

June 2020

Transit Blues in the Golden State: Analyzing Recent California Ridership Trends



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Introduction

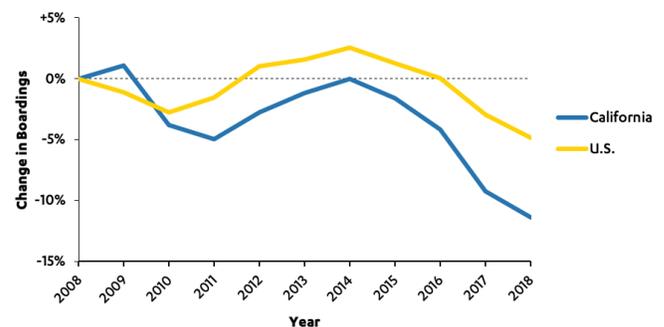
Transit ridership in California is on the wrong track. Patronage plunged staggeringly, from 50% to as much as 94%, during the first half of 2020 amidst the worst global pandemic in a century. While such ridership losses are extraordinary — and hopefully short-lived — all was not well for public transit in the 2010s either. Despite spending billions since 2000 to improve and expand public transit across the Golden State, ridership mostly lagged for six years leading up to the extraordinary events of 2020. Researchers at UCLA have been examining these pre-pandemic ridership doldrums and what might be behind them, in the hopes of elucidating how transit agencies can best emerge from the public health crisis.

The Contours of California's Transit Ridership Decline

Transit ridership was already falling well before the COVID-19 pandemic. From 2014, when transit use in California had just barely recovered from the effects of the Great Recession, to 2018, the most recent year of available data, the state lost more than 165 million annual boardings — a drop of over 11%, nearly double the rest of the nation. Although the overall picture is troubling, there have been significant differences across the state by region, mode, and operators. For example, transit trips in the Bay Area and on rail actually grew significantly over the past decade and only started declining more recently. On the other hand, ridership on buses, in areas like Greater Los Angeles, and across the state — when accounting for population growth — has experienced longer-term declines that have steepened as of late.

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Figure 1. Change in Transit Boardings in California and the United States



Data source: FTA, 2019

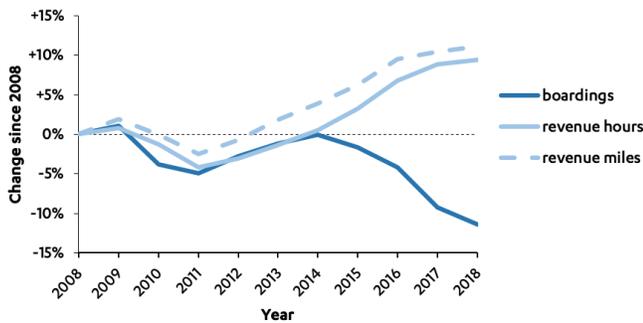
Between 2011 and 2015, just one operator, the Bay Area Rapid Transit District, accounted for half of the state's net patronage gains, and nearly two-thirds of that was due to trips crossing San Francisco Bay to and from San Francisco.

Meanwhile, the *majority* of California's ridership losses since 2014 were suffered by the Los Angeles County Metropolitan Transportation Authority (LA Metro). While LA Metro is California's largest operator, carrying three in 10 California transit trips, its contribution to the state's patronage drop is even more outsized. Just 20 LA Metro lines and one Orange County Transportation Authority line have accounted for a quarter of the entire state's ridership losses. Indeed, LA Metro's patronage losses accounted for 11% of the entire ridership decline nationwide from 2014 to 2018, the second-most of any American transit agency by absolute numbers.

Bus ridership in California has been declining since 2009; while rail boardings grew substantially through 2015, they have been falling since. All told, transit patronage has failed to keep pace with population growth in most regions of the state for more than a decade.

Amidst the ridership decline, transit service is up, but performance is down. While in many transit agencies across America, service cuts and ridership declines have created a vicious cycle, this pattern is not occurring in California overall. From the early 2010s, transit miles and hours of service, both total and per capita, have, in fact, been growing, but this new service either is not attracting new riders, or other factors are overwhelming its benefits to ridership. At the same time, as costs of service have gone up and ridership has lagged, both transit efficiency and effectiveness have suffered. What explains these worrisome trends?

Figure 2. Trends in Boardings versus Trends in Service Supply in California

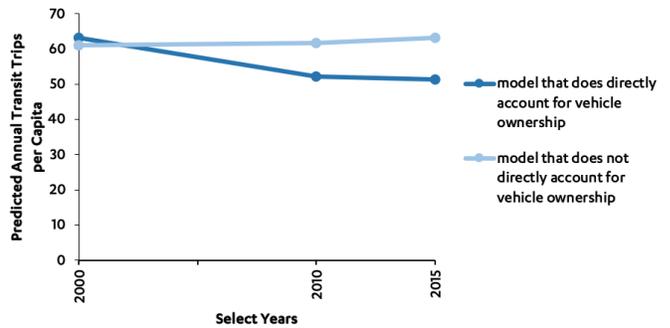


Data source: FTA, 2019

The Causes of California’s Transit Ridership Decline

Greater private vehicle access is likely the biggest single cause of falling transit ridership. From 2000 to 2018, private vehicle access in California increased substantially as the state added almost 5.6 million vehicles. Over this same time period, the percent of households without vehicles declined by 16%. In most areas of the state, the decline in carless households was associated with a significant decrease in the number of daily transit trips per person, particularly in Greater Los Angeles. While car ownership in the Bay Area remained relatively stable, high levels of ridehail use increased vehicle access there by another means.

Figure 3. Estimating the Independent Effect of Rising Vehicle Ownership on Transit Ridership in California



Note: Both sets of statistical models control for a wide array of other factors thought to influence transit ridership in order to show the independent effect of changes in private vehicle access on transit use.

Data source: Caltrans, 2012 and Ruggles et al., 2020

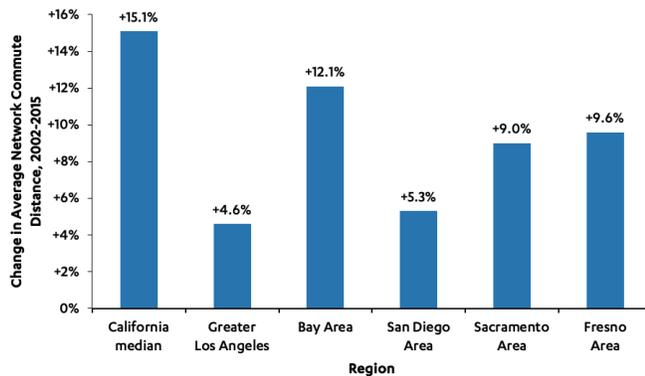
Frequent transit users are riding less, while occasional users are riding more. When it comes to transit, we know that a small number of people make a lot of transit trips, some people make occasional trips, and most people make no trips at all. For this reason, changes in the travel behaviors of high-propensity transit users or their share of the population have significant effects on ridership.

Over the past decade, rates of international immigration to California have both slowed and shifted toward higher-income immigrants from Asia who are less likely to rely on public transit than prior waves of immigrants from Latin America. At the same time, transit use rates declined among Hispanics, those with low incomes, and those with limited access to automobiles — population groups that traditionally use public transit with more frequency. Conversely, ridership rates increased among non-Hispanic whites, those with higher incomes, and people living in households with as many vehicles per driver or more — groups that typically lightly use transit, especially buses. These increases, though, were not enough to offset losses among the former groups.

Changing residential and employment patterns are likely depressing transit use. Households are increasingly locating away from expensive cities and neighborhoods and into outlying areas where housing is more affordable but transit service and use is more limited. In short, fewer workers live in the cities in which they work, especially in employment-rich cities where housing costs have increased fastest. This increase in people living farther from work has led to longer commute distances and a decline in the number of jobs accessible by public transit within 30 minutes. These longer trips bode ill for transit’s

mode share: as more people move to areas with limited transit access to employment and retail centers, they will likely make fewer non-work local trips on transit as well.

Figure 4. Change in Commute Distance, 2002 to 2015



Data source: U.S. Census Bureau, 2002, 2015

Fewer likely transit users in transit-friendly neighborhoods also spells trouble. California’s most transit-friendly neighborhoods have seen changes in their resident demographics: they have lost zero-vehicle households, foreign-born residents (particularly from Latin America), and households living in poverty. Though these trends are not unique to such areas, they do not bode well for transit.

The rise of ridehail has likely reduced transit use, but it is hard to say how much. ridehail services like Lyft and Uber likely subtract some transit riders in net, particularly in the Bay Area, where ridehail use appears highest, and to a lesser degree, in the San Diego and Los Angeles areas as well. Exactly how many, though, is difficult to determine without detailed ridehail trip data, which are generally not available.

Based on the data that are available, we found that California witnessed a remarkable eight-fold increase in combined ridehail and taxi use between 2009 and 2017, which is substantially larger than for the nation as a whole. The growth has occurred across all income groups and among younger riders and Hispanics, two traditional core transit-riding populations that have been abandoning public transit in recent years. In the Bay Area, where Lyft and Uber have operated longer than anywhere else, transit operators have lost a disproportionate share of evening and weekend trips, which constitute a substantial majority of the growing number of ridehail trips. While the evidence so far is only suggestive, the growth of ridehail may spell trouble for other areas of the state as well.

Other possible culprits — driver’s licensing for undocumented immigrants, private shuttles, micromobility, and fuel prices — have likely played, at best, minor roles. California Assembly Bill 60 (AB 60), the Safe and Responsible Drivers Act (2013), requires the Department of Motor Vehicles to issue a driver’s license without regard to the applicant’s legal presence in the United States. Our statistical analysis of commuting modes before and after implementation of AB 60 suggests that the bill likely had only a small effect on transit ridership.

Private commuter shuttles, bicycle share systems, electric scooters, and e-bikes all offer new, personalized possibilities for travel. At this point, we find little evidence that these services have cut into public transit use. Transit ridership has actually been growing in the commuter rail corridor between San Francisco and Silicon Valley where corporate shuttle use is highest. What’s more, micromobility may actually be improving first-mile/last-mile access to transit.

Finally, there is little evidence that changes in gasoline prices had much effect on increasing or decreasing transit use in the 2010s.

Conclusion

While the 2010s proved a difficult decade for public transit in California and the opening of the current decade has been an even bigger challenge, transit remains an essential public service. It provides critical mobility for those who, because of age, income, or ability, cannot travel in automobiles. It also connects major centers of activity, like central business districts, universities, and airports, far more effectively than private vehicles. And it is a green form of travel that can contribute to state environmental objectives. However, the evidence from similar public health circumstances suggests that public transit use recovers slowly following epidemics. Given our findings, effectively managing transit recovery will require a clear-eyed understanding of the substantially altered environment within which these systems large and small must now operate.

Further Information

This policy brief is drawn from the UCLA Institute of Transportation Studies report “Transit Blues in the Golden State: Analyzing Recent California Ridership Trends.” To access this report and additional policy briefs on UCLA ITS transit trends research, go to www.its.ucla.edu. This project was funded by the California Department of Transportation and the UC ITS Statewide Transportation Research Program.

Figure Data Sources

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