ENVIRONMENTAL JUSTICE & EQUITY

SPATIOTEMPORAL ANALYSIS OF JOBS-HOUSING FIT IN SOUTHERN CALIFORNIA (ID: P21-20281)

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INTRODUCTION

Jobs-housing balance has become a major issue in urban and transportation planning and public policy. Among planners and policy makers, the imbalance of jobs and housing is considered as one of key contributors to traffic congestion and air pollution, and an impediment to environmental justice. On the other hand, a proper balance of housing and jobs can help people to live closer to where they work, thus reducing overall congestion, vehicle travel (VMT), and greenhouse gas (GHG) emissions.

In addition to the traditional measure of jobs-housing balance, it is important to examine the Jobs-Housing Fit (JHF) between available housing types and the income levels of residents. From an equity perspective, it is important to ensure low-wage jobs-housing fit because of ongoing difficulties with affordable housing provision. In addition to regional equity, ensuring a low-wage jobs-housing fit can contribute to environmental benefits and GHG emission reduction, given low-income households on average drive smaller and less fuel-efficient cars.

As part of the jobs-housing imbalance mismatch analysis for Connect SoCal 2030 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), SCAQ conducted the analyses of jobs-housing ratio and low-wage jobs-housing fit for Southern California region at two scales—jurisdiction and the census tract (equally representative to a neighborhood). Based on the JHF methodology developed by UC Davis Center for Regional Change, while it is important to examine jobs-housing fit at the jurisdiction level, this study examined at the neighborhood level given it is also important to understand patterns and variations in jobs-housing fit at relatively smaller geographical unit.

METHODLOGY

For the JHF analysis, this study examines a ratio between the total number of low-wage jobs and the total number of affordable rental units. In contrast to overall jobs-housing balance, the low-wage fit analysis is helpful to highlight those jurisdictions and neighborhoods where there is a substantial shortage of affordable housing in relation to the number of low-wage jobs. To conduct the JHF analysis for cities and census tracts, SCAQ employed publically available data on job numbers from the LODES and housing numbers from the ACS. Job data was obtained from the LODES Workplace Area Characteristics (WAC) Primary job data files for the years 2010 and 2016. Housing data was obtained from Census Block 2008-2012 ACS 5-Year Estimates and 2015/2017 ACS 5-Year Estimates. In this study, SCAQ used the counts of rental units with both contract rent (renter-occupied units) and rent asked (vacant-for-rent units) for affordable rental unit estimates. To estimate affordable rentals, SCAQ used the regional median household income—the midpoint of an income distribution in the SCG region—as Area Median Income (AMI) limit and assumed that a household is affordable if its income is at or below 80% of the AMI rate without spending more than 30% of their income on rental units. SCAQ assumed that spending 10% of total household income on housing costs is reasonable as the 30% threshold is widely accepted among affordable housing developers and advocates and the threshold above which the US Department of Housing and Urban Development considers a household to be cost burdened. For the neighborhood-level analysis, SCAQ used a 1.5-mile buffer for the approximate average of walk- and bike-commute distances from the centers of the census tracts and counted jobs and workers within the buffer distance.

Additionally, this project also performed an analysis on inter- and intra-county analysis, and median commuting distances. For the inter- and intra-county analysis, SCAQ examines the median wages for inter-county and intra-county commuters using the 2013 American Community Survey (ACS) 5-year Public Use Microdata Samples (PUMS). For the median commuting distance, SCAQ examined the historical trend in median commute distance by using the Census Bureau’s Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES). SCAQ used the LODES 7.4 Origin-Destination data file for the years 2002-2016. SCAQ staff aggregated LODES’ block level statistics to the census tract level in order to calculate the median commute distance between origin and destination tracts by wage in such SCG region. This distance measured is the Euclidian distance, straight-line distance, or distance measured “as the crow flies” between the centroid of an origin tract and the centroid of a destination tract and is therefore shorter than the actual commute distance incurred by travelers.

FINDINGS & DISCUSSION

These statistics indicate that, given that commuting is expensive, higher wage workers can afford it well and will commute longer for higher pay. On the other hand, lower-wage workers tend to live closer to jobs. Overall, commute distance grew from 2002 to 2016 for all-wage wage jobs, while it slightly decreased from 2012 to 2016. The median commute distance for low-wage workers and high-wage workers were 6.6 miles and 11.0 miles in 2002, respectively. While they increased to 6.6 miles and 11.1 miles in 2016. Although the commute distance grew in all 10 counties between 2002 and 2016, it is observed that the commuting distance of workers in inland counties grew more rapidly than workers in coastal counties, especially for low-wage workers in inland counties. The growing commute distance can influence a range of economic, social, transportation, and environmental outcomes, particularly to low-income and minority workers given the constraints they face, such as delays in job proximity and limited transportation options. Additionally, computing the median commute distance and overall job-to-worker ratio between coastal counties and inland counties, with lower job-to-worker ratio generate more long-distance commuters. This indicates the need for more job growth in inland counties, while coastal counties need more housing growth.

Jobs-Housing Ratio for Census Tracts

Median Commute Distance in Miles by Jobs in the SCG Region, 2012-2016

Place of Residence | Low wages | Med. wages | High wages
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Los Angeles | 3.62 | 6.03 | 7.75
Orange | 3.92 | 6.28 | 9.35
San Bernardino | 5.03 | 7.77 | 11.89
Los Angeles County | 4.12 | 6.54 | 9.95
Orange County | 4.45 | 6.86 | 10.80
San Bernardino County | 5.67 | 9.00 | 13.80

Notes: (1) Job and housing projections for years 2020 and 2030 are based on SCAQ’s housing projection for the Connect SoCal 2030 Transportation Plan (RTP/SCS). (2) Median commute distances are based on US Census Bureau’s LEHD Origin-Destination Employment Statistics (LODES) version 7.3 Workplace to Home Origin and Destination Estimation Statistics (LODES).