

Memorandum

To: CHAIR AND COMMISSIONERS

CTC Meeting: October 15-16, 2026

From: TANISHA TAYLOR, Executive Director

Reference Number: 4.4, Information

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Subject: Innovations in Transportation: Artificial Intelligence Cameras in Caltrans District 5

Summary:

Eric Carver, Intelligent Transportation Systems (ITS) Maintenance and Operations Branch Chief, California Department of Transportation (Caltrans) District 5, will present on the District's use of cameras equipped with Artificial Intelligence (AI) capabilities.

Mr. Carver will provide an overview of how Caltrans uses AI cameras to detect, classify, and count various types of roadway users. This presentation will highlight the benefits of this technology, including reduced data collection costs and staff time, improved staff safety, and expanded availability of roadway user data.

Background:

Caltrans District 5 began testing AI camera technology in July 2023 with a pilot camera on State Route 154 in Santa Barbara. The pilot demonstrated that the camera could detect, classify, and count most roadway users, including pedestrians, bicyclists, cars, trucks, buses, and motorcycles, with an accuracy rate of 95 percent or greater. The cameras are used only for traffic counting and classification purposes and do not read license plates or collect personally identifiable information.

Following the pilot, District 5 initiated a State Highway Operation and Protection Program (SHOPP) project (05-1R050), funded through the District 5 SHOPP Minor B Program, to install 10 additional AI cameras throughout southern District 5, with a focus on locations with high pedestrian and bicyclist traffic. The cameras were installed in February 2025 and have since provided ongoing pedestrian and bicyclist count data that were not previously available to District staff.

District 5 is currently the only Caltrans district to have piloted this AI camera technology. Based on the pilot experience, District 5 is exploring opportunities to incorporate AI cameras as a standard feature in future camera and traffic signal installations on SHOPP projects. Expanded use of this technology could provide insights on how different roadway users interact with the State Highway System while reducing the need for manual roadway user counts. The pilot could also provide valuable lessons to inform potential expansion to other Caltrans districts.