Title

Do Slow Streets Encourage More Dockless Travel? Evidence from Electric Scooter Usage in Four Cities

Authors

Boarnet, Marlon G
Lee, Seula
Gross, James
et al.

Publication Date

2023-08-01

DOI

10.7922/G2C24TRQ

National Center for Sustainable Transportation

POLICY BRIEF

Do Slow Streets Encourage More Dockless Travel? Evidence from Electric Scooter Usage in Four Cities

Marlon G. Boarnet, Seula Lee, and James Gross, *University of Southern California*
Calvin Thigpen, *Lime*

August 2023

Issue

In the early stages of the COVID-19 pandemic, many cities across the US reallocated street spaces for active transportation such as walking, bicycling, and scootering, including by electric bikes and scooters. Slow Streets, projects that limit through-traffic access for motor vehicles to provide a safer space for other travelers, were implemented at an unprecedented speed and scale. These projects provided a unique opportunity to examine outcomes in what, for a long time, has been only a hypothetical scenario: How would travelers respond if a network for non-car travel popped up almost overnight?

Now that cities have reopened, many are considering whether to continue or restore these projects. This analysis of pandemic-era Slow Street dockless electric scooter (e-scooter) use offers insights that may assist decisionmakers. Slow Streets have the potential to reduce congestion, emissions, and car trips. They provide underserved communities that lack parks access to park-like spaces, and they promote public health by increasing active transit. All these benefits have a low cost of implementation. Anecdotal evidence suggests that Slow Streets can increase non-motorized trips. However, there is little empirical evidence on the types of travel modes that Slow Streets attract, other than bicycles, or on the use of Slow Streets during the pandemic itself.

A research team at the University of Southern California collaborated with Lime, an e-scooter company, to analyze Slow Streets programs in the cities of Oakland, San Francisco, Los Angeles, and Portland. Using two statistical approaches, they examined dockless e-scooter travel at four different times of day and overall weekly and monthly averages of dockless e-scooter trips. Each empirical analysis compared the Slow Streets networks to a similarly situated control group.

Key Research Findings

Across four cities, Slow Streets had 11% to 75% more e-scooter trips than did similar roadways that were not Slow Streets. More specifically, the number of e-scooter trips were 55% to 75% higher on Slow Streets than on similar streets that were considered

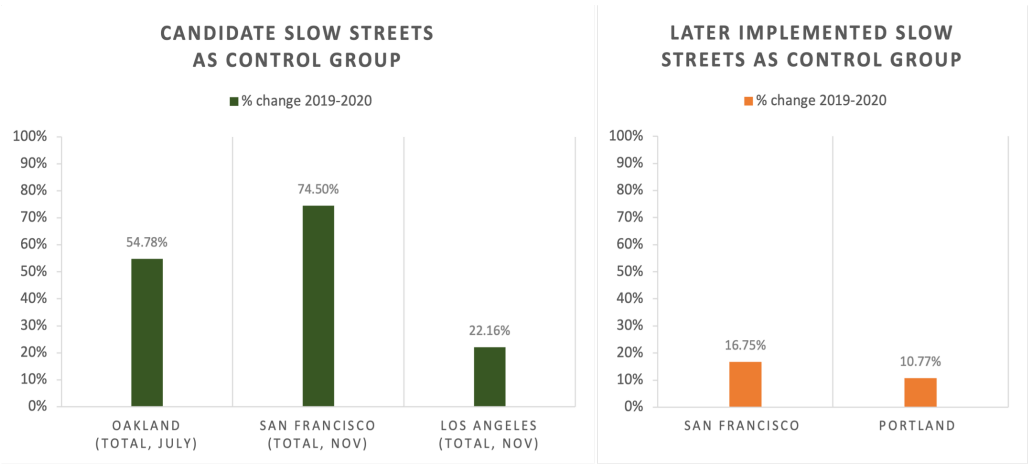

Figure 1. Percentage difference in e-scooter trips on Slow Streets compared to control streets

for but not ultimately selected as Slow Streets and 11% to 17% higher than on streets that were selected to later become Slow Streets (Figure 1).

The size and statistical significance of the increase in e-scooter trips varied by location and time, likely indicating that these trips are occurring for a variety of purposes. Trip numbers in the four studied cities showed the following patterns with time of day and week:

- Oakland: trip counts increased considerably at all times of day, and the impact was much larger for weekdays.
- San Francisco: the largest increase in trips occurred during afternoons on weekdays and weekends. In some analyses, the largest increases were on the weekends.
- Los Angeles: the largest increase occurred on weekday nights, followed by morning rush hour on weekdays.
- Portland: showed the largest increase in trips during weekend nights, followed by weekday afternoons.

Due to privacy concerns, data on trip purpose is not available. However, these results may be driven by both traditional commute patterns and increased recreation on Slow Streets during stay-at-home orders.

The results of this large-scale natural experiment corroborate what other research has indicated about active transportation infrastructure in more limited settings. In the four cities studied, the scale of Slow Streets implemented in a matter of months rivaled smaller scale analogous projects that would typically take years. Prior to this event, policymakers and scholars studied piecemeal, slow-paced implementations of Slow Streets and similar infrastructure changes, such as protected bike lanes. Those studies found similar increases in bicycle and e-bike use.

Policy Implications

With cities transitioning into long-term strategies after the initial COVID-19 pandemic, Slow Streets or similar programs should be considered a low-cost policy intervention that can facilitate active transport. Furthermore, limiting automobile travel and opening streets to walking, biking, scooters, and similar travel modes can be a useful tool for cities wishing to promote active travel modes and healthier lifestyles. This research found that Slow Streets have been used by e-scooters more than similar streets that did not receive the same treatment. This indicates that Slow Streets programs have encouraged non-motorized travel. In previous studies, similar infrastructure such as bike lanes were found to be a significant factor in increasing bike trips. While Slow Streets programs examined in this study did not necessarily involve a large infrastructural modification, the study has identified that reallocation of street spaces has a positive association with e-scooter trips. Using e-scooters as a proxy for active transport has not been addressed in the study, however, it still offers a basis for policymakers and planners to consider such a program as a low-cost tool to encourage the use of non-motorized travel.

More Information

This policy brief is drawn from "Slow Streets and Dockless Travel: Using a Natural Experiment for Insight into the Role of Supportive Infrastructure," a report from the National Center for Sustainable Transportation, authored by Marlon G. Boarnet, Seula Lee, James Gross of the University of Southern California, and Calvin Thigpen of Lime. The full report can be found on the NCST website at https://ncst.ucdavis.edu/project/slow-streets-and-dockless-travel-using-natural-experiment-insight-role-supportive.

For more information about the findings presented in this brief, contact Marlon Boarnet at boarnet@usc.edu.

The National Center for Sustainable Transportation is a consortium of leading universities committed to advancing an environmentally sustainable transportation system through cutting-edge research, direct policy engagement, and education of our future leaders. Consortium members: University of California, Davis; University of California, Riverside; University of Southern California; California State University, Long Beach; Georgia Institute of Technology; and the University of Vermont.

Visit us at ncst.ucdavis.edu

Follow us:

DOI: 10.7922/G2C24TRQ