

Equipment

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Project Title: Future Shops Requirement for Maintenance of Zero Emission Vehicles (ZEV)

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Future Shops Requirement for Maintenance of Zero Emission Vehicles (ZEV)

This research will provide necessary requirements for future Caltrans' shops to facilitate ZEV Maintenance operations.

WHAT IS THE NEED?

The California Department of Transportation (Caltrans) needs to update its shops and personnel skills as a part of the successful deployment of Zero Emission Vehicles (ZEVs) in its fleet. The requirements that should be considered in future are charging stations at the shop, electric infrastructure to support the chargers, maintenance and repair of battery and fuel cell operated vehicles, hydrogen refueling stations, training staff, new safety procedures and guidelines, and acquiring tools for the maintenance of ZEVs.

WHAT ARE WE DOING?

This research will provide the research support necessary to facilitate Caltrans' transition to a zero-emission fleet. Research involves the investigation of new technology being deployed and integrated within Caltrans' operations. Operational data will be interpreted with potential revisions to traditional operations and practical applications. This study aims to identify gaps for ZEV requirements within the Caltrans infrastructure, equipment, and tools to provide guidelines and recommendations to address them. This project proposes to identify needs and emerging technologies that will be critical for Caltrans' future shops to reach high rate of ZEV deployment.

WHAT IS OUR GOAL?

This research will deliver a final report outlining the necessary changes to Caltrans shops and staff skill sets, along with providing advice and essential recommendations to facilitate the transition of the Caltrans shops to support ZEVs.



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WHAT IS THE BENEFIT?

This study enables Caltrans to proactively plan ahead for a safe and smooth transition to fully zero-emission fleet, which will result in optimized use of Caltrans resources and decrease costs. The success of this research is anticipated to enhance the efficiency and effectiveness of full deployment of ZEVs into Caltrans operations, which aligns with California's mission of transitioning towards zero-emission technologies within the upcoming years.

WHAT IS THE PROGRESS TO DATE?

The research team reviewed Caltrans fleet records to identify fields and parameters of interest for fleet characterization. The team identified Caltrans building Shop characteristics impacted by fleet transitions to ZEV platforms and the staff and workforce related impacts for fleet ZEV transitions. The research team visited Caltrans District 8 Shop facilities and identified mechanic activities performed on site.