



INSURANCE INSTITUTE
FOR HIGHWAY SAFETY

HIGHWAY LOSS
DATA INSTITUTE

Do Smart Cars Equal Safer Roads?

www.iihs.org

Property Casualty Insurers Association of America
Capital Engagement Series
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The Insurance Institute for Highway Safety,

founded in 1959, 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,

founded in 1972, 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.

Both organizations are wholly supported by auto insurers.

IIHS/HLDI members write 85% of U.S. private passenger market.

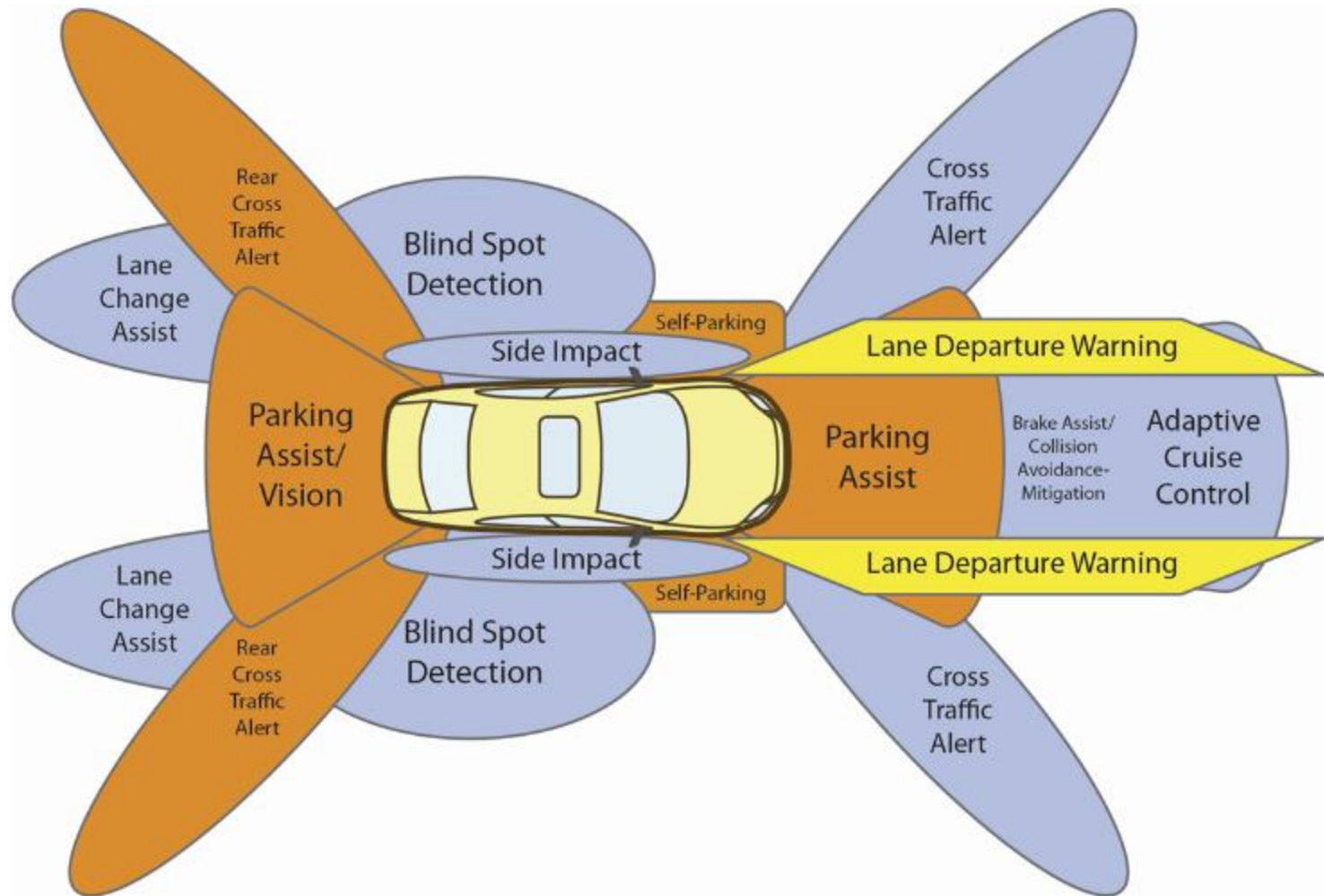
Rationale for smart cars

People don't always "just drive"

- 1979 – Indiana “Tri-Level Study” estimated “driver error” to be proximate cause of 9 out of 10 crashes
 - 15 percent of crashes associated with driver inattention
 - Changing audio tapes/CDs
 - Eating/drinking
 - Children, bugs, animals in vehicle
 - Reading, shaving, and applying makeup
- 2011 – NHTSA estimated that distraction was a factor in 15 percent of police reported crashes
- 2012 – 3,328 were killed and 421,000 were injured in crashes involving distracted driver in the U.S.

Driver assistance features

Radar, LIDAR, ultrasonic, infrared, cameras, GPS



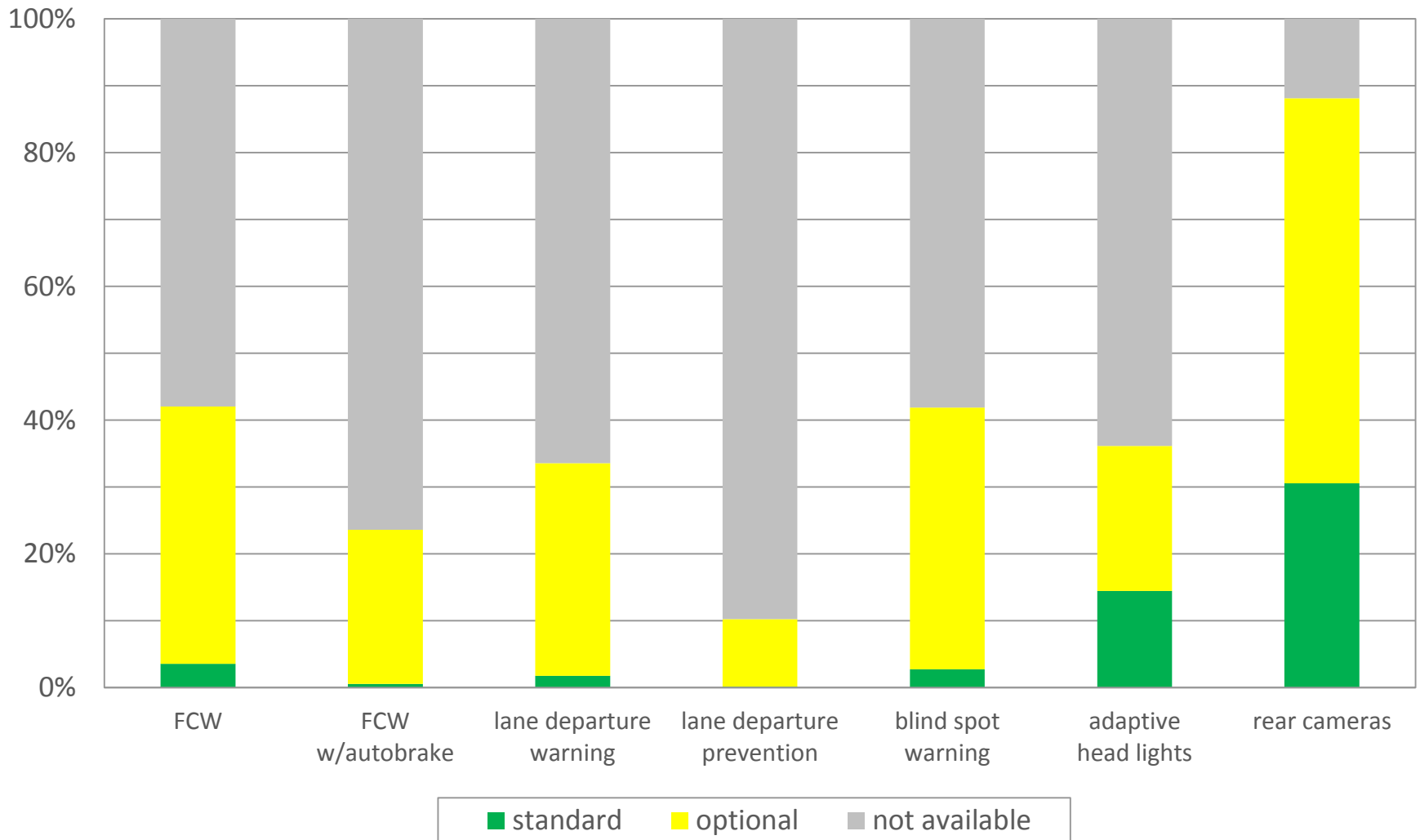
Annual relevance of driver assistance technology

By type of system

	all	injury	fatal
forward collision warning	1,165,000	66,000	879
lane departure warning	179,000	37,000	7,529
side view assist	395,000	20,000	393
adaptive headlights	142,000	29,000	2,484
total unique crashes	1,866,000	149,000	10,238

Availability of driver assistance technology

Percent of vehicle series in 2014



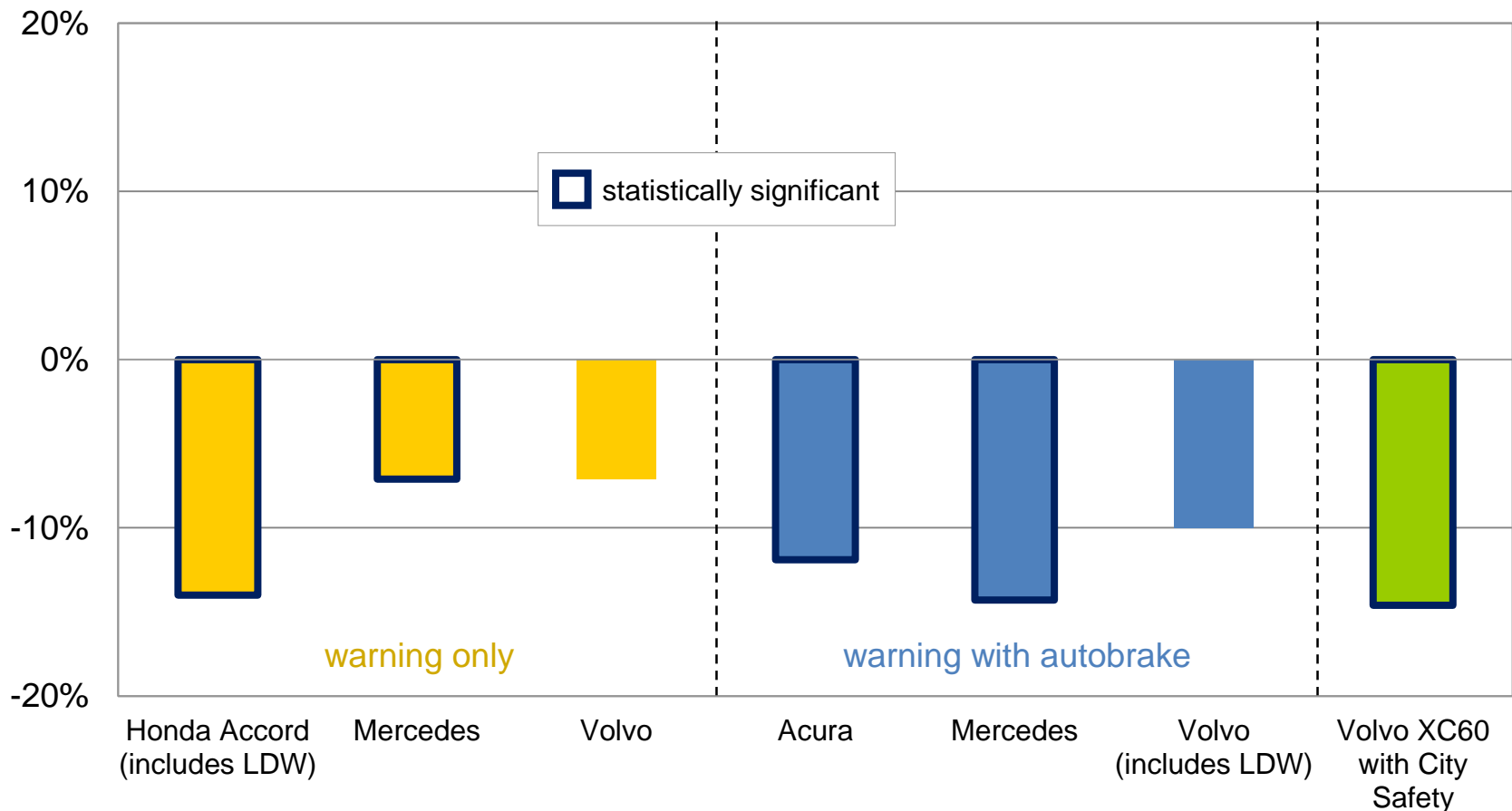


- Front crash prevention systems are working
- Adaptive headlights are working
- The benefits of these systems are less clear –
 - Lane departure warning
 - Blind spot warning
 - Rearview cameras
 - Parking proximity sensors



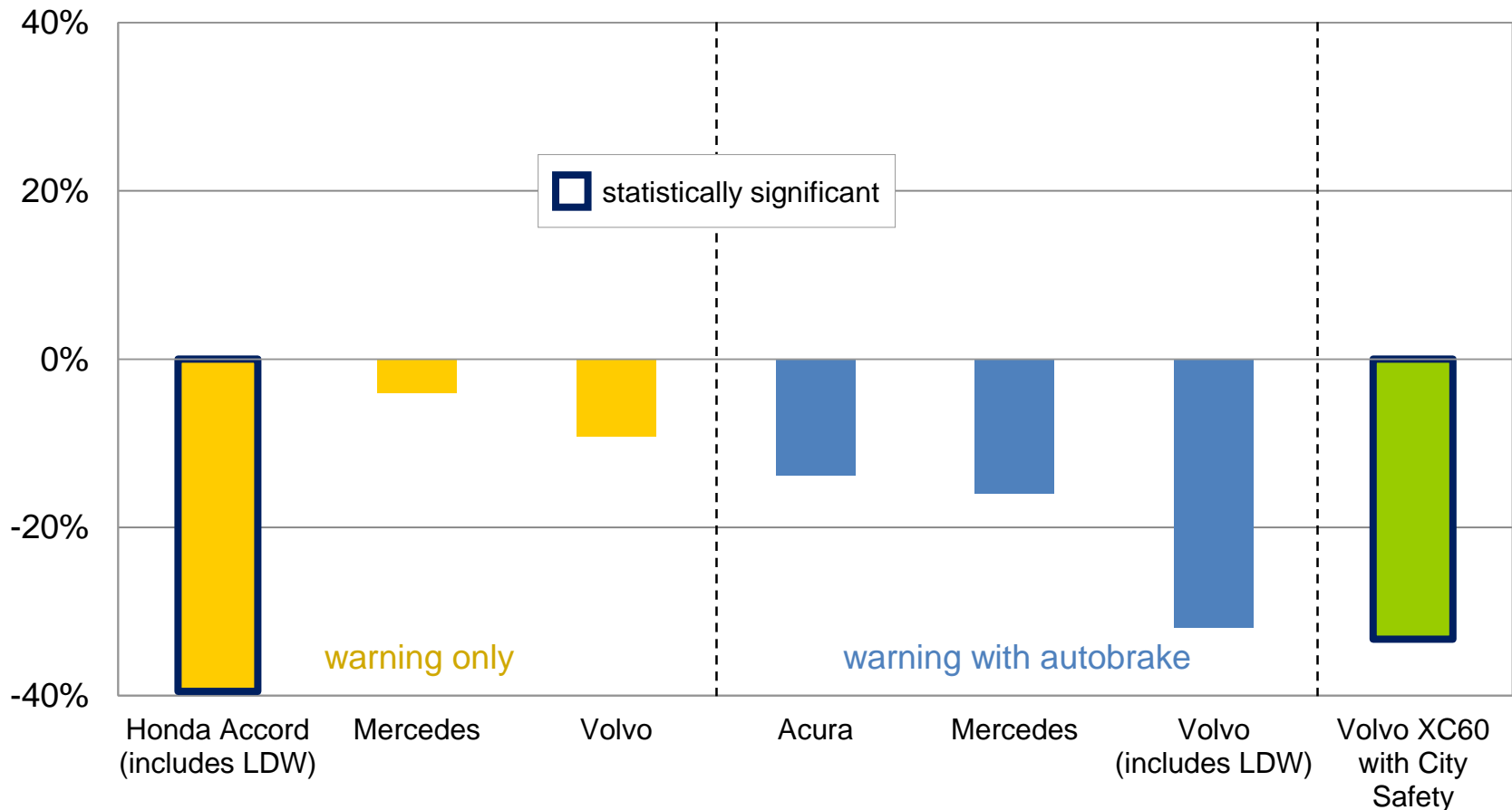
Effect of front crash prevention on property damage liability claim frequency

By manufacturer



Effect of front crash prevention on bodily injury liability claim frequency

By manufacturer



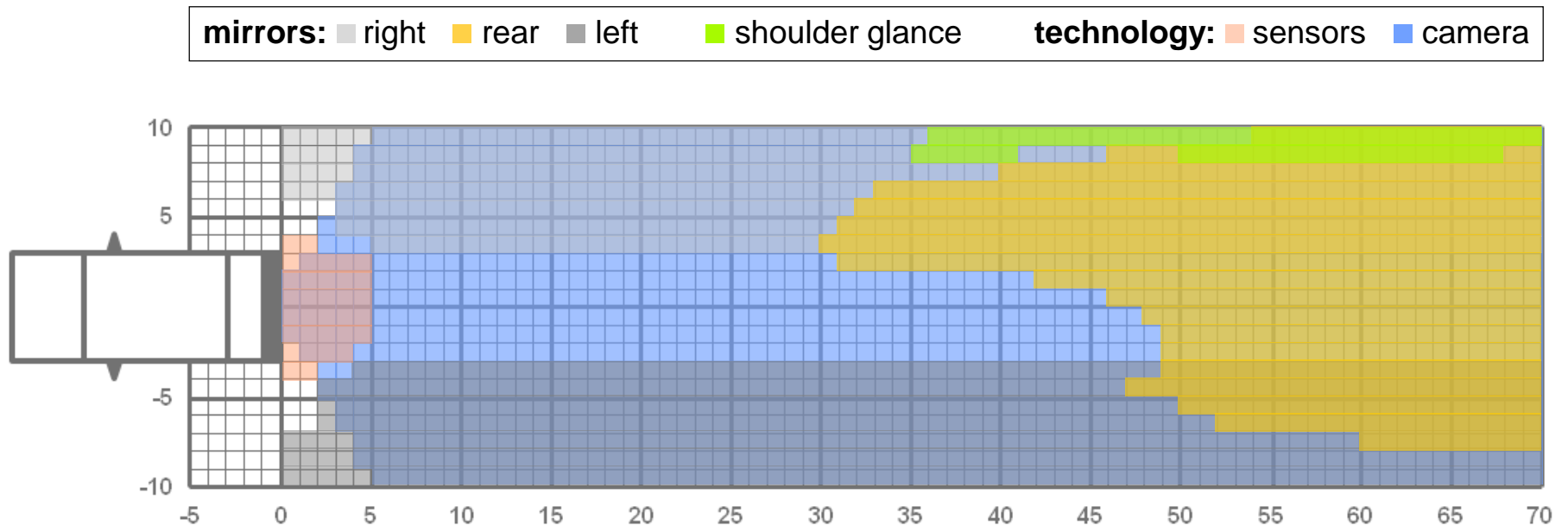
Rear cameras and other backing aids



- Enhance the drivers' perception of areas not otherwise visible
- Experiments indicate benefits
- The real-world efficacy is unclear
- Cameras will be required on new vehicles beginning 2016
 - Phase-in complete in 2018

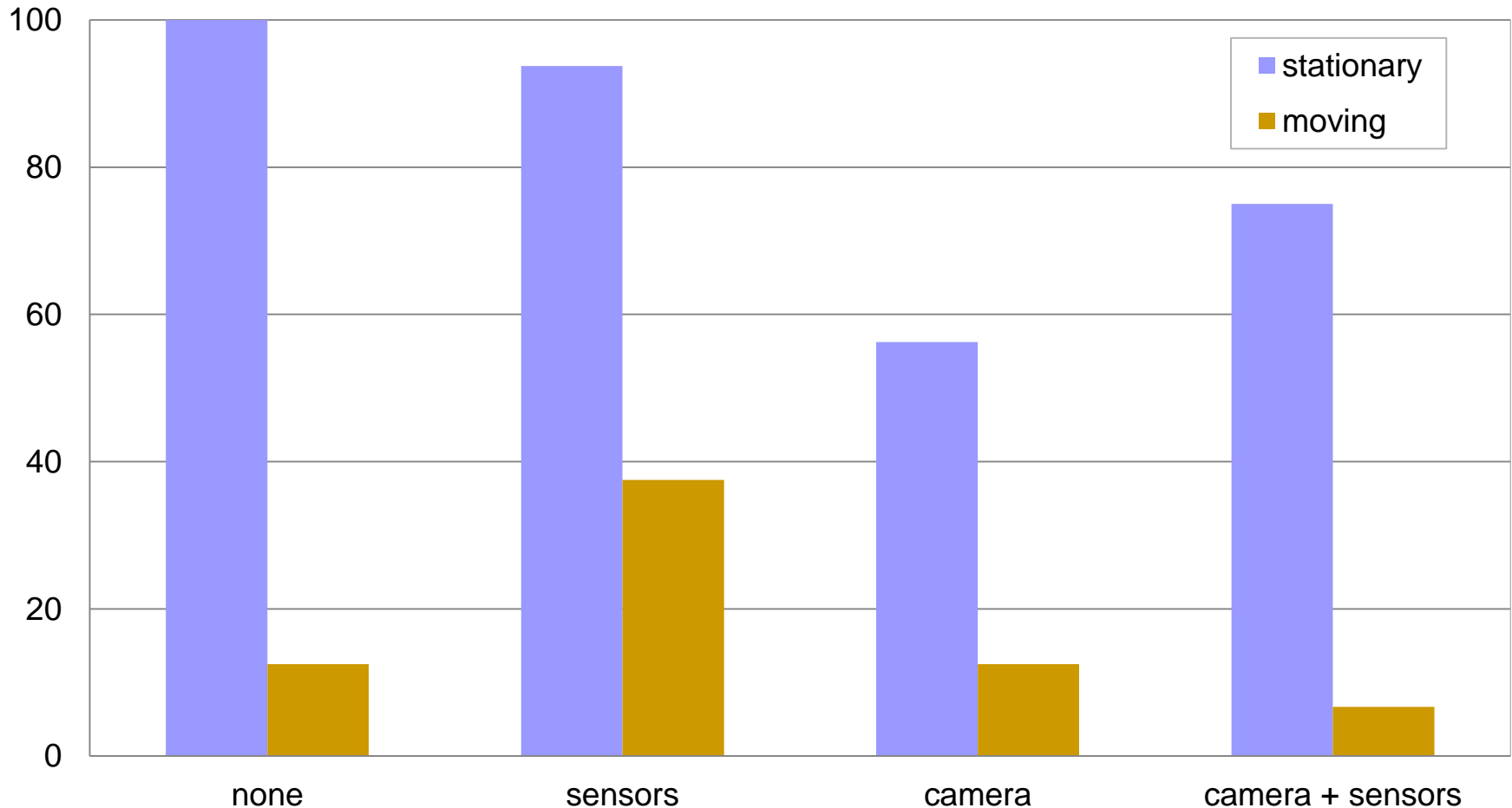
Visibility advantage provided by technology

Rear visibility in typical SUV: 2013 Chevrolet Equinox LTZ

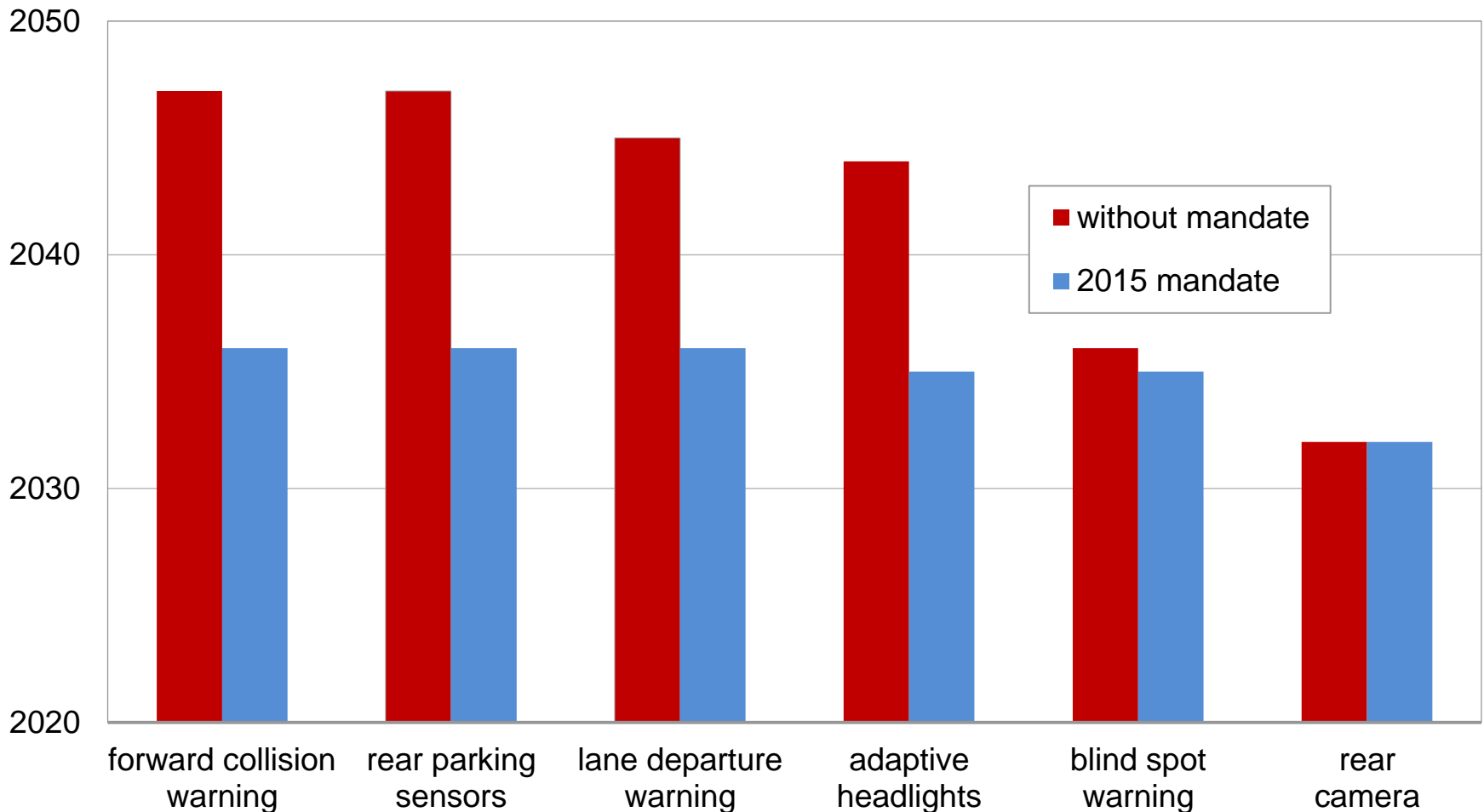


Cameras prevented crashes with stationary object

Percent of participants who hit the object,
by technology and object motion



Calendar year features reach 95% of registered vehicle fleet with and without mandate



Summary

- Automated driving will help prevent and mitigate crashes
 - Actual effectiveness of partial automation has been documented
 - Ideal automated systems cannot be distracted as drivers can be
- Wide spread automated driving will take time
 - Current partial automated systems are evolving quickly, but
 - Older vehicles are replaced by state-of-the-art vehicles slowly



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