The Real Cost Measure in California 2019 Methodology

The Real Cost Measure is a poverty measure designed by United Ways of California. Unlike the official poverty measure which does not account for local costs of living, the Real Cost Measure incorporates the costs of housing, food, health care, child care, transportation and other basic needs for a more accurate measure of financial security.

The Real Cost Measure is designed to measure the income that a household needs to meet only its basic needs in a given community. These needs are only the barest “essentials”—food, housing, health care, transportation—and does not include long-term concerns such as making major purchases, saving for college, or preparing for retirement. Many items that most people consider necessities, such as Internet access, are not used to calculate these standards (beyond a small allowance made for miscellaneous expenses). A basic needs budget approach is intuitive and easy for most people to understand, as it is grounded in a household budget composed of things all families must address such as food, housing, transportation, child care, out-of-pocket health expenses, and taxes. A basic needs budget approach also takes into account different costs of living in different communities and conveys a better sense of the hardship for families because it invokes the notion of tradeoffs between competing needs—if you have an inadequate level of income, do you sacrifice on food, gas, or child care?

Assessment of whether people can meet this Measure is based on their self-reported income, which includes earned income as well as public assistance programs such as CalFresh. The Earned Income Tax Credit (EITC), which is discussed later in the document, is not included, nor is any private assistance (such as a gift from a relative).

Struggling to Stay Afloat: The Real Cost Measure in California 2019 is a successor to two previous Real Cost Measure publications: Struggling to Get By: The Real Cost Measure in California 2015 and Struggling to Stay Afloat: The Real Cost Measure in California 2018. United Ways of California, thanks to the adoption of recent technological innovations, is now able to produce Real Cost Measure data sets annually. This public data release includes all of the features of previous Real Cost Measure releases—including an Executive Summary, household budgets, interactive maps, county profiles, and a public data set—except a full-scale report. It is our current plan to release Real Cost Measure data sets annually and produce a traditional report every few years.

Prior to the Real Cost Measure, United Ways of California also supported Overlooked and Undercounted 2009 which was produced in partnership with United Way of the Bay Area and several California United Ways. It is our endeavor to create a robust tool which:

- Speaks to the financial challenges of low-income children and families throughout California;
- Is consistent with United Way’s community impact work on health, education and financial stability;
- Addresses considerations by our advisory committee regarding specific costs of living and taxation;
- Can be updated regularly with minimal effort and readily replicated by partner United Ways across the country and;
The Real Cost Measure has evolved since the 2018 measure, and addresses the reality that the lowest cost food budget was insufficient for California households, and adds payroll taxes to the budget calculation. United Ways of California also partners with Benefit Kitchen to produce our household budgets, and leverages some technical efficiencies to produce a more comprehensive view of budgets. Overlooked and Undercounted 2009 applied the Self-Sufficiency Standard, with data analysis by Dr. Diana Pearce from the Center for Women’s Welfare at the University of Washington, who founded that standard. Both models apply a basic needs budget approach, share many similarities and yield comparable results. The Real Cost Measure focuses on a similarly constrained set of budget choices than the Self-Sufficiency Standard. We chose to build on the Real Cost model in this report for several reasons, including a focus on a streamlined set of households and greater ease in producing reproducing the report regularly over the next several years.

<table>
<thead>
<tr>
<th>Study</th>
<th>Date Released</th>
<th>Primary Data Source</th>
<th>% of Households below Real Cost Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overlooked and Undercounted: Struggling to Make Ends Meet in California 2009</td>
<td>December 2009</td>
<td>2007 American Community Survey Population Estimates (does not include seniors)</td>
<td>31%</td>
</tr>
</tbody>
</table>

The Real Cost Measure Focuses on Households

The Real Cost Measure focuses on households, not individuals, with personal data based on the “head of household” according to the tax returns filed with the Internal Revenue Service. This means that the 2017 finding that 37% of are below the Real Cost Measure does not mean that 37% of all Californians are below the Real Cost Measure, but rather that 37% of households are below the Measure. Similarly, a finding that 23% of whites are below the measure would not refer to all whites, but rather the heads of households themselves. One implication of this is that if a household consists of two adults of different ethnicities, educational levels, or ages (for example), only the characteristic of the head of household would be measured. One should therefore not use these numbers as a perfect proxy for all California residents.
The Real Cost Approach

Be Simple and Be Comprehensive

One goal of the methodology was to create a simple approach that would encompass the most variations in family household, allowing for sensitivity to the high costs of the youngest children which decrease as they become school age and experience less care.

Geography

The Real Cost Measure utilizes various levels of geography, including the calculation of county-level data for household budgets regarding expenses—food, housing, etc.—which is then used to build budgets based on household type for residents of those counties. Using this county-specific data enables substantially more accuracy than would an approach reliant on statewide averages, especially given California’s diversity of regional economies. When county-specific information is unavailable, information from larger geographical areas (a grouping of counties corresponding to census delineations) is used and then adjusted using cost-of-living information for the county in question.

The Real Cost Measure also utilizes public use microdata areas (PUMA's) for demographic analyses. PUMA's are contiguous neighborhood clusters consisting of 100,000 – 200,000 people and are defined at the conclusion of every decennial census. There are currently 265 neighborhood clusters in California. The adoption of public use microdata areas offers us the ability to examine what the Real Cost Measure looks like across and within counties and are generally more statistically reliable than counties and census tracts.

Family Composition

The Real Cost Measure household compositions reflect a wide variety by utilizing the total number of persons in a household, the total adults and total children. The following represents the household compositions used, and represents all household types in California:

<table>
<thead>
<tr>
<th>Number in Household</th>
<th>1 Person</th>
<th>2 Persons</th>
<th>3 Persons</th>
<th>4 Persons... and so on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>1 Adult</td>
<td>2 Adults</td>
<td>3 Adults</td>
<td>4 Adults</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Adult, 1 Child</td>
<td>2 Adults, 1 Child</td>
<td>3 Adults, 1 Child</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Adult, 2 Children</td>
<td>2 Adults, 2 Children</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 Adult, 3 Children</td>
</tr>
</tbody>
</table>

The budgets are based on the numbers of adults and children in each household, and in the following section we explain how adjustments made for the age of the children present. The Real Cost Measure uses individual budgets for households of all configurations (combinations of adults and children); including senior-led households as defined by the Elder Index, this reflects approximately 1,200 household configurations.

Leverage the Best Data Available

We focus on standardized data from scholarly or credible sources, which are updated regularly, are geographic and age-specific as appropriate, and have the potential to be leveraged by additional states.
Elder Index

Because seniors have different budgetary needs and income patterns (for example, they are more likely to have savings but less likely to have earned income than working-age adults), the Real Cost Measure adopts the Elder Economic Security Standard Index (Elder Index) to measure the economic well-being of senior-led households. Researchers at the UCLA Center for Health Policy Research and the Insight Center for Community Economic Development have refined Elder Index for use in California, including county-level data.

As with Real Cost Measure, the Elder Index constructs budgets for different categories of people (in this case single or couple, renter or homeowner) to determine the amount of annual income needed to meet a standard for economic security. The Real Cost Measure uses the Elder Index standards developed for each county, and is available online. In consultation with UCLA and using the Consumer Price Index (CPI), the 2013 file is inflated for the 2014 analysis; the 2015 is used as-is for 2015 and adjusted with CPI for the 2016-2017 analysis. The methodology mirrors, but may vary slightly, from the methodology used by UCLA for its own analysis.

As with the Real Cost Measure, this research is based on Census Bureau American Community Survey Public Use Microsystems Areas (PUMAs). While the Census Bureau has individual information on most California counties, some did not meet the 100,000-person measure for data reporting and were combined with other counties to form a PUMA. In those cases, the information is aggregated to develop the county-specific budgets.

UCLA’s Elder Index documents include separate budgets for the city of Los Angeles and for the all of Los Angeles County. In this analysis, we have used the Los Angeles County budget. In addition to senior-led households with one or two adults, in 2018 we updated all years to include one additional elder household type now offered by UCLA: where the head of household is a senior, but adult children are living in the home. This increased the percentage of total households in California included by 5%. Our computation of elder economic insecurity will vary from UCLA’s because they include additional household types which we do not include in our report at this time.

Real Cost Budgets: Methodology, Assumptions and Sources

A primary objective of the Real Cost Measure is to be consistent, accurate and precise. One corollary of this is to avoid “false precision.” The construction of the household budgets require scores of methodological choices. While attempting to be as accurate as possible, the authors recognize that there are places where the data does not support precise estimates of costs. The authors have striven in this report not to make unwarranted assumptions in the name of divining perfect budgetary estimates.

General Notes

We created Real Cost Budgets to reflect annual basic needs for households at the county level. Using a variety of institutional and validated data sources, such as Fair Market Rents by the U.S. Department of Urban Development and Consumer Expenditure Survey data by the Bureau of Labor Statistics, the Real Cost Budget calculations include the most basic budget components on which a household could meet living expenses. As the base year for the demographic analysis is 2016, all costs are based on 2016 values or adjusted accordingly.
The report uses approximately 1,200 base budgets, which are determined by the number of adults and the number of children (17 and under) in the household. All adults in one- and two-adult households are assumed to work full-time, which affects calculation of transportation and health costs. If more than two adults are in the household, the additional adults are assumed not to be working and not incur worker-related expenses, but incur other expenses like food.

**Assumptions about Households**

The unit of analysis for Real Cost Measure and Elder Index is a household. A household is not presumed to be a family, but are presumed to be expense sharing. Familial relationships are not considered in applying a budget, only the age of the individual in the house for considering if that individual should be considered as an adult (18+) or a child (17 and under).

The number of working adults has effects in many portions of the budget, beyond the amount of income household members are earning and the taxes (and credit) to which that household is subject. The level of several expenses (such as transportation and child care) are affected by whether (and how many) adults need to commute to work and whether the household has adults available to provide child care.

**Cost Component of Real Cost Measure Budgets**

The housing budget is based on Housing and Urban Development’s Fair Market Rent for each calendar year, which is provided at a county level. The Fair Mark Rent is the 40th percentile of gross rents. The rent includes the sum of the rent paid to the owner plus any utility costs incurred by the tenant. Utilities include electricity, gas, water/sewer, and trash removal services, but not telephone service. If the owner pays for all utilities, then the gross rent equals the rent paid to the owner.

The assignment of number of bedrooms is based on the following assumptions:
- a single adult will live in an efficiency unit (adults and children),
- a bedroom may have one or two adults, and
- a bedroom may have one or two children.

**Child Care**

The child care budget is based on the average annual cost of care for a child in Registered Family Child Care Homes (the least expensive child care option). Data was compiled from the Reimbursement Ceiling for Subsidized Child Care provided by the California Department of Education, and is available online. At the time of research, rates effective January 1, 2017 were available online and those rates were the effective rates for 2017. For prior years, we use rates that were in effect during that census year.

The cost basis for care is determined as follows:
- Full-time, year-round rates are used for infants and toddlers
- Nine months of part-time care (during the school year) and three months of full-time care (summer vacation and other holidays) are assumed for school-age children
- No child care costs are assumed forteenagers

Ages of children are considered as follows:
- Infant: up to 1 year
• Toddler: ages from 1 up to 4 years old
• School Age: from 5 up to and including 12
• Teenager: from 13 up to and including 17

**Food**

Since 2018, our household budgets use the low-cost food plan from among the four plans designed by the United States Department of Agriculture (USDA) to ensure that people can acquire a sufficiently nutritious diet. The Low-Cost food plan, as compared to the less-sustainable Thrifty food plan used in the 2015 report, represents the second quartile of food expenditures according to a survey of consumption patterns and eating habit conducted by the USDA. In other words, the spending of people in the lowest 25%-50% in the survey.

The food budget uses June data from each year, and varies by the age of the child, or if the household member is an adult. All household members are assumed to be male, in order to allow for the maximum potential cost. Additionally, we allow for economies of scale as specified by USDA guidelines – costs are increased by a percentage when there are fewer than four members of the household, and increased when there are more.

As the USDA Food Plans are national figures, the Real Cost Measure utilizes the Grocery Index from the Cost of Living Index published by the Council for Community and Economic Research to adjust figures to a county level. After receiving counsel from our advisory committee, the Real Cost Measure now differentiates food cost estimates for young children from those of older children. We believe this refinement better captures the variation in costs as children grow up in the household.

**Transportation**

The transportation budget is calculated using average annual expenditures for transportation by car and by public transportation from the Bureau of Labor Statistics’ annual Consumer Expenditure Survey (CES) National estimates. Private transportation expenses include gas and other vehicle maintenance expenses, but not lease/car loan payments, or major repairs.

The total annual costs of transportation, less outlays and public transportation is divided by the average earners in the household to give an average per-earner transportation cost. The Real Cost Measure uses this national transportation estimate and adjusts it using the Transportation Index from the Cost of Living Index published by the Council for Community and Economic Research to adjust figures to a county level.

The Real Cost Measure model does not assume that areas with high public transportation use (more than 8% of the population) translates to a budget that reflects low- and moderate-income workers to commute by public transit. Based on two key points, the Real Cost Measure uses private transportation costs for all Californians.

• The difference based on presumed transit patterns shows a negligible difference between the CES private transportation cost estimate and the probable commute cost from a given county. In using public transit estimates, Real Cost Measure (as well as Self Sufficiency Standard) presume a one-county or one-transit system fare. Based on analysis of census data done by the Association of Bay Area Governments, roughly half of Bay Area workers commute across county lines. Utilizing the
511.org Trip Planner, and adjusting for monthly pass purchases, we concluded that the public transportation costs are higher than other reports assume—and approach the costs of private transportation.

<table>
<thead>
<tr>
<th>County</th>
<th>2017 Public Transportation (CES Expenditures adjusted by COLI)</th>
<th>2017 Public Transit (within county)*</th>
<th>2017 Public transit (local + inter-county BART + parking, and adding 2nd local transit)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda</td>
<td>$445</td>
<td>$81</td>
<td>$401 up to $476</td>
</tr>
<tr>
<td>Contra Costa</td>
<td>$438</td>
<td>$60</td>
<td>$412 up to 493</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$439</td>
<td>$75</td>
<td>$353 up to $434</td>
</tr>
</tbody>
</table>

* Fares calculated using web.archive.org from June 2017 for AC Transit, actransit.org, Contra Costa County Connection https://countyconnection.com, and SF Muni sfmta.gov looking at 31-day adult local only passes. Cross county commutes were calculated using 2017 BART fare tables from bart.gov; Alameda: Hayward to Powell/SF; Contra Costa: Concord to Powell/SF; SF: Glen Park to 12th St. Oakland. Monthly fare costs is assumed two rides per day, 5 days per week, 4 weeks per month = 40 rides per month. Parking in 2017 at Hayward and Concord was $3/day.

- The Brookings Institute released a study in 2014 that demonstrated that low income individuals are most likely to commute in private car.\(^3\) While the report does not indicate that the individual necessarily owns the car, it specifically addresses the Bay Area and the high likelihood that a low-income Bay Area individual with income inadequacy will take private transportation to work.

**Health Care**

Health care costs were derived using national 2016 Consumer Expenditure Survey. We divided the household cost established by the CES by average household size and used that to approximate a per-person cost for health care. We then adjusted this per-person cost by the Health Index of the Cost of Living Index published by the Council for Community and Economic Research and tailored them to the county level. All individuals in a county, regardless of age under 65, were assigned the same cost of health care.

The following expenditures were used to derive overall health care costs:

- **Health insurance**—includes traditional fee-for-service health plans, preferred-provider health plans, health maintenance organizations (HMO’s), commercial Medicare supplements, and other health insurance
- **Medical services**—includes hospital room and services, physicians’ services, service by a professional other than a physician, eye and dental care, lab tests and X-rays, medical care in a retirement community, care in convalescent or nursing home, and other medical care services
- **Drugs**—includes vitamins, nonprescription drugs, and prescription drugs
- **Medical supplies**—includes topicals and dressings, antiseptics, bandages, cotton, first aid kits, contraceptives, syringes, ice bags, thermometers, sun lamps, vaporizers, heating pads, medical
appliances (such as braces, canes, crutches, walkers, eyeglasses, and hearing aids), and rental and repair of medical equipment.

In 2018, we considered using the Medical Expenditure Panel Survey (MEPS) and reviewed the comparative cost points to determine if it would be more appropriate for RCM. However, for the reasons cited below, we decided to continue with using the Consumer Expenditure Survey approach.

- The most recent MEPS data, at the time of preparing the report, was 2014, and a direct adjustment would be methodologically challenging given the introduction of the Affordable Care Act.
- The Consumer Expenditure Survey is neutral to source of health insurance. MEPS would have focused only on employer-provided insurance costs, whereas our census analysis indicated that households below RCM are likely to have blended forms of care.
- Also comparing with unsubsidized Covered California Premium costs, which were the highest of costs we compared, the Consumer Expenditure survey, on the face of it, was the middle ground of healthcare costs.

Miscellaneous

To allow for additional expenses not defined in the narrow categories above, the budget includes 10% of the subtotal of all other budget items. In the Real Cost Measure, this amount is added before tax burden is calculated.

Taxes

Taxes are calculated per Internal Revenue Service and California State tax regulations. Single adults are calculated according to individual filers, and all multiple-adult households (regardless of family status) are calculated as joint filers. Although the inclusion of non-married households results in some non-family/non-dependent filers being treated as joint filers, we anticipate the impact to the overall prevalence of households struggling is minimal.

For this public data release, we include payroll taxes as appropriate for state/federal calculations.

Included in the tax calculation are, as appropriate, Child Care and Child Tax Credits. However, Earned Income Tax Credit (EITC) is not included. As the aim of the Real Cost Measure is to present a budget measure at which a household would not qualify for public aid, very few Real Cost Measure household budgets would “qualify” for EITC. Rather than ignore the impact of EITC, we attempted to estimate the monetary impact EITC is likely to have (assuming that EITC is not included in income reported to the ACS).

The income of a household is presumed to exclude EITC, an assumption that is consistent with IRS and PPIC analysis of data. For analysis of impact of EITC, it is done using the adjusted household income figures and calculated according to IRS rules.

Cost of Living Adjustments

The Real Cost Measure utilizes three national-level figures, and adjusts those to a county level by using the 2017 Cost of Living Index (COLI) from the Community Council for Economic Research (C2ER). The county level file was produced for United Ways of California in March of 2016. Erol Yidrim, Senior Vice President at C2ER, advised United Ways of California to use the 2017 index values for the 2016 analysis,
and that no adjustment was needed to cross over the years. An index was not produced for 2016. This approach was similarly used for the 2015 report.

The COLI has specific and different indexes for several areas, and this report specifically uses the Grocery, Transportation and Healthcare Index values.

**Demographic Analysis**

**Single Year Estimates**

The Real Cost Measure uses single year Public Use Micro Area files from the American Community Survey for demographic analysis. Files are released in the fall of each year for the prior year (e.g. 2017 data was released in the fall of 2018).

**Design Factors and Confidence Intervals**

The recommended approach to determining confidence intervals is a design factor approach. Based on analysis comparing many of the cross-tabulations using this method, cell sizes greater than 5,000 produced a confidence interval within +/- 1% of the value. Confidence intervals greater than this will be noted in the text, and/or cell sizes suppressed.

**Excluded Household Types**

This report excludes all group quarters, as well as households led by an individual with a disability. The research team made the following assumptions in conducting the analysis in 2015 and has not updated this analysis.

- The data analysis assumes that all members of household (ACS sample unit) share expenses.
- A “family” budget is actually a household budget, and any adults living in the household are assumed to contribute to shared household expenses; all children are assumed dependent on the adults.
- All income in the household is considered when determining if a household is above or below the Measure, including income from children under 18.
- For the purposes of tax calculations, households are treated as a single tax entity. In previous analysis, we calculated that 4.5% of households have sub-families, though that rate is slightly higher for households below the Real Cost Measure at 7% (and 12-13% for households led by a single man or woman).
- Based on the building budgets and matching households to budgets, the demographic analysis captures 93% of non-group quarters and non-disabled households.

<table>
<thead>
<tr>
<th>Households</th>
<th>Total Households</th>
<th>% of CA Households</th>
<th>% of Capture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majority of Households*</td>
<td>9,547,739</td>
<td>70%</td>
<td>100%</td>
</tr>
<tr>
<td>Head of household is non-senior, not disabled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head of Household is Senior*</td>
<td>2,957,062</td>
<td>22%</td>
<td>57%</td>
</tr>
</tbody>
</table>

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### Geographic Specificity

The lowest unit of analysis for the Public Use Micro Sample data (PUMS) is the neighborhood cluster or Public Use Micro Area (PUMA). The rules for a PUMA boundary require a minimum population of 100,000. In dense urban areas like San Francisco and parts Los Angeles, this allows for sub-county analysis. However, in more dispersed or rural counties, such as the Northern counties or the Sierras, a PUMA may include several counties.

Of California’s 58 counties, 31 have one or many PUMA’s within the county boundaries and can be treated as geographically distinct. Twenty-four counties are aggregated within 7 different PUMA’s, and weighted average budgets are used to analyze those populations. Budgets are weighted based on population size.

### PUMA to County Conversion

All PUMA boundaries utilize the 2010 census and were mapped accordingly.

### Additional Variables Created

The researchers created numerous variables that can be provided in a data dictionary to assist with analyzing the data.

### Households Led by People with Disabilities

United Ways of California controls for households led by persons with disabilities. For further context, please read *Struggling to Stay Afloat: The Real Cost Measure in California 2015*.

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1. To further our analysis of the Self-Sufficiency Standard in Overlooked and Undercounted 2009, the authors of the report ran Self-Sufficiency estimates for 2012 using one-year American Community Survey population estimates. Our analysis concluded 37% of households faced income inadequacy in 2012 using the same methodological method.

2. A study by the University of California’s Institute of Urban and Regional Development found that approximately 30% of such workers would use public transportation in areas in which 7% of the overall population used public transportation. The Real Cost Measure uses the same methodology of the Self-Sufficiency Standard, assuming public transpiration costs for those living in counties in which greater than 7% of the population commutes by public transit. According to the American Community Survey, five California Counties—Alameda (11.4%), Contra Costa (8.9%), Marin (8.5%), San Francisco (32.7%), and San Mateo (8.3%)—met that description.


i N.B. Given methodological differences (i.e. adoption of different American Community Survey population estimates, disaggregation of households and adoption of public use microdata areas and the Elder Index in the Real Cost Measure), the table above is not intended to serve as an “apples to apples” comparison of those struggling to make ends meet. The purpose of the table is to merely illustrate income inadequacy reports supported by United Ways of California.

ii The 2015 to 2018 reports are not directly comparable due to changes in methodology, most notably increasing the food budget for families. We estimate the RCM budgets are on average 6% higher due to the changes, which would yield a rate of 32% below RCM and Elder Index.