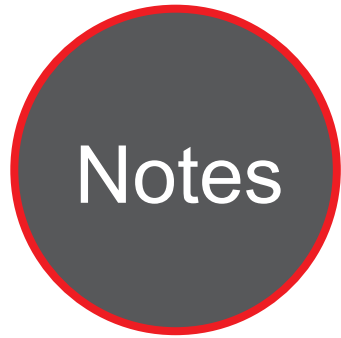




Caltrans Division of Research,  
Innovation and System Information

# Research



# Notes

Planning,  
Policy and  
Programming

## Analysis of Emerging Transportation Trends in California Using Panel Data, (Phase Two)

This panel study improves the understanding of emerging transportation trends in California through a longitudinal approach.

MAY 2020

Project Title:  
National Center for Sustainable  
Transportation, (NCST-FAST Act)

Task Number: 3395

Start Date: May 1, 2019

Completion Date: April 30, 2021

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### WHAT IS THE NEED?

This task order analyzes the data collected in the Phase 2 of the research project "Panel Study of Emerging Transportation Technologies and Trends in California."

In this study, the research team is analyzing data collected in 2015 and 2018. This analysis allows researchers to investigate changes over time individual attitudes and lifestyles, and the relationships among residential location, vehicle ownership, travel, behavior and the adoption of shared mobility and attitudes towards the adoption of other transportation technologies (e.g., autonomous vehicles).

### WHAT ARE WE DOING?

This panel study improves the understanding of emerging transportation trends through the application of a unique longitudinal approach.

### WHAT IS OUR GOAL?

The use of longitudinal data allows researchers to better assess the impacts of lifecycle, periods and generational effects on travel-related choices, analyze components of travel behavior, such as the use of shared mobility services among various segments of the population, and its impact on vehicle ownership over time.

### WHAT IS THE BENEFIT?

This panel study improves the understanding of the impacts



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

of emerging technologies and shared mobility services such as ridehailing (e.g., Uber and Lyft) and pooled ridehailing services (e.g., UberPOOL and Lyft Line) on vehicle ownership and travel behavior (e.g., the use of other modes), while controlling for other changes in transportation trends in California through the application of a unique longitudinal approach. Further, it helps researchers evaluate causal relationships between variables; thus, supporting the development of better-informed policies to promote transportation sustainability.

## WHAT IS THE PROGRESS TO DATE?

The research team has been working on data cleaning, geocoding, weighting and integration with other sources of data. Multiple analyses have been so far carried out using the 2015 and 2018 survey data. The following figure summarizes the timeline and datasets collected, to date.

### Timeline of the Project



Findings suggest significant changes in the use of new mobility services from 2015 to 2018. In particular, ridehailing has increased sharply, with shared ridehailing (e.g. UberPOOL) becoming more common in big cities over the past three years. In contrast, carsharing use has seen little change over the past three years.

The impacts of ridehailing services on other modes across different segments of the population have been also investigated. Results suggest ridehailing

usually substitutes for personal vehicles for long-distance trips among households with higher income and vehicle ownership. At the same time, ridehailing was found to be competitive with substituting for public transit, bicycling and walking for short distance trips, during the day, among low-income and no-vehicle households.