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Smart Car Survey Results

PROFILE OF THE SURVEY RESPONDENTS

350 volunteers took this survey between 9/19-10/19/16

60% female; mean age 62.4 years (24-95 years)

Almost all (93%) currently own or lease a vehicle and currently drive

50% of the group had a 2011 or newer vehicle

69% drive a vehicle five or more times per week (one round trip equals one time)

66% drive on freeways five or more times per week

27% drive at night less than once a week

USE OF TECHNOLOGY

20% never use a GPS while driving; 33% use a GPS less than once a week

31% report having any autonomous features installed in their vehicle

The most common autonomous features installed were: backup warning alarm (60), side view (blind spot) assist (56), adaptive cruise control (55)

43% report ever using any autonomous features when driving any car

Only 9% of volunteers reported having a driving tracking device currently installed in their car

ATTITUDES AND BELIEFS ABOUT AUTONOMOUS VEHICLES

Greatest personal benefit of owning a fully autonomous vehicle

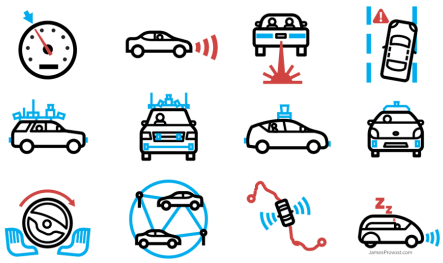
- 30% It would make me a safer driver
- 19% It would make long car rides more relaxing and enjoyable
- 22% None

Greatest social benefit of owning an autonomous vehicle

- 60% It would make roads safer
- 19% It would reduce road rage
- 19% None

Concerns about autonomous vehicle technology

- 38% Someone could hack into my onboard computer
- 29% It will make cars too complicated and annoying with unnecessary technology



Is your car smarter than you?

Imagine a world where car owners climb in their vehicles, sit back, and enjoy the morning headlines while their cars purr self sufficiently through morning traffic. Designers have dreamed about this since the first mass production of cars in the 1920's. Today we are closer to this reality than ever before. Tesla, Daimler, Toyota, Nissan, Google and others, all have plans to introduce "self-driving" or autonomous vehicles (or driver assisted,

not fully autonomous vehicles) to the market within the next 5-10 years; it may be that by 2040 autonomous vehicles make up 70% of cars on the road [1]. Are we ready for this dramatic change in how we drive?

An important aspect of these vehicles is their potential impact on driving safety. Although cars and roads have become progressively safer, traffic accidents are still the leading cause of injury related death in the U.S. In 2011 in the United States there were more than 5.3 million automobile crashes, resulting in more than 2.2 million injuries and 32,000 fatalities. Driver error is responsible for a large portion of crashes; some estimates rate it as high as 90% [2]. Recent data suggests that partially autonomous vehicles may already be helping to reduce crashes [2].

Autonomous Vehicles Are Evaluating You

Both autonomous and semiautonomous vehicles employ a host of sensors to monitor both what is going on around the car and also how the car is performing and the driver is behaving. Cars already offer driver drowsiness detection systems that may include monitoring of steering patterns, vehicle in lane position, eye tracking, and body sensors in the steering wheel and seat that measure heart rate, skin conductance and muscle activity. Cars outfitted with various sensors could even potentially track the emotional state of the driver and passengers, and engage in corrective actions to wake a driver up or calm road rage.

Networked Cars are a Source of Big Data

All of these sensors and computer technologies in the car are transforming vehicles into essentially self-driving computers that are interconnected to a larger network. Through this network the car can be monitored, evaluated, and the health and well being of the driver can be monitored.

Vehicle tracking devices have been used by such companies as UPS and trucking companies for fleet tracking and the safety of their drivers. Insurance companies are offering incentives to individuals who install tracking devices in their personal cars. Insurers use the collected data as a means to obtain better information on safe driving. This provides an objective basis for rewarding safe driving.

[1] IEEE News Releases n.d. https://www.ieee.org/about/news/2012/5september_2_2012.html (accessed January 15, 2016).
[2] Anderson JM, Kalra N, Stanley KD, Sorensen P, Samaras C, Oluwatola OA. Autonomous Vehicle Technology 2014. http://www.rand.org/pubs/research_reports/RR443-1.html (accessed January 15, 2016).

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