

Research Notes

Program Steering Committee (PSC): Pavement

June 2014

Title: PPRC14 SPE Sus-C: Updated Greenhouse Gas Emission Calculations in *PaveM*

Task Number: 2719

Start Date: 07/01/2014

Completion Date: 09/30/2014

Product Category: New or improved decision support tool, simulation, model, or algorithm (software).

Task Manager:

Harold Hunt, Sr. Environmental Planner

harold_hunt@dot.ca.gov

TITLE:

PPRC14 SPE Sus-C: Updated Greenhouse Gas Emission Calculations in *PaveM*

This research will update the Caltrans Pavement Management System (*PaveM*) based on life cycle assessment models for pavement effects on vehicle emissions

WHAT IS THE NEED?

The California Global Warming Solutions Act (AB 32) calls for significant reductions in greenhouse gas production by 2020. Since a significant portion of greenhouse gas production in this state comes from transportation, Caltrans needs to determine the means required to meet greenhouse gas emission targets and category pollutant regulations.

PaveM is Caltrans Pavement Management System. *PaveM* enables the Caltrans' Pavement Program to develop and successfully implement a proactive approach for prioritizing, preserving, rehabilitating, and maintaining existing highway pavements. It includes technology and implementation planning, software application configuration, database implementation, interfaces to internal applications, testing, training, data conversion, end user and technical documentation, project management, and post-implementation warranty and annual maintenance support.

To effectively manage Caltrans pavements to reduce greenhouse gas production it is necessary to have improved greenhouse gas calculations in *PaveM*. This task will help Caltrans meet its obligations under AB 32.

WHAT ARE WE DOING?

This research will update models and analysis options in *PaveM* based on validation and calibration of life cycle assessment models for pavement effects on vehicle emissions. It will also incorporate the improved simplified life cycle assessment greenhouse gas calculations into the *PaveM* software.

WHAT IS OUR GOAL?

This task will develop improved simplified life cycle assessment greenhouse gas calculations and incorporate them into the *PaveM* software.

WHAT IS THE BENEFIT?

Overall this task will help Caltrans and other entities using pavement to make pavement management decisions that will reduce the production of greenhouse gasses from pavements. This will save the state money while helping to mitigate for climate change.

WHAT IS THE PROGRESS TO DATE?

This is a new task which has not yet begun. The next immediate step is to begin the task.