

# Transportation Equity in Los Angeles County

A Demographic Analysis of the 2012 Bicycle Master Plan  
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## Introduction

In 2012, the County of Los Angeles, California released a Bicycle Master Plan that intends to expand the County's bicycle infrastructure over the next 20 years. The Plan includes the addition of bike parking facilities, as well as approximately 831 miles of bicycle friendly streets and bike paths. This proposed infrastructure is spread throughout the County, with much of it concentrated in the cities of Los Angeles and Long Beach, as well as in the unincorporated areas in the northern part of the county, as seen in Figure 1. According to the written report released by the County of Los Angeles, the overarching goal of the Bicycle Master Plan is:

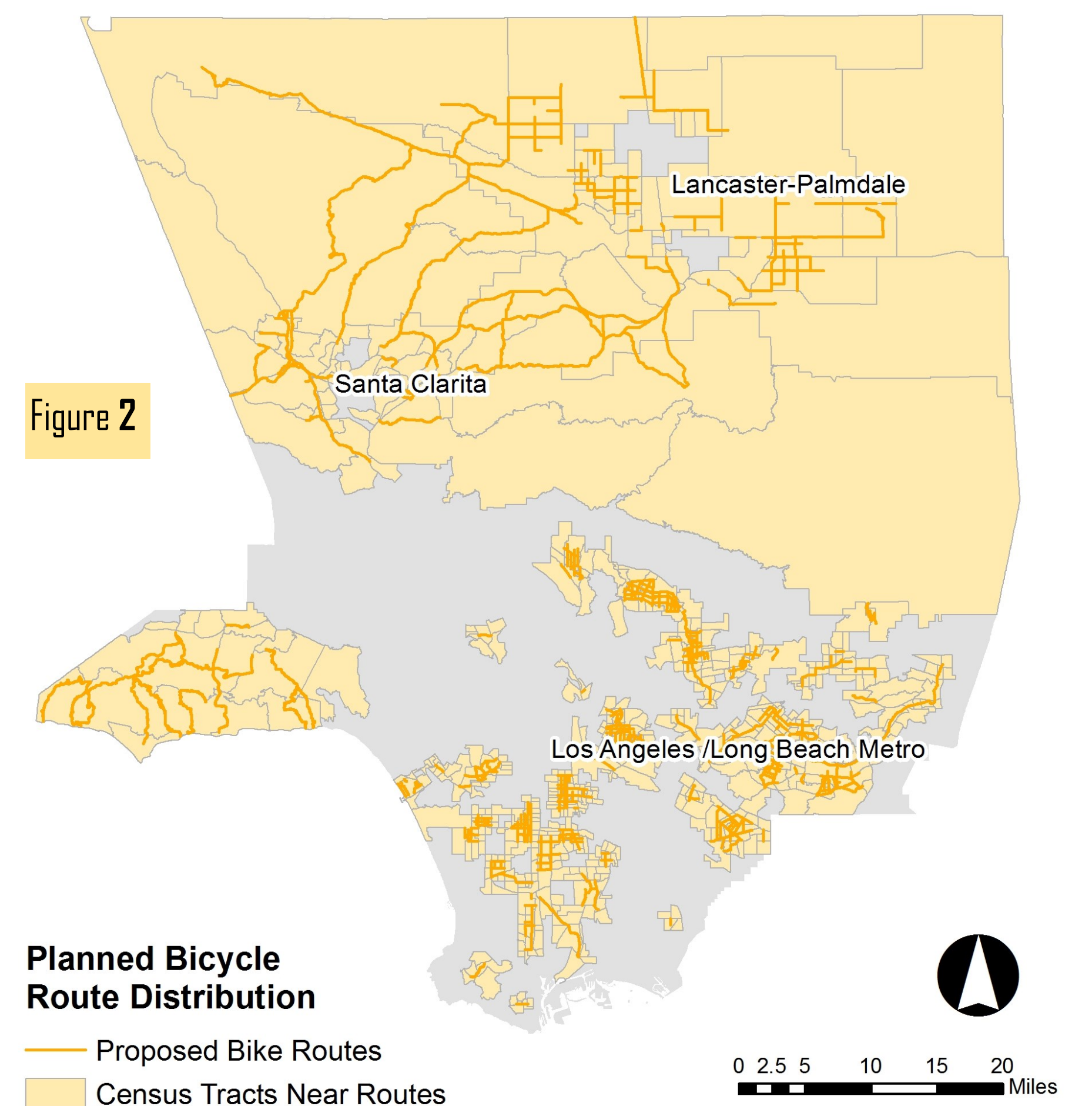
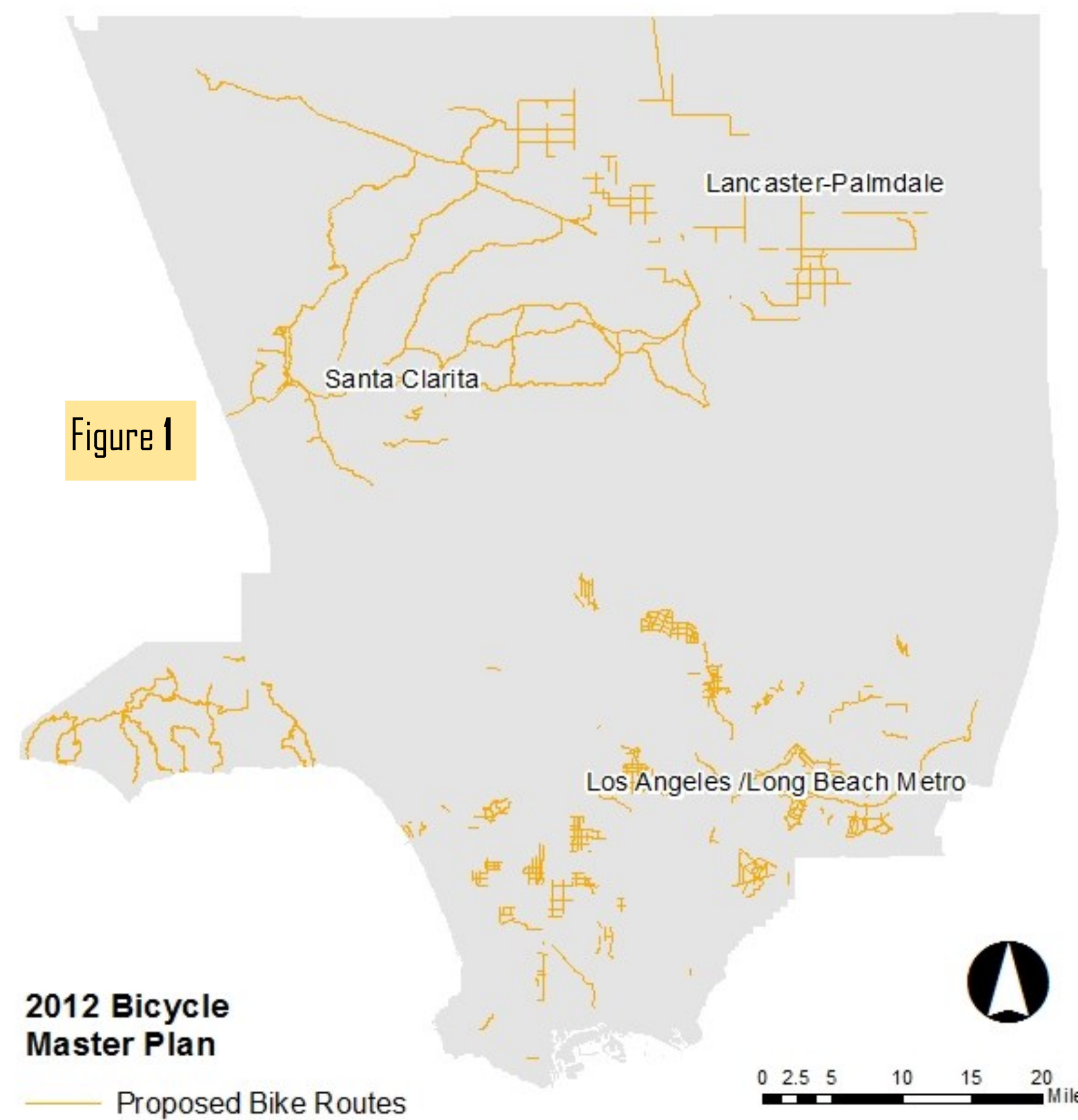
*"Increased bicycling throughout the County of Los Angeles through the development of bicycle-friendly policies, programs, and infrastructure."*

While some of the benefits of bicycle infrastructure (like emissions reductions) will benefit all citizens equally, others will only benefit those who live or work near enough to the planned routes to utilize them. Recently, transportation and environmental equity have been at the forefront of social justice discussions, especially in America's urban areas. In his 2003 article "Addressing Urban Transportation Equity in the United States," Robert D. Bullard argues that, "Transportation provides access to opportunity and serves as a key component in addressing poverty, unemployment, and equal opportunity goals."

This mapping project attempts to assess whether the Los Angeles County Bicycle Master Plan is designed equitably, so that the benefits of bicycling infrastructure in the city are allocated equally across the county's population.

## Methods

In order to determine whether or not the 2012 Master Bike Plan would equitably serve the diverse citizens of LA County, this study involved an analysis of three demographic features from the US Census Bureau's 2010 American Communities Survey (figures 3-5). Census tract data within a quarter mile of the proposed developments was compared to data for LA County as a whole. To do this, a .25 mile buffer was drawn around the proposed infrastructure. This buffer was laid over the LA County census tracts, to identify which tracts are categorized as 'near' the planned bicycle routes. Data for tracts 'near' the planned routes (seen in Figure 2) was summarized, so that it could be compared to statistics for LA County as a whole. This comparison allows us to determine whether the new



biking infrastructure will favor some types of residents over others. Keeping in mind LA County's large immigrant population, making up over 35% of all residents, this study analyzed educational attainment, language, and economic demographics.

## Analysis

The results of this demographic comparison between the areas surrounding routes of the Los Angeles County Bicycle Master Plan and the rest of LA County are shown in the tables accompanying figures 3-5, below. According to this study, the level of educational attainment surrounding the bicycle route expansion is slightly lower than that in the County as a whole. However, the median income in the areas surrounding the planned routes is higher than the County average by about \$6,000, and the number of linguistically isolated households near the planned routes is somewhat lower than the County average. According to these statistics, it appears that the LA County Bicycle Master Plan has not succeeded in locating new bicycle infrastructure near the most economically and linguistically vulnerable populations.

The findings of this study indicate a troublesome overall trend towards placing bicycle infrastructure in higher income, English speaking neighborhoods of Los Angeles County. In order to ensure that the vulnerable communities of this area are provided with safe and affordable transportation options, the County of Los Angeles should consider performing a thorough assessment of the distribution of bicycle and public transportation in the County, ideally before the Bicycle Master Plan moves forward.

## Limitations

This study analyzed the demographic information for census tracts where the LA County Bicycle Master Plan will place new bicycle infrastructure. While the census tract scale of analysis is sufficient for identifying general trends in the placement of new bicycle routes, future analysis should look at the connectivity of vulnerable neighborhoods to amenities like grocery stores, schools and places of employment.

Another limitation of this study is that it qualifies all kinds of bicycle routes in the same way. While urban routes are more important in determining transportation justice, rural or recreational/scenic bicycle routes are more closely related to environmental justice than to issues of transportation equity.

Future analysis might also consider using different or additional demographic categories, such as race, family size, or high school graduation rates.

Figure 1 and 2 Map Scale is 1:800,000

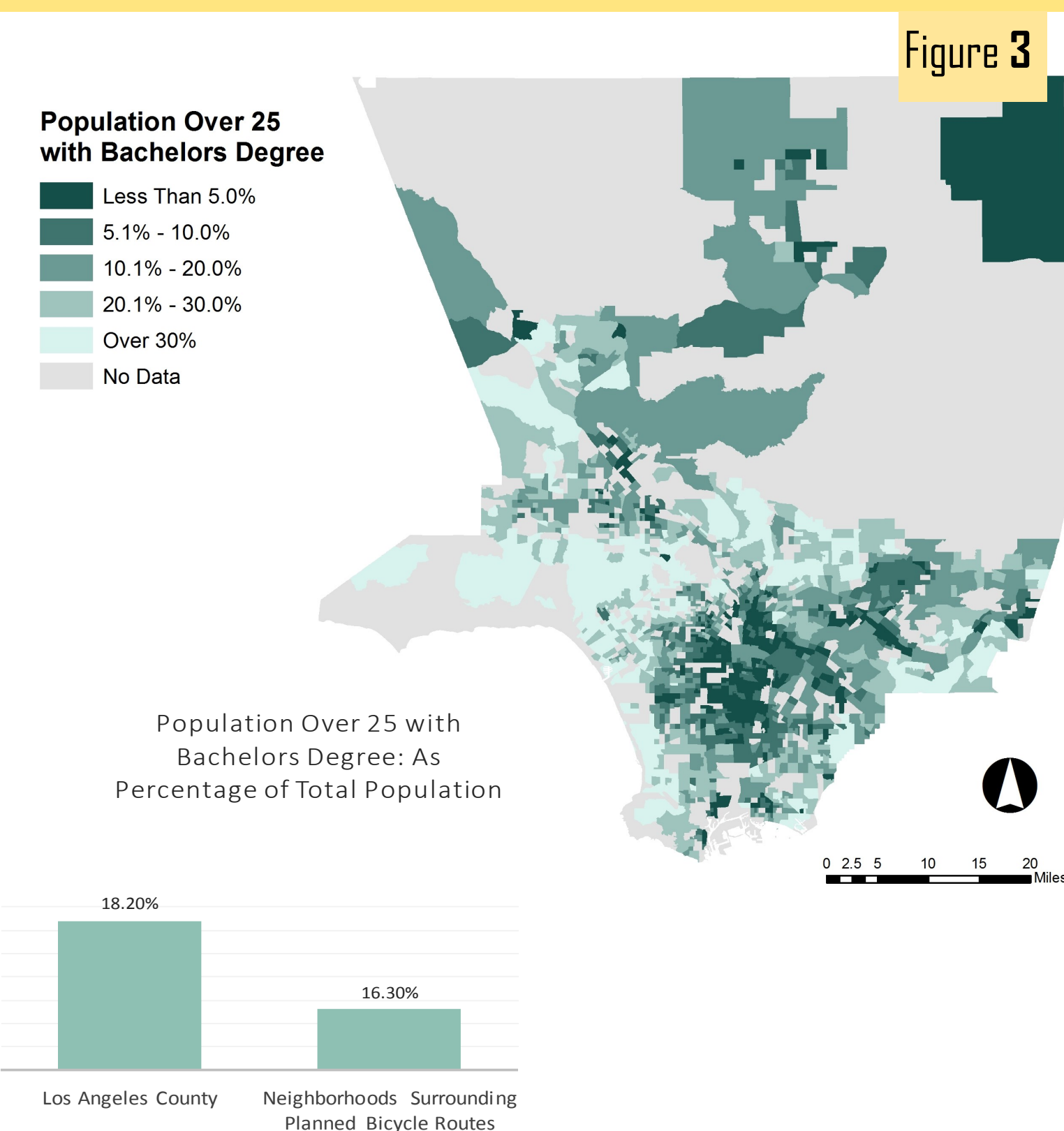
Projection of all maps: NAD 1983 StatePlane California V FIPS 0405

Data Sources: Demographic data was obtained from the US Census Bureau American Factfinder website, and represents 5-year averages from 2006-2011 versions of the American Communities Survey.

The location of the Los Angeles County Bicycle Master Plan was obtained from the Los Angeles County GIS Portal.

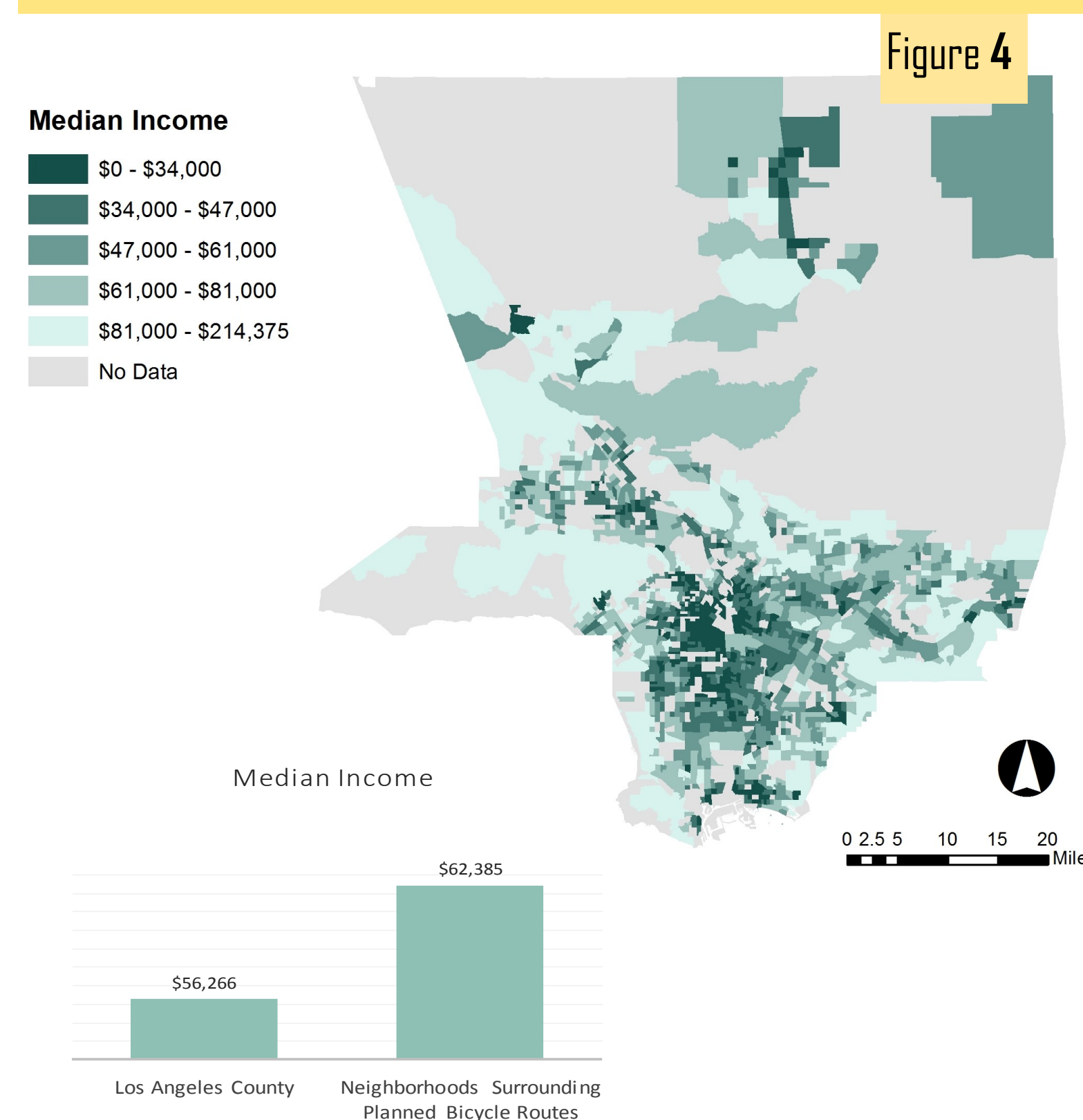
State and County outline maps were obtained from the Tufts University M Drive.

## Education



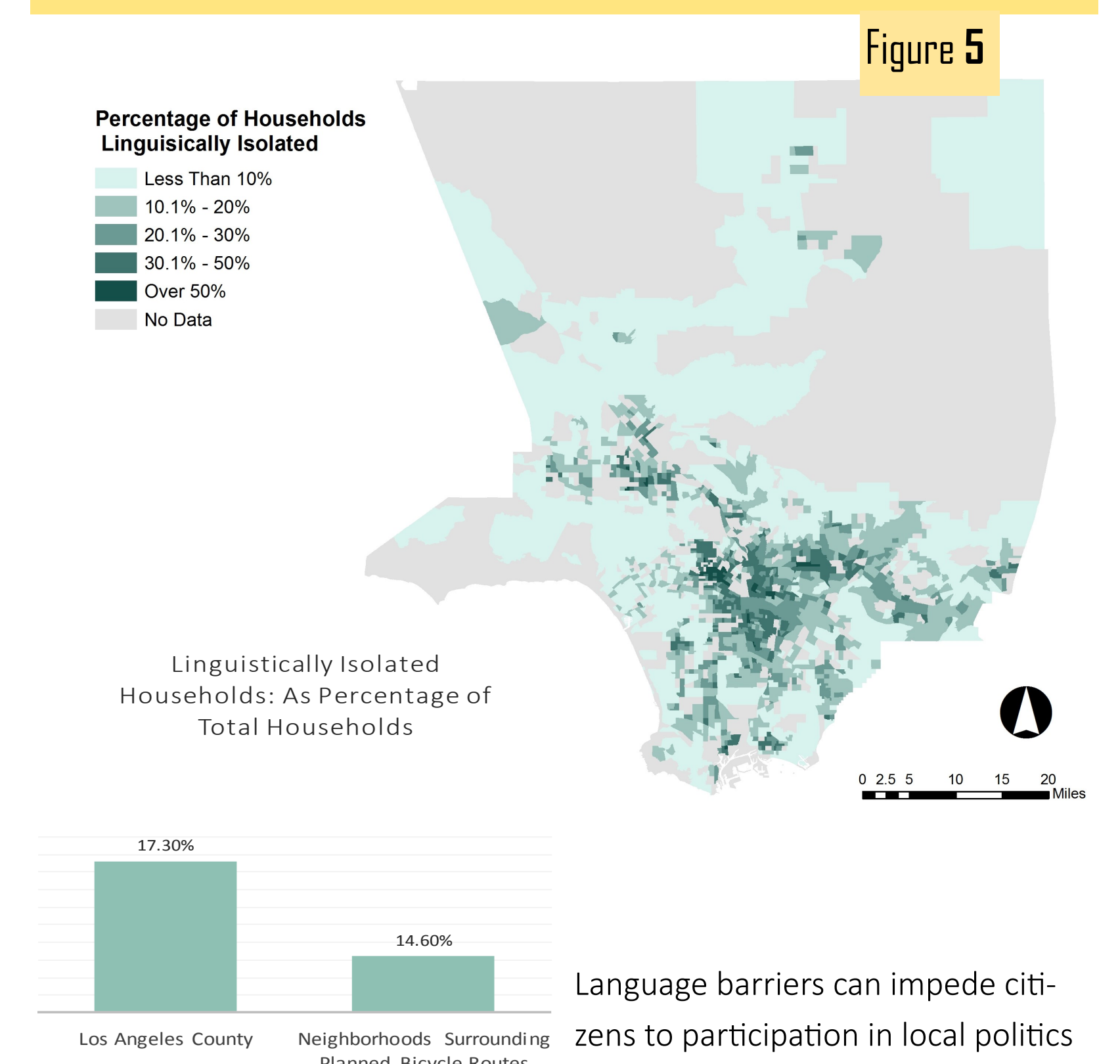
Educational attainment is a useful demographic trait to analyze in conjunction with income level. While a 25 year old college graduate may technically be living below the poverty line, this person is much less vulnerable socially and economically than a 45 year old with three children who has never attended college. By tracking the prevalence of Bachelors Degrees in Los Angeles County, this study aims to identify types of affluence and/or vulnerability that may not be identifiable by income alone.

## Income



A large part of the Los Angeles County Master Bike Plan is dedicated to the discussion of the economic benefits of biking for individual transportation. It is only appropriate that the location of biking infrastructure be coordinated to benefit those people who will gain the most from a reduced cost of living. Median Income data can help indicate which census tracts contain the most and least affluent populations.

## Language



Language barriers can impede citizens to participation in local politics and planning, hindering access to public and private resources, education, and employment. Negative effects of a language barrier are considered especially severe when an entire household has limited English proficiency. The American Communities Survey uses the classification, "linguistically isolated," to describe households where no one over the age of 14 is proficient in English. Linguistic isolation data was included in this study to identify populations that may be underrepresented in local planning decisions, or have difficulty obtaining drivers licenses or finding employment and therefore be especially benefitted by safe biking infrastructure in their neighborhoods.