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## Helping Parents Make Safer Vehicle Choices for Teens

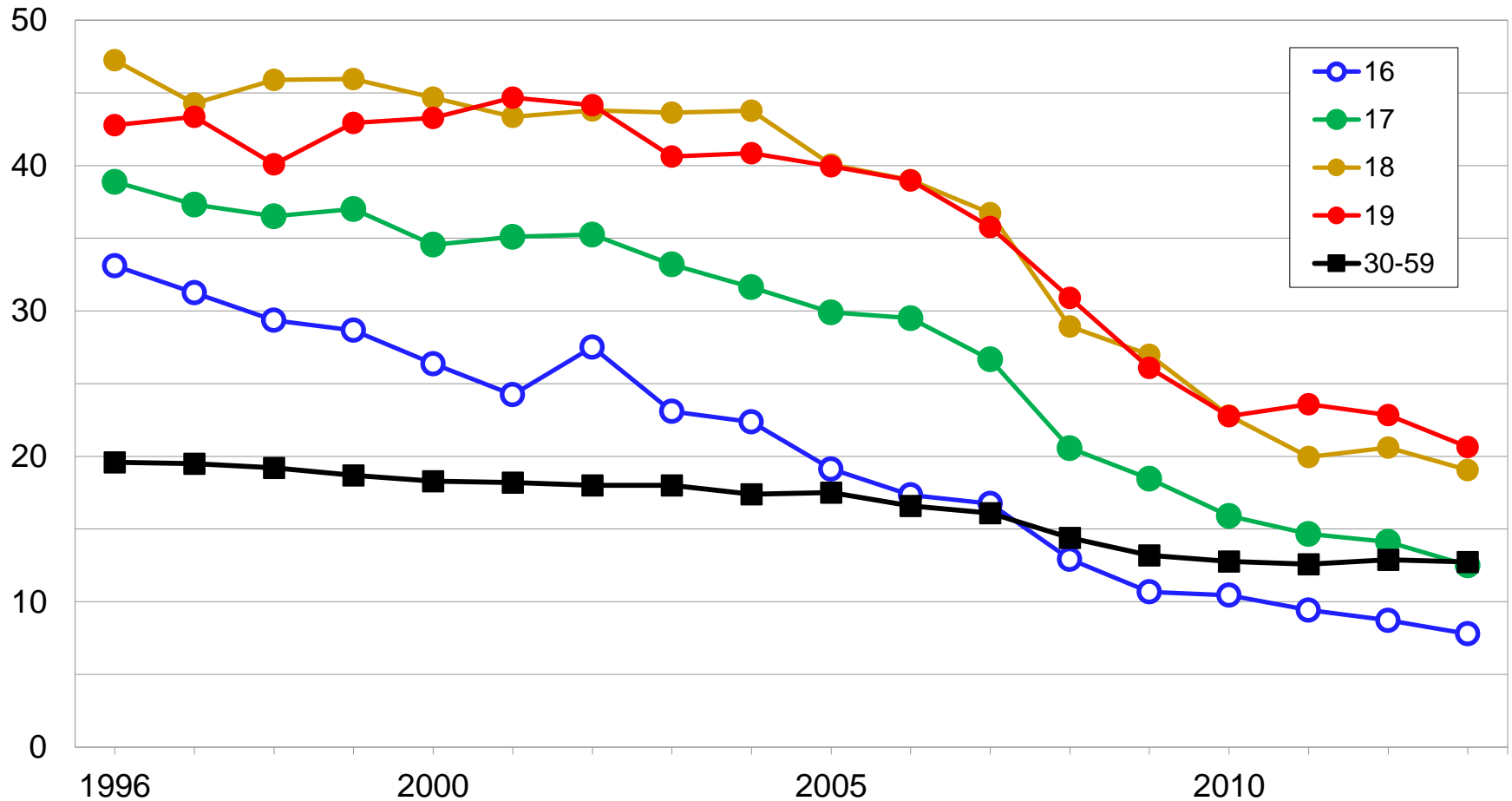
Lifesavers National Conference on  
Highway Safety Priorities

Chicago, IL • March 16, 2015

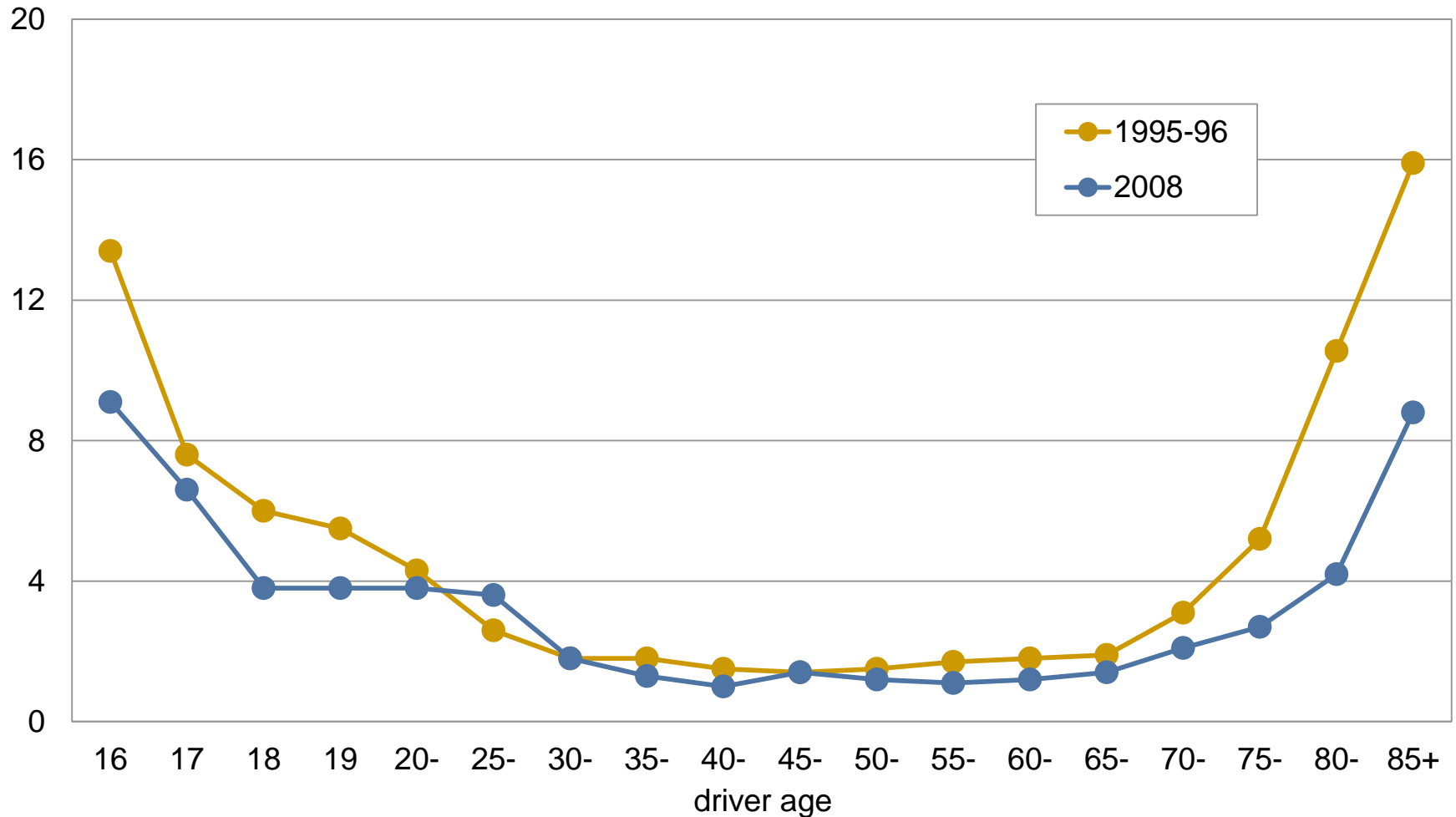
Angela H. Eichelberger

# Passenger vehicle fatal crash involvements per 100,000 people

By driver age, 1996-2013



# Rates of passenger vehicle driver fatal crash involvements per 100 million miles traveled by age, 1995-96 and 2008



# Teenagers' current crash risk

- Despite proven effectiveness of graduated driver license programs in reducing teenage drivers' crash risks, their crash risk remains high
- Motor vehicle crashes persist as the leading cause of death among teens ages 13 to 19
- What else can be done to reduce teenagers' crash risk?
  - Parents make many important decisions about their teenagers' driving, including the type of vehicle they drive, access to the vehicle, and supervision of driving



What are teens driving?

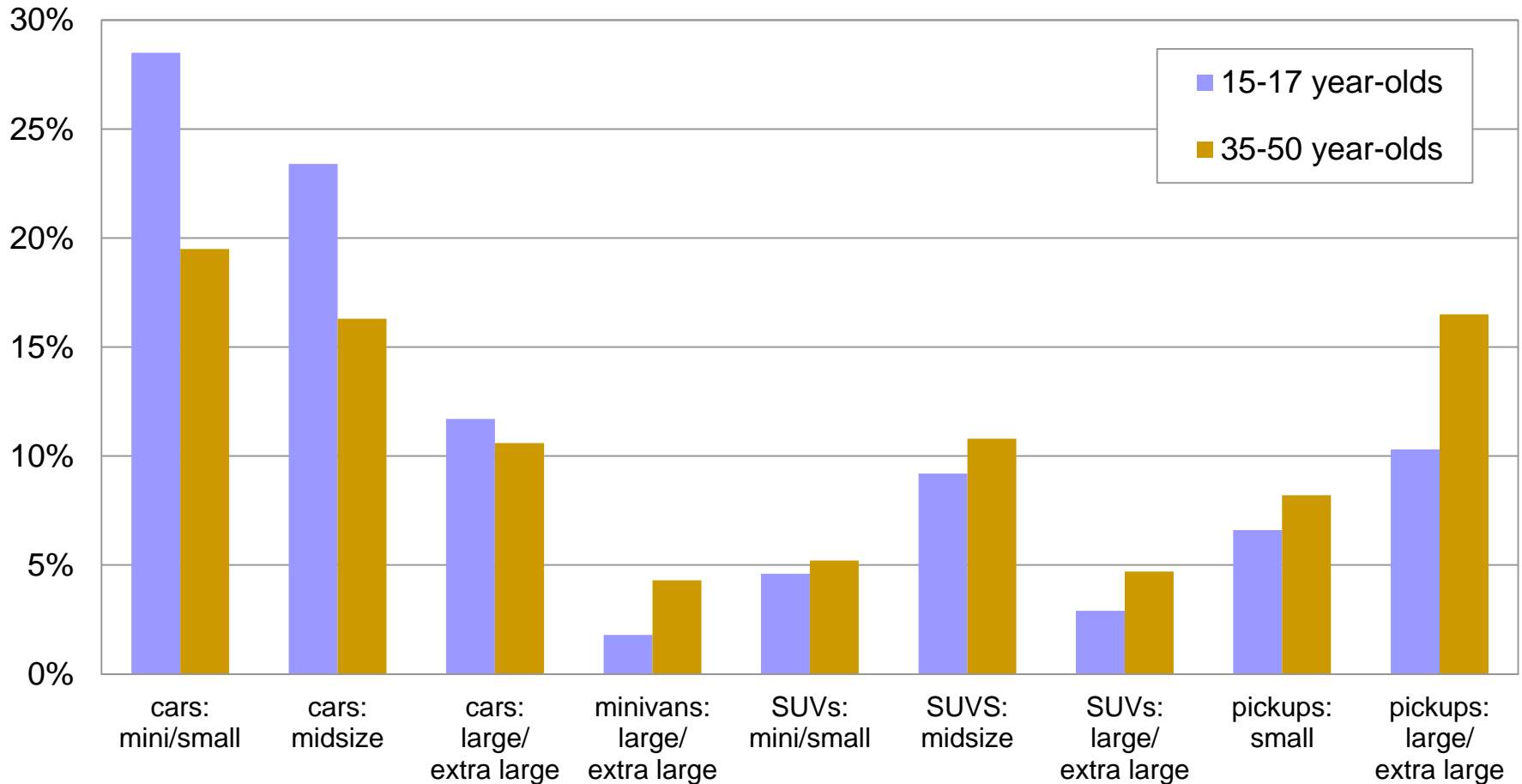
# Comparison of vehicles driven by teenage drivers and middle-aged drivers killed in crashes

McCartt & Teoh (2014)

- Data on fatal crashes during 2008-12 from FARS
  - Teenagers defined as ages 15-17 and middle-aged drivers defined as ages 35-50
  - Non-passenger vehicles excluded
  - Using VINS, decoded type, size, and age of vehicles and determined availability of side airbags and electronic stability control as standard or optional feature

# Type and size profile of passenger vehicles of fatally injured teen and middle-aged drivers, 2008-12

McCartt & Teoh (2014)



# Age distribution (percent) of passenger vehicles of fatally injured teen and middle-aged drivers, 2008-12

McCartt & Teoh (2014)

vehicle age	drivers ages 15-17	drivers ages 35-50
<3 years	6.1	8.4
3-5 years	12.0	14.2
6-10 years	34.2	31.2
11-15 years	30.8	26.4
16+ years	16.9	19.8



# Safety features available on vehicles of fatally injured teenage and middle-aged drivers, 2008-2012

McCartt & Teoh (2014)

- Side airbags
  - 36 percent of the vehicles of both teenagers and adults had optional or standard side airbags, but adults' vehicles were slightly more likely to have side airbags as a standard feature (14% vs. 12%)
- Electronic Stability Control (ESC)
  - About 12 percent of teenagers' vehicles had ESC as standard (3 percent) or optional (8 percent) feature
  - About 15 percent of adults' vehicles had ESC as a standard (7 percent) or optional (9 percent) feature.

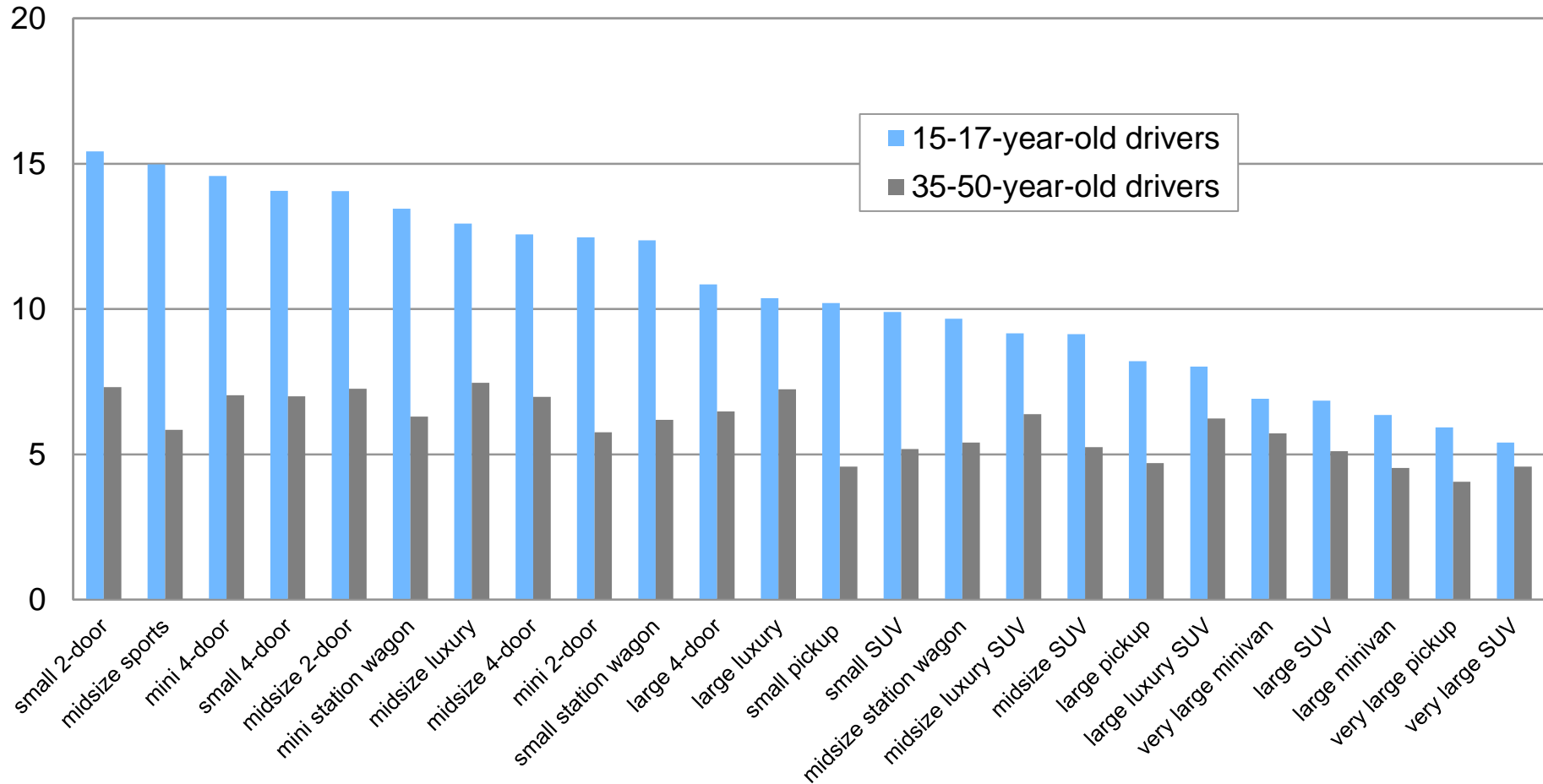
# Insurance data on vehicles driven by teenage and middle-aged drivers

Highway Loss Data Institute (2014)

- Data on collision claims
  - Vehicles rated to driver ages 15-17 and ages 35-50
  - 2000-13 models during calendar years 2008-12
  - Examined by vehicle type and size

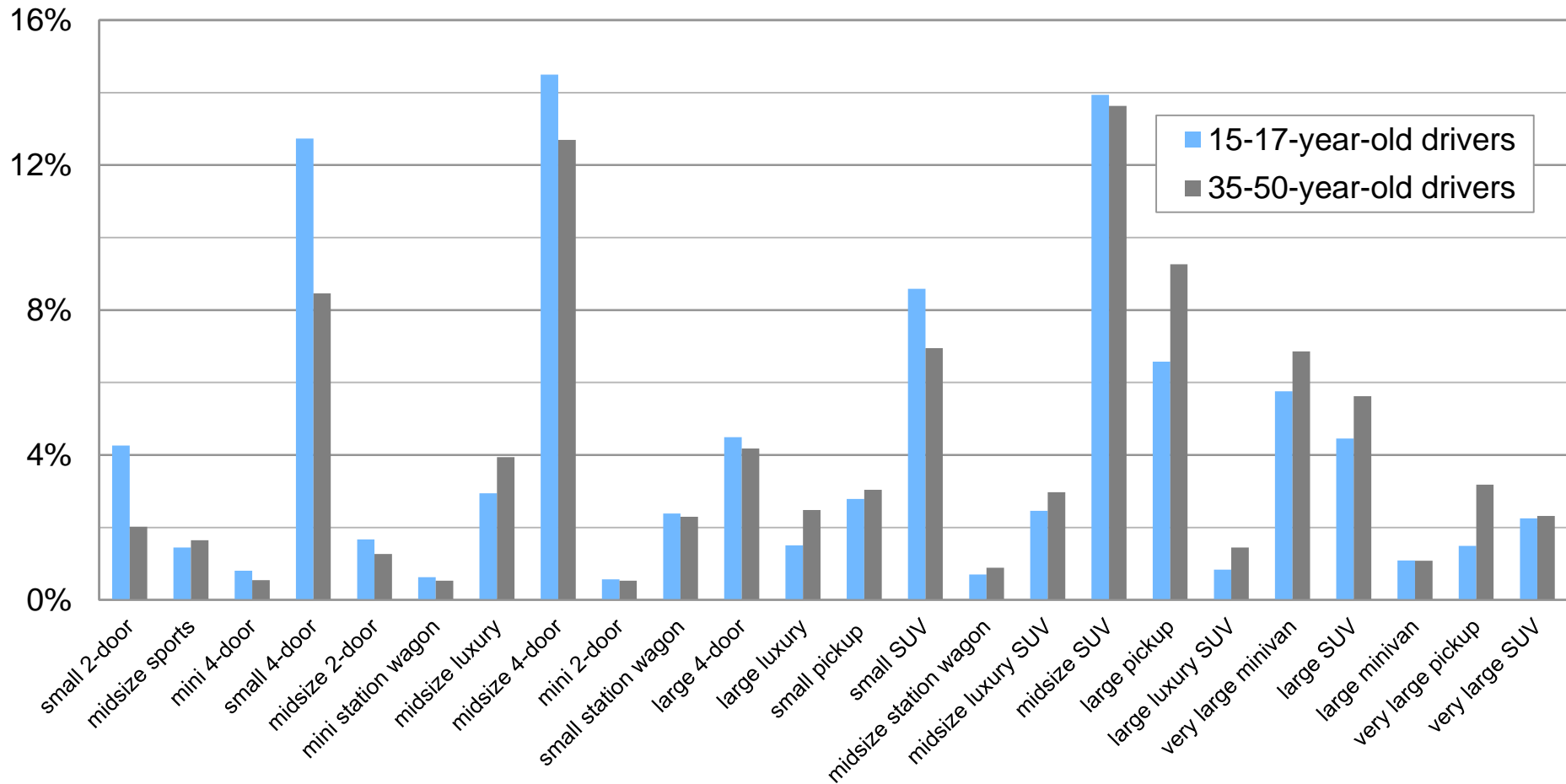
# Rate of collision claims per 100 insured vehicle years among teenage and middle-aged drivers

By vehicle type and size, 2000-13 models, calendar years 2008-12



# Percent distribution of insured vehicles rated to teenage and middle-aged drivers

By vehicle type and size, 2000-13 models, calendar years 2008-12



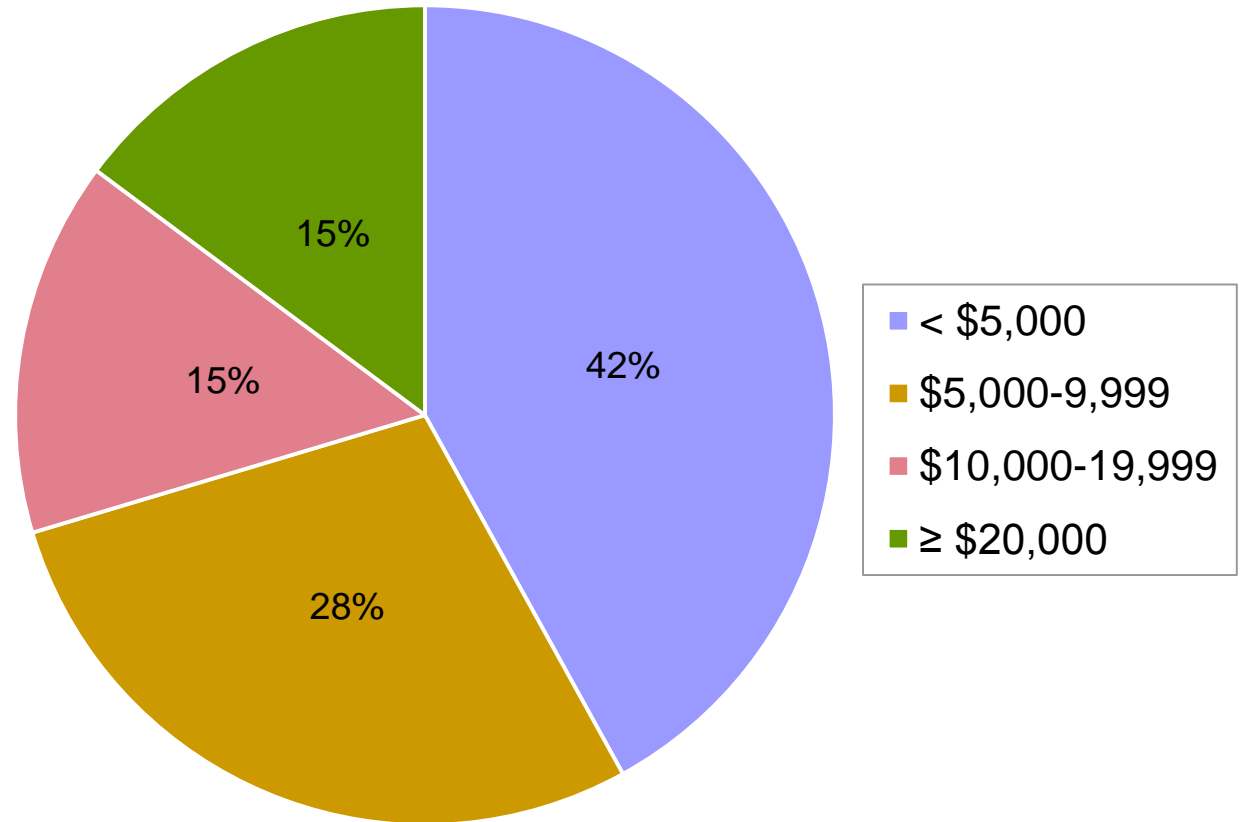
# National telephone survey of 500 parents of teenage drivers, May 2014

Eichelberger, Teoh, & McCartt (2014)

- 43 percent of vehicles driven by teenagers were purchased when teenager started driving or later
- 83 percent of newly purchased vehicles were used
- 57 percent of teenagers drove a vehicle already owned by family
- 71 percent of teenagers were the primary driver of the vehicle
  - Teenagers were more often the primary driver of vehicles purchased, compared with vehicles already owned by the family (89 vs. 57 percent)

# Approximate price of vehicles purchased when teenager started driving or later

National survey of parents, May 2014

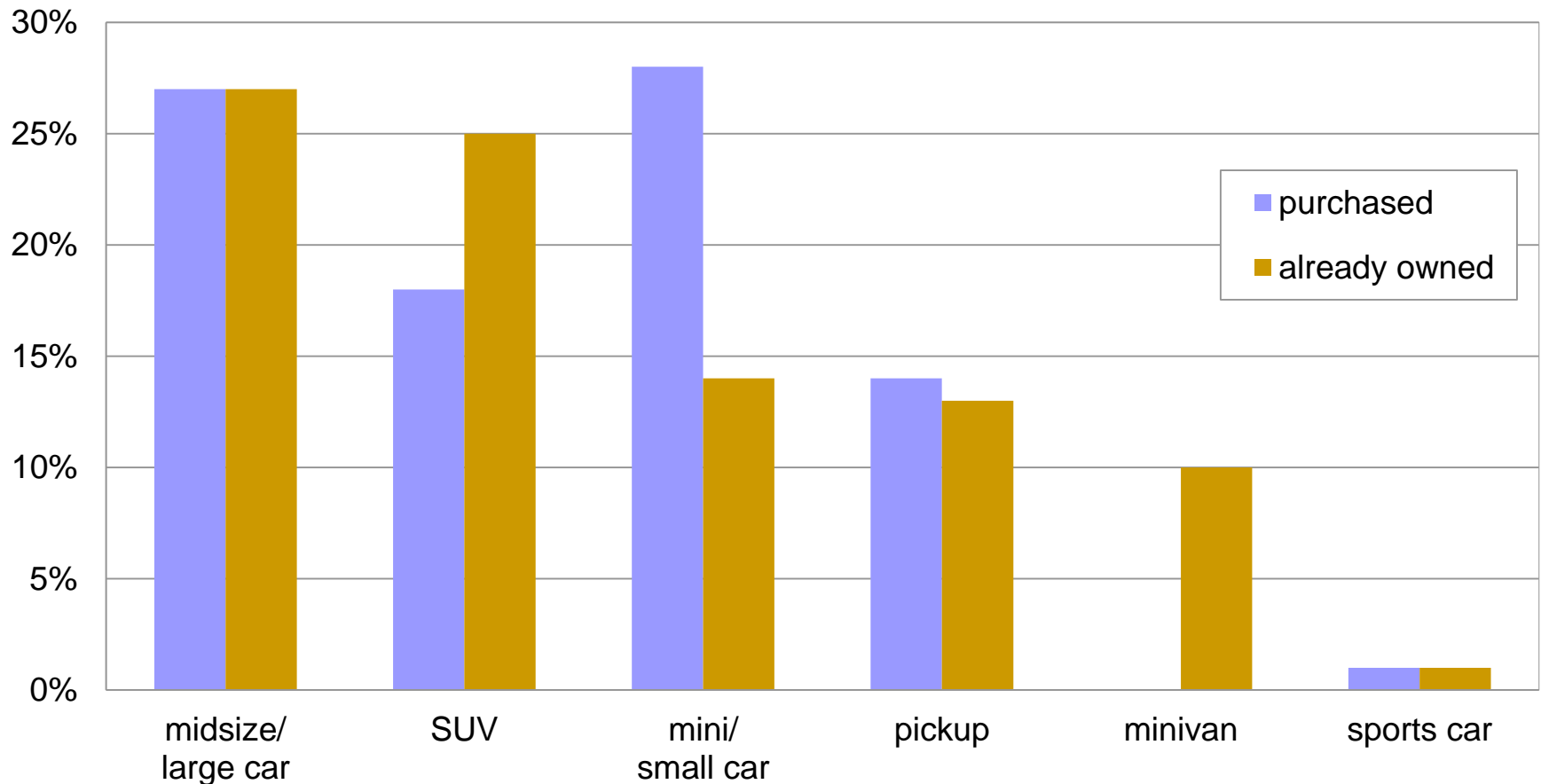


Median = \$5,300

Mean = \$9,751

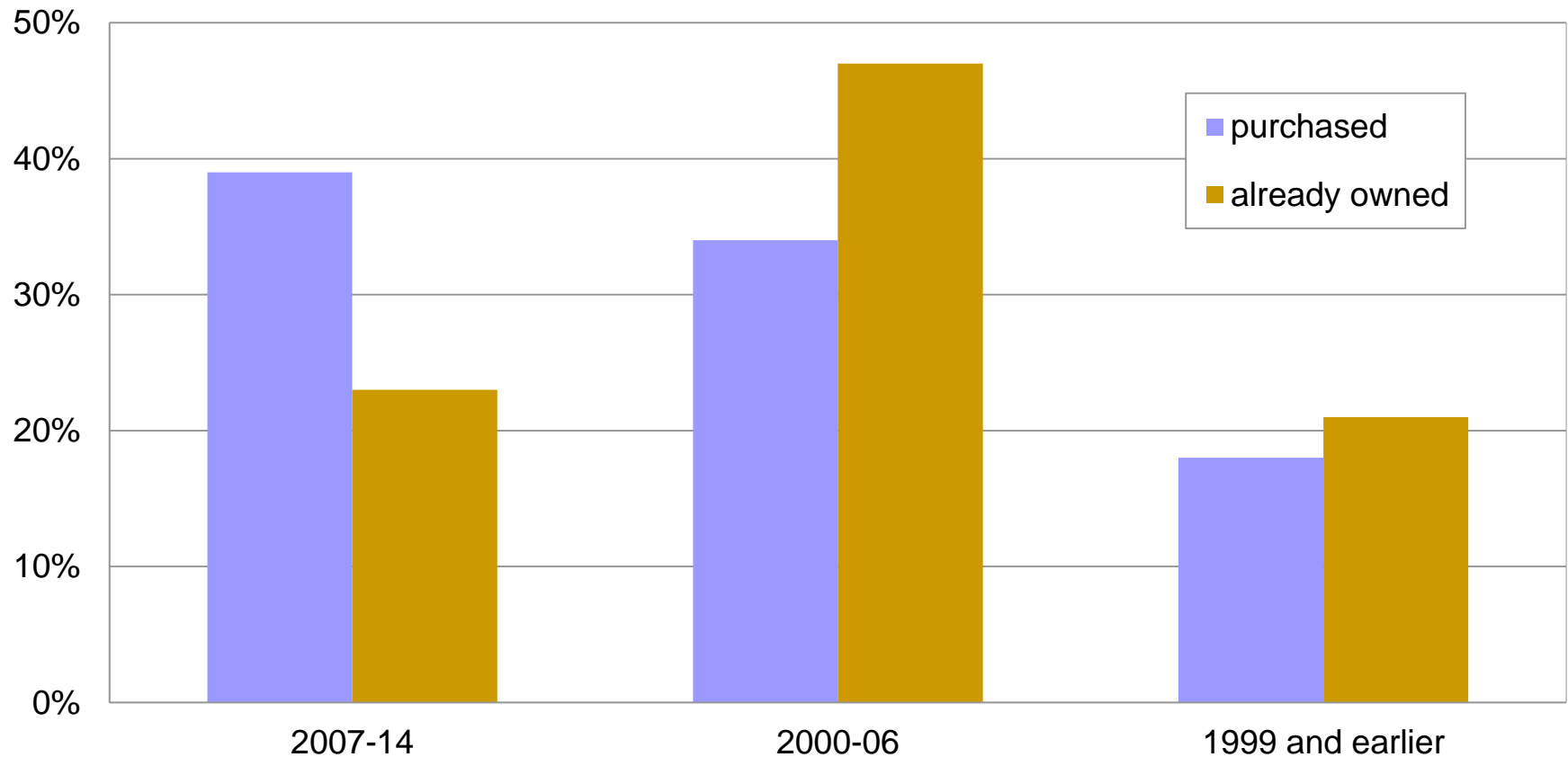
# Percent distribution of type and size of teens' vehicles by whether vehicle was purchased or already owned

National survey of parents, May 2014



# Percent distribution of model year of teens' vehicles by whether vehicle was purchased or already owned

National survey of parents, May 2014





# Most important reason for choosing teenagers' vehicle

National survey of parents, May 2014

	percent
safety	23
low cost to purchase, maintain, or insure	16
already owned	11
reliability	10
styling	10
size	9
good gas mileage	7
received as gift/free	3

# Safety features parent insisted vehicle have

National survey of parents, May 2014

	percent
driver/passenger front airbags	54
seat belts	33
side airbags	25
antilock brakes	18
good crash test/consumer ratings	8
bumper strength	5
electronic stability control	5



# Vehicle recommendations for teenage drivers

# Status Report

Insurance Institute for Highway Safety | Highway Loss Data Institute

## Safety rides shotgun

The best used vehicles for teen drivers

July 16, 2014

### Best choices

#### Recommended used vehicles for teens starting under \$20,000

Vehicles on this list earn good ratings in the IIHS moderate overlap front, side, roof strength and head restraint tests. If rated by NHTSA, they earn 4 or 5 stars overall or 4 or 5 stars in the front and side tests under the old rating scheme. All come with standard electronic stability control (ESC).

Prices, rounded to the nearest \$100, are from Kelley Blue Book as of July 1, 2014, for the lowest trim level and earliest applicable model year based on the following criteria: vehicle in good condition, typical mileage and private party purchase in Arlington, Va.

#### Large cars

	Price
Saab 9-5 sedan 2010 and later	\$17,500
Lincoln MKZ 2010 and later	\$15,500
Buick Regal 2011 and later	\$13,500
Ford Taurus 2010 and later	\$12,500
Buick LaCrosse 2010 and later	\$12,900
Volkswagen SED 2007 and later	\$9,000

#### Midsize cars

Toyota Prius v 2012 and later	\$10,100
Mercedes-Benz C-Class sedan 2010 and later	\$16,000
Honda Accord sedan 2012 and later	\$14,400
Audi A4 2009 and later	\$14,300
Toyota Camry 2012 and later	\$14,300
Buick Verano 2012 and later	\$14,100
Subaru Outback 2010 and later	\$14,000
Lincoln MKZ 2010 and later	\$13,500
Kia Optima 2011 and later	\$13,300
Hyundai Sonata 2011 and later	\$12,100
Subaru Legacy 2010 and later	\$11,800
Dodge Avenger 2011 and later	\$11,600
Audi A3 2008 and later	\$11,300
Volkswagen CC 2009 and later	\$11,200
Chevrolet Malibu 2010 and later	\$10,900
Chrysler 200 sedan 2011 and later	\$10,700
Mercury Milan 2010 and later	\$10,700
Ford Fusion 2010 and later	\$10,200
Volkswagen Passat 2009 and later	\$10,000
Volkswagen C30 2008 and later	\$9,800
Volkswagen Jetta SportWagen 2010 and later	\$9,400
Volkswagen Jetta 2009 and later	\$9,200

#### Small SUVs

	Price
Honda CR-V 2012 and later	\$18,100
Kia Sportage 2011 and later	\$13,800
Hyundai Tucson 2010 and later	\$13,100
Subaru Forester 2009 and later	\$12,800
Mitsubishi Outlander Sport 2011 and later	\$12,000
Volkswagen Tiguan 2008 and later	\$10,200
Honda Element 2007 and later	\$8,900

#### Midsize SUVs

Volkswagen XCCO 2010 and later	\$18,000
Saab 9-4X 2011-12	\$17,800
Toyota Highlander 2008 and later	\$17,100
Toyota Venza 2009 and later	\$16,900
Ford Edge 2011 and later	\$15,500
Ford Flex 2010 and later	\$15,100
GMC Terrain 2009 and later	\$14,900
Kia Sorento 2011 and later	\$14,500
Infiniti EX 2008 and later	\$14,400
Chevrolet Equinox 2010 and later	\$13,700
Dodge Journey 2010 and later	\$13,200
Subaru Tribeca/B9 Tribeca 2008 and later	\$8,500
Volkswagen XCCO 2010 and later	\$7,300

#### Large SUVs

Buick Enclave 2010 and later	\$18,900
GMC Acadia 2010 and later	\$17,800
Chevrolet Traverse 2011 and later	\$16,600

#### Minivans

Chrysler Town & Country 2012 and later	\$18,100
Honda Odyssey 2011 and later	\$17,100
Toyota Sienna 2010 and later	\$16,400
Dodge Grand Caravan 2012 and later	\$15,200
Volkswagen Routan 2012	\$14,000



**Safety bargain**  
Valued at about \$7,000, the 2005 Volvo XC60 is the least expensive vehicle on the list of best choices. It also happens to be one of the few vehicles on the list to meet current IIHS TOP SAFETY PICK criteria, thanks to a good rating for small overlap front protection. Only four other best choices have good or acceptable small overlap protection, dating back to the earliest model year listed. They are the Volvo S80, Chrysler 200, Dodge Avenger and Mitsubishi Outlander Sport.

Note: Some listed models include a "built after" date. This applies when a manufacturer makes changes to improve safety in the middle of a model year. Information about when a specific vehicle was manufactured can be found on the certification label typically affixed to the driver door or near it.

# Teenage vehicle recommendations guided by 4 main principles

- **Stay away from high horsepower.** Vehicles with more powerful engines can tempt teens to test limits.
- **Bigger, heavier vehicles protect better in a crash.** There are no minicars or small cars on the recommended list.
- **ESC is a must.** This feature, which helps a driver maintain control of the vehicle on curves and slippery roads, reduces risk on a level comparable to safety belts.
- **Vehicles should have the best safety ratings possible.** At a minimum, that means good ratings in the IIHS moderate overlap front test, acceptable ratings in the IIHS side test and 4 or 5 stars from NHTSA.

# BEST CHOICES: Recommended used vehicles starting under \$20,000

- 56 vehicles costing \$7,300-19,900 based on Kelley Blue Book on July 1, 2014
- Standard electronic stability control
- High horsepower versions excluded
- Small and mini cars excluded
- Crash test ratings
  - Good ratings in IIHS moderate overlap front, side, roof strength and head restraint tests
  - If rated by NHTSA earn 4 or 5 stars overall or 4 or 5 stars in front and side tests under the old rating scheme

# GOOD CHOICES: Recommended used vehicles starting under \$10,000

- 39 vehicles costing \$4,000-\$9,800 based on Kelley Blue Book on July 1, 2014
- Standard electronic stability control
- High horsepower versions excluded
- Small and mini cars excluded
- Crash test ratings
  - Good ratings in IIHS moderate overlap front test and good or acceptable ratings in side test and better-than-poor rating for head restraints and seats
  - If rated by NHTSA, earn 4 or 5 stars overall or 4 or 5 stars in front and side tests under old rating scheme



Insurance Institute for Highway Safety  
Highway Loss Data Institute

Highway safety research  
& communications

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STATUS REPORT



## REDUCING THE RISKS FOR TEEN DRIVERS

Our recommendations help parents find safe and affordable used vehicles for teens.

The [GDL crash reduction calculator](#) shows how much states can cut crashes by improving young driver laws.







## Choosing the best vehicle for your teen

IIHS is known for its ratings of new vehicles, but for many families, a [2015 TOP SAFETY PICK](#) or [TOP SAFETY PICK+](#) isn't in the budget for a teen's vehicle. In a national phone survey conducted for IIHS of parents of teen drivers, 83 percent of those who bought a vehicle for their teenagers said they bought it used ([see background research](#)).

With that reality in mind, the Institute has compiled a list of affordable used vehicles that meet important safety criteria for teen drivers. There are two tiers of recommended vehicles: BEST CHOICES and GOOD CHOICES. Prices range from less than \$5,000 to nearly \$20,000, so parents can buy the most safety for their money, whatever their budget.

### Defining safety

The recommendations are guided by four main principles:

- ▶ **Young drivers should stay away from high horsepower.** More powerful engines can tempt them to test the limits.
- ▶ **Bigger, heavier vehicles are safer.** They protect better in a crash, and HLDI analyses of insurance data show that teen drivers are less likely to crash them in the first place. There are no minicars or small cars on the recommended list. Small SUVs are included because their weight is similar to that of a midsize car.
- ▶ **Electronic stability control (ESC) is a must.** This [feature](#), which helps a driver maintain control of the vehicle on curves and slippery roads, reduces risk on a level comparable to safety belts.
- ▶ **Vehicles should have the best safety ratings possible.** At a minimum, that means good ratings in the IIHS moderate overlap front test, acceptable ratings in the IIHS side crash test and four or five stars from the [National Highway Traffic Safety Administration \(NHTSA\)](#).

For more information, see "[Safety rides shotgun: the best used vehicles for teen drivers](#)" (July 16, 2014), as well as our [teenagers topic section](#).

**BEST CHOICES:****Recommended used vehicles for teens starting under \$20,000**

Vehicles on this list earn good ratings in the IIHS moderate overlap front, side, roof strength and head restraint tests. If rated by NHTSA, they earn 4 or 5 stars overall or 4 or 5 stars in the front and side tests under the old rating scheme. All come with standard ESC.

Prices, rounded to the nearest \$100, were taken from [Kelley Blue Book](#) on July 1, 2014, for the lowest trim level and earliest applicable model year based on the following criteria: vehicle in good condition, typical mileage and private party purchase in Arlington, Va.

LARGE CARS	MODEL YEARS	PRICE
<a href="#">Saab 9-5 sedan</a>	2010 and later	\$17,500
<a href="#">Lincoln MKS</a>	2009 and later	\$15,500
<a href="#">Buick Regal</a>	2011 and later	\$13,500
<a href="#">Ford Taurus</a>	2010 and later	\$13,500
<a href="#">Buick LaCrosse</a>	2010 and later	\$12,900
<a href="#">Volvo S80</a>	2007 and later	\$9,000
MIDSIZE CARS	MODEL YEARS	PRICE
<a href="#">Toyota Prius v</a>	2012 and later	\$19,100
<a href="#">Mercedes-Benz C-Class sedan</a>	2009 and later	\$16,000
<a href="#">Honda Accord sedan</a>	2012 and later; <a href="#">coupe</a> 2013-14	\$14,400
<a href="#">Audi A4</a>	2009 and later	\$14,300
<a href="#">Toyota Camry</a>	2012 and later	\$14,300
<a href="#">Buick Verano</a>	2012 and later	\$14,100
<a href="#">Subaru Outback</a>	2010 and later	\$14,000
<a href="#">Lincoln MKZ</a>	2010 and later; built after April 2010	\$13,500
<a href="#">Kia Optima</a>	2011 and later	\$13,300
<a href="#">Hyundai Sonata</a>	2011 and later	\$12,100
<a href="#">Subaru Legacy</a>	2010 and later	\$11,900
<a href="#">Dodge Avenger</a>	2011 and later	\$11,600
<a href="#">Audi A3</a>	2008 and later	\$11,300
<a href="#">Volkswagen CC</a>	2009 and later	\$11,200
<a href="#">Chevrolet Malibu</a>	2010 and later; built after November 2009	\$10,900
<a href="#">Chrysler 200 sedan</a>	2011 and later	\$10,700
<a href="#">Mercury Milan</a>	2010-11; built after April 2010	\$10,700
<a href="#">Ford Fusion</a>	2010 and later; built after April 2010	\$10,200
<a href="#">Volkswagen Passat</a>	2009 and later	\$10,000
<a href="#">Volvo C30</a>	2008 and later	\$9,800
<a href="#">Volkswagen Jetta SportWagen</a>	2009 and later	\$9,400
<a href="#">Volkswagen Jetta</a>	2009 and later	\$8,200



# Keeping parents involved

# Should teenagers have their own vehicles?

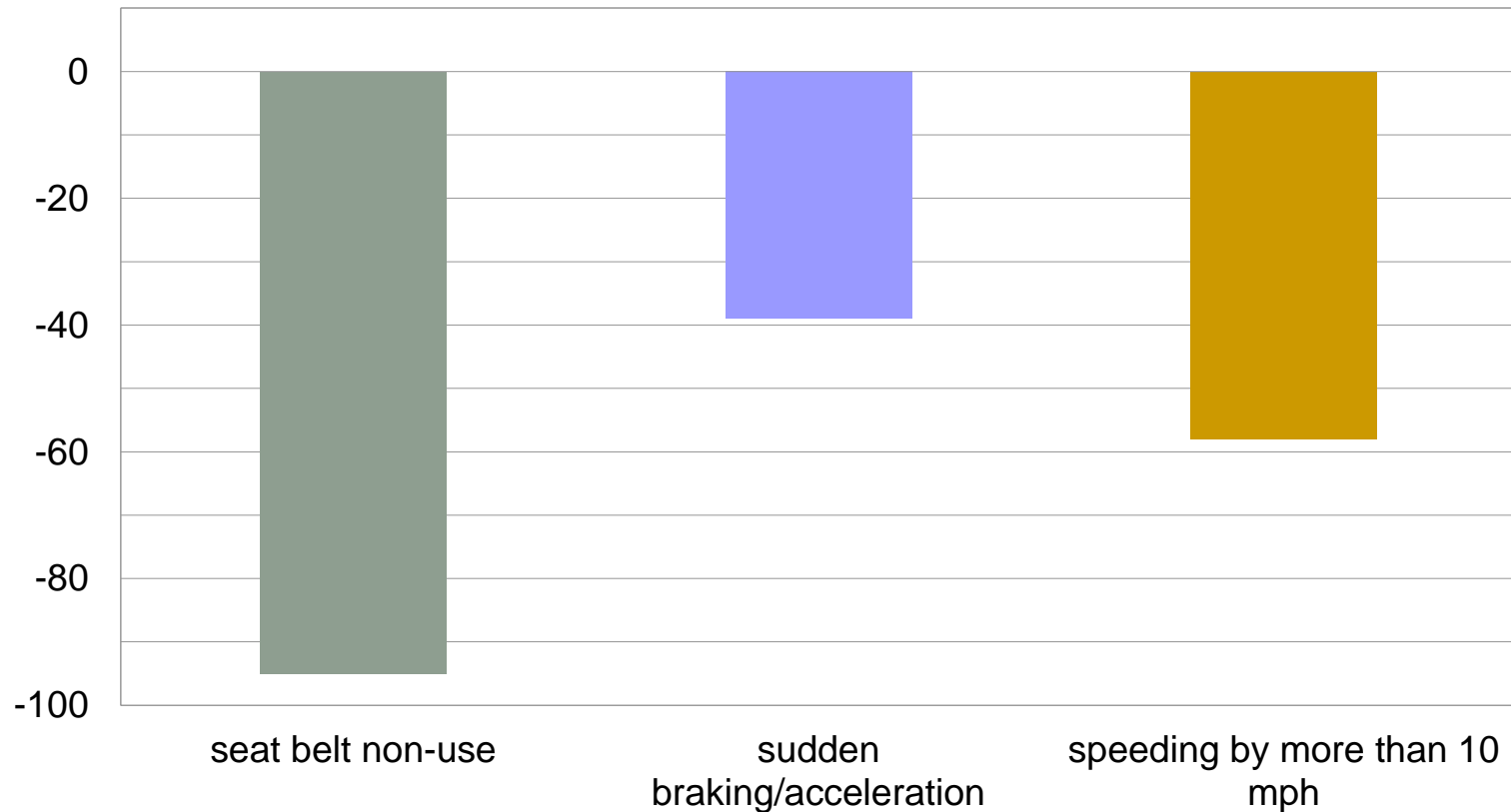
- Survey of Connecticut teenagers and parents (Williams, Leaf, Simons-Morton, & Hartos, 2006)
  - A majority of teens owned vehicles upon licensure; 74 percent owned vehicles a year after licensure
  - Teens with their own vehicles drove more, did more risky driving, and had more traffic violations and crashes
- Nationally representative school-based study (García-España, Ginsburg, Durbin, Elliott, & Winston, 2009)
  - 70 percent of teen drivers reported having primary access to a vehicle
  - Compared with teen drivers with shared access, teen drivers with primary access reported more risky driving and crashes

# In-vehicle monitoring technologies can help engage parents more fully in supervising their teens' driving

- Technologies monitor driving and can give feedback to teenagers or their parents
- An IIHS study of one such technology concluded that it reduced teenagers' risky driving behavior, including speeding and not buckling up (Farmer, Kirley, & McCartt, 2010)
- Another recent study found immediate feedback to teenagers, combined with feedback to parents, reduced teenagers' risky driving behavior (Simons-Morton, et al., 2013)
- Not a substitute for parental involvement

# Percent reduction in risky behaviors with monitoring device (Farmer, et al., 2010)

With alert in vehicle, delayed parent notification, parent report card



# Conclusions

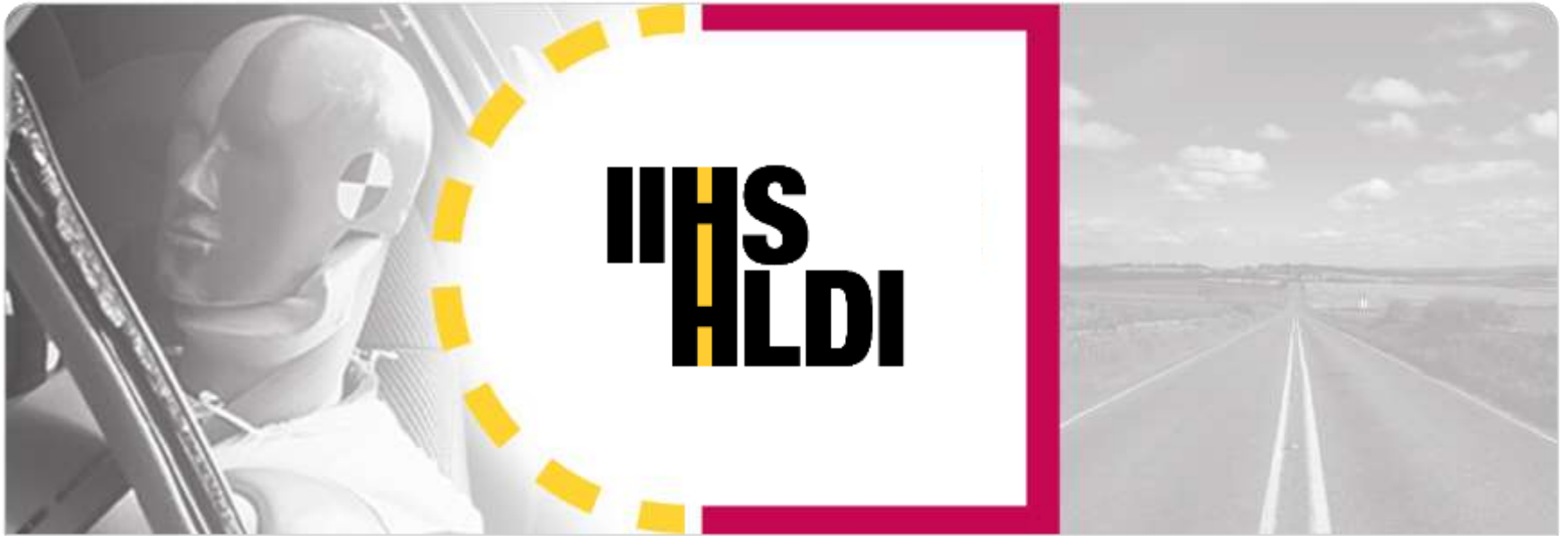
- Putting teenage drivers in safer vehicles is an important way to better protect them
- Both safety and cost are top concerns for parents, which suggests that they will benefit from consumer information about optimal vehicle choices for teenagers
- Parental supervision of teenage driving is still important

# Resources

[www.iihs.org](http://www.iihs.org)

- Recommended used vehicles for teens
  - In the future, the lists will be updated and searchable by vehicle type and price range, for example
  - Developing a video about buying a safe car for a teen
- Consumer safety brochures
  - Shopping for a safer car
  - Beginning teen drivers
- Crash test ratings
- Availability of ESC and side airbags





[www.iihs.org](http://www.iihs.org)

Dedicated to reducing deaths, injuries,  
and property damage on the highway

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