

Appendix 1:

Assumptions Used in the Calculations

In order to calculate a final effect on development costs, many of the survey responses need to be combined with additional information. Primarily these are assumptions about the terms of development and construction loans, and how long construction typically takes, and how to allocate costs to different stages of the development and construction process. This appendix lists all the assumptions used in the calculations and gives the sources for each.

Loan terms

An initial fee of 90 basis points charged on for all land acquisition, development, and construction (AD&C) loans, based on characteristics of loans for land development captured in NAHB's quarterly [AD&C Financing Survey](#). The 90 basis points is the average that prevailed across all four quarters of 2022. An annual average is used to avoid potential complications that may be caused by a seasonal pattern in the quarterly data.

A 6.9 percent interest rate on all AD&C loans. In the AD&C Financing Survey, the average spread over prime on land development loans in 2022 was 1.4 percent. That spread is then applied to a prime rate of 5.5 percent—300 basis points above the median appropriate longer term policy path of 2.5 percent for the federal funds rate [projected by Federal Reserve Board members and Bank presidents](#) as of December 2022.

Loans are used to finance 77.8 percent of land acquisition, development and construction costs. Following the approach used in the previous two sections, this is based on the 2022 average loan-to-cost ratio in the AD&C Financing Survey.

Construction Lags

The source for information lags not directly collected in the NAHB-NMHC questionnaire is the [Survey of Construction](#) (SOC) conducted by the Census Bureau with partial funding from the Department of Housing and Urban Development. Average lags published in the SOC tables for 2021 are as follows:

For buildings with 2-4 apartments

- Authorization to start = 2.3 months
- Start to completion = 11.9 months

For buildings with 5-9 apartments

- Authorization to start = 2.1 months
- Start to completion = 15.8 months

For buildings with 10+ apartments

- Authorization to start = 2.0 months
- Start to completion = 17.2 months

The survey collected data on how much time regulation adds to the development process. To assign this to a particular phase of the development the following assumptions are used.

The regulatory delay is split and attributed half to the lag between applying for zoning approval and the beginning of site work, and half to the period after site work begins. If half of the regulatory delay exceeds the lag between applying for approval and beginning of site work, the excess is also attributed to the period after site work begins. It is first assumed that the resulting regulatory delay is attributable to the period between the start of site work and the start of building construction, minus 3 months (the assumed minimum time it would take to do site work in the absence of regulation, based on conversations with developers). If any regulatory delay remains after being allocated to the zoning approval and site work periods, it is then attributed to the building construction period, and the start-to-completion lag is adjusted upward beyond the SOC-based average, accordingly.

The analysis assumes all loans are paid off when the buildings are completed.

Cost Breakdown

To implement the process described in the paragraph above and calculate a “pure” cost of delay (i.e., the effect regulatory delay would have even if the regulation imposed no other cost), estimates of costs incurred during different phases of the development process are needed.

The breakdown is based on the split between lot and construction costs in NAHB’s Construction Cost Surveys (averaged over surveys conducted between 2002 and 2019) and the Census Bureau’s “non-construction cost factor” for raw land.

Resulting assumptions:

- Only the cost of applying for zoning occurs at the very start of the development process. Financing costs associated with this are charged to the regulatory cost of the application and not counted in the pure cost of delay.
- 10.2 percent of total development costs are costs financed by a land acquisition loan at the start of the site work phase.
- 11.2 percent of total development costs are costs financed by a development loan during the site work phase, assuming draws on the loan occur on average halfway through this phase.
- 56.6 percent of total development costs are costs incurred after building construction has started and financed with a construction loan, assuming draws on the loan occur on average halfway through this phase of the project.

Appendix 2:
Survey Questionnaire

1. How many units does your typical multifamily project have?

- 2-4 Units
- 5-9
- 10-49
- 50-149
- 150-349
- 350-499
- 500 units or more

2. What is the total dollar amount spent on development costs in your typical project?

\$_____

3. For a typical piece of land, how much does it cost to apply for zoning approval as a % of total development cost? *(Include costs of fiscal or traffic impact or other studies and any review or other fees that must be paid by the time of application. Please enter "0" if application costs are Zero percent).*

_____ %

4. 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

5. How much does it cost to comply with regulations when site work begins, as a % of total development costs? *(Include costs of complying with environmental or other regulations as well as the cost of hook-up or impact or other fees.) Please enter "0" if cost of complying with these regulations is Zero percent.*

_____ %

6. How much do development requirements that go beyond what you would otherwise do (in terms of property layout, landscaping, materials used on building facades, etc.) add to your cost as a % of total development costs? *(Please enter "0" if the jurisdiction's requirements don't go beyond what you would normally do.)*

_____ %

7. In the typical case, 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 development cost? *(Please enter "0" if dedicating land is required infrequently.)*

_____ %

8. How many months does it take between the time you begin site work and the time you obtain authorization to begin construction of the apartment building(s)?

_____ 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 delay).*

_____ months

10. When you obtain authorization to begin construction, how much do you pay in additional fees as a % of total development costs? In many cases, this will be only a permit fee but include any additional impact or hook-up or inspection fees if they kick in at this time. *(Please enter "0" if fees paid during or after construction are Zero percent).*

_____ %

12a. In the typical case, does a jurisdiction have inclusionary zoning/ affordable housing requirements that apply to your project?

- Yes
- No

12b. *[If the answer to 12a is "yes"]*. In the typical case, how much do these requirements (or a fee in lieu of affordable housing) cost as a % of total development cost? *(Please enter "0" if inclusionary zoning/ affordable housing mandates/fees in lieu of affordable housing are encountered infrequently).*

_____ %

12c. *[If the answer to 12a is "yes"]*. In the typical case, how much do these additional requirements raise the rents of market-rate units?

_____ %

13. Do you typically avoid building in a jurisdiction if it has an inclusionary zoning requirement?

- Yes
- No

14. Do you typically avoid building in a jurisdiction that has rent control?

- Yes
- No

15. Over the past 10 years, how much have changes in construction codes and standards added to the cost of building a typical multifamily project as a % of total development costs? (Please enter "0" if code changes have had minimal impact on costs).

_____ %

- Please select if you have not been in operation for the past 10 years

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

_____ %

17. Have you experienced added costs or delays due to neighborhood opposition to multifamily construction?

- Yes
- No

18. In the typical case, how much costs are added to a project due to neighborhood opposition to multifamily development as a % of total development costs?

_____ %

19. In a typical case, how much extra time (in months) does it take to address neighborhood opposition to multifamily development?

_____ months

20. Comments: