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Authors

Rodriguez, Daniel A., PhD

Pike, Susie, PhD

McNally, Michael, PhD

et al.

Publication Date

2024-09-01

DOI

10.7922/G2V986D2

Decline of Rail Transit Requires New Strategies

Daniel A. Rodriguez, Ph.D.¹, Susie Pike, Ph.D.², Michael McNally, Ph.D.³, Meiqing Li¹

¹Department of City and Regional Planning, University of California, Berkeley

²Institute of Transportation Studies, University of California, Davis

³Department of Civil and Environmental Engineering, University of California, Irvine

September 2024

Issue

During the pandemic, California's four major rail systems—Bay Area Rapid Transit (BART), San Diego Metropolitan Transit System (MTS), Sacramento Regional Transit (SacRT), and Los Angeles County Metropolitan Transportation Authority (LA Metro)—experienced an average ridership decline of 72 percent between 2019 and 2021. BART had the greatest decrease (87 percent) and MTS the lowest (47 percent). However, ridership changes varied significantly across individual stations, with stations located in the central business district or at the end of lines having the highest ridership losses. Land use, development density, and the pedestrian environment are strongly associated with station-level transit ridership. We examined how these characteristics affect transit ridership pre- and post-COVID and how they differ across station types based on longitudinal data collected between 2019 and 2021 for 242 rail stations belonging to BART, MTS, SacRT, and LA Metro.

Key Research Findings

Transit ridership declined more than station area visits.

When comparing ridership with overall changes in visits to station areas based on mobile phone data, which we call station area activity, ridership declined more drastically. A portion of the reduced ridership reflects significant decreases in activity in those station areas, especially in downtown stations, as shown in Figure 1. However, in more-suburban station areas, although activity decreased

less, ridership dropped off, implying that some former transit riders stopped traveling altogether, and others switched to alternate modes of transportation to reach the same destination.

The income of residents and workers living around stations areas affects ridership.

Station area neighborhoods with a higher number of low-income workers tend to have lower ridership declines, while areas with a larger number of high-income workers and high-wage jobs had more ridership losses. Higher income residents and high-income jobs are often correlated to job flexibility in terms of remote work.

Occupations and workplaces influence transit use.

Areas with more service jobs, such as retail and entertainment, which are generally lower wage, experienced less ridership declines. For every 1,000 additional low-income workers residing in a station area, there was a 12.62 percent increase in average weekday ridership. By contrast, for every 1,000 additional high-income workers residing in a station area, ridership was 6.23 percent lower. It is likely that rail transit services oriented toward commute travel for higher income jobs and residents will continue to have a slow recovery.

A decrease in ridership has negative consequences to transit revenue.

To remedy funding shortfalls due to lower fare revenues, agencies might be tempted to consider cuts to frequency or span of service, which can lead to a further decline in ridership. Decreases in service impacts access

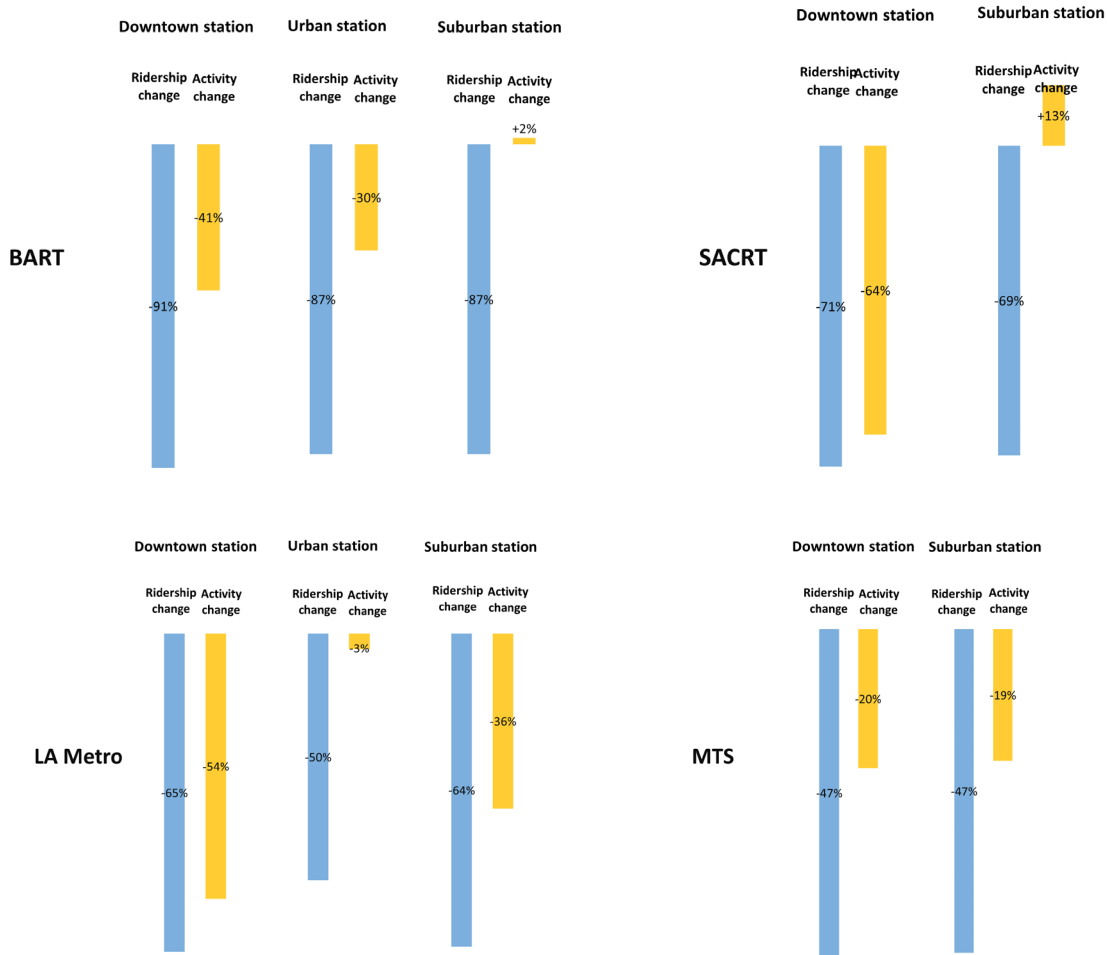


Figure 1. Comparing ridership changes (blue) to activity changes (yellow) by station area type

to jobs, education, and other essential services, especially for the transit-dependent population, reinforcing the pre-pandemic pattern of California transit riders being fewer and poorer over time. Considering sources of funding other than passenger fares, strategizing to reinvent and reinforce downtowns as destinations for a broad set of users, and shifting rail transit services to appeal to non-commute travel can be promising ways to support rail transit.

More Information

This policy brief is drawn from the report “Rail Transit Ridership Changes and COVID-19: Lessons from Station-Area Characteristics” available at www.ucits.org/research-project/rimi-4d. For more information about findings presented in this brief, please contact Daniel A. Rodriguez at danrod@berkeley.edu.

Research presented in this policy brief was made possible through the Resilient and Innovative Mobility Initiative (RIMI) led by the UC Institute of Transportation Studies (UC ITS). RIMI is supported by the State of California through a one-time allocation in the 2021 State Budget Act. The UC ITS created RIMI as a living laboratory – bringing together university experts, policymakers, public agencies, industry stakeholders, and community leaders – to inform the state transportation system’s immediate COVID-19 response and recovery needs, while establishing a long-term vision and pathway for directing innovative mobility to develop sustainable and resilient transportation in California. Established by the California Legislature in 1947, the UC ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.

Project ID UC-ITS-RIMI-4D | DOI: 10.7922/G2V986D2