Government Regulation in the Price of a New Home: 2021

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Special Study for Housing Economics
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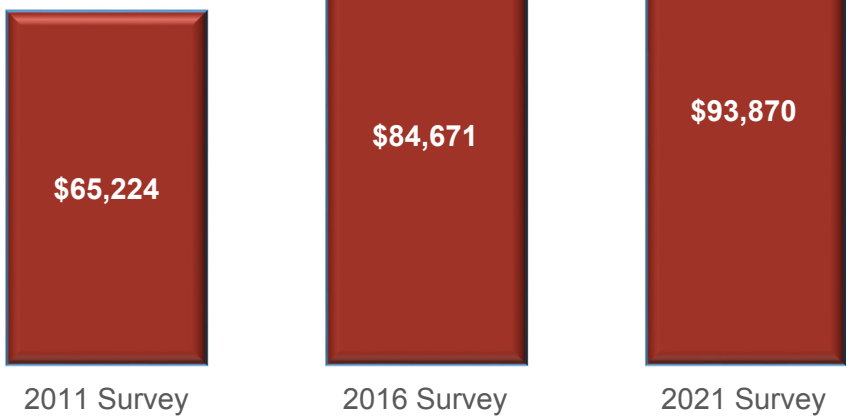
Rising regulatory costs are a limiting factor on housing supply, particularly for the entry-level market in need of inventory. This study updates NAHB's estimates of the aggregate cost of regulation in the price of a new single-family home. The methodology is slightly different from the one used in the previous (2016) study, in that it is based on two separate surveys—one of land developers, and one of single-family builders. The survey questions were also modified slightly, to incorporate lessons learned during previous iterations of the study.

On a dollar basis, applied to the current average price ($394,300) of a new home, regulation accounts for **$93,870** of the final house price. Of this, **$41,330** is attributable to regulation during development, **$52,540** due to regulation during construction. In dollar terms, the NAHB studies show the cost of regulation continuing to rise between 2016 and 2021, although not as much as it did between 2011 and 2016 (Figure 1).

Figure 1. Average Cost of Regulation in the Price of a New Home



Based on average new home price one month before the NAHB/Wells Fargo HMI surveys
Source for avgerage new home prices: New Residential Sales, U.S. Census Bureau.: .

On a percentage basis, the latest estimates show that regulations imposed by government at all levels account for **23.8 percent** of the final price of a new single-family home built for sale. Compared to previous studies, surveying builders and developers separately produced a somewhat different breakdown of the regulatory cost, with **10.5 percent** of the final house price attributable to regulation during development of the lot, the other **13.3 percent** due to regulation during construction of the single-family structure.

The 2021 estimate of 23.8 percent is down slightly from the 24.3 percent reported in the previous study. However, many other costs have risen since 2016, so the percentage now applies to base of higher-priced homes.

This study is not arguing that all regulation is bad or should be eliminated. Nor is it trying to estimate a share of regulation that may be excessive. The underlying premise is that, in an environment where housing is regulated in a complex way by a variety of federal, state and local entities, it is useful to have a numerical estimate of how much regulation exists and its aggregate dollar value at present when contemplating new policies or revising existing ones.

The following sections explain the underlying methodology and show the results in full detail. At the end, a set of appendices documents all the assumptions used in the calculations and reproduces the two survey instruments used to collect the information.

Methodology

A study of housing regulation that seeks to be reasonably comprehensive needs to collect information from builders and developers, as they are the most accurate source that have experience with a broad enough range of regulations to provide information about them.

To capture the cost regulation imposed during development, NAHB conducted a survey of its members with experience developing single-family lots and selling them to builders. Most of the questions asked for costs as a fraction of the final lot price. The "2021 Land Developer Survey on Regulatory Costs" (Appendix II) survey was sent

electronically to a panel of 2,071 NAHB members in March. A total of 57 developers provided complete and useable responses.

Special questions on the survey for the March 2021 NAHB/Wells Fargo Housing Market Index (HMI) collected information on regulation during construction from the HMI panel of single-family builders. Most of the questions asked for costs as a fraction of the builder's construction costs (see Appendix III). A total 280 builders provided complete and useable responses to the special questions.

The surveys ask builders and developers for information they can reasonably be expected to provide. The surveys don't ask for a breakdown of costs attributable to different levels of government, as this is often difficult to impossible for a builder or developer to determine.

For example, building codes are adopted and enforced at the local level. However, some are adopted at the state level, and states may have varying rules for how much local jurisdictions are or are not allowed to modify the codes. Moreover, several federal agencies (including DOE, FEMA and EPA) actively participate in the development of national model codes, which ultimately form the basis for the locally administered codes. DOE also has a budget to persuade state and local governments to adopt more stringent codes. It is reasonable to ask builders for the cost of moving to a different building code, but not to tease out the contributions different levels of government make to the final code.

Similarly, the surveys cannot capture the cost impacts of some categories of regulation. Although lumber prices affect the cost of new housing, and some federal policies (import duties, amount of timber harvested from federal lands, etc.) undoubtedly have an impact on lumber prices, builders are not expected to quantify the effect those policies. (NAHB recently published a separate analysis of the impact recent surges in lumber prices have on house prices.)

To convert the average responses from builders and developers to costs as a share of final house prices, NAHB combines the survey results with other information—such as independent construction cost estimates, terms on development and construction loans, how long it takes to build a home and profit margins—completely documented in Appendix I.

Regulation during Development

Table 1 shows estimates of regulation as a percentage of both the lot cost, and the final house price. The table shows the share of developers subject to the regulation, the average cost of the regulation when it exists, and the average cost of the regulation across all homes (i.e., with the "zeroes" included in the average).

Table 1. Average Regulatory Costs (Percentage)

A. DURING LOT DEVELOPMENT

	Share With the Regulatory Cost	Regulation as a % of ***Lot Cost***		Regulation as a % of ***House Price***	
		Average When Present	Average Across All Lots	Average When Present	Average Across All Lots
Cost of applying for zoning approval	98.1%	6.7%	6.6%	1.7%	1.6%
Hard costs of compliance (fees, required studies, etc.)	100.0%	12.0%	12.0%	3.0%	3.0%
Land dedicated to the govt. or otherwise left unbuilt	94.0%	11.6%	11.0%	2.9%	2.8%
Standards (setbacks, etc.) that go beyond the ordinary	85.4%	10.4%	9.1%	2.6%	2.3%
Complying with OSHA/other labor requirements	58.3%	2.2%	1.8%	0.5%	0.5%
Pure cost of delay (if regulation imposed no other cost)	95.9%	1.5%	1.5%	0.4%	0.4%
All Regulation During Development	**100.0%**	**41.9%**	**41.9%**	**10.5%**	**10.5%**

B. DURING CONSTRUCTION OF THE STRUCTURE

	Share With the Regulatory Cost	Reg. as a % of ***Construction Cost***		Regulation as a % of ***House Price***	
		Average When Present	Average Across All Lots	Average When Present	Average Across All Lots
Fees paid by the builder after purchasing the lot	91.1%	5.5%	5.0%	3.4%	3.1%
Changes to building codes over the past 10 years	90.2%	10.8%	9.9%	6.7%	6.1%
Architectural design standards beyond the ordinary	57.5%	7.7%	4.4%	4.8%	2.7%
Complying with OSHA/other labor requirements	63.8%	2.5%	1.8%	1.5%	1.1%
Pure cost of delay (if regulation imposed no other cost)	89.5%	0.4%	0.4%	0.3%	0.2%
All Regulation During Construction of the Structure	**98.9%**	**21.7%**	**21.5%**	**13.5%**	**13.3%**
TOTAL COST OF REGULATION					**23.8%**

The first significant interaction between a developer and the government usually occurs when the developer applies for zoning approval for housing to be built on a particular parcel of land. Most developers (98.1 percent) reported regulatory costs at the zoning approval stage. Regulatory costs imposed at this time can include fees paid directly to a government, as well as requirements for environmental impact, traffic, archeological or other studies. Averaged across all lots in the study, these costs account for 6.6 percent of the price the builder pays for the lot, which translates to 1.6 percent of the final house price.

All developers in the survey reported incurring regulatory costs after obtaining zoning but sometime later during the development process. This may include costs of complying with, for example, requirements to mitigate environmental impacts, as well as

actual fees. Governments impose impact, utility hook-up, and other types of fees when site work begins. Averaged across all lots in the study, these costs account for 12.0 percent of the builder's lot cost, 3.0 percent of the final house price.

Also common (reported by 94.0 percent of developers) are requirements to dedicate land to the government (e.g., for a park) or otherwise leave a portion of it undeveloped. In these cases the developer must pay for the land but is not allowed to derive revenue from it, driving up costs on the lots that can be developed and sold. On average these requirements account for 11.0 percent of the price of the lot, and 2.8 percent of the final house price.

Local governments often require that new development conform to community design standards. These may include specific requirements for lot size and design, sidewalks, landscaping, etc. The survey specifically asks about standards that go beyond the ordinary. For example, in the absence of regulation, the developer is still likely to provide some landscaping. This study assumes a design standard imposes no cost unless it requires the developer to provide landscaping (or something else) that costs more than the developer's ordinary practice.

A large share of developers (85.4 percent) reported being subject to design standards that go beyond what they would ordinarily do and add to their costs. On average these requirements account for 9.1 percent of price of the lot, and 2.3 percent of the final house price.

OSHA is responsible for labor safety standards. State or local governments may have safety standards as well. Safety of construction workers is important, and there is a broad level of support for a variety of safety rules. However, NAHB has criticized particular standards for attempting to regulate risks that don't really exist in residential construction (e.g. beryllium), imposing costs significantly greater than needed to ensure worker safety (e.g. silica) or accomplishing little beyond driving up recordkeeping costs (e.g. Volks rule).

Although reported less often than other regulatory costs incurred during development, 58.3 percent of developers said that complying with OSHA or other labor standards added to their costs. On average these standards account for 1.8 percent of the price of a lot, and 0.5 percent of the final house price.

Even when regulation imposes no direct costs, it can have a financial impact if it delays the development process. If nothing else, if it takes longer to develop and sell a lot, interest on a development loan will typically accrue.

The vast majority of developers (95.9 percent) said complying with regulations typically caused a delay. In these cases, the delay averaged roughly 6 months. Across all lots, using the interest rate and other assumptions described in Appendix I, NAHB calculated that the "pure" cost of this delay (i.e., the cost of the delay even if regulation imposed no other costs) on average accounts for 1.4 percent of the price of a lot, and 0.4 percent of the final house price.

Every developer in the NAHB survey reported experiencing some type of regulatory cost. Added together, the development regulatory costs captured by the survey account for **41.9 percent** of the price of a lot, and **10.5 percent** of the final house price.

Regulation during Construction

Table 1 also shows the impacts of regulation imposed during construction, after a builder has acquired the lot from a developer. Most single-family builders responding to the HMI special questions (91.1 percent) reported paying fees during this phase of the project. . These could be building permit or inspection fees, as well as additional impact or utility hoof-up charges not covered by the developer. Across all homes in the survey, fees paid by the builder after acquiring the lot account for 5.0 percent of the builder's construction costs, and 3.1 percent of the final house price.

The survey also asked builders about the cost implications of changes to building codes over the past ten years. Most jurisdictions have been adopting and enforcing building codes for decades, so the 10-year criterion in general captures changes to codes after they have already been updated and revised many times.

Most builders (90.2 percent) reported that changes to building codes over the past 10 years have added to their costs. Averaged across all homes, the cost increases associated with codes account for 9.9 percent of the builder's construction costs, and 6.1 percent of the final house price—making this the most costly of the categories of regulation listed in Table 1.

In addition to traditional building codes, jurisdictions have increasingly sought to impose architectural design standards motivated by aesthetics, or possibly even, in some cases, a desire to price less affluent residents out of particular neighborhoods. Prohibition of vinyl siding has become relatively common, for example, but NAHB has also reviewed ordinances that mandate details like the orientation of a garage, material used in fences, window shutters, the square footage of window space, and dimensions of particular features down to a quarter of an inch.

Over half (57.5 percent) of single-family builders report being subject to architectural design standards of this type that force them to spend more than the otherwise would on particular home features. Averaged across all homes in the survey sample, these standards account for 4.4 percent of the builder's construction costs, and 2.7 percent of the final house price.

Like developers, builders can also experience costs of complying with labor regulations, as well as delays caused by regulatory requirements. A total of 63.8 percent of builders in the survey reported costs of complying with OSHA or other labor regulations. On average these requirements account for 1.8 percent of construction costs, 1.1 percent of the final house price.

In addition, 89.5 percent of builders reported that regulation caused some delay in the construction process. When they existed, these delays averaged a little over 5 weeks. Averaged across all homes in the sample, the "pure" cost of regulatory delays during construction account for 0.4 percent of construction cost, and 0.2 percent of the final house price.

Nearly all (98.9 percent) of builders reported experiencing some type of regulatory cost during construction. Added together, the average of these costs across all homes in the sample account for **21.5 percent** of the builder's construction costs and **13.3 percent** of the final house price.

Combined with results from the development phase of the project, total regulation captured in both surveys and attributable to all levels of government accounts for **23.8 percent** of the final house price.

Regulation in Dollars

The costs in Table 1 can be converted from percentages to dollars by multiplying the percentages by the average price of a new home. Following the practice in previous iterations of this study, the average sales price in the HUD/Census Bureau "New Residential Sales" report one month before the surveys were conducted is used for this purpose.

The latest NAHB builder and developer regulatory surveys were both conducted in March of 2021. As of this writing, the first revision of the February 2021 average sales price is available from the Census Bureau, and is $394,300. Applying this to the percentages from Table 1 shows that the regulation captured by the NAHB surveys accounts for **$93,970** of the price of an average new home built for sale. Of this, **$41,330** is attributable to regulation during development of the lot. The remaining **$52,540** is due to regulation imposed during construction of the single-family structure (Table 2).

Table 2. Cost of Regulation in the Price of a Home (Dollars)

	Average When Present	Average Across All Homes
Cost of applying for zoning approval	$6,589	$6,473
Hard costs of compliance (fees, required studies, etc.)	$11,791	$11,791
Land dedicated to the govt. or otherwise left unbuilt	$11,457	$10,854
Standards (setbacks, etc.) that go beyond the ordinary	$10,250	$8,992
Complying with OSHA/other labor requirements	$2,157	$1,779
Pure cost of delay (if regulation imposed no other cost)	$1,494	$1,442
All Regulation During Development		**$41,330**
Fees paid by the builder after purchasing the lot	$13,378	$12,184
Changes to building codes over the past 10 years	$26,511	$24,144
Architectural design standards beyond the ordinary	$18,773	$10,794
Complying with OSHA/other labor requirements	$6,027	$4,477
Pure cost of delay (if regulation imposed no other cost)	$1,049	$941
All Regulation During Construction of the Structure		**$52,540**
TOTAL COST OF REGULATION		**$93,870**

The individual line items in the table range from under $1,000 per home for the pure cost of delay during the construction phase of the project, to over $24,000 for changes in building codes over the past 10 years. These are averages across all homes in the

sample, including those where a particular regulatory cost is zero. Table 2 also shows the somewhat higher average cost of particular regulations only for the cases where the regulations have some positive cost, for readers who may be interested in that.

The current estimate of $93,870 is up 11 percent from the 2016 estimate of $84,671, and 44 percent from the 2011 estimate of $65,224.

Conclusion

As the above discussion has demonstrated, home building is subject to a wide array of regulatory costs, including various fees, standards, and other requirements imposed at different stages of the development and construction process that may be imposed by any combination of federal, state and local governments. The only way to construct a reasonably comprehensive picture of these costs is to collect information from the builders and developers who experience them. Results from the latest NAHB surveys on the topic show that, on average, the regulation captured in these surveys accounts for 23.8 percent of the final price of a single-family home, or $93,870 at current new home prices.

Other costs of producing new housing have received attention recently, particularly the cost of lumber and many other building materials. The fact that several factors are contributing to the high cost of new housing doesn't mean any one factor is unimportant. In fact, at these times, a strategy for dealing with each component of rising costs may be necessary to achieve significant progress. Although rising costs of materials are currently a key issue for builders, the 23.8 percent—or $93,870—of the average new home price attributable to regulation remains noteworthy and economically important.

Government Regulation in the Price of a New Home: 2021

Appendix I:
Assumptions Used in the Calculations

Land Acquisition and Development of the Lot

- The finished lot purchased by a builder accounts for 21.4 percent of the final price of a single-family house, based on the average of NAHB Construction Cost surveys conducted between 2002 and 2019. A long run average is used to produce an estimate with a significant shelf life and allow for the possibility that the relatively small sample of homes captured in the latest survey may not be perfectly typical.

- A 20.8 percent mark-up on lots sold to builders, based on the difference between business receipts and the cost of goods sold for the land subdivision industry from the most recent (2013) SOI tax stats published by the IRS. Without a competitive return on investment, developers will not be able to attract capital or get loans underwritten to finance the project, and the lots will not be developed

- The previous two bullets imply that total lot acquisition and development costs account for (1-.208) × .214—or 17.0 percent—of the final price of a single-family home.

- Of all land acquisition and lot development costs, 75 percent is financed by a loan. Since 2018 NAHB has collected data on terms for these loans in its quarterly AD&C Financing Survey. Over that span, the average loan-to-cost ratio on A&D loans in the survey has been 75 percent.

- A 6.96 percent interest rate on all land acquisition and development (A&D) loans. Since 2018 the spread over prime (a common way to set interest rates on the loans) has averaged 1.46 percent on A&D loans in NAHB's AD&C Financing Survey. To obtain estimates with a significant shelf life, that spread is applied to a prime rate of 5.5 percent—300 basis points above the median appropriate longer term policy path for the federal funds rate projected by Federal Reserve Board members and Bank presidents.

- An initial fee of 90 basis points, based on the average on A&D loans since 2018 in NAHB's AD&C Financing Survey.

Construction of the Single-family Structure

- Construction costs account for 56.6 percent of the house price, based on the average of NAHB Construction Cost surveys conducted between 2002 and 2019.
- A loan is used to finance 86 percent of total construction costs, based on the average loan-to-cost ratio on loans for both speculative and pre-sold single-family construction in NAHB's AD&C Financing Survey since 2018.
- A 6.65 percent interest rate on all land acquisition and development (A&D), based on the 1.15 percent post-2018 average spread above prime on speculative and pre-sold single-family construction loans in AD&C Financing Survey, and a 5.5 percent prime rate consistent with the median appropriate longer term policy path for the federal funds rate projected by Federal Reserve Board members and Bank presidents.
- An initial fee of 76 basis points, based on the post-2018 average on loans for speculative and pre-sold single-family construction in NAHB's AD&C Financing Survey. Due to the short duration of typical single-family construction loans, the initial points can often be more economically significant the actual interest rate on the outstanding loan balance.
- A 9.6 percent gross profit rate for builders and developers, based on the average rate on NAHB Construction Cost surveys conducted between 2002 and 2019. Without a competitive return above costs, builders will typically be unable to get construction loans underwritten to build the homes.
- A broker's fee of 2.9 percent, based on the "non-construction" cost factor the Census Bureau applies to single-family homes built for sale.

Average Time Lags

Zoning application to start of site work: 16.6 months
NAHB 2021 Land Developer Survey of Regulatory Costs

Start of site work to sale of lot to builder: 10.0 months
NAHB 2021 Land Developer Survey of Regulatory Costs

Sale of lot to start of construction: 1.0 month
Average length of time from authorization by building permit to start (U.S. Census Bureau with partial funding from HUD) for single-family homes built for sale in 2020, assuming the builder seeks authorization for construction at the same time as purchasing the lot.

Start of construction to completion: 5.9 months
Average length of time from start to completion (U.S. Census Bureau with partial funding from HUD) for single-family homes built for sale in 2020.

Completion to closing: 0.8 months
NAHB tabulation of Survey of Construction microdata (U.S. Census Bureau with partial funding from HUD) indicates that 60 percent of single-family homes built for sale and completed in 2019 were sold before they were completed. These homes are assumed to close at the same time as the completion. The other 40 percent are assumed to close slightly more than 2 months after completion, based on the average time it takes to sell an existing home reported by Zillow.

Impact of Costs on House Price

The above assumptions imply the following mark-up percentages that vary depending on when a particular cost is imposed on a developer, builder or home buyer:

Additional Charges Passed on to the Home Buyer Depending on When a Cost is Incurred	
0.00%	Cost imposed directly on buyer at closing
14.94%	Cost incurred by builder during construction
16.35%	Cost Incurred at start of construction
16.82%	Cost incurred when applying for building permit
27.63%	Cost incurred during site development
30.17%	Cost incurred when applying for development approval

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Appendix II:
2021 Land Developer Survey on Regulatory Costs

1. Does your company have substantial experience in acquiring raw land, developing finished lots and selling them to builders?

□ Yes □ No

[If "Yes," please answer questions 2-9. If "No," end survey]

Please answer questions 2-9 for a typical project to develop finished lots to sell to a builder (or multiple builders). Please estimate your responses, to the best of your ability, as percentages of the total cost for land acquisition and lot development.

2. For a typical piece of land, how much does it cost to apply for zoning approval, as a % of total land acquisition and lot development cost? *(Include costs of fiscal or traffic impact or other studies, and any review or other fees that must be paid by time of application. Please enter "0" if there are typically no application costs).*

_____**%**

3. For a typical project, how many months does it take between the time you apply for zoning approval and the time you begin site work?

_____months

4. Between the time you begin site work and the time you sell the lots, how much does it cost to comply with regulations, as a % of total land acquisition and lot development cost? *(Include costs of complying with environmental or other regulations as well as the cost of hook-up or impact or other fees. Do not include cost of labor regulations, as they are covered in Question 7). Please enter "0" if cost of complying with these regulations is zero).*

_____**%**

5. For your typical project, what is the value of any land that must be dedicated to the local government or otherwise left unbuilt (for parks, open green space, etc.), as a % of total land acquisition and lot development cost? *(Please enter "0" if dedicating land is required infrequently).*

_____**%**

6. How much do development requirements that go beyond what you would otherwise do (e.g. setbacks, property layout, landscaping, etc.) add to your cost, as a % of total land acquisition and lot development cost? *(Please enter "0" if the jurisdiction's requirements don't go substantially beyond what you would normally do).*

_____**%**

7. How much does complying with OSHA or other labor regulations cost, as a % of total land acquisition and lot development cost? *(Please enter "0" if labor regulations have no substantial impact on development costs).*

_____**%** ☐ Don't know/use of subs makes it impossible to estimate

8. How many months does it typically take between the time you begin site work and the time you sell the lots to a builder (or builders)?

_____ months

9. How much extra time (in months) overall does complying with regulations add to the development process? *(Please enter "0" if regulations typically cause no substantial delay).*

_____months

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Appendix III:
Special Questions from the March 2021 Survey for the
NAHB/Wells Fargo Housing Market Index

For questions 4-7, please estimate all percentages as a fraction of <u>total construction costs</u> for the typical home you build, after acquiring a finished lot or developing it yourself. Total construction costs include all costs for labor, subs, materials and fees, but exclude all costs associated with the finished lot.

4. After a lot is finished and can be built on, how much on average do you pay for permit, hook-up, inspection, impact or other government fees as a percent of total construction costs? (*Please enter "0" if fees paid during or after construction are negligible; exclude any fees associated with the lot before the building permit is pulled*).

_____ % of total construction costs

5. Over the past 10 years, how much have changes in construction codes and standards added to your cost, as a percent of total construction costs? (*Please enter "0" if code changes have had minimal impact on construction costs*).

_____ % of total construction costs ☐ Don't know/was not building homes 10 years ago

6. How much do architectural design standards (requirements for siding materials, windows, landscaping etc.) that go beyond what you would otherwise do (and are not related to building codes) add to your cost, as a percent of total construction costs? *(Please enter "0" if the jurisdiction's requirements don't go substantially beyond what you would normally do).*

_____ % of total construction costs

7. How much does complying with OSHA or other labor regulations cost, as a percent of total construction costs? *(Please enter "0" if labor regulations have no substantial impact on development costs).*

_____ % of total construction costs ☐ Don't know/use of subs makes it impossible to estimate

8. How much extra time (in weeks) does complying with regulations (including unreasonable delays in obtaining permits or inspections) add to the construction process? *(Please enter "0" if regulations typically cause no substantial delay).*

_____Weeks