Assessing Alternative Approaches for Conveying Automated Vehicle 'Intentions' (03-082) Dataset

Dataset available at: https://doi.org/10.15787/VTT1/Z5DZAJ

(This dataset supports report **Assessing Alternate Approaches for Conveying Automated Vehicle 'Intentions'**)

This U.S. Department of Transportation-funded dataset is preserved by the Virginia Tech Transportation Institute (VTTI) in their data repository (https://dataverse.vtti.vt.edu/), and is available at https://doi.org/10.15787/VTT1/Z5DZAJ

The related final report **Assessing Alternate Approaches for Conveying Automated Vehicle 'Intentions'**, is available from the National Transportation Library's Digital Repository at https://rosap.ntl.bts.gov/view/dot/54688.

Metadata from the VTTI Repository record:

Description:

- Project Description: One of the greatest barriers to the entry of highly automated vehicles (HAV) into the market is the lack of user trust in the vehicle. Research has shown that this lack of faith in the system primarily stems from a lack of system transparency while in motion (e.g., the user not being told how the car will react in a certain situation) and not having an effective way to control the vehicle in the event of a system failure. This problem is particularly prevalent in public transit or ridesharing applications, where HAVs are expected to first appear and where the user has less training and control over the vehicle. To improve user trust and perceptions of comfort and safety, this study developed human-machine interface (HMI) systems, focusing on visual and auditory displays, to better relay automated vehicle "intentions" and the perceived driving environment to the user. These HMI systems were then implemented into a HAV developed at the Virginia Tech Transportation Institute (VTTI) and tested with volunteer participants on the Smart Roads.
- Data Scope: The dataset includes participant responses to surveys (open-ended feedback, Likert-scale, yes/no answers) distributed during each testing session. Different surveys were distributed before the testing session began ("pre-session questionnaire"), after each trial ("post-trial questionnaire"), and after the surprise event ("post-surprise questionnaire").
- Data Specification: See attached data dictionary pdf.

Subject:
Engineering; Other

Keyword:
Highly automated vehicles, automated driving systems, human-machine interfaces, automated rideshare, trust, comfort, safety

Recommended citation:
Basantis, Alexis; Miller, Marty; Doerzaph, Zachary; Neurauter, Luke, 2019, "Assessing Alternative Approaches for Conveying Automated Vehicle 'Intentions' (03-082)", https://doi.org/10.15787/VTT1/Z5DZAJ, VTTI, V1

Dataset description:
This dataset contains 1 .zip file collection below.

Accessing Alternative Approaches for Conveying Automated Vehicles Intentions Dataset.zip:
The .zip file collection contains 1 .xlsx file and 1 .pdf file, described below.
- AV Viz- Final Dataset.xlsx.
  - The .xlsx file is a Microsoft Excel file, which can be opened with Excel, and other free available software, such as OpenRefine.
- AV Viz Data Dict.pdf
  - The .pdf file format is an Adobe Acrobat Portable Document Format (PDF) file and can be opened with the Adobe Acrobat software.

National Transportation Library (NTL) Curation Note:
As this dataset is preserved in a repository outside U.S. DOT control, as allowed by the U.S. DOT's Public Access Plan (https://doi.org/10.21949/1503647) Section 7.4.2 Data, the NTL staff has performed *NO* additional curation actions on this dataset.

NTL staff last accessed this dataset at https://doi.org/10.15787/VTT1/Z5DZAJ on 2021-03-10.

If, in the future, you have trouble accessing this dataset at the host repository, please email NTLDataCurator@dot.gov describing your problem. NTL staff will do its best to assist you at that time.