

Maintenance

November 2025

Project Title:

Evaluation of an Electric Skid Steer Loader for Use in Caltrans Operations

Task Number: 4295

Start Date: July 1, 2024

Completion Date: May 31, 2026

Task Manager:

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Evaluation of an Electric Skid Steer Loader for Use in Caltrans Operations

This project will provide an evaluation of an electric skid steer loader for use in the California Department of Transportation (Caltrans) operations.

WHAT IS THE NEED?

Caltrans is looking to increase its use of Zero Emission Vehicles to help reduce the carbon footprint on the environment. It is important for Caltrans to evaluate all electric equipment in our operations that have the potential to reduce our carbon footprint.

WHAT ARE WE DOING?

The Advanced Highway Maintenance and Construction Technology (AHMCT) Research Center will acquire an appropriate commercially available electric skid steer loader and its attachments early in the project and the machine will be evaluated for different tasks during this effort. A test plan will be developed to guide the evaluations, to assess the suitability of the system for Caltrans operations, and to provide a summary evaluation of the system. AHMCT will evaluate the obtained electric skid steer loader in confined areas with and without the remote-control feature of the equipment. The machine will also be evaluated in brush grapple applications and to sweep roads and bike lanes. Procurement of the equipment will be done in cooperation with Caltrans Division of Equipment and Maintenance, and the exact machine and attachments will be identified and approved by the project panel. AHMCT anticipates most of the tests will be performed by or in conjunction with Caltrans Maintenance personnel. The evaluation will include feedback from Caltrans personnel regarding their experience in operating the equipment. The project duration is 24 months and a brief list of tasks for this project includes:

- Project management (24 months)
- Literature and product search (3 months)



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- Procure the system (4 months)
- Test plan development (4 months)
- System testing (9 months)
- System evaluation (6 months)
- Final report and evaluation summary (4 months)

WHAT IS OUR GOAL?

The goal of this project is to evaluate the electric skid steer on its ability for use in Caltrans operations to reduce our reliance on combustion vehicles.

WHAT IS THE BENEFIT?

Zero emission vehicles will help Caltrans reduce our carbon footprint on the environment.

WHAT IS THE PROGRESS TO DATE?

As of November 2025 here is the progress to date: The project panel for this research task has met multiple times to discuss the evaluation. Caltrans Division of Maintenance is in the process of acquiring an electric skid steer loader and will receive the equipment in March of 2026. The project panel also approved a three month rental of an electric skid steer loader to evaluate. For more information contact the task manager.