

# **Developing a New Methodology for Analyzing Potential Displacement**

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**Table 2D.4: Modeling Share of In-Movers by Subgroups, Multivariate Regressions for the Bay Area, 2009-2013**

|                         | In Poverty | High-Income<br>(> 120%<br>County Median<br>Income) | Less than<br>High School | Bachelor<br>Degree or<br>Higher | non-<br>Hispanic<br>white |
|-------------------------|------------|--|--------------------------|---------------------------------|---------------------------|
| Constant                | 0.412 ***  | -0.055 ***   | 0.496 ***                | 0.078 *                         | 0.898 ***                 |
| Median Household Income | -0.053 *** | 0.013 ***  | -0.051 ***               | 0.055 ***                       | -0.001                    |
| Income Squared          | 0.002 ***  | 0.000 ***  | 0.001 ***                | -0.001 ***                      | 0.000                     |
| % non-Hispanic black    | 0.171 ***  | -0.013 *   | 0.198 ***                | -0.345 ***                      | -0.794 ***                |
| % Asian                 | 0.016      | -0.014 ***   | 0.132 ***                | -0.043 *                        | -0.933 ***                |
| % Hispanic              | 0.077 ***  | -0.048 ***   | 0.684 ***                | -0.671 ***                      | -0.959 ***                |
| Downtown TOD            | 0.019 **   | 0.004 *  | -0.024 **                | 0.045 ***                       | 0.048 ***                 |
| Other TOD               | -0.014     | 0.008 ***  | -0.015 **                | 0.048 ***                       | 0.002                     |
| % Renters               | 0.020      | 0.091 ***  | -0.258 ***               | 0.410 ***                       | 0.066 ***                 |
| n                       | 1,575      | 1,578  | 1,575                    | 1,575                           | 1,576                     |
| Adj. R-Squared          | 0.328      | 0.3922   | 0.5685                   | 0.579                           | 0.7169                    |

\*\*\* p<.01, \*\* p<.05, \*p<.10

Source: 2009-13 ACS

Tabulations by M. Zuk, Aug 2015

## Section 2E: Modeling Neighborhood Displacement

To better understand the relationship between transit neighborhoods, gentrification, and displacement, we develop dichotomous and multinomial logit models. We conduct two primary analyses, one on gentrification and the other on changes affordable rental housing. We first construct gentrification measures, which can include both direct and exclusionary displacement, for both Los Angeles and the Bay Area. Due to the unique conditions of each region and access to different data sources, gentrification is defined differently for each region. The second analysis focuses on a more direct measure of displacement, the loss of affordable housing which includes changes in affordable rental units, condo conversion, Section 8 housing, Low-Income Housing Tax Credit units, and evictions. For the San Francisco Bay Area we also explore the decline in low-income households, an indicator of displacement that is particularly salient in the region due to rising income inequality. Our main findings are that there is evidence of neighborhood change and gentrification in transit neighborhoods. The magnitude of change varies by the type of transit neighborhoods. Additionally, we find that relative to non-transit proximate neighborhoods, transit neighborhoods are experiencing greater losses in affordable rental housing.

### 2E.1. Gentrification

The method used to develop the gentrification index for this study incorporates several methods of gentrification from previous studies. These include the work done by Lance Freeman (2005) for the U.S., Lisa Bates for Portland (2013), the Bay Area (CJJC 2014; Haas Institute 2015), and the recent analysis of the largest 50 cities in the United States by *Governing Magazine* (Maciag 2015). We made some modifications to reflect the unique conditions of Los Angeles. We use the following criteria to define a neighborhood (Census tract) as having gentrified between years 1 and 2.

For Los Angeles, a tract was **vulnerable to gentrification (or eligible to gentrify)** if it met all of the following criteria:

1. The tract had a population of at least 500 residents in year 1
2. Vulnerable, meeting 3 out of 4 of the following indicators:
  - a. % low-income households (household income below 80% of the county median) > county median
  - b. % college educated < county median
  - c. % renters > county median
  - d. % nonwhite > county median

A tract is said to be gentrified or gentrifying if it meets eligibility and all of the following criteria:

1. Demographic change between years 1 and 2
  - Change in % college educated > county (percentage points)
  - Change in % non-Hispanic white > county (percentage points)
  - Change in median household income > county (absolute value)
2. Change in Median Gross Rent > Change County Median Gross Rent (absolute value)

For Los Angeles, two major modifications were made to the index that makes it different from the previous work on gentrification. One, instead of focusing on homeowners and property values (e.g., change in home values), we focused on the rental housing market. Renters are more susceptible to gentrification and displacement due to increase in rent (e.g., generally, homeowners benefit from rising property values). Second, we included change in non-Hispanic whites into the demographic change criteria. As noted in the literature review, gentrification involves racial changes, particularly the replacement of minority population with the dominant social group. In Los Angeles, the dominant social group, in terms of political power and socioeconomic status, are non-Hispanic whites.

For Los Angeles, we were unable to estimate the number of changes in market and non-market units (e.g., affordable, below market rate, subsidized) because we did not have information on affordable units that were negotiated with private developers in exchange for concession. Table 2E.1 reports the county averages and changes for the three decades in Los Angeles.

**Table 2E.1: Gentrification Criteria for Los Angeles, County Averages**

|  | 1990     | 2000     | 2013     | Δ 1990-2000 | Δ 2000-2013 |
|--|----------|----------|----------|-------------|-------------|
| % non-Hispanic white                   | 41%      | 31%      | 28%      | -10%        | -4%         |
| % with bachelor's degree or higher     | 22%      | 25%      | 30%      | 3%          | 5%          |
| Median Household Income (2013 dollars) | \$63,423 | \$58,982 | \$55,909 | -\$4,441    | -\$3,073    |
| Median Gross Rent (2013 dollars)       | \$1,082  | \$952    | \$1,204  | -\$130      | \$252       |

*Source: 1990 and 2000 Decennial Census, 2009-2013 five-yr ACS*

Using the above definition for Los Angeles, we find that 81 tracts gentrified between 1990 and 2000, and 82 tracts gentrified between the years 2000 and 2013. Of these 82 tracts that gentrified between 2000 and 2013, eight also gentrified in the previous decade. We estimate that a total of 155 tracts gentrified between 1990 and 2013 in Los Angeles. The tracts that gentrified are displayed in Figure 2E.1. It includes tracts that gentrified *in each* of the time period and those that gentrified in *both* time periods. Additionally, vulnerable tracts (see above criteria) are also displayed, regardless of the time period of when they were vulnerable.