



Development Costs in the Low Income Housing Tax Credit Program

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Background and Methodology: Overview

NCSHA engaged Abt Associates (Abt) to analyze development costs of affordable apartment projects financed with the Low Income Housing Tax Credit (Housing Credit).

Abt analyzed development cost data for more than 2,500 projects containing more than 160,000 housing units developed through the Housing Credit and placed into service between 2011 and 2016.

The data was provided by 14 syndicators, including eight of the largest national syndicators active during the study period and six regional equity funds.

Background and Methodology: Data Sample

This sample includes approximately 47 percent of the units in properties developed with 9 Percent Credits and 20 percent of the units in properties developed with 4 Percent Credits placed into service between 2011 and 2016.

The sample spans the country, including at least two projects in every state and more than 25 projects in each of 35 states.

Background and Methodology: Study Focus

How have Housing Credit development costs varied over time?

How do Housing Credit development costs vary by project characteristics and geography?

What are the principal observable factors that impact the costs of developing Housing Credit properties?

Background and Methodology: Methodological Approach

Abt developed descriptive tables that show the relationship of particular factors to per-unit costs.

Abt also constructed regression models that look at multiple factors affecting costs at the same time.

Abt inflated all costs to 2016 dollars using a construction index from RS Means.

Factors analyzed included:

- Year placed into service
- Location (region, metro/rural, poverty rate, DDA, QCT, state construction wage)
- Project (9 Percent vs. 4 Percent, NC vs. AR, total units, # bedrooms, target population, developer type, # of financing sources)

Background and Methodology: Factors Not Assessed

There are other factors that may be related to the costs of developing Housing Credit properties that Abt did not analyze, mainly because they are not collected by most of the syndicators supplying the data.

These include costs associated with such factors as providing structured parking, paying higher wages, and extended development timelines necessary to address and overcome neighborhood concerns.

Background and Methodology: Additional Factors Not Assessed

Abt also considered but ultimately did not include in its regression models some other variables:

- A variable indicating if a project used tax-exempt bonds, because it was too closely related to the type of tax credit used.
- A separate variable for each state, because there was insufficient variation.
- Three variables because the information was missing for too many projects: if a general contractor was used, if the project included supportive services, and the building type (high rise, garden apartment, etc.).

Key Finding: Housing Credit TDC Medians and Means

The Abt analysis focuses on per-unit total development cost (TDC) which reflects the total development cost for a project — **including the cost of land** — divided by the number of units in the project.

Abt finds that the median per-unit TDC over the six-year time period was \$164,757, adjusted for construction cost inflation.

Abt finds that the mean per-unit TDC over the six-year time period was \$182,498, adjusted for construction cost inflation.

Methodological note:

- Data for these and other descriptive statistics are weighted at the unit level.
- In the regression, data are weighted at the project level.

Key Finding: Location Is a Major Driver of Development Cost

Abt finds that Housing Credit total development costs (TDCs) were higher for projects developed in principal cities of metropolitan areas, and in HUD-designated difficult development areas (DDAs) and qualified census tracts (QCTs).

Costs were also higher for projects developed in New England, the Mid-Atlantic, and the Pacific regions, as compared with other regions.

These relationships held true even when Abt analyzed total development costs without land, suggesting the higher cost of land is not the sole factor driving this finding.

Nor is the finding due solely to differences in construction-cost wages, since Abt controlled for state-level differences in these wages, which also had a significant effect on costs.

Key Finding: Project Size, Type, and Financing Also Drive Costs

Smaller projects were more expensive per unit to build than larger projects, likely due to the economies of scale of developing larger projects.

Projects where the unit size averaged more than 2.5 bedrooms were also more expensive on a per-unit basis.

New construction projects were substantially more expensive than projects developed by acquiring and rehabilitating existing structures.

Projects with multiple financing sources were more expensive on a per-unit basis, which could be due to the challenges associated with assembling multiple financing sources or could be due to the need to find multiple financing sources to pay for higher-cost projects.

Market Context: Cost Comparison

According Dodge Data and Analytics, the average TDC per unit for multifamily new construction — **not including soft costs or land** — was \$151,000 (2011 to 2016).

Adjusting the Dodge data for common estimates of soft costs and land yields a mean TDC of between \$196,000 and \$204,000.

Abt's findings indicate the mean TDC for new construction of a Housing Credit unit was \$209,000 over that time period. This includes costs that do not generally apply to market rate properties, such as reserves and developer fees.

Thus, Housing Credit development costs are generally consistent with overall apartment development costs

Source: **Historical Starts Information: Multifamily Starts US Summary, Annual Totals, Dodge Data and Analytics, August 2018**

Market Context: Cost Growth Comparison

Abt finds that the costs of developing Housing Credit developments generally grew in line with the average growth of all construction costs nationwide between 2011 and 2016, which was about eight percent over that period according to the RS Means Historical Cost Index.

A 2017 study by Fannie Mae found that overall apartment costs have risen **between 10 percent and 30 percent**, depending on the number of stories, over the past five years.

Source: [Fannie Mae Multifamily Market Commentary](#) (March 2017)

Market Context: Tradeoffs

The Abt findings illustrate the important tradeoffs involved in developing affordable housing across the United States:

- While it may be more expensive to build in high-cost areas, housing needs exist in high-cost as well as low-cost communities.
- While rehabilitating an existing building may be less expensive than new construction, suitable properties for redevelopment are not available everywhere — and new construction is a cost-effective approach in some situations.
- Smaller units cost less to build but are not appropriate for all households, and smaller projects cost more to build per-unit, but larger projects are not desirable in all locations.

Data Tables

Descriptive Tables

- Median Per-Unit TDC by Year (2011 – 2016)
- Per-Unit TDC by Year (2011 – 2016)
- Per-Unit TDC by Development Type

Regression Summaries

- Relationship of Location Characteristics to Per-Unit TDC
- Relationship of Project Characteristics to Per-Unit TDC

Median Per-Unit TDC by Year (2011 – 2016)

| Year | Unadjusted | | Adjusted for Construction Cost Inflation | |
|-----------|---------------|------------------|--|------------------|
| | Unit-Weighted | Project-Weighted | Unit-Weighted | Project-Weighted |
| 2016 | \$166,817.26 | \$176,070.14 | \$166,817.26 | \$176,070.14 |
| 2015 | \$162,680.09 | \$171,743.22 | \$163,662.07 | \$172,779.90 |
| 2014 | \$175,489.63 | \$182,593.25 | \$177,621.09 | \$184,810.99 |
| 2013 | \$159,182.30 | \$168,663.48 | \$164,105.47 | \$173,879.88 |
| 2012 | \$143,669.99 | \$161,737.27 | \$153,166.30 | \$172,427.79 |
| 2011 | \$147,882.24 | \$165,015.31 | \$160,392.88 | \$178,975.40 |
| All Years | \$159,373.94 | \$171,102.39 | \$164,757.09 | \$177,152.95 |

Note: "Adjusted for Construction Cost Inflation" columns reflect 2016 dollars as adjusted by the RS Means Historical Cost Index.

Per-Unit TDC by Year (2011 – 2016)

| Year | Number of Projects | Number of Units | 25th Percentile | 50th Percentile | 75th Percentile | Mean |
|-----------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------|
| 2016 | 399 | 24,639 | \$120,906 | \$166,817 | \$237,721 | \$186,325 |
| 2015 | 424 | 27,733 | \$121,520 | \$163,662 | \$221,236 | \$177,784 |
| 2014 | 411 | 26,210 | \$133,050 | \$177,621 | \$233,066 | \$195,875 |
| 2013 | 467 | 29,399 | \$120,473 | \$164,105 | \$224,244 | \$181,162 |
| 2012 | 467 | 29,888 | \$115,839 | \$153,166 | \$218,719 | \$175,852 |
| 2011 | 379 | 24,578 | \$115,893 | \$160,393 | \$214,031 | \$179,393 |
| All Years | 2,547 | 162,447 | \$121,254 | \$164,757 | \$224,903 | \$182,498 |

Note: All dollars adjusted to constant 2016 dollars based on the RS Means Historical Cost Index.

Per-Unit TDC by Development Type

| | Number of Projects | Number of Units | 25th Percentile | 50th Percentile | 75th Percentile | Mean |
|---------------------------|--------------------|-----------------|-----------------|-----------------|-----------------|-----------|
| New Construction | 1,425 | 81,595 | \$146,246 | \$190,804 | \$249,236 | \$209,095 |
| Acquisition-Rehab | 1,077 | 77,861 | \$98,045 | \$131,074 | \$183,192 | \$153,394 |
| All Projects ¹ | 2,547 | 162,447 | \$121,254 | \$164,757 | \$224,903 | \$182,498 |

¹Total includes 45 projects that are identified as a mix of both development types.

All dollars adjusted to constant 2016 dollars based on the RS Means Historical Cost Index.

Relationship of Location Characteristics to Per-Unit TDC

| Factor | Description of Relationship to Per-Unit TDC | Statistical Significance |
|----------------------------------|--|---|
| Region | Costs varied strongly by region, even when we analyzed per-unit TDC without land costs. The highest-cost regions were the New England, Mid-Atlantic, and Pacific regions. The lowest-cost regions were in the South. | Highest-cost regions were highly significantly different from mid-cost regions. |
| Project location type | Costs varied by type of area. Projects developed in the principal city of metropolitan areas had the highest costs, followed by metropolitan area projects developed outside of principal cities, followed by projects in non-metro areas. | Highly significant |
| Difficult-to-develop area | Projects located in DDAs had higher per-unit costs. | Highly significant |
| Qualified census tract | Projects located in QCTs had higher per-unit costs. | Highly significant |
| Construction wages | Projects located in states with higher construction wages had higher per-unit costs. | Highly significant |
| Poverty rate | We found different results in different models, suggesting the relationship between poverty rate and per-unit TDC is not robust. | Mixed |

Note: Mixed indicates we found significant relationships for some categories, but not all, included in the regression model, or that results differed in different regression models. Highly significant indicates a significance level of $p < 0.001$. Significant indicates a significance level of $p < .10$.

Relationship of Project Characteristics to Per-Unit TDC

| Factor | Description of Relationship to Per-Unit TDC | Statistical Significance |
|--------------------------|---|--------------------------|
| Development type | New construction projects had higher costs than acquisition-rehab projects. | Highly significant |
| Total units | Projects with more units had lower per-unit costs. | Highly significant |
| Tax credit type | Projects developed with 9 Percent Credits had higher per-unit costs than 4 Percent Credit projects. | Significant |
| Financing sources | Costs increased as financing sources increased. | Significant |
| Average bedrooms | While results differed a bit in different models, in general, we found projects with a higher average bedroom size had higher per-unit costs. | Significant |
| Target population | Our main model finds that projects for the elderly had lower per-unit costs than family projects and that special needs projects had higher per-unit costs than family projects. However, these effects did not persist in two of our alternative models. | Mixed |
| Developer type | In our main model, we found that projects developed by non-profit developers had higher per-unit costs than projects developed by for-profit developers. However, we did not find this result in two of our alternative models. | Mixed |

Note: Mixed indicates we found significant relationships for some categories, but not all, included in the regression model, or that results differed in different regression models. Highly significant indicates a significance level of $p < 0.001$. Significant indicates a significance level of $p < .10$.

About NCSHA

For more than 50 years, state housing finance agencies (HFAs) have played a central role in the nation's affordable housing system, delivering financing to make possible the purchase, development, and rehabilitation of affordable homes and rental apartments for low- and middle-income households.

The National Council of State Housing Agencies is a nonprofit, nonpartisan organization created to advance, through advocacy and education, the efforts of the nation's HFAs and their partners to provide affordable housing to those who need it.

NCSHA's vision: An affordably housed nation.

Learn more at www.ncsha.org.