Living Wage Benchmark Series

2025 Technical Documentation

Updated February 2025

About the Living Wage Institute

The Living Wage Institute is a benefit corporation founded in 2023, leveraging over 20 years of expertise from the creators of the Living Wage Calculator, a leading public resource for living wage data in the United States. Recognizing that today's employers are ready to design and implement their own living wage strategy, the Living Wage Institute works to equip them with the right data — like the Living Wage Benchmark Series — and insights to unlock better business performance and benefits to workers.

Overview

This technical documentation details the process by which the Living Wage Institute developed the Living Wage Benchmark Series (the Series) for 2025, which features highly localized living wage data across the United States. We leverage the most recent data from a variety of credible sources to calculate costs for eight basic needs plus income and payroll taxes at the county and metro levels, among other geographies, for 12 different family types. Together, these underlying costs help estimate the employment earnings — or the **living wage** — that a full-time worker requires on an hourly basis to cover the costs of their family's basic needs where they live while still being self-sufficient.

While there may be year-over-year variation in data sources and methods, the process for estimating a living wage broadly includes five core steps concerning: (1) Geographies, (2) Families, (3) Cost Components, (4) Calculation, and (5) Aggregation.

Geographies

Many labor market factors — like state and local taxes, market supply and demand, competition, logistics, shipping, seasons, microclimates, and climate risks — can impact the local costs of goods and services. In the United States, this localized variation is a key driver of communities' cost of living, and therefore, living wages. That's why the Series includes living wage estimates for all **3,143 counties and county equivalents** in the United States.

Counties — or their equivalents like Parishes in Louisiana or Boroughs in Alaska — are legal/administrative entities within each state for which the U.S. Census Bureau collects boundary information and tabulates data. The Census Bureau's county delineation file, which was last updated in 2020, serves as the base unit of geography for all our estimates. To remain compatible with the other underlying datasets used to estimate a living wage, we do not use the newest county equivalent delineations for Connecticut, which only were fully integrated into Census Bureau datasets at the beginning of 2024.

Family types

In addition to counties, the Series is also segmented by **12 common family types** to account for the effect that family size has on the cost of basic needs. The family types are composed of varying numbers of working adults, non-working adults, and children, ranging from a single working adult with no children to two adults, one working, with three children. Because some costs — like food, childcare, and income and payroll taxes — vary depending on lifecycle stage, we make some general assumptions about each individual's age, too: The first child is 4; the second is 9; and the third is 15.

Cost components

For each family type across all 3,143 counties, we collect data on the cost of *basic needs* next. While there are many different interpretations of what should be included in the list of basic needs, the Series takes inspiration from the first two tiers of Maslow's hierarchy (Physiological needs and Safety needs) to identify eight needs that, when met, offer a minimum but adequate standard of living without reliance on public assistance. Together, eight basic needs – childcare, civic engagement, food, health care, housing, internet and mobile, transportation, and other necessities — make up the underlying cost components of the living wage. In the sections below, we describe the data sources, assumptions, and methods used to construct each of the eight cost components.

Childcare

Data on the cost of childcare primarily comes from the Department of Labor Women's Bureau's National Database of Childcare Prices, which includes county-level price data from state-run market rate surveys for childcare between 2008 and 2022. Though this data is available for the vast majority of counties in the United States, there are some areas with a high degree of missing data. We fill these gaps with state-level data from Child Care Aware of America's 2022 annual price of childcare report. To vary the Child Care Aware state data down to the county-level, we multiply them by a population-weighted index based on gross median rent data from the 2023 American Community Survey (5-Year Estimates).

Both the Women's Bureau and Child Care Aware datasets feature price data disaggregated by care types and age groups. Since there is limited data available on utilization rates of center- and home-based care in urban versus rural counties, we build our childcare cost estimates on the price of the center-based care type alone. We further assume the first child uses toddler care, the second uses preschool care, and the third child uses before/after school and two full-time months of summer care in families where both adults are working. This intentionally deviates from our standard age assumptions established earlier because childcare prices often underestimate the actual incurred *cost* of childcare to parents. We offset this potential underprediction by using the cost of childcare for younger children, which tends to be higher. In families where only one adult is working, we assume the other non-working adult is shouldering all childcare responsibilities at no additional cost.

To ensure that all our final estimates for childcare are comparable to other cost components, we use the Consumer Price Index for all urban consumers for day care and preschool (CPI-U Series SEEB03) to adjust the data to December 2024 dollars.

Civic engagement

Data on the cost of civic engagement — or the ability to participate in your local community — comes from the 2023 Consumer Expenditure Survey. The Consumer Expenditure Survey is a

national household interview and diary survey conducted annually by the U.S. Bureau of Labor Statistics to quantify how consumers spend their money across different categories of goods and services.

The cost of civic engagement specifically is constructed by summing together the Consumer Expenditure Survey's annual expenditure means for audio-visual equipment; education; fees and admission; other entertainment; pets; reading; and toys, hobbies, and playground equipment by both the size and composition of the consumer unit, which functions as a rough proxy for family size. We introduce further geographic variation to these otherwise national-level survey means by multiplying them by an index built from an average of these same goods and services categories by Census region of residence.

To ensure that all our final estimates for civic engagement are comparable to other cost components, we use the Consumer Price Index for all urban consumers for commodities generally (CPI-U Series SAC) to adjust the data to December 2024 dollars.

Food

Data on the cost of food comes from the U.S. Department of Agriculture's Monthly Cost of Food report estimate for June 2024. We specifically use data for the Low-Cost Food Plan, which tallies the national price of food in a market basket containing a nutritious and practical diet made from food purchased at a grocery store and prepared fully at home. Out of the four nutritionally adequate standards defined by the U.S. Department of Agriculture, the Low-Cost Food Plan is the second least expensive.

The report disaggregates monthly costs by age-sex group. To match these age-sex categories to the Series' standard age assumptions, we use the average cost between men and women age 19 to 50 for each adult; the cost of food for children age 4 to 5 for the first child; the cost of food for children age 9 to 11 for the second child; and the average cost between men and women age 14 to 18 for the third child. In a footnote, the U.S. Department of Agriculture also recommends applying a household size adjustment since their costs are calibrated for a household of four: The summed costs for family sizes other than four are further scaled by 1.20 for one person; 1.10 for two people; 1.05 for three people; and 0.95 for five people.

The Series introduces geographic variation using data from Feeding America's 2023 Map the Meal Gap — a public resource that measures food insecurity at the county-level — to account for local differences in food price. The dataset's cost per meal variable multiplies the national average meal cost for food-secure individuals by county-specific market basket prices for items in the U.S. Department of Agriculture's Thrifty Food Plan sourced from Nielsen. We construct an unweighted county-level index from this variable and apply it to our adjusted Low-Cost Food Plan cost estimates. Though Feeding America has released a 2024 update that features data for the new Connecticut planning regions, we continue to leverage the 2023 vintage as the base for the index to ensure compatibility with the previous counties.

To ensure that all our final estimates for food are comparable to other cost components, we annualize them and use the Consumer Price Index for all urban consumers for food (CPI-U Series SAF1) to adjust the data to December 2024 dollars.

Health care

The cost of health care is composed of two subcategories in the Series: (1) premiums associated with employer-sponsored health insurance plans and (2) out-of-pocket medical expenses.

Health insurance premiums

Data on the cost of health insurance premiums comes from the 2023 Medical Expenditure Panel Survey Insurance Component (MEPS-IC). The Agency for Healthcare Research (a subdivision of the U.S. Department of Health and Human Services) and the U.S. Census Bureau fields the MEPS-IC on an annual basis to, in part, collect information about employer-sponsored health insurance from private employers and other entities. We use the MEPS-IC data tool to extract the state-level average employee contribution to health insurance plans among private sector establishments.

The data from MEPS-IC is grouped into three coverage categories that we attribute to different family types. We assume that a single adult with no children uses "single coverage"; two adults with no children use "employee plus one coverage"; and families with any number of children use "family coverage." These broad groupings, however, can result in underestimations of the employee contributions to health insurance premiums for larger family types.

We introduce county-level variation into the data by building an index with the Robert Wood Johnson Foundation and Ideon's HIX Compare. HIX Compare is a public resource that consolidates individual and small group insurance market information across all plan rating areas. These rating areas can be mapped back to counties. Using aggregated quarterly observations for small group silver plans in 2023, we calculate a county-level index within each state for individual and family premiums then apply the individual premium index to the data for single adults with no children and the family premium index to all other family types.

To ensure that all our final estimates for health insurance premiums are comparable to other cost components, we use the Consumer Price Index for all urban consumers for medical care (CPI-U Series SAM) to adjust the data to December 2024 dollars. We do not use the Consumer Price Index for health insurance (CPI-U Series SEME) because it excludes health insurance premiums.

Out-of-pocket medical expenses

Data on the cost of out-of-pocket medical expenses that are not covered by health insurance comes from the Bureau of Labor Statistics' 2023 Consumer Expenditure Survey. The cost of out-of-pocket medical expenses is calculated by adding together the survey's annual expenditure means for drugs, medical services, and medical supplies by both the size and composition of the consumer unit, which functions as a proxy for family size.

Since the Consumer Expenditure Survey medical expenses are at the national-level, we use an index based on the mean health care expenditure per person by Census region retrieved from the 2023 Medical Expenditure Panel Survey Household Component (MEPS-HC) data tool to introduce further geographic variation. Unlike the MEPS-IC, the MEPS-HC surveys households across the United States to, in part, collect data on usage of medical care and the costs incurred from it.

To ensure that all our final estimates for out-of-pocket medical expenses are comparable to other cost components, we use the Consumer Price Index for all urban consumers for medical care commodities (CPI-U Series SAM1) to adjust the data to December 2024 dollars.

Housing

Data on the cost of housing comes from the U.S. Department of Housing and Urban Development's 2025 Fair Market Rents, which features data released in October 2024. Fair Market Rents are estimates of the 40th percentile gross rent — including the cost of shelter, contract rent, and all major utilities sans telephone, cable or satellite, television, and internet services — for standard quality units. The U.S. Department of Housing and Urban Development typically uses these estimates to determine thresholds for federal housing assistance programs.

The Fair Market Rent data is disaggregated by unit size, ranging from zero (single occupancy, studio, or efficiency) to four bedroom apartments. We match these unit sizes to the minimum needs of each family type, assuming that a single adult with no children requires zero bedrooms; two adults with no children require one bedroom; families with one or two children require two bedrooms; and families with three children require three bedrooms.

We take a piecemeal approach to standardizing geographic variation since the Fair Market Rent data is available for Metropolitan Statistical Areas defined by the Office of Management and Budget, metro areas defined by the U.S. Department of Housing and Urban Development (HUD Metro FMR Areas), non-metropolitan counties, and some sub-county entities. For both types of metro areas, we introduce county-level variation by multiplying the rent estimates by a population-weighted county-level index within each metro area based on gross median rent data from the 2023 American Community Survey (5-Year Estimates). We use data for

non-metropolitan counties as reported. And for the sub-county entities, we aggregate the data up to the county-level using a population-weighted mean.

To ensure that all our final estimates for housing are comparable to other cost components, we annualize them and use the Consumer Price Index for all urban consumers for housing (CPI-U Series SAH) to adjust the data to December 2024 dollars.

Internet & mobile

The cost of internet and mobile is composed of two subcategories in the Series: (1) home internet plans and (2) cellular telephone (mobile) service subscriptions. While the U.S. Department of Housing and Urban Development's Fair Market Rent estimates leveraged for the Series' housing cost component account for major tenant-paid utilities, it does not include internet and telephone services, both of which represent an increasing expense to families across the country.

Internet

Data on the cost of home internet plans comes from BroadbandNow's United States County Broadband Statistics for 2020 report released in November 2023. BroadbandNow sources county-level data on the price of lowest-cost monthly plans primarily from the Federal Communications Commission and the U.S. Census Bureau, filling in gaps with proprietary data from Internet Service Providers (ISPs).

Because internet service is a household-wide utility, we assume that all family types pay for only one plan regardless of their size. And though data is available for almost all counties across the United States, because BroadbandNow's dataset pulls from an older county delineation file, we use the state average lowest-cost monthly plan price for a handful of new counties missing data.

To ensure that all our final estimates for internet service are comparable to other cost components, we annualize them and use the Consumer Price Index for all urban consumers for internet services and electronic information providers (CPI-U Series SEEE03) to adjust the data to December 2024 dollars.

Mobile

Data on the cost of cellular telephone (mobile) services comes from the Bureau of Labor Statistics' 2023 Consumer Expenditure Survey.

The cost of mobile service expenses is calculated from the survey's annual expenditure means for cellular phone service by both the size and composition of the consumer unit, assuming that only adults in the family use this utility. We introduce further geographic variation to this

national-level data by multiplying them by an index built from the mean cellular phone service expenditure by Census region of residence.

To ensure that all our final estimates for mobile services are comparable to other cost components, we use the Consumer Price Index for all urban consumers for wireless telephone services (CPI-U Series SEED03) to adjust the data to December 2024 dollars.

Transportation

Data on the cost of transportation comes from the 2019 Housing & Transportation Index (H&T Index), which was most recently updated in 2022. The H&T Index is maintained by the Center for Neighborhood Technology and, in part, includes an estimate for total transportation costs across all counties in the United States built from modeled data on auto ownership, auto use, and transit use.

We specifically use the estimated total transportation costs for a regional moderate household — defined as the typical household earning 80% of the area median income — as a base. To transform the transportation cost from a household figure to an estimate for a single commuter, we attenuate the total cost by the ratio of total workers age 16 and over to total workers age 16 and over who do *not* work from home. This state-level ratio comes from data in the 2023 American Community Survey (5-Year Estimates).

The rebased transportation cost data is then multiplied by a family size-weighted index built from the 2023 Consumer Expenditure Survey annual expenditure means for used cars, gasoline, other vehicle expenses, and public transit by both the size and composition of the consumer unit.

To ensure that all our final estimates for transportation are comparable to other cost components, we use the Consumer Price Index for all urban consumers for transportation (CPI-U Series SAT) to adjust the data to December 2024 dollars.

Other necessities

Data on the cost of other necessities that are not covered by other cost components comes from the Bureau of Labor Statistics' 2023 Consumer Expenditure Survey.

The cost of other necessities is calculated from the survey's annual expenditure means for apparel; household furnishings and equipment; housekeeping supplies; personal care products; and miscellaneous household equipment by both the size and composition of the consumer unit, which functions as a rough proxy for family size. We introduce further geographic variation to these otherwise national-level survey means by multiplying them by an index built from an average of these same goods and services categories by Census region of residence.

To ensure that all our final estimates for other necessities are comparable to other cost components, we use the Consumer Price Index for all urban consumers for commodities generally (CPI-U Series SAC) to adjust the data to December 2024 dollars.

Calculation

The Series computes county-level living wage estimates for all 12 family types, drawing on the data collected for the eight cost components to first simulate the rough effects of income and payroll taxes on the family's budget and then determine the hourly earnings that each working adult would need to earn to meet their basic needs. In the sections below, we describe the steps by which our living wage estimates are calculated.

Sum all cost components

For all 3,143 counties across the 12 family types, we add together all of the cost component estimates, using the following formula:

```
Basic needs budget (after tax) = (Childcare + Civic
engagement + Food + Health care + Housing + Internet &
mobile + Transportation + Other necessities)
```

This sum results in an annual basic needs budget *after* taxes have been paid. It does *not* include the amount a family would also need to withhold from their earnings to be able to cover their tax burden.

Simulate the additional cost of income and payroll taxes

To account for the additional expense associated with income and payroll taxes, the Series leverages the National Bureau of Economic Research's TAXSIM (v35). TAXSIM is a microsimulation program that uses 35 input parameters and information about the federal and state income and payroll tax system to model personal tax liabilities.

For ease of computation, we assume that family types with one adult file as the head of household and those with two adults are married and file jointly. Our standard assumptions for family types further determines the age and number of dependents in the household. The basic needs budget after taxes is used as an input for wages, split equally between the total number of working adults in the family. And the county helps identify the state of residence to apply the appropriate statutory tax rate. We also consider rent paid and child care expenses as part of our inputs. All other input fields are set to zero.

Based on these inputs, the TAXSIM model outputs a rough estimate for federal income tax, state income tax, and the Federal Insurance Contributions Act (FICA) payroll tax liability for each observation in the Series. Since employers cover half of the FICA liability, we only include the portion contributed by the worker, or 7.65% (with 6.2% going to Social Security and 1.45%

going to Medicare). These outputs are factored back into to the basic needs budget after tax, using the following formula:

```
Basic needs budget (before tax) = Basic needs budget (after
tax) + [Basic needs budget (after tax)*(federal income tax
 rate) + Basic needs budget (after tax)*(state income tax
rate) + Basic needs budget (after tax)*(0.5*FICA tax rate)
```

This yields an annual basic needs budget *before* taxes — in other words, the total annual budget a family requires to meet all their basic needs, including taxes.

It's important to note that because the TAXSIM model estimates a family's tax burden based on the sum of the cost components (and not on actual income), our value for the cost of taxes may be an underestimate. For this reason, we use an adjustment factor to slightly increase the TAXSIM outputs. The current version of TAXSIM is tested only through 2023, but in consultation with the National Bureau of Economic Research, we have verified that the beta model for 2024 yields similar results to the tax output for the 2023 tax rates.

Divide by the number of working adults

Next, the annual basic needs budget before taxes is divided by the total number of workers in a given family type, as demonstrated in the formula below:

```
Basic needs budget (before tax) per worker = [Basic needs
     budget (after tax) + [Basic needs budget (after
tax)*(federal income tax rate) + Basic needs budget (after
 tax)*(state income tax rate) + Basic needs budget (after
  tax)*(0.5*FICA tax rate)]] / number of working adults
```

For instance, if a family of four had two adults who both worked, the annual basic needs budget before taxes would be divided by two; however, if that family of four had two adults but only one worked, the annual basic needs budget before taxes would only be divided by one.

Calculate an hourly living wage

To translate what an individual worker must earn on an annual basis to meet their basic needs into an hourly living wage, we divide the annual basic needs budget before taxes by 2,080 hours, which assumes full-time work at 40 hours per week over 52 weeks per year.

```
  Hourly living wage = [[Basic needs budget (after tax) +
[Basic needs budget (after tax)*(federal income tax rate) +
  Basic needs budget (after tax)*(state income tax rate) +
   Basic needs budget (after tax)*(0.5*FICA tax rate)]] /
          number of working adults] / 2,080 hours
```

This results in an hourly living wage estimate for all 3,143 counties across all 12 family types, the core variable of our Living Wage Benchmark Series.

Aggregation

Though our Living Wage Benchmark Series is primarily meant to be used at the county-level, we provide estimates for other geographies using county population estimates from the U.S. Census Bureau's 2023 American Community Survey (5-Year Estimates) to aggregate by a weighted mean.

These county estimates fold up into data for **384 Metropolitan Statistical Areas** (MSAs or metro areas) and **543 Micropolitan Statistical Areas** (μSAs or micro areas). The Office of Management and Budget delineates these *statistical areas*, which collectively make up Core Based Statistical Areas (CBSAs) characterized by counties in a populous urban nucleus surrounded by adjacent counties that also interact with that core. The standards for these delineations were last updated in 2020, with revisions announced in July 2023. As with counties, to prioritize data compatibility, we source our metadata for from the Census Bureau's 2020 CBSA delineation file.

For ease of reporting, we also produce estimates for other geographical units and the **nation** overall:

- **50 states and Washington, D.C.** State metadata comes from the Census Bureau's 2020 state delineation file.
- **9 divisions** and **4 regions.** These regions and their further subdivisions are groupings of states that are maintained by the Census Bureau. The latest metadata for these groupings comes from the 2022 regions and divisions delineation file.

