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Caltrans Division of Research, Innovation and System Information

Research Notes

Modal

FEBRUARY 2022

Project Title:
Public Transportation, Transportation Network Companies (TNC) and Active Modes An Analysis Based on the 2009 and 2017 NHTS

Task Number: 3435

Start Date: May 1, 2020

Completion Date: June 30, 2021

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Public Transportation, Transportation Network Companies (TNC) and Active Modes

This project will cover three key questions regarding Public Transit, Transportation Network Companies (TNC) and Active Modes.

WHAT IS THE NEED?

Over the last few years, transit ridership has fallen drastically in Southern California whereas Transportation Network Companies (TNC) have been expanding tremendously. The decline of transit and the rise of TNCs have a number of adverse consequences, including increases in congestion in urban areas, additional air pollution, and a reduction in the physical activity of people who would otherwise walk/bike to access transit.
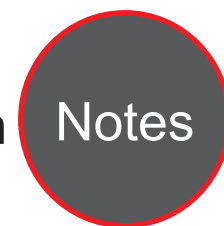
WHAT ARE WE DOING?

This project will cover three key questions related to Transit, TNC, and Active Mode based on the 2009 and 2017 National Highway Traffic Safety (NHTS) data:

1. **To what extent have TNCs displaced transit users in California?** The research team will find out the difference between the travel behavior of two transit user groups under the availability/non-availability of TNC services. They will use the Propensity Score Matching Technique to match the user groups based on socio-economic and land use variables.
2. **To what extent does public transportation contribute to active modes in California?** Transit is partly an active mode because the first and last mile of transit trips includes walking/ biking. This dimension of transit has not been yet explored in the context of California. Through a cross-nested logit (CNL) model, the researchers will evaluate this nature of public transportation where transit will be a part of both active and non-active nests.
3. **How can we promote Public Transit?** The researchers will analyze transit perception questions in the 2017 NHTS.

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WHAT IS OUR GOAL?

Our results will shed some light on the impact of TNCs on transit, the contribution of transit to active modes in California, and what could be done to stem the decline of transit ridership in California. Results from this project will help the California Department of Transportation (Caltrans') Transportation Planning Division in its articulation of a long-term vision for California's transportation system and Caltrans' sustainability efforts by promoting transit, along with walking and biking.

WHAT IS THE BENEFIT?

Results from this project will help Caltrans' Transportation Planning Division in its articulation of a long-term vision for California's transportation system and Caltrans' sustainability efforts by promoting transit, along with walking and biking.

WHAT IS THE PROGRESS TO DATE?

The final report has been reviewed and comments returned to the researcher. Waiting for the final report to be submitted and the contract closed out.