Methodological Notes

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 zero indicating a greater distance from the maximum possible that can be achieved on the aggregate factors that make up the index.

Data Sources

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

Between 2008 and 2012, the time period of data used in this report, a sample of 33,718 people participated in the ACS from Sonoma County, about 7 percent of all residents. The Census Bureau does not publish response rates to the ACS for individual counties but in California overall response rates were at least 97.5 percent for the population in housing units and at or above 93.8 percent for the group quarters population each year of the survey.

For larger geographies, such as states and counties, the Census Bureau publishes one-year population estimates; hence any data on Sonoma County and California contained in this report are calculated using the most recent available data, 2012. However, for smaller geographies, such as census tracts, one-year estimates are not available due to small population sizes. In this report, all data for census tracts from the American Community Survey are from 2008–2012.

As with any data drawn from surveys, there is some degree of sampling and nonsampling error inherent in data from the ACS. Thus, 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. Direct comparisons between estimates that are not statistically significant at a 90 percent confidence level have been noted in the text.

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, Death Statistical Master File from 2005 to 2011 and population data from the U.S. Census Bureau. Life expectancy is calculated by Measure of America using abridged life tables based on the Chiang methodology.[130]

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 25 years and older (based on the proportion of the adult population that has earned a high school diploma, a bachelor's degree, and a graduate or professional degree). All educational attainment and enrollment figures come from Measure of America analysis of the U.S. Census Bureau, American Community Survey. Five-year estimates spanning 2008–2012 were used for census tracts, and single-year 2012 estimates were used for county and state estimates.

Income

A decent standard of living is measured using the median personal earnings of all workers with earnings ages 16 and older. Median personal earnings come from the U.S. Census Bureau, American Community Survey. Five-year estimates spanning 2008–2012 were used for census tracts, and single-year 2012 estimates were used for county and state estimates.

Calculating the American Human Development Index

Before the composite HD Index itself is created, an index is created for each of the three dimensions. This is done in order to transform indicators on different scales—dollars, years, 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:

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

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 on 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. In order to make the HD Index comparable across place, the same goalposts are used in every application of the index. 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. 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.

	MAXIMUM VALUE	MINIMUM VALUE
Life expectancy at birth (years)	90 years	66 years
Educational attainment score	2.0	0.5
Combined net enrollment ratio (%)	95	60
Median personal earnings (2012 dollars)*	$64,687.83	$15,289.85

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

Geographic and Population Groups Used in This Report

Census Tracts in Sonoma County: The ninety-nine census tracts used in this report were defined by the U.S. Census Bureau for the 2010 Census. Each contains an average of 5,000 inhabitants, enabling comparisons of neighborhoods that contain populations of roughly the same size. These tracts encompass all land within the county boundaries, including tribal lands. One additional census tract, numbered 9901, covers Sonoma County's coastal areas and has no inhabitants. In this report, these census-drawn tracts are discussed in the context of Sonoma County's neighborhoods.

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 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, Asian Americans, African Americans, Native Hawaiians and Other Pacific Islanders, and whites. 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.

Accounting for Cost-of-Living Differences

The cost of essential goods and services varies across the nation and within distinct regions. However, these costs are often higher in areas with more community assets and amenities that are conducive to higher levels of well-being and expanding 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. There is also currently no nationwide measure, official or not, of the cost of living that could be used as a basis for adjusting for difference. The Consumer Price Index (CPI), calculated by the U.S. Bureau of Labor Statistics (BLS), 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. Measuring differences across region and place is far more complicated. For example, the percentage of a budget spent on particular items can vary significantly (e.g., air-conditioning in Texas versus Alaska). Collecting timely data on the prices of a wide variety of goods and services in many different localities is also very costly and time consuming. Finally, 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.

Unofficial measures such as the American Chamber of Commerce Research Association (ACCRA) Cost of Living Index are regularly updated and widely cited. However, this index suffers from several serious problems, chiefly that it only takes into consideration the living costs incurred by urban households in the wealthiest fifth of the income distribution. The ACCRA index thus leaves out the middle class, the poor, and residents of rural areas. Correcting these omissions would be a costly and time-consuming exercise that has not, to date, been done.