

Exploring the role of attitude in the acceptance of self-driving shuttles Dataset

Dataset available at: <https://doi.org/10.25338/B8532T>

(This dataset supports report **Exploring the Role of Attitude in the Acceptance of Self-Driving Shuttles**, <https://doi.org/10.7922/G2Q52MVZ>)

This U.S. Department of Transportation-funded dataset is preserved by the University of California, Davis in the digital repository Dryad (<https://datadryad.org>), and is available at <https://doi.org/10.25338/B8532T>.

The related final report **Exploring the Role of Attitude in the Acceptance of Self-Driving Shuttles**, is available from the National Transportation Library's Digital Repository at <https://rosap.ntl.bts.gov/view/dot/55480>.

Metadata from the Dryad Repository record:

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Abstract:

Self-driving vehicles, as a revolution in mobility, are emerging and developing rapidly. However, public attitudes toward this new unproven technology are still uncertain. Given the significant influence of attitude toward a new technology on the intention to use it, the question arises as to why some people are in favor of this technology whereas others are not. Additionally, questions about the key attitudes influencing self-driving technology acceptance, where these attitudes come from, and how they interact with each other have not yet been addressed. This study aims to explore these research questions based on data collected from people who live or work in the West Village (WV) area of the University of California, Davis (UCD) campus after a self-driving electric shuttle was piloted in this area. Structural Equation Modeling (SEM) was employed to explore interactions between attitude elements. The results show that affect, the core of the concept of attitude, strongly explains the acceptance of self-driving technology. A higher level of affect could be formed by strengthening an individual's trust. Additionally, trust works as an important mediator between perceived risk, usefulness, and ease of use on both affect and intention to ride self-driving vehicles. Perceived risk captured more security and functional concerns, reflecting uncertainty around current self-driving technology. The model identified important bi-directional influences between trust and affect. Significant effects of mental and physical intangibility were also shown, but each works differently on cognitive beliefs. Individuals' socio-demographic, lifestyle, and mobility characteristics also exert influences on attitude and self-driving technology acceptance.

Recommended citation:

XING, YAN et al. (2019), Exploring the role of attitude in the acceptance of self-driving shuttles, Dryad, Dataset, <https://doi.org/10.25338/B8532T>

Dataset description:

This dataset contains 1 .zip file collection described below.

doi_10.25338_B8532T_v2.zip:

This collection contains 1 .docx file, and 2 .sav files listed below.

- Read_Me_File.docx
- AV_shuttle_model_data.sav
- AV_shuttle_data.sav

The .sav file type is associated with SPSS, which are binary files that can only be used by the computing system which created them, such as Windows. (For more information on .sav files and software, please visit <https://www.file-extensions.org/sav-file-extension-spss-data-sets-database>)

The .docx file is a Microsoft Word file, which can be opened with Word and other free word processor programs, such as Kingsoft Writer, OpenOffice Writer, and ONLYOFFICE.

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/10.25338/B8532T> on 2021-04-14.

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.