
Directs the Department of Transportation to establish competitive grants for research projects and facilities advancing the integration of automated vehicles and high-definition road mapping data.

WHAT IT DOES

HR 6058, introduced on June 8, 2018, directs the Department of Transportation (DOT) to establish competitive grants of up to $10,000,000 for research projects and facilities advancing the integration of automated vehicles (AV) and high-definition road mapping data. Funded endeavors would serve as pilot programs to identify what challenges and barriers must be considered, and by whom, prior to a safe and effective rollout of a nationwide high-definition road mapping infrastructure supporting private and commercial automated vehicles. Specific anticipated outcomes of these pilot programs include:

- The identification of minimum data quality standards required of high-definition road mapping data to support automated vehicles in different contexts (weather, rural/urban, road composition, etc.);
- Feasibility studies of the collection and use of high-definition road mapping data in each program;
- Simulated pretests of any automated vehicle using high-definition road mapping data; and
- Interim and final reports to the DOT and Congress on the use of projects funding, outcomes, and conclusions.

Viable candidate simulator-facilities (including higher education institutions and nonprofits) for this proposed funding would also have to demonstrate experience working with high-definition road mapping data, be designated an Automated Vehicle Proving Grounds by the DOT, and meet the following criteria:

- Provide vehicle simulations with a 360-field of view;
- Simulate vehicle acceleration and/or braking while changing lanes; and
- Support interchangeable vehicle cabs to simulate light and heavy vehicles.

RELEVANT SCIENCE

While the US Air Force’s gift of public access to its Global Positioning Systems (GPS) made navigation easy for human-operated vehicles, the data provided by GPS is not accurate enough to adequately support AV operations. Whereas traditional GPS can locate a specific position within one-meter accuracy, high-definition mapping systems can pin-point a position within ten centimeters. To produce this accuracy, high-definition mapping systems rely on onboard LiDAR, camera, and GPS data that is instantaneously integrated to produce and update a map of the vehicle’s location and surroundings while in operation. Further, as more high-definition mapping data systems are on the road, maps and data from these systems can be integrated for further accuracy. Initial challenges to the integration of high-definition mapping for automated vehicles include the creation and storage of data. Decisions to mitigate these challenges will include deciding how much data will be created and stored by each individual vehicle as well as communicated among other vehicles and supporting data centers.
STATUS

This bill was introduced to the House of Representatives on June 08, 2018 and subsequently referred to the House Committee on Transportation and Infrastructure.

SPONSORS

Sponsor: Representative David Loebsack (D-IA-2)

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