

Planning/
Policy/
System
Information

FEBRUARY 2014

Project Title:

Spatially Focused Travel Survey Data
Collection and Analysis: Closing Data
Gaps for Climate Change Policy

Task Number: 2243

Start Date: December 16, 2011

Completion Date: July 30, 2013

Product Category: Improved decision
support tool

Task Manager:

Bob Justice
Associate Transportation Planner
bob.justice@dot.ca.gov

Developing Methods for Collecting Spatially Focused Travel Behavior

*Localized travel surveys inform decisions on land use and
urban infill projects*

WHAT WAS THE NEED?

California Senate Bill (SB) 375—the Sustainable Communities and Climate Protection Act of 2008—requires that the state’s metropolitan planning organizations develop strategies that integrate transportation, land use, and housing policies to reduce vehicle usage and greenhouse gas emissions. To help decision-makers estimate, model, and forecast the state’s travel needs, the California Household Travel Survey is conducted every 10 years to collect information on travel behavior. These estimates are based on averaged travel behavior responses collected from metropolitan areas and larger regions. However, the current travel diary surveys provide limited information on the effect of small-area land use policies, such as infill development and transit-oriented land uses near stations. Understanding how the characteristics of these communities influence travel behavior is important to inform policies on integrating transportation and land use planning and bringing housing and job growth into transit-oriented, mixed-use, and compact communities.

WHAT WAS OUR GOAL?

The goal was to develop methods of collecting spatially focused travel data to improve policy and funding decisions regarding travel service, land use, and infrastructure enhancements.



*Light rail in Pasadena
Source: Digital Media Pro/
Shutterstock.com*



WHAT DID WE DO?

Caltrans, in partnership with the University of California, Irvine Institute of Transportation Studies, conducted 300–600 travel diary surveys in neighborhoods near two rail transit corridors in Los Angeles—the subway Red Line and light rail Gold Line—to examine the effect of land use factors on reducing vehicle miles traveled (VMT) in small neighborhoods and assess whether these areas depart from the regional, averaged land-use-travel data. The corridors were chosen based on population density, job accessibility, concentration of local businesses, distance to employment sub-centers, and distance to transit. The study areas are approximately a half mile from center to edge, a size that corresponds to the scale of redevelopment opportunities, transit station development, and infill projects.

WHAT WAS THE OUTCOME?

The methods developed advanced efforts toward low-cost, rapid travel data collection that can be used in before-and-after transportation program evaluations in the future. The survey responses suggested differences in walking, transit, and passenger vehicle travel behavior associated with residing in areas with different built environment, land use, and transit access characteristics. Based on the countywide sample, households in areas with higher employment

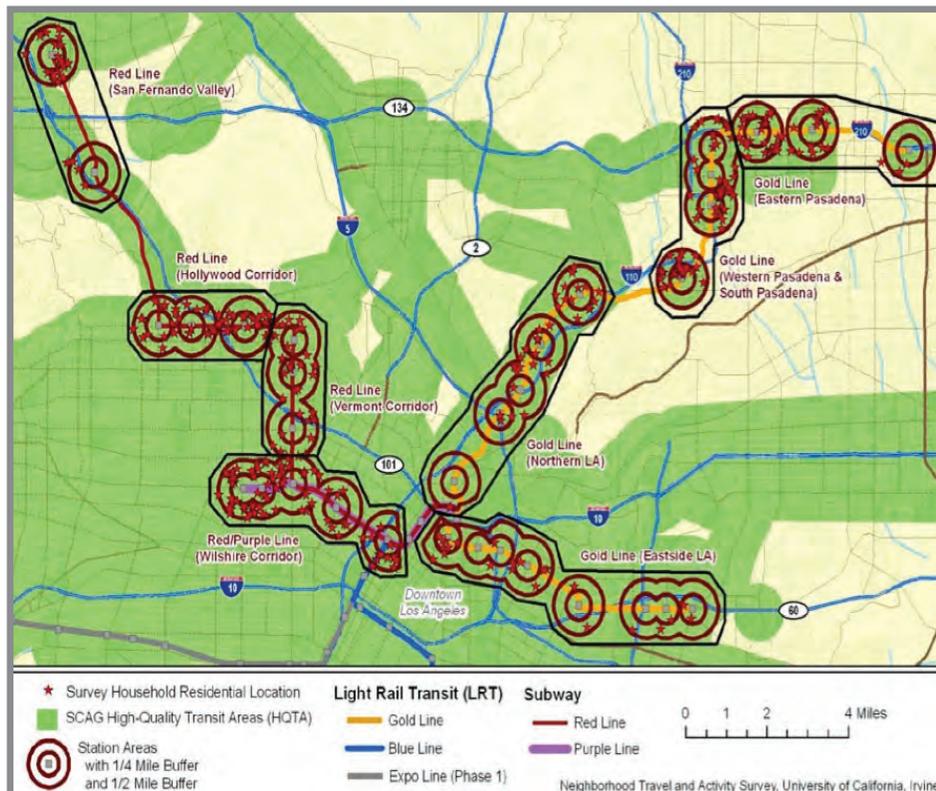
accessibility tended to have more walking travel and lower VMT. Households within 1.5 miles of a rail transit station had more transit ridership, and this relationship was strongest for households within 0.5 miles of a rail transit station. Households within 0.5–1.0 miles of a station had more walking travel, while households with higher levels of transit service had lower household VMT.

WHAT IS THE BENEFIT?

This research pioneered methods to obtain spatially focused travel data to inform current debates about how land use influences vehicle miles of travel. The results expanded the understanding of land use and travel relationships and the importance of collecting localized data to help policymakers make more informed decisions regarding integrating transportation and land use planning in mixed-use, compact communities. Collecting data that focuses on local land use can help close the gap between travel data, knowledge, and policy.

LEARN MORE

To view the complete report:
www.dot.ca.gov/research/researchreports/reports/2013/final_report_contract_65a0438_task_2243.pdf



Study areas and location of households who completed the travel diary survey