

Designing An Informative Interface for Transfer of Control in Level 2 Automated Driving System Dataset

Dataset available at: <https://doi.org/10.7910/DVN/8SRAJS>

(This dataset supports report **Designing an Informative Interface for Transfer of Control in Level 2 Automated Driving System**)

This U.S. Department of Transportation-funded dataset is preserved by the SAFER-SIM University Transportation Center in the SAFER-SIM Dataverse, which is a part of the Harvard Dataverse repository (<https://dataverse.harvard.edu/>), and is available at <https://doi.org/10.7910/DVN/8SRAJS>

The related final report **Designing an Informative Interface for Transfer of Control in Level 2 Automated Driving System**, is available from the National Transportation Library's Digital Repository at <https://rosap.ntl.bts.gov/view/dot/61062>

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Description: Although automated driving systems have made significant progress over the past few years, human involvement is still vital, especially for Level 2 (L2) systems. One of the challenges of L2 systems is transfer of control between drivers and systems. The objective of this study was to design and evaluate an in-vehicle interface for an L2 automated vehicle to increase situation awareness and help drivers identify and understand critical situations that require transfer of control. A comprehensive study was conducted in three Phases. In the first Phase, drivers' behavior in simulated drives was analyzed using video recordings, interviews, and questionnaires. Three different road geometries were considered: curves, intersections, and merges. Following this Phase, four design iterations were developed in the second Phase of the study. The final prototype was applied to the dashboard of the driving simulator cab. The third Phase included a between-design experimental study to test efficiency of new dashboard designs. Forty-two participants were recruited and assigned randomly to three different groups based on dashboard design (Advanced, Basic, Original) and all participants in each group drove through seven scenarios. Results showed that providing take back control feedback (combination of visual and audio) helps drivers to be more situationally aware while driving L2 vehicles. Additional feedback regarding road geometry can also improve drivers' take back control performance. The method and results of this study can help both researchers and manufacturers to gain more insight towards future designs of feedback systems in L2 vehicles (2019-08-07)

Subject: Engineering

Related Publication: http://safersim.nads-sc.uiowa.edu/final_reports/UM%204%20Y2%20Final%20Report.pdf

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Dataset description:

This dataset contains 2 files described below.

SS1-SARTDATA.csv and SS1-Takeover-response.csv:

The .csv, Comma Separated Value, file is a simple format that is designed for a database table and supported by many applications. The .csv file is often used for moving tabular data between two different computer programs, due to its open format. The most common software used to open .csv files are Microsoft Excel and RecordEditor, (for more information on .csv files and software, please visit <https://www.file-extensions.org/csv-file-extension>).

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://ntl.bts.gov/public-access>) 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/10.7910/DVN/8SRAJS> on 2022-04-07. 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.