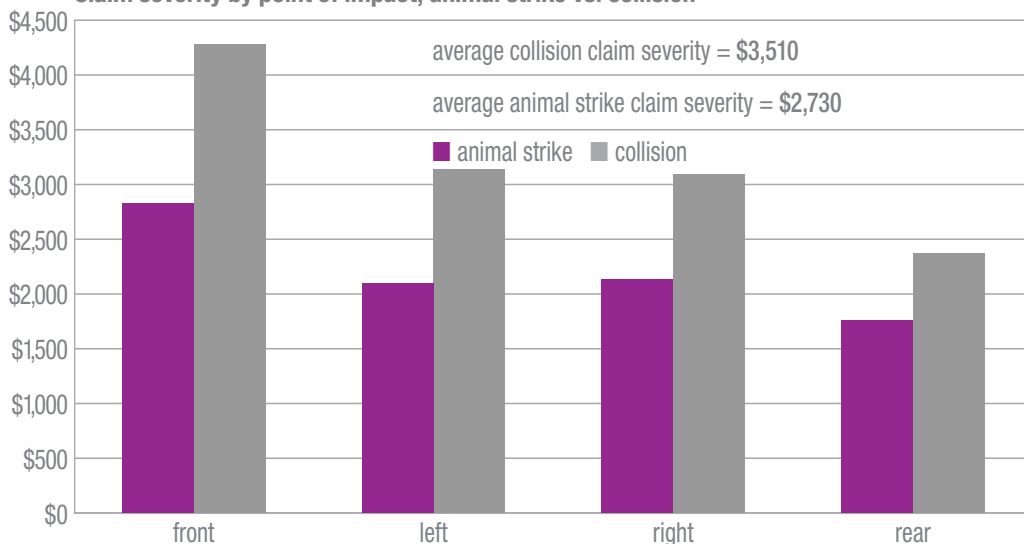
If you drive in a rural area, chances are good that either you or someone in your family has hit a deer. Fixing the damage to your car, pickup or SUV can be costly, but on average it's not as pricey as colliding with another vehicle, a new HLDI analysis shows. What's more, some vehicles seem to be deer bait, racking up higher-than-average insurance losses.

Fall brings a sharp rise in insurance claims related to collisions with animals, mainly deer, in many parts of the country. Animal-strike claims peak in November and then drop off in December and January.

comprehensive insurance, which also covers theft or physical damage to a policyholder's own vehicle for reasons other than crashes. For other kinds of crashes, rear-enders for instance, collision coverage insures against physical damage to the at-fault driver's vehicle in a crash.

Of the 36 companies that provide HLDI with data on comprehensive coverage and claims, 23 specify whether the claim was for an animal strike or something else. HLDI's latest reports on animal strikes include only data from those 23 insurers. HLDI has been reporting on animal strikes since 2008.

Claim severity by point of impact, animal strike vs. collision



The high claim period coincides with deer mating season when bucks roam (see *Status Report*, Nov. 20, 2012, at ihs.org).

West Virginia, Iowa and Pennsylvania had the highest November claim frequency for animal strikes among U.S. states during 2006-13, an April HLDI report found. West Virginia's November claim frequency of 51.6 claims per 1,000 insured vehicle years (one vehicle insured for one year or two vehicles for six months each, etc.) was about 3½ times the national average for the month.

Repairs for damage to a vehicle from striking an animal are covered under

The average cost of an animal-strike claim under comprehensive coverage for 2001-14 models during calendar years 2004-13 was \$2,730. That's a hefty price but still lower than the average payout of \$3,510 for a collision claim, HLDI found.

"The majority of animal-strike claims are for front-end damage," says Matt Moore, vice president of HLDI. "If vehicle manufacturers could use front crash prevention systems to detect animals, many of these crashes could be prevented."

Eighty-seven percent of animal-strike claims involve the front of a vehicle. The next

most frequent impact point is to the driver side of the vehicle (7 percent), followed by the passenger side (5 percent) and rear (1 percent). In contrast, 52 percent of collision claims involve the front of a vehicle, followed by rear impacts at 28 percent, the passenger side (11 percent) and driver side (10 percent).

In a separate report, HLDI analysts compiled a list of the top 10 vehicles with the highest and lowest losses for animal-strike claims among 2011-13 models. The vehicles with the most-expensive animal-strike losses tend to be cars, while SUVs and pickup trucks dominate the list of vehicles





Top 10 vehicles with best, worst overall losses for animal strikes

2011-13 models

Least-expensive overall losses

Jeep Wrangler 2-door 4WD
Jeep Wrangler 4-door 4WD
Chevrolet Silverado 1500 crew cab
Jeep Grand Cherokee
Acura TL 4WD
Chevrolet Silverado 1500 4WD
Chevrolet Tahoe
Chevrolet Silverado 1500
Honda CR-V
GMC Yukon 4WD

Most-expensive overall losses

Hyundai Elantra GT
Toyota Prius c hybrid
Mitsubishi Outlander Sport 4WD
Audi Q7 4WD
Subaru Impreza 4WD
Subaru Impreza WRX 4WD
Audi A6 4WD
Mitsubishi Lancer
Scion tC
Volkswagen New Beetle

The vehicles with the most-expensive animal-strike losses tend to be cars, while SUVs and pickups dominate the list of vehicles with the lowest overall losses, taking into account claim frequency and severity.

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with the lowest overall losses, taking into account claim frequency and claim severity, expressed as dollars per insured vehicle year.

The Hyundai Elantra GT, a small four-door car, had the highest animal-strike overall losses at more than twice the all-passenger vehicle average. Next worst was the Toyota Prius c hybrid small car.

Two SUVs from Jeep lead the lowest-loss list. The Wrangler two-door small SUV and four-door midsize model had the lowest overall losses for animal strikes at about one-third of the all-passenger vehicle average. Next best are the Chevrolet Silverado 1500

crew cab large pickup and another Jeep, the Grand Cherokee four-door midsize SUV.

The combined animal-strike claim frequency for 2011-13 model passenger vehicles was 7.9 claims per 1,000 insured vehicle years, with an average claim severity of \$3,384. Cars had the highest claim frequency at 9 claims per 1,000 insured vehicle years. Very large luxury cars had the highest claim severities (\$5,888 per claim), and very large SUVs had the lowest (\$2,664 per claim).

HLDI standardized the results to control for demographic and geographic variables. Losses were standardized by calendar year,

model year, garaging state, number of registered vehicles per square mile, driver age, gender, marital status, deductible and risk.

State Farm estimates that 1.22 million collisions involving deer occurred in the U.S. between July 1, 2012 and June 30, 2013. West Virginia tops State Farm's list of states where an individual driver is most likely to hit a deer, followed by Pennsylvania and Montana.

For copies of the HLDI reports "Point of impact distribution for animal strike claims," "Animal strike losses" and "Losses due to animal strikes" email publications@ihs.org. ■

Status Report

Record number of booster seats earn BEST BET rating ▶ 2

Many kids who use safety belts should still ride in boosters ▶ 5

Colliding with deer is costly, especially for some models ▶ 6

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The **Insurance Institute for Highway Safety** is an independent, nonprofit scientific and educational organization dedicated to reducing the losses — deaths, injuries and property damage — from crashes on the nation's roads.

The **Highway Loss Data Institute** 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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Freestone Insurance Company	State Auto Insurance Companies
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Hanover Insurance Group	Utica National Insurance Group
The Hartford	Virginia Farm Bureau Mutual Insurance
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