**Using REVISION to Understand Neighborhood Change**
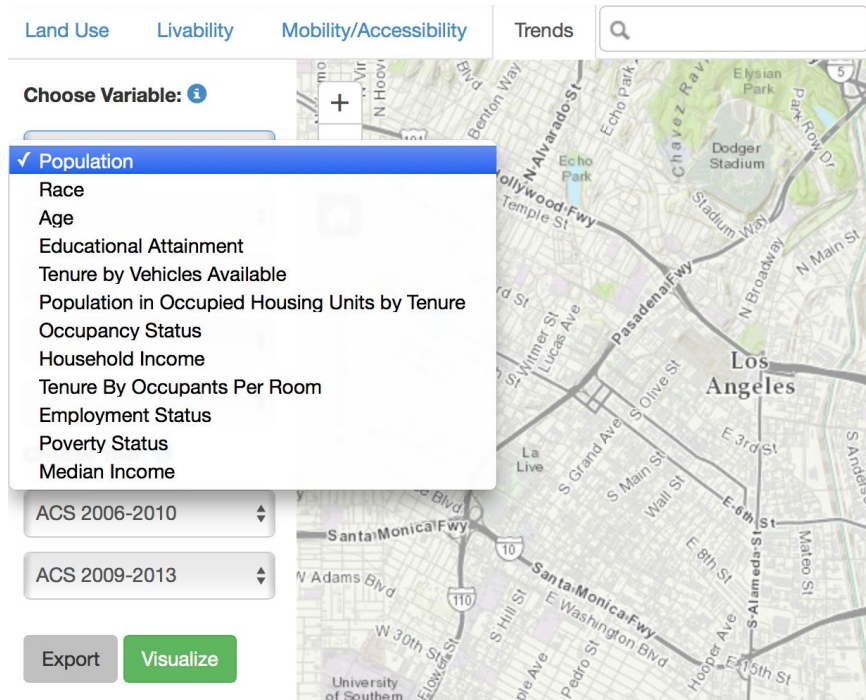Guidance for Users
by Karolina Górska, PhD

Introduction

REVISION is a web-based mapping and analysis application tool that integrates a range of public and private data for sustainable communities planning and trend visualization. The application is accessible for any user and creates a common regional performance-monitoring tool for use in neighborhood and community-level time-series analyses. REVISION is available for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties on the web at http://revision.lewis.ucla.edu.
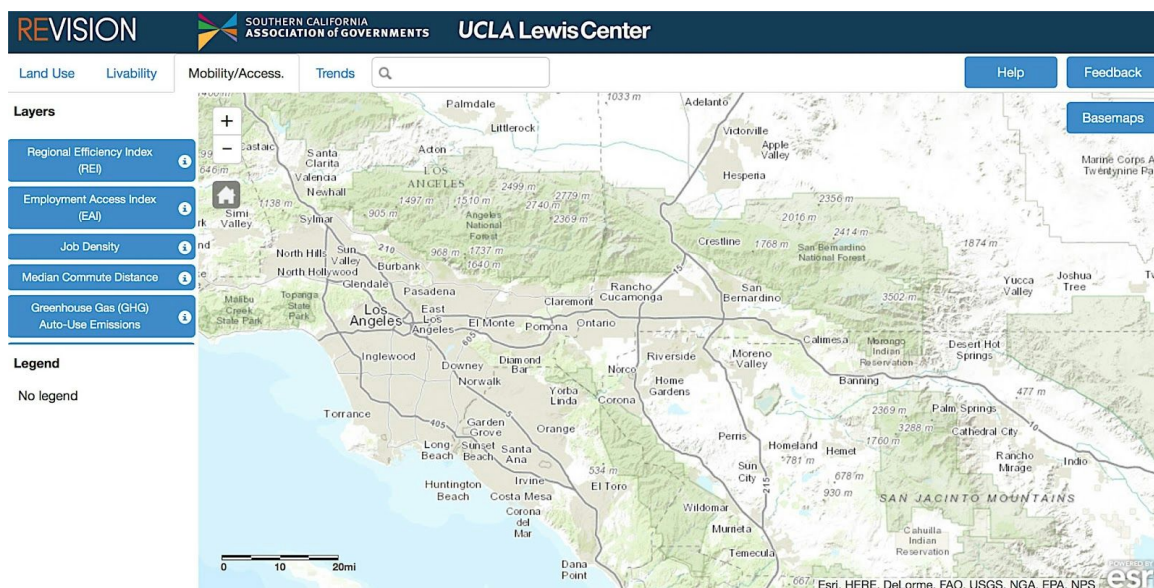
This whitepaper is intended to highlight the possibilities for users to explore various components of neighborhood change through the use of the REVISION website. With a range of metrics, which include accessibility, livability, employment, and health, REVISION helps both professional planners and stakeholders without a technical background to examine and monitor neighborhood change throughout the region and at different time periods. Additionally, under the Trends tool, REVISION allows users to
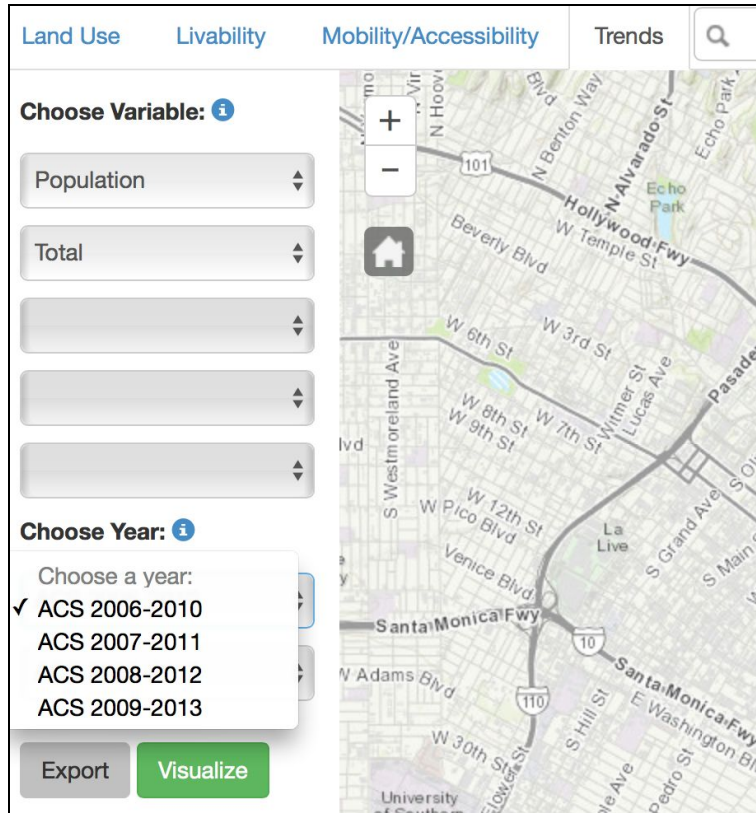
visualize American Community Survey variables for a single year or compare change

over multiple years at the block group level.

REVISION offers 12 ACS variable to explore.

There are four 5-year rolling averages.

The benefit of understanding various components of neighborhood change assists in the preparation of appropriate, area-specific planning proposals that improve environmental sustainability, social equity, and public health.

What is Neighborhood Change?

Neighborhood change is often associated with the terms *incumbent upgrading*, *gentrification*, or *neighborhood ascent.*

Incumbent upgrading is a phenomenon in which existing residents improve the conditions of their neighborhood; this is catalyzed by the cost of housing, the rise of neighborhood consciousness, demographic pressure, and reduced pressures from migrants to the city (Clay 1979). Upgrading defines the improvements that occur to

housing stock by current residents. Such improvements are typically not associated with an increase in property transactions, the price of housing, or the in-migration of higher income households (DeGiovanni 1984, 84). Replacement suggests that the current residents, typically working-class, are able to take advantage of upgraded housing stock and the rising housing prices in order to sell and move elsewhere (Slater, Curran, and Lees 2004, 1144).

Gentrification, on the other hand, draws middle class residents to the city, attracted by job and recreational opportunities, low and appreciating housing prices, stabilization of negative social conditions (such as crime), and lifestyle or aesthetic considerations (Hamnett 1984; Smith 1996; Lees, Slater, and Wyly 2008). Displacement is the negative outcome of gentrification, but not present in incumbent upgrading.

Neighborhood change is a long process, and many studies only look at relatively short time periods (sometimes less than 10 years). In its early phases, gentrification may not result in displacement, but over time, in the absence of protections; tenants may be forced to move. The principal barrier to studying the relationship is the lack of appropriate data to determine the extent of mobility and displacement.

Some neighborhoods may experience "*marginal gentrification*" (Rose 1984), since they do not become wealthy neighborhoods, but instead working class or lower-middle-class, rather than highly educated residents, are moving in. Improvements to the built environment are part of this process.

Sociological models of neighborhood change look beyond gentrification and suggest alternative processes of *neighborhood ascent*. The *classic invasion–succession*

model of urban change explains how residents sort themselves by socioeconomic status (SES), and neighborhoods decline as lower-socioeconomic status residents "invade and succeed" higher-socioeconomic status neighborhoods (Park and Burgess 1925). While this model is typically used to explain neighborhood decline, residential change can result in ascending districts if higher-SES residents cluster together, pricing out lower-SES residents and creating higher-SES areas (McKenzie 1925). Recent work by Sampson and Sharkey (2008) provide evidence that individual-level mobility can lead to stability as well as change. They find that many individuals choose to move to the same racial-economic neighborhood type as their original neighborhood.

**What to consider when studying neighborhood change?**

1. Time Period

There is no agreed upon time period for the study of neighborhood change. With REVISION users have the flexibility to explore different intervals of time. REVISION provides American Community Survey data in 5-year rolling averages for the following years: 2006-2010, 2007-2011, 2008-2012, 2009-2013, and 2010-2014. The user can explore the change in a variable between any two 5-years periods. The comparison between two 5-year periods shows the statistically significant positive and negative change amongst the years presented at 90%, 95%, and 99% two-tailed confidence interval levels.

The screenshot below provides an example of the visualization of the change in renter occupied units between 2006-2010 and 2009-2013 for an area near downtown Los

Angeles. Red indicates negative change and green indicates positive change. In this case, downtown Los Angeles has seen a significant increase in renter-occupied units.
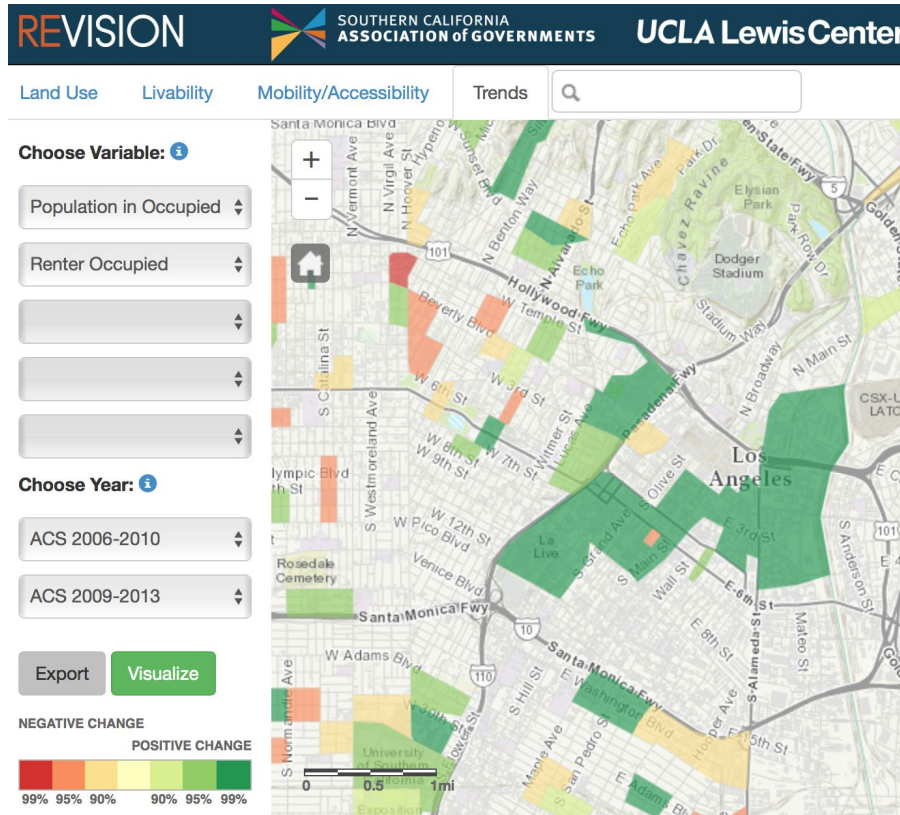
Shorter periods of time might not reveal drastic neighborhood change. However, users can use the REVISION tool to explore: 1) areas that are susceptible and are experiencing early neighborhood change; 2) those that are in the midst of change, and 3) areas that have experienced noticeable changes in certain aspects of neighborhood change. When looking more specifically at different stages of gentrification, the factors and variables that are important to note include:

Areas Most likely to Experience Gentrification
- High Rate of Renters
- Ease of Access to Job Centers
- High & Increasing Levels of Metropolitan Congestion

- Comparatively Low Housing Values

Strong Signs Gentrification is Occurring
- Shift from Rental Tenure to Homeownership
- Arrival of Individuals or Households Interested in Urban Amenities/Culture
  - Higher Incomes
 - Higher Percentage of College Educated residents

Other Indicators Gentrification is Occurring
- Change in Racial Composition
- Change in Occupancy Rate

2. **Is the end result a high-income neighborhood?**

More often than not, a significant increase in high-income residents can serve as an indication of neighborhood change. In the Trends Section, by choosing Household Income and +$150,00 as the variable to explore, the user can explore what areas of the city have seen significant changes in populations with high incomes. For instance, in close proximity to downtown Los Angeles several Block Groups have seen increases in households with +$150,000.
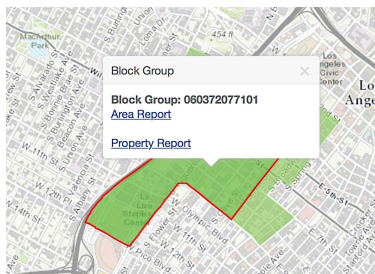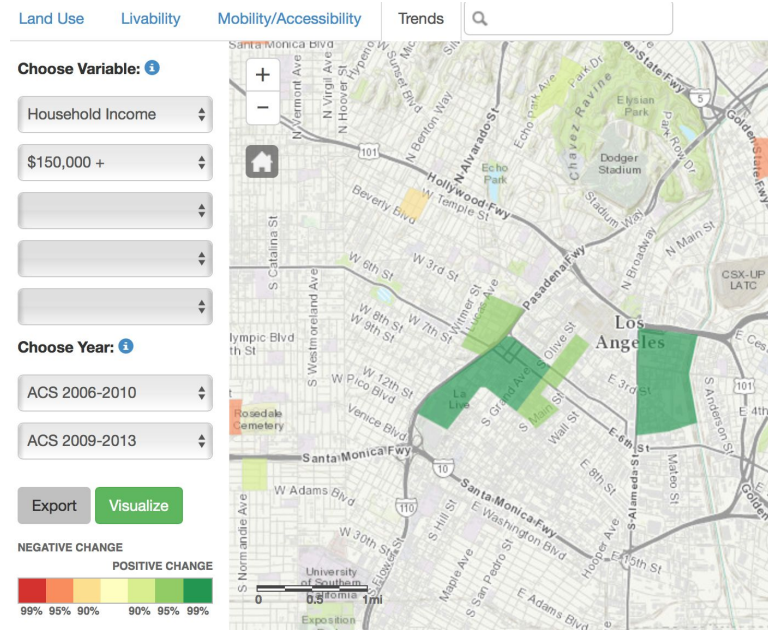
By clicking on the Area Report for one of the High-Income Block groups, the user learns more about this specific area. The Area Report provides location-specific details from multiple sources: the American Community Survey, CalEnviroScreen, planning data, Zillow real estate values, and Walkscore.com. The Block Group information is presented in comparison to County trends.

In the case of the Block Group in downtown Los Angeles, the user learns that Household Income distribution is on par with County Trends.
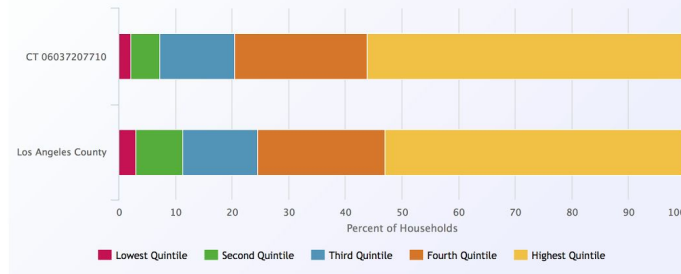
While an increase in higher-income households is one reflection of neighborhood change, an exploration of the opposite end of the income spectrum can reveal important differences too. An area of Los Angeles near the University of Southern California, Block Group: 060372218201, does not indicate significant increases in any of the household income categories, however there is a significant decrease lower-income households ($0 - $24,999).
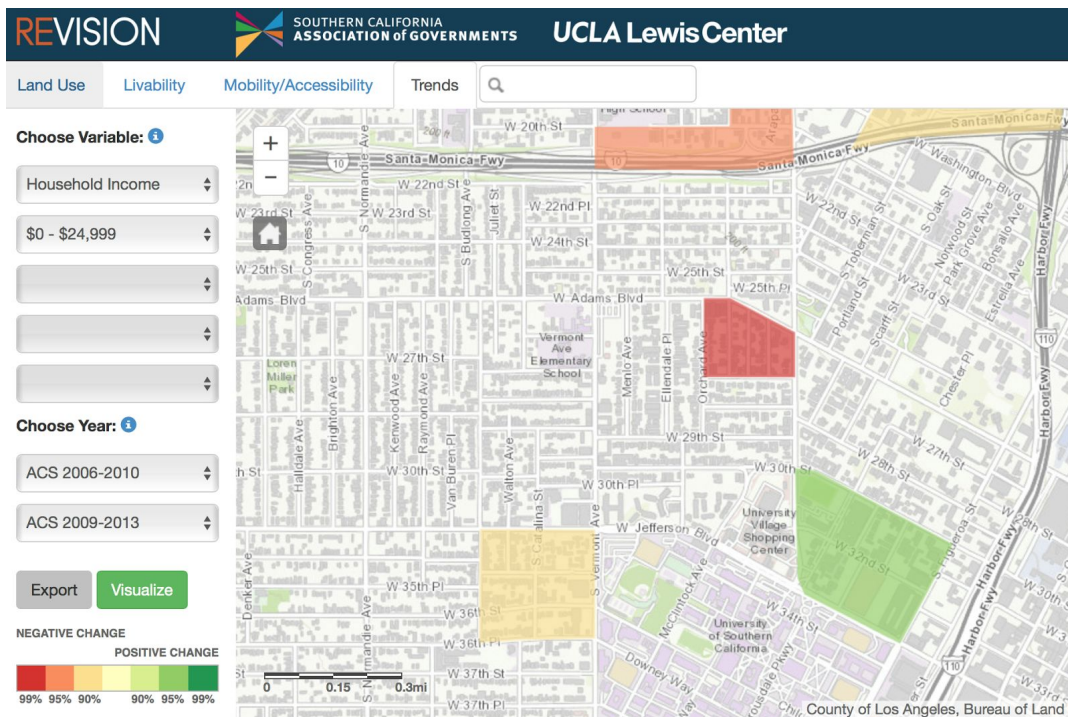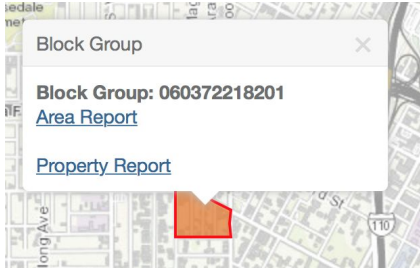
The Area Report reveals that although this neighborhood has not become high-income there are indications of change. For instance, the racial composition is predominantly white, and the area is generally less diverse than L.A. County.
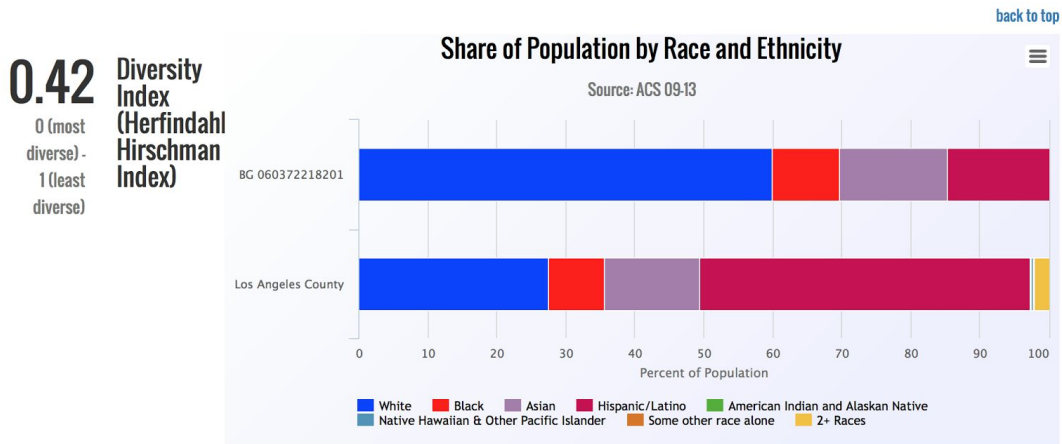
This Area Report highlights the fact that this is a predominantly renter area and has a higher percentage of residents with college degrees, both of which make the area susceptible to gentrification trends.
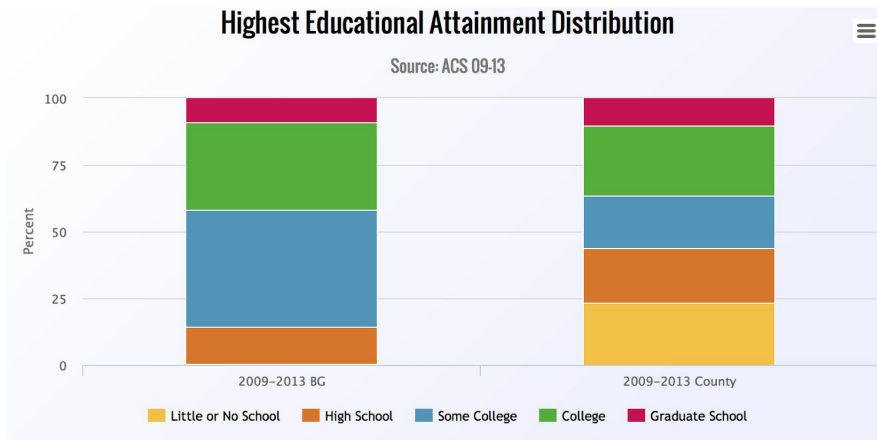
Proportion of Renter Occupied vs Owner Occupied

Source: ACS

	BG 060372218201	Los Angeles County
Rent	85.3%	50.4%
Own	14.7%	49.6%

3. **Was an area predominantly vacant before gentrification? Example: Former industrial areas or neighborhoods like the Arts District in downtown Los Angeles.**

From example 1, REVISION revealed that in the downtown Los Angeles area there is a significant increase in high-income households. However, additional information provided through the application indicates that during the same time period the area has seen a significant population increase, as well as an increase in occupied units. This type of exploration gives the user a sense of what kind of neighborhood change is occurring—in this case an increase in population is being aided through new development and the adaptive reuse of vacant buildings.
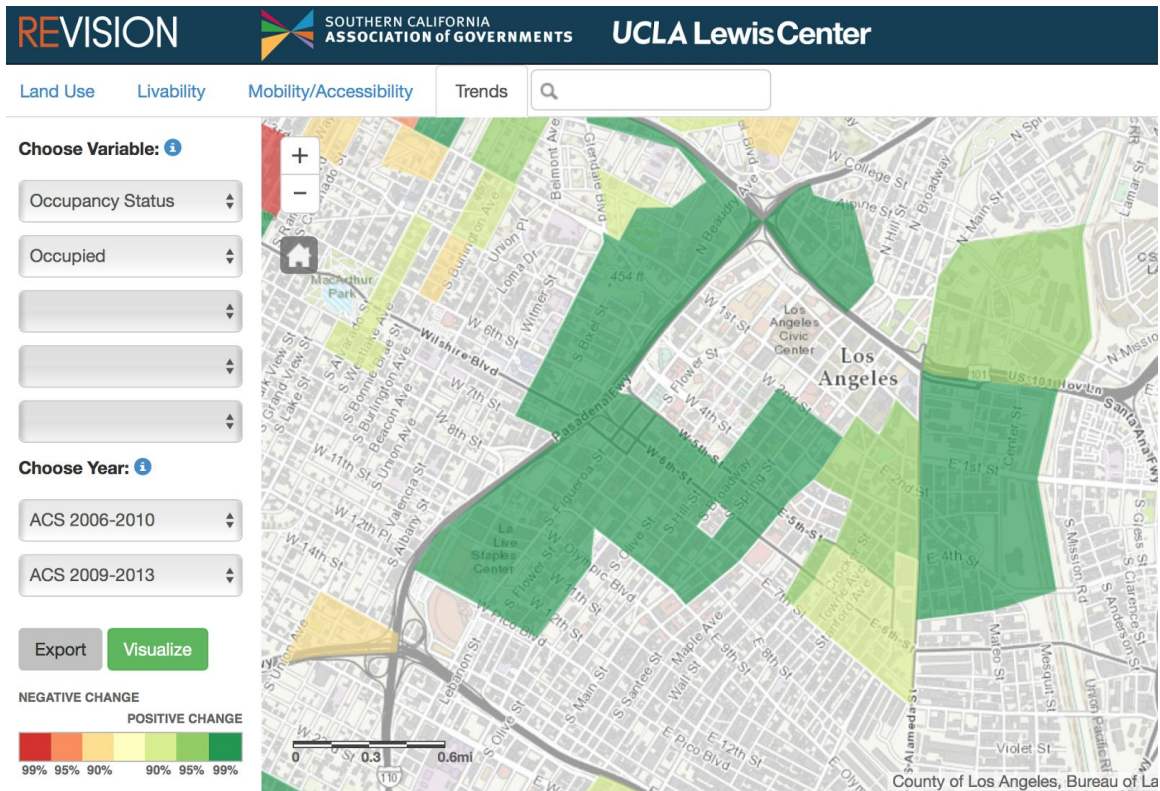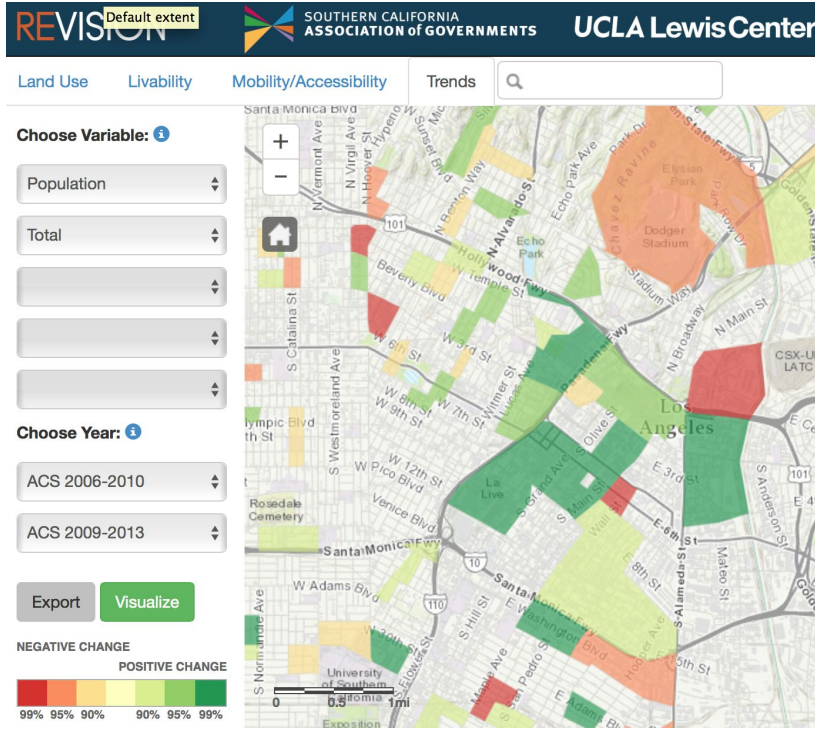
REVISION Variables to Study Neighborhood Change

REVISION provides several variables relevant to the study neighborhood change. Users

can apply the guidance above to understand change over time for these variables:

- Share of Population by Race
  - The designation of race/ethnicity may provide insight into neighborhoods that have already gentrified (gentrifiers are typically associated with white households). This variable can be viewed from a variety of perspectives. It may provide indicate the "ethnic identity" of a neighborhood, or a "tightly-knit ethnic enclave," which suggests low mobility rates and an obstacle to entrance by gentrifiers (Beauregard 1986).
  - Primarily white neighborhoods signify little "ethnic identity" and tend to be associated with already gentrified neighborhoods.
  - A non-white presence in the neighborhood may signify "ethnic identity" that provides a cultural attraction to some in-movers.
- Household Income Distribution
  - This variable proxies for the socioeconomic status and low rents; it can be directed toward an indicator of wealth or poverty (Heidkamp and Lucas 2006).
  - As Household Income increases, a neighborhood tends to becomes less susceptible to gentrification, if gentrification describes the residential movement of middle-class people into low-income areas (the area may be already experienced gentrification to some degree). Household Income should be compared to City or County level trends. This information should be analyzed in relation to changes in education level, as well as factors such renters vs. owners, as well as poverty level.
- Percent Population Below Poverty Level
  - This variable indicates the level of poverty in an area.
  - A high percentage of poverty (higher than the City or County average) may indicate susceptibility to gentrification, especially if an area is located near parks, historic districts, or high-income areas, as well as nearness to the Central Business District, and the existence of other revitalized areas (Heidkamp and Lucas 2006).
  - The poverty rate declines in neighborhoods classified as gentrifying, consistent with what might be expected in neighborhoods on the upswing (Freeman 2005).
- Mean Household Income of Quintiles
  - Mean Household Income Quintiles create groups of lowest, second, third, fourth, and highest fifth percent of incomes within a Block Group.
  - A comparison between the Block Group and County can provide insight into the wealth distribution of the neighborhood.
- Quintile Share of Aggregate Income

- o While the *Mean Household Income of Quintiles* provides the Income Values/Ranges for each Quintile, the *Quintile Share of Aggregate Income* indicates the proportion of the population within each Quintile.
- Highest Educational Attainment
  - o This variable is used as a fundamental measure for the potential for gentrification susceptibility and can proxy for income.
  - o As the percentage of those that have obtained a Bachelor Degree increase the potential for the area to gentrify decreases (and in fact may already be experiencing gentrification).
  - o A measure of gentrification relying on income might overlook neighborhoods experiencing an influx of highly educated but poorly paid professionals, whereas a measure based on education would be less likely to miss this type of change. Using education as opposed to income alone helps to distinguish between incumbent upgrading among current residents as opposed to gentrification fueled by outsiders (Clay 1979).
- Number of Occupants per Room
  - o This variable indicates the housing density within a Block Group.
  - o Higher income neighborhoods (Block Groups) tend to have lower numbers of occupants per room (lower density) than lower-income neighborhoods.
- Proportion of Renter Occupied vs. Owner Occupied
  - o The owner to renter rate of turnover may indicate social change, however mobility and the motivation behind the turnover can often be unclear (Freeman and Braconi 2004).
  - o As the percentage increases the susceptibility to gentrification can also increase. This is because renter-households units are more vulnerable to rent increases and economic displacement than owner-household. As a neighborhood gentrifies, landlords can command a higher rent for their units and can raise prices accordingly (unless units are rent-controlled). Renters whose income may or may not be rising concomitantly with rental increases may be especially vulnerable to displacement under these circumstances (Freeman 2005).

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