

**DIVISION OF RESEARCH, INNOVATION & SYSTEM INFORMATION**  
**Research Initial Scope of Work**  
**SUBMITTAL FORM - FY 2022/23**

---

- I. **Project Number:** 1759  
**Project Title:** VMT Impact Modeling and Assessment
- II. **Task Number:** 4179  
**Task Title:** Equity concerns related to induced travel
- III. **Project Problem Statement:** More research is needed to develop best practices for Caltrans and its partners that are seeking to combat induced travel by mitigating the effects of highway expansion. Such mitigation could include new transit, active transportation, Transportation Demand Management, land-use initiatives. Such efforts could raise equity concerns, for example if new traffic occurs in one neighborhood while another benefits from mitigation activities. Caltrans and its partners need a definition of equity in the context of Vehicle Miles Traveled (VMT) reduction, with some practical guidelines for implementation.

This research will assist Caltrans with building and operating projects that better meet the public's needs, at a lower cost with less environmental harm – and more positive and less negative impacts in communities of concern.

- IV. **Objective:** The goal of this research is to provide project teams with practical guidance to ensure that the department and its partners reduce rather than increase inequity through work to reduce VMT.
- V. **Task Description of Work and Expected Deliverables:** Researcher will provide an authoritative review of peer-reviewed literature as well as best practices and, as needed, interviews with equity advocates and experts, to understand the equity concerns related to induced travel and mitigation. Research will address questions including
- What factors constitute equity in the context of VMT reduction/mitigation?
  - How are income, population demographics, transit access, walkability, job access, air quality, noise, and other factors relevant in different jurisdictions?
  - How can VMT reduction/mitigation processes practically incorporate equity considerations into their selection and distribution of investments?
  - What outcomes from VMT reduction/mitigation (local emissions, traffic crash exposure, noise, etc.) are important to consider in addressing equity from VMT changes?
  - Are there cases where VMT reduction could harm equity by adding travel-cost burdens to distressed communities? If so, how can we avoid those problems?

**VI. Background:** In 2020, Caltrans implemented Senate Bill (SB) 743. SB 743 changes the way the Department evaluates transportation projects, aiming to reduce the amount of time people have to spend behind the wheel. The previously used metric, Level of Service (LOS) measured the level of congestion on a particular roadway, while the new metric, Vehicle Miles Traveled (VMT) measures the total number and length of vehicle trips on a section of roadway or within a jurisdiction such as a City or County. My measuring and mitigating induced VMT,

The effort to minimize induced travel is largely driven by climate policy, as VMT and GHG is a nearly 1:1 relationship. It also improves livability and safety by reducing traffic impacts, which are concentrated in distressed communities. This study will directly ensure that our VMT reduction efforts address needs in an equitable way and do not inadvertently worsen conditions in communities of concern.

**VII. Estimate of Duration:** One Year

**VIII. Related Research:** “Safeguarding Equity in Off-Site Vehicle Miles Traveled (VMT) Mitigation in California,” a study by the Mineta Transportation Institute of San José State University aimed to: (1) understand how local governments are addressing shift toward VMT while ensuring equity, including its approaches to off-site VMT mitigation; and (2) evaluate the various built environment factors that impact VMT, which should be considered by local governments, using both qualitative and quantitative research designs. The results of this study can help California ensure equitable VMT mitigation that better aligns with the state’s climate goals.

Another source of potentially related research is the National Cooperative Highway Research Program’s “Handbook for Addressing Racial Disparities in the Project Delivery Process”, which will assist state DOTs and local governments to help interpret and implement relevant regulations and policies that avoid racial disparities in project delivery and support the use of cooperative approaches to mitigate adverse impacts.

**IX. Deployment Potential:** Caltrans is evaluating many projects for induced demand, and most of them will require mitigation. Any mitigation will need to avoid creating inequity, so findings from this work should immediately inform work on many projects. In addition, current research concluding in 2022 will provide a framework for establishing mitigation banks and exchanges. This question is one that has been identified as a key unresolved issue as mitigation banks move from concept to reality.