

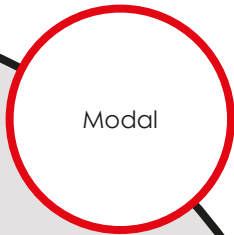


Caltrans Division of Research,  
Innovation and System Information

# Research



# Results



Modal

FEBRUARY 2017

**Project Title:**

Heightening Walking Above Its Pedestrian Status: Walking and Travel Behavior in California

**Task Number:** 2802

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**Task Manager:**

Gloria Gwynne,  
Senior Engineer  
gloria.gwynne@dot.ca.gov

## Heightening Walking Above Pedestrian Status: Walking and Travel Behavior in California

Identifying the factors that influence the decision to walk supports incorporating pedestrian needs in regional travel demand models

### WHAT WAS THE NEED?

Walking is the second-most common travel mode in California - walk trips begin and end almost every journey, even trips made by automobile. Traveling by foot produces no greenhouse gas emissions, adds no congestion, promotes social interaction and local shopping, and is good for individual and public health. Yet despite its prevalence and benefits, walking is an understudied travel mode, and travel surveys tend to underreport walk trips. As a result, pedestrian considerations are not adequately incorporated into regional planning.

### WHAT WAS OUR GOAL?

The goal was to improve the understanding of the determinants of walking and to better incorporate it into regional travel demand models.

### WHAT DID WE DO?

The California Department of Transportation (Caltrans), in partnership with the University of California Center on Economic Competitiveness in Transportation (UCCONNECT), reviewed the data from the last two California Household Travel Surveys, 2001 and 2012, to analyze walking behavior and how it has changed over time in four major California regions—the San Francisco Bay Area, Los Angeles, Sacramento, and San Diego, comprising over 60% of the state's population. The University of California Los Angeles (UCLA) researchers examined the relationship between walking, the built environment, economics, and neighborhood characteristics and how these factors differ in the four metropolitan regions. The study paired the statistical analysis with interviews with Metropolitan Planning Organization (MPO) representatives to understand whether and how walking trips are included in regional travel demand models.



DRISI provides solutions and knowledge that improves California's transportation system

## WHAT WAS THE OUTCOME?

While walking remains a relatively small share (9%) of trips within the study areas, it is nine times more than the percentage of trips taken by public transit or bicycle, and walking rates have almost doubled since 2001. Walking is a simple way to get around, but modeling this simple mode is complicated, although the major California MPOs are doing a better job than many other parts of the country. The interviews showed that most MPOs have shifted to activity based models, which are better suited to understanding walking compared to the traditional models that focus on trip generation. The decision to walk is influenced by various factors, including characteristics of the person, household, trip type, built environment and the region in which the trip occurs. The built environment has a positive, but small effect on walking. However, the data also shows that neighborhoods are slowly changing in ways that encourage walking, such as increased housing and employment densities. Additionally, there is a strong relationship between walking and trip distance, which is influenced by the built environment, particularly the quantity and quality of local destinations.

The most success might be garnered by targeting changes in the built environment of population groups that already exhibit relatively high rates of walking, such as addressing safety and crime issues in low-income and immigrant neighborhoods, improving the proximity of family and child-oriented amenities, and adopting planning efforts to provide access (within a half mile) to everyday destinations.

## WHAT IS THE BENEFIT?

A growing body of research shows relationships between neighborhoods that are pedestrian-friendly and lower obesity rates, higher property values, improved quality of life, and better access to opportunities. The research provides the basis for recommendations to encourage walking and to

better incorporate it in data collection efforts and regional travel demand models. Regional travel demand models are often the basis for allocating funds for future transportation investments. Expanding and improving the way travel data is collected broadens the understanding of walking behavior and the factors that influence it.

## LEARN MORE

View the complete report:  
<https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/final-reports/ca18-2802-final-report-ally.pdf>

## IMAGE

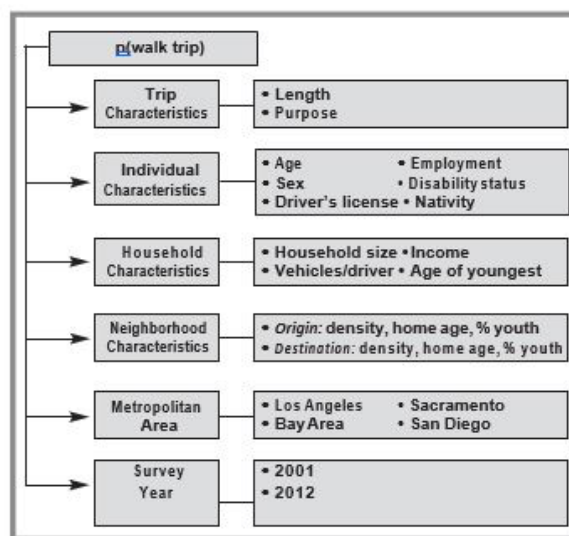


Image 1: Conceptual model of determinants of walking