Insurance Institute for Highway Safety
Highway Loss Data Institute

Policy considerations for driving automation technology

Northeast Autonomous Vehicle Summit

Mystic, CT

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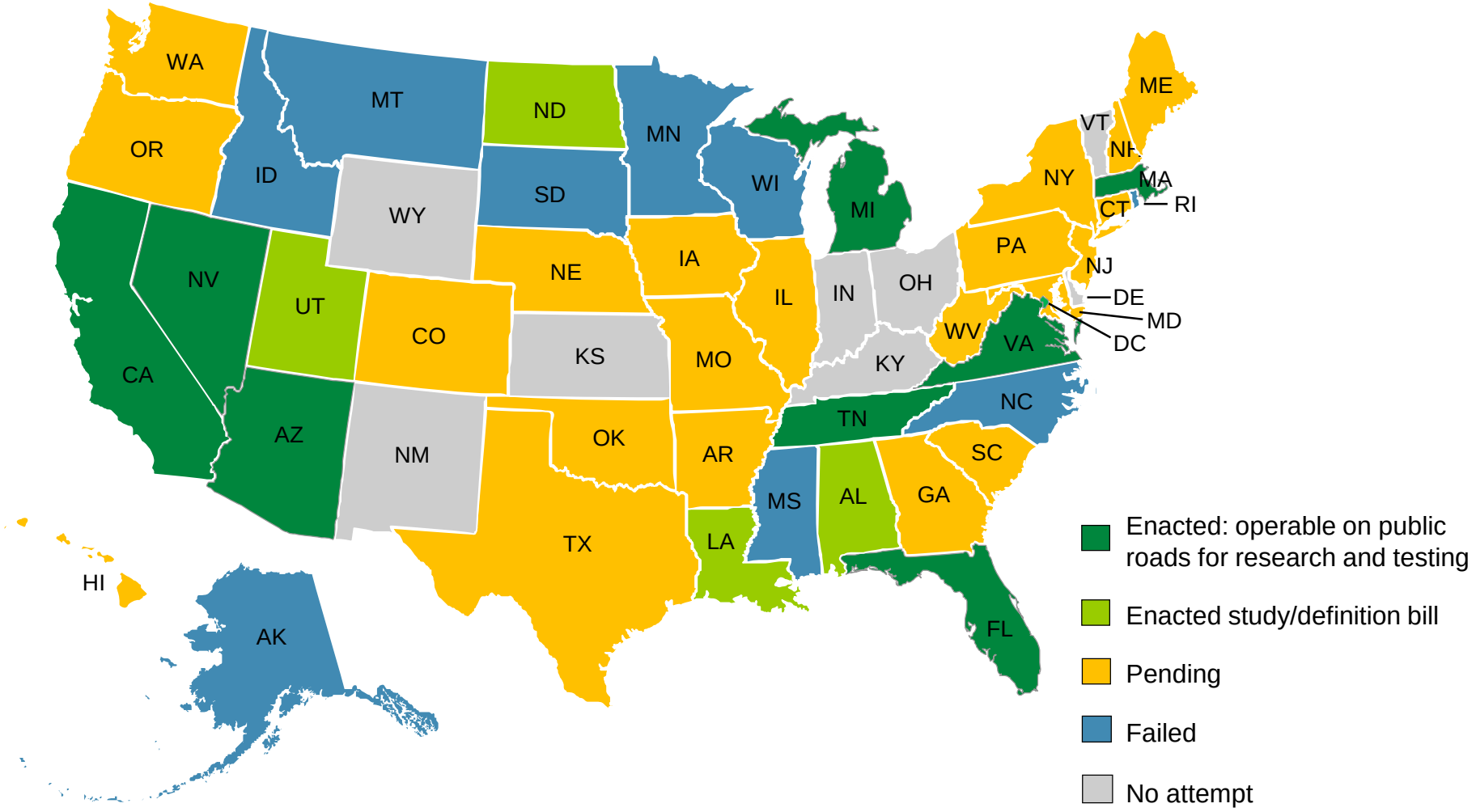
David G. Kidd, Ph.D.
Senior Research Scientist

iihs.org

Status of automated vehicle legislation

March 13, 2017



IIHS comment on the Federal Automated Vehicles Policy focused on 5 areas

- NHTSA should give more guidance about the contents of the Safety Assessment Letter
- Vehicle performance guidance should be explicitly applied to Level 2 systems
- Guidance should recommend that driving automation systems not rely on users to limit their use within the operational design domain
- NHTSA should collect information about which vehicles are equipped with driving automation systems
- Guidance should encourage addressing possible misuse errors primarily through intuitive design

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Difference between Level 2 and Level 3 systems may not be apparent from a user's point of view

Safeguards to keep the driver fully engaged in the driving task and convey system limitations

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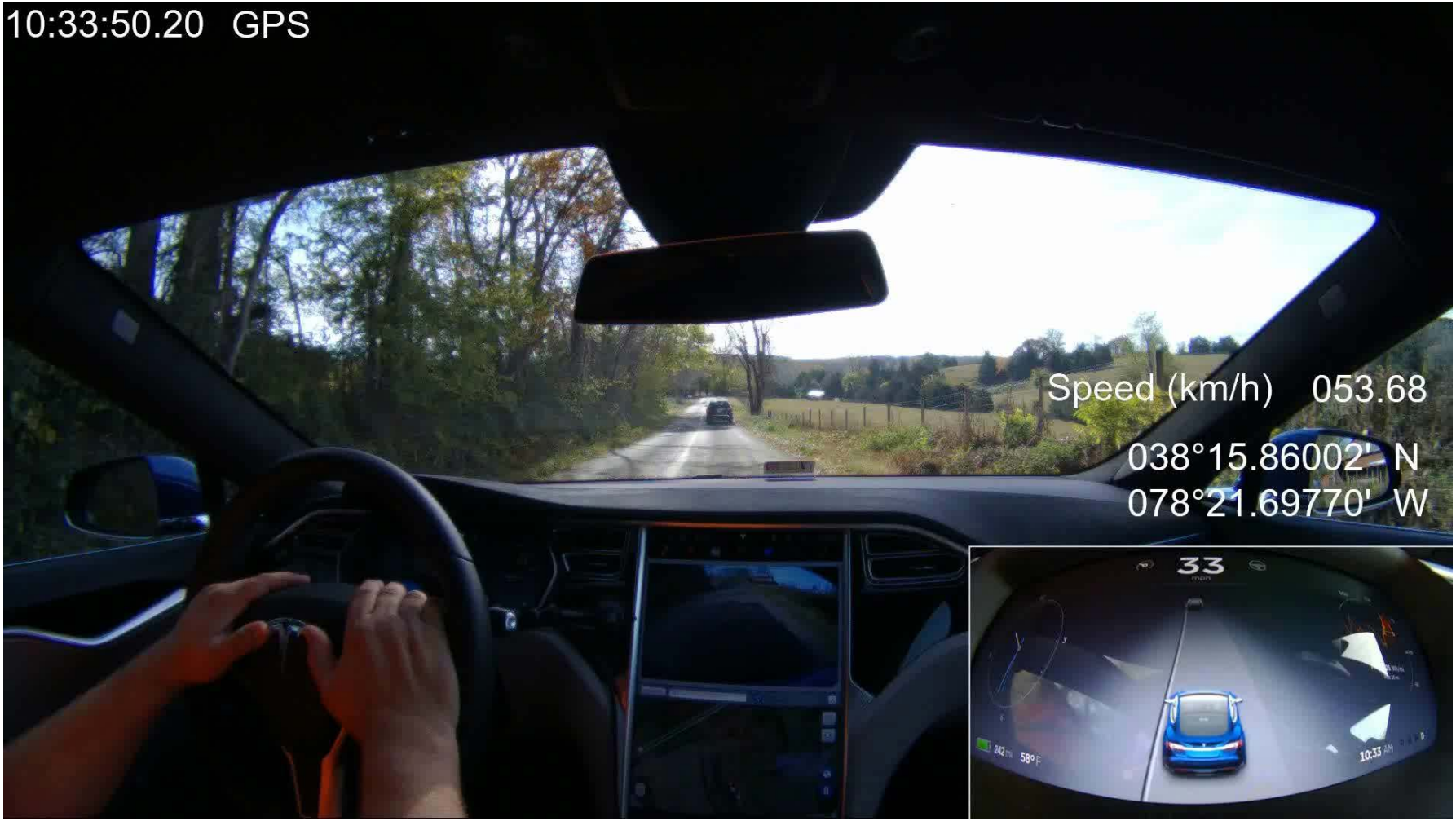
Driving automation should restrict use to the intended operational design domain



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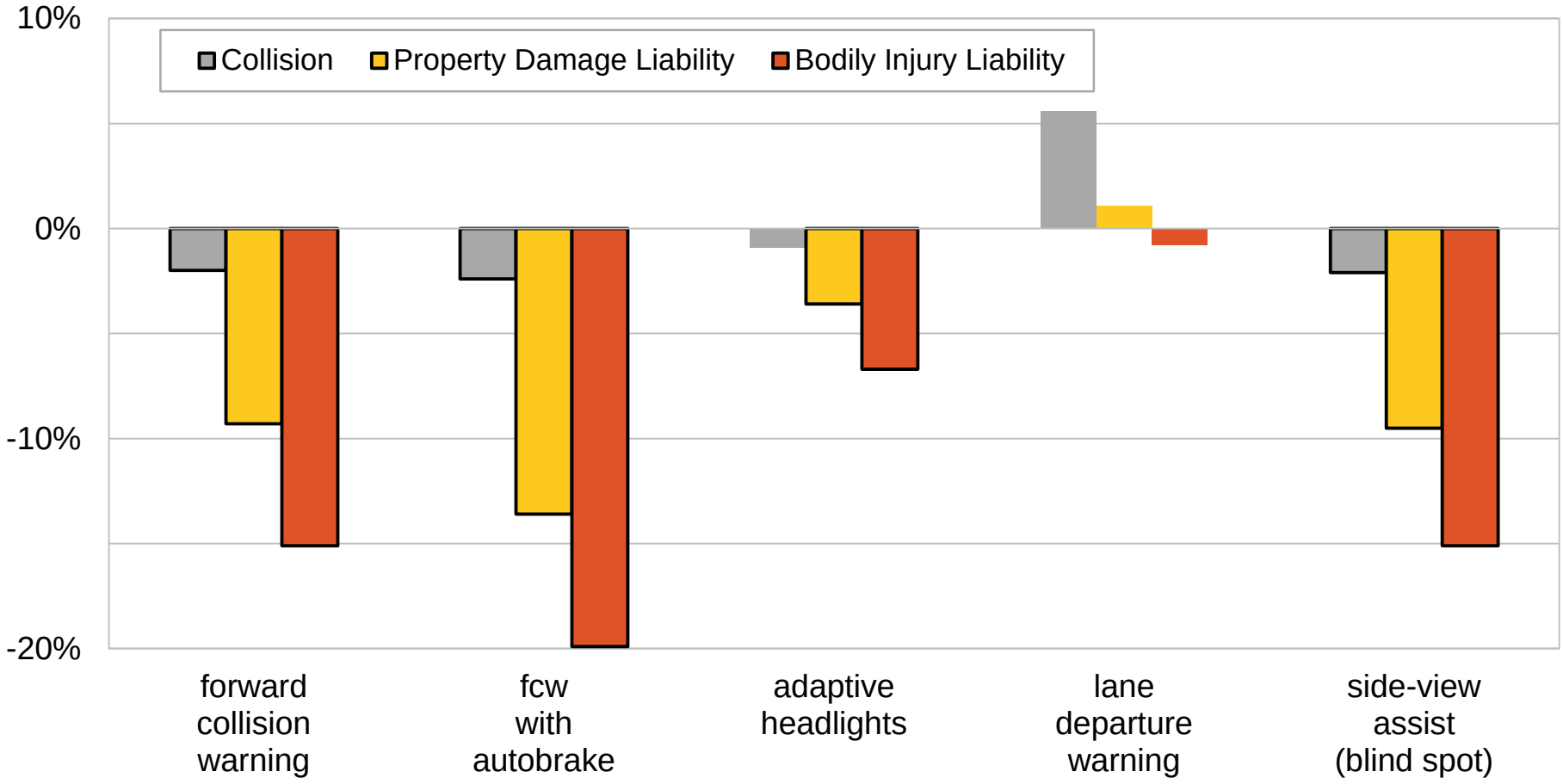
Summary of technology effects on insurance claim frequency

Results pooled across automakers



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Experiences with driving automation following real-world use

Vehicles

2016 Infiniti QX60

2016 Honda Civic

2016 Toyota Prius

2017 Audi Q7

2017 Audi A4

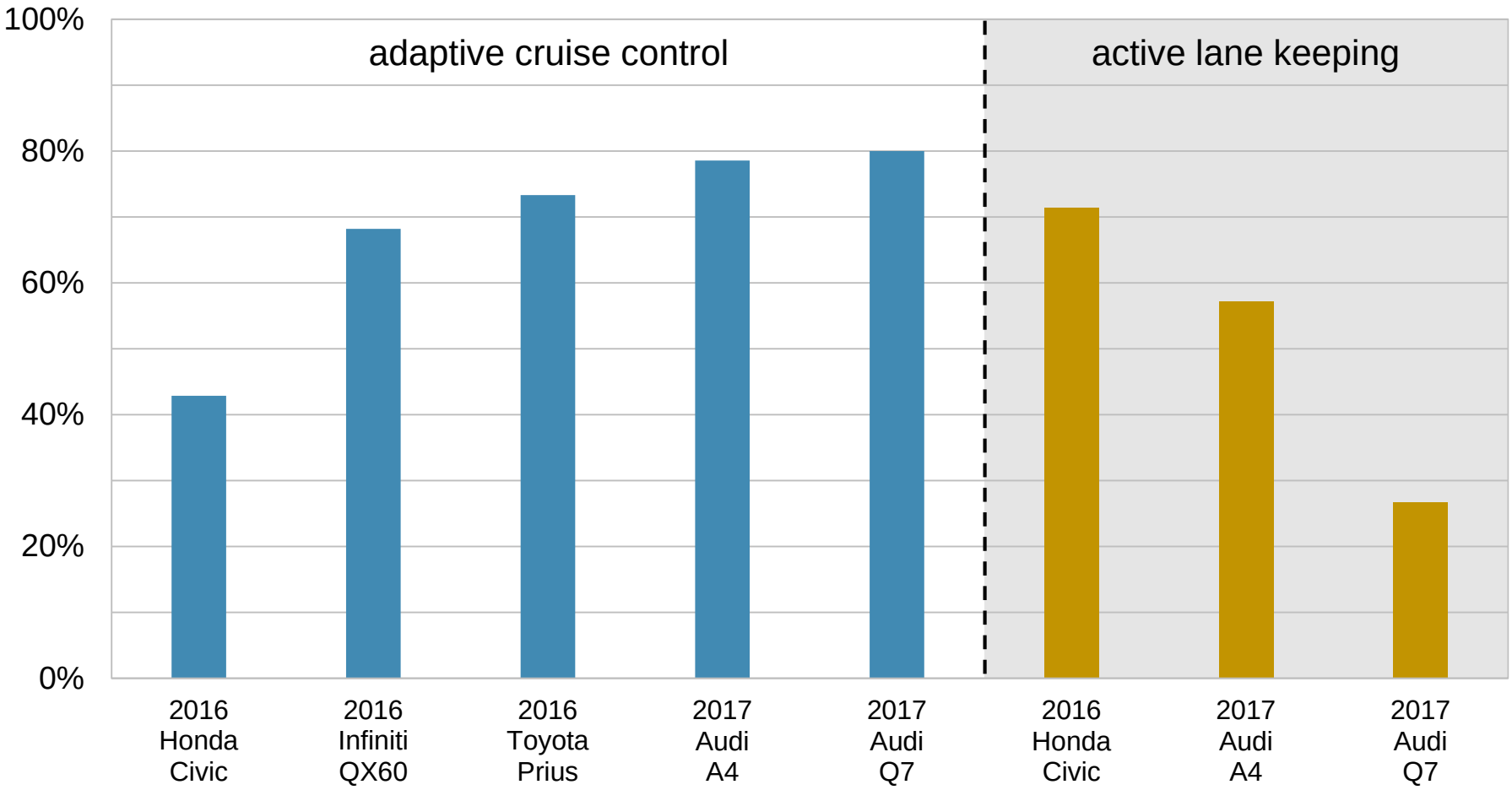
Recorded information from over 60,000 miles and 2 years of daily driving

	phase 1	phase 2
	March - July 2016	August 2016 - January 2017
employee drivers	54	47
vehicle uses	80	80
reported miles driven	33,584	31,331
reported days of driving	354	423

Second phase focused on collecting information about using automation in specific situations

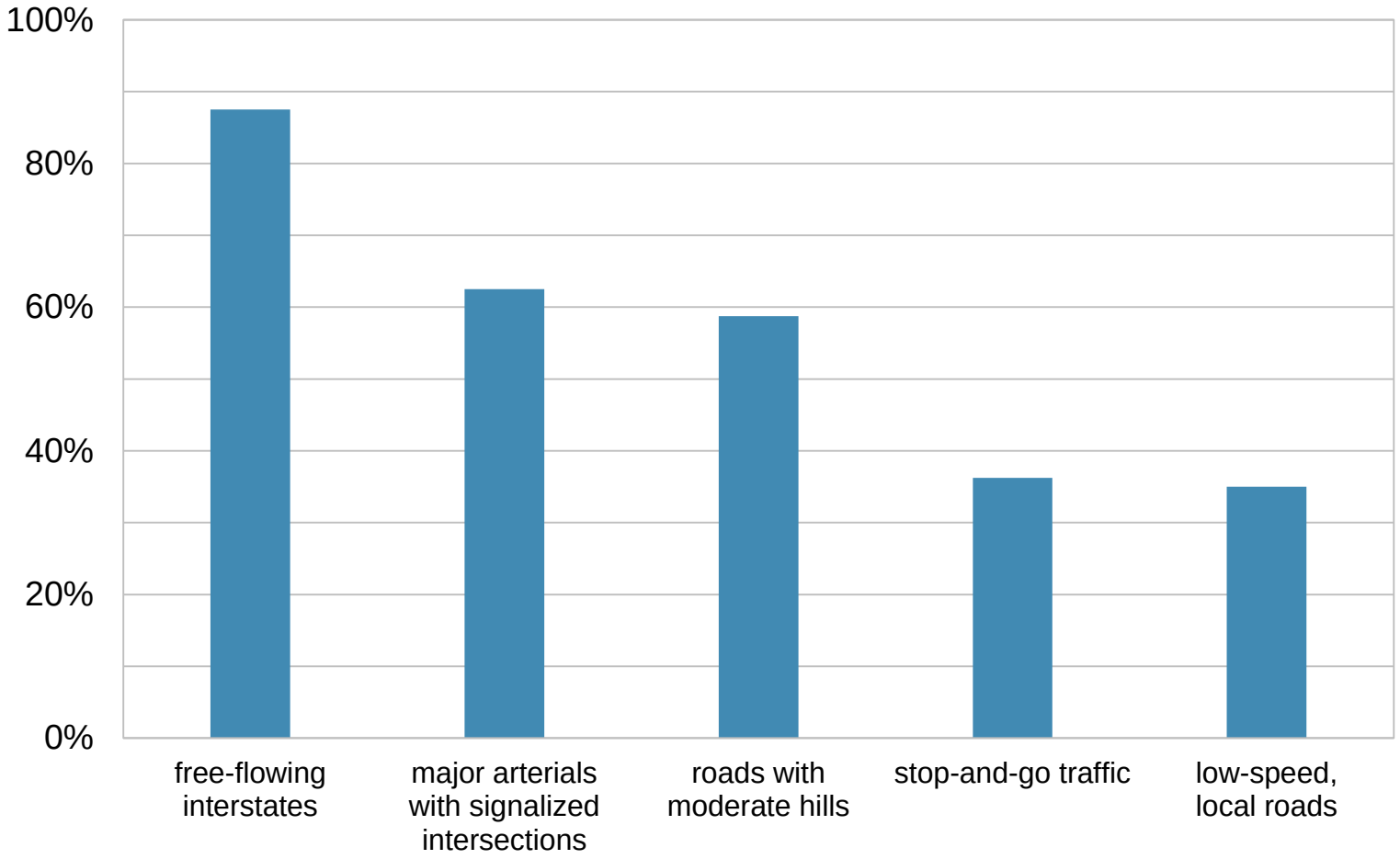
Overall, I felt this technology improved my driving experience

Percentage of drivers who agreed or strongly agreed, by technology



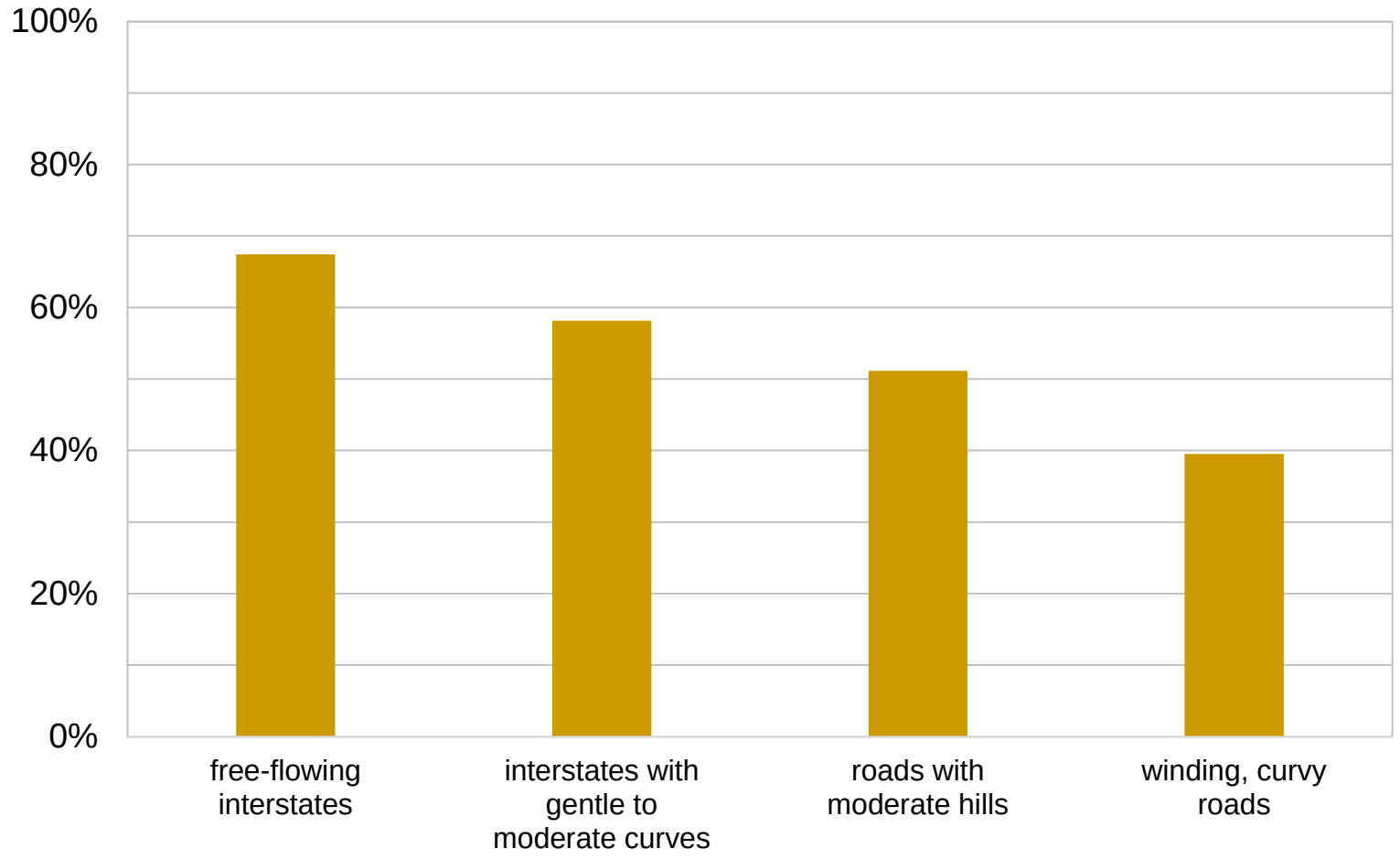
I feel comfortable using adaptive cruise control when traveling on…

Percentage of drivers who agreed or strongly agreed



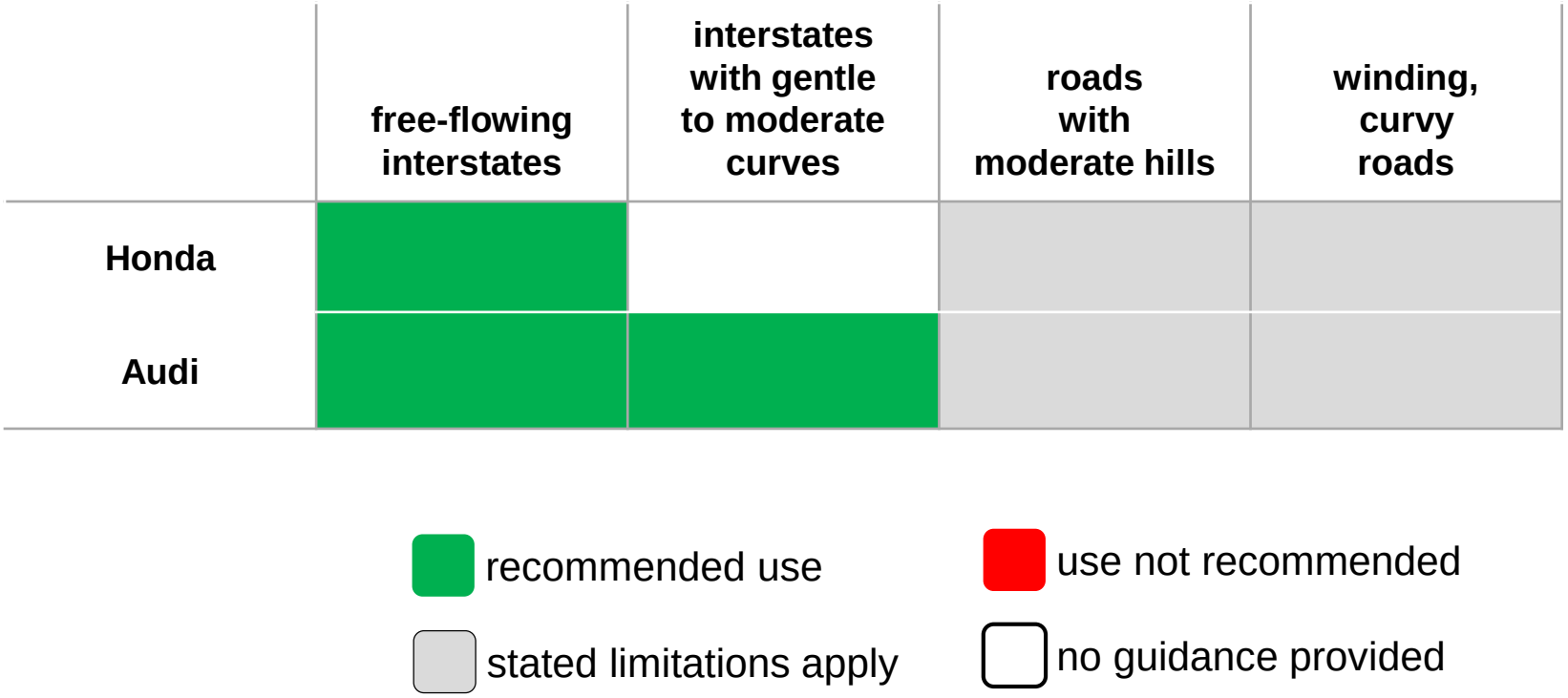
I feel comfortable using active lane keeping when traveling on…

Percentage of drivers who agreed or strongly agreed



Manufacturer guidance for using adaptive cruise control in owner's manual varies

Manufacturer guidance for using active lane keeping in owner's manual varies



Technology will fail in unexpected ways

Additional policy considerations for driving automation technology

- The acceptance of driving automation technology, like driver assistance systems, will vary among drivers
  - Benefits of driving automation are likely overestimated in near term
- Drivers may not distinguish among levels of autonomy or follow intended use
  - As level 2 systems proliferate and become more dependable, they will be treated as level 3 or 4
- Disengagements should be clear and inadvertent driver disengagement should be difficult
- System disengagement should begin to slow the vehicle until driver demonstrates control

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More information and links to our YouTube channel and Twitter feed at iihs.org

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dkidd@iihs.org