

## Methodological Note

### Human Development

Human development is about what people can do and be. It is formally defined as the process of improving people's well-being and expanding their freedoms and opportunities. The human development approach emphasizes the everyday experiences of ordinary people, encompassing the range of factors that shape their opportunities and enable them to live lives of value and choice. People with high levels of human development can invest in themselves and their families and live to their full potential; those without find many doors shut and many choices and opportunities out of reach.

The human development concept was developed by the late economist Mahbub ul Haq. In his work at the World Bank in the 1970s, and later as minister of finance in his own country of Pakistan, Dr. Haq argued that existing measures of human progress failed to account for the true purpose of development—to improve people's lives. In particular, he believed that the commonly used measure of gross domestic product failed to adequately measure well-being. Working with Nobel laureate Amartya Sen and other gifted economists, Dr. Haq published the first Human Development Report, commissioned by the United Nations Development Programme, in 1990.

### The American Human Development Index

The human development approach is extremely broad, encompassing the wide range of economic, social, political, psychological, environmental, and cultural factors that expand or restrict people's

opportunities and freedoms. But the American Human Development (HD) Index is comparatively narrow, a composite measure that combines a limited number of indicators into a single number. The HD Index is an easily understood numerical measure that reflects what most people believe are the very basic ingredients of human well-being: health, education, and income. The value of the HD Index varies between 0 and 10, with a score close to 0 indicating a greater distance from the maximum possible that can be achieved on the aggregate factors that make up the index.

### Data Sources

Most residents of Los Angeles County live in one of eighty-eight incorporated cities, ranging in population size from around four million residents in the City of LA to fewer than one hundred inhabitants in Vernon City. Together these cities account for nearly 90 percent of the county's total population. The vast majority of the remaining roughly one million residents live in fifty-three census-designated places in unincorporated areas of the county.

The analysis in this report includes life expectancy estimates for seventy-eight of the eighty-eight cities and for twenty-eight unincorporated census-designated places. The remaining cities and unincorporated places are not included in the analysis due to their small population sizes and the resulting lack of data necessary for reliable life expectancy estimates. Together, the included cities and unincorporated places account for 97 percent of the county's total population. The cities and unincorporated areas not included in this analysis because their population sizes were too small for

reliable calculations are listed below.

There is further breakdown of the City of LA into the thirty-five community plan areas, designated by the City of LA Department of City Planning.

The American Human Development Index for Los Angeles County was calculated using two main datasets: mortality data from the California Department of Public Health and education, earnings, and population data from the US Census Bureau. The American Community Survey (ACS), a product of the US Census Bureau, is an ongoing survey that collects data from a representative percentage of the population every year using standard sampling methods.

For places with large populations, such as Los Angeles County, the Census Bureau publishes one-year estimates; hence all figures for the total population of Los Angeles County in this report are calculated using one-year data from 2015, the most recent survey available at the time of writing. For smaller populations within the county, such as Asian subgroups, and less populous places such as incorporated cities in Los Angeles County and City of LA council districts, one-year estimates are often either unreliable due to small population sizes or simply not available. Therefore, multiyear 2011–2015 ACS estimates are used for smaller populations and less populous geographical areas. Please see the source notes below all tables in *A Portrait of LA County* for the exact year or years of data presented.

Los Angeles County boasts one of the largest immigrant populations in the US. The ACS contains responses from both documented and undocumented individuals but does not require respondents to indicate their immigration status. Nevertheless, undocumented immigrants are harder to accurately count than documented immigrants for various reasons. They are less likely to speak English, they may be reluctant to disclose information to strangers, and they are more likely to live in temporary housing. Estimating the size of the undocumented population is challenging and there are many

different approaches to this calculation. Using one methodology developed by the Pew Research Center,<sup>1</sup> we estimate that in Los Angeles County, the undocumented population comprises about 25 percent of the total county foreign-born population, or approximately 879,000 people. This number comes close to an estimate from the Public Policy Institute of California, which estimated there were approximately 814,000 undocumented residents in 2013.<sup>2</sup> This is not to say that over 800,000 people are missing from the analysis contained in this report, but rather that a small percentage, an estimated 5 to 7 percent of this population, may be undercounted. Therefore, as with any data drawn from surveys, there is some degree of sampling and non-sampling error inherent in data from the Census Bureau's annual ACS. Not all differences between estimates for two places or groups may reflect a true difference between those places or groups. Comparisons between similar values on any indicator should be made with caution since these differences may not be statistically significant.



#### **HEALTH: A long and healthy life is measured using life expectancy at birth.**

Life expectancy at birth was calculated by Measure of America using data from the California Department of Public Health, Health Information and Research Section, Death Statistical Master File from 2010–2014 and population data from the US Census Bureau and the CDC WONDER Bridged-Race Population Estimates from 2010–2014. Population data for LA city council districts and community plan areas are custom tabulations obtained from the American Community Survey prepared by special arrangement with the US Census Bureau for this report.

Deaths were matched to census-designated places, public use microdata areas, LA city council districts, and LA community plan areas using the decedent's zip code of residence, the most complete subcounty geographic identifier included in the

Death Statistical Master File. Population-weighted correspondence files matching zip codes to the geographic units used in this report were generated by Measure of America in-house and using the MABLE/Geocorr14: Geographic Correspondence Engine. Deaths of unknown age were allocated to age groups proportionally based on the known distribution of deaths by age group within each population. Life expectancy was calculated using abridged life tables utilizing the Chiang methodology.<sup>3</sup> These abridged life tables aggregate death numerators and population denominators into age groups, rather than using single year of age as in complete life tables. The groups aggregate into ages under 1, 1–4, 5–9, 10–14.....80–84, and 85 and older. The upper age band is capped at 85 and over.

Age-specific mortality rates are used within the life table to calculate the probability of a death event at each age interval. These probabilities are then applied to a hypothetical population cohort of newborns (e0). Life expectancy at birth in a geographic area can be defined as an estimate of the average number of years a newborn baby would live if they experienced the particular area’s age-specific mortality rates for that time period throughout their life.

These geographic regions were selected after consultations with local LA community groups, local agencies, and project stakeholders. Geographic areas with fewer than fifty thousand residents over the 2010–2014 period were deemed too small to accurately calculate a life expectancy estimate. The 95 percent confidence interval is used because it is the most widely accepted and is comparable to international standards.



**EDUCATION:** Access to education is measured using two indicators: net school enrollment for the population ages 3 to 24 and degree attainment for the population ages 25 and older (based on the proportions of the adult population that has earned at least a high school

diploma, at least a bachelor’s degree, and a graduate or professional degree). All educational attainment and enrollment figures come from Measure of America analysis of data from the US Census Bureau ACS. Single-year 2015 ACS estimates were used for countywide HD Index calculations except those for Asian and Latino subgroups, which utilize multiyear 2011–2015 estimates. Multiyear 2011–2015 ACS estimates were used for HD Index calculations for incorporated cities and other census-designated places, public use microdata areas, City of LA council districts, and LA community plan areas. Educational attainment and enrollment data for City of LA council districts and LA community plan areas are custom tabulations from the ACS prepared by special arrangement with the US Census Bureau for this report.



**INCOME:** A decent standard of living is measured using the median personal earnings of all workers ages 16 and older.

Median personal earnings data come from the US Census Bureau ACS. Single-year 2015 ACS estimates were used for countywide HD Index calculations except those for Asian and Latino subgroups, which utilize multiyear 2011–2015 estimates. Multiyear 2011–2015 ACS estimates were used for HD Index calculations for incorporated cities and other census-designated places, public use microdata areas, City of LA council districts, and community plan areas. Earnings data for City of LA council districts and community plan areas are custom tabulations from the ACS prepared by special arrangement with the US Census Bureau for this report.

## Calculating the American Human Development Index

The first step in calculating the HD Index is to calculate a subindex for each of the three dimensions separately. This is done in order to transform indicators on different scales—years, dollars,

etc.—into a common scale from 0 to 10. In order to calculate these indices—the health, education, and income indices—minimum and maximum values (goalposts) must be chosen for each underlying indicator. Performance in each dimension is expressed as a value between 0 and 10 by applying the following general formula:

**FORMULA**  

$$\text{Dimension Index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}} \times 10$$

Since all three components range from 0 to 10, the HD Index, in which all three indices are weighted equally, also varies from 0 to 10, with 10 representing the highest level of human development.

The goalposts were determined based on the range of the indicator observed in all possible groupings in the United States, taking into account possible increases and decreases for years to come. The goalposts for the four principal indicators that make up the American Human Development Index are shown in the table below. To ensure that the HD Index is comparable over time, the health and education indicator goalposts do not change from year to year while the income goalposts are only adjusted for inflation using the CPI-U-RS from the Bureau of Labor Statistics. Because earnings data and the earnings goalposts are presented in dollars of the same year, these goalposts reflect a constant amount of purchasing power regardless of the year, making Income Index results comparable over time. In rare cases where an estimate for a population group or geographic area falls above or below the set goalpost for that indicator, a maximum value of 10 or a minimum value of 0 is imputed for the purposes of calculating the HD Index.

INDICATOR	Maximum value	Minimum value
Life expectancy at birth	90 years	66 years
Educational attainment score	2.0	0.5
Combined net enrollment ratio	95%	60%
Median personal earnings*	\$15,777	\$66,751

\*Earnings goalposts were originally set at \$13,000 and \$55,000 in 2005 dollars.

### EXAMPLE

#### Calculating the HD Index for LA County



##### HEALTH Index

Life expectancy at birth for Los Angeles County is 82.15 years. The Health Index is then:

$$\text{Health Index} = \frac{82.15 - 66}{90 - 66} \times 10 = 6.73$$



##### EDUCATION Index

In 2015, 78.13 percent of Los Angeles County’s residents 25 years and older had at least a high school diploma, 30.91 percent had at least a bachelor’s degree, and 10.76 percent had a graduate or professional degree. Therefore, the Educational Attainment Score is 0.7813 + 0.3091 + 0.1076 = 1.198. The Educational Attainment Index is then:

$$\text{Educational Attainment Index} = \frac{1.198 - 0.5}{2.0 - 0.5} \times 10 = 4.65$$

School enrollment (net enrollment ratio) was 79.48 percent, so the Enrollment Index is:

$$\text{Enrollment Index} = \frac{79.48 - 60}{95 - 60} \times 10 = 5.57$$

The Educational Attainment Index and the Enrollment Index are then combined to obtain the Education Index. The Education Index gives a 2/3 weight to the Educational Attainment Index and a 1/3 weight to the Enrollment Index to reflect the relative ease of enrolling students in school as compared with the relative difficulty of completing a meaningful course of education (signified by the attainment of degrees):

$$\text{Education Index} = \frac{2}{3} 4.65 + \frac{1}{3} 5.57 = 4.96$$



##### INCOME Index

Median personal earnings for the typical worker in Los Angeles County in 2015 were \$30,654. The Income Index is then:

$$\text{Income Index} = \frac{\log(30,654) - \log(15,777.62)}{\log(66,751.48) - \log(15,777.62)} \times 10 = 4.60$$



##### HUMAN DEVELOPMENT Index

Once these indices have been calculated, the HD Index is obtained by taking the average of the three indices:

$$\text{HD Index} = \frac{6.73 + 4.96 + 4.60}{3} = 5.43$$

## Geographic and Population Groups Used in This Report

### WITHIN LA COUNTY

The “**Five Los Angeles Counties**” framing is a way to compare different areas within Los Angeles County that share similar HD Index scores. For *A Portrait of LA County*, Measure of America sorted the geographic units for which HD Index scores have been calculated into one of the Five LA Counties using the following thresholds:

- **Glittering Los Angeles:**  
HD Index scores equal to or greater than 9.00
- **Elite Enclave Los Angeles:**  
HD Index scores equal to or greater than 7.00 and less than 9.00
- **Main Street Los Angeles:**  
HD Index scores equal to or greater than 5.00 and less than 7.00
- **Struggling Los Angeles:**  
HD Index scores equal to or greater than 3.00 and less than 5.00
- **Precarious Los Angeles:**  
HD Index scores less than 3.00

The Five LA Counties are also presented as five separate units of analysis in order to permit some exploration of the broad demographic and socioeconomic disparities between people living in communities with different human development outcomes. For this analysis, Measure of America aggregated public use microdata areas (PUMAs; see below for more details) based on their average HD Index scores to identify Elite Enclave, Main Street, Struggling, and Precarious Los Angeles. For Glittering Los Angeles, data for seven cities and unincorporated areas with HD Index scores of 9.0 were used since no PUMA in the county had an HD Index score in this range. Although the populations of these communities are already reflected in the PUMAs sorted into the other four Los Angeles

Counties, this final step allows for a zoom in on demographic and socioeconomic conditions in those few communities within Los Angeles County with exceptionally high HD Index scores. The Five LA Counties represent the average score for that geography; there will always be individuals who are doing better or worse than the HD Index score for that geography—no place is homogenous.

**Incorporated cities and other census-designated places** correspond to city boundaries for the eighty-eight incorporated cities in Los Angeles County, of which the City of Los Angeles is the largest.

Unincorporated areas and other settlements within Los Angeles County comprise the remaining fifty-three census-designated places. Population sizes for these units vary greatly, from fewer than fifty in Vernon to nearly four million in the City of Los Angeles. Due to small population sizes and data irregularities

in some of these places, HD Index calculations are presented for seventy-eight incorporated cities and twenty-eight other places in Los Angeles County, which together account for approximately 97 percent of the population of the county.

The following is a list of cities and unincorporated areas not included in this analysis because the population sizes were too small for reliable calculations:

Acton  
 Agua Dulce  
 Alondra Park  
 Avalon City  
 Bradbury City  
 Charter Oak  
 Desert View Highlands  
 East Pasadena  
 Elizabeth Lake  
 Green Valley  
 Hasley Canyon  
 Hidden Hills City  
 Industry City

Irwindale City  
 La Habra Heights City  
 Ladera Heights  
 Lake Hughes  
 Leona Valley  
 Littlerock  
 Marina del Rey  
 Mayflower Village  
 North El Monte  
 Rolling Hills City  
 Rolling Hills Estates City  
 Rose Hills  
 San Pasqual  
 South Monrovia Island  
 South San Gabriel  
 Topanga  
 Val Verde  
 Vernon City  
 West Athens  
 West Rancho Dominguez  
 Westlake Village City  
 Willowbrook

**Public use microdata areas** or PUMAs are substate geographic units designated by the US Census Bureau. PUMAs have populations of at least one hundred thousand and generally less than two hundred thousand. Los Angeles has a total of sixty-nine PUMAs. PUMAs used in this report were delineated for the 2010 census and were named by the California State Census Data Center.

**Racial and ethnic groups** in this report are based on definitions established by the White House Office of Management and Budget (OMB) and used by the US Census Bureau and other government entities. Since 1997 the OMB has recognized five racial groups and two ethnic categories. The racial groups include Native Americans, Asians, blacks, Native Hawaiians and other Pacific Islanders, and whites. For the US HD Index, the category for Asian includes Native Hawaiians and other Pacific Islanders because the

mortality data from the CDC does not specify beyond Asian. The ethnic categories are Latino and not Latino. People of Latino ethnicity may be of any race. In this report, these racial groups include only non-Latino members of these groups who self-identify with that race group alone and no other. Census data also include some detail on the specific ancestries of the resident population. Detailed race and ancestry data were used to identify members of the largest Asian subgroups and some Latino/Hispanic subgroups in Los Angeles County for the purposes of this report.

### WITHIN THE CITY OF LA

**LA community plan areas** are used by the City of Los Angeles for zoning and transportation planning. There are thirty-seven community plan areas in the City of Los Angeles. Two of these could not be included in this analysis due to very small population sizes: Los Angeles International Airport and the Port of Los Angeles. Populations within the remaining thirty-five range from a high of nearly 290,000 residents in Wilshire to a low of 20,000 in Bel Air–Beverly Crest.

**City of LA council districts** are the constituencies from which the members of the Los Angeles City Council are elected. There are fifteen city council districts in the City of Los Angeles, each of which is home to roughly a quarter of a million people.

## Accounting For Cost-of-Living Differences

There is currently no suitable nationwide measure, official or not, of the cost of living that could be used as a basis for adjusting for differences across regions. The Consumer Price Index (CPI), calculated by the US Bureau of Labor Statistics, helps in understanding changes in the purchasing power of the dollar over time. The CPI is sometimes mistaken for a cost-of-living index, but in fact it is best used as a measure of the change in the cost of a set of goods and services over time in a given place.

The nonprofit membership organization the Council for Community and Economic Research's 2016 Cost of Living Index ranked Los Angeles below the top ten urban areas for the cost of consumer goods and services for professional households in the top income quintile. Orange County, in contrast, ranked fifth among urban areas. Like any summary of a large area, these rankings should be interpreted with caution. This is in part because cost-of-living variations within compact regions, such as states or cities or between neighborhoods in the same urban area, are often more pronounced than variations between states and regions. Further, while the cost of essential goods and services varies across the nation and within distinct regions, these costs are often higher in areas with more community assets and amenities that are conducive to higher levels of well-being and expanded human development. For example, neighborhoods with higher housing costs—the major portion of cost of living—are often places with higher-quality public services such as schools, recreation facilities, and transport systems and safer and cleaner neighborhoods. Thus, to adjust for cost of living would be to explain away some of the factors that the HD Index is measuring.

Measuring differences across region and place is a complex undertaking due to regional differences. For example, the percentage of a budget spent on particular items can vary significantly (e.g., heating in Texas versus Alaska). Regional Price Parities and the Personal Consumption Expenditure price index produced by the Bureau of Economic Analysis are official statistics that can be used to adjust personal income for regional variations in the cost of living. Bureau of Economic Affairs cost-of-living adjustments are possible for all fifty states and Washington, DC, as well as metropolitan areas. Even the Bureau of Economic Affairs figures do not permit analysis of these localized differences in living costs.

## Global Goals Dashboard

**Poverty (% in households with incomes below federal poverty line)** US Census Bureau, American Community Survey, Table S1701, 2015.

**Child Poverty (% of children in households with incomes below 200% of federal poverty line)** CA and Los Angeles: US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015. US: US Census Bureau American Community Survey, Table B17024, 2015.

**SNAP Benefits (% of households based on race of household head)** US Census Bureau, American Community Survey, Table S2201, 2015.

**Low Birth Weight Babies (% based on race of mother)** Kidsdata.org, 2013.

**Life Expectancy at Birth (years)** CA and Los Angeles: Measure of America calculations using California Department of Public Health Death Statistical Master File and US Census Bureau Population Estimates Program, 2010–2014. US: Measure of America calculations using US Centers for Disease Control and Prevention mortality data and population estimates from CDC WONDER, 2014.

**No Health Insurance (% of population)** CA and Los Angeles: US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015. US: US Census Bureau, American Community Survey, Table S2701, 2015.

**Preschool Enrollment (% of 3- and 4-year olds)** CA and Los Angeles: US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015. US: US Census Bureau, American Community Survey, Table S1401, 2015.

**On-Time High School Graduation (% of freshmen who graduate in 4 years)** CA and Los Angeles: California Department of Education, California Longitudinal Pupil Achievement Data System, 2015–2016. US: National Center for Education Statistics, 2014–2015.

**Did Not Complete High School (% of adults 25+)** US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015.

**Completed at Least Bachelor's Degree (% of adults 25+)** US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015.

**Teen Births (births to girls ages 15 to 19 per 1,000 girls)** Kidsdata.org, 2013

**Ratio of Female to Male Median Personal Earnings (\$)** US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015.

**Disconnected Youth (% ages 16 to 24 not in school and not working)** US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015.

**Unemployed (% ages 16 and older)** CA and Los Angeles: US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015. US: US Census Bureau, American Community Survey, Table S2301, 2015.

**Renters Spending 30% or More on Housing (%)** US, CA, and Los Angeles: US Census Bureau, American Community Survey, Table B25070, 2015. Los Angeles racial groups: US Census Bureau American Community Survey Selected Population Tables, Table B25070, 2011–2015.

**Commute 60 Minutes or More One Way (% of workers)** US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015.

**Take Public Transportation, Walk, or Bicycle to Work (% of commuters)** US Census Bureau, American Community Survey, Public Use Microdata Sample, 2015.

**Juvenile Felony Arrests (arrests of youth ages 10 to 17 per 1,000 youth)** CA and Los Angeles: Measure of America calculations using California Department of Justice, OpenJustice Data Portal, Arrests, 2015 and ACS, 2015. US: Measure of America calculations using US Department of Justice Office of Juvenile Justice and Delinquency Prevention, Statistical Briefing Book, Juvenile Arrest Rates by Offense, Sex, and Race, 2015 and ACS, 2015.

**Jail (average daily population per 100,000 adults 16 and older based on last known residence)** Vera Institute of Justice, 2014.

**Homicide Victims (per 100,000 residents)** CA and Los Angeles: California Department of Justice, OpenJustice, 2014. US: FBI Uniform Crime Reporting Statistics, 2014. Los Angeles race and gender groups: *LA Times* Homicide Report, 2014 and ACS, 2014.