

DRISI

CALTRANS DIVISION OF RESEARCH,
INNOVATION AND SYSTEM INFORMATION

Research Notes

Maintenance

MAY 2024

Project Title:
Evaluating the Robotic
Maintenance Vehicle for Crack
Sealing Applications

Task Number: 4309

Start Date: June 1, 2024

Completion Date: May 31, 2026

Task Manager:
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Evaluating the Robotic Maintenance Vehicle for Crack Sealing

To evaluate the use of automated and robotic crack sealing devices

WHAT IS THE NEED?

Caltrans is seeking to increase the use of Automated maintenance vehicles to reduce the exposure of worker to traffic resulting in injury and death.

WHAT ARE WE DOING?

AHMCT will rent a commercially available RMV, which has been developed to detect, clean, and seal cracks automatically. Acquiring that equipment will be done in the early stages of the project in cooperation with Caltrans Divisions of Equipment and Maintenance. Then, AHMCT will develop a machine specific test plan to guide the evaluation. Performing detailed testing to assess the system's suitability for Caltrans operations and providing a summary will be the next steps. Most of the tests will be conducted by or in conjunction with Caltrans Maintenance personnel. The evaluation will include feedback from Caltrans personnel regarding their experience in operating the RMV. A brief list of tasks for this project includes:

- Project management (24 months)
- Product search and review of automated and robotic crack sealing devices (4 months)
- Renting the RMV (11 months)
- Development of the test plan (5 months)
- System testing (10 months)
- System evaluation, including worker surveys (8 months)
- Final report and evaluation summary (4 months)

WHAT IS OUR GOAL?

The goal is to evaluate the use of automated and robotic crack sealing devices, to assess the feasibility of using commercially available robotic maintenance vehicle (RMV) for Caltrans crack sealing operations.



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WHAT IS THE BENEFIT?

Minimize worker exposure to traffic resulting in the increase of safety on Highway work zones.

WHAT IS THE PROGRESS TO DATE?

As of May 2024, this research task in is the process of getting the contract through the Caltrans Division of Contracts and Procurement.

For more information contact the task manager.