From research to real-world impact:

EMPOWERING DRIVERS ACROSS THE DRIVING CYCLE

MIT AGELAB

StateFarm®

The Challenge

Driver distraction remains a safety challenge despite decades of progress in awareness, education, enforcement, and vehicle technology. Many existing approaches focus on detecting or responding to distraction once it occurs, but reducing risk may require a broader understanding of why attention is compromised and how driver state, technology, competing demands, and context interact.

Advances in sensing, connectivity, AI, and real-time information create new opportunities to support drivers in ways that are more timely, contextual, and responsive. Working with State Farm®, the MIT AgeLab is developing a scientifically grounded approach for identifying where driver support can reduce demands, strengthen attention, improve decision-making, and establish safer habits over time.

SAFE DRIVING BEGINS BEFORE THE VEHICLE MOVES - AND CONTINUES AFTER THE TRIP ENDS

PREPARE

Before the drive
Strategic

Set conditions and plan for a safer, more attentive drive by anticipating needs, reducing avoidable demands, and supporting driver readiness.

MANAGE

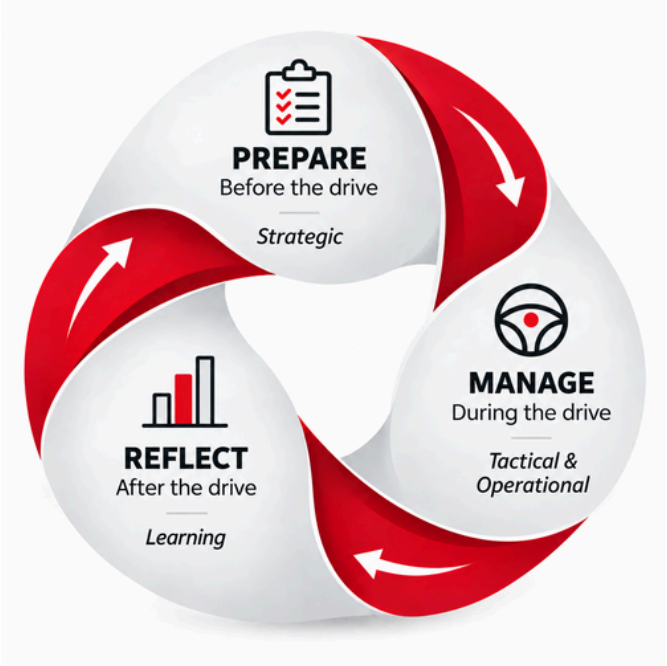
During the drive
Tactical & Operational

Support the driver as conditions and demands change, helping them stay engaged, manage attention and competing demands, and respond appropriately in the moment.

REFLECT

After the drive
Learning

Use driving experiences and feedback to recognize patterns, reflect on behavior, and support safer future choices and habits.



A driving cycle framework for supporting safer driver behavior

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The Research

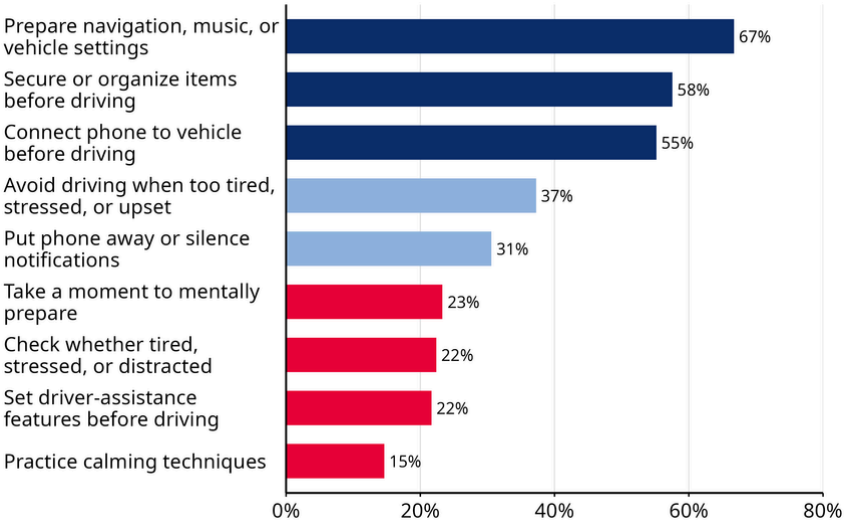
Led by Dr. Pnina Gershon, a research scientist at the MIT AgeLab Center for Transportation & Logistics and founder of the MIT AWARE initiative*, the team, in collaboration with State Farm**, launched a multi-year research program focused on supporting safer driving behavior.

Before the Drive: Preparation

Drivers already prepare before driving, creating an opportunity to build on existing routines. Yet, preparation is focused more on the vehicle, navigation, and devices than on the driver's own attentional and emotional readiness.

Drivers prepare the vehicle more than they prepare themselves

Percentage of drivers who report doing each of the following 'Often' or 'Very often' before driving.



WHAT HAPPENS BEFORE THE DRIVE CAN SHAPE WHAT HAPPENS NEXT

Preparation can shape behavior during the drive.

What drivers do before a trip can influence what happens once the vehicle is moving.

BEFORE the drive

Put the phone away or silence notifications

DURING the drive

Associated with less handheld calling, messaging, and attention splitting during the drive.

BEFORE the drive

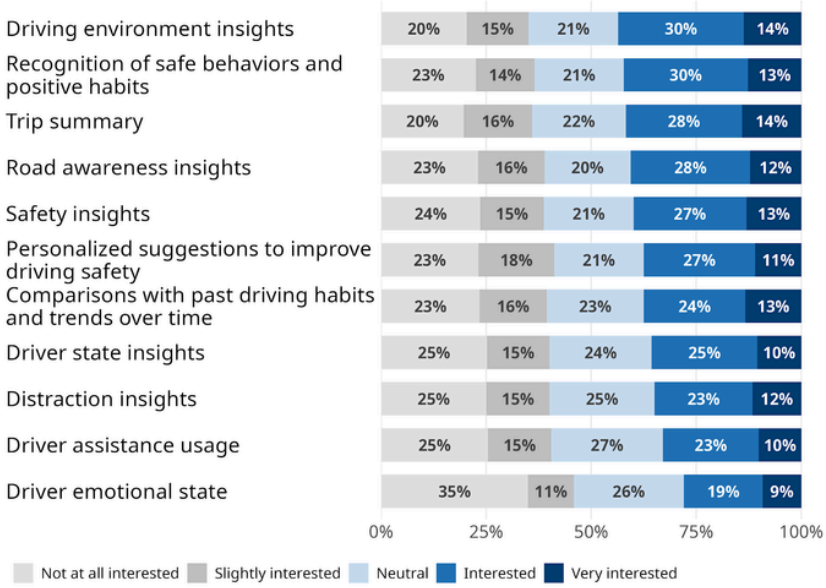
Connect the phone to the vehicle

DURING the drive

Associated with greater use of voice-based and hands-free activities during the drive.

The drive ends. The opportunity for support does not.

Drivers show interest in receiving several types of feedback, including: driving environment insights (e.g., driving in risky locations), recognition of safe driving behaviors, trip summaries (e.g., duration and speed), and safety-related information. The findings highlight an opportunity to explore how feedback can be designed and communicated to better engage drivers and support safer driving.



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The Impact

Rethinking when driver support begins and ends.

The framework shifts driver support from reacting to distraction in a single moment to supporting drivers across the full driving cycle. The Prepare-Manage-Learn approach connects what happens before, during, and after the drive, recognizing that each phase can influence the next. Pre-drive routines can reduce avoidable demands, in-drive support can help drivers manage attention as conditions change, and post-drive feedback can reinforce safer choices for future trips. Advances in sensing, connectivity, and AI create opportunities to provide support that is more timely, contextual, responsive to the driver, and promotes safer behaviors.

FROM RESPONDING TO DISTRACTION IN THE MOMENT TO SUPPORTING SAFER DRIVING ACROSS THE JOURNEY AND BUILDING SAFER HABITS

About the study: Data for this research were collected by NORC at the University of Chicago from their AmeriSpeak Panel, a probability-based panel designed to be representative of the US household population. To be eligible for the study, respondents had to report that they had a current, valid driver's license and drive one or more days per week on average. Surveys were conducted online and in English between July 16-27, 2026. The final sample was comprised of 1,203 Americans, aged 18 and up. During analysis, survey responses were weighted to represent the US population.

About AWARE* at the MIT AgeLab: AWARE is a research initiative focused on developing intelligent vehicle systems that can better understand drivers and support them in real-world conditions. Based at the MIT AgeLab and Center for Transportation & Logistics, AWARE brings together naturalistic driving research, advanced simulation, behavioral science, and artificial intelligence to study how driver state, behavior, and context interact across the driving journey. Its research examines areas such as distraction, fatigue, impairment, workload, automation use, driver monitoring, and human-machine interaction, with the goal of moving beyond simply detecting driver behavior toward systems that can sense, interpret, respond, and promote safer and more appropriate driver engagement. Through this work, AWARE is building the evidence and methods needed to support the next generation of adaptive, human-centered mobility technologies.

About State Farm:** For over 100 years, the mission of State Farm has been to help people manage the risks of everyday life, recover from the unexpected and realize their dreams. State Farm Mutual Automobile Insurance Company and its affiliates are the largest providers of auto and home insurance combined in the United States. Its more than 19,200 agent offices and over 62,000 employees serve over 96 million policies and accounts – including auto, fire, life, health, commercial policies and financial services accounts. Commercial auto insurance, along with coverage for renters, business owners, boats and motorcycles, is also available. State Farm Mutual Automobile Insurance Company is the parent of the State Farm family of companies. State Farm is ranked No. 32 on the 2025 Fortune 500 list of largest companies. For more information, please visit http://www.statefarm.com.

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