

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



OVERVIEW

The HORIBA Institute for Mobility and Connectivity² (HIMaC²) at the University of California, Irvine (UCI) has been awarded a grant by the Vehicle Technology Office of the United States Department of Energy (DOE) to research and enhance transportation energy efficiency. With an emerging artificial intelligence (AI) infrastructure lidar-based technology being 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 send driving suggestions to positively affect air quality, traffic, and safety.

On the road traveling through the 25 intersections of the **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 driving and shared-use driving) within the 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.

By researching and piloting this technology, the researchers hope to accomplish four goals:

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 DOE meet their 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.



HOW TO GET INVOLVED

SCAG will host two listening sessions to hear questions and feedback on this project.

- > **LISTENING SESSION SPRING 2023**
Monday, April 24, 2023
11 a.m. – Noon on Zoom
Register Online at
<https://scag.zoom.us/j/87865725550>
- > **LISTENING SESSION SUMMER 2024**

CONTACT

For all inquiries, please contact project manager at UC Irvine: Blake Lane, PhD at bal@apep.uci.edu

To participate in a listening session, contact Alison Linder, PhD at linder@scag.ca.gov

UCI PROJECT WEBSITE
<https://apep.uci.edu/ConnectedVehicles/>

SCAG PROJECT WEBSITE
scag.ca.gov/alternative-fuels-vehicles-projects

PROJECT PARTNERS

- > UCI Institute of Transportation Studies
- > Argonne National Laboratory
- > City of Irvine
- > Velodyne Lidar
- > Southern California Association of Governments
- > Saddleback Community College
- > Pony.ai
- > Hyundai Mobis