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VNR: TUES. 6/13/2017, 10:30-11 a.m. EDT; repeat 1:30-2 p.m. EDT (KU) GALAXY 17

SD transponder 18/slot 6 (dl12075V) bandwidth 6 MHz; symbol rate 3.9787 FEC ¾

HD transponder 24-upper (dl12189V) bandwidth 18 MHz; symbol rate 13.235 FEC ¾

More than half of midsize SUV headlights tested rate marginal or poor

ARLINGTON, Va. — New midsize SUV ratings from the Insurance Institute for Highway Safety show that headlights are improving when it comes to visibility, but many still need to do a better job of lighting the road ahead while limiting bothersome glare.

The 2017 Hyundai Santa Fe and the 2017 Volvo XC60 are the only models available with good-rated headlights among the 19 midsize SUVs and 18 midsize luxury SUVs evaluated in this new round of tests. Twelve SUVs are available with headlights rated acceptable, while 23 aren't available with anything other than marginal- or poor-rated headlights.

This is the fourth group of vehicles IIHS has evaluated since launching headlight ratings in 2016.

“As a group, midsize SUV headlights perform slightly better than the other SUVs and pickups we evaluated last year, and that’s encouraging,” says IIHS Senior Research Engineer Matt Brumbelow. “Still, we continue to see headlights that compromise safety because they only provide a short view down the road at night.”

Since few consumers test drive a vehicle at night before buying, IIHS headlight ratings help shed light on this basic, yet essential crash avoidance technology. Nighttime visibility is critical to highway safety because about half of traffic deaths occur either in the dark or at dawn or dusk. Differences in bulb type, headlight technology and even something as basic as how the lights are aimed all affect the amount of useful light supplied. Properly aimed low beams light up the road ahead without temporarily blinding drivers of oncoming vehicles.

In the Institute’s evaluations, engineers measure how far light is projected from a vehicle’s low beams and high beams as the vehicle travels straight and on curves. Glare for oncoming vehicles also is measured from low beams in each scenario to make sure it isn’t excessive.

Headlights can vary by trim line, so vehicles often come with multiple headlight variants. The 37 SUVs that IIHS evaluated have 79 possible headlight combinations.

Most headlights use one of three different light sources: halogen, high-intensity discharge (HID) or LED. Each of these can be paired with either reflectors or projector lenses. Projector headlights use one lens to spread the light out, while reflectors have multiple surfaces that bounce the light forward. All the good- and acceptable-rated headlight variants in this group of midsize SUVs have projector lenses, and the three good-rated headlight variants are HID. That said, having HID and/or projector lenses doesn’t guarantee good or acceptable performance in IIHS evaluations.

The XC60 is available with optional curve-adaptive HID projector headlights, which earn the top rating. Curve-adaptive headlights swivel with the steering wheel to better illuminate bends in the road. The XC60’s HID headlights also can be purchased with optional high-beam assist, which helps increase high-beam use by automatically switching between high



beams and low beams depending on the presence of other vehicles. Models equipped with high-beam assist earn extra credit in IIHS ratings. Consumers who want the good-rated HID headlights on the XC60 need to buy the Advanced package or the Active Dual Xenon Headlights package.

One of the worst midsize SUVs for visibility is the Kia Sorento. The Sorento's curve-adaptive HID projector low beams fail to provide adequate visibility on the straightaway, left curves and the gradual right curve. On the right side of the straightaway, for example, the Sorento's low beams only illuminate 148 feet, compared with 315 feet for the XC60's low beams.

The Ford Edge is another poor performer. The Edge's base halogen projector and optional HID projector low beams provide inadequate visibility in all test scenarios, including the straightaway, on sharp curves and on gradual curves. The high beams on both versions have inadequate visibility, too. Both types of the Edge's low beams also produce unacceptable glare. The halogen low beams, for example, put more light in the eyes of oncoming drivers on a straightaway than on the left side of the road.

When headlights produce a lot of glare, it doesn't necessarily mean they do a good job lighting up the road for that vehicle's driver. When equipped with halogen projector headlights, the Edge and the Buick Envision would rate poor based on either glare or visibility alone.

More than half of the 79 headlight variants evaluated have too much glare. In 17 of those cases, the headlights would be rated poor based on glare alone. Complaints about glare from oncoming headlights are common, research by the National Highway Traffic Safety Administration indicates.

"Managing glare can be more challenging for taller vehicles like SUVs and pickups because their headlights are mounted higher than on cars," Brumbelow says. "Better aim at the factory can minimize glare."

The Hyundai Santa Fe Sport's optional curve-adaptive HID projector low beams have the most downgrades for glare among the midsize SUVs evaluated. The other two available headlight packages also create excessive glare, and all three are rated poor.

In contrast, glare isn't a problem for either of the headlight packages on the Hyundai Santa Fe, which is a distinct model from the Santa Fe Sport and has different headlight designs. The curve-adaptive HID projector headlights with high-beam assist, part of the Tech Package, earn a good rating. The Santa Fe's base halogen headlights earn a poor rating because of inadequate visibility.

The best available headlights on two midsize SUVs made slight improvements over earlier tests IIHS conducted as part of nominations for a 2017 *TOP SAFETY PICK+* or *TOP SAFETY PICK* award. The Nissan Pathfinder's LED headlights and the Volvo XC90's adaptive LEDs improved to marginal from poor. Those changes weren't enough to boost the two *TOP SAFETY PICK* winners to the higher award category. Vehicles need good- or acceptable-rated headlights to qualify for a 2017 *TOP SAFETY PICK+* award.

See next page for complete ratings.



Midsize SUV headlight ratings *Best available headlight system for each model*

For trim and package specifications and for ratings of other systems available on these models, visit iihs.org/ratings.

Luxury SUVs

Volvo XC60	G
Acura MDX	A
Acura RDX	A
BMW X5	A
Buick Envision	A
Infiniti QX70	A
Lexus NX	A
Lexus RX	A
Mercedes-Benz GLE	A
Audi Q5 (2018)	M
BMW X3	M
Cadillac XT5	M
Infiniti QX50	M
Lincoln MKT	M
Volvo XC90	M
Infiniti QX60	P
Lincoln MKC	P
Lincoln MKX	P

Nonluxury SUVs

Hyundai Santa Fe	G
Honda Pilot	A
Jeep Cherokee	A
Jeep Grand Cherokee	A
Toyota Highlander	A
Chevrolet Equinox (2018)	M
Dodge Durango	M
Ford Flex	M
GMC Acadia	M
Nissan Murano	M
Nissan Pathfinder	M
Dodge Journey	P
Ford Edge	P
Ford Explorer	P
GMC Terrain	P
Hyundai Santa Fe Sport	P
Jeep Wrangler	P
Kia Sorento	P
Toyota 4Runner	P

G Good **A** Acceptable **M** Marginal **P** Poor

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