Vehicle Technologies & Automation - Research on the "User Issue"

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A non-profit, Section 501(c)(3) organization founded in 1947 by American Automobile Association with voluntary fund contributions from AAA, CAA, and individuals

Mission Statement

"*To identify traffic safety problems, foster research that seeks solutions, and disseminate information and educational materials.*"
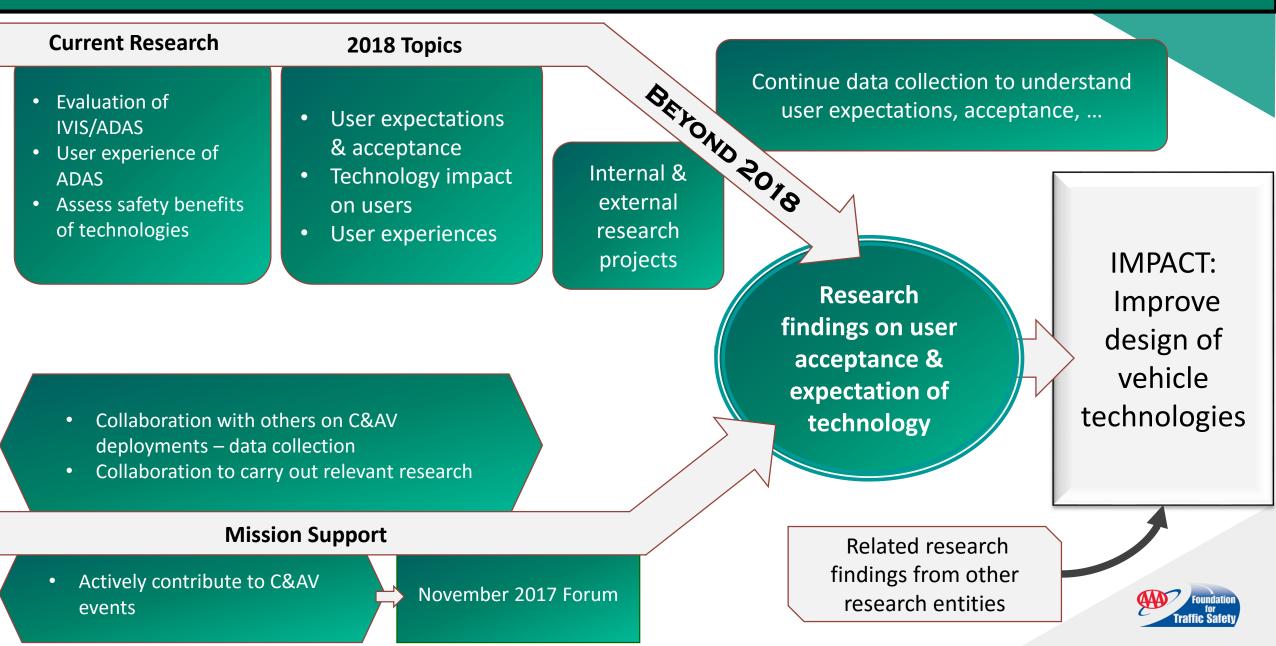
AAA Foundation Focus Areas

EMERGING TECHNOLOGIES

Current Research
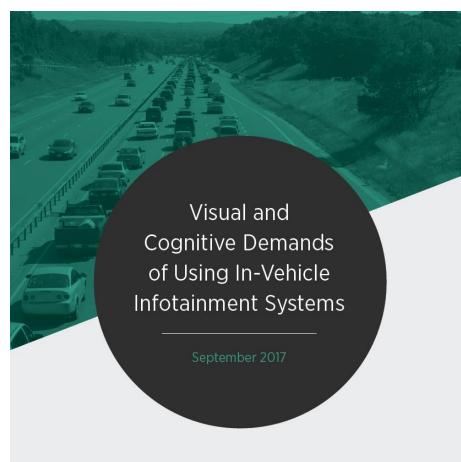
- Evaluation of IVIS/ADAS
- User experience of ADAS
- Assess safety benefits of technologies

2018 Topics

- User expectations & acceptance
- Technology impact on users
- User experiences

Internal & external research projects

BEYOND 2018

Continue data collection to understand user expectations, acceptance, …

Research findings on user acceptance & expectation of technology

IMPACT: Improve design of vehicle technologies

- Collaboration with others on C&AV deployments – data collection
- Collaboration to carry out relevant research

Mission Support

- Actively contribute to C&AV events

November 2017 Forum

Related research findings from other research entities

AAA Foundation for Traffic Safety

Evaluation of IVIS & ADAS (1 of 2)

Evaluation of IVIS & ADAS (2 of 2)

Next step …

- Conduct detailed human factors evaluation of ADAS on selected vehicles
- Working with AAA Automotive and AAA Clubs to link ADAS performance & human factors evaluation

Thereafter …

- Establish partnership with key stakeholders

User Experience of ADAS (1 of 2)

Survey of 1000+ owners of 2016-2017 vehicles with technologies such as

- Adaptive Cruise Control
- Forward Collision Warning
- Automatic Emergency Braking
- Lane Keeping Assist
- Blind Spot Monitoring

In-depth survey to gauge understanding, experiences, …

In collaboration with University of Iowa

Preliminary findings based on a small set of study data,

Confusion/uncertainty/misunderstanding
- Confuse deceleration from ACC with AEB
- ~20% not sure if they have AEB
- >10% not sure if they have Lane Keeping Assist and Rear Cross Traffic Alert

Adaptations
- >50% owners with Blind Spot Monitoring admit changing lanes without looking

➢ Research report in mid-2018

Assess Potential Safety Benefits of ADAS (1 of 2)

>1.4 million lane-departure crashes occur annually in U.S. with 364,000 injuries and 12,000+ deaths
- LDW and Lane Keeping Assist could prevent some

>2 million rear-end crashes occur annually in U.S. with 800,000 injuries and 2,000+ deaths
- FCW and AEB could prevent some

Assess Potential Safety Benefits of ADAS (2 of 2)

Literature review & crash data analysis

- Estimated effectiveness in preventing specific crash types
- Numbers of crashes/injuries/fatalities that could be prevented with FCW, AEB, LDW, Lane Keeping Assist, & Blind Spot Monitor

➢ Research findings in 2018

Research Needs from this Event will be posted –

https://www.aaafoundation.org/

2018 & Beyond

Connected & Automated Vehicles Research on –

User expectations and acceptance

Impact of Technologies

User experiences

Learn more about AAA Foundation …
https://www.aaafoundation.org/

New website, December 2017!