National Center for Sustainable Transportation

Policy Brief

Sustainability and Displacement: Assessing the Spatial Pattern of Residential Moves near Rail Transit

Marlon Boarnet
Sol Price School of Public Policy
University of Southern California
Contact Information: boarnet@usc.edu

Co- PI: Raphael Bostic
Seva Rodnyansky
Raul Santiago-Bartolomei
Danielle Williams

Issue

As the construction and usage of rail transit proliferates in cities across the world, concerns abound about impacts on surrounding neighborhoods – including gentrification and displacement. Los Angeles County has seen a massive rail transit buildout going from zero to 93 stations along 6 lines in 25 years. This has led to a prevailing perception that Los Angeles' recent boom in rail transit development causes an influx of high income residents and an outflow of low income residents near rail stations.

We test this perception by answering two research questions related to rail transit and household mobility: 1. Do rail transit stations affect residential mobility rates in surrounding neighborhoods? and 2. Are lower-income or long-term residents disproportionally displaced from the neighborhood?

We calculate household mobility rates in neighborhoods in two of the most populated corridors along the Los Angeles Metro rail system – the Red-Purple Line subway and the Gold light-rail line. We compare half-mile areas around stations in those corridors to similarly sited control neighborhoods, similar in demographics but without rail transit. Detailed year to year mobility rate comparisons are enabled by a rich administrative dataset from the California Franchise Tax Board. Los Angeles' diversity of population, density, and land use as well as the new transit system provides a good laboratory to understand the relationship between displacement and rail station opening.

Key Research Findings

Urban renter households move frequently.
We find that dense, urban neighborhoods with a high percentage of renter households have high mobility rates, which agrees with national survey data (Table 1). Los Angeles County has a higher than average fraction of renters and the transit corridors we examine have mostly renters: over 70% of Gold line residents and over 90% of Red-Purple line residents are renters. These neighborhoods see 22% and 28% of households respectively move out every year, indicating a high degree of mobility out of the neighborhood.

Lower-income households move more frequently than higher-income households.
In both Red-Purple and Gold line neighborhoods, we find that households who earn above $40,000 annually have year-to-year mobility rates lower by 5-8% than those earning below that threshold (Table 2, column 2). This indicates a greater degree of stability for households earning above $40,000.

Train station openings increase mobility out of the neighborhood by 0-17%, depending on income and rail corridor.
Train station opening increases mobility rates more prominently in Gold line neighborhood, regardless of income (Table 2). For the Red-Purple line, lowest income households, who earn fewer than $15,000 annually, are likeliest to move after a rail station opens, while households in higher income groups show no effect.

National Center for Sustainable Transportation

Policy Brief

Table 1: Average Annual Renter Rates and Mobility Rates (1993 – 2013)

	U.S. National	Los Angeles County	LA Red-Purple Line Neighborhoods	LA Gold Line Neighborhoods
HOUSING TENURE				
% Renter	33%	52%	91%	72%
% Homeowner	67%	48%	9%	28%
MOBILITY RATE BY TENURE				
Renter Mobility Rate	30.7%			
Homeowner Mobility Rate	7.2%			
All Household Mobility Rate	14.2%	21.0%	28.1 – 28.5%	21.8 - 23.0%

Source: California Franchise Tax Board, U.S. Current Population Survey

Table 2: Average Annual Mobility Rates and Train Station Opening Effects (1993 – 2013)

	Annual Household Income (in 2013$)	Baseline Mobility Rate	Mobility Rate Estimate, After Train Station Opens	Impact of Train Station Opening on Mobility
Red-Purple Line	All incomes	28.3%	28.3-29.1%	↑ by 0 – 3%
	$0-15,000	29.9%	29.9-31.0%	↑ by 0 – 4%
	$15,000 – 25,000	30.7%	30.7%	No impact
	$25,000 – 40,000	28.2%	28.2%	No impact
	> $40,000	22.8%	22.8%	No impact
Gold Line	All incomes	22.4%	22.4 – 25.2%	↑ by 0 – 13%
	$0-15,000	22.9%	22.9 – 24.7%	↑ by 0 – 8%
	$15,000 – 25,000	25.2%	26.4 – 28.1%	↑ by 5 – 12%
	$25,000 – 40,000	22.6%	22.6 – 25.4%	↑ by 0 – 13%
	> $40,000	18.4%	18.4 – 21.6%	↑ by 0 – 17%

Source: California Franchise Tax Board

Policy Impacts

Bringing rail transit to a neighborhood can significantly improve transportation access, which may especially benefit lower-income and carless households. However, new rail station openings can increase mobility in lower-income populations in neighborhoods which already have a high degree of residential turnover, which risks destabilizing households and communities. Transit planners need to consider these potential negative externalities when planning projects and station areas.

Further Reading

This policy brief is drawn from the "Sustainability and Displacement: Assessing the Spatial Pattern of Residential Moves near Rail Transit" research report prepared for the California Department of Transportation by Dillon Fitch, Calvin Thigpen, Antonio Cruz, and Susan Handy with the Institute of Transportation Studies at the University of California, Davis. The full research report can be found here: https://ncst.ucdavis.edu/wp-content/uploads/2015/10/NCST_Boarnet_Sustainability-and-Displacement_Final-Report_November-2017.pdf