



THE
NATIONAL ADVANCED
DRIVING SIMULATOR

Drugged Driving: The impact of prescription and illicit drugs on driving performance and safety

Timothy L. Brown, Ph.D. – Director of Drugged Driving Research

A growing concern in the area of traffic safety is the increased prevalence of operating a motor vehicle under the influence of controlled substances and illicit drugs. Recent estimates indicate that almost half of the U.S. population has used at least one prescription drug in the past month and over 20% have used at least three. The most recent roadside survey shows that, while the number of drivers with alcohol in their system has been declining, the proportion of drivers with a drug in their system has increased.

NHTSA's National Advanced Driving Simulator

Owned by NHTSA and operated by the University of Iowa, NADS is the largest and most sophisticated publicly-owned driving simulator in the world. It provides realistic driving environments that allow for the safe and ethical study of driving performance in safety-critical situations. It is one in a suite of simulators operated by the University of Iowa that allows for adapting simulator fidelity to meet the research needs of any project.

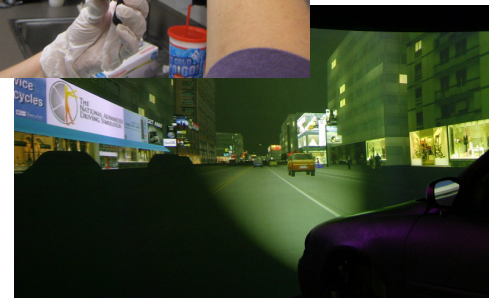


Drugged Driving Research at NADS

Drugged driving research at NADS has been a key component of our work since the first NHTSA-funded studies in 1993. The University of Iowa has been at the forefront of studying how individual drugs impact driving performance. This began with research showing that second generation antihistamines (such as Allegra) are safer to use while driving compared to older, first generation antihistamines (such as Benadryl). NADS has developed a Standardized Scenario, intended to replicate a generic drive from an urban area to a rural home, that includes challenges such as a yellow-light dilemma, turning across traffic, merging interstate traffic, and negotiating curves. This scenario has three equivalent versions to allow for within-subject testing of drugs and has been used to study alcohol impairment, drowsiness, distraction, and drugged driving.

More recently, NADS collaborated with NHTSA and the National Institute on Drug Abuse (NIDA) to examine how alcohol and cannabis alone and in combination affect driver performance.

This study showed a linkage between increased levels of cannabis and decreased lateral control, as well as slower driving while under the influence of cannabis. Although this provides a good starting point, more research is needed to better understand how different frequencies of users are affected, how various strains of cannabis change the impacts, how edibles affect performance, and how changes in performance relate to crashes. Research into the effects of drugs such as cannabis, opioids, depressants, and other prescription and over-the-counter medications is essential to reducing crashes and fatalities. NHTSA's expertise and leadership is critical to bringing the FDA, NIDA, and other government agencies together to address the drugged-driving challenge. NADS is a fundamental tool in this effort.



Cannabis
Opioids
Depressants
Stimulants
Other Drugs