Webinar:
Active Driving Assistance Testing 2020

Thank you for joining us! The call will start 2:00 PM Eastern

Please put your questions in the Q&A pod, which we will answer at the end. Thank you!
Introduction

Jake Fisher
Sr. Director, Auto Testing

Kelly Funkhouser
Head of Connected and Automated Vehicle Testing

William Wallace
Manager, Safety Policy
● What we tested

● Recap where we left off when we last met in October 2018

● Share how we approached rating the systems

● Answer your questions
What is it?
- “Level 2 / L2”?
- “Semi-Autonomous”? ❌
- “Self-Driving”? ❌

“Clearing The Confusion”

Active Driving Assistance
- Adaptive Cruise Control (ACC)
- Lane Keeping Assistance (LKA)

Nomenclature shared by:

- AAA
- PAVE
- CR Consumer Reports
- NSC
- SAE
- J.D. Power
RECAP: Where We Left Off in October 2018

Super Cruise
Tested on Cadillac CT6

- Automation System Rating
- Super Cruise uses a camera to watch where the driver's eyes are looking.
- Clear When Safe to Use
- Keeping Driver Engaged
- Unresponsive Driver

Autopilot
Tested on Tesla X/5/3

- Automation System Rating
- Autopilot performed well and is easiest to use in stop-and-go traffic.
- Clear When Safe to Use
- Keeping Driver Engaged
- Unresponsive Driver

ProPilot Assist
Tested on Infiniti QX50/Nissan Leaf

- Automation System Rating
- Drivers may find it difficult to turn the system on, testers found.
- Clear When Safe to Use
- Keeping Driver Engaged
- Unresponsive Driver

Pilot Assist
Tested on Volvo XC40/XC60

- Automation System Rating
- The Pilot Assist system displays are small and hard to decipher.
- Clear When Safe to Use
- Keeping Driver Engaged
- Unresponsive Driver
October 2020: Where We Are Now

- Ratings of 17 systems - using same 5 criteria as 2018
- Expanded information on model pages
- Considering penalizing models that offer these systems without effective driver management or increasing the score of models that have it
How We Tested

- Input from surveys with these systems
- Research from MIT AVT Consortium
- Communication with other organizations

- Hundreds of miles on the road and at our track
- 11 obstacles on track
- 30 mile loop city and highway roads
October 2020: Five Ratings Criteria

- Capability and Performance
- Keeping the Driver Engaged
- Ease of Use
- Clear When Safe to Use
- Unresponsive Driver

Illustration: T.M. Detwiler
Gold Standard: Capability and Performance

- Keeps the vehicle in the center of the lane
- Smooth speed and distance control

- Consumers expect LKA to consistently and reliably keep them in the center of the lane
  - Dissatisfaction with ping-pong systems - even when that was the design intent

- ACC with stop & go is essential
  - Adequate performance

Gold Standard: Keeping the Driver Engaged

- The human is still responsible when using ACC and LKA
- Collaboration should be encouraged, not penalized
- Hands on wheel DOES NOT mean the driver is paying attention

Gold Standard: Ease of Use

- Simple controls and displays
- Adequate feedback on system status

- Multiple LKA systems cause confusion
- Driver can easily make adjustments, check the system status
- What does the system see? What is it doing?

Gold Standard: Clear When Safe to Use

✓ Tells driver when and where to use
✓ Only operates when and where it’s safe

- Provides information about availability and appropriate use
  - Single lane line?
  - Curvy road?

- Restrict to lower-risk situations

- Ensuring driver’s eyes on the road expands operational domain

For illustrative purposes only.
Gold Standard: Unresponsive Driver

- Ensures driver is not distracted
- Helps when drivers need it the most

- Drivers want systems to help them if they become incapacitated
  - Do this even if active driving assistance system not being used!

- Escalation
  - Alert / Wake driver
  - Continue functioning, slow down, hazard lights
    (Penalizing by shutting off at speed is dangerous)
  - Stop safely
  - Call for help
KEY TAKEAWAYS: Summary

✔ Keeps the vehicle in the center of the lane  
  - no need for multiple systems to do this

✔ Direct driver monitoring and management is essential

✔ No penalties for driver engagement and collaboration

✔ Communicate effectively and provide driver ample information

✔ System to restrict use to lower-risk situations

✔ Effective driver management can expand operational domain

✔ Should keep drivers safe if they cannot react  
  - even when the system is off
RATINGS RELEASE

- Ratings results to be published next week

- Industry report estimated mid-November, will be emailed to attendees of this webinar

- If you would like to be added to the list to receive the report via email, please go to data.consumerreports.org
CONSUMER ADVOCACY: How will CR build on our testing and ratings to ensure meaningful change?

- **Communicate** with the public, media, and thought leaders about CR’s ratings and new developments as they arise.

- **Advocate** for government policies and company practices to ensure that innovation and safety go hand-in-hand.

- **Organize and mobilize** consumers to urge safe design, testing, and deployment of driving automation systems.
QUESTIONS?

Please use Q&A pod

Think of a question after the webinar? Email us at externalrelations@cr.consumer.org