

2019 UDOT RESEARCH PROBLEM STATEMENT

*** Problem statement deadline is Feb. 6, 2019. Submit statements to UTRAC@utah.gov. ***

Title: Public Perception of the Collection and Use of Connected and Autonomous (CAV) Vehicle Data **No. (Office Use):** 19.03.04

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Select ONE Subject Area Materials/Pavements Maintenance Traffic Mgmt/Safety Structures/Geotech
 Planning Perf Mgmt/Data Analytics Public Transportation Other

1. Describe the problem to be addressed:

With the continued development and increasing prevalence of connected vehicles, there is a growing need to understand the public perception of this technology in Utah. In particular, connected vehicles represent a potential source of immensely valuable data for traffic operations and planning. The successful collection and use of these data are directly related to public opinion and acceptance.

Connected vehicle data will encompass a variety of valuable metrics for traffic operations and planning. These may include speed, traction, lateral/vertical acceleration, windshield wiper activation, headlight activation, braking intensity, etc. These metrics can be used in a number of ways to improve UDOT's operations, including for pavement maintenance/monitoring, incident detection, weather response, etc. The importance of these data cannot be downplayed. Public opinion can significantly affect the degree to which UDOT can utilize these data.

The landscape for CAV technology is changing rapidly. No longer are the deployment dates twenty years into the future: connected and autonomous vehicles are here today. What's more, significant advancements in the technology are expected in the next 3-5 years. The traveling public has limited involvement with these technologies and significant reasons not to trust or embrace the technologies. From an agency standpoint, UDOT sees the benefits of a safer and more efficient transportation system. Gathering public perception and determining sentiment is critically important to the deployment and use of these technologies.

2. Write the project objective (25 words or less):

Evaluate the current public perception of the collection and potential uses of connected vehicle data to inform future UDOT data management and public education.

3. Explain why this research is important:

(In response, consider addressing specific UDOT goals, applicability in Utah or other states, etc.)

This research relates to UDOT's core values of trust and public responsiveness and falls under one of the five pillars of the UDOT CAV Program: "Outreach and Growth". This research also directly addresses two items on Carlos Braceras' Top Ten list:

9. "We will be a national leader in the evolution and development of connected and autonomous vehicles during the next few years."

3. "Our public approval ratings will reach the highest level it's ever been: 90%."

In order to achieve these goals, it is important for UDOT to understand public opinion and acceptance of the collection and use of what will be commonly viewed as private data. Anecdotally, the US population is very wary of government entities being able to track their movements and day-to-day activities. The results of this research will provide UDOT with guidance for future management of connected vehicle data and public education on the technology.

Many research programs for CAV technology are conducted and funded by private entities. Automakers are very competitive and often require their research to be confidential. Proprietary data sets can be cost prohibitively expensive to purchase or can be lacking in the specific detail. UDOT's Data Ecosystem project will greatly improve the availability of CAV data for researchers and public and private sector partners. It is envisioned that any data gathered through this UTRAC project could be included in the UDOT Data Ecosystem data set for sharing and analysis.

4. List the major tasks:

