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Vehicle Ownership Trends and Their Implications for Transit Ridership

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Issue

Since 2000, vehicle access has increased substantially in California. Between 2000 and 2018, the state added approximately 5.6 million automobiles, roughly one vehicle for every new resident. During the same time period, the share of households in California that do not own a car declined, dropping from 9.5% to just over 7%.

Because automobile ownership is an extremely strong determinant of travel behavior, the increase in vehicle availability has important implications for transit use. Individuals living in households with at least one vehicle take the vast majority of their trips by car and have a relatively low likelihood of using transit. Those living in households without cars, by contrast, are a core constituency of transit systems. While less than 7% of households in California do not own a vehicle, these households take approximately 37% of all transit trips in the state.

Even prior to the COVID-19 pandemic, transit ridership in California had fallen. From 2014 to 2018, California lost more than 165 million annual boardings, a drop of more than 11%. The close relationship between car access and transit use thus raises a crucial question: has the growth in automobile ownership in California over the past several years depressed the state's transit ridership?

Key Research Findings

Statewide, increasing motor vehicle access was strongly associated with declining transit ridership between 2000 and 2015. As Figure 1 shows, without accounting for changes in vehicle ownership, predicted transit use in California rose modestly during the study period. However, when vehicle ownership levels were included as a determinant of transit ridership, predicted statewide ridership dropped substantially, particularly between 2000 and 2010.

Trends in Greater Los Angeles, while similar to those statewide, were even more pronounced. Assuming constant automobile ownership, predicted transit use declined only slightly between 2000 and 2015, dropping from approximately 63 trips per person per year to 59 yearly trips per person. When observed growth in vehicle access was accounted for, however, predicted declines were far more dramatic, falling from 73 yearly trips per person in 2000 to just under 50 trips per person in 2015.

The relationship between vehicle ownership and transit use in the San Francisco Bay Area was unique in California. Declines in predicted transit ridership due to changes in car access were not as dramatic as in other parts of the state. In fact, in the Central Bay Area (Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties), changes in vehicle ownership were associated with a small increase in predicted transit use.

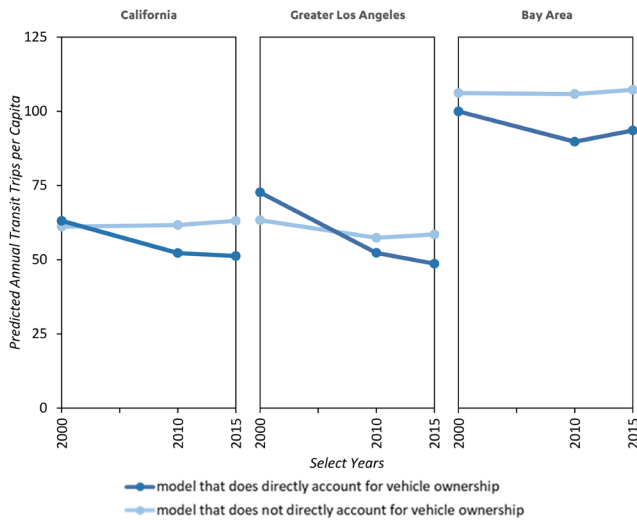


Figure 1: Estimating the Independent Effect of Rising Vehicle Ownership on Transit Ridership

Conclusion

From the perspective of transit managers, advocates of public transportation, and environmentalists, the growth of private vehicle ownership and the decline of transit ridership represent a troubling trend. Changes in vehicle ownership in California have likely had the largest effect on falling transit use of any of the potential causes analyzed in the report from which this brief is drawn. Likewise, more access to private vehicles means more cars on the road, more congestion and pollution, and lower revenues for transit systems statewide.

Data sources:

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For households that transitioned from carlessness to vehicle ownership, however, increased automobile access may result in a range of positive outcomes. Compared to car owners, carless households are far more likely to be poor and non-white, and their lack of vehicle access can severely limit access to important destinations and constrain their personal mobility. Thus, owning a vehicle likely makes it easier to find and keep employment, reach healthcare facilities, and carry out a range of daily errands and activities.

This tension represents a complex challenge for policy makers and public officials. There are clear benefits to limiting vehicle access and encouraging more reliance on transit. Efforts to make vehicle ownership and operation more expensive are an important step in working toward a less auto-dependent society. In implementing such policies, however, the transportation needs of low-income households and households of color must not be overlooked. The burden of pursuing worthwhile goals such as reducing vehicle emissions, limiting congestion, and promoting transit use should not be borne disproportionately by society’s most vulnerable members.

More Information

This policy brief is drawn from the “Transit Blues in the Golden State: Analyzing Recent California Ridership Trends” research report by the UCLA Institute of Transportation Studies. The full report can be found at <http://www.its.ucla.edu/publication/transit-blues-in-golden-state/>