



THE OHIO STATE
UNIVERSITY

DRIVING SIMULATION LABORATORY



We offer a state-of-the-art facility for measuring driver behavior.

The Ohio State University Driving Simulation Laboratory provides tools for evaluating in-vehicle systems for infotainment and vehicle guidance to ensure conformance with National Highway Traffic Safety Administration (NHTSA) driver distraction guidelines, as well as for investigating attention, stress, cognitive workload and other factors in the driving task. Vehicle dynamics can be altered in software to allow measurement of driver preference for different braking, steering and other vehicle handling characteristics.

SIMULATORS

The lab contains three different setups for simulation from Realtime Technologies Inc. (RTI).

These include:

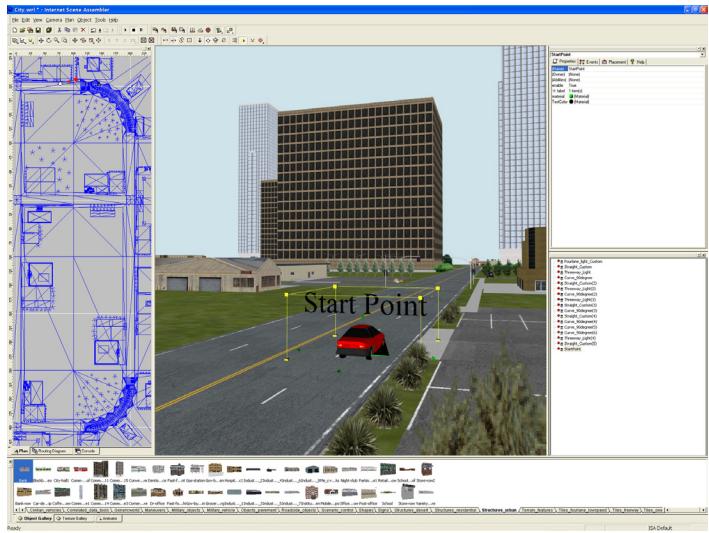
1. A fully-instrumented vehicle cab mounted on a 6 degree-of-freedom MOOG 2000e motion base, with a 260° front-projection cylindrical edge-blended screen and three high-resolution projectors
2. A turntable drive-on setup for testing full vehicles with a single front-projection screen
3. A desktop simulator for creating and troubleshooting driving scenarios

SOFTWARE

All setups feature RTI's SimCreator™ and SimVista™ software systems for controlling the system and creating driving scenarios, including a Motion Drive algorithm for motion base control and multibody dynamics editing software.

PHYSIOLOGICAL MEASUREMENTS

A SmartEye Pro 3-camera eye-tracking system provides measures of gaze and head direction, eyelid opening, blink rate and pupillometry. BIOPAC Systems MP150WSW wireless interfaces allow the measurement of blood pressure, ECG, respiration, GSR and fNIR brain imaging.



LAB SERVICES

The lab can provide driving scenarios that meet NHTSA driver distraction guidelines, as well as assistance with other scenario development, study design, data collection and video and data analysis.

RESEARCH PARTNERS

The lab works with a variety of partners from the automotive industry, as well as with researchers at Ohio State, other universities and the Ohio Supercomputer Center. The Driving Simulation Laboratory is part of Ohio State's Crash-Imminent Safety University Transportation Center, funded by the U.S. Department of Transportation.

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