

BOARD MEETING DATE: October 2, 2026

AGENDA NO. 7

PROPOSAL: Execute Contracts to Support Advanced Clean Transportation Technology Competitions

SYNOPSIS: California State University, Los Angeles (Cal State LA), and the University of California, Riverside (UCR), have been selected to participate in national collegiate competitions focused on advanced transportation technologies. Cal State LA and UCR are the only universities in the Basin that were selected to participate in these national competitions. Cal State LA is one of 20 universities awarded to participate in the EcoCAR Innovation Challenge and will develop a Wildfire Command Vehicle, incorporating advanced vehicle electrification technologies for search and rescue and emergency response applications. UCR is one of 12 universities selected to participate in the SAE International and General Motors CivicProgress Challenge and will develop and demonstrate vehicle accessibility technologies for wheelchair users and individuals with disabilities, with potential application to future zero-emission and automated mobility platforms. Both projects will provide hands-on experience with advanced transportation technologies while building skills relevant to clean transportation deployment. These actions are to execute contracts with Cal State LA and UCR in amounts not to exceed \$300,000 and \$150,000, respectively, from the Clean Fuels Program Fund (31).

COMMITTEE: Technology, September 18, 2026; Recommended for Approval

RECOMMENDED ACTIONS:

Authorize the Executive Officer to execute two contracts from the Clean Fuels Program Fund (31), as follows:

1. California State University, Los Angeles (Cal State LA) to support their participation in the EcoCAR Innovation Challenge in an amount not to exceed \$300,000; and
2. University of California, Riverside (UCR) to support the development and demonstration of wheelchair accessibility technologies in an amount not to exceed \$150,000.

Wayne Nastri
Executive Officer

Background

The U.S. Department of Energy's Advanced Vehicle Technology Competitions and the SAE CivicProgress Challenge are multi-year collegiate programs designed to advance next-generation vehicle technologies while helping develop a future clean transportation workforce. For the 2026 competitions, Cal State LA was selected as one of 20 universities nationwide to participate in the EcoCar Innovation Challenge, while UCR was selected as one of 12 universities nationwide to participate in the SAE CivicProgress Challenge. Cal State LA and UCR are the only universities within the South Coast Air Basin selected to participate in these respective national competitions.

Cal State LA - EcoCAR Innovation Challenge

South Coast AQMD has a longstanding partnership with Cal State LA to support the development of advanced vehicle technologies and prepare the next generation of clean transportation professionals. Beginning in 2016, South Coast AQMD supported Cal State LA's participation in EcoCAR 3, a U.S. Department of Energy Advanced Vehicle Technology Competition sponsored by General Motors (GM) and managed by Argonne National Laboratory. In the first competition, Cal State LA was the only California University selected to participate and successfully converted a Chevrolet Camaro into a hybrid-electric vehicle to reduce fuel consumption and emissions while maintaining vehicle performance. In recognition of its leadership and public education efforts, Cal State LA received South Coast AQMD's 2018 Clean Air Education and Outreach Award.

South Coast AQMD has continued to support Cal State LA through subsequent Advanced Vehicle Technology Competition initiatives, including the Battery Workforce Challenge during the 2024–2025 academic year. These investments have supported the development of engineers and technical professionals with experience in vehicle electrification and other emerging transportation technologies.

The 2026 EcoCAR Innovation Challenge, managed by Argonne National Laboratory, is the 15th U.S. Department of Energy Advanced Vehicle Technology Competition and brings together GM and Stellantis to develop the next generation of mobility professionals. During the four-year competition, university teams will develop energy-efficient and intelligent mobility solutions using technologies such as artificial intelligence, machine learning, advanced computing, and vehicle electrification. The competition provides students with hands-on experience advancing technologies from concept toward potential commercialization while strengthening collaboration among academia, government, and industry.

UCR CivicProgress Challenge

In 2026, UCR was selected as one of 12 universities nationwide to participate in the SAE International and GM CivicProgress Challenge, a two-year collegiate design competition focused on advancing vehicle accessibility for wheelchair users and individuals with disabilities. As part of SAE International's Collegiate Design Series, the competition challenges university teams to develop and demonstrate

accessibility innovations using a GM-provided battery electric Wheelchair Accessible Vehicle platform.

UCR brings established experience in advanced vehicle technology research and collegiate engineering competitions, and multidisciplinary workforce development through programs such as the EcoCAR EV Challenge and Formula SAE, supported by technical expertise from its engineering departments and the College of Engineering-Center for Environmental Research and Technology (CE-CERT). UCR also maintains relationships with campus accessibility resources and regional transportation and disability-serving organizations, providing a foundation for integrating advanced engineering with practical accessibility needs and preparing students for careers in emerging mobility technologies.

Proposal

Cal State LA - EcoCAR Innovation Challenge

Staff is recommending to execute a contract with Cal State LA to support the university's participation in the EcoCar Innovation Challenge. Cal State LA is one of 20 universities nationwide awarded to participate in the four-year 2026 EcoCAR Innovation Challenge. Led by faculty from the Departments of Electrical Engineering, Mechanical Engineering, and Engineering Technology, the Cal State LA team will compete in the Stellantis track using a 2026 Jeep Cherokee hybrid platform. The team will develop the vehicle as a Wildfire Command Vehicle for search and rescue and emergency response applications while providing students with hands-on experience in advanced vehicle technologies. This challenge will also introduce the students to innovation methods and entrepreneurial frameworks as they develop products, processes, and methodologies that directly support their vehicle development.

Students will design, integrate, and demonstrate advanced propulsion and vehicle systems, including high-voltage energy storage, electric drive units, software, control systems, and user-centered technologies. The team will develop and calibrate advanced control algorithms and use modeling and simulation tools to optimize vehicle performance, energy efficiency, battery system design, and off-road capability. Students will also receive technical support and mentoring from challenge sponsors to develop industry-aligned skillsets that prepare a future-ready workforce.

South Coast AQMD funding will support hardware and software, student stipends, faculty participation, and competition-related activities. The project will provide students with practical experience using industry-standard tools and technologies and develop specialized skills in vehicle electrification, controls, software integration, and advanced automotive systems.

UCR - CivicProgress Challenge

Staff is recommending to execute a contract with UCR to support the university's participation in the CivicProgress Challenge. UCR proposes to participate in the two-year CivicProgress Challenge with an interdisciplinary team of undergraduate

and graduate students organized into technical sub-teams focused on software, hardware, systems integration, and human-centered design. Teams will explore real-world challenges such as wheelchair access, securement systems, adaptive seating, and vehicle usability. Utilizing computer-aided design software, simulation tools, and hands-on engineering, the team will develop and demonstrate wheelchair-accessible technologies for the battery electric GM WAV platform and incorporate input from campus and regional accessibility partners to help ensure that solutions address practical user needs.

During the first year, UCR will focus on foundational accessibility systems, including manual ramps, wheelchair securement and occupant restraint systems, and other safety-focused features. During the second year, the team will refine and automate selected systems, including user interfaces, control functions, and related accessibility features. Design documentation will be maintained throughout the project to facilitate knowledge transfer, regulatory compliance, and continuity between student cohorts.

South Coast AQMD funding will support hardware and software, onboard sensors and computing devices, wheelchair securement and restraint equipment, automation actuators and communication devices, student stipends, faculty and administrative support, public outreach and engagement, and competition-related travel and logistics. This program emphasizes innovation, accessibility, and sustainable mobility while preparing students for real-world engineering challenges. The project will provide students with an opportunity to present to industry judges, earn accolades, and be recognized for advancing accessible transportation. In addition, students will gain hands-on experience in advanced vehicle technologies while supporting development of accessible mobility solutions with potential application to future zero-emission and automated transportation systems.

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. These requests for sole source awards are made under provision B.2.d.: Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interests of the South Coast AQMD. Specifically, these awards are justified under B.2.d.(8): Research and development efforts with educational institutions or nonprofit organizations. Cal State LA and UCR are the only two universities in the Basin selected to participate in the EcoCar Innovation Challenge and CivicProgress Challenge, respectively.

Benefits to South Coast AQMD

Projects that advance vehicle technologies while providing hands-on training are included in the Technology Advancement Office Clean Fuels Program 2026 Plan Update under “Workforce Development: Training for operators, technicians, and first responders to build the skills necessary for safe, reliable operation of advanced transportation and infrastructure systems.” The proposed projects complement these

efforts by developing technical skills and practical experience needed to support advanced clean transportation technologies.

As zero-emission and advanced vehicle technologies continue to expand, demand will grow for engineers with the technical knowledge and hands-on experience needed to design, integrate, validate, operate, and improve these systems. By supporting Cal State LA's participation in the EcoCAR Innovation Challenge and UCR's participation in the CivicProgress Challenge, South Coast AQMD will help prepare the next generation of automotive and mobility engineers while advancing expertise in vehicle electrification, intelligent mobility, automation, and accessible transportation technologies. These investments will strengthen the workforce needed to develop and support continued advancement and deployment of cleaner transportation technologies and South Coast AQMD's long-term clean air objectives.

Resource Impacts

South Coast AQMD's support for workforce development and professional training in next-generation clean transportation technologies through Cal State LA's participation in the EcoCAR Innovation Challenge and UCR's participation in the CivicProgress Challenge shall not exceed a total of \$450,000 from the Clean Fuels Program Fund (31).

Sufficient funds are available from the Clean Fuels Program Fund (31), established as a special revenue fund resulting from the state-mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.