

Cost of Constructing a Home- 2022

February 1, 2023

By: Eric Lynch

Economics & Housing Policy

National Association of Home Builders (NAHB)

Introduction

Over the years, NAHB has periodically conducted “construction cost surveys” to collect information from builders on the various components that go into the sales price of a typical newly-built single-family home. NAHB’s most recent Construction Cost survey (conducted in the Fall of 2022) shows that, on average, 60.8 percent of the sales price is due to construction costs and 17.8 percent to finished lot costs. On average, builder profit is 10.1 percent of the sales price. The following sections describe the methodology of the survey and discuss the results in more detail.

Caveats

The NAHB Construction Cost Survey is designed to show percentage cost breakdowns for a typical home built by a subset of NAHB builders. It is not designed to capture representative characteristics of the average home built during a particular year. Characteristics such as the size or price of homes in the sample may therefore differ significantly from averages reported in the [Census Bureau’s Survey of Construction \(SOC\)](#), which is based on a much larger sample and is designed to produce such averages. Because the NAHB survey does not control for year-to-year differences in the builders or homes in the sample, users should be cautious when comparing results across multiple years and defer to the published SOC data for this purpose when possible.

The survey results published here are national averages; as the survey sample is not large enough for a geographic breakdown. Building practices, the cost of labor, the cost of land, and to some extent the cost of materials can vary from place to place and depend on the nature of the specific home being built. Each category includes all the costs paid by a builder that go into a particular item, including labor costs paid directly by the general contractor, the cost of hiring subcontractors, and the cost of materials, however they are purchased.

Although the survey can provide a broad idea of construction costs for the average new single-family home, it is not a perfect tool for estimating costs for a particular house in a particular location. Companies that provide more specific cost estimating, usually for a fee, include [RSMeans](#) and [Marshall & Swift](#).

Methodology

NAHB's 2022 Construction Cost survey was conducted by emailing a questionnaire to a representative sample of 3,891 home builders. The sample was stratified by the size of the builder (based on the number of 2021 single-family starts) and by region of the country (the sample being proportional to housing starts in each of the four principal Census regions).

Over the years, NAHB has modified the survey and its methodology. In 2009, the survey methodology changed to provide a better, more representative sample of single-family construction across the country. In 2013, NAHB developed a different construction cost breakdown that more closely resembles the steps that builders take when building a home. Prior to 2013, the breakdown had 29 sections. In 2013, NAHB created eight subcategories for each of the major stages of construction, with a total of 36 sections grouped under the appropriate construction stage. The new format simplified data collection, greatly reducing the number of follow-up calls needed to clarify and verify builder responses.

Respondents were asked to provide information about the typical single-family home built by their firms during 2022. After examining the data and performing an outlier analysis, usable responses were received from 49 builders. Table 1 shows the detailed results of the 2022 Construction Cost survey.

**Table 1. SINGLE-FAMILY PRICE AND COST BREAKDOWNS
2022 National Results**

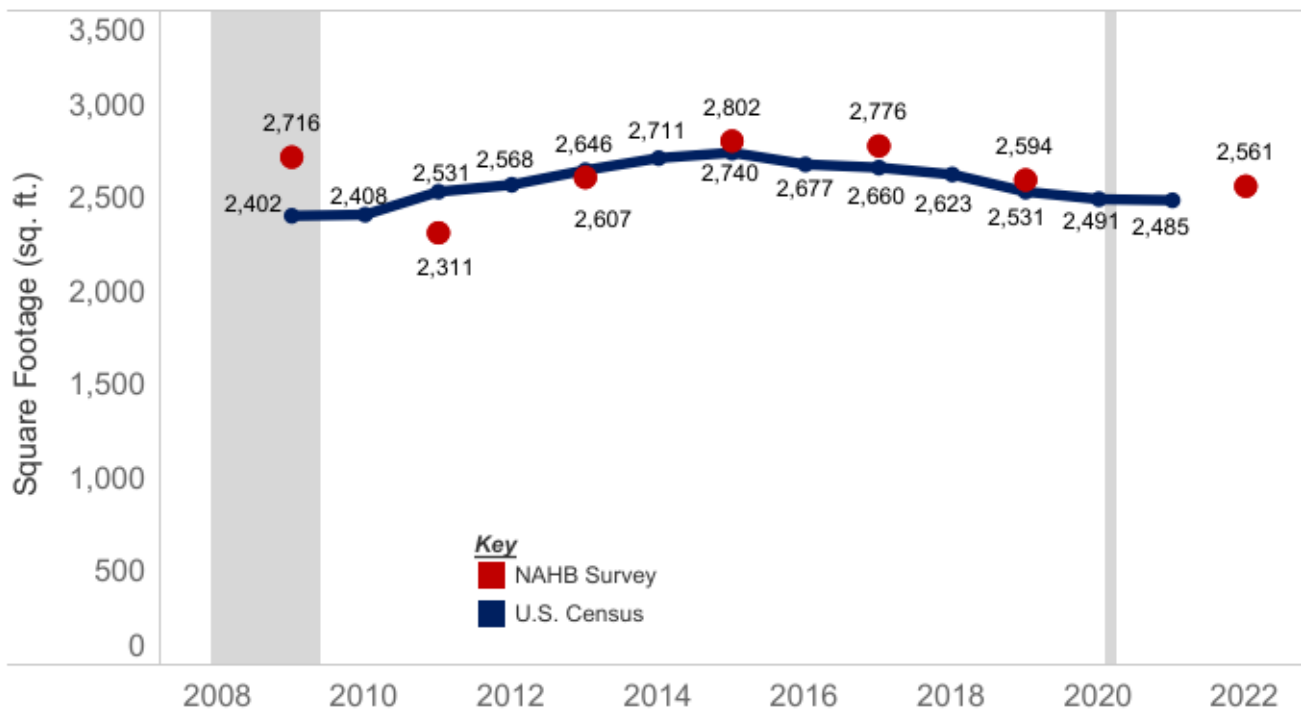
	Average Lot Size:	17,218
	Average Finished Area:	2,561
I. Sale Price Breakdown	Average	Share of Price
A. Finished Lot Cost (including financing cost)	\$114,622	17.8%
B. Total Construction Cost	\$392,241	60.8%
C. Financing Cost	\$12,192	1.9%
D. Overhead and General Expenses	\$32,979	5.1%
E. Marketing Cost	\$4,268	0.7%
F. Sales Commission	\$23,080	3.6%
G. Profit	\$65,369	10.1%
Total Sales Price	\$644,750	100.0%
II. Construction Cost Breakdown	Average	Share of Construction Cost
I. Site Work (sum of A to E)	\$29,193	7.4%
A. Building Permit Fees	\$8,292	2.1%
B. Impact Fee	\$5,208	1.3%
C. Water & Sewer Fees Inspections	\$5,800	1.5%
D. Architecture, Engineering	\$4,724	1.2%
E. Other	\$5,169	1.3%
II. Foundations (sum of F to G)	\$43,086	11.0%
F. Excavation, Foundation, Concrete, Retaining walls, and Backfill	\$39,731	10.1%
G. Other	\$3,355	0.9%
III. Framing (sum of H to L)	\$80,280	20.5%
H. Framing (including roof)	\$60,831	15.5%
I. Trusses (if not included above)	\$11,479	2.9%
J. Sheathing (if not included above)	\$5,383	1.4%
K. General Metal, Steel	\$1,168	0.3%
L. Other	\$1,419	0.4%
IV. Exterior Finishes (sum of M to P)	\$46,108	11.8%
M. Exterior Wall Finish	\$19,746	5.0%
N. Roofing	\$11,496	2.9%
O. Windows and Doors (including garage door)	\$13,158	3.4%
P. Other	\$1,709	0.4%
V. Major Systems Rough-ins (sum of Q to T)	\$70,149	17.9%
Q. Plumbing (except fixtures)	\$22,706	5.8%
R. Electrical (except fixtures)	\$23,892	6.1%
S. HVAC	\$21,845	5.6%
T. Other	\$1,707	0.4%
VI. Interior Finishes (sum of U to AE)	\$94,300	24.0%
U. Insulation	\$6,530	1.7%
V. Drywall	\$13,184	3.4%
W. Interior Trims, Doors, and Mirrors	\$12,727	3.2%
X. Painting	\$8,793	2.2%
Y. Lighting	\$4,502	1.1%
Z. Cabinets, Countertops	\$17,775	4.5%
AA. Appliances	\$6,263	1.6%
AB. Flooring	\$13,019	3.3%
AC. Plumbing Fixtures	\$5,166	1.3%
AD. Fireplace	\$1,608	0.4%
AE. Other	\$4,733	1.2%
VII. Final Steps (sum of AF to AJ)	\$23,065	5.9%
AF. Landscaping	\$9,123	2.3%
AG. Outdoor Structures (deck, patio, porches)	\$2,178	0.6%
AH. Driveway	\$8,775	2.2%
AI. Clean Up	\$2,280	0.6%
AJ. Other	\$709	0.2%
VIII. Other	\$6,059	1.5%
Total	\$392,241	100.0%

Home and Lot Size

The average single-family home size in the 2022 NAHB Construction Cost Survey is 2,561 sq. ft. of finished floor space, the smallest square footage since 2011. Historically, average square footage in the NAHB survey has tended to move in the same direction as in the Census Bureau's series with a lag, and with wider fluctuations, as you would expect from the smaller sample size.

The average home size dropped from 2,716 sq. ft. in 2009 to 2,311 sq. ft. in 2011, as demand eroded after the Great Recession. As the economy recovered, it rose steadily and peaked at 2,802 sq. ft. in 2015. Since then, the average square footage has trended downward, dropping to 2,776 sq. ft. in 2017, 2,594 sq. ft. in 2019, and 2,561 sq. ft. in 2022 (Graph 1). Data from the Census Bureau corroborates this trend: the average size of new homes completed for-sale peaked in 2015 at 2,740 sq. ft., but has declined every year since then. In 2021, the average size fell to 2,485 sq. ft., which is the lowest level since 2010. The smaller square footage in recent years is evidence that builders have shifted toward the production of more entry-level homes to meet demand for more affordable homes.

Graph 1- Size of Single-Family Homes
(in Square Footage)



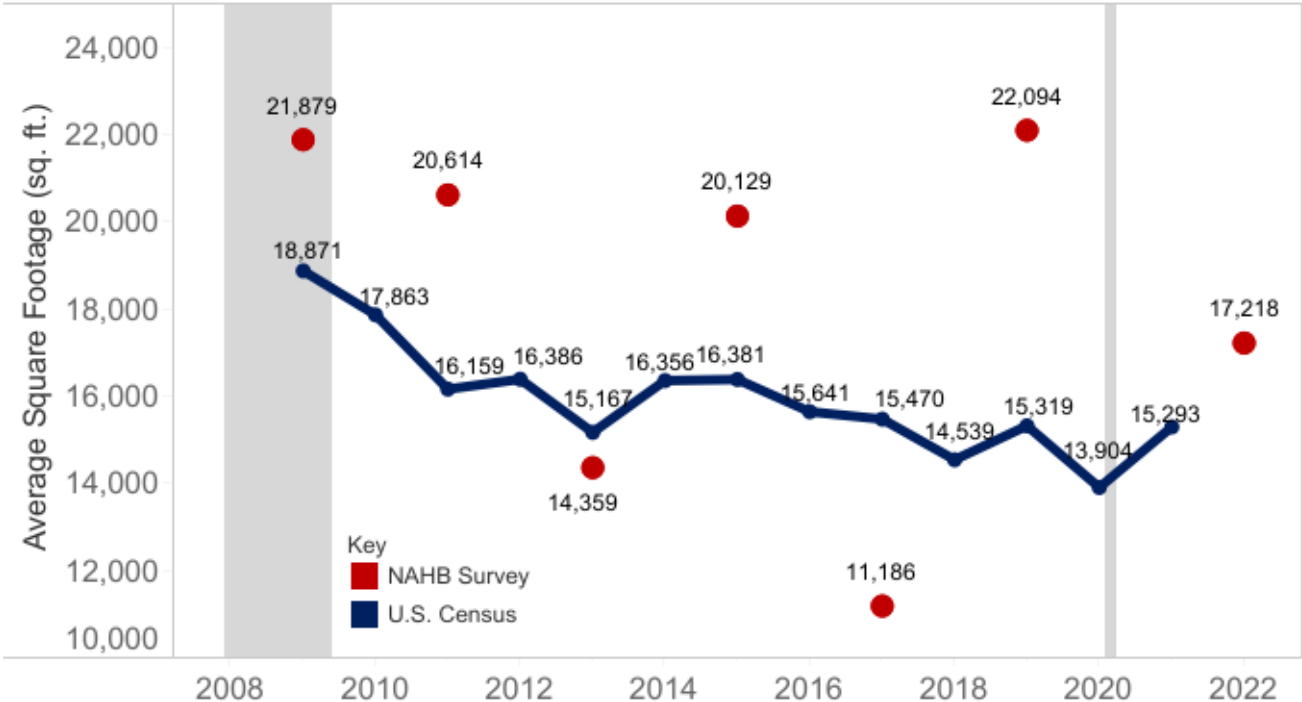
Grey areas represent recession periods as determined by the [National Bureau of Economic Research \(NBER\)](#)
Data Sources: [Survey of Construction- Characteristics of New Housing](#), Construction Cost Surveys
Analysis: NAHB Economics & Housing Policy

The average lot size in the 2022 NAHB Construction Cost Survey is 17,218 sq. ft., or less than a half-acre (1 acre is equivalent to 43,560 sq. ft.). There have been high levels of volatility in average lot size over

the years. It exceeded 20,000 sq. ft. in both 2009 and 2011, , dropped to 14,359 sq. ft. in 2013, rebounded to 20,129 sq. ft. in 2015, but dropped again to 11,186 sq. ft. in 2017 (the smallest lot size since the inception of the survey). In 2019, average lot size jumped up to 22,094 sq. ft., the largest lot size recorded in this series.

In general, lot size in the NAHB survey has tended to move in the same direction as the Census series, but as mentioned previously, with increased volatility from year to year (Graph 2). The Census data show a downward trend in lot size between 2009 and 2013, dropping from an average of 18,871 sq. ft. to a low of 15,167 sq. ft. in 2013. It rebounded to 16,381 sq. ft. in 2015, dropped steadily from 2016 to 2018, before see-sawing during the last three years. In 2021, the average lot size of homes completed for sale was 15,293 sq. ft..

Graph 2- Lot Size of Single-Family Homes
(Average Square Footage)



Grey areas represent recession periods as determined by the [National Bureau of Economic Research \(NBER\)](#)
 Data Sources: [Survey of Construction- Characteristics of New Housing](#), Construction Cost Surveys
 Analysis: NAHB Economics & Housing Policy

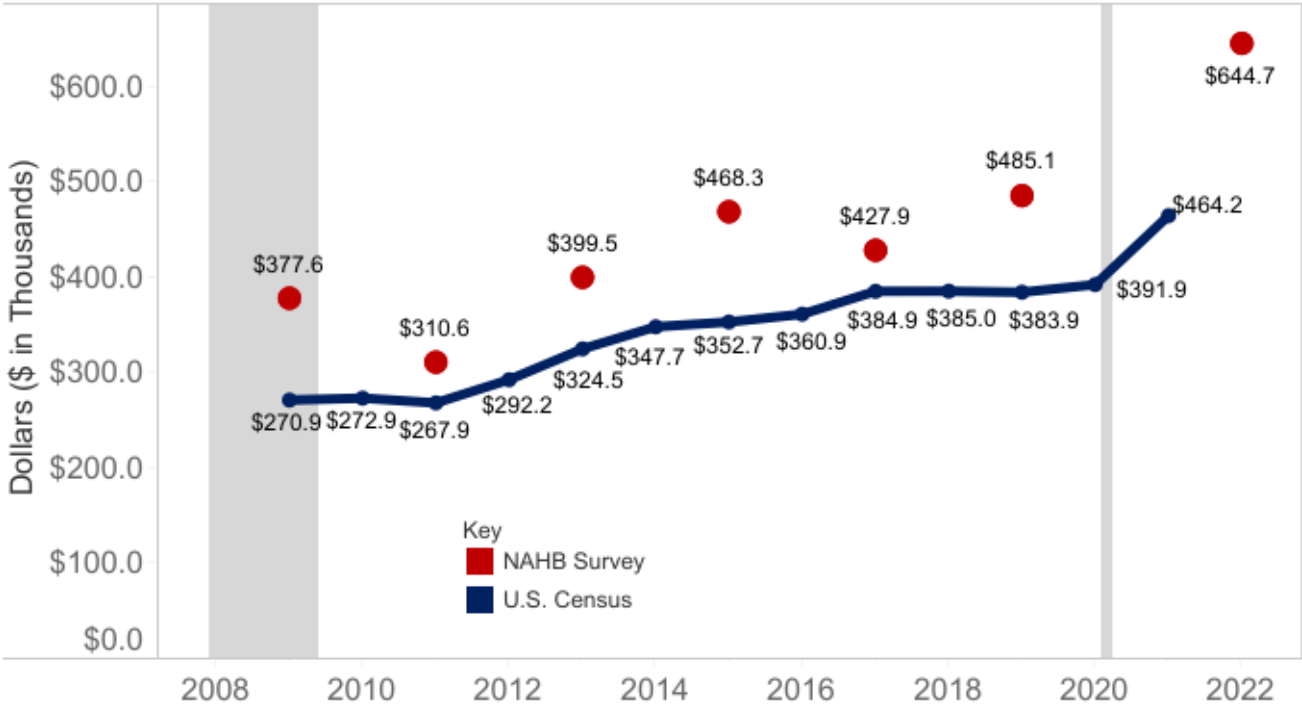
Sales Price

The average single-family home sales price in the 2022 NAHB Construction Cost Survey is \$644,750, the highest average sales price (not adjusted for inflation) in the survey’s history. The Census Bureau’s series shows the average price for new single-family homes sold increasing steadily after the Great Recession,

going from \$267,900 in 2011 to \$385,000 in 2018, dropping slightly in 2019, before rising again in 2020 and 2021 – when it reached \$464,200 (Graph 3). The surge in demand for housing during the COVID-19 pandemic, which exacerbated the [shortage of the current housing supply](#), helps to explain the most recent price increases seen post-2020.

Compared to the Census series, the NAHB survey shows a similar upward trend, but with generally higher prices. The \$644,750 reported by NAHB in 2022 in particular is roughly \$180,000 higher than the latest average price reported by the Census Bureau. Recall that the NAHB survey is not designed to generate a national average home price. For one thing, the NAHB survey does not control for the number of homes a builder builds, which gives more weight to smaller builders who may tend to build higher-priced homes. Timing is also a factor in the spread between the average prices reported by NAHB and the Census Bureau. The NAHB survey was conducted toward the end of 2022. The latest annual average price of \$464,200 available from the Census Bureau is for calendar year 2021. Subsequent monthly data from the Census Bureau show the average price rising to \$543,600 as of November 2022.

Graph 3- Sales Price of Single-Family Sold Homes
(in Thousands of Nominal Dollars)



Grey areas represent recession periods as determined by the [National Bureau of Economic Research \(NBER\)](#)
 Data Sources: [Survey of Construction- Characteristics of New Housing](#), Construction Cost Surveys
 Analysis: NAHB Economics & Housing Policy

Sales Price Breakdown

A key feature of the NAHB survey is that it asks builders to break down the sales price of their homes into seven categories: finished lot cost, total construction cost, financing cost, overhead and general expenses, marketing costs, sales commission, and profit. Table 2 contains historical information on the sales price breakdown of a single-family home. It is important to remind readers to use caution when comparing data across years in Table 2, as trends may be affected by the survey’s sample size limitations and the fact that a different set of builders responds to the survey each time.

On average in the 2022 NAHB survey, 60.8 percent of the final house price was attributable to construction costs, 17.8 percent to the cost of the finished lot, 5.1 percent to overhead and general expenses, 3.6 percent to sales commissions, 1.9 percent to financing costs, 0.7 percent to marketing costs, leaving 10.1 percent for profit (prior to taxes). Since 1998, the long-run average in the pre-tax profit share stands at 9.7%.

No component category experienced a larger than 1 percentage point change between 2019 and 2022. As a share of the average sales price, finished lot cost dropped from 18.5% in 2019 to 17.8% in 2022, followed by total construction cost (61.1% to 60.8%), marketing cost (1.0% to 0.7%), and sales commission (3.7% to 3.6%). Average profit rose from 9.1% in 2019 to 10.1% in 2022, followed by overhead and general expenses (4.9% to 5.1%) and financing cost (1.7% to 1.9%).

Table 2. SINGLE-FAMILY HOMES SALES PRICE BREAKDOWN HISTORY

Sale Price Breakdown	1998	2002	2004	2007	2009	2011	2013	2015	2017	2019	2022
1. Finished Lot Cost	23.6%	23.5%	26.0%	24.5%	20.3%	21.7%	18.6%	18.2%	21.5%	18.5%	17.8%
2. Total Construction Cost	54.8%	50.8%	51.7%	48.1%	58.9%	59.3%	61.7%	61.8%	55.6%	61.1%	60.8%
3. Financing Cost	1.9%	2.1%	1.8%	2.4%	1.7%	2.1%	1.4%	1.3%	1.8%	1.7%	1.9%
4. Overhead and General Expenses	5.7%	5.5%	5.8%	7.0%	5.4%	5.2%	4.3%	5.6%	5.1%	4.9%	5.1%
5. Marketing Cost	1.4%	2.4%	1.9%	2.5%	1.4%	1.5%	1.1%	0.8%	1.2%	1.0%	0.7%
6. Sales Commission	3.4%	3.7%	3.0%	4.3%	3.4%	3.3%	3.6%	3.2%	4.1%	3.7%	3.6%
7. Profit	9.2%	12.0%	9.8%	11.2%	8.9%	6.8%	9.3%	9.0%	10.7%	9.1%	10.1%
8. Total Sales Price (\$)	\$ 226,680	\$ 298,412	\$ 373,349	\$ 454,906	\$ 377,624	\$ 310,619	\$ 399,532	\$ 468,318	\$ 427,892	\$ 485,128	\$ 644,750

Source: NAHB Construction Cost Surveys, 1998-2022

Construction Costs

The average construction cost of a typical single-family home in the 2022 survey is \$392,241 (Table 3), or about \$153 per square foot – the highest in the history of this series. The cost of construction per square foot was \$80 in 2011, \$95 in 2013, \$103 in 2015, \$86 in 2017, and \$114 in 2019.

Of the 8 major stages of construction, interior finishes, at 24.0%, accounts for the largest share of construction costs, followed by framing (20.5%), major system rough-ins (17.9%), exterior finishes (11.8%), foundations (11.0%), site work (7.4 percent), final steps (5.9%), and other costs (1.5 percent) (See Table 3 for a full breakdown).

Major system rough-ins and framing had the largest percentage point increases from 2019 to 2022, rising from 14.7% to 17.9% and from 17.4% to 20.5%, respectively. On the other hand, exterior finishes experienced the largest percentage point decrease from 2019 to 2022, falling from 14.1% to 11.8%.

Of the detailed items (i.e., subcomponents) in the NAHB survey, framing (including roofing), at 15.5%, and excavation, foundation, concrete, retaining walls, and backfill, at 10.1%, had the largest shares of construction costs. Together, these two subcomponents account for just over a quarter (25.6%) of 2022's construction costs, slightly up from the 25.0% they represented in 2019. Based on the latest [analysis](#) of the Producer Price Index (PPI) from NAHB, lumber and ready-mix concrete prices were extremely volatile and experienced high peaks in 2022, which can help to explain these subcomponent increases from the previous year's survey.

Table 3. SINGLE-FAMILY CONSTRUCTION COST BREAKDOWN HISTORY

Construction Cost Breakdown	1998	2002	2004	2007	2009	2011	2013	2015	2017	2019	2022
I. Site Work (sum of A to E)							6.8%	5.6%	6.7%	6.2%	7.4%
A. Building Permit Fees	0.9%	1.3%	0.8%	1.7%	1.9%	1.7%	1.5%	1.2%	1.7%	1.7%	2.1%
B. Impact Fee	1.0%	1.6%	1.1%	1.4%	1.4%	1.5%	1.3%	0.6%	0.9%	1.3%	1.3%
C. Water & Sewer Fees Inspections	1.0%	1.4%	1.2%	1.6%	1.7%	1.6%	1.8%	1.4%	2.0%	1.5%	1.5%
D. Architecture, Engineering							1.5%	1.6%	1.4%	1.5%	1.2%
E. Other							0.7%	0.7%	0.7%	0.2%	1.3%
II. Foundations (sum of F to G)							9.5%	11.6%	10.8%	11.8%	11.0%
F. Excavation, Foundation, Concrete, Retaining walls, and Backfill	9.6%	6.9%	9.9%	7.0%	7.1%	9.3%	9.3%	11.3%	10.7%	11.3%	10.1%
G. Other							0.2%	0.3%	0.1%	0.5%	0.9%
III. Framing (sum of H to L)							19.1%	18.0%	17.3%	17.4%	20.5%
H. Framing (including roof)	20.2%	18.4%	21.3%	15.8%	15.6%	13.5%	14.8%	15.4%	15.0%	13.7%	15.5%
I. Trusses (if not included above)							2.2%	1.3%	1.6%	2.1%	2.9%
J. Sheathing (if not included above)	NA	0.9%	1.4%	1.6%	1.7%	1.2%	0.9%	0.4%	0.3%	1.1%	1.4%
K. General Metal, Steel	1.1%	0.8%	0.3%	0.8%	0.7%	0.5%	0.7%	0.4%	0.3%	0.3%	0.3%
L. Other							0.5%	0.3%	0.1%	0.2%	0.4%
IV. Exterior Finishes (sum of M to P)							14.4%	15.0%	13.9%	14.1%	11.8%
M. Exterior Wall Finish							6.8%	7.2%	6.5%	6.5%	5.0%
N. Roofing	2.6%	2.6%	2.2%	3.2%	3.8%	2.9%	3.2%	3.5%	3.3%	3.4%	2.9%
O. Windows and Doors (including garage door)							4.1%	4.2%	3.9%	4.0%	3.4%
P. Other							0.2%	0.2%	0.3%	0.2%	0.4%
V. Major Systems Rough-ins (sum of Q to T)							13.4%	13.1%	13.8%	14.7%	17.9%
Q. Plumbing (except fixtures)	5.9%	5.4%	5.3%	5.4%	5.3%	6.0%	4.8%	4.3%	4.6%	5.0%	5.8%
R. Electrical (except fixtures)	3.8%	3.3%	3.4%	3.9%	3.7%	4.4%	4.0%	4.2%	4.2%	4.6%	6.1%
S. HVAC	4.1%	4.2%	3.7%	3.9%	4.0%	4.8%	4.5%	4.4%	4.7%	4.8%	5.6%
T. Other							0.1%	0.3%	0.2%	0.3%	0.4%
VI. Interior Finishes (sum of U to AE)							29.3%	29.6%	28.6%	25.4%	24.0%
U. Insulation	1.4%	1.6%	1.4%	1.6%	1.5%	1.8%	1.9%	2.2%	2.2%	1.7%	1.7%
V. Drywall	5.5%	5.3%	4.9%	5.1%	5.1%	4.4%	3.8%	4.1%	4.4%	3.6%	3.4%
W. Interior Trims, Doors, and Mirrors							4.3%	4.3%	4.6%	3.6%	3.2%
X. Painting	3.8%	3.6%	3.6%	3.4%	3.4%	3.3%	3.4%	3.1%	3.0%	2.8%	2.2%
Y. Lighting	1.0%	0.8%	0.9%	1.0%	1.1%	1.2%	1.2%	1.2%	1.3%	1.2%	1.1%
Z. Cabinets, Countertops	5.0%	4.3%	6.6%	5.7%	5.6%	5.6%	5.2%	5.5%	5.0%	4.6%	4.5%
AA. Appliances	1.3%	1.2%	1.3%	1.7%	1.6%	2.0%	1.7%	1.5%	1.5%	1.6%	1.6%
AB. Flooring	4.8%	4.3%	4.2%	5.0%	5.1%	4.5%	5.0%	4.6%	4.3%	4.0%	3.3%
AC. Plumbing Fixtures							1.7%	1.5%	1.3%	1.4%	1.3%
AD. Fireplace							0.8%	1.0%	0.6%	0.6%	0.4%
AE. Other							0.2%	0.5%	0.4%	0.3%	1.2%
VII. Final Steps (sum of AF to AJ)							6.6%	6.8%	7.0%	6.8%	5.9%
AF. Landscaping	1.8%	2.5%	2.6%	2.8%	3.2%	3.5%	2.3%	2.1%	2.5%	2.2%	2.3%
AG. Outdoor Structures (deck, patio, porches)	0.7%	0.7%	1.0%	0.7%	0.9%	1.0%	1.2%	1.5%	1.3%	1.2%	0.6%
AH. Driveway	1.5%	1.6%	1.3%	1.4%	1.4%	1.5%	1.5%	2.2%	1.9%	2.2%	2.2%
AI. Clean Up							0.9%	0.7%	1.1%	1.0%	0.6%
AJ. Other							0.7%	0.3%	0.3%	0.1%	0.2%
VIII. Other							0.9%	0.5%	2.0%	3.8%	1.5%
TOTAL											
	\$124,276	\$151,671	\$192,846	\$219,015	\$222,511	\$184,125	\$246,453	\$289,415	\$237,760	\$296,792	\$392,241

Source: NAHB Construction Cost Surveys, 1998-2022