

**Transportation
Safety & Mobility****May 2025****Project Title:** Exploring Non-Traditional Methods to Obtain Vehicle Volume and Class Data-TPF-5(384)**Task Number:** 3311**Start Date:** September 1, 2019**Completion Date:** June 30, 2025**Task Manager:**Jose Camacho Jr.
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TPF-5(384) - Exploring Non-Traditional Methods to Obtain Vehicle Volume and Class Data

Develop and deploy methods and approaches to obtain vehicle volume and classification data using passive data-based, nontraditional methods.

WHAT IS THE NEED?

Pavement-embedded sensors such as loops and piezos, along with roadside-based radar/light devices and other fixed point installed detection systems offer the most reliable traffic volume and classification data. However, it is also known that such point-based traditional detection systems are expensive to install and operate. New technologies and new data seemingly unrelated to vehicle travel have been explored successfully to characterize vehicle travel. It has been proven that such new passively collected data are successful in characterizing traffic patterns. One of the most successful initiatives is the National Performance Management Research Data Set (NPMRDS). The NPMRDS data, which is based on a wide range of non-traditional data, offers vehicle travel time on all the national highway systems in a timely manner and with great reliability, accuracy and precision. There is a need to develop and deploy methods and approaches to obtain vehicle volume and classification data utilizing these passive data-based nontraditional methods.

WHAT ARE WE DOING?

Caltrans is participating in this pooled fund study that will develop non-traditional methods and approaches to collect and estimate Annual Average Daily Traffic (AADT) by vehicle type. They will validate the AADT from the newly developed non-traditional methods with the Federal Highway Administration's (FHWA) Travel Monitoring Analysis System data, Highway Performance Monitoring System data, and other ground truth sources to determine data accuracy and precision of the data and will provide levels of data accuracy and output formats.

WHAT IS OUR GOAL?

The goal is to develop and deploy methods and approaches to obtain vehicle volume and classification data utilizing passive data-based, nontraditional methods rather than using the traditional detection systems that are expensive to install and operate.

WHAT IS THE BENEFIT?

The passive data-based non-traditional method, once validated, could reduce costs and improve efficiency for Caltrans to collect AADT, including vehicle class data. It could also reduce risks to employees and contractors who go out to place sensor devices in and on the roadways to collect this data in the traditional way.

WHAT IS THE PROGRESS TO DATE?

- Final approval by FHWA Public Affairs received.
- FHWA submitted final task 3 report for FHWA website posting.
- Planning for analysis with Iowa Department of Transportation (DOT).
- Analysis with New Hampshire completed along with DOT briefing of the results.
- <https://pooledfund.org/Details/Study/636>