# Using Driver State Detection in Automated Vehicles Dataset

**Dataset available at:** https://doi.org/10.7910/DVN/FTUNZD

(This dataset supports report **Using Driver State Detection in Automated Vehicles,** http://safersim.nads-sc.uiowa.edu/final_reports/UI%201%20Y1%20report.pdf**)**

This U.S. Department of Transportation-funded dataset is preserved by the SAFER-SIM University Transportation Center in the Harvard Dataverse Repository (https://dataverse.harvard.edu/), and is available at https://doi.org/10.7910/DVN/FTUNZD

The related final report **Using Driver State Detection in Automated Vehicles**, is available from the National Transportation Library's Digital Repository at https://rosap.ntl.bts.gov/view/dot/42273

**Metadata from the Harvard Dataverse Repository record:**

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Title: Using Driver State Detection in Automated Vehicles
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Description: The next several years will bring a large increase in automated vehicle capabilities. High levels of automation will require bi-directional transfers of control between the driver and vehicle. These control transfer situations pose one of the greatest potential safety shortfalls. One specific issue that arises is that drivers may be unfit or ill-prepared to retake control from the vehicle because of distraction, drowsiness, or intoxication. Driver state monitoring systems based on eye tracking, head tracking, and other measures may be useful in such situations. The goal of this project was to examine how driver state monitoring could be used in the context of an automated vehicle. Using data from a production driver monitoring system, we examined two approaches to using driver state information. One method provided feedback throughout the drive when drivers were classified as distracted (i.e., attentional maintenance). The other method utilized state-contingent takeover messages, which provided earlier warnings when drivers were distracted. These were compared against a baseline drive in which the automation did not use driver state information. The results indicated that providing attentional maintenance alerts throughout the drive increased drivers' situational awareness and enhanced takeover during unexpected automation failures. Although state-contingent takeover requests improved some components of the takeover process, there was limited evidence that they improved takeover performance relative to baseline. This study highlights the potential utility of data from driver monitoring systems in the context of partial vehicle automation.
Subject: Engineering

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

**SaferSim_AVState_Gaspar_DeidentifiedData_v1.zip:**
This collection contains one .xls file of the same name (SaferSim_AVState_Gaspar_DeidentifiedData_v1.xls). The .xls file is a Microsoft Excel file, which can be opened with Excel, and other free available software, such as OpenRefine

**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/FTUNZD on 2019-09-03. 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.