

Component Methodology Review

Basic Needs Budget Technical Advisory Committee

Patrick Titterton

October 5, 2023



Outline

- Two adult households without children
- Food
- Telecommunications
- Housing
- Transportation
- Clothing and household expenses
- Childcare



Two Adult Households without Children



Two Adult Households without Children

- To identify this population the 2021 5-year American Community Survey microdata available through IPUMS was used.
- Only two adult households without children were used from the sample.
- Households where the householders were over the age of 64 were removed from the sample.
- Households earning more than \$75,000 in combined wages were removed from the sample.
- Households living in group quarters were removed from the sample.
- Variables for marital status and the number of couples present in the household were used to determine which were married or cohabitating and those who were living with another adult who is not a spouse or partner (i.e. roommates).



Two Adult Households without Children

Two Adult Households	
Number Married or Cohabiting	Number Living with a Roomate
25,240	5,076

Average Age	
Married or Cohabiting	Roomates
45.8	38.0

- There are an estimated 25,000 VT married or cohabiting households without children, under the age of 65, and have combined wages below \$75,000.
- Using the same parameters there are approximately 5,100 households with two adults who are not spouses/partners.



Food



Food

- USDA has four levels of food plans for the monthly cost of food at home:
 - Thrifty
 - Low-cost
 - Moderate
 - Liberal
- The food plans are reported nationally.
- The BNB Report has used the moderate food plan since 2007.



Food

Age-sex groups	Weekly cost ²			Monthly cost ²		
	Low-cost plan	Moderate-cost plan	Liberal plan	Low-cost plan	Moderate-cost plan	Liberal plan
Individuals ³						
Child:						
1 year	\$35.90	\$40.80	\$49.30	\$155.60	\$176.90	\$213.50
2-3 years	\$37.90	\$45.50	\$55.20	\$164.20	\$197.20	\$239.10
4-5 years	\$39.20	\$48.40	\$58.40	\$169.70	\$209.50	\$253.00
6-8 years	\$55.50	\$66.40	\$77.50	\$240.40	\$287.70	\$335.80
9-11 years	\$59.10	\$76.20	\$88.90	\$256.20	\$330.30	\$385.10
Male:						
12-13 years	\$69.10	\$85.70	\$100.40	\$299.20	\$371.40	\$435.00
14-18 years	\$70.20	\$87.90	\$101.90	\$304.00	\$380.70	\$441.70
19-50 years	\$69.20	\$86.80	\$105.50	\$299.60	\$376.00	\$457.20
51-70 years	\$65.30	\$81.70	\$97.60	\$282.80	\$354.00	\$423.10
71+ years	\$64.60	\$79.70	\$97.30	\$279.90	\$345.20	\$421.50
Female:						
12-13 years	\$58.90	\$70.30	\$87.10	\$255.00	\$304.60	\$377.20
14-18 years	\$58.90	\$70.20	\$86.80	\$255.00	\$304.10	\$376.20
19-50 years	\$59.90	\$73.30	\$93.60	\$259.60	\$317.60	\$405.40
51-70 years	\$58.60	\$72.50	\$87.00	\$253.90	\$314.30	\$376.80
71+ years	\$58.30	\$71.80	\$85.80	\$252.50	\$311.00	\$372.00

Source: USDA Food and Nutrition Service, <https://fns-prod.azureedge.us/sites/default/files/media/file/CostofFoodJul2023LowModLib.pdf>



Food

- The USDA provides a percentage adjustment depending on family size that account for the economies of sharing.

Family Size Adjustments	
Family Size Adjustments	Percentage Adjustment (%)
1-person	20
2-person	10
3-person	5
4-person	No adjustment

Source: USDA Food and Nutrition Service, <https://fns-prod.azureedge.us/sites/default/files/media/file/CostofFoodJul2023LowModLib.pdf>



Food

- These figures are adjusted for regional variation in the amount of spending on food.
- The 10-year differential between the amount spent for food at home in the Northeast compared to nationally as seen in the Consumer Expenditure Survey (CES).
- Under current methodology USDA budgets were adjusted up by 7.5% in the 2022 BNB Report

Average	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Adjuster
10-year Average	3.4%	6.2%	3.0%	-1.9%	1.9%	7.9%	8.5%	11.8%	17.4%	16.5%	7.5%
5-year Average						7.9%	8.5%	11.8%	17.4%	16.5%	12.4%
3-year Average								11.8%	17.4%	16.5%	15.3%
Single Year										16.5%	16.5%



Food

- The MIT Living Wage Calculator also utilizes USDA food plan data.
- MIT uses the low-cost food plan, while the BNB report uses the moderate food plan.
- MIT also averages the men and women food consumption costs, while for single adult households the BNB report assumes they are female.
- MIT uses regional adjustment factors based on a 2007 USDA report that studied regional price differences.
 - The MIT regional adjustment for the Northeast is +8% while the 2022 BNB report assumed a +7.5% adjustment.
 - JFO updates the regional adjuster for every report while the MIT adjustment does not.



Food

- Is a ten-year average for the regional adjustment still appropriate given the sharp increase over the past few years?
- Is it appropriate to use the food budgets for females ages 19-50 rather than an average of males and females?



Telecommunications



Telecommunications

- This category includes expenses for telephone, cable, internet, cellphone service, or some limited combination of these services.
- JFO uses the CES table 3404 which includes categories for telephone services and Computer Information Services.
- The 2021 CES was used for the 2022 BNB Report and was adjusted for inflation.
- A household income between \$40,000 and \$49,000 is used from this table.

Item	Total one person	Less than \$15,000	\$15,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 and more
Telephone services	828	601	727	828	918	985	1,095	1,153
Residential phone service, VOIP, and phone cards	161	126	217	147	148	123	128	192
Cellular phone service	667	475	510	680	770	861	967	962
Household operations	949	467	855	1,085	1,001	1,101	1,216	1,770



Telecommunications

- JFO applies a weighted average on telecommunication expenses using survey data from the CDC National Center for Health Statistics, Household Telephone Status by State.
 - The survey was last updated in 2020.
- These survey results show that among Vermonters:
 - 68% rely solely on cellular phone.
 - 21% rely solely on landline phones.
 - 10% rely on a combination of the two.
- From the CES, approximately 58% of the Household Operations expenditures is on Internet access.
- https://www.cdc.gov/nchs/data/nhis/earlyrelease/Wireless_state_202212.pdf



Telecommunications

Phone		
Item	\$40,000 to \$49,999	Weight
Telephone services	918	10%
Residential phone service, VOIP, and phone cards	148	21%
Cellular phone service	770	68%
Internet		
Item	\$40,000 to \$49,999	Share Spent on Internet
Household operations	1,001	58%

- Using the survey results from the CDC the weighted average telecommunications expense in Vermont is approximately \$62 monthly per person after accounting for inflation.
- The monthly average spending on internet after adjusting for inflation is approximately \$55.
- For two adult households it is assumed that internet costs are split.



Telecommunications

- Is it still appropriate to consider a mix of cellphone and landline service as shown in the CDC survey?
- Cell reception in the state is not universal, but a growing share of Vermonters are relying solely on cellphones.



Housing



Housing

- The BNB report uses the Fair Market Rents (FMR) survey which is conducted by the U.S. Department of Housing and Urban Development (HUD).
- This survey is conducted annually by county and represent the 40th percentile rents in that county.
- The survey includes rental results for:
 - Efficiency (studios)
 - One-bedroom
 - Two-bedroom
 - Three-bedroom
 - Four- bedroom
- Utilities are included in the HUD data and are estimated to be about 15% of the FMR.



Housing

FY 2023 HUD Fair Market Rents (Monthly)		
County	1 Bedroom (\$)	2 Bedrooms (\$)
Addison	947	1,192
Bennington	886	1,120
Caledonia	845	954
Essex	746	843
Lamoille	880	1,158
Orange	857	1,125
Orleans	844	953
Rutland	911	1,088
Washington	953	1,255
Windham	945	1,150
Windsor	982	1,129
Burlington-South Burlington, VT MSA	1,238	1,615

- The BNB report assumes one-bedroom for single and married households without children and two-bedrooms for all other family configurations
- For urban rental rates, the Burlington MSA's FMR is used, and a population weighted average for the remaining counties is used for rural rents.

BNB 2023 Rent Budgets (Monthly)		
Area	1 Bedroom (\$)	2 Bedroom (\$)
Urban	1,238	1,615
Rural	914	1,121



Housing

- The MIT Living Wage Calculator also utilizes HUD FMR survey data and uses a population weighted average using population estimates.
- MIT assumes a single adult household with no children would rent an efficiency (studio) unit while the BNB report assumes a one-bedroom unit.
 - Other assumptions are the same.



Housing

- Are the current housing assumptions still appropriate?
- Census data points towards married and cohabitating couples making up the majority of two-adult households.
 - Currently, for two adult households with no children the assumption is a 1-bedroom unit.
 - If the report were to assume these households were two non-spouse/partners living together (i.e. roommates) then the assumption would then become a 2-bedroom unit.



Transportation



Transportation

- The BNB calculates transportation expenses in two parts.
 - First is an estimate of vehicle miles drive (VMT) per household.
 - Second is to multiply estimated VMT per household by a mileage rate that includes all fixed and operating costs of vehicle ownership.
- For VMT JFO relies on the National Household Transportation Survey conducted about once every 8 years by the US Department of Transportation.
 - Going forward the frequency will increase to once every 2 years.
- For the mileage rate JFO Uses the IRS mileage rate as the base rate and then uses AAA Driving Costs data to adjust for different mileages.



Transportation

IRS Rate Adjusted by AAA Data

VMT X	Cost Per Mile		
	2022	2020	2018
10,000	62.5	57.5	54.5
11,000	61.4	54.5	52.0
12,000	60.2	51.5	49.5
13,000	59.1	48.4	47.0
14,000	57.9	45.4	44.4
15,000	56.8	42.4	41.9
16,000	56.3	40.9	40.7
17,000	55.8	39.4	39.5
18,000	55.3	37.9	38.3
19,000	54.8	36.4	37.0
20,000	54.3	34.9	35.8

NOTE: Bold is IRS Mileage Rate.

- The IRS mileage rate is assumed for the base VMT of 10,000.
- AAA provides per mile driving costs estimates that vary by how many miles are driven and JFO uses these to adjust the IRS mileage rate.
- Both the IRS and AAA update these rates annually.
- Mileage rates include all operating costs and ownership costs.



Transportation

- The last NHTS was conducted in 2017.
- The NHTS shows survey results for all the family configurations used in the BNB report and provides Vermont specific results.
- The 2017 survey resulted in low response rates for Vermont and some family configurations were not accounted for.
- For the 2022 BNB Report JFO did not use the Vermont VMT figures as shown in the 2017 NHTS and instead used US National results to adjust Vermont total results.



Transportation

- For the 2022 BNB Report JFO did not use the Vermont VMT figures as shown in the 2017 NHTS and instead used US National results to adjust Vermont total results.
- Some family configurations did not receive enough responses to provide a result in the survey and the results are sensitive to outlier respondents.
- Vermont total aggregates all the responses regardless of family configuration, but provides the most robust sample pool.



Transportation

URBAN VMT				
Household Configuration	NHTS 2017 VT Results	NHTS 2017 National Results	Adjuster	Estimated Vermont Results
one adult, no children	8,725	11,860	1.09	9,562
one adult, youngest child 0-5	-	12,283	1.12	9,904
one adult, youngest child 6-15	9,253	13,720	1.26	11,063
one adult, youngest child 16-21	-	8,695	0.80	7,011
2+ adults, no children	9,438	11,871	1.09	9,571
2+ adults, youngest child 0-5	12,190	11,937	1.09	9,625
2+ adults, youngest child 6-15	11,052	12,059	1.10	9,723
2+ adults, youngest child 16-21	5,614	10,103	0.92	8,146
one adult, retired, no children	2,000	6,205	0.57	5,003
2+ adults, retired, no children	8,591	8,623	0.79	6,953
All	8,810	10,927	1.00	8,810

- The VT 2017 NHTS had a low response rate which resulted in unreliable data.
- JFO calculated adjusters to apply to VT total results using the national results by family configuration.



Transportation

2017 NHTS		
Average Annual Vehicle Miles of Travel (VMT) Per Driver		
Vermont Household Life Cycle (Adj. by U.S. total)	Annual VMT / Driver (Mean)	
	Urban	Rural + Urban Clusters
one adult, no children	9,562	13,802
2+ adults, no children	19,143	30,265
one adult, youngest child 0-15	10,649	13,273
2+ adults, youngest child 0-15	19,376	29,237



Transportation

- VTrans has purchased NHTS data in the past and the cost is correlated with how robust the sample size requested is.
- VTrans now uses INRIX which is a roadway analytics program rather than the VMT data from the NHTS.
 - INRIX does not provide the same household behavior profiles.
 - NHTS provided estimated VMT by household configuration and data collection for the next survey began in January 2022 (<https://www.fhwa.dot.gov/policyinformation/nhts.cfm>).



Transportation

- For the 2017 NHTS 13 entities purchased “add-ons” or region-specific sampling.

Add-on Partner	Target Number of Completed Households ¹
Arizona	2,444
California	24,000
Georgia	8,000
Maryland	1,000
New York State	15,851
North Carolina	8,000
South Carolina	6,500
Texas	20,000
Wisconsin	11,000

Add-on Partner	Target Number of Completed Households ¹
Des Moines Area MPO in Iowa	1,200
Indian Nations Council of Governments in Oklahoma	1,000
Iowa Northland Regional Council of Governments in Iowa	1,200
North Central Texas Council of Governments in Texas	2,917

<https://nhts.ornl.gov/assets/2017UsersGuide.pdf>



Transportation

- MIT uses national CES data to estimate spending on operational expenses, financing and insurance costs.
- Their model does not include costs associated with the purchase of a new vehicle which is in line with current JFO methodology.
- This national CES data is then adjusted for regional difference using annual expenditure share reported by region.
- Expenditures are selected by household size rather than as a share of household income.
 - This means they estimate actual spending rather than assign a percentage of income to transportation.



Transportation

- The table below is a snapshot from the 2022 CES table for a two-person household.
- This shows average spending by income on transportation including ownership and operating costs

Table 3424. Consumer units of two people by income before taxes: Average annual expenditures and characteristics, Consumer Expenditure Surveys, 2020-2021

Item	Total two people	Less than \$15,000	\$15,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 to \$99,999	\$100,000 to \$149,999	\$150,000 and more
Number of consumer units (in thousands) a/	43,638	2,779	5,127	4,800	4,216	6,111	7,122	6,851	6,632
Transportation	10,390	6,373	6,461	8,073	8,869	9,952	10,541	12,740	15,569
Vehicle purchases (net outlay)	4,602	2,890	2,645	3,631	3,960	4,570	4,446	5,617	7,091
Cars and trucks, new	2,354	d/ 713	1,127	1,362	1,382	2,246	2,281	2,813	5,031
Cars and trucks, used	2,171	2,041	1,410	2,265	2,527	2,281	2,070	2,739	1,936
Other vehicles	77	d/ 136	d/ 108	d/ 4	d/ 52	d/ 43	d/ 94	d/ 65	d/ 125
Gasoline, other fuels, and motor oil	1,808	1,165	1,309	1,496	1,739	1,798	2,016	2,190	2,122
Other vehicle expenses	3,617	2,150	2,358	2,838	3,032	3,318	3,849	4,434	5,324
Vehicle finance charges	267	145	134	180	221	216	272	401	413
Maintenance and repairs	988	538	645	767	792	856	1,088	1,272	1,442
Vehicle rental, leases, licenses, and other charges	821	452	412	560	572	748	722	1,034	1,593
Vehicle insurance	1,542	1,014	1,165	1,331	1,448	1,498	1,767	1,727	1,875
Public and other transportation	363	168	148	108	138	266	230	499	1,032

Source: Consumer Expenditure Surveys, U.S. Bureau of Labor Statistics, September, 2022



Transportation

- Key points:
 - The 2017 NHTS did provide Vermont specific information, but the survey had low response rates for the state of Vermont.
 - VTrans no longer purchases this survey and the 2024 NHTS is now closed for requests for more robust samples.
 - A more robust sampling of Vermont would require a supplemental fee.
 - The CES while updated annually is not Vermont specific.
 - The CES does can be adjusted to better target Vermont, but ultimately underpinned by national survey data.
 - There are pros and cons to both approaches.



Clothing and Household Expenses



Clothing and Household Expenses

- For the BNB report JFO uses CES tables reported by consumer unit and income before taxes to estimate clothing and household expenses spending.
- These tables report expenses by family size and income level which links spending on these categories more closely to household income and family configurations.
- Because households are assumed to be renters, major appliances and miscellaneous household equipment are subtracted.
- The 2022 report used 2021 CES information and was adjusted for inflation to represent current day dollars.



Clothing and Household Expenses

Household Configuration	CES Table Number	Table Description
Single	Table 3404	One person by income before taxes
Single, 1 Child	Table 3414	Two or more people by income before taxes
Single, 2 Children	Table 3414	Two or more people by income before taxes
2 Adults, no Children	Table 3424	Two people by income before taxes
2 Adults, one wage earner, 2 children	Table 3444	Four people by income before taxes
2 Adults, 2 Children	Table 3444	Four people by income before taxes

- The BNB report uses these tables for each household configuration to best match the family configurations with CES tables.



Clothing and Household Expenses

- Clothing and household expenses are assumed to be the same in urban and rural areas

Clothing and Household Expenses		
Family Configuration	Urban	Rural
Single, no children	155	155
Single, one child	291	291
Single, 2 children	213	213
2 Adults, no children	245	245
2 Adults, one wage earner, 2 children	332	332
2 Adults, 2 children	368	368



Clothing and Household Expenses

- The official Livable Wage is based on a two-adult household with no children.
- The report assumed that this is a married couple which is why table 3424 two people by income is used.
- If the assumption was to change to two roommates to what extent should it be assumed that household expenses are shared?



Childcare



Childcare

- The Vermont Agency of Human Services (AHS), Department for Children and Families (DCF) conducts ongoing market surveys.
- This information childcare rates by age and type of childcare (registered home in licensed center) for each county in Vermont.
- The BNB report averages register home and licensed center care.
- The rates for Chittenden County are used for urban childcare costs and an average of all other counties is used for rural costs.



Childcare

- Assumptions:
 - A family with one child is assumed to be 4.
 - A family with two children is assumed to be ages 4 and 6.
 - 4-year-olds are assumed to require 52 weeks of full-time care.
 - 6-year-olds are assumed to require 15 weeks of full-time care and 37 weeks of part-time care.
 - In a two-adult household with children where only one adult is a wage earner, the other adult is assumed to provide childcare.
 - Prior to Act 76 passed in 2023 none of these families would have qualified for a childcare subsidy.



Childcare

- Previously none of the BNB households were eligible for a state subsidy.
- Act 76 An act relating to childcare, early education, workers' compensation, and unemployment insurance will raise eligibility for CCFAP subsidies to 575% of the federal poverty level by October 1, 2024.
 - JFO will be writing the next report when this happens.



Childcare

- Under the new law each family configuration with children in the BNB report will be eligible to receive CCFAP subsidies.
- Should these subsidies be considered when calculating the BNB? Should they be considered a public good or public assistance?

Basic Needs Budgets			
Household Configuration	Annual Income		
	Urban	Rural	575% of FPL (2023)
Single	\$41,653	\$39,107	N/A
Single, 1 Child	\$73,850	\$64,484	\$113,390
Single, 2 Children	\$95,512	\$82,090	\$142,945
2 Adults, no Children	\$62,863	\$64,681	N/A
2 Adults, one wage earner, 2 children	\$77,860	\$76,360	N/A
2 Adults, 2 Children	\$108,030	\$101,190	\$172,500

