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Do Travel Surveys Show that Californians Walked and Biked Less in 2017 than in 2012?

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Issue

The California Department of Transportation set a goal of doubling walking and transit use and tripling bicycling in the state between 2010 and 2020. However, the most recent comprehensive travel surveys, the 2012 California Household Travel Survey (CHTS) and the California results from the 2017 National Household Travel Survey (NHTS), suggest that the state is moving in the wrong direction. These surveys seemed to show that a smaller share of trips were made by walking or biking in 2017 than in 2012, while private vehicle mode share increased (Figure 1). However, the CHTS and NHTS are not identical surveys. It is unclear whether the decline represents real changes stemming from various demographic or other factors or is instead related to methodological differences between the two surveys.

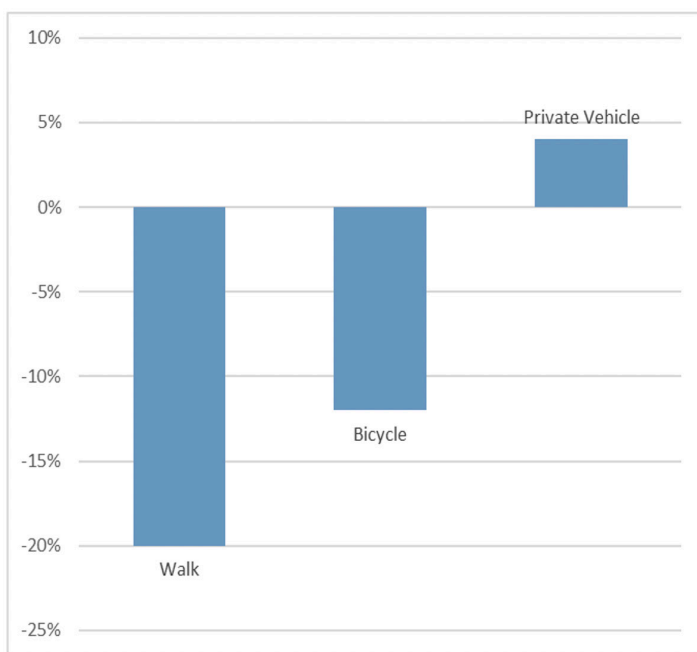


Figure 1. Percent change in mode shares in a preliminary review of data from the 2012 CHTS to the 2017 NHTS

Researchers at the University of California, Davis used the publicly available 2012 CHTS and 2017 NHTS California add-on data to examine the impact of methodological differences on the changes in mode shares over this five-year period and conducted a preliminary investigation into the role of demographic and other factors in these changes.

Key Research Findings

The different methods of weighting data in the CHTS and NHTS did not impact outcomes.

The two surveys used different weighting procedures to estimate representative statistics for the entire state's population. The weighting procedures for the 2012 CHTS did not include gender or variables reflecting the timing of survey participation, whereas the 2017 NHTS did. A post-hoc adjustment applied to the 2012 data to account for this difference did not result in substantial differences in the mode shares for 2012.

Different metrics showed similar changes in walking and biking between 2012 and 2017.

Decreases in walking and biking mode shares identified in a preliminary review of the data persisted even when considering different metrics. Usual mode to work, travel distance by each mode, travel time-weighted results, and whether respondents walked or biked in the past week were all roughly consistent with the initial results. The percent of respondents who reported taking at least one walk trip in the past week dropped from about 80% in 2012 to 74% in 2017. The drop for those taking one bike trip was more dramatic, from 30% to 13%.

Table 1. Weighted trip mode shares for Hispanic and non-Hispanic groups in the 2012 CHTS and 2017 NHTS

Transportation Mode	Year	Hispanic		Not Hispanic	
		Trips	Percent	Trips	Percent
All local bus types	2012	6,603	4.9%	4,621	1.9%
	2017	973,713	2.2%	1,261,009	1.7%
Bicycle	2012	1,619	1.2%	4,263	1.7%
	2017	350,765	0.8%	1,156,126	1.5%
Private Vehicle	2012	94,176	69.1%	198,145	80.5%
	2017	36,491,150	83.1%	60,769,895	79.5%
Walk	2012	29,807	21.9%	32,311	13.1%
	2017	4,927,648	11.2%	10,179,917	13.3%

Mode shifts were larger for some groups within the population. A preliminary analysis showed a larger decrease in biking among males, and a larger shift from active modes to private vehicle use among Hispanic groups, than among the general population (Table 1).

Policy Implications

These results indicate that walking and bicycling did in fact decrease between 2012 and 2017 in California. Changes in the socio-demographics of Californians over the study period likely played a role in the observed changes in mode shares. The state’s share of Hispanic residents grew, and Hispanic groups appear to have shifted away from active travel modes at a higher rate than others. Other factors may include population shifts to suburban or exurban areas, differences in travel behavior between millennials and older generations, and lingering impacts of the Great Recession of 2009 that may have affected the 2012 CHTS results. These factors will be explored in a follow-up study that will begin in early 2022.

This research also points to the need for changes to the NHTS and CHTS. First, some aspects of data processing are not fully documented; all details of the methodology should be provided to enable replication.

CHTS weighting procedures should follow those of the NHTS to the greatest extent possible to ensure comparability of results between the two survey efforts. Finally, it would be helpful for the publicly available NHTS data to include information on respondent age, since age and cohort effects are likely relevant to the changes observed in this study.

More Information

This policy brief is drawn from “Modal Shifts in California from 2012-2017: Investigating Changes in Biking, Walking, and Transit from the 2012 CHTS and 2017 NHTS,” a report from the National Center for Sustainable Transportation, authored by Susan Pike and Susan Handy of the University of California, Davis. The full report can be found on the NCST website at <https://ncst.ucdavis.edu/project/changes-mode-share-california>.

For more information about the findings presented in this brief, contact Susan Pike at scpike@ucdavis.edu.

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