AI-BASED INTERSECTION MONITORING LISTENING SESSION HOSTED BY SCAG AND UNIVERSITY OF CALIFORNIA, IRVINE

SCAG™

HIMaC²

OVERVIEW

The [HORIBA Institute for Mobility and Connectivity](#)[2] at the University of California, Irvine (UCI) has been awarded a grant by the Vehicle Technology Office of the United States Department of Energy (U.S. DOE) to research and enhance transportation energy efficiency. With an emerging artificial intelligence (AI) infrastructure, lidar-based technology demonstrated in the city of Irvine, researchers are using 25 traffic intersections in the city to conduct their research, creating a **Public Road Network Platform**. At these 25 intersections, researchers are installing AI-powered sensors to collect traffic data in a privacy-sensitive manner and safely sending driving suggestions to positively affect air quality, traffic, and safety.

On the road traveling through the 25 intersections of the Public Road Network Platform, fleets of vehicles with various levels of connectivity and autonomy will demonstrate the benefit of the AI-powered sensors. These vehicle fleets will operate in distinct modes (independent and shared-use driving) within public roadways. Each vehicle will receive messages from the infrastructure to act in a cooperative manner. The data collected will then be scaled up in simulation to evaluate how these tools and systems can perform at a county level.

The researchers hope to accomplish four goals by researching and piloting this technology:

1. Develop a research testbed for cooperative driving automation through new AI transportation infrastructure tools.

2. Learn important information from this testbed to help the U.S. DOE meet its goals related to mobility energy productivity.

3. Estimate how these AI tools would work at different scales, demonstrating at least a 15 percent improvement in energy efficiency.

4. Share the data and results from the research.

PROJECT LISTENING SESSIONS

The project includes two listening sessions to gather feedback and questions from stakeholders. The first session, held in April 2023, focused on desired project outcomes from residents and transportation stakeholders in Los Angeles and Orange counties.

The second session, held on Tuesday, Nov. 5, 2024, presented results and findings to date, including the extensive collection of critical traffic data, next steps for the program, and discussion around the future of AI and intelligent transportation.

CONTACT

For all inquiries, please contact UCI Project Manager, Blake Lane, Ph.D., at bal@apep.uci.edu and Marisa Laderach, Principal Regional Planner, at laderach@scag.ca.gov.

[UCI PROJECT WEBSITE](#)   [SCAG PROJECT WEBSITE](#)

PROJECT PARTNERS

> Argonne National Laboratory

> City of Irvine

> Hyundai Mobis

> Pony.ai

> Saddleback Community College

> Southern California Association of Governments

> UCI Institute of Transportation Studies

> Velodyne Lidar