

Driving is as stressful as skydiving, new study by Audi and MIT reveals

How stressful is driving? Apparently, about as bad as extreme sports like skydiving, according to a new study by Audi and MIT. Designed to better understand the root of stress behind the wheel of a two-ton motorized vehicle, Audi hopes to incorporate the data into automated and computer-assisted driving systems in the future.

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AUDI

Audi, already a world-leader in autonomous car tech, has teamed up with MIT to understand how to eliminate stress while driving through new driver assistance and connected car technology.

An in-depth study by Audi and MIT designed to understand and reverse the impacts of stress and strain on drivers in different road conditions finds that getting behind the wheel is as stressful as participating in extreme sports.

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The Road Frustration Index (RFI) is a project that investigates the emotive aspects of driving. A collaboration between the German carmaker and the Massachusetts Institute of Technology (MIT) SENSEable City Laboratory, it combines real-time data on traffic, incidents, weather and driver sentiment across 30 metropolitan areas in the US to understand and accurately measure the level of driver stress each situation and location creates.

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For the clearest picture of how these conditions negatively impact on drivers, MIT designed a series of experiments that measure stress and frustration during real-world driving tasks, which saw volunteers put behind the wheel and wired up to computers with psychological sensors plus face- and body-tracking technologies. GPS was used to track the vehicle's location and speed while in-cabin cameras monitored the driver's facial expressions and his or her view through the windshield.

To put the collected data into perspective, it was compared with other routine and not-so-routine tasks. "In addition to daily driving conditions, we are measuring stress levels under a variety of daily activities: at home, in the office, while having breakfast or attending a lecture at MIT. We found that certain driving situations can be one of the most stressful activities in our lives," said Kael Greco, project leader, MIT SENSEable City Laboratory.

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One of the biggest surprises came when the stress levels of driving were compared to those generated from partaking in extreme sports. "The data we received is fascinating. One study showed that getting side swiped by an oncoming car can be almost as stressful as jumping out of a plane," said Filip Brabec, director of product management, Audi of America.

Trials were conducted over a 12-month period on a variety of roadway types, ranging from bustling highways to quiet suburban side streets, and a variety of road conditions, from stop-and-go traffic patterns to confusing roadway navigation. As well as using the sensor-collected data, results were validated via driver questionnaires and through film footage of the trails.

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MIT will publish the full findings of the research later this year in a peer-reviewed journal, but for now, those wanting to learn more can visit the Audi RFI [website](#) and even watch a [video](#) of one of the experiments.

Audi hopes that the results will help to inform its future development of driver assistance and connectivity technologies. "By working with MIT to identify stress points for drivers, Audi is able to anticipate the needs for future mobility. Audi has worked with MIT on other projects as part of a strategy to develop new technology and approaches with leading universities to better understand the conditions that lead to driver stress, and subsequently, to driver enjoyment."