United States Government Accountability Office

Report to the Chairman, Committee on the Judiciary, U.S. Senate

September 2018

LOW-INCOME HOUSING TAX CREDIT

Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management

Accessible Version

GAO-18-637

September 2018

LOW-INCOME HOUSING TAX CREDIT

Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management

GAO Highlights

Highlights of GAO-18-637, a report to the Chairman, Committee on the Judiciary, U.S. Senate

Why GAO Did This Study

LIHTCs encourage private investment in low-income rental housing and have financed about 50,000 housing units annually since 2010.The LIHTC program is administered by IRS and credit allocating agencies (state or local housing finance agencies). The program has come under increased scrutiny following reports of high or fraudulent development costs for certain LIHTC projects. GAO was asked to review the cost-efficiency and effectiveness of the LIHTC program.

This report examines (1) development costs for selected LIHTC projects and factors affecting costs, (2) allocating agencies' oversight of costs, and (3) factors limiting assessment of costs. GAO compiled and analyzed a database of costs and characteristics for 1,849 projects completed in 2011–2015 (the most recent data available when compiled) from 12 allocating agencies. The agencies span five regions and accounted for about half of the LIHTCs available for award in 2015. GAO also reviewed the most recent allocating plans and related documents for 57 allocating agencies and reviewed federal requirements.

What GAO Recommends

Congress should consider designating a federal agency to maintain and analyze LIHTC cost data. GAO also makes three recommendations to IRS to enhance collection and verification of cost data. IRS disagreed with the recommendations and said it lacked certain data collection authorities. GAO maintains the recommendations would strengthen program oversight and integrity and modified one of them to allow IRS greater flexibility in promoting data standards.

View GAO-18-637. For more information, contact Daniel Garcia-Diaz at (202) 512-8678 or garciadiazd@gao.gov.

What GAO Found

GAO identified wide variation in development costs and several cost drivers for Low-Income Housing Tax Credit (LIHTC) projects completed in 2011–2015. Across 12 selected allocating agencies, median per-unit costs for new construction projects ranged from about $126,000 (Texas) to about $326,000 (California). Within individual allocating agencies, the variation in per-unit cost between the least and most expensive project ranged from as little as $104,000 per unit (Georgia) to as much as $606,000 per unit (California). After controlling for other characteristics, GAO estimates that

- larger projects (more than 100 units) cost about $85,000 less per unit than smaller projects (fewer than 37 units), consistent with economies of scale.
- projects in urban areas cost about $13,000 more per unit than projects in nonurban areas.
- projects for senior tenants—nearly one-third of all projects—cost about $7,000 less per unit than those for other tenants, potentially due to smaller unit sizes.

Allocating agencies use measures such as cost and fee limits to oversee LIHTC development costs, but few agencies have requirements to help guard against misrepresentation of contractor costs (a known fraud risk). LIHTC program policies, while requiring high-level cost certifications from developers, do not directly address this risk because the certifications aggregate costs from multiple contractors. Some allocating agencies require detailed cost certifications from contractors, but many do not. Because the Internal Revenue Service (IRS) does not require such certifications for LIHTC projects, the vulnerability of the LIHTC program to this fraud risk is heightened.

Weaknesses in data quality and federal oversight constrain assessment of LIHTC development costs and the efficiency and effectiveness of the program. GAO found

- inconsistencies in the types, definitions, and formats of cost-related variables 12 selected agencies collected.
- allocating agencies did not capture the full extent of a key indirect cost—a fee paid to syndicators acting as intermediaries between project developers and investors that IRS requires be collected.
- IRS does not require allocating agencies to collect and report cost-related data that would facilitate programwide assessment of development costs. Further, Congress has not designated any federal entity to maintain and analyze LIHTC cost data.

Even without a designated federal entity, opportunities exist to advance oversight of development costs. In particular, greater standardization of cost data would lay a foundation for allocating agencies to enhance evaluation of cost drivers and cost-management practices.

Contents

Tables

Figures

Abbreviations

ARRA	American Recovery and Reinvestment Act of 2009
Arizona	Arizona Department of Housing
California	California Tax Credit Allocation Committee
CDBG	Community Development Block Grant
Chicago	Chicago Department of Planning and Development
Florida	Florida Housing Finance Corporation

Georgia	Georgia Department of Community Affairs
HOME	HOME Investment Partnerships Program
HUD	Department of Housing and Urban Development
Illinois	Illinois Housing Development Authority
IRS	Internal Revenue Service
LEED	Leadership in Energy and Environmental Design
LIHTC	Low-Income Housing Tax Credit
LP	limited partnership
NCSHA	National Council of State Housing Agencies
New York	New York State Division of Housing and Community Renewal
New York City	New York City Department of Housing Preservation and Development
Ohio	Ohio Housing Finance Agency
Pennsylvania	Pennsylvania Housing Finance Agency
QAP	Qualified Allocation Plan
Section 42	Section 42 of the Internal Revenue Code
Texas	Texas Department of Housing and Community Affairs
Treasury	Department of the Treasury
USDA	Department of Agriculture
Washington	Washington State Housing Finance Commission

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

September 18, 2018

The Honorable Charles E. Grassley
Chairman
Committee on the Judiciary
United States Senate

Dear Mr. Chairman:

Low-Income Housing Tax Credits (LIHTC) are the largest source of federal assistance for developing affordable rental housing and represented an estimated $8.4 billion in foregone revenue in 2017. The program encourages private investment in low-income housing through tax credits, but the cost of this housing has come under increased scrutiny following reports of high or fraudulent development costs in certain LIHTC projects. In addition, analysis of trends and variation in LIHTC development costs and of federal and state efforts to oversee these costs has been limited to date.

The LIHTC program, established under the Tax Reform Act of 1986, has financed approximately 50,000 housing units annually since 2010.[1] The program is jointly administered by the Internal Revenue Service (IRS) within the Department of the Treasury (Treasury) and by credit allocating agencies, typically state housing finance agencies established to meet affordable housing needs of their residents.[2]

You requested we review the cost-efficiency and effectiveness of the LIHTC program. This report analyzes (1) development costs for LIHTC projects completed in 2011–2015 in selected locations and factors

[1]This figure applies to units financed with 9 percent LIHTCs, which are designed to provide a 70 percent subsidy for developing or rehabilitating low-income units, and is based on industry estimates. While this report focuses on the 9 percent LIHTC, a 4 percent LIHTC providing a 30 percent subsidy is also available. 26 U.S.C. § 42(b)(I)(B).

[2]We previously reported that IRS oversight of the LIHTC program was minimal and IRS had not set goals for or assessed program performance. See GAO, *Low-Income Housing Tax Credit: Joint IRS-HUD Administration Could Help Address Weaknesses in Oversight*, GAO-15-330 (Washington, D.C.: July 15, 2015). We also reported on how allocating agencies administer LIHTC. See GAO, *Low-Income Housing Tax Credit: Some Agency Practices Raise Concerns and IRS Could Improve Noncompliance Reporting and Data Collection*, GAO-16-360 (Washington, D.C.: May 11, 2016).

affecting these costs, (2) steps allocating agencies have taken to oversee LIHTC development costs, and (3) factors limiting assessment of LIHTC development costs.

To analyze development costs for LIHTC projects, we created and analyzed a database of costs and characteristics for 1,849 projects that submitted final cost certifications (which detail a project's total costs, including the costs used in calculating credit awards) to 12 selected allocating agencies in 2011–2015.[3] The 12 allocating agencies accounted for 50 percent of the total 2015 credit ceiling amount and spanned the five major geographic regions.[4] Although the database we created includes nearly all projects completed by the 12 allocating agencies in 2011–2015, it is not generalizable to all allocating agencies. To describe costs and characteristics of LIHTC projects, we calculated summary statistics (distributions and medians) for key elements in our database, and compared results across the 12 agencies. We also developed a regression model to estimate relationships between development costs and relevant project and location characteristics.[5] We interviewed officials from the 12 agencies, selected industry groups, and selected researchers to discuss our data collection and analysis.[6] To assess the reliability of

[3]The 12 agencies are the Arizona Department of Housing, California Tax Credit Allocation Committee, Florida Housing Finance Corporation, Georgia Department of Community Affairs, Illinois Housing Development Authority, Chicago Department of Planning and Development, New York State Division of Housing and Community Renewal, New York City Department of Housing Preservation and Development, Ohio Housing Finance Agency, Pennsylvania Housing Finance Agency, Texas Department of Housing and Community Affairs, and Washington State Housing Finance Commission. The Chicago and New York City entities are suballocating agencies (they receive a portion of tax credits allocated to Illinois and New York to allocate to projects according to their own priorities). The Illinois and New York state authorities also may award credits to projects in Chicago and New York City, respectively.

[4]In 2015, the credit ceiling for each state was the greater of $2.30 (the 2002 level of $1.75 adjusted for inflation) multiplied by the state's population, or $2.68 million (the 2002 level of $2 million adjusted for inflation). 26 U.S.C. § 42(h)(3)(C),(H).

[5]We included the following characteristics in our model for each of the 1,849 projects in our sample, to the extent available: address, construction type, developer name, eligible basis, funding sources, income limits for low-income units, tax credit allocation, line-item costs, number of buildings, number of units, square footage, structural features, syndicator, net tax credit price, tenant type, total development cost, unit sizes, and year of completion. See appendix II for more information on the regression model and the limitations of our estimates.

[6]We selected a nongeneralizable, convenience sample of industry groups and researchers for interviews based on their knowledge of LIHTC use and development costs. For more information, see appendix I.

the project data, we tested the data for missing values, outliers, and obvious errors and interviewed allocating agency officials about interpretations of various data fields, among other things. We concluded the data were sufficiently reliable for purposes of comparing LIHTC development costs within and across allocating agencies and for examining development cost drivers and trends.

To analyze steps allocating agencies took to oversee LIHTC development costs, we reviewed the 2017 (or most recent as of August 2017) Qualified Allocation Plans (QAP) and related documents for 57 allocating agencies to identify cost-management and cost-verification approaches (policies and practices to limit development costs and fees and confirm the accuracy of project costs).[7] We interviewed IRS and Treasury officials for information and perspectives on LIHTC cost-verification requirements and Department of Housing and Urban Development (HUD) officials to identify development cost-verification practices of other federal housing programs. We also interviewed officials from the 12 selected allocating agencies, representatives from two national accounting firms with expertise in LIHTC, and the National Council of State Housing Agencies (NCSHA) about cost management and the cost-certification process.

To analyze factors limiting assessment of LIHTC development costs, we assessed the data we collected from the 12 allocating agencies. We identified and documented the consistency in cost-related variables agencies collected and how they defined variables. We documented the formats in which agencies provided and maintained the data we requested and steps we took to standardize and combine data. We reviewed Section 42 of the Internal Revenue Code (Section 42) and related regulations to ascertain requirements for reporting development costs and other information to allocating agencies and IRS. We also interviewed IRS and Treasury officials about these requirements. For more information on our scope and methodology, see appendix I.

We conducted this performance audit from May 2015 to September 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that

[7]The 57 QAPs represent plans from all states and territories (except American Samoa), and from Chicago and New York City.

the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Credit Allocation and Cost Oversight

Each state receives an annual LIHTC allocation.[8] Allocating agencies then evaluate developers' proposals to use tax credits to help develop new or rehabilitate existing housing against their QAPs. The QAPs identify agencies' priority housing needs and contain selection criteria for awarding credits.[9] In addition to meeting criteria outlined in a QAP, projects awarded tax credits must remain affordable to qualifying households for at least 30 years.[10]

The amount of LIHTCs allocating agencies award to a project is primarily based on the project's eligible basis.[11] The agencies should allocate no more credits than they deem necessary to ensure the project's financial feasibility through the 10-year credit period.[12] To determine financial

[8]26 U.S.C. §42(h)(3). We use "annual LIHTC allocation" rather than the statutory term "state housing credit ceiling." The ceiling is the aggregate amount of housing credit allocations that allocating agencies in a state may make in any calendar year. We use "LIHTCs" or "tax credits" rather than the statutory term "housing credit dollar amount." *See id*.

[9]26 U.S.C. §§ 42(m)(1)(B)(ii) and 42(m)(1)(C) outline federal preferences and selection criteria in allocating LIHTCs. Allocating agencies also may define their own requirements and selection criteria for awarding credits (26 U.S.C. § 42(m)(1)(B)(i)).

[10]A project must reserve at least 20 percent of available units for households earning up to 50 percent of the area's median gross income (adjusted for family size) or at least 40 percent of units for households earning up to 60 percent of the area's median gross income (adjusted for family size) for the entire 30 years. 26 U.S.C. § 42(g)(1), (h)(6). The Consolidated Appropriations Act of 2018 amended these rules to allow developers to reserve at least 40 percent of available units for households earning as much as 80 percent of the area median gross income provided that the average household income remains at 60 percent or less of the area median gross income. Pub. L. No. 115-141, Div. T,§ 103 (2018), (amending 26 U.S.C. §.42 (g)(1)).

[11]Eligible basis typically includes costs associated with acquisition, construction, and rehabilitation and most soft costs, but excludes costs associated with land, permanent financing, and syndication.

[12]Although tax credits can be claimed over 10 years, they are contingent on a project's compliance—for 15 years—with program standards for habitability and restrictions on household incomes and unit rents. 26 U.S.C. § 42(b)(1)(B); 26 U.S.C.§ 42(i)(1).

feasibility, Section 42 requires allocating agencies to consider the reasonableness of developmental and operating costs, any proceeds or receipts expected to be generated through the tax benefit, and the percentage of credit amounts used for project costs other than the cost of intermediaries such as syndicators (discussed later in this section). Section 42 also requires allocating agencies to evaluate available private financing and other federal, state, and local funding a developer plans to use and adjust the award accordingly.

Allocating agencies must review costs to determine the credit amount at three points in time: application (when the proposal is submitted), allocation (when the agency commits to providing credits to a specific project), and placed in service (when the project is ready for occupancy under state and local laws).[13] When a project is placed in service, the developer must submit a final cost certification to the allocating agency. This certification details a project's total costs and eligible basis. In general, the cost certification must be accompanied by an unqualified audit report from a certified public accountant, conducted in accordance with generally accepted auditing standards.[14] An agency's QAP (or related documents) may outline policies and procedures for reviewing costs.

Investors and Project Financing

Once a project is awarded tax credits, developers often attempt to obtain funding for the project by attracting investors willing to contribute equity financing. Developers typically sell an ownership interest in their LIHTC projects in exchange for equity from investors (a process commonly referred to as selling tax credits). The equity contributions (or investments) reduce debt burden on LIHTC projects, making it possible for project owners to offer lower, more affordable rents. Generally, investors buy an ownership interest in a LIHTC partnership (commonly referred to as buying tax credits) to lower their tax liability.[15]

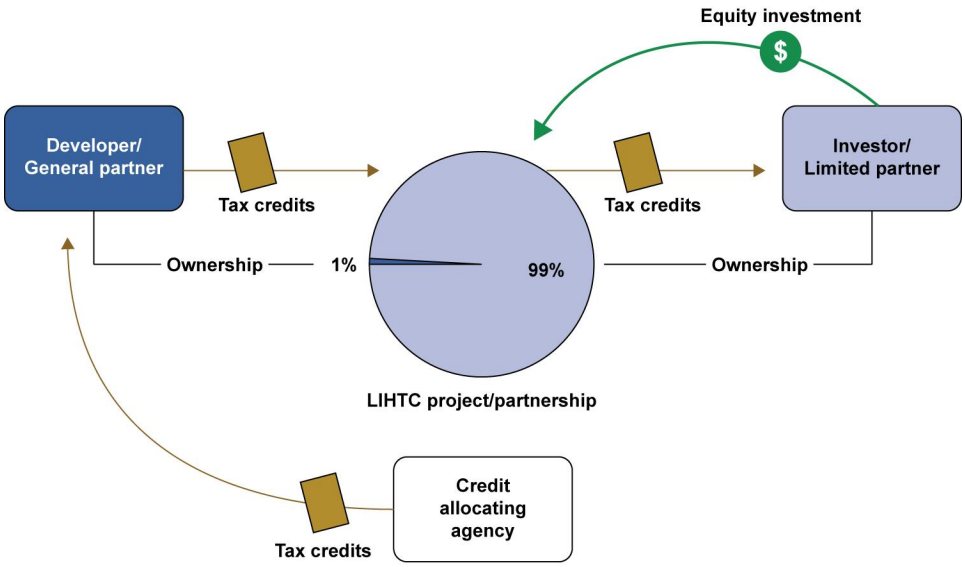
[13]26 U.S.C. § 42(m)(2)(C)(i).

[14]26 C.F.R. 1.42-17(a)(5).

[15]Investors can claim tax credits as a consequence of their investment (provided the project is developed and operated according to requirements of Section 42). LIHTCs reduce an investor's federal tax liability dollar for dollar, meaning $100 of tax credits will reduce a $100 tax liability to zero.

Investors in LIHTC projects may invest directly or through intermediaries known as syndicators. Direct investors are typically larger institutional investors, such as banks that have the internal capacity to fund and manage the acquisition, underwriting, and management of the underlying development project. Under the direct investment model, an investor owns a "limited" partner interest in the partnership owning the underlying property, with the developer typically assuming the "general" partner interest (see fig. 1).[16]

Figure 1: Direct Investment Structure in Projects with Low-Income Housing Tax Credits (LIHTC)



Source: GAO. | GAO-18-637

Note: Ownership interests are approximations based on industry-reported estimates.

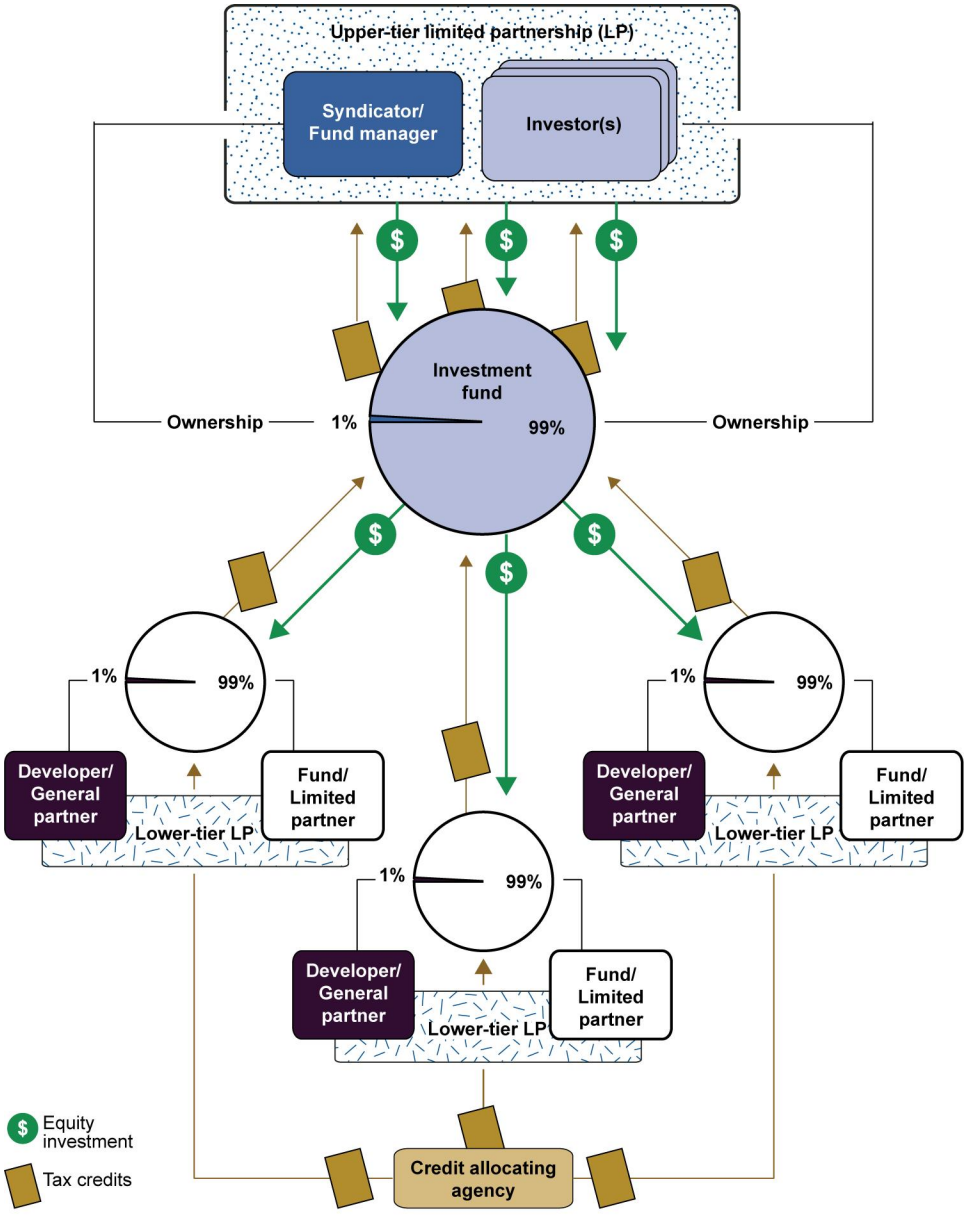
Alternatively, investors may invest in a fund organized and managed by a syndicator. The syndicator-managed funds are limited partnerships in which investors own the limited partner interest in the fund (upper-tier partnership), with the fund in turn owning the limited partner interest in various property partnerships (lower-tier partnership). The money investors pay for a partnership interest in the fund is paid to associated LIHTC projects as equity financing. Syndicators manage two types of funds: proprietary (or single-investor) funds and multi-investor funds (see

[16]In a limited partnership, the general partner is responsible for managing the partnership and maintains personal liability for the partnership's debts. The limited partner generally does not participate in managing the partnership and has limited personal liability.

fig. 2). In both cases, the syndicator originates potential investments, performs underwriting, and presents the potential investments to investors.[17]

[17]We previously reported on the role of syndicators in the LIHTC program. See GAO, *Low-Income Housing Tax Credit: The Role of Syndicators,* GAO-17-285R (Washington, D.C.: Feb. 16, 2017).

Figure 2: Syndicated Investment Structure in Projects with Low-Income Housing Tax Credits



Source: GAO. | GAO-18-637

Note: Ownership interests are approximations based on industry-reported estimates.

Syndicators receive a fee from investors—typically a percentage of the gross equity raised—for their services in establishing, originating,

underwriting, and closing on projects for investment funds. This fee is often referred to as an "acquisition fee" or an "upper-tier syndication fee." The syndicator also may charge a fee to each project partnership in a fund for project-specific legal and accounting costs. This fee is often referred to as a "lower-tier syndication fee."[18]

LIHTC projects typically do not produce income through rents for investors. Rather, investors use the credits to offset their income tax liabilities over the 10-year credit period. As a result, for a LIHTC investment to be financially beneficial to an investor, the present value of 10 years of LIHTCs and any related benefits, such as taxable losses and depreciation, generally must exceed the amount the investor contributes in equity.[19] This consideration, in part, drives the price investors are willing to pay for tax credits. Under normal economic conditions, equity pricing per tax credit has ranged from the $0.80s to mid-$0.90s per $1.00 of tax credit.[20]

Projects often require financing in addition to investors' equity contributions to cover development costs. This gap may be filled by federal, state, local, and private sources—for example, certain HUD grants and loans, state tax credits modeled after the federal program, and

[18]Projects with direct investors pay fees associated with admitting an investor to the partnership and equity credit syndication.

[19]Regulatory benefits such as higher Community Reinvestment Act ratings also may motivate some LIHTC investors. See GAO, *Community Reinvestment Act: Challenges in Quantifying Its Effects on Low-Income Housing Tax Credit Investment,* GAO-12-869R (Washington, D.C.: Aug. 8, 2012).

[20]During the financial crisis (2007–2009), the LIHTC program was severely disrupted when investor demand for tax credits, and by extension equity prices, collapsed. Congress took actions to improve LIHTC program operation and address the lack of private investment in projects, including changes enacted as part of the Housing and Economic Recovery Act of 2008, Pub. L. No. 110-289, §§ 3001–3005, 122 Stat. 2654, 2878-2885 (2008), and the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115, 220-221 (2009); Pub. L. No. 111-5, Div B., § 1602, 123 Stat. 115, 362 (2009). More recently, Pub. L. No. 115-97, § 13001, 131 Stat. 2054, 2096 (2017) reduced the top corporate tax rate from 35 percent to 21 percent beginning in 2018. This rate reduction lowers the tax loss benefits of LIHTC investments and could affect LIHTC equity investments for some projects. Novogradac & Company LLP, a national accounting firm, estimated the rate change would reduce LIHTC equity by about $1.7 billion or more annually.

mortgage loans without government guarantees. A developer also may defer its developer fee to cover all or a portion of a funding gap.[21]

Program Oversight

IRS and allocating agencies jointly administer the LIHTC program, with other entities providing additional types of oversight, as follows.

- IRS administration of the LIHTC program includes developing and publishing regulations and guidance, enforcing taxpayer compliance, and overseeing allocating agencies' monitoring of taxpayer compliance. The IRS Office of Chief Counsel, with assistance from Treasury's Office of Tax Policy, develops and publishes regulations and guidance based on requirements in Section 42. In general, IRS collects and reviews information necessary for tax administration, including data on LIHTCs awarded and other information necessary to check the amount claimed on tax returns. According to IRS officials, IRS also regularly communicates with allocating agencies and stakeholders about LIHTC compliance issues and best practices at industry meetings and conferences.
- IRS relies on allocating agencies to administer and oversee the LIHTC program in states. In addition to awarding credits to qualified projects, allocating agencies are responsible for monitoring LIHTC properties for compliance with program requirements (for example, rent ceilings, tenant income, and habitability). Noncompliance with LIHTC requirements may result in IRS denying claims for the credit in the current year or recapturing (taking back) credits claimed in prior years.
- Investors and syndicators also monitor projects by performing due diligence in relation to their viability and eligibility for tax credits, in part to ensure they receive the expected tax credits.[22]
- Although not an administering agency, HUD plays a role in collecting data on the program. Specifically, the agency has to collect information on LIHTC tenant characteristics, as mandated in the

[21]Developers receive a fee for overseeing the development of the property. The developer fee is typically limited to about 15 percent of the project's total development cost. In general, deferred developer fees are paid from future capital contributions, cash flow (rents), or refinancing proceeds after a project is placed in service.

[22]Syndicators may receive a separate "asset management" fee for monitoring and other activities they may perform in relation to in-service properties in the investment fund.

Housing and Economic Recovery Act of 2008.[23] Since 1996, HUD voluntarily has collected LIHTC project-level data because of the importance of the credits as a source of funding for low-income housing. HUD also has a role in designating difficult development areas and qualified census tracts.[24]

- In addition, NCSHA has identified recommended practices to allocating agencies for administering the LIHTC program, including oversight of QAPs and cost verification.[25]

[23]Allocating agencies must submit annual data to HUD on race, ethnicity, family composition, age, income, use of rental assistance under Section 8(o) of the United States Housing Act of 1937 or similar assistance, disability status, and monthly rental payments of households in each property receiving LIHTCs. HUD also must make the data it receives available to the public and does so through its LIHTC databases (http://lihtc.huduser.org).

[24]Section 42 allows for an increase (boost) of up to 130 percent in the eligible basis to housing developments in difficult development areas or qualified census tracts. 26 U.S.C. 42(d)(5)(B)(i). A difficult development area is designated by the Secretary of HUD and has high construction, land, and utility costs relative to the area median gross income. 26 U.S.C. §42(d)(5)(B)(iii)(I). A qualified census tract is one in which 50 percent or more of households have an income less than 60 percent of area median gross income or which has a poverty rate of at least 25 percent. 26 U.S.C. 42(d)(5)(B)(ii)(I). The number of difficult development areas and qualified census tracts in a metropolitan area is subject to limits based on population.

[25]See the National Council of State Housing Agencies' *Recommended Practices in Housing Credit Administration.* The most recent version is from 2017. According to NCSHA, its recommended practices are voluntary standards for housing credit allocation, underwriting, and compliance monitoring that allocating agencies should consider adopting. NCSHA is a nonprofit advocacy organization. Its members include housing finance agencies of most of the states, the District of Columbia, New York City, Puerto Rico, and the Virgin Islands; agencies that allocate LIHTCs in states where a housing finance agency does not; and more than 300 affiliate members in the affordable housing field.

LIHTC Project Costs Varied Widely, and Scale, Location, and Tenant Characteristics Explained Some Differences

Median Cost of LIHTC Projects Was About $200,000 Per Unit, and the Range and Composition of Costs Varied by Construction Type

The median per-unit cost of the LIHTC projects completed in our 12 selected allocating agency jurisdictions in 2011–2015 was $204,000.[26] The median per-unit cost of new construction projects was about $50,000 higher than for rehabilitation projects ($218,000 compared to about $169,000).[27] For new construction projects, the median per-unit cost was about $38,000 higher in urban areas than in nonurban areas (about $230,000 compared to $192,000).[28] For rehabilitation projects, the median per-unit cost was about $72,000 higher in urban areas than in nonurban areas (about $196,000 compared to $124,000). The development costs we report may be somewhat understated, because the documentation we obtained from allocating agencies did not consistently include the value of all costs—for example, donated land—which we discuss later in this report.

As shown in figure 3, the median per-unit LIHTC equity investment was about $147,000 for new construction projects (about 67 percent of the total development cost) and $103,000 for rehabilitation projects (about 61

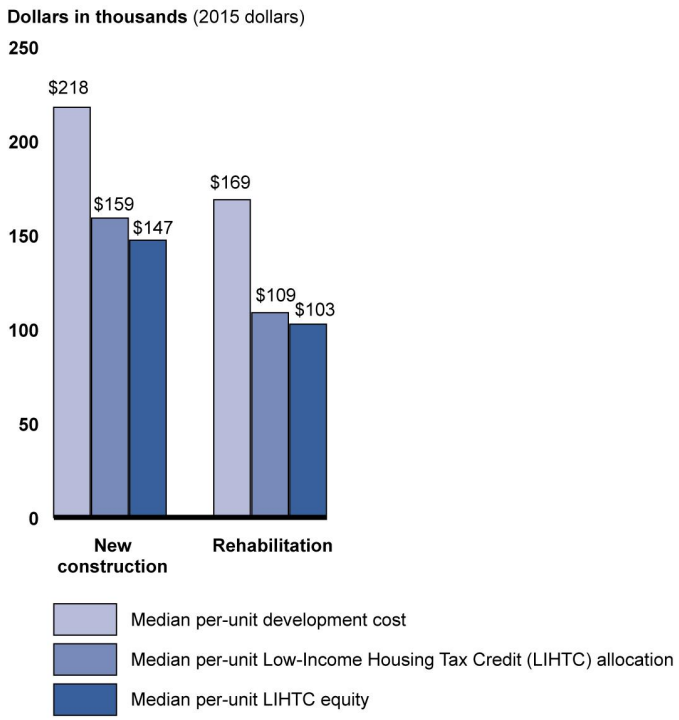
[26]We considered projects to be completed when their final cost certifications were signed. Cost refers to the total development cost as presented in the cost certifications we reviewed, excluding reserves and other post-construction expenses. Total development cost does not include the cost of any operating subsidies, such as for rental assistance or tax abatement. All reported costs are adjusted for inflation to 2015 dollars using the calendar-year, chain-weighted Gross Domestic Product price index. To compare projects of varying scales, we calculated per-unit costs (total development cost divided by total number of units). We were unable to compare projects based on costs per square foot because gross square footage data were not available across all the selected allocating agencies.

[27]About 66 percent of the projects in our sample were new construction and about 34 percent were rehabilitations.

[28]About 77 percent of projects in our sample were in urban areas and about 23 percent in nonurban areas.

percent of the total development cost).[29] Other funding sources, such as private loans or state and local programs, made up for differences between project costs and equity investments. We estimated equity investments for the selected projects based on their LIHTC allocations and the reported prices investors paid for the credits.[30] The median credit price increased from about $0.80 in 2011 to about $0.93 in 2015.

Figure 3: Median Per-Unit Development Cost, LIHTC Allocation, and Estimated LIHTC Equity for Selected Allocating Agencies, by Construction Type, 2011–2015



Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent LIHTCs from 12 selected allocating agencies (10 states and 2 cities).

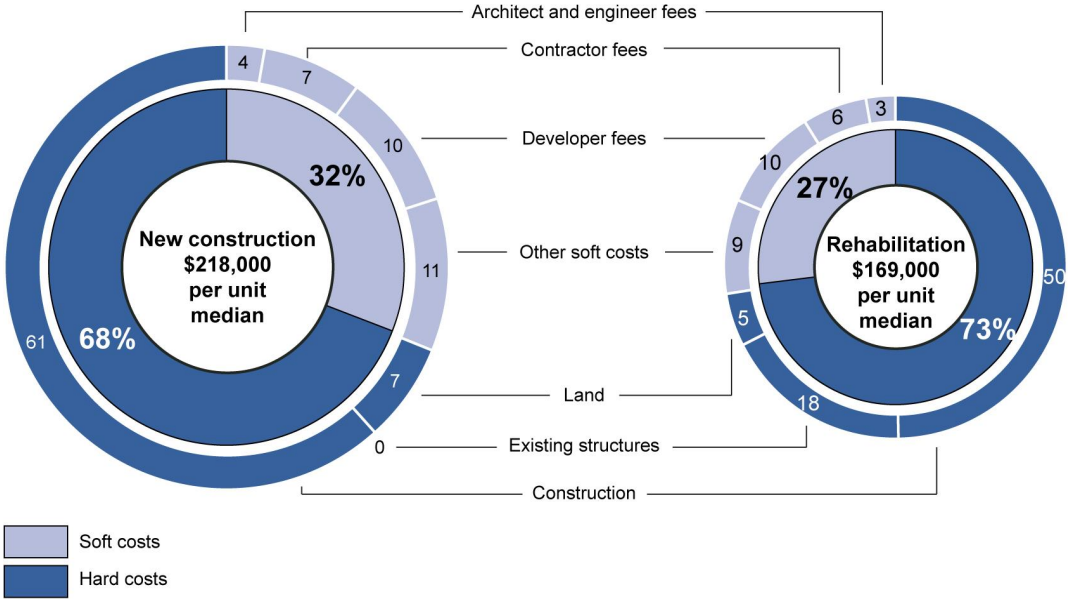
Although rehabilitation projects generally had lower per-unit costs than new construction, both types of projects had similar proportions of hard

[29]As discussed previously, projects receive LIHTCs for certain applicable expenses, known as eligible basis.

[30]We collected the net LIHTC price, or the amount of investment equity a project received in exchange for each dollar of LIHTC, less certain syndicator and investor costs.

and soft costs (see fig. 4).[31] Hard costs (which include land, existing structures, and construction) were roughly 70 percent of new construction and rehabilitation project costs. Costs for acquisition of existing structures were proportionally higher and construction costs proportionally lower for rehabilitation projects than for new construction. Land costs were close in proportion. Soft costs (which include contractor fees, architect and engineer fees, developer fees, and other soft costs such as construction loan financing) were proportionally similar for new construction and rehabilitation projects—roughly 30 percent.[32]

Figure 4: Cost Categories as a Percentage of Development Costs for Selected Allocating Agencies, by Construction Type, 2011–2015



Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies (10 states and 2 cities). We included costs for lower-tier (or project-level) tax credit partnership and syndication costs under other soft costs. These costs primarily included accounting, consulting, legal, partnership activities, and syndicator fees and were less than 1 percent (about 0.41 percent) of total cost. As discussed later in this report, upper-tier (or investor-level) costs were not available. The percentages in the figure were

[31]See appendix II for details on the methods and results of our statistical analysis. See appendix I for definitions of, and the methodology we used to categorize, project costs.

[32]Developers commonly deferred a portion of their fees to help finance projects. For example, at least 43 percent of the projects from California used deferred developer fees as a funding source.

calculated by dividing the sum of all projects' costs in each category by the sum of their total development costs.

Project Cost Trends Differed by Construction Type and Are Difficult to Compare to Market-Rate Projects

In nominal terms, the median per-unit cost of new construction projects increased by about 13 percent during 2011–2015, and the median per-unit cost of rehabilitation projects decreased by about 21 percent. After accounting for inflation, the median per-unit cost for new construction projects increased by about 7 percent (from about $208,000 to $222,000 in 2015 dollars), while the median per-unit cost for rehabilitation projects decreased by about 26 percent (from about $207,000 to $153,000 in 2015 dollars).[33] However, this analysis does not account for changes in the composition of projects that were built (such as size or location). In addition, the overall trends were substantially affected by certain allocating agencies.

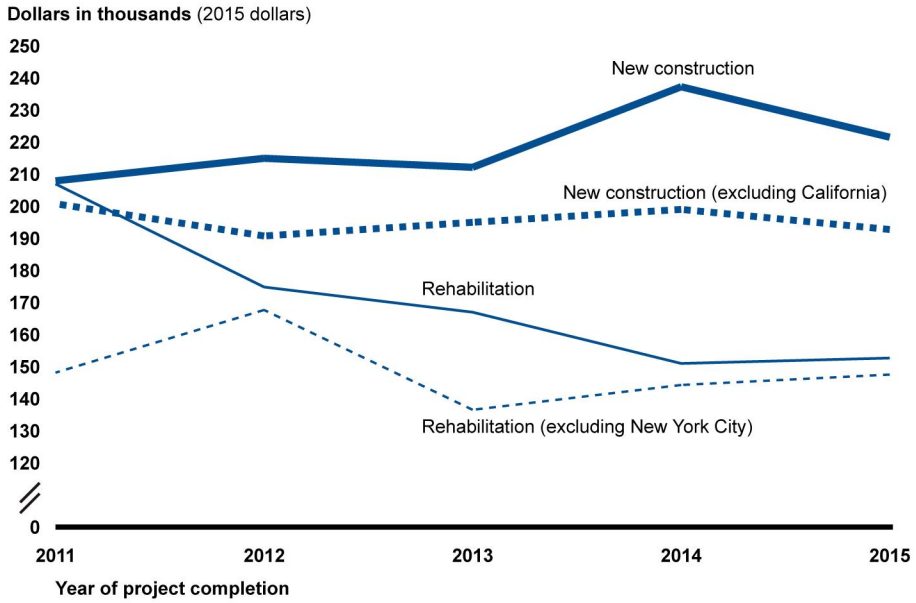
- For example, California accounted for about 24 percent of the new construction projects in our sample. During 2011–2015, the median per-unit cost of California's new construction projects increased by about 11 percent (about 18 percent in nominal terms), while the median per-unit cost of all other new construction projects in our sample decreased by about 4 percent (in nominal terms, increased by about 2 percent).
- Additionally, New York City accounted for about 19 percent of the rehabilitation projects in our sample, and the median per-unit cost of its projects declined by about 33 percent (about 32 percent in nominal terms) in 2011–2012.[34] During this same period, the median per-unit cost of all other rehabilitation projects increased by about 13 percent

[33]In terms of the direction of change, LIHTC allocations followed similar trends. The median per-unit LIHTC allocation increased by about 19 percent for new construction projects and decreased by about 7 percent for rehabilitation projects in 2011–2015.

[34]According to New York City officials, the agency prioritized the rehabilitation of city-owned abandoned and foreclosed scattered-site buildings during 2011–2015.

(about 15 percent in nominal terms) but did not show a clear trend in 2011–2015.[35]

Figure 5: Median Per-Unit Development Cost in Constant Dollars for Selected Allocating Agencies, by Construction Type, 2011–2015



Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies (10 states and 2 cities): Arizona, California, Chicago, Florida, Georgia, Illinois, New York, New York City, Ohio, Pennsylvania, Texas, and Washington. Projects were considered completed when their final cost certifications were signed. We excluded California and New York City from the alternative trend lines because their costs were among the highest, changed sharply in some years, and represented roughly one-fifth of all new construction and rehabilitation projects, respectively.

To provide some context for the project costs and trends discussed above, we compared the annual rates of change for median new construction costs—generally site work, construction materials and labor, and contractor fees—to the annual rates of change in a Bureau of Labor

[35]Median per-unit costs also changed for other allocating agencies. For example, the median per-unit cost of new construction projects in Texas increased by about 7 percent during 2011–2015. For rehabilitation projects in Pennsylvania, the median per-unit cost decreased by about 32 percent in 2011–2015. However, in both examples, the direction of changes was not consistent over time. For more information on how project costs changed in 2011–2015, see appendix III.

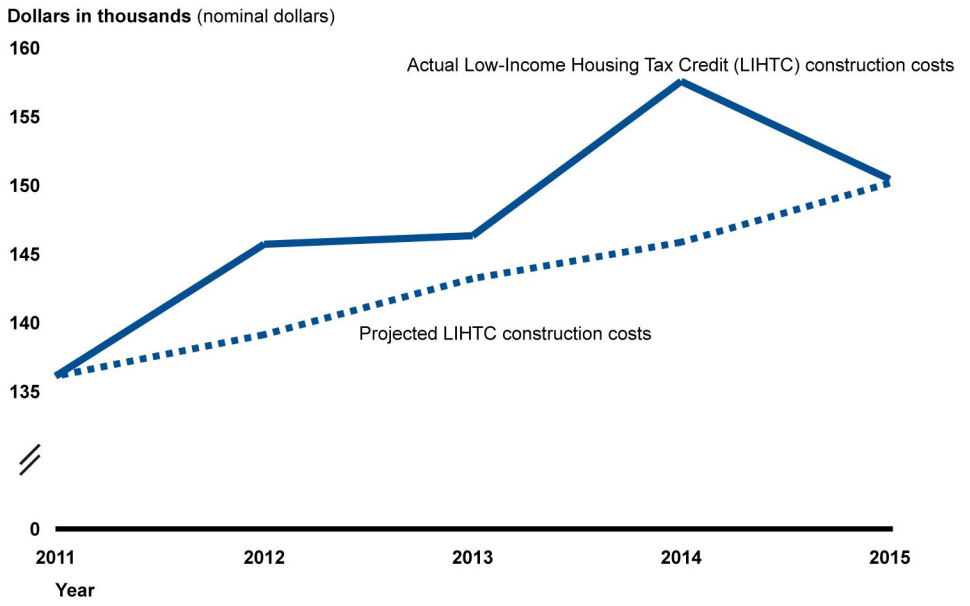
Statistics index for construction costs that tracks price changes for various types of new construction.[36]

The median per-unit construction cost of the LIHTC projects (unadjusted for inflation) and the index both increased over the analysis period—by 11 percent and 10 percent, respectively. However, while the index consistently increased annually by an average of about 2 percent, the magnitude and direction of changes for the LIHTC projects varied, increasing by as much as about 8 percent in 2013–2014 and decreasing by about 5 percent in 2014–2015.

Figure 6 shows the annual median per-unit construction costs for new construction LIHTC projects and a projected trend if they had increased at the rate of the Bureau of Labor Statistics index beginning in 2011. These results suggest that factors besides the price of construction inputs (such as material, labor, and contractor fees) drove changes in the median cost of LIHTC projects completed during 2011–2015. Project locations and characteristics varied each year, and a number of these factors were associated with per-unit costs, as discussed later.

[36]We used the Producer Price Index by Commodity for Final Demand: Construction, which tracked monthly price changes among several new construction commodities, such as office building construction. The index incorporated industry-reported data on material, labor, equipment costs, and contactor fees to estimate changes in the cost of specified building models that represented the types of buildings constructed in the marketplace. To account for the time between incurring of construction costs and project completion, we compared the annual rates of change for the LIHTC project costs to the annual rates of change in the average index value from the previous year. We used the same approach for the projected costs in figure 6. For example, we calculated the projected cost in 2012 by inflating the actual cost in 2011 by the change in the average index value in 2010–2011.

Figure 6: Actual and Projected Median Per-Unit Construction Costs in Nominal Dollars of New Construction Projects for Selected Allocating Agencies, 2011–2015



Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent LIHTC from 12 selected allocating agencies (10 states and 2 cities). LIHTC construction costs include costs for construction and contractor fees and exclude all other costs, such as land, developer fees, and other soft costs. We projected costs using the Bureau of Labor Statistics' Producer Price Index by Commodity for Final Demand: Construction. The relationship between the lines for actual and projected costs is sensitive to the starting year.

To provide context for our cost analysis, we also examined the feasibility of comparing LIHTC development costs to development costs for market-rate projects. However, we were unable to obtain data on market-rate developments from industry groups we contacted that represented developers and lenders, or from researchers who had conducted similar studies. Additionally, allocating agencies did not consistently maintain key project data—such as gross square footage, number of stories, or construction wages—needed to benchmark LIHTC project costs using a construction cost estimation tool. We discuss these and other data challenges in greater detail later in this report.

Nonetheless, several factors provide possible explanations for why construction costs, developer fees, and other soft costs may differ between LIHTC and market-rate projects:

- **Durability.** LIHTC project developers may have incentive to use more durable (and potentially more expensive) construction components than they might for market-rate developments. They may seek to limit replacement costs before the end of the 15-year compliance period—after which they may seek additional LIHTCs for rehabilitation or convert units to market-rate. As revenue from tenant rents is generally lower for LIHTC projects than for market-rate projects, and because investors prefer not to refinance during the 15-year compliance period and lower their returns, LIHTC project owners are more limited in their ability to recapitalize aging projects. On the other hand, market forces may encourage market-rate developers to provide higher-grade finishes and amenities than LIHTC developers in some markets.
- **Agency and local requirements.** Allocating agencies can use QAP minimum standards and scoring incentives to influence the types of projects developers propose and build. Although these preferences can help achieve a variety of policy priorities, some can increase costs. For example, QAPs may provide developers with incentives to pursue historic preservation projects or require them to add on-site commercial space or amenities such as community rooms. Green building and energy-efficiency standards are also common QAP incentives that can increase development costs, although they may offset some future operating costs through lower utility expenses. Some QAPs also may incentivize urban infill projects on sites that require extensive demolition or environmental remediation, which add to costs.[37]
- **Profit motive.** LIHTC projects may be less attractive financially for developers than market-rate projects because they yield lower profits from rental income. Accordingly, allocating agencies allow a developer fee, for which tax credit equity generally pays. For the projects in our sample, developer fees represented about 11 percent of development costs at the median. In comparison, market-rate developers are generally compensated through rental income or from the sale of their developments.
- **Other soft costs.** LIHTC projects may have higher soft costs (other than developer fees) compared to market-rate and other types of affordable developments for a number of reasons, including the following:

[37]Urban infill is new development on vacant or undeveloped land that is surrounded by other types of development.

- Financing projects through LIHTC equity is a complex process that can result in higher legal, accounting, and syndication fees and can also require developers to hire outside consultants and develop sophisticated internal capacity.
- LIHTC developers also generally rely on multiple public and private funding sources in addition to tax credit equity to fully finance projects. For example, projects in California used about six funding sources in addition to LIHTC equity, on average. These additional sources can increase legal, accounting, and other fees due to the costs associated with seeking additional sources, writing applications, and complying with further appraisal, audit, and regulatory requirements. Securing additional funding sources also can delay the development process, which may increase land holding and interest expenses.

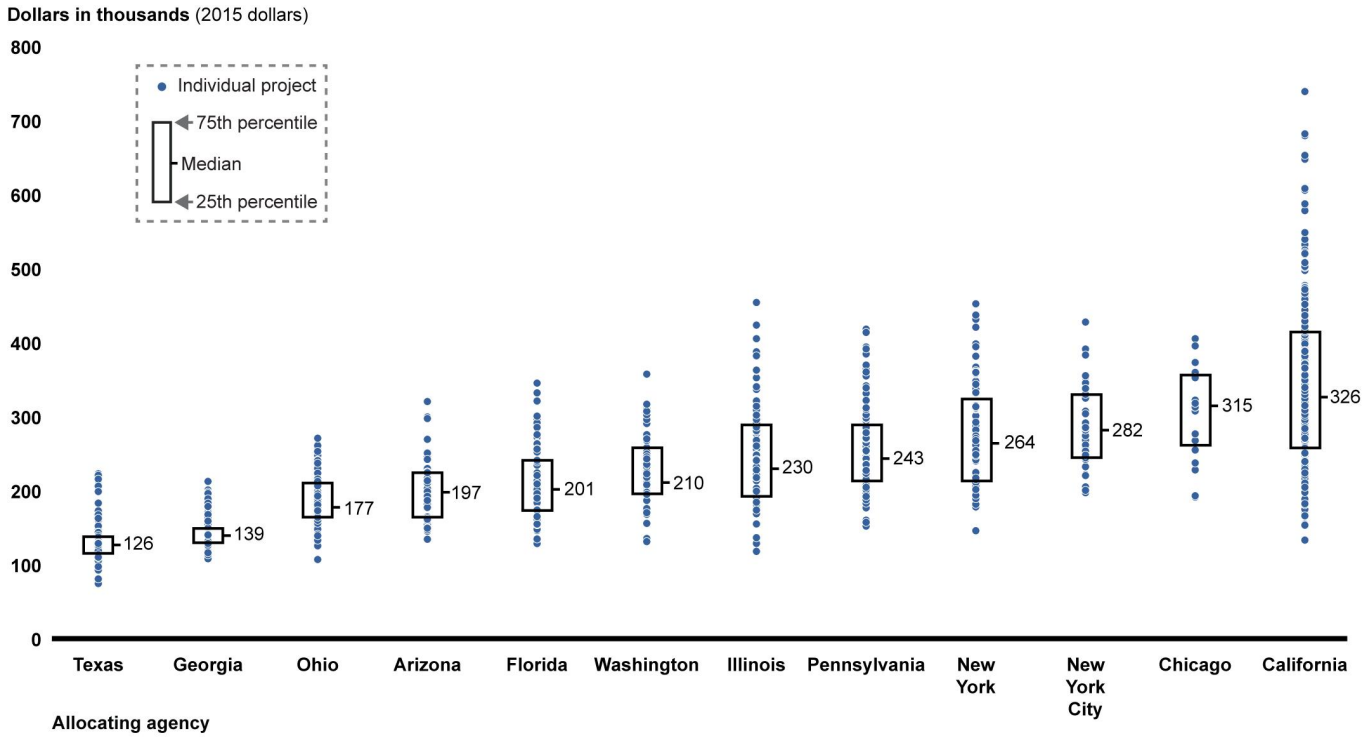
LIHTC Project Costs Varied across Selected Allocating Agencies

As shown in figure 7, the median per-unit cost of new construction projects across the 12 selected allocating agencies ranged from a low of about $126,000 in Texas to a high of $326,000 in California.[38] The median per-unit cost was less than $200,000 for 4 of the 12 allocating agencies (Arizona, Georgia, Ohio, and Texas); from $200,000 to $300,000 for 6 of the 12 allocating agencies (Florida, Illinois, New York, New York City, Pennsylvania, and Washington); and greater than $300,000 for 2 of the 12 agencies (Chicago and California).[39]

[38]Texas and California also had new construction projects with the lowest and highest per-unit cost, respectively, which ranged from as low as $74,000 in Texas to as high as $739,000 in California.

[39]The project samples for Illinois and New York include projects they funded in Chicago and New York City, respectively.

Figure 7: Per-Unit Development Costs for New Construction Projects, by Selected Allocating Agency, 2011–2015



Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies (10 states and 2 cities).

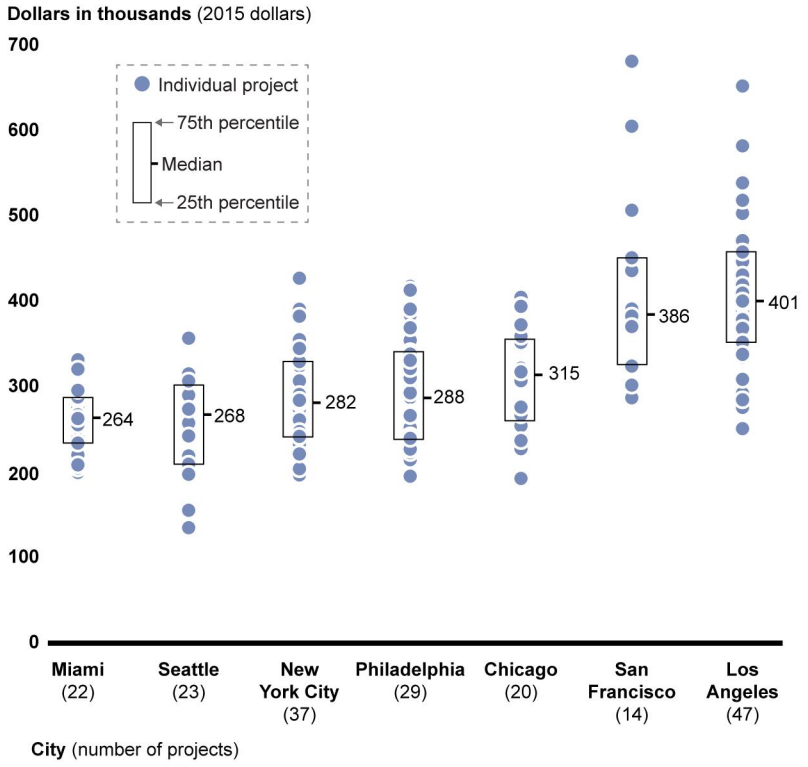
Median per-unit costs for rehabilitation projects were lower and varied less than those for new construction projects, ranging from a low of about $107,000 in Illinois to a high of about $258,000 in both Chicago and New York. In all selected allocating agencies, the median per-unit cost for rehabilitation projects was lower than for new construction projects. For example, the median in California was about $184,000, compared to about $326,000 for new construction. For additional details on the cost of rehabilitation projects, see appendix III.

As also shown in figure 7, within individual allocating agencies, the cost difference between the least and most expensive project was as little as $104,000 per unit (Georgia) and as much as $606,000 per unit (California). Project costs tended to be clustered around the median for each allocating agency, but were still widely distributed between the 25th and 75th percentiles for some allocating agencies. For example, the difference between the 25th and 75th percentiles was more than $75,000

in half of the locations we reviewed (California, Chicago, Illinois, New York, New York City, and Pennsylvania).

Although projects costs were among the highest for the Chicago and New York City allocating agencies, they were within the range of costs for five other cities that had comparable population and density and were in the jurisdictions of other allocating agencies within our sample (see fig. 8).[40]

Figure 8: Per-Unit Development Costs for New Construction Projects, by Selected Cities, 2011–2015



Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from six selected allocating agencies (four states and two cities).

[40]We selected the five densest cities (people per square mile) with populations of 300,000 or more, population densities of 5,000 or more people per square mile, and 10 or more new construction projects completed in 2010–2015. In addition to the cities we selected, eight other cities in our sample met the population and density criteria but did not have 10 or more projects or were less dense.

Projects in Chicago and New York City only include projects funded by the municipal allocating agency.

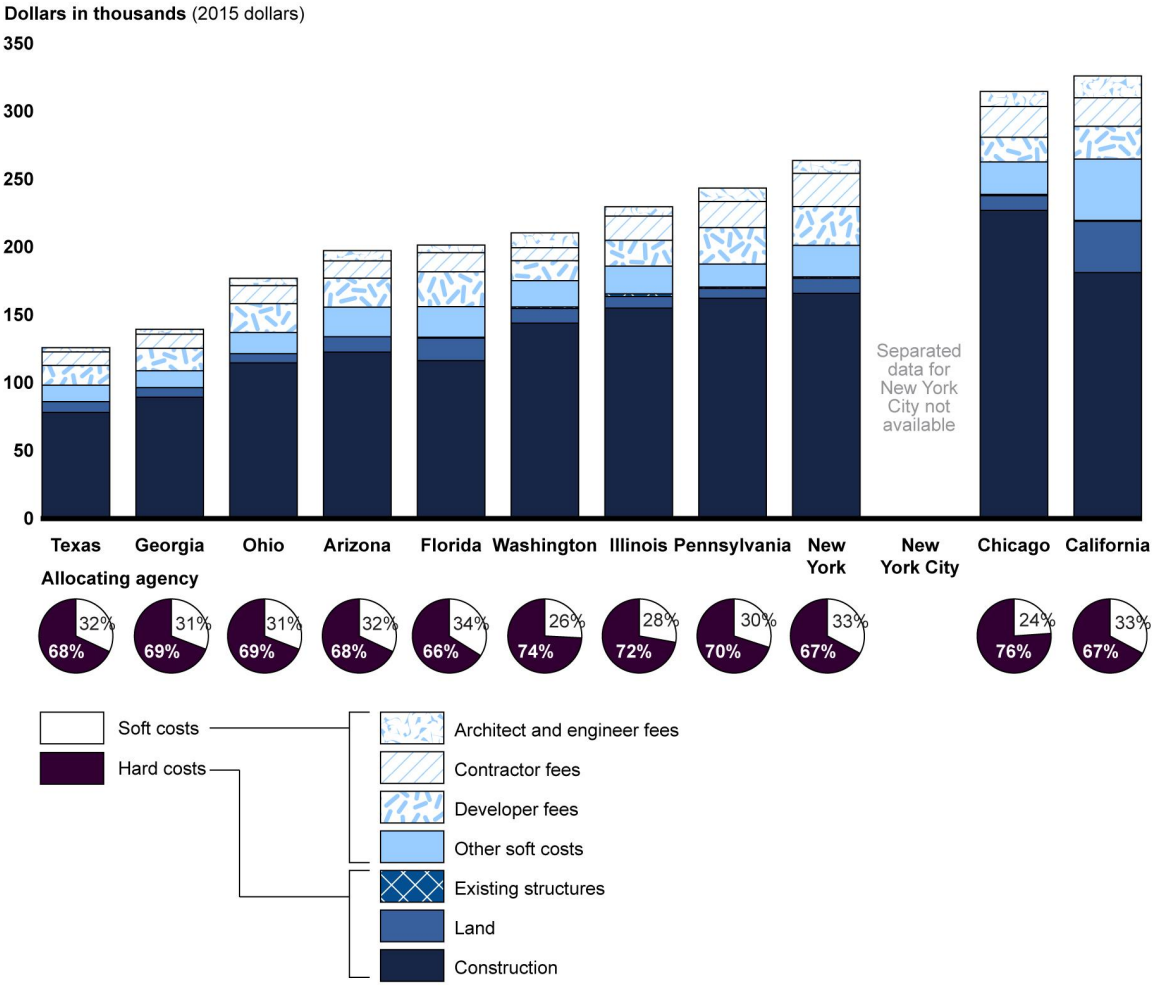
Hard costs as a proportion of total development costs varied among the selected allocating agencies. Agencies' hard costs ranged from about 66–76 percent for new construction projects completed in 2011–2015, with soft costs accounting for the remainder (see fig. 9).[41] The proportions of hard and soft costs were generally similar across higher- and lower-cost locations. For example, California had the highest median per-unit cost among selected allocating agencies, but had hard and soft costs (about 67 and 33 percent) proportionally similar to those in Texas (about 68 and 32 percent) and Georgia (about 69 and 31 percent), where median per-unit costs were among the lowest.

In relation to hard costs, median per-unit construction costs were highest in Chicago, where construction costs constituted about 72 percent of total development costs (but were about 63 percent elsewhere, on average). In comparison, construction costs in California were just 56 percent of total development costs due to higher land costs (about 12 percent of total development costs, but about 5 percent elsewhere, on average).

For soft costs, developer fees and other soft costs (such as construction loan interest and permit fees) varied more widely across the allocating agencies than architect and engineer fees and contractor fees. Developer fees ranged from about 6 percent of development costs in Chicago to about 13 percent of development costs in Florida. Other soft costs similarly ranged from about 7 percent of development costs in Pennsylvania to about 14 percent of development costs in California. In comparison, architect and engineer fees ranged from about 3 percent to 5 percent of development costs, and contractor fees ranged from about 5 percent to 9 percent of development costs.

[41]For new construction projects, per-unit hard costs ranged from about $49,000 (Texas) to $534,000 (California). Per-unit soft costs for new construction projects ranged from $21,000 (Georgia) to $265,000 (California).

Figure 9: Hard and Soft Costs as a Proportion of New Construction Development Cost, by Selected Allocating Agency, 2011–2015



Source: GAO analysis of allocatiing agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies (10 states and 2 cities). We did not include projects from New York City because we could not separate contractor fees from construction costs.

Scale, Location, and Other Characteristics of LIHTC Projects Explained Some Cost Differences

By design, the LIHTC program gives allocating agencies flexibility to address local housing needs and agency priorities through their award processes.[42] As a result, the characteristics of each agency's LIHTC projects generally can be expected to reflect the real estate conditions, built environment, and populations of the areas they serve. For example, in locations with less density and inexpensive land, low-rise multibuilding developments may be more cost-effective, while in locations with higher density and expensive land, taller single-building developments may be more cost-effective. Therefore, it is important to consider the cost reasonableness of LIHTC developments within the context of local conditions.

As previously noted, we developed a regression model to examine the relationship between the cost of developing LIHTC projects and various building, location, and other variables.[43] Our model results indicate that a number of key characteristics were associated with significant increases or decreases in the per-unit costs of LIHTC projects that received tax credit awards from our selected allocating agencies.[44] Differences in the prevalence of these characteristics among the allocating agencies help explain the cost variation among and within them. While our results indicate that these characteristics may have directly or indirectly affected per-unit cost, their specific effects varied by allocating agency, suggesting

[42]Several states and localities have issued studies assessing LIHTC development costs in their jurisdictions. For a summary of these studies, see appendix V. In addition, Enterprise Community Partners and the Urban Land Institute issued two reports on cost drivers in the LIHTC program—see Andrew Jakabovics, Lynn M. Ross, Molly Simpson, and Michael Spotts, *Bending the Cost Curve: Solutions to Expand the Supply of Affordable Rentals* (Washington, D.C.: 2014); and Urban Land Institute, *Bending the Cost Curve on Affordable Rental Development: Understanding the Drivers of Cost* (Washington, D.C.: 2013).

[43]We use ordinary least squares regression to estimate the effect of specified characteristics on per-unit cost, including the allocating agency, year completed, number of units, size and number of buildings, unit size, construction type, qualified census tract, difficult development area, senior project, income mix, location, area home value, area rental prices, age of area housing stocks, and several federal funding sources. The cost differences we cite are statistically significant at least at the 5 percent level. For more information on the model and the limitations of our estimates, see appendix II.

[44]As discussed later in this report, the 12 selected allocating agencies did not collect the same cost and characteristics data. Therefore, our regression analysis focused on the common variables collected across the agencies.

that our estimates are sensitive to the particular conditions of the locations we sampled.

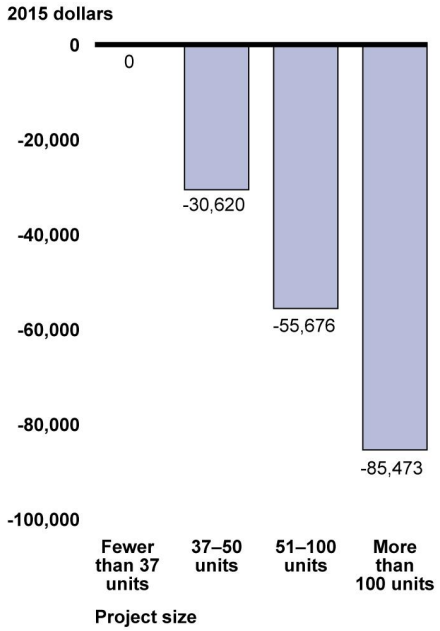
First, construction type (new construction or rehabilitation) and scale (number of units and unit size, measured by number of bedrooms)—were associated with cost, controlling for other characteristics.

Construction type. We previously noted that the median per-unit cost for new construction was about $50,000 higher than the per-unit cost for rehabilitation projects, but after controlling for other characteristics, we estimated this difference to be $39,000. New construction projects were more costly than rehabilitation projects because they had higher construction costs (primarily site work, materials, and labor). For perspective, $39,000 represents about 19 percent of the median per-unit cost ($204,000) of projects in our sample.

Number of units. In general, we found that per-unit costs decreased as the number of units in a project increased, consistent with economies of scale in construction. Specifically, we estimated that the per-unit cost of projects with more than 100 units was about $85,000 less than projects with fewer than 37 units (see fig. 10).[45] In addition, we estimated that the per-unit cost of projects with 37–50 or 51–100 units was about $31,000 or $56,000 lower, respectively, than projects with fewer than 37 units.

[45]We selected project size categories that were consistent with a previous study of LIHTC costs that used a similar methodology: Jean L. Cummings and Denise DiPasquale, "The Low-Income Housing Tax Credit: An Analysis of the First Ten Years," *Housing Policy Debate*, vol. 10, no. 2 (1999).

Figure 10: Estimated Effect of Project Size on Per-Unit Development Costs for Selected Allocating Agencies, 2011–2015 (Relative to Projects with Fewer Than 37 Units)



Source: GAO analysis of allocatiing agency data. | GAO-18-637

Note: The data in the figure are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies (10 states and 2 cities).

However, due to data limitations, our analysis does not account for building type—for example high-rise or low-rise structures—that may have affected per-unit cost.[46] To account for some variation in building type, we compared projects with one or more larger buildings (60 or more units) to projects with more typical building designs.[47] We found that the per-unit cost of projects with larger buildings—which were also taller on average—was about $15,000 more (about 7 percent of the median per-unit cost). This difference may be attributable to specific design

[46]Most of the 12 allocating agencies collected some data on building type; however, they were not consistently defined or comparable across the agencies. Other information that would be useful to differentiate building types—such as number of stories, design features (for example green building certification or recreational amenities), or construction materials used—were not commonly included in the documentation we received.

[47]Projects with more typical building designs (about 74 percent of the selected projects) had fewer than 60 units per building and fewer than 20 buildings.

requirements of larger and taller structures, such as construction materials and sprinkler systems.

Unit size (number of bedrooms). As would be expected when comparing costs on a per-unit basis, we estimated that projects with larger units had higher per-unit costs. We estimated that the per-unit cost decreased by about $2,000 (or about 1 percent of the median per-unit cost) as the number of units with fewer than two bedrooms increased by10 percent. Conversely, the per-unit cost increased by about $3,000 as the number of units with more than two bedrooms increased by 10 percent.

Second, we also found that the types of organizations that developed LIHTC projects and the tenants they targeted were associated with per-unit cost, after controlling for other characteristics.

Tenant type. We estimated that the per-unit cost of projects targeted to seniors was about $7,000 lower than nonsenior projects (or about 3 percent of the median per-unit cost).[48] Compared to nonsenior projects, units in senior projects generally had less residential square footage (for which we did not control), which may help explain their lower per-unit costs.

Target income level. We also estimated that the per-unit costs of projects targeted to predominantly low-income tenants was about $11,000 more than for mixed-income projects (or about 5 percent of the

[48]Senior projects must meet the Housing for Older Persons exemption to the Fair Housing Act (42 U.S.C. § 3607(b)(2)): either 80 percent of the units must be occupied by at least one person aged 55 or older, or 100 percent of the units must be occupied by individuals aged 62 or older. We were not able to further analyze other tenant types because of inconsistencies in how the selected allocating agencies defined and collected tenant-type data.

median per-unit cost).[49] Mixed-income projects might be expected to have higher costs as they generate more rent revenue to support higher development costs. But, because LIHTC allocations are calculated based on the ratio of low-income units to total units, predominantly low-income projects receive proportionally more LIHTC equity, which may allow them to support higher development costs.[50] For example, we estimated that projects targeted towards predominantly low-income tenants generated LIHTC equity equal to about 67 percent of development cost, whereas mixed-income project generated LIHTC equity equal to about 50 percent of development cost.

Nonprofit participation. Section 42 requires a portion of each state's tax credit allocation to be set aside for projects involving a qualified nonprofit organization.[51] We estimated that the per-unit cost of these projects was about $15,000 more than projects not in the set-aside (or about 7 percent

[49]We defined predominantly low-income projects as those with fewer than 2 market-rate units, and mixed-income projects as those with 10 or more market-rate units or a mix of market-rate units equal to 20 percent or more of all units. Market-rate units were any units targeted toward households with incomes greater than or equal to 80 percent of the area median income. In general, low-income units (units eligible for tax credits) were targeted to households with incomes less than or equal to 60 percent of the area median gross income. About 81 percent of sampled projects were predominantly low-income, and about 11 percent were mixed-income. Approximately 8 percent did not fit either definition. Our results are sensitive to the presence of projects funded by New York City, which constituted more than 40 percent of the mixed-income projects. Many of New York City's mixed-income projects had donated land, which may have made development costs appear artificially lower than mixed-income projects in other locations. Excluding New York City's projects from the sample, our estimates show no statistically significant difference in per-unit costs for low-income and mixed-income projects. For more information, see appendix II.

[50]This ratio is known as the applicable fraction. To encourage developers to build low-income units that are comparable to market-rate units, the applicable fraction is calculated as the lesser ratio of either low-income units to total units or low-income unit area to total residential area.

[51]Section 42 requires that allocating agencies set aside at least 10 percent of their credit ceiling for each calendar year for projects involving a qualified nonprofit organization. A nonprofit is considered to be involved if it owns an interest in the project (directly or through a partnership) and materially participates in its development and operation throughout the compliance period. 26 U.S.C.§ 42(h)(5). However, the set-aside does not include all projects that met these criteria—just those projects that received allocations under the set-aside. As a result, our estimate cannot be interpreted as a definitive comparison of projects with nonprofit and for-profit involvement.

of the median per-unit cost).[52] Other studies of the LIHTC program have suggested potential explanations for this result.[53] For example, nonprofit organizations may focus more on populations that are more costly to serve, such as special-needs tenants who may require additional or enhanced facilities. Additionally, nonprofit developers may have higher costs because they are often smaller, produce fewer projects, and may need to spend more time and resources on activities such as fundraising and market research, compared to their for-profit counterparts.[54]

Third, controlling for other characteristics, we found that a number of geographic and economic variables were associated with cost differences.

Location. We estimated that urban locations were associated with a per-unit cost about $13,000 higher than for suburban locations (or about 6 percent of the median per-unit cost), and that per-unit costs in rural areas were not statistically different from suburban areas.[55] Consistent with this estimate, the data in our sample show that per-unit land and construction costs were greater in urban areas than in nonurban areas.

In addition, urban projects were more likely to include parking structures, which we found were associated with a per-unit cost increase of about

[52]Nonprofit set-aside data were not available for all allocating agencies, and we estimated its effect using a more limited version of our model restricted to those allocating agencies with available data. The results of this model were similar to our base model. See appendix II for more details on these results. In a previous report, we found that nonprofit developers of LIHTC projects were not associated with significantly different costs than for-profit developers after controlling for other characteristics. See GAO, *Tax Credits: Reasons for Cost Differences in Housing Built by For-Profit and Nonprofit Developers,* GAO/RCED-99-60 (Washington, D.C.: Mar. 10, 1999).

[53]See, for example, Department of Housing and Community Development, California Tax Credit Allocation Committee, California Debt Limit Allocation Committee, California Housing Finance Agency, and California Debt Limit Allocation Committee, *Affordable Housing Cost Study: Analysis of the Factors That Influence the Cost of Building Multifamily Affordable Housing in California* (Sacramento, Calif.: Oct. 6, 2014).

[54]BBC Research and Consulting, *LIHTC Development Cost Study,* (Denver, Colo.: Nov. 30, 2016); Cummings and DiPasquale, "The Low-Income Housing Tax Credit: An Analysis of the First Ten Years"; and Christopher Walker, "Nonprofit Housing Development: Status, Trends, and Prospects," *Housing Policy Debate,* vol. 4, no. 3 (1993).

[55]We categorized projects as urban, suburban, or rural based on the Department of Agriculture's Rural-Urban Commuting Area codes, which are a set of numeric codes that classify census tracts using measures of population density, urbanization, and daily commute. For more information, see appendix I.

$56,000 in California and Arizona (or about 27 percent of the median per-unit cost), where parking structure data were available.[56] Among these projects, about 98 percent of projects with parking structures were in urban areas.

Urban projects were also located in closer proximity to transit, which we found increased per-unit construction costs. In an alternative specification of our model limited to projects near fixed-guideway transit stations, we estimated that the per-unit construction costs of projects that were 0.5 miles or less from a transit station—known as transit-oriented developments—were about $17,000 more than projects that were between 0.5 miles and 1.0 miles from a transit station.[57]

Local housing market and economy. As discussed previously, difficult development areas are those with high construction, land, and utility costs relative to area median gross income; qualified census tracts are areas with higher rates of low-income households or poverty rates.[58] We did not find that projects in these areas were associated with cost differences compared to projects outside these areas.

However, we found cost differences among projects in difficult development areas and qualified census tracts when we estimated alternative specifications of our model that excluded some geographic, economic, and local housing market variables that may be associated with the areas and tracts.[59] For example, using a model specification that

[56]Parking structures included above- or below-ground facilities, but not individual parking garages, carports, or parking spaces. Data on parking structures were available for 404 projects.

[57]Fixed-guideway systems are permanent transit facilities that may use and occupy a separate right-of-way for their exclusive use. The systems include rail (light, heavy, commuter, and streetcar) and some busways (such as bus rapid transit).While we did not estimate a significant difference in per-unit total cost based on transit distance, a study from Oregon suggested that projects near transit may have higher soft costs due to higher impact fees, more complex architectural and engineering requirements, and increased zoning and design review. See William L. White, Robert Bole, and Brett Sheehan, *Affordable Housing Cost Study: An Analysis of Housing Development Costs in Portland, Oregon* (Portland, Ore.: December 1997).

[58]About 13 percent of projects in qualified census tracts were also in difficult development areas. For more information on the prevalence of these areas and tracts, see appendix IV.

[59]When included in the base model, we estimated that areas with higher poverty rates, home values, and older housing stocks were associated with higher per-unit costs; and areas with new housing stocks and lower rent levels were associated with lower per-unit costs. For more information on our base and alternative model results, see appendix II.

excluded local property values, we estimated that difficult development areas were associated with about a $9,000 increase in per-unit costs. In a separate estimation that excluded poverty rates and some other economic and geographic variables, we estimated that projects in qualified census tracts were associated with a per-unit cost increase of about $18,000 (or about 9 percent of the median per-unit cost). In both cases, the project characteristics of interest (difficult development area or qualified census tract) are likely associated with the excluded variables mentioned, as difficult development areas are characterized by high land costs and qualified census tracts are characterized by high poverty rates, among other factors. In the absence of the excluded geographic or local housing market variables, the estimated influence of these project characteristics is more pronounced.

Finally, we found that the presence of federal funding sources in addition to LIHTC were associated with cost differences, after controlling for other characteristics.

American Recovery and Reinvestment Act funding. We estimated that projects that received funding through either of two LIHTC programs (Tax Credit Assistance Program or Section 1602 Program) under the American Recovery and Reinvestment Act of 2009 (ARRA) were associated with a decrease of about $13,000 in per-unit costs (or about 6 percent of the median per-unit cost).[60] Projects received ARRA funds during a period of economic recovery, and the relative scarcity of private funds may have motivated developers to pursue less costly projects. Because about 91 percent of projects that received ARRA funds were completed in 2011–

[60]HUD administered the Tax Credit Assistance Program, which provided grants to allocating agencies for capital investments in LIHTC projects expected to be completed by February 2012. See Pub. L. No. 111-5, 123 Stat. 115, 220-221 (2009). The Section 1602 Program (Grants to States for Low-Income Housing Projects in Lieu of Low-Income Housing Tax Credits) allowed allocating agencies to exchange returned and unused tax credits to Treasury for payments, which were then provided to developers as cash payments or noninterest bearing, nonrepayable loans through December 31, 2011. See Pub. L. No. 111-5, Div B., § 1602, 123 Stat. 115, 362 (2009).

2012, we restricted our ARRA estimate to projects completed in that period.[61]

We estimated that soft costs were about $4,000 per unit lower for ARRA projects than for non-ARRA projects.[62] Soft costs, which we previously mentioned were about one-third of total development costs, may have been lower for ARRA projects because proportionately fewer of these projects used tax credit equity to fund development costs. For example, about 30 percent of these projects received ARRA funds entirely in lieu of tax credits. As a result, ARRA projects may have had lower or no tax credit partnership and syndication costs. However, we did not estimate a significant difference in construction costs between ARRA and non-ARRA projects.

Rural Development funding. Projects that received at least one Rural Development loan or grant, from the Department of Agriculture, were associated with about a $32,000 decrease in per-unit cost (or about 16 percent of the median per-unit cost).[63] However, projects that received these loans or grants may have had unique characteristics that affected cost. According to an allocating agency official from California—where about 19 percent of the projects we reviewed used at least one Rural Development loan or grant—projects that received these funds may have had lower total development costs because high-cost projects were not financially feasible in some rural areas due to lower rents and less local public funding. In addition, projects to house seasonal farm workers that receive funding from Rural Development's Section 514/516 Farm Labor Housing programs may lack some amenities—such as in-unit kitchens

[61]These results should not be taken to suggest that the LIHTC program could be operated more efficiently as a direct grant and loan program, which was beyond the scope of this report. For example, we did not review costs associated with program administration and oversight. And, as with the other characteristics we reviewed, projects that received ARRA funds may have had other common characteristics associated with lower costs for which we did not control.

[62]For our analysis of federal funding sources, soft costs included architect and engineer fees, developer fees, and other soft costs. We did not include contractor fees.

[63]The Office of Rural Development in the Department of Agriculture offers three main rural multifamily housing programs that fund (1) housing for farm laborers through direct loans and grants (known as the Section 514/516 Farm Labor Housing programs), (2) affordable multifamily rental housing in rural areas through direct loans (known as the Section 515 Rural Rental Housing program), and (3) affordable multifamily housing in rural areas through guarantees on private loans to developers (known as the Section 538 Guaranteed Rural Rental Housing Program).

and bathrooms—that increase costs and are more common in other LIHTC projects. Furthermore, private loans guaranteed through Rural Development's Section 538 Guaranteed Rural Rental Housing Program are subject to per-unit limits, which may have hindered the feasibility of higher-cost projects.[64]

Other federal funding. We also estimated that projects that received HOPE VI funds were associated with about an $18,000 increase in per-unit costs (or about 9 percent of the median per-unit cost).[65]

However, the cost increase that we estimated may not have fully captured all additional costs associated with these projects. Several of the 23 HOPE VI projects included in our sample were phases of larger HOPE VI Revitalization Grant projects and may have included only the project costs associated with a smaller portion of a multibuilding development. In addition, some predevelopment expenses associated with the overall grant project, such as the demolition of existing structures and tenant relocation, may not have been included in the cost certifications we reviewed.

In contrast to the HOPE VI projects we reviewed, we did not find that projects that received Community Development Block Grant (CDBG) or HOME Investment Partnerships Program (HOME) funds had statistically different per-unit total development costs.[66] However, like HOPE VI projects, CDBG and HOME projects were associated with increases in per-unit construction costs (about $15,000 or $6,000, respectively). The presence of HOME funds also was associated with an increase in per-unit

[64]42 U.S.C. § 1490p-2(f)(3)(C).

[65]HUD's HOPE VI program provided grants to public housing authorities to modernize distressed public housing, and funds were last available in fiscal year 2010. Although projects we sampled were completed in 2011–2015, they may have received HOPE VI funding in prior years.

[66]CDBG provides formula grants to local and state governments to address community development needs, including affordable housing. HOME provides formula grants to local and state governments to create affordable housing for low-income households. HUD administers both programs. Construction costs also included contractor fees.

soft costs (about $2,000), while CDBG or HOPE VI funds were not strongly associated with differences in per-unit soft costs.[67]

While these sources were associated with cost differences, controlling for other characteristics, the association may not be entirely causal. The use of CDBG, HOME, and HOPE VI funds may have directly increased construction costs, as fund usage can trigger federal prevailing wage requirements.[68] On the other hand, CDBG and HOME funding (for example) may have been used in addition to LIHTC equity to fill funding gaps for projects with particularly high costs.

Finally, to examine the relationship our model characteristics had on the per-unit cost of low- and high-cost projects, we compared the characteristics of new construction projects below the 25th percentile for per-unit cost against those above the 75th percentile.

As shown in table 1, projects below the 25th percentile generally had a higher proportion of characteristics that were associated with decreases in per-unit cost. These projects were larger, had smaller units, were more often targeted toward seniors, and were located in rural areas. In comparison, projects above the 75th percentile generally had a higher proportion of characteristics associated with increases in per-unit cost (or less of a decrease). These projects were smaller, had larger units, were more often located in urban areas, and were built in more expensive real estate markets, as the following examples illustrate.

- About 70 percent of the projects below the 25th percentile had either 51–100 units or more than 100 units—which we found were

[67]We were not able to analyze any potential association between per-unit cost and other public and private funding sources due to inconsistencies in how the selected allocating agencies provided these data.

[68]The Davis-Bacon Act generally requires the payment of prevailing wage rates (determined by the Department of Labor) to all laborers and mechanics on federal and District of Columbia construction projects in excess of $2,000. Industry groups and developers with whom we spoke said that wage requirements could increase construction costs. Not controlling for other factors, we found the median per-unit cost of new construction projects that paid prevailing wages in Washington was about $40,000 higher than for those that did not. In this analysis, prevailing wages included federal prevailing wages or Washington State prevailing wages—that is, the hourly wage, usual benefits and overtime, paid in the largest city in each county, to the majority of workers, laborers, and mechanics (see https://www.lni.wa.gov/TradesLicensing/PrevWage/basics/). As discussed later, we were not able to collect prevailing wage information for enough projects to perform a statistical analysis that accounts for other differences among projects.

associated with lower per-unit cost—compared to just 46 percent of the projects above the 75th percentile.

- About 40 percent of the projects below the 25th percentile were senior projects—which we also found were associated with lower per-unit costs—compared to 18 percent for projects above the 75th percentile.
- About 88 percent of the projects above the 75th percentile were in urban areas—which we found were associated with higher per-unit costs—compared to 71 percent of the projects below the 25th percentile.

Table 1: Comparison of Cost Drivers for Higher- and Lower-Cost New Construction Projects from Selected Allocating Agencies, 2011–2015

Category	Cost information	Below 25th percentile in per-unit cost	Above 75th percentile in per-unit cost
Scale: Project size[a]: 37–50 units (%)	decreased costs	18	28
Scale: Project size[a]: 51–100 units (%)	decreased costs	53	39
Scale: Project size[a]: More than 100 units (%)	decreased costs	17	7
Scale: Unit size[a]: Fewer than 2 bedrooms (%)	decreased costs	45	30
Scale: Unit size[a]: More than 2 bedrooms (%)	increased costs	18	31
Owner and tenant: Nonprofit set-aside (%)	increased costs	29	45
Owner and tenant: Senior projects (%)	decreased costs	40	18
Local factors: Location[a]: Rural (%)	decreased costs	11	5
Local factors: Location[a]: Urban (%)	increased costs	71	88
Local factors: Qualified census tracts (%)	increased costs	40	49
Local factors: Difficult development areas (%)	increased costs	14	20
Local factors: Median home value of census tract ($)	increased costs	129,752	204,087
Local factors: Rental market[a]: Lower rental costs (%)	decreased costs	38	9

Category	Cost information	Below 25th percentile in per-unit cost	Above 75th percentile in per-unit cost
Local factors: Rental market[a]: Higher rental costs (%)	increased costs	21	38
Funding sources: American Recovery and Reinvestment Act of 2009 (%)	decreased costs	34	22
Funding sources: Rural Development loans or grants (%)	decreased costs	9	1
Median per-unit cost ($)		170,147	312,071

Legend: % = proportion of projects; $ = 2015 dollars; ↑ associated with increased costs; ↓ associated with decreased costs

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: The data in the table are for projects completed in 2011–2015 that received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies (10 states and 2 cities).

[a]For some characteristics, the association with per-unit cost is relative to a category we excluded from the table. The associations for project size are relative to projects with fewer than 37 units, unit sizes are relative to 2-bedroom units, locations are relative to suburban projects, and rental markets are relative to projects in areas with median rental costs in the second lowest quartile for their state.

Allocating Agencies Took Steps to Manage and Verify Development Costs, but LIHTC Policies Do Not Require Detailed Cost Information

Allocating agencies used approaches that include cost and fee limits and cost-based scoring criteria to manage project-development costs. A few agencies adopted additional measures such as detailed contractor certifications at project completion to help guard against a risk of fraud involving misrepresentation of contractor costs, but LIHTC policies do not require these enhancements.

The 57 Allocating Agencies Managed Development Costs through Approaches That Included Cost and Credit Limits, Fee Limits, and Scoring Criteria

As shown in table 2, the eligibility requirements and scoring systems that the 57 allocating agencies used to evaluate credit applications generally included approaches that seek to limit development costs or incentivize

lower costs. For information on the approaches each of the agencies used, and in what combination, see appendix VI.[69]

Table 2: Cost-Management Approaches of Allocating Agencies, as of 2017

n/a	Agencies with each approach	
Type of cost-management approach	**Number (out of 57)**	**Percent**
Cost limits[a]	39	68
Credit allocation limits[b]	34	60
Fee limits[c]	51	89
Cost-based scoring criteria[d]	51	89

Source: GAO analysis of allocating agency documentation. | GAO-18-637

[a]Agencies limited total development cost or eligible basis. Total development cost is the overall cost to develop a Low-Income Housing Tax Credit (LIHTC) project. Eligible basis typically includes costs associated with acquisition, construction, and rehabilitation and most soft costs, but excludes costs associated with land, permanent financing, and tax credit syndication.

[b]Credit allocation is the amount of LIHTCs available per unit, project, or developer.

[c]Developers and general contractors receive fees in exchange for their work on a project and agencies used various approaches to limiting developer and contractor fees.

[d]Agencies may use a competitive scoring process to award LIHTCs and many included one or more cost-based criteria.

The types and number of cost-management approaches employed by each agency varied, as illustrated in table 3. More than one-third of the agencies used all four types of cost-management approaches we identified (one or more cost limits, credit allocation limits, fee limits, and cost-based scoring criteria). In contrast, a few agencies used just one type of approach. The number of approaches used by an agency is not necessarily indicative of the effectiveness of its cost management. Additionally, the way that agencies implemented each type of approach varied.[70]

[69]Section 42 specifies that an allocating agency's QAP should contain selection criteria "appropriate to local conditions." 26 U.S.C. § 42(m)(1)(B). Allocating agencies use QAPs and related documents to outline their methods and rating systems for evaluating applicants, including cost, credit, and fee limits and cost-based scoring criteria. As a result, our analysis of how allocating agencies manage development costs is based on a review of the 2017 (or most recent as of August 2017) QAPs of 57 agencies and related documentation. Allocating agencies' 2018 QAPs may contain new or revised cost-management approaches. We did not assess the effect of the selected agencies' approaches on development costs because the data we collected predated 2017.

[70]For more information on the cost-management approaches for all 57 agencies, see appendix VI.

Table 3: Number of Cost-Management Approaches Used by Allocating Agencies, as of 2017

n/a	Number and percent of agencies	
Number of cost-management approaches	Number (out of 57)	Percent
One type	5	9
Two types	7	12
Three types	24	42
Four types	21	37

Source: GAO analysis of allocating agency documentation. | GAO-18-637

Note: The four types of cost-management approaches we identified were: cost limits, credit allocation limits, fee limits, and cost-based scoring criteria.

The cost-management approaches agencies identified in their QAPs and related documents were as follows.

Cost limits. More than two-thirds of the allocating agencies (39 of 57) set limits on the total development cost for each project or set limits on the total eligible basis (or both).[71] Total development cost is the overall cost to develop a project, whereas eligible basis typically includes costs associated with acquisition, construction and rehabilitation, and most soft costs, but excludes costs associated with land, permanent financing, and tax credit syndication. For information on cost limits for each of the 57 agencies, see appendix VI, table 32.

- Thirty-three agencies set limits on the total development cost for each project. For example, Illinois limited total costs by bedroom type, number of units, and location, based on the agency's analysis of historical cost data.
- Ten agencies set cost limits on a project's eligible basis, and their approaches to these limits varied. For example, two agencies adopted universal eligible basis limits of $250,000 per unit (Pennsylvania) and $300,000 per unit (New York City), whereas most others had multiple limits based on project characteristics such as type (new construction or rehabilitation), number of bedrooms, and location.

[71]Since 1993, NCSHA has recommended allocating agencies develop policies to limit development costs. The more recent iteration of this recommended practice suggests that allocating agencies develop a limit for total development cost, per-unit, per-bedroom, or per-square foot, based on analysis of state and regional construction- and land-cost information and past LIHTC development costs. See *Recommended Practices in Housing Credit Administration*.

- Six agencies, including Georgia, applied cost limits from a HUD program that insures mortgages for rental housing for moderate-income families.[72] According to Georgia officials, adopting the HUD limits was more cost-effective than developing cost limits based on a market analysis.

Credit allocation limits. About two-thirds (34) of the allocating agencies had limits on the amount of LIHTCs available, generally per project or per developer, and the limits varied by type and amount. For information on credit allocation limits for each of the 57 agencies, see appendix VI, table 33.

- Twenty-nine agencies had allocation limits per project, which included dollar limits (from $500,000 to $2.5 million) and percentage limits (from 10 percent to 60 percent of an agency's total available credits per project), and two of these agencies also had a per-unit limit.[73] For example, Illinois limited credits per project to the lesser of $1.5 million or 28,500 credits per unit. California limited credits per project to $2.5 million, and Washington limited credits to 10 percent of the agency's total available credits.
- Fourteen agencies had credit limits per developer or for the number of projects a developer can sponsor in a given year. One of these agencies also had a per-unit limit. The developer credit limits included dollar limits (from about $1.2 million to $3 million per developer) and percentage limits (from 10 percent to 25 percent of the agency's total available credits). For example, Pennsylvania limited credits to $1.2 million per developer, and Washington limited developers to 15 percent of the agency's total LIHTCs and two projects per application round. Another agency limited the number of projects (two) a developer can sponsor in a given year.

Fee limits. Fifty-one agencies limited developer fees and 47 also limited contractor fees. The agencies' approaches to developer and contractor fee limits varied. As for other limits, 14 agencies limited fees for other

[72]These agencies used limits from HUD's 221(d)(3) and (4) programs, which provide mortgage insurance to finance the construction or substantial rehabilitation of rental or cooperative multifamily housing, including projects designated for the elderly. 42 U.S.C. §1715l.

[73]Some allocating agencies had general per-project limits and limits for specific project types. The ranges we cite encompass both types of limits.

project team members such as architects.[74] For information on fee limits for each of the 57 agencies, see appendix VI, table 34.

- Twenty-seven agencies had a flat limit on developer fees based on a percentage of the total development cost (typically 15 percent, although percentages ranged from 8 percent to 20 percent), while two others had dollar caps ($13,000 and $18,000 per unit).
- Twenty-one agencies set tiered limits for developer fees based on the number of units in or cost of the project. For example, Arizona and Texas based their two- and three-tiered limits on the number of units in a project.[75] Chicago and Illinois had tiered percentage limits based on a project's development costs.[76]
- Twenty-five agencies had separate developer fee limits for acquisition costs, ranging from 4 percent to 15 percent, or tiered limits based on development costs.
- Fourteen agencies set dollar caps on the total fees developers could receive per project, ranging from $1 million to $3.75 million.

[74]NCSHA has recommended since 1993 that allocating agencies limit developer fees. The 2017 recommended practices suggest that agencies implement a developer fee limit that does not exceed the lesser of an appropriately defined per-unit dollar cap, or 15 percent of total development costs. NCSHA also recommends that allocating agencies have limits on builder or general contractor fees, generally not to exceed 6 percent of construction costs for builder's profit, 2 percent of construction costs for builder's overhead, and 6 percent of construction costs for general requirements. Exceptions would be for developments with characteristics such as location in difficult development areas that may justify higher fees. NCSHA also recommends that agencies review and assess the reasonableness of professional fees, such as for architectural, engineering, environmental, accounting, legal, and asset-management services. See *Recommended Practices in Housing Credit Administration*.

[75]Arizona's developer fee limit was 17 percent of total eligible basis for projects comprising 1-30 units; 15 percent for 31–60 units; and 14 percent for 61 or more units. Texas's developer fee limit was 20 percent of total eligible basis (less developer fees) for projects comprising 49 or fewer units, and 15 percent of total eligible basis (less developer fees) for 50 units or more.

[76]Chicago's developer fee limit was 10 percent of the first $5 million of total development cost ($10,000,000 for certain Chicago Housing Authority projects), excluding developer fees, plus 5 percent of total development costs thereafter (excluding developer fees). Illinois's developer fee limit was 5 percent of project acquisition, plus 15 percent of the first $5 million of developer costs (excluding developer fees, reserves, interim costs, and syndication costs), plus 12.5 percent of developer costs between $5 million and $10 million, plus 10 percent of developer costs in excess of $10 million.

- Twenty-seven agencies also limited fees earned by related-party developers and contractors.[77] For example, Pennsylvania set a related-party developer fee limit (12 percent) lower than its developer fee limit (15 percent). Illinois required related-party developers to reduce their fees by their related general contractor's profit.

Cost-based scoring criteria. A large majority (51) of the allocating agencies used a competitive scoring process that incorporated one or more cost-based criteria to award LIHTCs. For information on cost-based scoring criteria for each of the 57 agencies, see appendix VI, table 35.

- Twenty-four agencies awarded points to projects with costs under an agency's limits. For example, Washington awarded points to projects for which the developer fee was below the agency's limit of 15 percent.
- Eighteen agencies awarded points to projects with comparatively lower costs. For example, New York City awarded points to projects with costs below the median total development cost of all submitted applications.
- Eleven agencies awarded points to applications for credit efficiency, which many of the agencies measured by the dollar amount of credits requested relative to the number of units proposed. For example, Ohio awarded a sliding scale of points to projects based on the ratio

[77]The Financial Accounting Standards Board defines related parties as affiliates of the entity; entities for which investments in their equity securities would be required; trusts for the benefit of employees; principal owners of the entity and members of their immediate families; management of the entity and members of their immediate families; other parties with which the entity may deal if one party controls or can significantly influence the management or operating policies of the other to an extent that one of the transacting parties might be prevented from fully pursuing its own separate interests; and other parties that can significantly influence the management or operating policies of the transacting parties or that have an ownership interest in one of the transacting parties and can significantly influence the other to an extent that one or more of the transacting parties might be prevented from fully pursuing its own separate interests. NCSHA recommends that allocating agencies take the existence of identities of interest (related parties) into consideration in determining maximum fees. NCSHA also recommends that agencies apply additional scrutiny to any acquisition that involves related parties or an identity of interest to ensure that any discrepancy between the acquisition price and appraised value is justified and documented. See *Recommended Practices in Housing Credit Administration*.

of the credits requested to the proposed number of units, with lower ratios (representing greater credit efficiency) earning more points.[78]

- Three agencies' competitive scoring criteria included penalties for developers with poor past cost performance. For example, they awarded negative points to developers that exceeded cost limits or provided incomplete cost information for previous projects.
- In addition, 35 agencies included a cost-based criterion in their application scoring tiebreakers. For example, Arizona included a credit efficiency criterion as a tiebreaker.

Other cost-related approaches (12 selected agencies). Through our interviews and review of documentation, we also identified several other steps that our 12 selected allocating agencies took to manage LIHTC project costs at application and during construction.[79]

- Officials from two agencies (Georgia and Ohio) told us that their cost-reasonableness reviews included identifying high-cost outliers. For example, Ohio replaced its total development cost limit with a process for identifying and removing from consideration projects with the highest total development costs compared with other competing applications.[80]
- Chicago and Florida officials said they required or encouraged a bid process for selecting contractors or subcontractors. Florida officials told us that competitive selection of subcontractors, rather than using

[78]Specifically, Ohio's QAP noted that the agency would award up to 10 points to proposed projects based on the amount of LIHTCs requested per affordable unit, calculated by dividing the total credit amount requested by the total number of affordable units. For example, for new construction projects, 10 points were to be awarded to proposals requesting $18,000 or less in credits per affordable unit; 9 points to proposals requesting $18,001–$19,000 in credits per affordable unit, 8 points to proposals requesting $19,001–$20,000, and 7 points to proposals requesting $20,001 or more credits. In addition, Ohio awards points for applications with total development costs per affordable unit below certain dollar amounts (for example, $190,000 for new construction units) or for requesting an allocation that is 25 percent below the maximum allowable amount.

[79]We did not conduct similar interviews or reviews for the other 45 agencies about these other cost-related steps.

[80]Specifically, Ohio officials told us they compared project applications in each of their credit allocation pools (defined by project type and location) based on total development cost, total development cost per affordable unit, and total development cost per square foot. The officials said they removed from consideration applications with costs that were two or more standard deviations above the mean in each pool. The Ohio allocating agency also developed a cost database to analyze project cost trends and compare proposed costs to costs of projects completed in the last 5 years.

related-party subcontractors, provided cost transparency and could lead to lower costs.

- Similarly, New York City officials told us that nearly all the agency's LIHTC projects received funds from a city subsidy loan program that can require competitive selection of contractors, and the agency reviewed each contractor bid for cost reasonableness.
- Illinois required third-party cost reviews of some projects as part of its cost-reasonableness review. Projects with related parties and all rehabilitation projects had to provide a construction cost breakdown completed by an independent third party. Additionally, Georgia's QAP provided discretion to the agency to require a third-party cost review as needed.[81]
- According to officials from 11 of the 12 agencies, policies they used to discourage cost increases during construction included restrictions on change orders, such as by requiring agency approval and documenting a project's cost increases (8 agencies); requiring developers or general contractors to pay for cost increases using contingency funds, profits, or other sources of funding (10 agencies); and penalizing developers for cost increases in future application rounds (5 agencies).[82]
- Nine of the 12 selected agencies conducted site inspections directly or by a third party to monitor construction progress, ranging from one visit to biweekly site visits.[83] For example, New York officials said they conducted regular and unannounced site visits. Officials from the other 3 agencies said they did not conduct site visits and relied on other public funding partners, private lenders, developers, and

[81]Georgia officials told us that they added a third-party cost review requirement for all applications in 2018.

[82]Officials from the 12 agencies told us they maintained information on cost changes in individual project files. In addition, officials from four agencies stated they also maintained this information in a consolidated format (for example a spreadsheet or database) to compare costs across projects at the application and placed-in-service phases. Officials from another agency stated they were developing such a database.

[83]NCSHA also recommends that allocating agencies inspect or require an independent third-party inspection of LIHTC projects during construction to monitor progress, verify application commitments, evaluate compliance with fair housing and accessibility rules, and identify construction delays. See *Recommended Practices in Housing Credit Administration*.

syndicators to monitor projects during construction and in some cases, provide monitoring reports for the agency's review.[84]

Although officials from many of the selected allocating agencies acknowledged the importance of managing LIHTC development costs, for the most part agencies have not determined the specific cost effects of their approaches. A June 2016 report by Enterprise Community Partners recognized the complexity of assessing the cost implications of individual agency actions, while also noting that the wide range of agency approaches represented an opportunity for experimentation, innovation, and sharing of leading practices.[85] The report recommended that as agencies establish goals and make changes to QAPs, they should regularly evaluate cost trends and outcomes. But as discussed later in the report, limitations in the cost-related data allocating agencies collect and the format in which they maintain them have hampered such evaluation.

Some Allocating Agencies Have Enhanced Cost-Verification Requirements to Manage a Fraud Risk, but LIHTC Policies Do Not Require It

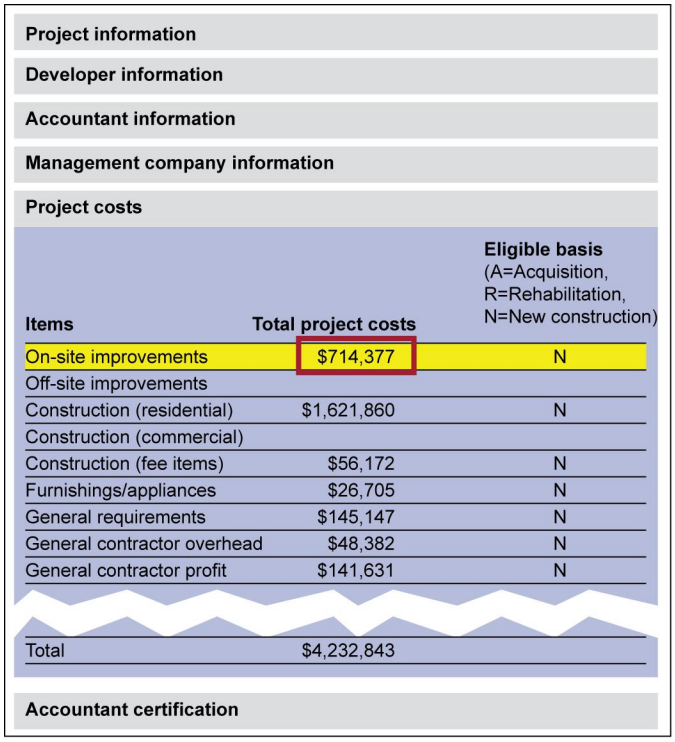
While a few allocating agencies have implemented additional cost-certification controls—such as contractor-level certifications—to help address the risk of fraud involving misrepresentation of contractor costs, there are no LIHTC requirements to do so. Rather, allocating agencies oversee costs at project completion by reviewing final developer cost certifications. LIHTC regulations require developers of projects with more than 10 units to submit a cost certification, which includes total project costs and eligible basis, to the allocating agency and for the certification

[84]In a 2016 report on allocating agency practices in which we reviewed 58 QAPs (from 2013) and conducted additional audit work and site visits with nine selected agencies, we found that a few agencies required developers to submit reports at regular intervals during construction to monitor progress. Five of the agencies we visited for the 2016 report stated they monitored construction progress, and one explicitly described requirements in its QAP. In addition to progress reports, agency officials cited practices such as scheduled meetings with construction staff and visits to project sites as ways to monitor construction progress. See GAO-16-360.

[85]Enterprise Community Partners, Inc. is a nonprofit LIHTC financing company and consulting firm. The study reviewed allocating agency QAPs in 2015–2016 to identify leading practices in balancing cost control with building quality and resident opportunity. See Michael A. Spotts, *Giving Due Credit: Balancing Priorities in State Low-Income Housing Tax Credit Allocation Policies* (Washington, D.C.: June 2016).

to be audited by a certified public accountant.[86] As illustrated in figure 11, developer cost certifications do not break out specific contractor costs; rather, they aggregate contractor costs into several broad categories.

Figure 11: Illustrative Developer Cost Certification



Source: GAO. | GAO-18-637

While the extent of fraud in the LIHTC program is not known, federal legal actions involving LIHTC projects in Florida highlight the risk of unscrupulous developers, contractors, and subcontractors inflating costs and obtaining excess program resources for personal financial gain. For example, according to the Department of Justice's U.S. Attorney's Office for the Southern District of Florida:

- Several developers and contractors conspired in a contract inflation scheme affecting numerous LIHTC projects. The scheme involved submitting fraudulently inflated cost information to the allocating agency, resulting in $36 million in excess LIHTCs and federal grants.

[86]26 C.F.R. §1.42-17(a)(5).

Seven individuals pled guilty and received sentences that included forfeiture of fraudulently obtained funds and for three individuals, prison time.

- In another scheme affecting four LIHTC projects, developers working with a related-party contractor and subcontractor submitted fraudulently inflated cost information to the allocating agency. Under a prosecution agreement, the subcontractor has paid $5.2 million in forfeiture and fines.

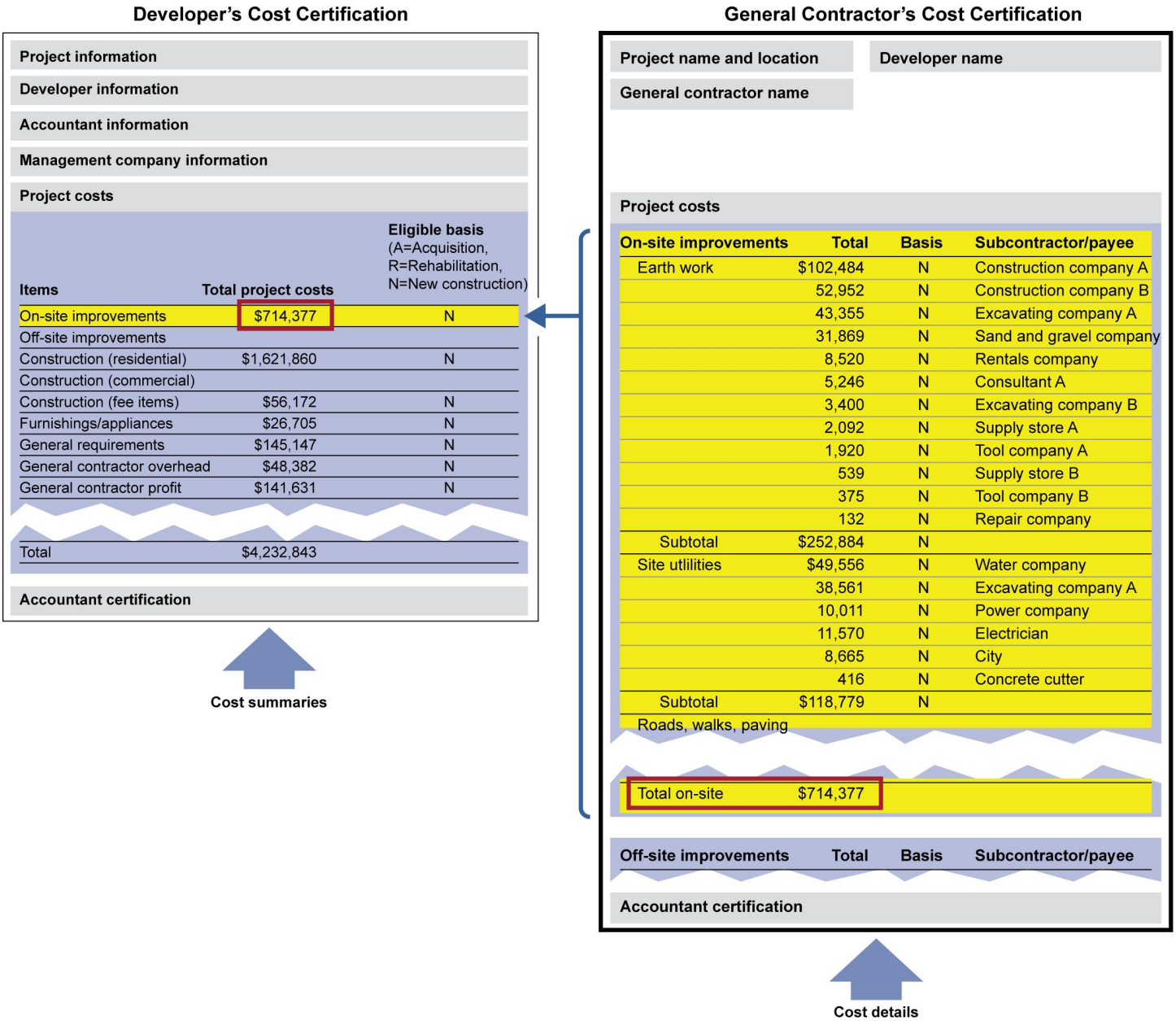
But only a limited number of allocating agencies—5 of the 12 we selected and at least 4 of the remaining 45 agencies—have additional cost-certification controls to help address the risk of fraud involving misrepresentation of contractor costs. These controls are outlined in the agencies' QAPs.[87] Agencies outside of the 12 we selected for more detailed review could have requirements beyond what appears in their QAPs. However, two national accounting firms with LIHTC practices confirmed that, as of early 2018, a limited number of allocating agencies had implemented controls to address the risk of fraud involving misrepresentation of contractor costs.

- Of the 12 selected agencies, 4 required general contractor cost certifications, which provide information that can be used to corroborate costs listed in developer cost certifications (see fig. 12). More specifically, Florida and Ohio required general contractor cost certifications for all projects, and Arizona and Georgia required cost certifications only from related-party general contractors.
- In addition, California required auditors performing developer cost certifications for projects with related parties to audit to the level of the subcontractor. According to one national accounting firm, this may involve examining source documents from subcontractors (such as invoices, fee agreements, contracts, or deeds) to verify consistency with construction line items in the developer cost certification.
- Among the 45 remaining agencies, Delaware, Kentucky, Michigan, and Missouri had QAPs that required general contractor cost certifications for all projects. None of the 45 agencies' QAPs cited a requirement for cost certifications for related-party general contractors.

[87]Our analysis is based on a review of QAPs from the 57 allocating agencies and interviews with the 12 selected agencies.

Officials from a few of the 12 selected agencies and a LIHTC accounting firm told us that unrelated parties also may present a fraud risk. The LIHTC development community is small in some markets, and unrelated developers and contractors may work together repeatedly. These relationships may pose risks similar to related-party relationships by increasing opportunities to collude in misrepresenting costs.

Figure 12: Illustrative Comparison of Cost Details on Developer and General Contractor Cost Certifications



Source: GAO. | GAO-18-637

Requiring information beyond the developer cost certification provides greater cost transparency, which may help to deter or detect misrepresentation of costs. Federal LIHTC regulations do not require developers to provide contractor- or subcontractor-level cost information

to LIHTC allocating agencies, or for auditors to verify the consistency of these costs with the developer cost certification. As a result, the regulations do not fully address the risk of fraud involving misrepresentation of contractor costs.

Federal internal control standards state that management should consider the potential for fraud when identifying, analyzing, and responding to risks.[88] IRS and Treasury officials told us they have not considered implementing changes to the cost-certification requirement and that neither allocating agencies nor industry groups had suggested to them that the existing regulation needed clarification. They suggested that allocating agencies could enhance the requirement at their discretion.

In contrast, NCSHA revised its recommended practices for allocating agencies in 2017, advising that agencies should require additional cost certification due diligence for all housing credit developments. According to NCSHA, this additional due diligence may include audits of general contractors—alone or with an additional review of a sampling of subcontractor invoices—to verify consistency with the developer cost certification.[89] However, NCSHA's recommended practices are voluntary and it remains to be seen how many agencies implement these enhanced measures and in what form.[90]

Moreover, NCSHA, a national accounting firm, some developers, and several of the selected allocating agencies told us that additional cost-certification requirements can provide more detailed cost information and help deter fraud by providing more cost transparency to allocating agencies and auditors. Two of these allocating agencies estimated that requiring general contractor cost certifications could increase project costs by about $5,000–$15,000. NCSHA and two other selected agencies noted that additional cost certification requirements would not significantly increase project costs.

[88]See GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

[89]See *Recommended Practices in Housing Credit Administration.* We also found that LIHTC projects that use HUD Multifamily Mortgage Insurance must submit developer and general contractor cost certifications in cases in which the developer is a related party to the general contractor.

[90]According to NCSHA officials, the recommended practices are based on input from member and nonmember organizations, including allocating agencies and industry stakeholders.

Under the existing federal cost certification requirement—which stops at the developer level—the vulnerability of the LIHTC program to a known fraud risk is heightened, particularly in states in which allocating agencies have not implemented additional cost certification measures.

Weaknesses in Data Quality and Federal Oversight Constrain Assessment of LIHTC Costs

Data Limitations Hinder Detailed Evaluation of LIHTC Development Costs

Data limitations, including inconsistencies among allocating agencies in the collection, definition, and format of key variables, constrain analysis and oversight of LIHTC development costs.[91] While we were able to provide a cost analysis earlier in this report, our analysis was limited to those variables we were able to consistently collect and that were similarly defined across the selected allocating agencies.

LIHTC regulations require developers to submit cost certifications to allocating agencies and the agencies to evaluate all sources and uses of funds for each project. However, IRS does not specifically require allocating agencies to collect and report cost-related data that would facilitate programwide assessment of development costs. IRS officials said that doing so would be inconsistent with their authority and role, which is focused on taxpayer compliance rather than program evaluation. As a result, allocating agencies have flexibility in what cost-related data to collect, how to maintain these data, and how to define variables for purposes of program evaluation.

Our tax expenditure evaluation guide suggests federal agencies assess (determine and define) what data are needed to evaluate tax expenditures.[92] Without standardized, accessible data on LIHTC

[91]We collected data from several key documents and data sources that allocating agencies provided in response to our information requests. These documents and data sources included final cost certifications, project applications, and agency spreadsheets. For more details on our methodology, see appendix I.

[92]See GAO, *Tax Expenditures: Background and Evaluation Criteria and Questions*, GAO-13-167SP (Washington, D.C.: Nov. 29, 2012).

development costs, federal agencies and credit allocating agencies cannot rigorously assess the factors that drive costs, the reasonableness of costs, and the efficiency of LIHTCs in producing affordable housing. Currently, no standards exist for collecting and maintaining data related to LIHTC project costs.

Agencies Inconsistently Collected or Defined Key Variables

In conducting our evaluation of LIHTC development costs, we aimed to collect data that would allow us to

- assess costs associated with federal preferences for LIHTC developments outlined in Section 42;[93]
- assess costs associated with certain allocating agency preferences, which we identified through a literature review and interviews with selected industry groups;[94] and
- compare LIHTC development costs to market-rate development costs, a potentially useful step in assessing the reasonableness of project costs as required under Section 42.[95]

Comprehensive information about project costs and characteristics is needed to conduct such an evaluation. However, inconsistencies in allocating agencies' collection or definition of certain variables

[93]26 U.S.C. § 42(m)(1)(B)(ii) and 42(m)(1)(C) outline the federal preferences and selection criteria in allocating LIHTCs, including projects serving the lowest-income tenants; projects obligated to serve qualified tenants for the longest periods; projects that are located in qualified census tracts and the development of which contributes to a concerted community revitalization plan; location; housing needs characteristics; project characteristics, including whether the project includes the use of existing housing as part of a community revitalization plan; sponsor (developer) characteristics; tenant populations with special housing needs; public housing waiting lists; tenant populations of individuals with children; projects intended for eventual tenant ownership; the energy efficiency of the project; and the historic nature of the project.

[94]Allocating agencies also may define their own requirements and selection criteria for awarding credits (26 U.S.C. § 42(m)(1)(B)(i)). We did not collect data on the full range of the selected agencies' QAP priorities; rather, we collected available data for priorities our literature review and interviews highlighted as cost drivers in the LIHTC program from at least one allocating agency or a third-party source. These data included payment of prevailing wages and proximity to transit.

[95]Specifically, 26 U.S.C. § 42(m)(2) says that credits allocated to a project shall not exceed the amount necessary for the financial feasibility of the project. In making this determination, allocating agencies must consider the reasonableness of the developmental and operational costs of the project, among other things.

complicated our efforts to estimate statistical associations with costs, as follows.

Developer characteristics. Allocating agencies did not maintain information on developers in a manner that readily permitted classification by for-profit or nonprofit status. We estimated the association between nonprofit status and development costs based on projects that received credits under nonprofit set-asides.[96] A limitation of this approach is that it does not account for projects with nonprofit developers that received credits apart from the set-asides. For example, almost 80 percent of Washington's projects in our sample had a nonprofit developer, but only 32 percent received credits under the nonprofit set-aside.

Additionally, allocating agencies maintained tax identification numbers that would allow them to assess the influence of developer experience or incumbency—that is, how frequently a developer is awarded credits—on costs. But this information was not part of our data set, and we found that alternative variables (such as developer name) were unreliable for purposes of conducting a similar analysis.

Tenant type. Allocating agencies identified and defined tenant types differently, partly as a result of their specific QAP priorities.[97] For example, New York defined 39 distinct tenant types and Texas defined 2 (family and elderly). Consequently, we could not standardize tenant types across agencies and estimate associations with development costs, other than for projects targeted to seniors, a population for which there is a specific federal definition.

Energy efficiency. Among our 12 selected allocating agencies, only California, Florida, and Texas collected information needed to assess the influence of energy-efficiency features on project-development costs. This information generally took the form of whether a project received a

[96]Section 42 requires agencies to allocate at least 10 percent of the state housing credit ceiling to projects involving qualified nonprofit organizations. 26 U.S.C.§ 42(h)(5).

[97]26 U.S.C.§ 42(m)(1)(C) cites tenant populations with special needs, public housing waiting lists, and tenant populations of individuals with children as selection criteria that must be set forth in a QAP.

Leadership in Energy and Environmental Design (LEED) certification, a component of which is energy efficiency.[98]

Payment of prevailing wages. Some states also may require the payment of prevailing wages (generally, the hourly wage and benefits paid to the majority of workers in a particular area). In addition, certain federal funding sources commonly used as gap financing in LIHTC projects require the payment of prevailing wages. However, the agencies in our sample did not consistently capture information on whether projects paid these wages.[99]

Proximity to transit or other amenities. Most of the selected allocating agencies required or awarded points to projects located near certain amenities such as grocery stores, hospitals, or public transit. However, none maintained readily accessible data indicating which completed projects had this characteristic. Therefore, to estimate statistical associations between a development's proximity to transit and development costs, we merged project address information with federal and local transit data.[100] We were not able to estimate associations between other amenities and development costs.

Square footage. Four of the 12 selected allocating agencies independently determined, or provided us with information we could use

[98]LEED is a "green building" rating system. Green building generally refers to designing, constructing, operating, and maintaining buildings to use resources efficiently, reduce environmental impacts, and provide long-term financial and health benefits. For the agencies with available data, we estimated that LEED-certified projects cost about $19,000 more per unit than non-LEED certified projects, controlling for other characteristics. See appendix II for more information. The allocating agencies in our sample had differing requirements and incentives (including none) for energy efficiency, including LEED certification.

[99]Washington collected data on whether or not projects paid prevailing wages. Documentation for some California projects indicated that prevailing wages were paid, but it was unclear whether wage information was consistently reported for all projects.

[100]We estimated that projects located within 0.5 miles of a fixed-guideway transit station had higher development costs than those not so located, all else being equal. For more information, see appendix II.

to calculate, the gross square footage of projects.[101] Construction cost per gross square foot is a commonly used measure in the construction industry and useful for comparing LIHTC project costs to construction industry benchmarks.[102] Additionally, because it encompasses the entire size of the structure, this measure relates project cost to project scale more precisely than other common measures, such as cost per unit and cost per residential square foot.

Building type. The selected allocating agencies varied in how they defined and classified building types—such as single-family, multifamily, high-rise, mid-rise, or low-rise. As previously discussed, we classified projects generally based on the number of units and number of buildings they contained because data inconsistencies precluded more precise classifications.

Number of residential and nonresidential buildings. All of the selected allocating agencies collected data on the number of residential buildings in each project, but only five collected data on the number of nonresidential buildings. As with gross square footage, this information would allow cost assessments based on a project's entire physical footprint. Additionally, this information would allow agencies to refine per-unit cost measures by subtracting the cost of nonresidential spaces (for example, community or other common areas) from per-unit cost totals.

Primary construction materials. The project documents we reviewed from the selected allocating agencies generally did not include data on the primary construction materials (for example, steel, concrete, brick, or wood). Including this information in data maintained on completed projects would help better explain cost variances between otherwise similar projects (for example, a 3-story building constructed with brick versus a 3-story building constructed with wood). This information is

[101]Many of the selected allocating agencies collected residential square footage, which can be used to calculate the applicable fraction (the percentage of a building treated as "low-income use" and generally eligible for LIHTCs). Gross square footage also includes all the structured spaces (residential space, common space, applicable community service facility space, and structured parking). We were able to manually enter and construct gross square-footage data from key documents that generally met this definition for 4 of the 12 agencies. One allocating agency was able to provide electronic gross square-footage data that met this definition, but we later found it to be unreliable.

[102]A construction cost estimation tool cited in some housing research includes gross square footage and other variables, such as primary construction materials and number of stories per building, as data inputs.

similarly useful for comparing LIHTC project costs to construction industry benchmarks.

Number of stories per building. A few agencies, including Arizona, California, and Texas, collected data on the number of stories per building in each of their projects. As previously discussed, development costs may increase for taller structures due to design requirements. As a result, data on the number of stories would facilitate cost comparisons across similar structures and assessment of costs against construction industry benchmarks.

Total syndication expenses. As discussed later in this report, none of the selected allocating agencies collected information on total tax credit syndication expenses. This information is necessary for understanding the cost of developing affordable-housing projects with LIHTCs.

Agencies Maintained Data in Different Formats

We also found that the 12 allocating agencies maintained cost-related LIHTC data in a variety of formats, ranging from paper records or electronic files for individual projects to electronic spreadsheets with information on multiple projects, as shown in the following examples.[103]

- Illinois provided us with scanned copies of paper applications and cost certifications for each project.
- California provided us with a mix of scanned copies of paper and electronic applications and cost certifications for individual projects.
- Ohio provided us with a consolidated (or single) electronic spreadsheet containing line-item costs for all projects.

This variation made it difficult to efficiently collect the data and put them in a format suitable for analyzing cost trends and drivers.[104] To create a data set suitable for analysis, we manually entered data for 1,356 projects with

[103]These examples reflect allocating agency practices at the time of our analysis. Allocating agencies may have modified their practices subsequently.

[104]For more information on the data we received and how we created a data set suitable for analysis, see appendix I.

paper files and consolidated data from spreadsheets using statistical software for 493 projects.[105]

Agencies did not collect data using standardized cost categories for analysis. As a result, we met with individual allocating agency officials to define each variable and ensure that we consistently categorized data across the agencies. Some examples of differences in how the data were defined include the following:

- New York City did not separate construction-related fees from construction costs. As a result, we were not able to compare construction costs for projects in New York City to construction costs for projects from the other 11 allocating agencies.
- Some allocating agencies—for example New York—did not include a line item for syndication expenses on their cost certifications. On cost certifications without a syndication line item, developers generally are expected to report those costs on the legal or partnership line item. As a result, we were unable to report information on syndication expenses incurred at the project level.[106]
- Similarly, some allocating agencies' cost certifications combined line-item costs that others did not. For example, 11 of the selected allocating agencies required developers to separately report general contractor overhead, profit, and general requirements, while 1 (New York City) generally required developers to combine the three costs under one line item. As a result, we had to create broad cost categories and were not able to assess costs at the line-item level.

Ways in Which Standardized Data Can Facilitate Agencies' Cost Assessments

Few of the selected allocating agencies comprehensively or systematically evaluated data to determine the effect of their policies, including their cost-management approaches, on project development

[105]We conducted validation checks on our manual data inputs and data consolidations. For more information, see appendix I.

[106]As discussed later in this report, we also were not able to report on syndication expenses incurred above the project level because allocating agencies generally do not require syndicators or developers to report them.

costs.[107] Our analysis in the previous sections of this report highlighted ways in which allocating agencies can use and benefit from standardized data, including for project cost assessments.

Individual allocating agencies could use data to more effectively identify cost drivers and trends over time. We have discussed how certain project characteristics were associated with higher and lower per-unit development costs. Our analysis illustrates how agency priorities and practices may influence costs, as shown in the following examples.

- Texas had the lowest median per-unit development costs among the selected agencies and tended to award credits to large garden-style apartments (low, clustered buildings).
- Georgia also had comparatively lower development costs. The agency funded the highest percentage of senior projects among the selected states (48 percent) and also funded the lowest percentage of urban projects (55 percent).
- Washington had among the lowest soft costs as a percentage of total development costs. Agency officials told us they used a consolidated application for awarding public funds—including LIHTCs, state tax credits, and HOME funds—that streamlines the application process for developers and reviewers and helps reduce soft costs.
- California had the highest land costs and soft costs among the selected agencies. The agency prioritized funding projects in job centers (urban areas) and completed projects used six funding sources in addition to tax credit equity, on average.
- Chicago had the highest construction costs as a percentage of development costs among the 12 selected agencies, and did not have a cap on development costs or eligible basis.
- Florida had the highest developer fees among the selected agencies. Our analysis showed the median developer fee in Florida was about

[107]NCSHA advises that as allocating agencies "consider priorities to encourage through the QAP and/or related public documents, they should also consider the impact of these priorities on upfront development costs and long-term operating costs." See *Recommended Practices in Housing Credit Administration*. Both California and Washington contracted with third-party firms to assess development costs in their LIHTC programs. *Affordable Housing Cost Study: Analysis of the Factors That Influence the Cost of Building Multifamily Affordable Housing in California*; and Washington State Department of Commerce, *Affordable Housing Cost Study* (Olympia, Wash.: September 2009). Appendix V includes a summary of these and other studies from states not included in our analysis.

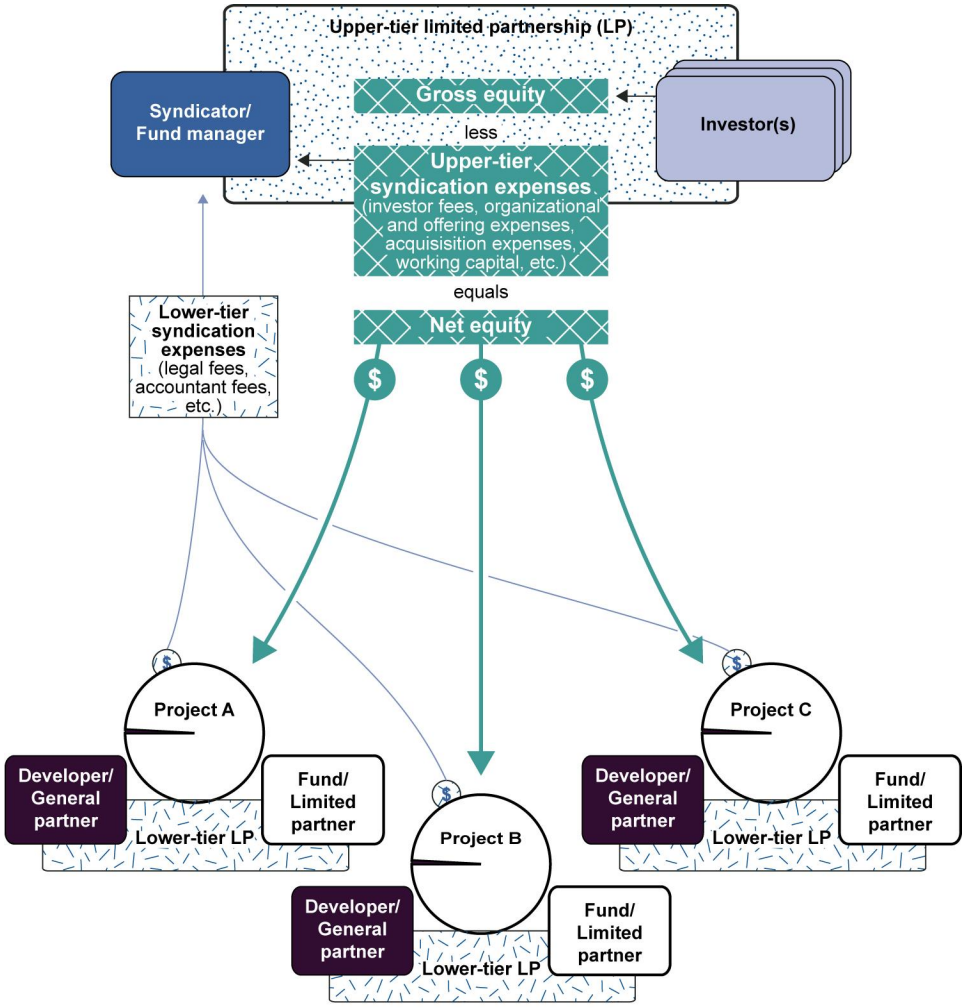
$2.1 million for projects completed in 2011–2015; the next highest median fee was about $1.5 million (in New York and Texas). The agency's 2017 QAP set developer fees generally at 16 percent of development costs, one of the highest rates among the selected agencies.

In turn, agencies that have identified their cost drivers and trends could look to the experience of other agencies for examples of relevant ways to contain costs. For example, agencies with comparatively high costs—either overall or in particular cost categories—might benefit from considering the cost-management approaches of agencies with lower costs.

Complete Data on Total Tax Credit Syndication Expenses Are Lacking

Syndication expenses represent a significant cost of producing affordable housing with LIHTCs, but complete data on syndication partnerships generally were lacking. As shown in figure 13, syndication expenses include expenses at the upper-tier and lower-tier partnerships of a LIHTC deal. Investors pay for upper-tier expenses in the form of a syndication fee, similar to a load fee paid to a mutual fund manager. The fee covers expenses related to establishing, originating, underwriting, and closing on projects for the investment fund and is paid out of the equity investors contribute to the partnership. As a result, the fee facilitates equity investment in a fund's LIHTC projects, while also reducing the amount of the equity investment available to each project. At the lower-tier partnership level, a project developer may pay a fee to the syndicator for project-specific legal and accounting expenses. The lower-tier syndication fee is typically less than the upper-tier fee.

Figure 13: Types and Flow of Expenses, Upper- and Lower-Tier Low-Income Housing Tax Credit Partnerships



Source: GAO. | GAO-18-637

In a February 2017 report on the role of LIHTC syndicators, we cited an industry stakeholder's estimate that upper-tier syndication fees for LIHTC funds were 2–5 percent of equity.[108] According to a 2018 report by a national accounting firm, upper-tier syndication fees ranged from 5–8

[108]GAO-17-285R. Syndication fees may vary by fund and change with market conditions.

percent of equity for multi-investor funds closed in recent years.[109] For perspective, 2–8 percent of a $7.6 million investment (the estimated median amount for our 12-agency project sample) is $152,000–$608,000. The accounting firm report also noted that the market for acquiring projects and attracting investor capital is highly competitive. As a result, syndicators may reduce or defer their fees to attract projects and investor capital.

IRS regulations require project developers to report syndication expenses on their final cost certifications.[110] IRS officials told us that the regulations require the reporting of all syndication expenses, including upper-tier and lower-tier fees, on the cost certification. They said the regulation helps to ensure that allocating agencies have complete information to assess the financial feasibility of projects, as required under Section 42. Additionally, written guidance for IRS examiners states that syndication costs need to be accounted for, although they are not includable in eligible basis (allowable costs for calculating tax credit awards), to ensure they have not been accumulated with other costs for a line item on the certification.

However, our 12 selected allocating agencies did not require developers to report upper-tier syndication expenses on final cost certifications and

[109]CohnReznick LLP, *Housing Tax Credit Investments: Investment and Operational Performance* (April 2018). The closing of a fund generally refers to its formal creation and the commitment of investor equity. LIHTC funds fall into two broad categories: (1) proprietary funds that typically have a single investor and (2) multi-investor funds, in which investors share potential risks and rewards based upon their proportional equity contribution. In a February 2017 report, we found that multi-investor funds accounted for about half of the LIHTC equity raised by syndicators in 2005–2014. See GAO-17-285R.

[110]LIHTC regulations state "The taxpayer must also certify to the [allocating] Agency all other sources of funds and all development costs for the project. The taxpayer's certification should be sufficiently detailed to enable the Agency to ascertain the nature of the costs that will make up the total financing package, including subsidies and the anticipated syndication or placement proceeds to be raised. Development cost information, whether or not includible in eligible basis under section 42(d), that should be provided to the Agency includes, but is not limited to, […] syndication and legal fees[...]."26 C.F.R. § 1.42-17 (a)(3)(i). IRS defines syndication expenses as those "expenses connected with the issuing and marketing of interest in the partnership." 26 C.F.R. § 1.709-2(b). According to IRS, examples of syndication expenses are "brokerage fees; registration fees; legal fees of the underwriter or placement agent and the issuer (the general partner or the partnership) for securities advice and for advice pertaining to the adequacy of tax disclosures in the prospectus or placement memorandum for securities law purposes; accounting fees for preparation of representatives to be included in the offering materials; and printing costs of the prospectus, placement memorandum, and other selling and promotional material." *Id. see also*, IRS Technical Advice Memorandum No. 200043017 (October 27, 2000), and IRS Revenue Ruling 85-32.

generally did not have data on these expenses.[111] Allocating agency officials told us that developers generally report costs directly attributable to the project (including lower-tier syndication expenses) on the cost certifications.

In explaining their practices, allocating agency officials said they did not consider upper-tier syndication expenses to be project costs because they are not directly incurred by the developer. Some of the officials noted that developers select investors based on the net equity (gross equity minus upper-tier expenses) or net price offered in exchange for the tax credits, and therefore may not be aware of the fees investors pay syndicators. Additionally, accounting firm officials said that if upper-tier expenses were included on the cost certification, they would not be able to access or verify documentation from the upper-tier partnership when auditing cost certifications because the upper- and lower-tier partnerships are separate legal entities.

Outside of the cost-certification process, some of the selected allocating agencies said they receive investor letters or other documentation from syndicators that disclose upper-tier syndication expenses.[112] These letters typically state the gross and net equity amounts attributable to each project, or a gross and net credit price offered in exchange for a developer's credits.[113] Some of the letters we reviewed also detailed the syndicator's services and related expenses in addition to gross and net equity amounts or credit prices (for example, amounts for investor fees, organizational and offering expenses, acquisition expenses, and reserves

[111]Some agencies had practices that encouraged developers to partner with syndicators that offered lower upper-tier fees. For example, Chicago requires that developers obtain and submit to the agency bids from three syndicators. Agency officials said developers are encouraged to select the bid that yields the highest amount of equity for the project and must justify to the agency when they do not. New York sets credit-pricing floors based on the median net equity pricing in various regions of the state. According to agency officials, when the net equity pricing of a project is below the established floor, the agency underwrites the project at the floor and awards less credit to the project.

[112]At least two agencies in our sample said they request documentation from syndicators on upper-tier expenses; however, we did not determine whether syndicators always provided complete information to these agencies.

[113]The net equity contribution is the amount invested in exchange for a 10-year stream of tax credits, excluding syndication costs. The net credit price is therefore the amount invested for each dollar of tax credit. The gross equity contribution and credit price do not exclude syndication costs.

and working capital). These examples suggest that information on upper-tier syndication expenses is available and allocable to specific projects.

The gap between IRS's expectations and allocating agencies' practices developed, in part, because IRS has not clearly communicated expectations to allocating agencies about reporting of upper-tier syndication expenses. None of the documents IRS pointed to—the regulations, Technical Advice Memorandum, or Revenue Ruling previously cited—draw a clear distinction between upper- and lower-tier expenses, leaving the requirement open to interpretation. The documents also do not address issues that developers, allocating agencies, and auditing firms may have in obtaining and reviewing upper-tier fees.

Federal internal control standards state that management should externally communicate—to contractors and regulators, among others—the necessary quality information to achieve the entity's objectives.[114] Without clear communication to allocating agencies on how to report syndication costs, IRS lacks assurance that the cost-certification requirement provides the level of financial transparency and accountability it expects.

More complete collection of data on syndication expenses also would help answer key questions in our 2013 tax expenditures evaluation guide, which provides a framework for evaluating the effectiveness of tax expenditures.[115] Examples of questions relevant to syndication expenses include the following:

- **What are the costs of the resources used to generate the tax expenditure's benefits?** The costs of using syndicators cannot be known without disclosure of the upper-tier expenses for which LIHTC investors pay from their equity contributions.
- **Who actually benefits from the tax expenditure?** Disclosure of the fees syndicators receive would aid assessment of the benefits

[114]GAO-14-704G.

[115]GAO-13-167SP. In a July 2014 report, we made similar observations about another tax credit program, the New Markets Tax Credit program. In that report, we noted that without complete and accurate cost data, including program cost and fee data, Treasury is limited in its ability to analyze program benefits, and we made several recommendations to address this deficiency. See GAO, *New Markets Tax Credit: Better Controls and Data Are Needed to Ensure Effectiveness,* GAO-14-500 (Washington, D.C.: July 10, 2014).

received by syndicators in relation to benefits received by other LIHTC program participants.

The ability to answer these questions more fully would help Congress assess the costs, benefits, and efficiency of the LIHTC program relative to affordable housing programs that use delivery mechanisms other than tax expenditures.

No Federal Agency Monitors and Assesses LIHTC Development Costs

No federal agency monitors or assesses LIHTC development costs, which are key to evaluating the efficiency and effectiveness of the tax credit program. In a July 2015 report on federal oversight of LIHTC, we found that although IRS is the only federal agency responsible for overseeing the LIHTC program, it does not assess the performance of the program.[116] IRS officials said the agency's role is focused on ensuring taxpayer compliance and that the agency generally does not have the authority or funding to assess the performance of tax expenditures, including LIHTC.

Unlike for the LIHTC program, Treasury collects and reports data on the New Markets Tax Credit program, for which Treasury has a more direct administrative role.[117] The Community Development Financial Institutions Fund within Treasury uses its Awards Management Information System and its Community Investment Impact System to collect and report detailed information on New Markets Tax Credit projects, including certain cost and project characteristics data. Treasury produces annual research reports and periodic research briefs using these data.

Consistent with a recommendation in our July 2015 report, IRS and Treasury officials said HUD may be better equipped to determine what

[116]GAO-15-330.

[117]The Community Development Financial Institutions Fund allocates New Markets Tax Credits to community development entities that make investments in qualified projects. 26 U.S.C. § 45D. See also GAO-14-500 and GAO-15-330. In contrast, and as previously discussed, under the LIHTC program, allocating agencies are responsible for allocating LIHTCs to qualifying projects. Allocating agencies are not required to collect and report data for purposes of program evaluation.

data should be collected to assess LIHTC performance.[118] Although HUD is the government's lead housing agency, it currently plays a limited role in collecting and reporting data for the LIHTC program. Specifically, HUD collects and periodically reports information on LIHTC tenant characteristics as mandated by the Housing and Economic Recovery Act of 2008.[119] In addition, since 1996, HUD voluntarily has collected LIHTC project-level data in its LIHTC database. While HUD may have the technological capacity to collect and maintain additional LIHTC data, absent additional authority, the agency does not have access to IRS taxpayer (developers and allocating agencies) data, including cost data. If HUD or another agency were given authority to collect and report on these data, it likely would need additional budgetary resources to carry out this function.[120]

Our tax expenditure evaluation guide outlines information Congress could consider when determining which federal agencies should manage the evaluation of tax expenditures.[121] The guide cites statutory requirements that set the expectation that agencies should consider tax expenditures in measuring and communicating progress in achieving their missions and goals.[122] It also states that for tax expenditures without logical connections to program agencies, Treasury may be the most appropriate agency to conduct an evaluation. Historically, IRS and Treasury (the agencies with the authority to oversee the LIHTC program) have devoted few resources to that task. And although HUD has a logical connection to LIHTC as the lead federal housing agency, it does not have oversight authority, access to key data, or existing resources to carry out additional data collection for and assessments of the LIHTC program. Without

[118]See GAO-15-330. In this report, we said Congress should consider designating HUD as a joint administrator of the LIHTC program. Congress has not yet acted on this matter for consideration.

[119]Pub. L. 1110-289, § 2835(d), 122 Stat. 2654, 2874 (2008) (codified at 42 U.S.C § 1437z-8).

[120]As discussed in our December 2012 report on implementation of the Housing and Economic Recovery Act of 2008's changes to the LIHTC program, HUD faced difficulties implementing new data collection responsibilities because Congress did not appropriate the $6.1 million it authorized to HUD for this purpose. See GAO, *Low-Income Housing Tax Credits: Agencies Implemented Changes Enacted in 2008, but Project Data Collection Could Be Improved,* GAO-13-66 (Washington, D.C.: Dec. 6, 2012).

[121]GAO-13-167SP.

[122]Pub. L. No. 111-352, 124 Stat. 3866 (2011).

federal monitoring and assessment of LIHTC development costs, federal agencies and Congress do not have information to assess the tax credit's efficiency and effectiveness.

Conclusions

The LIHTC program plays an important role in addressing the housing needs of low-income renters, but some LIHTC projects have been scrutinized for high or fraudulent development costs. Our analysis provides a broad perspective on development costs across a range of allocating agencies and illustrates the types of insights than can be gained from standardized data on project costs and characteristics. These include identification of cost drivers and trends that may help target cost-management efforts.

However, our work also identified shortcomings in program data and administration that hamper oversight and are inconsistent with federal evaluation criteria and internal control standards.

- Although the LIHTC program represents the largest source of federal assistance for developing affordable housing, Congress has not specifically designated an agency to evaluate the program's performance. Without a designated entity for collecting, maintaining, and assessing data on LIHTC project costs, federal agencies and Congress lack information needed to oversee billions of dollars in tax expenditures.
- The current IRS cost-certification requirement for LIHTC projects is limited to aggregated developer costs and does not directly address a known fraud risk. General contractor cost certifications required by some allocating agencies may help deter fraud by providing information that can be used to corroborate developer cost certifications. But because IRS does not require general contractor cost certifications for LIHTC projects, the LIHTC program may be vulnerable to fraud involving misrepresentation of costs.
- The lack of standards for collecting and maintaining data related to LIHTC project costs has resulted in inconsistent data quality and formats among allocating agencies. In the absence of a federal agency designated to collect data and assess program performance, greater standardization of cost data by allocating agencies would lay a foundation for deeper analysis of cost drivers and cost-management practices by allocating agencies and industry stakeholders. This

analysis could be used to help increase the efficiency of the LIHTC program.

- IRS has not clearly communicated how allocating agencies should collect and review syndication expenses—particularly, upper-tier fees—to meet a regulatory requirement. As a result, information on a significant program cost is not transparent or available to conduct the types of financial assessments IRS expects allocating agencies to perform.

Matter for Congressional Consideration

Congress should consider designating an agency to regularly collect and maintain specified cost-related data from credit allocating agencies and periodically assess and report on LIHTC project development costs. (Matter for Congressional Consideration 1)

Recommendations for Executive Action

We are making a total of three recommendations to IRS:

- IRS's Associate Chief Counsel, in consultation with Treasury's Assistant Secretary for Tax Policy, should require general contractor cost certifications for LIHTC projects to verify consistency with the developer cost certification. (Recommendation 1)
- To help allocating agencies analyze development cost trends and drivers and make comparisons to other agencies, IRS's Commissioner of the Small Business/Self-Employed Division should encourage allocating agencies and other LIHTC stakeholders to collaborate on the development of more standardized cost data, considering information in this report about variation in data elements, definitions, and formats. (Recommendation 2)
- IRS's Associate Chief Counsel, in consultation with Treasury's Assistant Secretary for Tax Policy, should communicate to credit allocating agencies how to collect information on and review LIHTC syndication expenses, including upper-tier partnership expenses. (Recommendation 3)

Agency and Third-Party Comments and Our Evaluation

We provided a draft of this report to IRS, Treasury, and HUD for their review and comment. IRS provided written comments that are reprinted in appendix VII. Treasury and HUD did not provide comments. We also provided a draft to NCHSA for its review and comment. NCSHA provided written comments that are reprinted in appendix VIII.

IRS disagreed with our recommendation to require general contractor cost certifications for LIHTC projects. IRS said it was not clear whether the recommendation would uncover and deter misrepresentation of contractor costs. We maintain that requiring general contractor cost certifications would help address this fraud risk by providing greater cost transparency to allocating agencies and auditors. Our report notes that a number of allocating agencies already have similar controls and that the Florida agency began requiring general contractor cost certifications in response to fraudulent contract-inflation schemes that were the subject of federal legal actions. Furthermore, NCSHA's recommended practices advise allocating agencies to implement additional cost certification due diligence for all LIHTC projects. We believe that general contractor cost certifications should be required to help ensure the efficient and effective use of federal resources programwide.

IRS disagreed with the recommendation in our draft report to collaborate with LIHTC stakeholders to develop a framework for the collection of cost-related data. The purpose of this recommendation was to promote creation of more standardized data to help allocating agencies analyze cost trends and drivers and make comparisons to other agencies. IRS said that in the absence of specific authorization, it collects data only to the extent necessary for tax administration, and that collecting LIHTC cost data is not necessary for that purpose. IRS added that without statutory authorization or a tax administration need, any data collection would be a misuse of IRS resources. In response, we modified the recommendation in our final report to give IRS greater flexibility in promoting standardization of LIHTC cost data in ways consistent with its authority. For example, IRS could encourage development of more standardized data in its communications with LIHTC allocating agencies and stakeholders at industry meetings and conferences. Our report recognizes that IRS has not had a role in assessing the performance of tax expenditures. For this reason, our report also states Congress should

consider designating an agency to regularly collect and maintain specified cost-related data from allocating agencies and assess and report on LIHTC project-development costs.

Finally, IRS disagreed with our recommendation to communicate to allocating agencies how to collect and review information on LIHTC syndication expenses, including upper-tier partnership expenses. IRS said that existing regulations require agencies to collect and evaluate all sources and uses of project funds and that this covers syndication expenses, including upper-tier partnership expenses. IRS said to the extent that we were recommending that it revise regulations, the agency did not necessarily have the authority to mandate how allocating agencies collect syndication expense data. IRS's response suggests the reporting requirements are clear. However, as stated in our report, the 12 allocating agencies we reviewed and other LIHTC stakeholders did not share IRS's understanding of the requirement. Consequently, the allocating agencies did not require developers to report upper-tier syndication expenses and generally did not have data on the expenses. In its comments on our report, NCSHA also expressed surprise at IRS's explanation (see discussion below and app. VII). Finally, our report does not state that IRS should revise its regulations. Rather, it recommends that IRS communicate its requirement to allocating agencies. The wording of our recommendation provides IRS the flexibility to communicate the requirement in whatever way it deems appropriate. As a result, we made no changes to the recommendation.

In its comments, NCSHA expressed concerns about our recommendation and matter for congressional consideration about collecting and analyzing LIHTC cost data. NCSHA questioned the cost-effectiveness of requiring consistent data across states and did not believe that cross-state comparisons were critical for evaluating LIHTC. For example, NCSHA said the utility of comparing Hawaii costs to Arkansas costs was not clear. NCSHA also noted LIHTC was designed to give allocating agencies flexibility, including in program design and data collection. We maintain consistent data are important for program management and oversight. While cost drivers in states differ, our report notes that at least one allocating agency has funded a study to compare development costs with neighboring states. While we understand the LIHTC program gives states flexibilities, a more standardized approach to data collection would not restrict allocating agency funding decisions or prevent agencies from collecting data they consider important. Furthermore, consistent data collection would facilitate state and federal evaluations of the cost-effectiveness of a multibillion dollar tax expenditure. NCSHA also

expressed concern that Congress might require the data collection but not appropriate funds to implement the mandate. Our report acknowledges that if Congress were to grant an agency the authority to collect and report on LIHTC cost data, that agency likely would need additional budgetary resources to carry out this function.

Regarding our recommendation on general contractor cost certifications, NCSHA noted that more allocating agencies were likely to adopt NCSHA's recommended practices and require or encourage such certifications. However, allocating agencies voluntarily adopt recommended practices, and some agencies may view a general contractor cost certification as unnecessary. NCSHA added that instances of fraud were rare in the 30-year history of LIHTC, and affected agencies had responded in each known instance. We noted in our report that under the existing federal cost certification requirement—which stops at the developer level—the vulnerability of the LIHTC program to misrepresentation of general contractor costs is heightened. And while known instances of fraud schemes (such as the Florida examples cited in our report) may be limited, the true extent of fraud in the program is unknown. Federal internal control standards state that management should consider the potential for fraud when identifying, analyzing, and responding to risks. Requiring general contractor cost certifications for all LIHTC projects could help address this known fraud risk and further strengthen the integrity of the program.

Regarding our recommendation on syndication expenses, NCSHA was surprised IRS officials told us LIHTC regulations require reporting of all syndication expenses (including upper-tier expenses) on the project cost certification. NCSHA said it long understood that the cost certification must include only costs paid by the project partnership for the individual property (the developer) and that IRS never communicated otherwise. NCSHA also identified some potential difficulties with collecting and reporting information on upper-tier syndication fees. While our report discusses some similar concerns, it also provides examples of at least two allocating agencies that collect such information. NCSHA's response further supports our finding of a gap between IRS expectations and allocating agency practices for reporting syndication expenses and underscores the need for IRS to more clearly communicate its expectations on how to collect and review this information.

Finally, NCSHA said findings from its recently commissioned study of LIHTC development costs, which had not been released as of August 2018, were generally consistent with cost analyses in our report. NCSHA

said its study and other information suggest LIHTC development costs generally were consistent with overall apartment development costs and grew at a similar or slower rate. We believe broad comparisons between LIHTC and non-LIHTC development costs should be viewed with caution. As our report notes, numerous limitations in available LIHTC cost data (among other factors) make it difficult to produce methodologically sound comparisons. If implemented, our recommendations to improve collection and analysis of LIHTC data could help overcome some of these difficulties.

We are sending copies of this report to the appropriate congressional committees, the Secretary of the Treasury, the Secretary of Housing and Urban Development, and other interested parties. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-8678 or garciadiazd@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IX.

Sincerely yours,

Daniel Garcia-Diaz
Director, Financial Markets and
Community Investment

Appendix I: Objectives, Scope, and Methodology

The objectives of this report were to analyze (1) development costs for Low-Income Housing Tax Credit (LIHTC) projects completed in 2011–2015 in selected locations and factors affecting these costs, (2) steps allocating agencies have taken to oversee LIHTC development costs, and (3) factors limiting assessment of LIHTC development costs.

We selected 12 credit allocating agencies (representing 10 states and 2 cities) as the focus for key parts of our analysis discussed in more detail later in this appendix:

- Arizona Department of Housing
- California Tax Credit Allocation Committee
- Chicago Department of Planning and Development
- Florida Housing Finance Corporation
- Georgia Department of Community Affairs
- Illinois Housing Development Authority
- New York City Department of Housing Preservation and Development
- New York State Division of Housing and Community Renewal
- Ohio Housing Finance Agency
- Pennsylvania Housing Finance Agency
- Texas Department of Housing and Community Affairs
- Washington State Housing Finance Commission

To select these agencies, we ranked all states in order of their credit ceiling amount for 2015 and selected the two highest-ranking states in each of five geographic regions (West, Southwest, Midwest, Southeast, and Northeast).[1] We then selected for review the 12 allocating agencies

[1]In 2015, the credit ceiling for each state was the greater of $2.30 (the 2002 level of $1.75 adjusted for inflation) multiplied by the state's population, or $2.68 million (the 2002 level of $2 million adjusted for inflation). 26 U.S.C. § 42(h)(3)(C),(H).

within those 10 states that administered 9 percent LIHTCs.[2] These allocating agencies accounted for 50 percent of the total 9 percent credit ceiling amount in 2015.

To obtain general information for all of our objectives, we interviewed officials from the 12 selected allocating agencies, the Department of Housing and Urban Development (HUD), Department of the Treasury (Treasury), and Internal Revenue Service (IRS). We also interviewed representatives from 10 groups representing allocating agencies, developers, investors, syndicators, and other LIHTC interests, including Affordable Housing Investors Council; Affordable Housing Tax Credit Coalition; Recap Real Estate Advisors; Housing Partnership Network; Enterprise Community Partners; Mortgage Bankers Association; National Association of Home Builders; National Association of State and Local Equity Funds; National Council of State Housing Agencies (NCSHA); and Stewards of Affordable Housing for the Future. Additionally, we interviewed representatives of two national accounting firms—CohnReznick LLP and Novogradac & Company LLP—that have LIHTC practices and have conducted research on the LIHTC program.

Data Used in Our Analysis of Costs and Characteristics

To analyze the development costs of LIHTC projects completed in 2011–2015 in selected locations and characteristics associated with project costs, we created and analyzed a database of costs and characteristics for the 1,849 LIHTC projects that submitted final cost certifications to the 12 selected allocating agencies in that period and for which the cost certification was available.[3]

Collecting LIHTC Project Data

We first requested relevant documentation and data from the selected allocating agencies. Specifically, we requested the final cost certification for all projects that received 9 percent LIHTCs and were submitted in

[2]Nine percent LIHTCs are designed to provide a 70 percent subsidy for developing or rehabilitating low-income units. While this report focuses on the 9 percent LIHTC, a 4 percent LIHTC providing a 30 percent subsidy is also available. 26 U.S.C. § 42(b)(I)(B).

[3]Our final set of 1,849 projects excluded 14 for which Florida, Illinois, and Texas could not provide us with a final cost certification and 2 for which we determined that the cost certification only included costs for eligible basis items and did not include all development costs.

2011–2015. We also included projects for which the selected allocating agencies initially reserved a tax credit allocation but exchanged the allocation for American Recovery and Reinvestment Act of 2009 funds.

In addition to cost certifications, we also requested documentation and data that described project characteristics associated with project costs. We determined relevant characteristics to collect through a review of existing housing-agency-sponsored literature on LIHTC project costs. We identified existing literature through a literature search, and we confirmed the completeness of the literature with selected industry groups.[4] The project characteristics we collected from the selected allocating agencies included the following:

- Address (street, city, state, and zip code)
- Construction type (new construction or rehabilitation)[5]
- Developer name
- Eligible basis
- Funding sources[6]
- Income limits for low-income units[7]

[4]For a summary of housing-agency-sponsored studies on LIHTC costs and information on our literature search, see appendix V. To confirm the completeness of our search, we selected a nongeneralizable, convenience sample of industry groups based on their knowledge of the use and cost of LIHTC projects, which included Enterprise Community Partners, NCSHA, and Novogradac & Company LLP.

[5]We categorized projects as new construction if they did not include any rehabilitation components. All others—including rehabilitation projects with some new construction—were categorized as rehabilitation.

[6]Funding sources included the Tax Credit Assistance and Section 1602 programs of the American Recovery and Reinvestment Act of 2009, Community Development Block Grant, HOME Investment Partnerships Program, HOPE VI, and selected Department of Agriculture Rural Development loan and grant programs (Section 514/516 Farm Labor Housing programs, Section 515 Rural Rental Housing program, and Section 538 Guaranteed Rural Rental Housing Program). We primarily identified these sources through keyword searches of funding source names listed in the documentation and data we received.

- Tax credit allocation[8]
- Line-item costs
- Number of buildings (residential and non-residential)[9]
- Number of units (low-income, market-rate, and employee-occupied)[10]
- Square footage (gross and residential)[11]
- Structural features (the presence of an elevator, green building certifications, and parking structures)[12]
- Syndicator
- Net tax credit price[13]

[7]We placed low-income units into one of three categories based on the income targets listed in the application, which may differ from current income limits. Income limits included units targeted to households with income at or below 30 percent of the area median gross income, greater than 30 percent but less than or equal to 50 percent of the area median gross income, or greater than 50 percent but less than or equal to 60 percent of the area median income. In limited cases when income limit counts did not match the number of low-income units, we proportionately adjusted the income limit counts to match the number of low-income units.

[8]We collected each project's final tax credit allocation. Some projects that received American Recovery and Reinvestment Act of 2009 funds from the Section 1602 Program did not have a final tax credit allocation.

[9]Nonresidential buildings included buildings that did not contain tenant units, such as recreational and community service facilities but not parking structures.

[10]Low-income units included all units targeted to households with income at or below 60 percent of the area median gross income. Market-rate units included any units targeted to households with income at or above 80 percent of the area median gross income. Employee-occupied units included units occupied by project personnel, such as building managers, maintenance personnel, or security guards, which may be subsidized by the project. To avoid double-counting, we classified LIHTC-eligible employee-occupied units as low-income units when possible. Total units were equal to the sum of low-income, market-rate, and employee-occupied units.

[11]Gross square footage was generally the interior space of residential units and common space, such as hallways, recreational facilities, and parking structures but not commercial space. Residential square footage was the interior space of tenant units.

[12]We collected data on whether the project received any of the four levels of certification for the U.S. Green Building Council's Leadership in Energy and Environmental Design program. Structured parking included above- or below-ground parking structures but not carports or individual garages.

[13]Net tax credit price is the amount of equity invested for each dollar of tax credit, excluding upper-tier syndicator or investor fees. For some projects, we calculated the net tax credit price by dividing the equity investment by the 10-year tax credit allocation.

- Tenant type (senior or nonsenior)[14]
- Total development cost
- Unit sizes (number of bedrooms)[15]
- Year of completion (year final cost certification signed)

We used manual data entry and a statistical program to input the project costs and characteristics into individual databases we created for each selected allocating agency. We verified the accuracy of the manual data entries by having a second analyst review the entries of the first analyst. Additionally, a second analyst reviewed the statistical programs we created and a sample of the databases they created to verify their accuracy. After compiling the 12 databases, we compared our list of projects against HUD's LIHTC database to verify the completeness of our sample. For projects that we determined had been omitted, we requested their documentation and data from the relevant allocating agency, which we then manually entered into our databases and verified in the manner previously described.

Consolidating LIHTC Project Data

To perform analyses across all sampled projects, we consolidated the 12 allocating agency databases into one sample-level database. We first interviewed each of the selected allocating agencies to define data elements—including how to treat missing data—and determine the comparability of the data they provided.[16] We also requested additional documentation and data, such as missing project addresses and data elements we identified after our initial data request. Additionally, we interviewed a national accounting firm that specializes in LIHTC cost

[14]Senior projects met the Housing for Older Persons exemption to the Fair Housing Act (42 U.S.C. § 3607(b)(2)): either 80 percent of units must be occupied by at least one person aged 55 or older, or 100 percent of the units must be occupied by individuals aged 62 or older.

[15]We collected data on the number of units for each unit size. In limited cases in which these data were not consistent with data on the total number of units, we proportionately adjusted the counts of units by size to match the number of total units.

[16]We identified 14 projects in our sample that were part of the Florida cost-inflation schemes discussed in this report. We included these projects and the development costs reported in their cost certifications in our cost analysis to be consistent across locations. Because we did not have a basis for identifying any other cases of misreported project costs in our sample, excluding the 14 projects could have introduced bias into our comparative analysis of allocating agencies.

certifications to further define cost data and learn more about their comparability across allocating agencies.

We then categorized project costs into aggregated categories. Line items in cost certifications were not comparable across all selected allocating agencies due to differences in how data were reported. For example, market study costs were listed separately on some cost certifications but aggregated with appraisal costs on others. To improve the comparability of cost data across allocating agencies, we developed and implemented a plan to categorize and consolidate cost data using a statistical program. We developed the plan by reviewing the overlap between the line-item costs we collected. We also reviewed a study of multiple allocating agencies that was conducted by an accounting firm specializing in LIHTC cost certifications and which used a similar methodology to consolidate costs.[17] Based on our plan, we categorized costs into three hard-cost and four soft-cost categories:

- **Hard costs**
  - **Construction:** Costs related to the direct physical development of the project site and structures. These include change orders; construction trade material and labor (such as electrical, masonry, or roofing); contingencies; demolition; environmental remediation; furniture, fixtures, and equipment; landscaping and fencing; off-site and on-site improvements; other property assets (such as maintenance, office, or playground equipment); prevailing wages; site security (if listed separately from contractor fees); tenant relocation; and utilities during construction.[18]
  - **Existing structures:** The purchased or appraised value of acquired structures.

[17]Novogradac & Company LLP, *New Mexico Affordable Housing Cost Study: Analysis of NM Construction Trends, Comparison of NM Construction Costs with Surrounding States, and Analysis of NM Low-Income Housing Tax Credit Distribution* (Albuquerque, N.M.: New Mexico Mortgage Finance Authority, Aug. 1, 2014).

[18]Construction may have included costs we categorized as other soft costs—such as bonds and insurance—if they were not listed separately on the cost certification. We did not categorize third-party construction management, project supervision, monitoring, or consulting services as construction costs.

- **Land:** The purchased or appraised value of acquired or leased land.[19]

- **Soft costs**
  - **Architect and engineer fees:** Fees for architectural design and supervision and engineer services.[20]
  - **Contractor fees:** Contractor general requirements, overhead, and profit.[21]
- **Developer fees:** Developer overhead and profit.[22]
- **Other soft costs:** Costs related to financing, tax credit partnership and syndication, predevelopment, professional services, and other indirect construction activities, as shown in the following examples.[23] These include accounting; agency fees (such as application, reservation, allocation, extension, compliance monitoring, and waivers fees); appraisals; broker fees and closing costs; capital needs assessments; certifications; construction-management fees; project supervision or monitoring; consultant fees; credit reports; environmental reports (such as asbestos and lead-paint tests); green building and energy efficiency design services; impact and utility

[19]We collected all costs as reported on the cost certification, including land costs. Land costs reflected the cost to the owner. Some projects may have received donated land and structures, in which case land costs were not provided because the developer did not incur an expense.

[20]We also included any line items described as “architect” and “engineer.” Engineer fees may have included surveying costs if they were not listed separately on the cost certification. We did not include agency fees for architectural or engineering reviews or consulting services for energy-efficiency design.

[21]General requirements are contractor costs associated with the LIHTC project, such as job-site engineering, temporary buildings, and the clean-up and disposal of construction debris. General requirements also may have contained some costs that we categorized as construction (such as utilities during construction) or other soft costs (such as bonds, insurance, or permits) if they were not listed separately on the cost certification. Also, cost certifications in New York City and several projects in other locations did not list contractor fees separately from construction costs.

[22]Developer fees did not necessarily include items that allocating agencies may have counted towards their developer fees limits, such as consulting fees or reserves in excess of lender requirements, if listed separately on the cost certification.

[23]Tax credit partnership and syndication costs included all costs that were listed on the cost certifications under sections described as “equity,” “investor,” “organizational,” “partnership,” or “syndication.” Other costs that we included in the other soft costs category, such as legal fees, also may have been associated with the tax credit partnership and syndication but were not described as such on the cost certification.

connection fees; inspections; insurance (such as builders risk, general liability, hazard, and title insurance); surveys; legal fees; loan fees and interest (such as for predevelopment loans, construction loans, bridge loans, and permanent loans); market studies; payment or performance bonds; permits and other local fees; real estate taxes (during construction); soil borings and tests; and title searches and recording.[24]

We also collected each project's total development cost and eligible basis from the cost certification.[25] To isolate development costs, we subtracted from each project's total development cost all costs associated with prefunded reserves and postconstruction activities, such as marketing and rent-up period operating expenses.[26]

We also developed and implemented a plan to consolidate project characteristics data into the sample-level database using a statistical program. We interviewed officials and reviewed documentation from selected allocating agencies about data definitions to determine the comparability of the characteristics data we collected. We then recoded comparable data elements using a standard coding system across all 12 allocating agencies. We conducted verification checks on the programs we created and the final database.

To assess the reliability of the project data, we tested each data field for missing values, obvious errors, and outliers—for example, whether per-

[24]Other soft costs also included line items that were not defined by another cost category and were included in a section of the cost certification described as "acquisition," "compliance," "developer," "indirect," "legal," "miscellaneous," "financing," "fees," "predevelopment," "professional," or "soft costs."

[25]Costs may have included residential and commercial construction costs. Some projects included commercial components, such as storefronts or fitness centers. However, commercial costs were not consistently identified in all cost certifications we reviewed. To improve the comparability of our cost data, we included all commercial and residential costs. In California, where we could identify commercial cost, about 14 percent of projects included commercial costs, which comprised about 6 percent of total development costs, on average. Eligible basis included all applicable costs for new construction and substantial rehabilitation (to which a 9 percent credit applied) and acquisition of existing structures (to which a 4 percent credit applied).

[26]Among other types of reserves, we excluded reserves for asset management fees, debt services, escrows, insurance, operating expenses and deficit, investor service fees, real estate taxes, replacement costs, expiring subsidies, and tenant improvements and services. We also included all costs not defined by another category that were listed on the cost certification under a section described as "reserves," "escrows," or "working capital."

unit costs were more than two standard deviations from an allocating agency's average. We communicated some outliers and inconsistencies to relevant allocating agency officials and made corrections to the database as necessary. We concluded that the data were sufficiently reliable for purposes of comparing LIHTC development costs within and across allocating agencies and for examining development cost drivers and trends. As an additional test, we compared summary statistics from applicable data elements in our database to comparable data elements in HUD's LIHTC database. We found that our data elements did not differ in significant ways from HUD's.[27]

Incorporating Location Data from Secondary Sources

We then merged several additional location characteristics into our database from federal and public statistical sources. We first validated project addresses and then used them to determine the census tract for each project. We then used census tracts to incorporate data from the American Community Survey, including census tract size and population (which we used to calculate population density), median home value, poverty rate, and unemployment rate.

Using the census tract, we also identified the Rural-Urban Commuting Area codes classification for each project, which we recoded to categorize each project as rural, suburban, or urban.[28] We also identified whether each project was located in a qualified census tract or difficult development area using the 2017 HUD lists.[29] Lastly, we used geographic information system software and the Department of Transportation's

[27]Although differences were not large, projects in our database had slightly more units, were targeted towards seniors less often, relied more often on HOME Investment Partnerships Program funds, and were distributed somewhat differently by year and geography.

[28]The Department of Agriculture's Rural-Urban Commuting Area codes are a set of numeric codes that classify census tracts using measures of population density, urbanization, and daily commute. We used the secondary Rural-Urban Commuting Area codes (shown in parenthesis) to categorize projects as rural (4.0, 4.2, 5.0, 5.2, 6.0, 6.1 7.0, 7.2, 7.3, 7.4, 8.0, 8.2, 8.3, 8.4, 9.0, 9.1, 9.2, 10.0, 10.2, 10.3, 10.4, 10.5, and 10.6), suburban (2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, and 10.1), or urban (1.0 and 1.1).

[29]A difficult development area is designated by the Secretary of HUD and has high construction, land, and utility costs relative to the area median gross income. 26 U.S.C. §42(d)(5)(B)(iii)(I). A qualified census tract is one in which 50 percent or more of households have an income less than 60 percent of area median gross income or which has a poverty rate of at least 25 percent. 26 U.S.C. § 42(d)(5)(B)(ii)(I).

Fixed-Guideway Transit Network database to identify the distance from each project to the nearest transit station (train and bus rapid transit stations).[30]

Before conducting our analyses, we prepared data analysis plans and interviewed selected representatives from industry groups and researchers to inform our efforts.[31] We also clarified data interpretations and limitations with officials from the selected allocating agencies on an as-needed basis.

Costs and Characteristics of LIHTC Projects

To describe the costs and characteristics of LIHTC projects, we calculated and compared summary statistics for relevant database elements. To account for inflation, we converted all costs to 2015 dollars using the calendar-year, chain-weighted Gross Domestic Product price index. We also normalized costs by dividing the total development cost by the number of units. We then calculated and compared summary statistics for key categories, such as the number and median per-unit cost of new construction projects, and subcategories, such as the number and median per-unit cost of new construction projects in urban areas.[32] We also repeated these analyses for each selected allocating agency.

To compare the cost of Chicago's and New York City's projects to other urban locations, we calculated and compared their median per-unit costs to costs in five other cities within our 12-agency sample that had comparable populations and densities. Using 2010 Census data, we selected the five densest cities (people per square mile) with populations

[30]Not all transit authorities in the selected locations reported station data to the Fixed-Guideway Transit Network database. To improve the reliability of our analysis, we limited our use of the transit distance variable to projects within 2 miles of a transit station.

[31]We selected a nongeneralizable, convenience sample of industry groups and researchers based on their knowledge of LIHTC project costs. In addition to the industry groups mentioned previously, we also interviewed Denise DiPasquale from City Research, Mike Eriksen from the University of Cincinnati, and Kirk McClure from the University of Kansas.

[32]We also created new variables from existing data, such as each project's income mix. We categorized projects as predominantly low income, mixed income, or neither. Predominantly low-income projects had fewer than 2 market-rate units, and mixed-income projects had 10 or more market-rate units or a mix of market-rate units greater than or equal to 20 percent of total units. Approximately 8 percent of the sampled projects did not fit either definition.

of 300,000 or more, population densities of 5,000 or more people per square mile, and 10 or more new construction projects completed in 2010–2015. They were Los Angeles, Miami, Philadelphia, San Francisco, and Seattle.[33] To identify all projects within the five selected cities, we matched the three-digit zip code prefixes associated with their U.S Postal Service area (known as a sectional center facility) to the zip codes for sampled projects.

To determine the composition of project costs in terms of hard and soft costs, we compared the sum of all hard costs and the sum of all soft costs to the sum of all total development costs by construction type. Hard costs included existing structures, land, and construction costs; soft costs included architect and engineer fees, contractor fees, developer fees, and other costs. We also compared the cost categories (such as construction costs) using the same approach as for hard and soft costs. We then repeated these steps for each selected allocating agency.

We also reviewed how LIHTC equity investments differed by construction type. We first calculated the equity investment for each project by multiplying the LIHTC allocation by the net credit price (both adjusted to 2015 dollars). We then calculated and compared the median per-unit equity investment and the percentage of the median per-unit total development cost that it comprised for new construction and rehabilitation projects.

To determine how total development costs changed over time, we calculated and compared the median per-unit cost for each year by construction type. We then repeated these steps for each allocating agency to determine how their costs changed over time. We also repeated the sample-level analysis over time excluding California's projects from the new construction pool and New York City's projects from the rehabilitation pool because, in both cases, their costs were among the highest, changed sharply in some years, and represented roughly one-fifth of all new construction and rehabilitation projects, respectively.

To determine how LIHTC construction costs changed over time relative to a federal index of construction costs, we calculated and compared the

[33]In addition to the cities we selected, eight other cities in our sample met the population and density criteria but did not have 10 or more projects or were less dense.

annual rates of change in the median per-unit cost of construction and contractor fees for sampled new construction projects to the rates of change in the annual averages for the Bureau of Labor Statistics' Producer Price Index by Commodity for Final Demand: Construction. This index tracks monthly price changes for construction materials, labor, equipment, and contractor fees. To account for the delay between when construction costs were incurred and projects completed, we compared the annual rates of change for the LIHTC projects to the annual rates of change in the average index value from the prior year. We also used the prior-year rate of change to generate a projection of LIHTC construction costs to determine how the sample trend differed from the index trend. For example, we calculated the projected cost in 2012 by inflating the actual cost in 2011 by the change in the average index value in 2010–2011.

To determine the association between the project characteristics we collected and per-unit development cost, we developed a statistical model and used ordinary least squares regression to estimate the controlled effect of specified characteristics on per-unit cost. For more detail on our statistical model and results, see appendix II. To further describe how project characteristics may have influenced costs, we calculated and compared summary statistics for the model characteristics among new construction projects below the 25th percentile or above the 75th percentile for per-unit cost within each allocating agency.

Steps Taken to Assess Allocating Agencies' Oversight of LIHTC Development Costs

To analyze steps allocating agencies have taken to oversee LIHTC development costs, we reviewed the Qualified Allocation Plans (QAP) and related documents (for example, policy manuals) for all 57 allocating agencies as of 2017.[34] These agencies included all 50 states, the District of Columbia, the 4 U.S. territories that received a LIHTC allocation in 2017 (Guam, Northern Mariana Islands, Puerto Rico, and U.S. Virgin Islands), and the Cities of Chicago and New York.[35] We conducted a

[34]We identified 2017 QAPs and related documents as of August 2017.

[35]See appendix VI for a list of the 57 allocating agencies. We excluded American Samoa from our analysis because it did not receive a LIHTC allocation in 2017. Like Chicago and New York City, Minneapolis/St. Paul is a suballocating agency, but we excluded it from our review because its QAP uses Minnesota's guidelines for cost management.

structured analysis of the QAPs and related documents to gather information about agencies' policies and practices for managing and verifying project-development costs.[36] We defined "cost management" as practices allocating agencies used to contain or limit development costs and fees, such as cost limits, credit allocation limits, fee limits, and cost-based scoring criteria. We defined "cost verification" as practices the agencies used to confirm the accuracy of project costs following construction—that is, whether the amount paid equaled the amount billed.

To obtain supplementary information on allocating agency approaches to cost management, we interviewed officials and reviewed additional documentation from the 12 selected allocating agencies, identified previously. Through this work, we identified a number of other steps those agencies took to limit LIHTC development costs. While the results of our supplementary work cannot be generalized to all allocating agencies, they provide additional insight into the cost-management approaches and cost-verification requirements of a diverse group of allocating agencies. For further context on cost-management approaches, we reviewed GAO and industry reports that analyzed allocating agency QAPs from prior years.[37]

We also interviewed federal officials to obtain information about relevant LIHTC requirements and cost-management practices used in other federal programs that support development of affordable multifamily housing. Specifically, we spoke with IRS and Treasury officials about LIHTC cost-verification requirements and the approaches of allocating agencies to cost management. In addition, we interviewed HUD officials to identify cost-verification practices used in the HOME Investment Partnerships Program and the Federal Housing Administration's Multifamily Mortgage Insurance programs. To obtain additional information about allocating agency practices and the cost-certification

[36]A nonprofit LIHTC financing company and consulting firm also conducted a study of cost-management approaches in allocating agency QAPs in 2015–2016. See Michael A. Spotts, *Giving Due Credit: Balancing Priorities in State Low-Income Housing Tax Credit Allocation Policies* (Washington, D.C.: Enterprise Community Partners, Inc., June 2016).

[37]Among the GAO reports we reviewed was a May 2016 report that analyzed allocating agency QAPs as of 2013. That analysis reviewed QAPs of 58 allocating agencies from all 50 states, the District of Columbia, Puerto Rico, American Samoa, Guam, the Northern Mariana Islands, the U.S. Virgin Islands, and the Cities of Chicago and New York. See GAO, *Low-Income Housing Tax Credit: Some Agency Practices Raise Concerns and IRS Could Improve Noncompliance Reporting and Data Collection,* GAO-16-360 (Washington, D.C.: May 11, 2016).

process, we interviewed representatives of NCSHA, CohnReznick LLP, and Novogradac & Company LLP.

Steps Taken to Evaluate Factors Limiting Assessment of LIHTC Development Costs

To analyze factors limiting assessment of LIHTC development costs, we assessed the data we collected from the 12 allocating agencies. We identified and documented the consistency in cost-related variables agencies collected in several key documents and data sources, and how they defined the variables.[38] We documented the formats in which agencies provided and maintained the data we requested and steps we took to standardize and combine data. We compared the variables the agencies collected against federal tax credit allocation priorities outlined in Section 42 of the Internal Revenue Code (Section 42), as well as certain allocating agency priorities.[39] In addition, we reviewed an off-the-shelf software package for cost-estimation to determine what project characteristics were required to calculate estimates with the software, and evaluated the extent to which the selected agencies collected these characteristics.

We also reviewed Section 42 and related regulations to ascertain requirements for reporting syndication expenses to allocating agencies and IRS, and interviewed IRS and Treasury officials about these requirements. We interviewed the selected allocating agencies about their practices for collecting and reviewing syndication expense information. We also interviewed CohnReznick LLP and Novogradac & Company LLP about the different fees syndicators charge to investors and developers, and the extent to which these fees are reported to allocating agencies. Finally, we reviewed our prior work on federal oversight of the LIHTC and other tax credit programs.

We conducted this performance audit from May 2015 to September 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain

[38]The documents and data sources we reviewed included final cost certifications, project applications, and agency spreadsheets.

[39]26 U.S.C.§§ 42(m)(1)(B)(ii) and 42(m)(1) (C) outline federal preferences and selection criteria in allocating LIHTCs. Allocating agencies also may define their own requirements and selection criteria for awarding credits (§ 42(m)(1)(B)(i)).

sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Description of Our Statistical Model to Examine Factors Associated with Development Costs for Low-Income Housing Tax Credit Projects

This appendix provides an overview of our statistical analysis of factors associated with the cost of producing affordable rental housing supported by the Low-Income Housing Tax Credit (LIHTC). We developed a regression model that explains the costs based on a number of project characteristics and other factors. As described in appendix I, we developed a data set based primarily on information from 12 selected allocating agencies.[1] The data set contains detailed information on 1,849 LIHTC projects with final cost certifications signed in 2011–2015 and provides broad geographic coverage, including urban, suburban, and rural locations.

From project applications and final cost certifications, we gathered development costs as well as key data elements influencing those costs. The data set contains information on

- physical characteristics of projects, such as number of units, number of buildings, and unit size (number of bedrooms);
- whether each project was new construction or involved rehabilitation of existing structures;
- costs by categories, such as land and existing structures costs, construction costs, and fees and cost items associated with project

[1]The 12 agencies are the Arizona Department of Housing, California Tax Credit Allocation Committee, Florida Housing Finance Corporation, Georgia Department of Community Affairs, Illinois Housing Development Authority, Chicago Department of Planning and Development, New York State Homes and Community Renewal, New York City Department of Housing Preservation and Development, Ohio Housing Finance Agency, Pennsylvania Housing Finance Agency, Texas Department of Housing and Community Affairs, and Washington State Housing Finance Commission.

development and financing. This allowed us to separately examine construction costs and soft costs, including predevelopment, financing, and syndication costs;

- whether a project made use of other federal sources of funding for low- and moderate-income housing, including the Community Development Block Grant (CDBG) program, HOME Investment Partnerships Program (HOME) or Department of Agriculture (USDA) Rural Development loans;
- whether the project was targeted to seniors;
- the number of units dedicated for low-income households; and
- whether a project was located in a qualified census tract or a difficult development area.

We augmented these data with information from the American Community Survey and from USDA to enable us to control for certain neighborhood characteristics that may be associated with the cost of developing and constructing LIHTC projects.

Key Characteristics of the Projects

Table 4 below provides an overview of project costs and some key attributes of projects in our sample and highlights the variation across the allocating agencies. The average total cost per unit in our data set is about $220,000 (in 2015 dollars). The average total cost per unit was greater than $300,000 in California and Chicago and less than $150,000 in Georgia and Texas. Construction costs were greater than or approaching $200,000 in Chicago and New York City and less than $100,000 in Georgia and Texas. Project scale varied across the agencies, reflecting differences in built environments, property costs, and other factors and averaged 66 units and 7.5 buildings.

Table 4: Characteristics of Low-Income Housing Tax Credit Projects by Selected Allocating Agency, 2011–2015

n/a	n/a	Average costs per unit (dollars)			Average per project (number)		Median land cost (dollars)
Allocating agency	Projects (number)	Total costs	Construction costs	Soft costs	Units	Buildings	n/a
Pooled	1,849	**222,809**	147,277	52,704	66.0	7.5	409,111
Arizona	70	**188,400**	121,755	46,885	66.4	11.9	512,216
California	409	**307,107**	176,915	79,760	60.7	5.3	1,297,606
Chicago	24	**301,529**	236,447	53,234	67.4	3.6	247,316

n/a	n/a	Average costs per unit (dollars)			Average per project (number)		Median land cost (dollars)
Allocating agency	Projects (number)	Total costs	Construction costs	Soft costs	Units	Buildings	n/a
Florida	130	**187,350**	115,903	48,910	94.7	6.8	1,059,886
Georgia	155	**141,126**	96,137	32,826	72.5	8.8	350,754
Illinois	117	**213,343**	153,118	43,427	65.2	10.6	314,447
New York	132	**264,018**	187,933	60,276	58.5	5.6	186,445
New York City[a]	157	**260,089**	198,039	54,438	35.5	1.7	1
Ohio	181	**168,213**	113,706	40,004	52.3	10.5	219,564
Pennsylvania	185	**246,966**	174,908	55,053	49.3	7.8	181,550
Texas	212	**127,302**	85,115	30,512	109.2	12.0	705,446
Washington	77	**207,066**	142,781	43,316	61.3	6.6	411,579

Source: GAO analysis of allocating agency data. | GAO-18-637

[a]New York City had many single-building projects that appear to be parts of larger projects under common development.

The cost of land and existing structures can be a large component of project development costs. Land costs can scale with project size (an apartment complex of 12 buildings could require twice as much land as a complex of 6 buildings) as well as with underlying market land values. The median land value across all projects was about $400,000, and was more than $1,000,000 in California and Florida. But the median land cost in New York City was about $1, suggesting that land and structures were donated.[2] Given the market values of New York City real estate, total development costs for some New York City projects are likely to be understated when compared to projects in other jurisdictions.

Variable Definitions

Variables Describing Project Characteristics

The data set includes detailed information on program characteristics (discussed previously) that we used to define explanatory variables. We included the size of projects as defined by total units and placed them in

[2]This number refers to projects allocated credits by the New York City agency. There were also some projects in New York City with very low land costs to which the New York state agency allocated credits.

four size categories (fewer than 37 units, 37–50 units, 51–100 units, and more than 100 units).[3]

To develop a project-type categorization, we incorporated information on the number of residential buildings. Projects can come in many combinations of building count and building size (number of units). For instance, a 60-unit project could be a single 60-unit building, 10 6-unit buildings, or 30 2-unit buildings. We distinguished projects in which the average building size had at least 60 units ("larger buildings" category) and projects with at least 20 buildings ("many buildings" category). We placed all remaining projects in a large residual category. This category is somewhat independent of size and primarily is meant to distinguish among types of projects that might require specialized construction or project-management skills.[4]

We also created variables to provide information on the distribution of units by number of bedrooms within each project. Bigger units, those with more bedrooms, are more costly to build. We created three unit size categories: 0-1 bedroom, 2 bedrooms, and 3 or more bedrooms. We defined the values as shares of total units in the category. For example, if a given project had 80 units, 20 of which had 1 bedroom, 40 of which had 2 bedrooms, and 20 of which had 3 bedrooms, the values for these variables would be 0.25, 0.5, and 0.25 respectively. The values sum to 1 across the categories.

We used binary variables to indicate if projects were new construction or rehabilitation. New construction is generally thought to be more expensive than rehabilitation on average, given site work and possible demolition requirements. We also developed variables to indicate if a project was targeted to seniors and if it served low-income tenants exclusively or a mix of low-income and other tenants.

We used two variables (yes or no binaries) to indicate if a project was in a qualified census tract or difficult development area. Within the LIHTC

[3]Following Jean L. Cummings and Denise DiPasquale, "The Low-Income Housing Tax Credit: An Analysis of the First Ten Years," *Housing Policy Debate*, vol. 10, no. 2 (1999).

[4]The minimum project size for the "larger buildings" category is 60 units; thus, no projects of that type will be in the two smallest categories for project size. However, large-size projects are found in each project-type category. For instance, the largest project in each project type category exceeds 200 units.

program, the size of the credit awarded for a given project may be increased if the project is located in such areas.[5]

We also used information on other project characteristics that would affect costs, which we obtained for some, but not all, allocating agencies. For instance, for two agencies we could indicate that the project included parking structures (as opposed to a surface parking lot or stand-alone garage or carports), and for three agencies, that projects were built according to Leadership in Energy and Environmental Design (LEED) standards.

Variables Describing Project Financial Support and Developer Type

We developed variables for other federal funding sources. Specifically, we indicate if each project received funds from a Rural Development loan, CDBG, HOME or HOPE VI programs, or the American Recovery and Reinvestment Act of 2009 (ARRA). The availability of these funds more directly may affect the costs of acquiring financing and less directly affect a project's construction costs. We did not observe the degree to which funds were sought by or allocated to particular projects. The extent to which they were used varied across allocating agencies.[6] If in some cases they were awarded to projects that were particularly costly, this could manifest itself in a positive association—but not one that meant the programs led to higher costs. However, information was missing for some projects for some variables. (We discuss our approach to dealing with this issue later in the appendix.) In addition, we obtained information for nine agencies on whether nonprofit organizations were involved in the projects

Variables from Other Sources to Control for Neighborhood and Geography

A broad set of factors related to local conditions, as well as conditions such as whether project locations are rural or urban, likely influence the costs of developing and building projects. Thus, we also used codes developed by USDA (the Rural-Urban Commuting Area codes) to place each project into rural, suburban, or urban categories.

[5]26 U.S.C. § 42(d)(5)(B)(i).

[6]For instance, only eight allocating agencies had projects that used HOPE VI funds.

We controlled for local housing market and other neighborhood effects that may affect the placement and costs of developing LIHTC projects. That is, we attempted to control for the possibility that LIHTC features might be confounded with observable neighborhood characteristics, as follows.

- We used American Community Survey data at the census-tract level to measure the poverty rate of the census tract of each project. The poverty rate variable is entered as a continuous variable in the regressions.
- We also used American Community Survey data at the 5-digit, zip-code level to describe aspects of the housing stock in the neighborhood in which the project was built.
- We used the property value (measured by median home value at the zip-code level) as a proxy for the costs of acquiring property (land and structures) in an area. The property value variable is entered as a continuous variable in the regressions.
- We used information on the age of the housing stock (median year built) to create three age-of-housing-stock categories: before 1945, 1945–1994, and 1995 and after.
- We used information on the median contract rent at the zip-code level and contract rent quartiles at the state level. Using the relationship between local and state contract rents, we created three categories in which the local median rent is either below the 25th percentile of the state contract rent distribution, ranges from the 25th percentile value to the median value of the state contract rent distribution, or is above the state median contract rent. This is an attempt to standardize a neighborhood or rental market typography across many jurisdictions, because a given dollar amount of rent represents access to different housing quality in different places. That is, neighborhoods in which rents are high or low may share common characteristics across the country.

We also used a series of allocating agency dummy variables and a series of project year dummy variables to control for otherwise unmeasured factors that may be common across projects or conditions in each agency jurisdiction or year, respectively.

Information on Omitted Categories for Categorical Variables

Many of the explanatory variables in the model are categorical variables, and thus the coefficient estimates presented in the tables in this appendix

need to be interpreted in terms of differences from an omitted category. The omitted categories are

- for project scale, projects with fewer than 37 units;
- for project type, all projects in which there are fewer than 60 units per building and fewer than 20 residential buildings;
- for unit size, the 2-bedroom group;
- for age of housing stock, median year built between 1945 and 1994;
- for contract rent, neighborhoods in which the median contract rent is between the 25th percentile and median values of the state-wide contract rent; and
- for geographic area, suburban.

Some allocating agencies did not have complete information about whether other program funding, such as funding from Rural Development or ARRA programs, were used for projects. Conceptually, these variables are yes or no binaries. One approach is to add an "unknown" category in addition to the usual yes or no binary. That is, the categorization becomes "known yes," "known no," and "unknown." An alternative approach is to treat missing information as the absence of the characteristic of interest. Using the three-category approach generally yielded virtually identical results to the alternative in which "missing" information was treated as the absence of the characteristic.

In general, we used a traditional binary structure.[7] In one case, we kept the three-category structure. Specifically, we created a measure across agencies as to whether projects were targeted solely to low-income tenants or to a mix of low-income and other tenants. In many cases and across many agencies, we were not able to reliably make this determination using information in the data set. For estimation purposes, we included the unknown and known low-income category binary variables and omitted the known mixed-income category. The interpretation of the known low-income category is still the difference from the known mixed-income category. Other variables are binary, indicating

[7]Projects for which there was no information on the use of Rural Development loans were identical to those projects without information on use of CDBG funds. Virtually all these projects were in a single allocating agency. While there were many observations with missing values, the use of a missing category would be entangled with the estimation of that allocating agency dummy variable.

the presence of the characteristic (such as if the project used a Rural Development loan or not, or was in a qualified census tract or not).

Regression Strategy

Following Cummings and DiPasquale, we estimated a regression model to explain total development costs per unit—and alternatively, measures of construction costs and soft costs separately—as depending on these project and neighborhood characteristics. We developed a base case model including the variables discussed previously and estimated this model using all 1,849 observations. The pooled sample, because it provides a broad range of conditions and policy responses, can permit a similarly broad view of the influences on LIHTC project costs.

At the same time, we wanted to have some idea about how sensitive broad, overall results were to the influence of conditions and policy responses of particular jurisdictions. (We would expect housing market conditions and housing policy responses to differ across agencies.) Thus, we also present the same model estimated on three different subsamples in which the projects of particular allocating agencies were excluded. The pooled sample and subsample results are shown in table 5 later in this appendix.

Specifically, we present results on samples excluding projects in California, New York City, and Texas in turn.

- California had the highest average total cost, highest (observed) land costs, and biggest program in terms of allocation of tax credits and units placed in service.
- New York City is a completely urban jurisdiction. About 75 percent of its projects were rehabilitation projects (compared to about one-third for the entire sample). More than half of its projects were in neighborhoods in which the median year housing stock was built was 1945 or before (compared to about 15 percent for the entire sample).
- Texas had the lowest total cost and lowest construction costs and soft costs per unit, with many large, multibuilding projects that may be impractical in some other contexts. It was second to California in allocation of tax credits and units built.

Housing conditions in the three jurisdictions and policy options favored by these jurisdictions may not represent conditions and policy options easily available or desirable in other jurisdictions.[8]

We also present estimates explaining construction costs per unit and soft costs per unit as alternatives to total costs. The construction cost measure includes costs for site and structure work and fees paid to the building contractor. We defined a broad soft cost measure to include predevelopment costs, financing costs, legal fees, architect and engineer fees, developer fees, and project-level partnership and syndication fees. Some factors may be more associated with the construction-cost component and less associated with the soft cost project-development component, or vice versa. These results are shown in table 6.

Sensitivity Analysis

We also present results using the pooled sample set for three variations of the base specification. The first variation omitted the property value variable. Property values vary within states and metropolitan areas, as well as across the states. We examined the extent the presence of this control affected the influence of other factors. The second variation omitted variables related to neighborhood characteristics. The third variation omitted the variables related to other types of housing support (for example, HOME funds). These results are shown in table 7.

We used the information we obtained about projects that received ARRA funds and present results in table 8 for the subset of projects that received final cost certifications in 2011 and 2012. In table 9 we present results concerning possible cost-related features (parking structures, LEED certification, and developer type) for specific agencies and a subset of projects.

We addressed whether our estimates were sensitive to the possibility that observed values for total cost might be artificially low when land or structures were acquired at very low or zero cost. We restricted projects to those in which land and structure costs accounted for at least 1 percent of total development costs and estimated our model on this subsample using both total costs and construction costs as dependent variables. We present our results in table 10.

[8]In addition, observations for the New York City allocating agency are possibly influential given the reduced dollar values for land reflected in the certificated project costs.

We examined whether the results were sensitive to the form in which some credits were granted in New York City. That is, credits awarded in New York City to many single-building projects appeared to be part of larger neighborhood clusters under common development. In an alternative version, we aggregate project-level information to the level of multibuilding project clusters. We present the results in table 11.

Finally, we looked at whether proximity to transit affected project costs. Some allocating agencies may offer incentives for transit-oriented developments—or projects within certain proximity to public transit. These areas may have higher land and construction costs due to higher density and demand within urban environments. Using projects within 2 miles of a transit station and various distance ranges, we estimated the association with per-unit total and construction costs. We present the results in table 12.

Regression Specification

We used ordinary least squares estimation with heteroscedasticity consistent standard errors. This model allowed us to make statements concerning the association of explanatory factors on project costs, given that other explanatory factors were held constant. As is the case in such models, we generally only can discuss associations between explanatory factors and the cost measure to be explained, and not causality. For example, the use of other sources of government funding may have directly increased construction costs, as fund usage can trigger federal prevailing wage requirements. On the other hand, these other funding sources may have been used in addition to LIHTC equity to fill funding gaps for projects with particularly high costs. Additionally, econometric estimates can be sensitive to model specification, variable definitions, and the omission of variables (for example, due to unavailable data) relevant to the outcome of interest.

Because the data used to estimate the model include only LIHTC projects that were placed in service, we cannot make statements about how the costs of developing these projects may compare to other potential LIHTC projects or to projects developed and financed by the private sector. It is probably true that allocating agencies could have selected lower-cost (or higher-cost) projects compared to those actually selected, but whether or not this counterfactual housing would have better served the low-income population is a different question.

Estimation Results

Our results are presented in tables 5 through 12. Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant. We also estimated a version in which each agency and project year combination had its own intercept shift, but these results were quite similar. The dependent variable in most cases is total development cost per unit, adjusted for inflation.

Base Case Results and Sensitivity to Included Allocating Agencies

Key results shown in table 5 are not surprising. Total per-unit costs declined with the scale of the project, although the precise estimates were sensitive to the allocating agencies included. Likewise, new construction significantly added to total costs, although the size of the coefficient varied with the sample. For instance, for samples including California, new construction costs were around $40,000 more per unit more for rehabilitation projects, other things held constant. In the sample omitting California projects, this estimate was less than $30,000.

Table 5: Estimation Results for Base Case Model Excluding Selected Agencies (per-unit cost)

Category	Allocating agencies included in regression			
n/a	Coefficient and statistical significance			
n/a	All 12 selected agencies included	Excluding California	Excluding New York City	Excluding Texas
Project characteristics: 37–50 units	-30,620 statistically significant one percent level	-20,054 statistically significant one percent level	-29,310 statistically significant one percent level	-31,896 statistically significant one percent level
Project characteristics: 51–100 units	-55,676 statistically significant one percent level	-42,807 statistically significant one percent level	-54,500 statistically significant one percent level	-57,508 statistically significant one percent level

Category	Allocating agencies included in regression							
n/a	Coefficient and statistical significance							
n/a	All 12 selected agencies included		Excluding California		Excluding New York City		Excluding Texas	
Project characteristics: More than 100 units	-85,473	statistically significant one percent level	-70,973	statistically significant one percent level	-86,871	statistically significant one percent level	-94,351	statistically significant one percent level
Project characteristics: Larger buildings	14,772	statistically significant one percent level	8,818	statistically significant five percent level	13,421	statistically significant one percent level	17,995	statistically significant one percent level
Project characteristics: Many buildings	3,728	not statistically significant	11,451	statistically significant one percent level	3,845	not statistically significant	3,477	not statistically significant
Project characteristics: 0–1 bedrooms share	-18,167	statistically significant one percent level	-3,829	not statistically significant	-23,810	statistically significant one percent level	-17,814	statistically significant one percent level
Project characteristics: 3 or more bedrooms share	25,249	statistically significant one percent level	24,793	statistically significant one percent level	21,180	statistically significant five percent level	23,970	statistically significant one percent level
Project characteristics: New construction	38,928	statistically significant one percent level	26,827	statistically significant one percent level	36,739	statistically significant one percent level	42,159	statistically significant one percent level
Project characteristics: Qualified census tract	7,194	not statistically significant	9,038	statistically significant five percent level	4,975	not statistically significant	7,371	not statistically significant

Category	Allocating agencies included in regression							
n/a	Coefficient and statistical significance							
n/a	All 12 selected agencies included		Excluding California		Excluding New York City		Excluding Texas	
Project characteristics: Difficult development area	-3,227	not statistically significant	3,016	not statistically significant	1,626	not statistically significant	-3,994	not statistically significant
Project characteristics: Senior project	-7,300	statistically significant five percent level	-2,582	not statistically significant	-6,415	statistically significant ten percent level	-10,627	statistically significant one percent level
Project characteristics: Target income=missing	595	not statistically significant	8,228	not statistically significant	-4,938	not statistically significant	-573	not statistically significant
Project characteristics: Target income=low	11,227	statistically significant five percent level	11,711	statistically significant one percent level	2,959	not statistically significant	10,311	statistically significant ten percent level
Financing characteristics: Rural Development loan	-31,591	statistically significant one percent level	-24,968	statistically significant one percent level	-31,658	statistically significant one percent level	-32,359	statistically significant one percent level
Financing characteristics: HOME	4,887	not statistically significant	2,332	not statistically significant	4,582	not statistically significant	4,113	not statistically significant
Financing characteristics: HOPE VI	18,339	statistically significant five percent level	22,503	statistically significant one percent level	17,596	statistically significant five percent level	14,302	statistically significant ten percent level
Financing characteristics: CDBG	10,829	not statistically significant	15,624	statistically significant ten percent level	11,353	not statistically significant	10,802	not statistically significant

Category	Allocating agencies included in regression							
n/a	Coefficient and statistical significance							
n/a	All 12 selected agencies included		Excluding California		Excluding New York City		Excluding Texas	
Geographic and neighborhood characteristics: Rural	-2,857	not statistically significant	-2,815	not statistically significant	-3,661	not statistically significant	-1,152	not statistically significant
Geographic and neighborhood characteristics: Urban	12,570	statistically significant one percent level	13,506	statistically significant one percent level	11,690	statistically significant one percent level	11,830	statistically significant five percent level
Geographic and neighborhood characteristics: Census tract poverty rate	391.1	statistically significant one percent level	401	statistically significant one percent level	441	statistically significant one percent level	409	statistically significant five percent level
Geographic and neighborhood characteristics: Property value	0.155	statistically significant one percent level	0.117	statistically significant one percent level	0.169	statistically significant one percent level	0.152	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	17,891	statistically significant one percent level	16,566	statistically significant one percent level	29,631	statistically significant one percent level	18,597	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	-16,970	statistically significant one percent level	-6,743	statistically significant ten percent level	-18,417	statistically significant one percent level	-19,118	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	-29,573	statistically significant one percent level	-17,744	statistically significant one percent level	-27,663	statistically significant one percent level	-31,669	statistically significant one percent level

Category	Allocating agencies included in regression							
n/a	Coefficient and statistical significance							
n/a	All 12 selected agencies included		Excluding California		Excluding New York City		Excluding Texas	
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	3,946	not statistically significant	7,055	statistically significant ten percent level	3,315	not statistically significant	4,298	not statistically significant
Observations	1,849	n/a	1,440	n/a	1,692	n/a	1,637	n/a
Adjusted R-squared	0.648	n/a	0.615	n/a	0.670	n/a	0.610	n/a

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

"Larger buildings" projects were associated with higher costs per unit, although the California projects influenced magnitude and the significance level. Without California in the sample, per-units costs in the "many buildings" projects indicator were estimated to be more than $10,000 higher than more typical projects, controlling for other characteristics. This amount was estimated to be much smaller and statistically insignificant with California observations. The share of 3-bedroom units was associated with higher cost per unit and was not particularly sensitive to the sample, although the degree to which a higher share of smaller units led to reduced cost per unit was less clear. Costs to develop senior projects were modestly lower, but estimates and statistical significance were sensitive to the agencies included.

Projects targeted exclusively to low-income households (most projects) were estimated to be more costly to develop than mixed-income projects. These results were quite sensitive to the presence of projects approved by the New York City allocating agency. More than 40 percent of the mixed-income projects in the entire sample were in New York City. Many of New York City's mixed-income projects had donated land and might not be comparable from a cost perspective to mixed-income projects in other locations. When we excluded New York City projects, our estimates showed no statistically significant difference in per unit costs for low- and mixed-income projects.

Notably, Rural Development loans were associated with sizeable effects on costs (costs were lower). This may be partly due to the types of projects supported by Rural Development loans, such as farm labor housing (which may lack some amenities that can increase costs) and program limits on costs per unit. Projects supported by HOME and CDBG funds were estimated to be more costly to develop, although these differences were not generally statistically significant. The effect of HOPE VI financial support was estimated to be large and statistically significant, but only about 1 percent of projects in the sample were supported with this program. The projects that received financial support from this source might be idiosyncratic, or could include other unobserved characteristics that influence costs. For example, tenant relocation requirements for HOPE VI projects may have contributed to the higher per-unit costs.

Many neighborhood characteristics matter. In the pooled sample, a change from the 25th percentile value to the 75th percentile value of home value (from about $100,000 to about $320,000) was associated with an increase in per-unit costs of about $34,000, controlling for other characteristics. Without the California projects, the 75th percentile value was reduced to about $225,000 with little reduction in the 25th percentile value, and the estimated increase in per-unit costs was only about $15,000. Projects in neighborhoods with low rents (relative to the state distribution) were estimated to be less costly, typically in the range of $20,000–$30,000 per unit. Costs in neighborhoods with higher rents were estimated to be modestly higher, but rarely significant. Older neighborhoods were associated with higher costs per unit, while newer neighborhoods were associated with lower costs per unit, as compared to projects in neighborhoods in which the median year built was between 1945 and 1994 (and controlling for other characteristics). In the pooled sample, estimated magnitudes were about $18,000 higher in older neighborhoods and about $17,000 lower in newer neighborhoods.

Examining Construction and Soft Cost Components

Table 6 shows that many of the same factors affected total costs, construction costs, and soft costs similarly. For instance, all costs scaled with project size and new construction, and many of the neighborhood effects remained significant. A higher share of 3-bedroom units was associated with higher costs in all cost categories. “Larger buildings” projects had higher total costs and construction costs, but modestly negative and insignificant soft costs. The latter result is consistent with the idea that soft costs scale with the number of units, but not with the size or number of buildings in a project.

Table 6: Estimation Results for Base Case Model, by Cost Component (per-unit cost)

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Project characteristics: 37–50 units	**-30,620**	statistically significant one percent level	-17,995	statistically significant one percent level	-12,829	statistically significant one percent level
Project characteristics: 51–100 units	**-55,676**	statistically significant one percent level	-30,076	statistically significant one percent level	-19,551	statistically significant one percent level
Project characteristics: More than 100 units	**-85,473**	statistically significant one percent level	-53,467	statistically significant one percent level	-28,202	statistically significant one percent level
Project characteristics: Larger buildings	**14,772**	statistically significant one percent level	13,581	statistically significant one percent level	-1,293	not statistically significant
Project characteristics: Many buildings	**3,728**	not statistically significant	5,694	statistically significant ten percent level	-3,719	statistically significant five percent level
Project characteristics: 0–1 bedrooms share	**-18,167**	statistically significant one percent level	-6,219	not statistically significant	-855	not statistically significant
Project characteristics: 3 or more bedrooms share	**25,249**	statistically significant one percent level	22,702	statistically significant one percent level	7,022	statistically significant five percent level

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Project characteristics: New construction	**38,928**	statistically significant one percent level	48,081	statistically significant one percent level	14,996	statistically significant one percent level
Project characteristics: Qualified census tract	**7,194**	not statistically significant	5,593	statistically significant ten percent level	965	not statistically significant
Project characteristics: Difficult development area	**-3,227**	not statistically significant	1,260	not statistically significant	-1,373	not statistically significant
Project characteristics: Senior project	**-7,300**	statistically significant five percent level	-4,946	statistically significant ten percent level	-3,058	statistically significant one percent level
Project characteristics: Target income = missing	**595**	not statistically significant	-5,568	not statistically significant	-3,299	statistically significant ten percent level
Project characteristics: Target income = low	**11,227**	statistically significant five percent level	746	not statistically significant	1,725	not statistically significant
Financing characteristics: Rural Development loan	**-31,591**	statistically significant one percent level	-22,080	statistically significant one percent level	-6,546	statistically significant one percent level
Financing characteristics: HOME	**4,887**	not statistically significant	5,709	statistically significant five percent level	2,045	statistically significant five percent level

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Financing characteristics: HOPE VI	**18,339**	statistically significant five percent level	24,570	statistically significant one percent level	4,806	statistically significant ten percent level
Financing characteristics: CDBG	**10,829**	not statistically significant	14,927	statistically significant five percent level	2,861	not statistically significant
Geographic and neighborhood characteristics: Rural	**-2,857**	not statistically significant	-2,592	not statistically significant	-4,149	statistically significant five percent level
Geographic and neighborhood characteristics: Urban	**12,570**	statistically significant one percent level	6,235	statistically significant five percent level	1,478	not statistically significant
Geographic and neighborhood characteristics: Census tract poverty rate	**391.1**	statistically significant one percent level	321.4	statistically significant one percent level	57.7	not statistically significant
Geographic and neighborhood characteristics: Property value	**0.155**	statistically significant one percent level	0.082	statistically significant one percent level	0.025	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	**17,891**	statistically significant one percent level	12,799	statistically significant one percent level	3,750	statistically significant five percent level
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	**-16,970**	statistically significant one percent level	-7,943	statistically significant five percent level	-3,368	statistically significant five percent level

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	**-29,573**	statistically significant one percent level	-13,352	statistically significant one percent level	-7,959	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	**3,946**	not statistically significant	-989	not statistically significant	1,186	not statistically significant
Observations	**1,849**	n/a	1,849	n/a	1,848	n/a
Adjusted R-squared	**0.648**	n/a	0.596	n/a	0.584	n/a

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

Projects with Rural Development loans were associated with lower construction and soft costs. For construction costs, the result is consistent with the loans being able to be used for projects characterized by lower-than-average costs of construction. Soft costs may be affected more directly to the extent that Rural Development loans provide a key source of funding that may reduce the difficulty of other project financing efforts. The HOME indicator was associated with modestly significant higher construction and soft costs. Slightly more than one-third of projects across all allocating agencies received HOME funds.

Finally, the lower costs associated with senior projects were more statistically significant for soft costs than total costs or construction costs.

Sensitivity to Specification

In table 7, we present model variations that exclude, in turn, particular portions of the base case explanation. Other remaining factors, including those associated with the LIHTC program, may be sensitive to the omitted factors. For instance, the estimated effect of a Rural Development loan may be sensitive to the presence of a rural control variable, or the estimated effect of a location in a qualified census tract may be sensitive to other indicators of neighborhood characteristics.

Table 7: Estimation Results for Model Variations That Exclude Selected Variables (per-unit cost)

Category	Model variation							
n/a	Coefficient and statistical significance							
n/a	Base case		Property value variable excluded		Other geography and neighborhood variables excluded		Other housing program support variables excluded	
Project characteristics: 37–50 units	-30,620	statistically significant one percent level	-33,826	statistically significant one percent level	-27,091	statistically significant one percent level	-31,386	statistically significant one percent level
Project characteristics: 51–100 units	-55,676	statistically significant one percent level	-60,916	statistically significant one percent level	-52,492	statistically significant one percent level	-55,333	statistically significant one percent level
Project characteristics: More than 100 units	-85,473	statistically significant one percent level	-93,227	statistically significant one percent level	-76,296	statistically significant one percent level	-83,693	statistically significant one percent level
Project characteristics: Larger buildings	14,772	statistically significant one percent level	18,762	statistically significant one percent level	18,847	statistically significant one percent level	14,836	statistically significant one percent level
Project characteristics: Many buildings	3,728	not statistically significant	3,213	not statistically significant	741	not statistically significant	5,329	not statistically significant
Project characteristics: 0–1 bedrooms share	-18,167	statistically significant one percent level	-13,109	statistically significant five percent level	-16,454	statistically significant five percent level	-18,124	statistically significant one percent level
Project characteristics: 3 or more bedrooms share	25,249	statistically significant one percent level	19,314	statistically significant five percent level	25,820	statistically significant one percent level	29,037	statistically significant one percent level

Category	Model variation							
n/a	Coefficient and statistical significance							
n/a	Base case		Property value variable excluded		Other geography and neighborhood variables excluded		Other housing program support variables excluded	
Project characteristics: New construction	38,928	statistically significant one percent level	40,030	statistically significant one percent level	40,904	statistically significant one percent level	42,772	statistically significant one percent level
Project characteristics: Qualified census tract	7,194	not statistically significant	7,188	not statistically significant	18,269	statistically significant one percent level	8,352	statistically significant ten percent level
Project characteristics: Difficult development area	-3,227	not statistically significant	9,295	statistically significant five percent level	-7,751	statistically significant ten percent level	-3,147	not statistically significant
Project characteristics: Senior project	-7,300	statistically significant five percent level	-13,539	statistically significant one percent level	-10,303	statistically significant one percent level	-5,348	not statistically significant
Project characteristics: Target income = missing	595	not statistically significant	2,217	not statistically significant	-2,012	not statistically significant	-30	not statistically significant
Project characteristics: Target income = low	11,227	statistically significant five percent level	11,850	statistically significant five percent level	9,148	statistically significant ten percent level	10,025	statistically significant five percent level
Financing characteristics: Rural Development loan	-31,591	statistically significant one percent level	-42,175	statistically significant one percent level	-44,239	statistically significant one percent level	variable not included in model variation	

Category	Model variation							
n/a	Coefficient and statistical significance							
n/a	Base case		Property value variable excluded		Other geography and neighborhood variables excluded		Other housing program support variables excluded	
Financing characteristics: HOME	4,887	not statistically significant	4,036	not statistically significant	4,285	not statistically significant	variable not included in model variation	
Financing characteristics: HOPE VI	18,339	statistically significant five percent level	19,385	statistically significant five percent level	15,628	statistically significant ten percent level	variable not included in model variation	
Financing characteristics: CDBG	10,829	not statistically significant	17,398	statistically significant ten percent level	12,762	not statistically significant	variable not included in model variation	
Geographic and neighborhood characteristics: Rural	-2,857	not statistically significant	-5,425	not statistically significant	variable not included in model variation		-3,973	not statistically significant
Geographic and neighborhood characteristics: Urban	12,570	statistically significant one percent level	13,227	statistically significant one percent level	variable not included in model variation		18,311	statistically significant one percent level
Geographic and neighborhood characteristics: Census tract poverty rate	391.1	statistically significant one percent level	123.2	not statistically significant	variable not included in model variation		428.8	statistically significant one percent level
Geographic and neighborhood characteristics: Property value	0.155	statistically significant one percent level	variable not included in model variation		0.192	statistically significant one percent level	0.167	statistically significant one percent level

Category	Model variation							
n/a	Coefficient and statistical significance							
n/a	Base case		Property value variable excluded		Other geography and neighborhood variables excluded		Other housing program support variables excluded	
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	17,891	statistically significant one percent level	22,923	statistically significant one percent level	variable not included in model variation		17,483	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	-16,970	statistically significant one percent level	-26,862	statistically significant one percent level	variable not included in model variation		-17,521	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	-29,573	statistically significant one percent level	-40,078	statistically significant one percent level	variable not included in model variation		-31,264	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	3,946	not statistically significant	19,513	statistically significant one percent level	variable not included in model variation		2,890	not statistically significant
Observations	1,849	n/a	1,849	n/a	1,849	n/a	1,849	n/a
Adjusted R-squared	0.648	n/a	0.618	n/a	0.627	n/a	0.641	n/a

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; / = variable not included in the model variation; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

Because the value of land influences the total cost of housing development, we first excluded the home value variable (a measure of variation in property values within and across allocating agency jurisdictions). Estimates of the effect of other neighborhood measures, such as housing stock age and rent quartiles, changed in the absence of the property value measure. The age of housing stock variables were highly significant with and without the inclusion of the property value measure. In the model with the property value measure included, the

difference between the estimated cost in an older neighborhood and the estimated cost in a newer neighborhood is about $35,000. That is, the estimated cost in an older neighborhood was about $18,000 more and the estimated cost in a newer neighborhood was about $17,000 less than the estimated cost in in a neighborhood in which the median year built was between 1945 and 1994. In the model with the property value measure excluded, this difference increased to about $50,000, which may reflect the underlying correlation of age of neighborhood and property value that we observe in our data set. For projects in locations in the upper half of the state contract rent distribution, the estimate became much larger and statistically significant at the 1 percent level.

The difficult development area variable became significantly positive in the absence of the property value measure. The coefficient for the poverty rate measure became much smaller, decreasing from about 390 to about 125, and insignificant. In the sample, the 25th percentile poverty rate was about 14 percent, and the 75th percentile value about 37 percent. In the base case, an increase of 23 percentage points represented an increase in total costs per unit of about $9,000, but in the specification without the measure of property value the estimate was about $2,900 (controlling for other characteristics in both specifications). The overall fit, expressed as adjusted R-squared, was reduced from 0.648 to 0.618 in the absence of the property value measure.

Compared to the base case, most results were not particularly sensitive to the absence of the neighborhood variables (housing stock age, rent quartiles, and poverty rate). However, the qualified census tract variable became larger (from about $7,000 to about $18,000) and statistically significant in the absence of the neighborhood variables. The property value effect also became somewhat larger, suggesting that costs increased by about $41,000 per unit, compared to $33,000 in the base case, given a change in property value from the first to the third quartile and controlling for other characteristics. The overall fit worsened from 0.648 to 0.627.

The omission of the other housing program support variables had very little effect, which is not that surprising given the lack of large effects other than the presence of Rural Development loans. The overall fit, expressed as adjusted R-squared, was reduced from 0.648 to 0.641.

Examining Effects of the American Recovery and Reinvestment Act of 2009

Activities funded through nonrefundable tax credits require the entities claiming the credit to have (or expect to have) sufficient federal income tax liability to make the credit desirable. During the 2007–2009 recession, some investors in tax credit-related activities saw reductions in their tax liability. ARRA created the possibility that low-income housing projects could be supported by federal grants that allocating agencies would allocate in much the same manner as they allocated tax credits.

Of all LIHTC projects receiving some ARRA support, more than 90 percent had final costs certified in 2011 and 2012. Thus, we examined the effects of ARRA, expressed as a binary indicator of participation, using the same model but with projects restricted to those that were certified in 2011 and 2012. That is, we believe this was the time period for which ARRA was likely to be most relevant and thus any effects likely to be most pronounced. About one-half of the projects in our data for project years 2011 and 2012 received some ARRA support.

We present results for total costs, construction costs, and soft costs separately, the motivation being that grant funding may reduce the costs of project finance and syndication relative to the traditional credit-based context (see table 8). Construction costs might be expected to be less directly affected by a change in the project finance regime.

Table 8: Estimation Results by Cost Component for Projects That Received ARRA Funds and Had Final Costs Certified in 2011 and 2012 (per-unit cost)

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Project characteristics: 37–50 units	**-28,928**	statistically significant one percent level	-16,116	statistically significant one percent level	-14,084	statistically significant one percent level
Project characteristics: 51–100 units	**-55,314**	statistically significant one percent level	-30,524	statistically significant one percent level	-19,222	statistically significant one percent level

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Project characteristics: More than 100 units	**-88,907**	statistically significant one percent level	-54,617	statistically significant one percent level	-30,291	statistically significant one percent level
Project characteristics: Larger buildings	**22,289**	statistically significant one percent level	18,430	statistically significant one percent level	277	not statistically significant
Project characteristics: Many buildings	**5,990**	not statistically significant	6,231	not statistically significant	-3,179	not statistically significant
Project characteristics: 0–1 bedrooms share	**-22,038**	statistically significant five percent level	-8,960	not statistically significant	-1,145	not statistically significant
Project characteristics: 3 or more bedrooms share	**37,478**	statistically significant one percent level	33,709	statistically significant one percent level	10,357	statistically significant five percent level
Project characteristics: New construction	**30,549**	statistically significant one percent level	43,033	statistically significant one percent level	11,958	statistically significant one percent level
Project characteristics: Qualified census tract	**10,284**	not statistically significant	8,379	statistically significant ten percent level	2,484	not statistically significant
Project characteristics: Difficult development area	**-2,905**	not statistically significant	914	not statistically significant	-1,399	not statistically significant
Project characteristics: Senior project	**-1,609**	not statistically significant	1,299	not statistically significant	-941	not statistically significant

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Project characteristics: Target income = missing	**6,675**	not statistically significant	-2,204	not statistically significant	-4,325	not statistically significant
Project characteristics: Target income = low	**19,880**	statistically significant one percent level	5,035	not statistically significant	1,752	not statistically significant
Financing characteristics: Rural Development loan	**-25,386**	statistically significant one percent level	-18,145	statistically significant one percent level	-4,565	not statistically significant
Financing characteristics: HOME	**8,901**	not statistically significant	8,652	statistically significant five percent level	2,612	not statistically significant
Financing characteristics: HOPE VI	**30,197**	statistically significant one percent level	33,670	statistically significant one percent level	6,609	statistically significant five percent level
Financing characteristics: CDBG	**20,332**	not statistically significant	11,350	not statistically significant	4,547	not statistically significant
Geographic and neighborhood characteristics: Rural	**9,113**	not statistically significant	3,094	not statistically significant	-763	not statistically significant
Geographic and neighborhood characteristics: Urban	**20,108**	statistically significant one percent level	10,371	statistically significant five percent level	3,073	not statistically significant
Geographic and neighborhood characteristics: Census tract poverty rate	**497.3**	statistically significant five percent level	439.6	statistically significant one percent level	0.7	not statistically significant

Category	Cost component					
n/a	Coefficient and statistical significance					
n/a	Total costs		Construction costs		Soft costs	
Geographic and neighborhood characteristics: Property value	**0.137**	statistically significant one percent level	0.075	statistically significant one percent level	0.020	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	**18,622**	statistically significant five percent level	14,679	statistically significant five percent level	5,580	statistically significant five percent level
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	**-13,153**	statistically significant ten percent level	-8,491	statistically significant ten percent level	-3,082	not statistically significant
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	**-41,506**	statistically significant one percent level	-18,790	statistically significant one percent level	-11,501	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	**175**	not statistically significant	-3,374	not statistically significant	485	not statistically significant
ARRA: ARRA grant	**-13,326**	statistically significant one percent level	-5,985	not statistically significant	-4,145	statistically significant five percent level
Observations	**786**	n/a	786	n/a	786	n/a
Adjusted R-squared	**0.626**	n/a	0.577	n/a	0.598	n/a

Legend: ARRA = American Recovery and Reinvestment Act of 2009; CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; — = not statistically significant; statistically significant ten percent level = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level.

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

In general, the overall results are similar to those presented in table 6. The ARRA indicator is negative and significant in the total and soft cost

versions, and negative but insignificant in the construction cost context. The ARRA coefficient was estimated to reduce soft costs by a little more than $4,000 per unit, holding other factors constant. For context, the average soft cost per unit during this time period was about $53,000.

Examining Effects of Variables Not Available for All Allocating Agencies

We examined the effects of parking, LEED certification, and set-asides for nonprofit organizations. Only California and Arizona maintained readily available information on whether projects had parking structures.[9] Only California, Florida, and Texas maintained readily available information on whether a project was LEED-certified (although we were not able to establish a true yes or no binary indicator for about 40 percent of projects in these agencies). Both of these features should add to total development costs. Section 42 requires allocating agencies to set aside at least 10 percent of their credit ceiling for each calendar year for projects involving a qualified nonprofit organization.[10] By definition, nonprofit developers do not expect to earn a return on investment, so they may be able to develop projects at lower cost. Nonprofit and for-profit developers also may select different kinds of projects, so it is possible that nonprofit developers more often pick projects that are more costly in observable and unobservable characteristics.

Table 9 provides the results of total cost models estimated using the relevant allocating agency subsamples. In both the parking structure and LEED models, we included categories for missing information. The omitted category is the known absence of parking or LEED construction, respectively. Both of these subsamples were heavily weighted by California projects.

Table 9: Estimation Results for Projects with Characteristics Not Available for All Selected Allocating Agencies (per-unit cost)

Category	Project characteristic
n/a	Coefficient and statistical significance

[9]Parking structures do not include surface parking lots or stand-alone garages and carports.

[10]Involvement is defined as owning an interest in the project (directly or through a partnership) and materially participating in the development and operation of the project throughout the compliance period.

n/a	Parking structure		LEED certification		Nonprofit set-aside	
Project characteristics: 37–50 units	-47,837	statistically significant one percent level	-45,321	statistically significant one percent level	-27,611	statistically significant one percent level
Project characteristics: 51–100 units	-78,276	statistically significant one percent level	-76,112	statistically significant one percent level	-53,239	statistically significant one percent level
Project characteristics: More than 100 units	-101,309	statistically significant one percent level	-92,844	statistically significant one percent level	-88,649	statistically significant one percent level
Project characteristics: Larger buildings	23,128	statistically significant five percent level	31,910	statistically significant one percent level	10,595	statistically significant ten percent level
Project characteristics: Many buildings	2,052	not statistically significant	3,955	not statistically significant	2,441	not statistically significant
Project characteristics: 0–1 bedrooms share	-42,093	statistically significant five percent level	-47,893	statistically significant one percent level	-30,801	statistically significant one percent level
Project characteristics: 3 or more bedrooms share	8,423	not statistically significant	7,491	not statistically significant	22,375	statistically significant five percent level
Project characteristics: New construction	68,174	statistically significant one percent level	60,804	statistically significant one percent level	37,365	statistically significant one percent level

Category	Project characteristic					
n/a	Coefficient and statistical significance					
n/a	Parking structure		LEED certification		Nonprofit set-aside	
Project characteristics: Qualified census tract	11,834	not statistically significant	13,784	statistically significant five percent level	16,922	statistically significant one percent level
Project characteristics: Difficult development area	not included in the model variation		-14,873	statistically significant five percent level	not included in the model variation	
Project characteristics: Senior project	-20,611	statistically significant five percent level	-9,965	not statistically significant	-5,017	not statistically significant
Financing characteristics: Rural Development loan	-30,564	statistically significant one percent level	-35,427	statistically significant one percent level	-38,860	statistically significant one percent level
Financing characteristics: HOPE VI	not included in the model variation		not included in the model variation		-299	not statistically significant
Geographic and neighborhood characteristics: Rural	not included in the model variation		not included in the model variation		-8,683	not statistically significant
Geographic and neighborhood characteristics: Urban	not included in the model variation		not included in the model variation		12,634	statistically significant five percent level
Geographic and neighborhood characteristics: Property value	0.133	statistically significant one percent level	0.171	statistically significant one percent level	0.158	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	7,063	not statistically significant	8,331	not statistically significant	31,626	statistically significant one percent level

Category	Project characteristic					
n/a	Coefficient and statistical significance					
n/a	Parking structure		LEED certification		Nonprofit set-aside	
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	-28,031	statistically significant ten percent level	-23,275	statistically significant one percent level	-24,052	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	-42,575	statistically significant one percent level	-45,193	statistically significant one percent level	-31,570	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	3,677	not statistically significant	1,733	not statistically significant	5,601	not statistically significant
Characteristics not generally available: Parking = missing	8,518	not statistically significant	not included in the model variation		not included in the model variation	
Characteristics not generally available: Parking structure = yes	56,093	statistically significant one percent level	not included in the model variation		not included in the model variation	
Characteristics not generally available: LEED = missing	not included in the model variation		4,799	not statistically significant	not included in the model variation	
Characteristics not generally available: LEED = yes	not included in the model variation		19,268	statistically significant five percent level	not included in the model variation	
Characteristics not generally available: Nonprofit set-aside	not included in the model variation		not included in the model variation		14,821	statistically significant five percent levelstatistically significant ten percent level
Observations	479		751		1,407	

Category	Project characteristic		
n/a	Coefficient and statistical significance		
n/a	Parking structure	LEED certification	Nonprofit set-aside
Adjusted R-squared	0.629	0.724	0.664

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; LEED = Leadership in Energy and Environmental Design certification; / = not included in the model variation; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

The estimated effect of parking structures was quite large and statistically significant at the 1 percent level.[11] Regardless of the true magnitude of the effect, projects in which parking structures were included clearly were likely to cost more. It is unlikely that all projects envision tenants with cars. For those that do, a surface parking option often may be feasible, but when it is not, project costs will be larger.

LEED certification was associated with costs of about $19,000 more per unit than other projects, holding other factors constant. LEED projects represent about 18 percent of projects in which LEED status was clearly known. Most LEED projects were new construction, and only about 5 percent of the rehabilitation projects with known LEED status were built to LEED standards.

Nonprofit set-aside provisions were associated with an increase in total cost per unit of about $15,000, controlling for other characteristics.[12] Nonprofit set-aside projects had different characteristics from those of projects developed without nonprofit set-asides. For instance, nonprofit set-aside projects typically were smaller, more likely to be in older neighborhoods, less likely to be in low-rent neighborhoods, and less likely to receive Rural Development loans—characteristics we estimated to be associated with increases in total cost per unit.[13] When we estimated the

[11]About 30 percent of projects with known parking information indicated the presence of a parking structure. About half of the “larger buildings” category projects had parking structures.

[12]Our data set provides information on nonprofit set-aside provisions in Arizona, California, Illinois, New York, Ohio, Pennsylvania, Texas, and Washington.

[13]These differences in means were statistically significant at the 0.01 level.

model shown in table 9, but without the set-aside indicator, and multiplied the coefficients by mean values of the explanatory variables calculated separately for each group, we calculated that per-unit costs for projects developed without the set-aside are about $220,000 and the estimated cost for projects developed with the set-aside are about $250,000. As shown in table 9, the fact that we estimated an increase in total cost per unit even while controlling for other factors suggests that unobserved factors may be important. For instance, as mentioned in the body of this report, nonprofit organizations may focus more on populations that are more costly to serve, such as special-needs tenants who may require additional or enhanced facilities.

Examining Effects of Donated Land or Property

As shown in table 10, we investigated the possible effects of donated land or property on our estimates. To the extent observed project costs would be lower than true costs in these instances, coefficients might be sensitive to the exclusion of projects with this feature. Because land and existing structures costs were included in total development costs but not in construction costs, we would expect that any effects from exclusion would be more pronounced in the total cost than in the construction cost model. To test this, we restricted the project sample to those in which land and existing structures costs were at least 1 percent of total costs. This resulted in a sample of 1,504 projects rather than 1,849. The estimates of total costs and construction costs were largely insensitive to this restriction. For total costs, the estimate of the cost difference between low-income and mixed-income projects was somewhat sensitive to this restriction. A large share of excluded projects was in New York City. Thus, this result can be seen as similar to the result for the sample that excludes projects from the New York City allocating agency. In both estimations, the fits improved, providing some evidence that the excluded observations introduced some noise to the estimation.

Table 10: Estimation Results for Projects for Which Land and Existing Structures Costs Were at Least 1 Percent of Total Costs (per-unit cost)

Category	Total cost per unit		Construction cost per unit	
n/a	All projects	Projects for which land and existing structures costs were at least 1 percent of total costs	All projects	Projects for which land and existing structures costs were at least 1 percent of total costs
n/a	Coefficient and statistical significance			

Category	Total cost per unit				Construction cost per unit			
n/a	All projects		Projects for which land and existing structures costs were at least 1 percent of total costs		All projects		Projects for which land and existing structures costs were at least 1 percent of total costs	
n/a	Coefficient and statistical significance							
Project characteristics: 37–50 units	-30,620	statistically significant one percent level	-31,585	statistically significant one percent level	-17,995	statistically significant one percent level	-14,232	statistically significant one percent level
Project characteristics: 51–100 units	-55,676	statistically significant one percent level	-55,058	statistically significant one percent level	-30,076	statistically significant one percent level	-25,364	statistically significant one percent level
Project characteristics: More than 100 units	-85,473	statistically significant one percent level	-85,748	statistically significant one percent level	-53,467	statistically significant one percent level	-46,628	statistically significant one percent level
Project characteristics: Larger buildings	14,772	statistically significant one percent level	13,086	statistically significant one percent level	13,581	statistically significant one percent level	11,803	statistically significant one percent level
Project characteristics: Many buildings	3,728	not statistically significant	1,246	not statistically significant	5,694	statistically significant ten percent level	4,815	not statistically significant
Project characteristics: 0–1 bedrooms share	-18,167	statistically significant one percent level	-21,368	statistically significant one percent level	-6,219	not statistically significant	-4,920	not statistically significant
Project characteristics: 3 or more bedrooms share	25,249	statistically significant one percent level	24,045	statistically significant one percent level	22,702	statistically significant one percent level	20,010	statistically significant one percent level

Category	Total cost per unit				Construction cost per unit			
n/a	All projects		Projects for which land and existing structures costs were at least 1 percent of total costs		All projects		Projects for which land and existing structures costs were at least 1 percent of total costs	
n/a	Coefficient and statistical significance							
Project characteristics: New construction	38,928	statistically significant one percent level	39,488	statistically significant one percent level	48,081	statistically significant one percent level	52,262	statistically significant one percent level
Project characteristics: Qualified census tract	7,194	not statistically significant	3,618	not statistically significant	5,593	statistically significant ten percent level	1,617	not statistically significant
Project characteristics: Difficult development area	-3,227	not statistically significant	-1,705	not statistically significant	1,260	not statistically significant	621	not statistically significant
Project characteristics: Senior project	-7,300	statistically significant five percent level	-6,975	statistically significant ten percent level	-4,946	statistically significant ten percent level	-6,993	statistically significant five percent level
Project characteristics: Target income = missing	595	not statistically significant	-7,600	not statistically significant	-5,568	not statistically significant	120	not statistically significant
Project characteristics: Target income = low	11,227	statistically significant five percent level	4,863	not statistically significant	746	not statistically significant	6,728	not statistically significant
Financing characteristics: Rural Development loan	-31,591	statistically significant one percent level	-31,303	statistically significant one percent level	-22,080	statistically significant one percent level	-19,904	statistically significant one percent level

Category	Total cost per unit				Construction cost per unit			
n/a	All projects		Projects for which land and existing structures costs were at least 1 percent of total costs		All projects		Projects for which land and existing structures costs were at least 1 percent of total costs	
n/a	Coefficient and statistical significance							
Financing characteristics: HOME	4,887	not statistically significant	4,712	not statistically significant	5,709	statistically significant five percent level	3,915	not statistically significant
Financing characteristics: HOPE VI	18,339	statistically significant five percent level	44,774	statistically significant five percent level	24,570	statistically significant one percent level	54,853	statistically significant one percent level
Financing characteristics: CDBG	10,829	not statistically significant	15,699	not statistically significant	14,927	statistically significant five percent level	15,461	statistically significant five percent level
Geographic and neighborhood characteristics: Rural	-2,857	not statistically significant	-999	not statistically significant	-2,592	not statistically significant	-797	not statistically significant
Geographic and neighborhood characteristics: Urban	12,570	statistically significant one percent level	10,649	statistically significant five percent level	6,235	statistically significant five percent level	5,239	statistically significant ten percent level
Geographic and neighborhood characteristics: Census tract poverty rate	391.1	statistically significant one percent level	439.5	statistically significant one percent level	321.4	statistically significant one percent level	343.8	statistically significant one percent level
Geographic and neighborhood characteristics: Property value	0.155	statistically significant one percent level	0.165	statistically significant one percent level	0.082	statistically significant one percent level	0.08	statistically significant one percent level

Category	Total cost per unit				Construction cost per unit			
n/a	All projects		Projects for which land and existing structures costs were at least 1 percent of total costs		All projects		Projects for which land and existing structures costs were at least 1 percent of total costs	
n/a	Coefficient and statistical significance							
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	17,891	statistically significant one percent level	27,036	statistically significant one percent level	12,799	statistically significant one percent level	19,672	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	-16,970	statistically significant one percent level	-21,779	statistically significant one percent level	-7,943	statistically significant five percent level	-10,475	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	-29,573	statistically significant one percent level	-29,339	statistically significant one percent level	-13,352	statistically significant one percent level	-11,507	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	3,946	not statistically significant	5,837	not statistically significant	-989	not statistically significant	601	not statistically significant
Observations	1,849		1,504		1,849		1,504	
Adjusted R-Squared	0.648		0.668		0.596		0.605	

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

In table 11, we examined the effect of aggregating certain projects in New York City. In principle, observations in a regression should be independent from one another. When individual building-level observations appear to be parts of larger projects under common development, this condition is violated. In New York City, it appears that separate tax credit allocations were made to single-building projects in close proximity to other tax credit projects awarded to the same developers at the same time or in consecutive years. For example, three buildings being renovated by the same developer in the same relatively

small area could be considered as three separate one-building projects or one three-building project. Clustering the single-building projects as one project for the model made very little difference in the estimates, but led to modest improvements in the overall fit of the model and reduced the number of observations because of the aggregation of projects.

Table 11: Estimation Results Aggregating Single-Building New York City Projects into Larger Projects (per-unit cost)

Category	Total cost per unit				Construction cost per unit			
n/a	Unaggregated sample		Aggregated sample		Unaggregated sample		Aggregated sample	
n/a	Coefficient and statistical significance							
Project characteristics: 37–50 units	**-30,620**	statistically significant one percent level	-28,194	statistically significant one percent level	-17,995	statistically significant one percent level	-14,206	statistically significant one percent level
Project characteristics: 51–100 units	**-55,676**	statistically significant one percent level	-52,706	statistically significant one percent level	-30,076	statistically significant one percent level	-25,367	statistically significant one percent level
Project characteristics: More than 100 units	**-85,473**	statistically significant one percent level	-83,356	statistically significant one percent level	-53,467	statistically significant one percent level	-48,810	statistically significant one percent level
Project characteristics: Larger buildings	**14,772**	statistically significant one percent level	13,997	statistically significant one percent level	13,581	not statistically significant	12,529	statistically significant one percent level
Project characteristics: Many buildings	**3,728**	statistically significant one percent level	4,852	not statistically significant	5,694	statistically significant one percent level	6,395	statistically significant ten percent level
Project characteristics: 0–1 bedrooms share	**-18,167**	statistically significant one percent level	-21,296	statistically significant one percent level	-6,219	statistically significant one percent level	-7,169	not statistically significant

Category	Total cost per unit				Construction cost per unit			
n/a	Unaggregated sample		Aggregated sample		Unaggregated sample		Aggregated sample	
n/a	Coefficient and statistical significance							
Project characteristics: 3 or more bedrooms share	**25,249**	statistically significant one percent level	19,129	statistically significant five percent level	22,702	statistically significant ten percent level	18,628	statistically significant one percent level
Project characteristics: New construction	**38,928**	statistically significant one percent level	39,855	statistically significant one percent level	48,081	statistically significant one percent level	50,353	statistically significant one percent level
Project characteristics: Qualified census tract	**7,194**	not statistically significant	6,633	not statistically significant	5,593	statistically significant ten percent level	4,296	not statistically significant
Project characteristics: Difficult development area	**-3,227**	not statistically significant	669	not statistically significant	1,260	not statistically significant	5,565	statistically significant ten percent level
Project characteristics: Senior project	**-7,300**	statistically significant five percent level	-7,820	statistically significant five percent level	-4,946	statistically significant ten percent level	-5,705	statistically significant five percent level
Project characteristics: Target income = missing	**595**	not statistically significant	-3,221	not statistically significant	-5,568	not statistically significant	-5,306	not statistically significant
Project characteristics: Target income = low	**11,227**	statistically significant five percent level	7,537	not statistically significant	746	not statistically significant	947	not statistically significant
Financing characteristics: Rural Development loan	**-31,591**	statistically significant one percent level	-31,764	statistically significant one percent level	-22,080	statistically significant one percent level	-21,711	statistically significant one percent level

Category	Total cost per unit				Construction cost per unit			
n/a	Unaggregated sample		Aggregated sample		Unaggregated sample		Aggregated sample	
n/a	Coefficient and statistical significance							
Financing characteristics: HOME	**4,887**	not statistically significant	4,369	not statistically significant	5,709	statistically significant five percent level	4,050	statistically significant ten percent level
Financing characteristics: HOPE VI	**18,339**	statistically significant five percent level	16,831	statistically significant five percent level	24,570	statistically significant one percent level	23,822	statistically significant one percent level
Financing characteristics: CDBG	**10,829**	not statistically significant	10,343	not statistically significant	14,927	statistically significant five percent level	15,260	statistically significant five percent level
Geographic and neighborhood characteristics: Rural	**-2,857**	not statistically significant	-3,291	not statistically significant	-2,592	not statistically significant	-3,191	not statistically significant
Geographic and neighborhood characteristics: Urban	**12,570**	statistically significant one percent level	11,389	statistically significant one percent level	6,235	statistically significant five percent level	5,202	statistically significant ten percent level
Geographic and neighborhood characteristics: Census tract poverty rate	**391.1**	statistically significant one percent level	393.9	statistically significant five percent level	321.4	statistically significant one percent level	343.4	statistically significant one percent level
Geographic and neighborhood characteristics: Property value	**0.155**	statistically significant one percent level	0.152	statistically significant one percent level	0.082	statistically significant one percent level	0.079	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	**17,891**	statistically significant one percent level	25,711	statistically significant one percent level	12,799	statistically significant one percent level	19,861	statistically significant one percent level

Category	Total cost per unit				Construction cost per unit			
n/a	Unaggregated sample		Aggregated sample		Unaggregated sample		Aggregated sample	
n/a	Coefficient and statistical significance							
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	**-16,970**	statistically significant one percent level	-18,902	statistically significant one percent level	-7,943	statistically significant five percent level	-9,667	statistically significant five percent level
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	**-29,573**	statistically significant one percent level	-28,940	statistically significant one percent level	-13,352	statistically significant one percent level	-12,739	statistically significant one percent level
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	**3,946**	not statistically significant	4,804	not statistically significant	-989	not statistically significant	-1,114	not statistically significant
Observations	**1,849**		1,780		1,849		1,780	
Adjusted R-squared	**0.648**		0.660		0.596		0.603	

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

Examining Effects of Proximity to Transit

We also examined the association between LIHTC costs and the proximity of projects to public transit. Some allocating agencies offered incentives for the production of transit-oriented LIHTC developments—projects within 0.5 mile of a transit station. Research generally describes transit-oriented developments as compact, mixed-use, walkable neighborhoods located near transit facilities. These types of developments are intended to advance other policy goals, such as furthering opportunities for employment.

We used the Department of Transportation's Fixed-Guideway Transit Network database to identify the distance from each project to the nearest transit station (train and bus rapid transit). For this model specification, we restricted our estimates to projects within 2 miles of a transit station because not all transit agencies reported station locations to the

Department of Transportation database—making our transit distance variable quite large for some projects. As shown in table 12, while we did not find that projects within 0.5 mile of a transit station had significantly different costs than those between 0.5 and 1 mile (the omitted category), we did find that per-unit construction costs were about $17,000 greater for transit-oriented developments, controlling for other characteristics.

Table 12: Estimation Results for Model Variation That Includes Distance-to-Transit Variable for All Projects within 2 Miles of a Transit Station (per-unit cost)

Category	Coefficient and statistical significance			
n/a	Total cost		Construction cost	
Project characteristics: 37–50 units	-31,744	statistically significant one percent level	-25,667	statistically significant one percent level
Project characteristics: 51–100 units	-66,423	statistically significant one percent level	-37,741	statistically significant one percent level
Project characteristics: More than 100 units	-92,110	statistically significant one percent level	-56,803	statistically significant one percent level
Project characteristics: Larger buildings	13,604	statistically significant ten percent level	10,209	not statistically significant
Project characteristics: Many buildings	-33,222	statistically significant five percent level	-30,263	statistically significant one percent level
Project characteristics: 0–1 bedrooms share	-35,923	statistically significant one percent level	-18,790	statistically significant five percent level
Project characteristics: 3 or more bedrooms share	49,770	statistically significant one percent level	41,351	statistically significant one percent level

Category	Coefficient and statistical significance			
n/a	Total cost		Construction cost	
Project characteristics: New construction	61,963	statistically significant one percent level	62,760	statistically significant one percent level
Project characteristics: Qualified census tract	-3,942	not statistically significant	1,841	not statistically significant
Project characteristics: Senior project	-14,730	statistically significant five percent level	-11,770	statistically significant ten percent level
Financing characteristics: HOME	-4,137	not statistically significant	2,893	not statistically significant
Financing characteristics: CDBG	-6,011	not statistically significant	9,068	not statistically significant
Geographic and neighborhood characteristics: Census tract poverty rate	158.4	not statistically significant	4.4	not statistically significant
Geographic and neighborhood characteristics: Property value	0.089	statistically significant one percent level	0.050	statistically significant one percent level
Geographic and neighborhood characteristics: Age of housing stock: Before 1945	1,390	not statistically significant	-3,345	not statistically significant
Geographic and neighborhood characteristics: Age of housing stock: 1995 and after	-1,505	not statistically significant	21,337	not statistically significant
Geographic and neighborhood characteristics: Rent level: Lowest state quartile	-27,953	statistically significant five percent level	-12,112	not statistically significant
Geographic and neighborhood characteristics: Rent level: Highest two state quartiles	-2,732	not statistically significant	-7,934	not statistically significant
Transit: Less than 0.5 mile	7,269	not statistically significant	17,176	statistically significant one percent level

Category	Coefficient and statistical significance			
n/a	Total cost		Construction cost	
Transit: Greater than 1 mile	443	not statistically significant	2,973	not statistically significant
Observations:	595		595	
Adjusted R-squared	0.581		0.480	

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program; — = not statistically significant; * = statistically significant at 10 percent level; ** = statistically significant at 5 percent level; *** = statistically significant at 1 percent level

Source: GAO analysis of allocating agency data. | GAO-18-637

Note: Our estimates include allocating agency and project year dummy variables, which are not presented in the tables. The allocating agency dummy variables are agency-specific intercept shifts, given the estimation of common slopes, and largely pick up unexplained deviations from the pooled average costs. The project year dummy variables were estimated to be small and only rarely statistically significant.

Mean Values

Finally, table 13 presents the mean values for our full project sample and base case model.

Table 13: Mean Values for Project Sample from 12 Selected Allocating Agencies

Category	Variable	Mean
Dependent variables (in dollars)	Total cost per unit	222,809
Dependent variables (in dollars)	Construction cost per unit	147,277
Dependent variables (in dollars)	Soft cost per unit	52,704
Allocating agency dummy variables	Arizona	0.038
Allocating agency dummy variables	California	0.221
Allocating agency dummy variables	Chicago	0.013
Allocating agency dummy variables	Florida	0.070
Allocating agency dummy variables	Georgia	0.084
Allocating agency dummy variables	Illinois	0.063
Allocating agency dummy variables	New York	0.071

Category	Variable	Mean
Allocating agency dummy variables	New York City	0.085
Allocating agency dummy variables	Ohio	0.098
Allocating agency dummy variables	Pennsylvania	0.100
Allocating agency dummy variables	Texas	0.115
Allocating agency dummy variables	Washington[a]	0.042
Project year dummy variables	2011	0.217
Project year dummy variables	2012	0.209
Project year dummy variables	2013	0.213
Project year dummy variables	2014	0.225
Project year dummy variables	2015[a]	0.137
Physical characteristics	**Size of project:** 37–50 units	0.209
Physical characteristics	**Size of project:** 51–100 units	0.423
Physical characteristics	**Size of project:** More than 100 units	0.148
Physical characteristics	**Type of project:** Larger buildings	0.168
Physical characteristics	**Type of project:** Many buildings	0.094
Physical characteristics	**Type of project:** Other[a]	0.738
Physical characteristics	**Share of units by unit size:** 0–1 bedrooms	0.390
Physical characteristics	**Share of units by unit size:** 2 bedrooms[a]	0.329
Physical characteristics	**Share of units by unit size:** 3 or more bedrooms	0.209
Physical characteristics	**Share of units by unit size:** Missing information	0.071
Physical characteristics	**Other project characteristics:** New construction	0.657
Physical characteristics	**Other project characteristics:** Qualified census tract	0.476
Physical characteristics	**Other project characteristics:** Difficult development area	0.194
Physical characteristics	**Other project characteristics:** Senior project[b]	0.291

Category	Variable	Mean
Physical characteristics	**Other project characteristics:** Target income = missing	0.082
Physical characteristics	**Other project characteristics:** Target income = mixed[a]	0.110
Physical characteristics	**Other project characteristics:** Target income = low	0.808
Geography and neighborhood	Rural	0.102
Geography and neighborhood	Suburban[a]	0.127
Geography and neighborhood	Urban	0.772
Geography and neighborhood	Home value (in dollars)	233,055
Geography and neighborhood	Poverty rate (percentage)	26.42
Geography and neighborhood	Age of housing stock: Before1945	0.150
Geography and neighborhood	Age of housing stock: 1945–1994[a]	0.791
Geography and neighborhood	Age of housing stock: 1995 and after	0.059
Geography and neighborhood	Rent level: Lowest state quartile	0.248
Geography and neighborhood	Rent level: Second state quartile[a]	0.482
Geography and neighborhood	Rent level: Upper two state quartiles	0.270
Financing characteristics	Rural Development loan[b]	0.092
Financing characteristics	HOME[b]	0.353
Financing characteristics	CDBG[b]	0.041
Financing characteristics	HOPE VI[b]	0.012

Legend: CDBG = Community Development Block Grant program; HOME = HOME Investment Partnerships Program

Source: GAO analysis of allocating agency data. | GAO-18-637

[a]Category omitted from the regression analysis.

[b]Missing information assumed to be absence of characteristic.

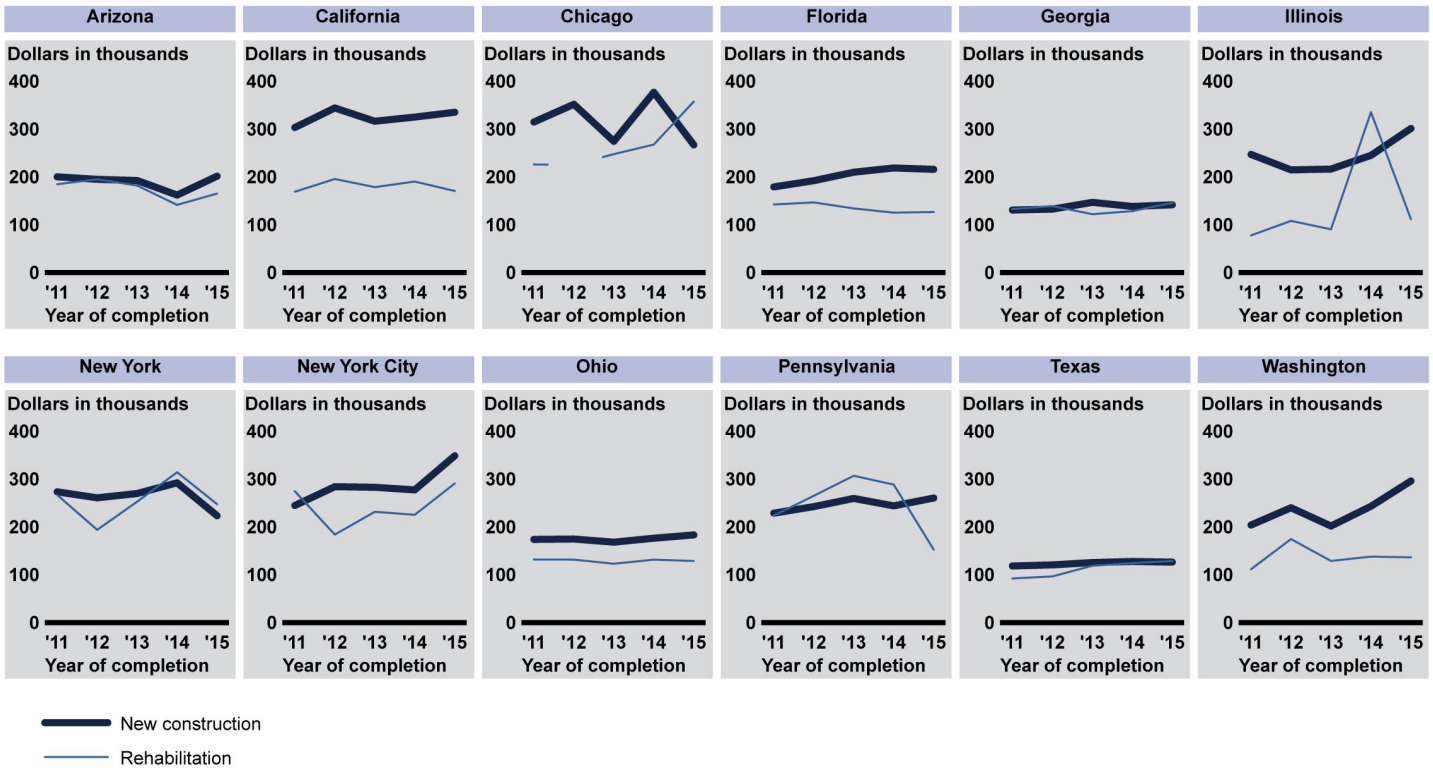
Appendix III: Development Costs for LIHTC Projects Completed in 2011–2015, for 12 Allocating Agencies

This appendix provides data on the development costs of Low-Income Housing Tax Credit (LIHTC) projects completed in 2011–2015 that received tax credits from 12 selected allocating agencies.[1] Figure 14 shows how median per-unit costs for new construction and rehabilitation projects changed over that period for each allocating agency. Table 14 (new construction projects) and table 15 (rehabilitation projects) break down the median per-unit costs into hard and soft costs and their component parts.[2] Tables 16 and 17 provide data on alternative cost measures—cost per-bedroom and per-square foot—although this information was not available for all 12 allocating agencies. All the cost data in this appendix are presented in 2015 dollars. For additional information on the cost categories we describe, see appendix I.

[1]Our analysis focused on 9 percent credits, which are designed to provide a 70 percent subsidy for developing or rehabilitating low-income units. A 4 percent LIHTC providing a 30 percent subsidy is also available. 26 U.S.C. § 42(b)(I)(B). The 12 agencies are the Arizona Department of Housing, California Tax Credit Allocating Committee, Florida Housing Finance Corporation, Georgia Department of Community Affairs, Illinois Housing Development Authority, Chicago Department of Planning and Development, New York State Homes and Community Renewal, New York City Department of Housing Preservation and Development, Ohio Housing Finance Agency, Pennsylvania Housing Finance Agency, Texas Department of Housing and Community Affairs, and Washington State Housing Finance Commission. The Chicago and New York City entities are suballocating agencies (they receive a portion of tax credits allocated to Illinois and New York to allocate to projects according to their own priorities). The Illinois and New York state authorities also may award credits to projects in Chicago and New York City, respectively.

[2]We categorized all cost certification line items into hard and soft costs. Hard costs included existing structures, land, and construction costs. Soft costs included architect and engineer fees, contractor fees, developer fees, and other soft costs. We excluded reserves and other postconstruction expenses from our analyses.

Figure 14: Median Per-Unit Development Costs (2015 dollars) of LIHTC New Construction and Rehabilitation Projects Completed in 2011–2015, by Selected Allocating Agency



Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the figure are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits (LIHTC) from the 12 selected allocating agencies. Chicago did not allocate LIHTCs to any rehabilitation projects that were completed in 2012.

Table 14: Median Per-Unit Hard and Soft Development Costs (2015 dollars) of LIHTC New Construction Projects Completed in 2011–2015, by Selected Allocating Agency

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Arizona: Hard costs	133,259	133,853	134,107	114,844	133,078	**133,078**
Arizona: Construction	119,262	130,054	114,577	102,189	128,227	**124,057**
Arizona: Land costs	14,666	1,532	19,530	12,274	5,209	**11,683**
Arizona: Soft costs	66,489	69,631	64,328	55,648	71,026	**64,315**
Arizona: Architect and engineer fees	8,900	7,963	5,565	6,513	8,852	**6,598**
Arizona: Contractor fees	10,873	13,613	12,170	10,834	14,706	**12,551**
Arizona: Developer fees	20,928	23,445	20,218	18,052	22,650	**21,575**
Arizona: Other soft costs	20,452	19,978	23,153	16,203	25,187	**21,063**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Arizona: Eligible basis	181,149	185,594	156,157	144,206	188,152	**178,107**
Arizona: Total development cost	**200,719**	**195,531**	**193,130**	**162,629**	**202,099**	**197,388**
California: Hard costs	198,262	224,180	209,901	210,119	231,698	**214,188**
California: Construction	168,417	174,235	163,297	176,022	188,253	**173,440**
California: Land costs	19,676	39,581	24,009	34,131	40,258	**32,891**
California: Soft costs	110,634	114,646	111,559	108,025	100,568	**109,743**
California: Architect and engineer fees	13,353	17,120	15,691	18,233	16,916	**16,283**
California: Contractor fees	20,856	21,117	20,646	20,134	22,700	**20,855**
California: Developer fees	25,642	26,139	27,078	25,269	25,872	**26,139**
California: Other soft costs	41,885	44,341	44,360	43,792	43,855	**43,902**
California: Eligible basis	241,323	270,414	252,548	263,296	267,735	**261,466**
California: **Total development cost**	**303,860**	**344,737**	**316,942**	**325,676**	**335,727**	**326,020**
Chicago: Hard costs	232,641	271,187	204,673	302,588	202,358	**236,978**
Chicago: Construction	226,381	268,386	204,673	275,112	191,372	**227,698**
Chicago: Land costs	3,901	2,801	0	6,248	10,986	**2,651**
Chicago: Soft costs	78,393	77,613	98,000	57,219	66,137	**73,526**
Chicago: Architect and engineer fees	7,950	12,170	17,966	10,763	9,726	**9,330**
Chicago: Contractor fees	26,952	31,789	16,886	22,859	20,131	**22,903**
Chicago: Developer fees	19,997	21,891	22,872	13,964	16,168	**17,808**
Chicago: Other soft costs	24,530	13,655	20,969	20,759	21,202	**20,598**
Chicago: Eligible basis	258,500	336,137	262,365	336,984	243,883	**293,928**
Chicago: **Total development cost**	**315,324**	**352,436**[a]	**274,924**[a]	**377,540**[a]	**267,527**	**314,615**
Florida: Hard costs	116,273	126,812	143,246	152,587	142,240	**128,732**
Florida: Construction	104,229	108,920	120,626	124,604	126,678	**110,126**
Florida: Land costs	14,518	13,903	20,676	15,793	14,099	**15,288**
Florida: Soft costs	66,053	69,298	68,483	75,891	77,191	**68,480**
Florida: Architect and engineer fees	5,493	6,228	7,010	5,706	5,329	**5,706**
Florida: Contractor fees	13,386	14,794	13,833	15,145	16,840	**14,279**
Florida: Developer fees	23,087	24,558	26,152	28,225	27,875	**25,736**
Florida: Other soft costs	21,068	22,912	25,172	22,897	23,554	**22,622**
Florida: Eligible basis	156,180	167,970	176,522	192,919	186,369	**170,673**
Florida: **Total development cost**	**179,650**	**192,698**	**210,374**	**219,292**	**216,397**	**201,424**
Georgia: Hard costs	92,273	94,495	101,813	97,538	95,628	**95,740**
Georgia: Construction	86,530	83,555	92,588	89,868	87,593	**87,808**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Georgia: Land costs	7,672	5,896	8,347	6,924	7,957	**7,717**
Georgia: Soft costs	39,306	41,380	45,117	41,781	44,497	**42,417**
Georgia: Architect and engineer fees	3,161	3,398	3,978	3,292	3,571	**3,415**
Georgia: Contractor fees	10,793	10,682	10,968	9,562	11,203	**10,716**
Georgia: Developer fees	16,935	16,889	17,506	17,127	16,645	**16,982**
Georgia: Other soft costs	9,519	11,524	13,226	12,136	13,649	**12,164**
Georgia: Eligible basis	122,454	120,739	133,959	125,645	127,653	**125,645**
Georgia: **Total development cost**	**131,293**	**133,249**	**147,404**	**138,797**	**142,258**	**139,385**
Illinois: Hard costs	172,461	162,507	158,795	181,836	202,426	**168,540**
Illinois: Construction	160,400	153,338	154,997	174,976	193,688	**161,951**
Illinois: Land costs	6,338	8,171	6,265	6,190	7,379	**6,428**
Illinois: Soft costs	73,214	57,115	65,582	72,772	87,959	**69,665**
Illinois: Architect and engineer fees	7,659	5,608	6,769	6,306	8,614	**6,971**
Illinois: Contractor fees	21,720	18,843	16,943	22,633	21,166	**19,943**
Illinois: Developer fees	19,648	18,797	19,813	21,706	25,313	**19,913**
Illinois: Other soft costs	21,492	13,939	20,480	23,462	24,633	**19,930**
Illinois: Eligible basis	227,730	201,374	195,011	229,170	271,159	**212,872**
Illinois: **Total development cost**	**247,538**	**215,283**	**216,977**	**245,604**	**301,879**	**229,715**
New York: Hard costs	188,411	171,782	179,058	202,884	150,341	**180,239**
New York: Construction	188,335	167,203	156,378	191,138	146,941	**164,859**
New York: Land costs	3,322	5,839	7,235	5,807	3,400	**5,317**
New York: Soft costs	83,944	86,788	80,220	81,804	73,805	**82,306**
New York: Architect and engineer fees	9,719	9,685	8,519	10,703	10,608	**9,702**
New York: Contractor fees	27,138	22,291	21,654	24,686	21,503	**22,505**
New York: Developer fees	26,975	26,557	29,829	28,420	25,069	**27,272**
New York: Other soft costs	22,983	21,256	19,580	21,898	19,321	**21,284**
New York: Eligible basis	252,100	245,691	229,147	260,497	209,548	**235,536**
New York: **Total development cost**	**273,919**	**261,341**	**270,364**	**292,771**	**223,860**	**263,702**
New York City: Hard costs	-	-	-	-	-	-
New York City: Construction and contractor fees[b]	199,390	211,135	202,985	215,258	255,303	**214,899**
New York City: Land costs	0	20,519	169	19,624	15,811	**16,964**
New York City: Soft costs	-	-	-	-	-	**-**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
New York City: Architect and engineer fees	12,144	11,231	14,736	12,063	10,019	**12,128**
New York City: Developer fees	7,986	25,364	20,282	13,219	44,225	**21,247**
New York City: Other soft costs	11,238	23,910	16,329	20,070	23,827	**16,481**
New York City: Eligible basis	227,414	246,019	252,924	241,961	307,363	**246,019**
New York City: **Total development cost**	**245,346**	**284,590**	**283,395**	**277,950**	**349,185**[a]	**281,711**
Ohio: Hard costs	128,140	120,224	113,032	125,216	127,198	**122,145**
Ohio: Construction	119,814	111,092	105,732	120,067	116,099	**116,099**
Ohio: Land costs	6,534	9,306	4,973	5,344	5,993	**6,514**
Ohio: Soft costs	53,378	51,415	55,959	55,246	59,903	**55,246**
Ohio: Architect and engineer fees	5,088	4,833	3,404	5,921	4,732	**4,839**
Ohio: Contractor fees	14,758	14,187	12,833	14,016	13,837	**13,953**
Ohio: Developer fees	19,832	20,221	22,041	22,636	23,073	**21,717**
Ohio: Other soft costs	15,345	11,106	17,306	15,206	13,141	**15,206**
Ohio: Eligible basis	170,264	159,103	151,215	165,415	170,293	**161,879**
Ohio: **Total development cost**	**174,427**	**175,220**	**168,683**	**176,917**	**183,828**	**176,917**
Pennsylvania: Hard costs	153,874	168,490	172,581	168,959	181,546	**168,490**
Pennsylvania: Construction	143,597	167,504	165,291	161,298	178,637	**162,623**
Pennsylvania: Land costs	3,390	1,673	6,399	5,135	5,842	**4,865**
Pennsylvania: Soft costs	71,941	74,102	83,925	81,396	80,731	**78,693**
Pennsylvania: Architect and engineer fees	9,266	10,631	10,727	10,615	9,696	**10,114**
Pennsylvania: Contractor fees	19,031	20,931	18,891	21,068	19,084	**19,944**
Pennsylvania: Developer fees	25,342	27,685	30,841	29,602	26,593	**27,273**
Pennsylvania: Other soft costs	15,086	14,934	17,519	17,086	19,699	**17,125**
Pennsylvania: Eligible basis	211,613	230,094	232,321	233,470	243,903	**230,267**
Pennsylvania: **Total development cost**	**229,317**	**242,949**	**260,054**	**244,585**	**260,897**	**243,415**
Texas: Hard costs	82,135	82,355	85,824	86,767	87,900	**85,057**
Texas: Construction	78,209	73,703	79,393	78,084	79,035	**78,060**
Texas: Land costs	5,391	7,556	6,431	7,604	6,316	**6,431**
Texas: Soft costs	34,763	38,235	40,960	40,152	39,701	**38,772**
Texas: Architect and engineer fees	2,666	2,521	2,904	2,987	2,980	**2,834**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Texas: Contractor fees	9,588	9,858	10,457	10,003	9,969	**10,013**
Texas: Developer fees	14,510	14,223	14,886	15,051	15,049	**14,766**
Texas: Other soft costs	9,314	11,418	12,529	12,981	12,223	**12,066**
Texas: Eligible basis	108,364	107,192	113,725	113,173	111,246	**111,245**
Texas: **Total development cost**	**118,869**	**121,187**	**126,051**	**128,323**	**126,916**	**125,866**
Washington: Hard costs	147,798	181,945	155,660	177,504	235,801	**161,062**
Washington: Construction	135,606	161,171	145,392	167,050	200,026	**151,961**
Washington: Land costs	10,008	8,233	9,462	6,614	35,774	**9,778**
Washington: Soft costs	54,034	63,586	51,418	60,034	-	**56,540**
Washington: Architect and engineer fees	9,411	14,785	9,748	11,659	13,427	**10,383**
Washington: Contractor fees	9,423	8,602	9,859	10,897	-	**9,641**
Washington: Developer fees	15,900	18,579	16,163	17,024	16,718	**16,980**
Washington: Other soft costs	16,898	23,712	17,542	21,861	30,584	**20,291**
Washington: Eligible basis	183,979	202,291	180,794	209,491	232,219	**191,688**
Washington: **Total development cost**	**204,521**	**240,589**	**202,440**	**243,625**	**296,529**[a]	**210,402**
Total: Hard costs	**141,445**	**145,751**	**142,700**	**158,115**	**145,312**	**145,935**
Total: Construction	**128,904**	**134,112**	**132,447**	**143,785**	**130,467**	**134,509**
Total: Land costs	**9,136**	**9,551**	**9,110**	**10,962**	**7,957**	**9,384**
Total: Soft costs	**68,137**	**67,616**	**67,963**	**74,751**	**67,070**	**68,897**
Total: Architect and engineer fees	**7,668**	**6,976**	**7,450**	**8,126**	**7,025**	**7,589**
Total: Contractor fees	**15,218**	**15,234**	**15,272**	**16,030**	**15,520**	**15,444**
Total: Developer fees	**21,930**	**21,956**	**21,174**	**21,748**	**21,375**	**21,705**
Total: Other soft costs	**18,573**	**20,259**	**19,142**	**22,145**	**19,224**	**19,635**
Total: Eligible basis	**187,900**	**195,690**	**191,654**	**209,995**	**195,329**	**195,432**
Total: Total development cost	**207,938**	**214,958**	**212,153**	**237,260**	**221,535**	**217,768**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from the 12 selected allocating agencies. Six projects were jointly funded with tax credits allocated by Chicago and Illinois. We included the six projects in the cost data for both allocating agencies but only once in the total development cost rows. Costs labeled as unavailable reflect data inconsistencies that prevented us from calculating a cost. In addition, we excluded existing structures from the table because they were not common for new construction projects.

[a]Fewer than five new construction projects were completed by the allocating agency in the corresponding year. See appendix IV for more information on the number of projects the allocating agencies completed in each year.

[b]We report construction and contractor fees together for New York City because they were not reported separately on the allocating agency's cost certifications. In other locations, contractor fees

were also sometimes not listed separately from construction costs. As a result, some portion of the contractor fees (generally classified as a soft cost) may be included under hard costs (construction).

Table 15: Median Per-Unit Hard and Soft Development Costs (2015 dollars) of LIHTC Rehabilitation Projects Completed in 2011–2015, by Selected Allocating Agency

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Arizona: Hard costs	137,301	120,184	131,469	102,332	116,793	**119,922**
Arizona: Construction	99,639	104,098	99,564	81,855	85,603	**88,236**
Arizona: Existing structures	28,064	25,958	33,675	29,394	19,552	**26,022**
Arizona: Land costs	6,544	3,016	2,450	7,615	5,158	**3,819**
Arizona: Soft costs	50,333	46,954	51,107	42,838	38,285	**44,002**
Arizona: Architect and engineer fees	7,223	3,224	2,145	3,566	2,079	**3,369**
Arizona: Contractor fees	8,443	7,899	10,657	7,903	8,008	**8,563**
Arizona: Developer fees	22,467	17,644	20,684	16,735	16,216	**17,471**
Arizona: Other soft costs	11,809	12,397	16,448	15,906	11,068	**14,512**
Arizona: Eligible basis	175,233	183,931	153,517	131,849	134,375	**136,566**
Arizona: **Total development cost**	**185,263**[a]	**195,462**	**182,576**	**142,137**	**165,703**	**168,809**
California: Hard costs	131,782	142,838	136,648	163,869	143,936	**141,129**
California: Construction	47,681	91,678	54,390	65,312	63,344	**63,371**
California: Existing structures	48,381	32,673	42,260	47,023	40,908	**42,857**
California: Land costs	10,537	14,108	11,679	10,329	7,827	**9,560**
California: Soft costs	34,061	64,713	36,723	43,895	39,264	**42,975**
California: Architect and engineer fees	2,115	8,015	3,582	3,361	2,566	**3,304**
California: Contractor fees	5,385	10,926	5,972	7,594	7,818	**7,545**
California: Developer fees	13,111	18,064	13,364	15,155	14,403	**14,311**
California: Other soft costs	13,815	30,818	14,276	19,202	16,097	**18,028**
California: Eligible basis	140,541	152,986	127,392	131,899	139,082	**139,527**
California: **Total development cost**	**169,571**	**196,244**	**179,181**	**190,860**	**171,119**	**184,140**
Chicago: Hard costs	166,745	-	189,258	214,325	284,122	**201,792**
Chicago: Construction	166,745	-	122,713	179,047	278,467	**172,896**
Chicago: Existing structures	0	-	50,266	29,025	0	**14,512**
Chicago: Land costs	0	-	16,280	6,253	5,655	**5,954**
Chicago: Soft costs	59,845	-	58,939	-	-	**59,392**
Chicago: Architect and engineer fees	4,912	-	6,158	10,233	15,080	**8,196**
Chicago: Contractor fees	14,816	-	15,006	-	-	**14,911**
Chicago: Developer fees	20,444	-	15,311	20,256	32,172	**20,350**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Chicago: Other soft costs	19,673	-	22,463	23,420	26,696	**22,941**
Chicago: Eligible basis	206,982	-	220,982	253,634	338,255	**237,308**
Chicago: **Total development cost**	**226,590**[a]	**-**[a]	**248,197**[a]	**268,235**[a]	**358,070**[a]	**258,216**
Florida: Hard costs	105,350	102,081	98,396	84,287	88,561	**96,817**
Florida: Construction	67,175	58,447	42,887	55,089	70,616	**56,281**
Florida: Existing structures	26,507	23,056	50,043	29,326	0	**28,383**
Florida: Land costs	5,160	8,690	7,705	6,557	5,889	**6,389**
Florida: Soft costs	37,632	35,326	36,307	33,208	43,008	**37,305**
Florida: Architect and engineer fees	1,990	2,987	1,217	1,260	3,565	**1,866**
Florida: Contractor fees	6,041	6,966	5,852	7,422	9,031	**6,251**
Florida: Developer fees	17,954	15,410	17,139	17,324	16,615	**17,439**
Florida: Other soft costs	8,963	9,962	11,456	9,898	13,797	**10,471**
Florida: Eligible basis	124,537	129,160	124,449	112,438	110,646	**122,167**
Florida: **Total development cost**	**142,981**	**147,256**[a]	**134,703**	**125,834**	**127,182**[a]	**132,842**
Georgia: Hard costs	92,869	101,494	83,028	94,175	99,438	**94,555**
Georgia: Construction	62,355	78,352	60,516	62,526	69,987	**65,305**
Georgia: Existing structures	26,200	19,229	20,285	25,181	20,469	**24,598**
Georgia: Land costs	3,578	3,229	2,832	3,199	4,422	**3,296**
Georgia: Soft costs	31,533	40,723	36,395	34,881	45,189	**36,035**
Georgia: Architect and engineer fees	2,761	3,089	3,150	2,896	3,301	**2,846**
Georgia: Contractor fees	7,714	10,092	6,324	7,998	9,313	**7,998**
Georgia: Developer fees	15,635	17,342	15,529	15,919	16,219	**16,161**
Georgia: Other soft costs	6,447	11,256	10,832	10,811	14,021	**10,497**
Georgia: Eligible basis	113,782	130,630	113,014	118,315	131,625	**121,644**
Georgia: **Total development cost**	**133,484**	**139,612**	**122,635**	**129,068**	**146,550**	**133,959**
Illinois: Hard costs	53,861	78,972	59,157	242,101	81,391	**77,719**
Illinois: Construction	26,409	43,377	41,639	207,091	44,308	**43,843**
Illinois: Existing structures	26,838	21,761	20,547	20,352	23,534	**21,205**
Illinois: Land costs	4,225	2,653	2,572	12,697	4,299	**2,840**
Illinois: Soft costs	24,744	29,944	34,015	88,938	30,845	**30,191**
Illinois: Architect and engineer fees	1,781	2,325	2,490	9,924	2,109	**2,410**
Illinois: Contractor fees	3,168	5,761	5,699	23,311	5,427	**5,699**
Illinois: Developer fees	6,204	10,303	7,953	31,562	9,718	**9,974**
Illinois: Other soft costs	12,269	11,768	12,483	24,273	11,468	**12,693**
Illinois: Eligible basis	64,313	98,225	85,595	285,992	104,544	**96,765**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Illinois: **Total development cost**	**78,352**	**108,669**	**91,088**	**335,999**	**112,236**	**107,353**
New York: Hard costs	185,757	141,211	181,075	212,878	175,301	**181,631**
New York: Construction	167,555	127,270	165,700	172,349	165,369	**157,176**
New York: Existing structures	8,299	22,099	9,546	5,025	12,853	**9,295**
New York: Land costs	1,833	4,908	2,489	2,018	1,328	**2,778**
New York: Soft costs	85,550	63,755	71,024	101,260	72,746	**73,250**
New York: Architect and engineer fees	8,677	6,637	8,849	12,430	10,109	**8,665**
New York: Contractor fees	21,201	13,953	14,571	20,349	20,735	**18,124**
New York: Developer fees	31,052	20,920	25,761	32,656	24,169	**26,084**
New York: Other soft costs	24,082	15,332	19,011	28,246	17,732	**18,779**
New York: Eligible basis	249,482	165,678	225,395	243,234	225,731	**225,127**
New York: **Total development cost**	**267,436**	**194,436**	**253,278**	**314,854**[a]	**248,047**[a]	**257,698**
New York City: Hard costs	-	-	-	-	-	-
New York City: Construction and contractor fees[b]	222,193	142,964	185,715	170,512	217,954	**194,691**
New York City: Existing structures	0	0	0	0	0	**0**
New York City: Land costs	0	0	0	0	0	**0**
New York City: Soft costs	-	-	-	-	-	**-**
New York City: Architect and engineer fees	6,764	5,716	7,658	5,157	9,474	**6,636**
New York City: Developer fees	8,479	7,842	11,117	9,281	9,553	**8,651**
New York City: Other soft costs	38,962	25,399	39,224	31,532	52,852	**36,746**
New York City: Eligible basis	259,553	156,874	223,332	203,961	275,881	**236,239**
New York City: **Total development cost**	**275,067**	**184,476**	**232,126**	**225,910**	**291,364**	**248,372**
Ohio: Hard costs	96,714	92,647	84,350	94,786	93,224	**92,419**
Ohio: Construction	60,895	75,308	55,858	65,345	65,390	**64,984**
Ohio: Existing structures	17,060	13,152	19,293	23,249	22,700	**18,978**
Ohio: Land costs	3,809	2,224	2,330	3,244	2,051	**2,854**
Ohio: Soft costs	38,062	39,717	36,665	39,974	39,969	**39,753**
Ohio: Architect and engineer fees	2,477	3,537	2,454	2,970	2,878	**2,680**
Ohio: Contractor fees	7,732	9,770	7,143	8,652	7,622	**8,063**
Ohio: Developer fees	14,159	16,901	14,818	16,319	14,144	**15,001**
Ohio: Other soft costs	13,271	12,005	13,759	10,939	14,876	**12,703**
Ohio: Eligible basis	122,658	126,558	110,350	125,287	114,392	**120,307**
Ohio: **Total development cost**	**132,357**	**132,180**	**123,539**	**132,153**	**129,324**	**129,685**
Pennsylvania: Hard costs	153,079	182,135	202,758	195,804	112,563	**162,973**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Pennsylvania: Construction	125,438	154,557	181,803	175,354	75,366	**131,923**
Pennsylvania: Existing structures	13,809	21,225	10,486	17,306	19,098	**17,951**
Pennsylvania: Land costs	5,324	5,794	1,984	3,935	5,346	**5,062**
Pennsylvania: Soft costs	62,301	70,171	72,848	86,716	39,876	**66,274**
Pennsylvania: Architect and engineer fees	8,686	10,454	11,937	10,100	5,510	**8,475**
Pennsylvania: Contractor fees	15,675	19,267	22,081	20,790	8,843	**17,521**
Pennsylvania: Developer fees	20,540	27,040	22,294	33,755	14,923	**22,174**
Pennsylvania: Other soft costs	12,820	16,636	17,498	20,925	9,889	**14,642**
Pennsylvania: Eligible basis	213,654	222,581	275,298	267,689	129,962	**209,983**
Pennsylvania: **Total development cost**	**224,262**	**265,567**	**307,396**	**289,008**	**153,108**	**224,893**
Texas: Hard costs	63,938	76,195	80,557	93,190	102,020	**84,219**
Texas: Construction	47,545	40,235	60,102	54,465	61,084	**54,984**
Texas: Existing structures	19,766	25,567	19,199	21,768	21,442	**21,052**
Texas: Land costs	821	10,393	3,336	4,122	7,484	**4,019**
Texas: Soft costs	28,868	20,889	36,788	31,930	31,976	**34,759**
Texas: Architect and engineer fees	1,849	1,423	2,666	2,396	1,436	**2,381**
Texas: Contractor fees	7,443	3,829	7,936	7,083	8,030	**7,443**
Texas: Developer fees	11,279	6,563	13,850	13,397	13,606	**13,644**
Texas: Other soft costs	8,007	9,074	10,461	10,781	9,293	**10,656**
Texas: Eligible basis	86,471	55,749	106,065	107,563	105,144	**106,065**
Texas: **Total development cost**	**92,806**[a]	**97,084**[a]	**119,367**	**124,853**	**129,425**[a]	**119,367**
Washington: Hard costs	83,355	141,467	104,439	110,620	108,849	**105,770**
Washington: Construction	42,074	65,491	60,351	69,534	67,363	**60,570**
Washington: Existing structures	49,282	55,792	35,158	30,966	36,912	**38,754**
Washington: Land costs	7,503	20,184	5,596	4,635	5,928	**6,145**
Washington: Soft costs	27,743	40,872	23,865	20,540	32,115	**25,748**
Washington: Architect and engineer fees	1,013	3,406	4,176	4,124	2,644	**2,683**
Washington: Contractor fees	3,988	2,699	3,865	3,565	5,725	**3,716**
Washington: Developer fees	11,650	14,944	8,754	8,958	12,025	**11,336**
Washington: Other soft costs	10,775	13,944	5,727	11,843	10,383	**9,654**
Washington: Eligible basis	95,380	144,207	123,585	128,863	111,533	**117,216**
Washington: **Total development cost**	**112,168**[a]	**175,112**[a]	**129,428**[a]	**138,484**	**136,912**[a]	**131,379**
Total: Hard costs	**108,194**	**118,745**	**98,938**	**100,282**	**108,317**	**105,485**
Total: Construction	**68,634**	**83,889**	**62,694**	**66,928**	**69,362**	**69,987**

Allocating agency Cost category	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Total: Existing structures	**13,935**	**11,762**	**19,249**	**26,838**	**22,420**	**20,250**
Total: Land costs	**2,721**	**3,001**	**2,845**	**3,922**	**5,000**	**3,396**
Total: Soft costs	**40,072**	**51,805**	**39,514**	**40,256**	**39,876**	**40,568**
Total: Architect and engineer fees	**5,349**	**4,978**	**3,985**	**3,485**	**3,958**	**4,378**
Total: Contractor fees	**7,870**	**9,850**	**7,596**	**8,129**	**8,327**	**8,156**
Total: Developer fees	**12,761**	**14,466**	**14,164**	**15,920**	**14,182**	**14,399**
Total: Other soft costs	**16,614**	**16,526**	**14,870**	**14,648**	**14,149**	**15,278**
Total: Eligible basis	**177,011**	**152,249**	**139,885**	**127,643**	**134,375**	**143,150**
Total: Total development cost	**206,965**	**174,830**	**166,984**	**151,011**	**152,696**	**168,698**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from the 12 selected allocating agencies. Costs labeled as unavailable reflect data inconsistencies that prevented us from calculating a cost.

[a]Fewer than five rehabilitation projects were completed by the allocating agency in the corresponding year. Chicago did not fund any rehabilitation projects that were completed in 2012 and funded four rehabilitation projects in total. See appendix IV for more information on the number of projects the allocating agencies completed in each year.

[b]We report construction and contractor fees together for New York City because they were not reported separately on the allocating agency's cost certifications. In other locations, contractor fees were also sometimes not listed separately from construction costs. As a result, some portion of the contractor fees (generally classified as a soft cost) may be included under hard costs (construction).

Table 16: Median Per-Bedroom and Per-Square Foot Development Costs (2015 dollars) of LIHTC New Construction Projects Completed in 2011–2015, by Selected Allocating Agency

Allocating agency Cost measure	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Arizona: Per bedroom	100,566	132,820	98,280	113,686	153,209	**115,926**
Arizona: Per square foot	171	168	169	180	158	**169**
California: Per bedroom	135,317	195,862	185,652	201,786	190,579	**181,239**
California: Per square foot	254	294	274	299	276	**288**
Chicago: Per bedroom	215,453	145,003[a]	220,025[a]	170,023[a]	256,682	**189,599**
Chicago: Per square foot	280	230	-	293	-	**280**
Florida: Per bedroom	88,224	102,922	120,714	143,456	147,135	**109,455**
Florida: Per square foot	-	-	-	-	-	**-**
Georgia: Per bedroom	67,068	76,715	76,614	76,879	77,436	**74,882**
Georgia: Per square foot	-	-	-	-	-	**-**
Illinois: Per bedroom	130,177	151,786	180,047	110,045	148,322	**147,489**
Illinois: Per square foot	199	199	219	191	209	**199**
New York: Per bedroom	-	-	-	-	-	**-**

Allocating agency Cost measure	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
New York: Per square foot	-	-	-	-	-	**-**
New York City: Per bedroom	357,615	284,590	390,300	351,569	408,285[a]	**355,620**
New York City: Per square foot	-	-	-	-	-	**-**
Ohio: Per bedroom	86,043	84,571	87,711	97,865	98,645	**92,132**
Ohio: Per square foot	-	-	-	-	-	**-**
Pennsylvania: Per bedroom	120,154	173,631	151,655	173,259	127,592	**150,977**
Pennsylvania: Per square foot	-	-	-	-	-	**-**
Texas: Per bedroom	64,339	73,872	71,812	75,918	61,094	**67,587**
Texas: Per square foot	-	-	-	-	-	**-**
Washington: Per bedroom	87,804	165,290	126,416	163,451	247,309[a]	**146,438**
Washington: Per square foot	190	242	228	249	287	**230**
Total: Per bedroom	**95,459**	**121,288**	**108,116**	**124,733**	**117,276**	**112,871**
Total: Per square foot	**202**	**235**	**243**	**272**	**243**	**243**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from the 12 selected allocating agencies. Six projects were jointly funded with tax credits allocated by Chicago and Illinois and were included in the costs for each allocating agency but only once in the total development cost rows. Gross square footage data were only available for 417 new construction projects across 5 of the 12 selected allocating agencies, and bedroom data were not available from New York. Studios were counted as roughly 0.6 bedrooms because the average residential square footage of all-studio projects was about 60 percent of the average residential square footage of all-1-bedroom projects.

[a]Fewer than five new construction projects were completed by the allocating agency in the corresponding year. See appendix IV for more information on the number of projects the allocating agencies completed in each year.

Table 17: Median Per-Bedroom and Per-Square Foot Development Costs (2015 dollars) of LIHTC Rehabilitation Projects Completed in 2011–2015, by Selected Allocating Agency

Allocating agency Cost measure	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Arizona: Per bedroom	105,062[a]	85,555	59,069	102,904	72,960	**74,791**
Arizona: Per square foot	201	190	152	163	152	**167**
California: Per bedroom	116,745	236,255	104,896	133,639	130,008	**127,104**
California: Per square foot	258	534	208	257	289	**264**
Chicago: Per bedroom	119,791[a]	-[a]	100,563[a]	454,635[a]	138,051[a]	**128,921**
Chicago: Per square foot	-	-	-	-	-	**-**
Florida: Per bedroom	66,557	89,022[a]	66,783	63,315	91,032[a]	**67,126**
Florida: Per square foot	-	-	-	-	-	**-**
Georgia: Per bedroom	74,014	112,648	79,671	95,095	80,219	**87,675**
Georgia: Per square foot	-	-	-	-	-	**-**

Allocating agency Cost measure	2011 (dollars)	2012 (dollars)	2013 (dollars)	2014 (dollars)	2015 (dollars)	All years (dollars)
Illinois: Per bedroom	57,168	75,233	81,039	234,554	82,210	**81,228**
Illinois: Per square foot	108	131	130	419	119	**129**
New York: Per bedroom	-	-	-	- [a]	- [a]	**-**
New York: Per square foot	-	-	-	-	-	**-**
New York City: Per bedroom	161,670	108,630	140,696	128,261	207,697	**150,237**
New York City: Per square foot	-	-	-	-	-	**-**
Ohio: Per bedroom	76,898	90,170	77,494	76,804	104,819	**86,572**
Ohio: Per square foot	-	-	-	-	-	**-**
Pennsylvania: Per bedroom	169,254	144,493	139,731	187,721	103,392	**141,524**
Pennsylvania: Per square foot	-	-	-	-	-	-
Texas: Per bedroom	69,729[a]	72,206[a]	64,757	65,258	73,563[a]	**68,893**
Texas: Per square foot	-	-	-	-	-	**-**
Washington: Per bedroom	71,107[a]	137,500[a]	114,855[a]	105,899	127,884[a]	**104,405**
Washington: Per square foot	155	276	173	211	247	**188**
Total: Per bedroom	**124,581**	**110,239**	**93,078**	**102,414**	**105,930**	**108,499**
Total: Per square foot	**163**	**214**	**179**	**220**	**168**	**190**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from the 12 selected allocating agencies. Gross square footage data were only available for 164 rehabilitation projects across 4 of the 12 selected allocating agencies, and bedroom data were not available from New York. Studios were counted as roughly 0.6 bedrooms because the average residential square footage of all-studio projects was about 60 percent of the average residential square footage of all-1-bedroom projects.

[a]Fewer than five rehabilitation projects were completed by the allocating agency in the corresponding year. Chicago did not fund any rehabilitation projects that were completed in 2012 and only funded four rehabilitation projects in total. See appendix IV for more information on the number of projects the allocating agencies completed in each year.

Appendix IV: Characteristics of LIHTC Projects Completed in 2011–2015, for 12 Allocating Agencies

This appendix describes the characteristics of Low-Income Housing Tax Credit (LIHTC) projects that were completed in 2011–2015 and received tax credits from 12 selected allocating agencies.[1] Tables 18–28 provide information on these characteristics by year of project completion for each allocating agency. The characteristics include construction type, number of units, number and square footage of buildings, unit sizes (bedrooms), tenant types, number and percentage of low-income units, tenant income limits, location, designated economic areas, and presence of other federal funding. As discussed in appendix II, we estimated that a number of these characteristics were associated with differences in per-unit development costs.

Table 18: Number of LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Arizona	22	11	12	13	12	**70**	**4**
California	61	92	90	119	47	**409**	**22**

[1]Our analysis focused on 9 percent credits, which are designed to provide a 70 percent subsidy for developing or rehabilitating low-income units. A 4 percent LIHTC providing a 30 percent subsidy is also available. 26 U.S.C. § 42(b)(I)(B). The 12 agencies are the Arizona Department of Housing, California Tax Credit Allocating Committee, Florida Housing Finance Corporation, Georgia Department of Community Affairs, Illinois Housing Development Authority, Chicago Department of Planning and Development, New York State Homes and Community Renewal, New York City Department of Housing Preservation and Development, Ohio Housing Finance Agency, Pennsylvania Housing Finance Agency, Texas Department of Housing and Community Affairs, and Washington State Housing Finance Commission. The Chicago and New York City entities are sub-allocating agencies (they receive a portion of tax credits allocated to Illinois and New York to allocate to projects according to their own priorities). The Illinois and New York State authorities also may award credits to projects in Chicago and New York City, respectively.

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Chicago	7	3	3	5	6	**24**	**1**
Florida	49	26	16	29	10	**130**	**7**
Georgia	28	40	33	31	23	**155**	**8**
Illinois	22	35	31	19	16	**123**	**7**
New York	33	28	40	18	13	**132**	**7**
New York City	52	36	35	24	10	**157**	**8**
Ohio	37	36	31	49	28	**181**	**10**
Pennsylvania	45	34	27	34	45	**185**	**10**
Texas	22	35	57	59	39	**212**	**11**
Washington	25	12	18	17	5	**77**	**4**
Total number (percent)	**401 (22)**	**386 (21)**	**393 (21)**	**416 (23)**	**253 (14)**	**1,849**	**100**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals.

Table 19: Construction Type for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Construction type	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Arizona: New construction	18	6	7	7	6	**44**	**63**
Arizona: Rehabilitation	4	5	5	6	6	**26**	**37**
California: New construction	47	77	59	86	30	**299**	**73**
California: Rehabilitation	14	15	31	33	17	**110**	**27**
Chicago: New construction	6	3	2	4	5	**20**	**83**
Chicago: Rehabilitation	1	0	1	1	1	**4**	**17**
Florida: New construction	36	22	10	17	6	**91**	**70**
Florida: Rehabilitation	13	4	6	12	4	**39**	**30**
Georgia: New construction	19	34	26	21	17	**117**	**75**
Georgia: Rehabilitation	9	6	7	10	6	**38**	**25**
Illinois: New construction	16	28	22	14	9	**89**	**72**
Illinois: Rehabilitation	6	7	9	5	7	**34**	**28**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Construction type	2011	2012	2013	2014	2015	Number of projects	Percent of projects
New York: New construction	21	19	25	14	9	**88**	**67**
New York: Rehabilitation	12	9	15	4	4	**44**	**33**
New York City: New construction	6	9	8	12	2	**37**	**24**
New York City: Rehabilitation	46	27	27	12	8	**120**	**76**
Ohio: New construction	25	18	14	25	15	**97**	**54**
Ohio: Rehabilitation	12	18	17	24	13	**84**	**46**
Pennsylvania: New construction	30	23	14	24	26	**117**	**63**
Pennsylvania: Rehabilitation	15	11	13	10	19	**68**	**37**
Texas: New construction	19	34	36	39	35	**163**	**77**
Texas: Rehabilitation	3	1	21	20	4	**49**	**23**
Washington: New construction	22	10	14	11	2	**59**	**77**
Washington: Rehabilitation	3	2	4	6	3	**18**	**23**
Total: New construction	**263**	**281**	**237**	**273**	**161**	**1,215**	**66**
Total: Rehabilitation	**138**	**105**	**156**	**143**	**92**	**634**	**34**
Total: Total	**401**	**386**	**393**	**416**	**253**	**1,849**	**100**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Percentage columns may not add to 100 percent due to rounding.

Table 20: Size of LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Project size	2011	2012	2013	2014	2015	Median number of units	Number of projects	Percent of projects
Arizona: Median units per project	56	56	60	66	78	**60**		
Arizona: Number of projects with:36 or fewer units	3	1	0	3	0		**7**	**10**
Arizona: Number of projects with:37–50 units	6	3	1	0	3		**13**	**19**

n/a	n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Project size	2011	2012	2013	2014	2015	Median number of units	Number of projects	Percent of projects
Arizona: Number of projects with:51–100 units	13	5	11	8	8		**45**	**64**
Arizona: Number of projects with:101 or more units	0	2	0	2	1		**5**	**7**
California: Median units per project	56	55	56	55	52	**55**		
California: Number of projects with: 36 or fewer	10	24	17	18	9		**78**	**19**
California: Number of projects with:37–50	17	16	23	38	13		**107**	**26**
California: Number of projects with:51–100	29	46	43	45	23		**186**	**45**
California: Number of projects with:101 or more	5	6	7	18	2		**38**	**9**
Chicago: Median units per project	60	112	48	61	64	**61**		
Chicago: Number of projects with:36 or fewer units	1	0	0	1	1		**3**	**13**
Chicago: Number of projects with:37–50 units	1	0	2	0	0		**3**	**13**
Chicago: Number of projects with:51–100 units	5	0	1	4	5		**15**	**63**
Chicago: Number of projects with:101 or more units	0	3	0	0	0		**3**	**13**
Florida: Median units per project	90	90	100	85	108	**94**		
Florida: Number of projects with:36 or fewer units	1	1	0	4	0		**6**	**5**
Florida: Number of projects with:37–50 units	4	0	2	2	0		**8**	**6**
Florida: Number of projects with:51–100 units	28	18	8	16	3		**73**	**56**
Florida: Number of projects with:101 or more units	16	7	6	7	7		**43**	**33**
Georgia: Median units per project	56	71	64	64	64	**64**		
Georgia: Number of projects with:36 or fewer units	3	1	3	0	0		**7**	**5**
Georgia: Number of projects with:37–50 units	9	10	7	8	2		**36**	**23**

n/a	n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Project size	2011	2012	2013	2014	2015	Median number of units	Number of projects	Percent of projects
Georgia: Number of projects with:51–100 units	12	19	19	18	17		**85**	**55**
Georgia: Number of projects with:101 or more units	4	10	4	5	4		**27**	**17**
Illinois: Median units per project	74	50	55	42	65	**55**		
Illinois: Number of projects with:36 or fewer units	6	11	4	7	2		**30**	**24**
Illinois: Number of projects with:37–50 units	1	8	11	5	2		**27**	**22**
Illinois: Number of projects with:51–100 units	12	12	12	7	11		**54**	**44**
Illinois: Number of projects with:101 or more units	3	4	4	0	1		**12**	**10**
New York: Median units per project	45	65	58	63	50	**55**		
New York: Number of projects with:36 or fewer units	11	3	13	5	3		**35**	**27**
New York: Number of projects with:37–50 units	10	8	4	2	5		**29**	**22**
New York: Number of projects with:51–100 units	11	15	21	10	4		**61**	**46**
New York: Number of projects with:101 or more units	1	2	2	1	1		**7**	**5**
New York City: Median units per project	6	19	20	49	16	**17**		
New York City: Number of projects with:36 or fewer units	45	23	21	8	7		**104**	**66**
New York City: Number of projects with:37–50 units	2	3	4	4	1		**14**	**9**
New York City: Number of projects with:51–100 units	4	9	9	9	0		**31**	**20**
New York City: Number of projects with:101 or more units	1	1	1	3	2		**8**	**5**
Ohio: Median units per project	40	45	50	45	46	**44**		
Ohio: Number of projects with:36 or fewer units	16	6	5	14	6		**47**	**26**

n/a	n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Project size	2011	2012	2013	2014	2015	Median number of units	Number of projects	Percent of projects
Ohio: Number of projects with:37–50 units	14	17	11	17	11		**70**	**39**
Ohio: Number of projects with:51–100 units	5	11	13	16	8		**53**	**29**
Ohio: Number of projects with:101 or more units	2	2	2	2	3		**11**	**6**
Pennsylvania: Median units per project	46	38	50	38	51	**45**		
Pennsylvania: Number of projects with:36 or fewer units	14	15	9	17	8		**63**	**34**
Pennsylvania: Number of projects with:37–50 units	15	10	5	8	14		**52**	**28**
Pennsylvania: Number of projects with:51–100 units	12	9	12	9	19		**61**	**33**
Pennsylvania: Number of projects with:101 or more units	4	0	1	0	4		**9**	**5**
Texas: Median units per project	102	120	100	80	120	**101**		
Texas: Number of projects with:36 or fewer units	1	1	5	5	1		**13**	**6**
Texas: Number of projects with:37–50 units	0	2	5	4	4		**15**	**7**
Texas: Number of projects with:51–100 units	10	10	20	25	13		**78**	**37**
Texas: Number of projects with:101 or more units	11	22	27	25	21		**106**	**50**
Washington: Median units per project	48	63	61	57	74	**57**		
Washington: Number of projects with:36 or fewer units	7	1	2	5	0		**15**	**19**
Washington: Number of projects with:37–50 units	7	2	2	2	0		**13**	**17**
Washington: Number of projects with:51–100 units	11	8	12	9	4		**44**	**57**
Washington: Number of projects with:101 or more units	0	1	2	1	1		**5**	**6**
Total: Median units per project	**50**	**59**	**60**	**59**	**60**	**58**		

n/a	n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Project size	**2011**	**2012**	**2013**	**2014**	**2015**	**Median number of units**	**Number of projects**	**Percent of projects**
Total: Number of projects with:**36 or fewer units**	**118**	**87**	**79**	**87**	**37**		**408**	**22**
Total: Number of projects with:**37–50 units**	**86**	**78**	**77**	**90**	**55**		**386**	**21**
Total: Number of projects with:**51–100 units**	**150**	**162**	**181**	**175**	**114**		**782**	**42**
Total: Number of projects with:**101 or more units**	**47**	**59**	**56**	**64**	**47**		**273**	**15**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Percentage columns may not add to 100 percent due to rounding.

Table 21: Median Square Footage and Number of Buildings for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

Allocating agency Building characteristic	2011	2012	2013	2014	2015	All years
Unit Size	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
Arizona: Median gross square footage	58,402	60,870	79,918	57,144	86,860	**66,561**
Arizona: Median residential square footage	46,903	56,683	69,258	52,872	61,511	**54,086**
Arizona: Median number of residential buildings	6	11	3	8	6	**6**
California: Median gross square footage	66,528	62,186	47,901	59,536	54,040	**55,644**
California: Median residential square footage	57,640	46,258	38,951	45,006	42,566	**44,395**
California: Median number of residential buildings	4	3	5	2	2	**3**
Chicago: Median gross square footage	72,218	171,498	data unavailable	84,381	data unavailable	**84,381**
Chicago: Median residential square footage	48,300	134,136	40,320	48,912	41,025	**45,859**
Chicago: Median number of residential buildings	1	18	1	1	1	**1**
Florida: Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
Florida: Median residential square footage	77,959	73,353	85,863	68,525	85,600	**74,370**
Florida: Median number of residential buildings	7	4	5	1	1	**4**
Georgia: Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
Georgia: Median residential square footage	60,065	72,410	66,464	66,464	65,640	**66,464**

Allocating agency Building characteristic	2011	2012	2013	2014	2015	All years
Unit Size	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
Georgia: Median number of residential buildings	9	5	5	6	3	**6**
Illinois: Median gross square footage	86,568	49,790	62,699	47,723	79,236	**62,012**
Illinois: Median residential square footage	52,040	39,260	41,969	37,903	63,692	**43,850**
Illinois: Median number of residential buildings	1	3	2	6	6	**3**
New York: Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
New York: Median residential square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
New York: Median number of residential buildings	1	1	2	1	7	**1**
New York City: Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
New York City: Median residential square footage	3,957	13,112	15,258	29,790	14,002	**12,480**
New York City: Median number of residential buildings	1	1	1	1	1	**1**
Ohio: Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable
Ohio: Median residential square footage	35,730	42,316	45,043	41,123	37,854	**40,649**
Ohio: Median number of residential buildings	6	7	7	6	3	**6**
Pennsylvania: Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
Pennsylvania: Median residential square footage	44,334	30,033	48,590	33,865	47,640	**40,850**
Pennsylvania: Median number of residential buildings	3	2	6	3	4	**3**
Texas Median gross square footage	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable	**data unavailable**
Texas Median residential square footage	93,799	107,440	84,936	79,012	103,360	**93,945**
Texas Median number of residential buildings	8	7	8	8	7	**8**
Washington: Median gross square footage	48,899	56,851	51,884	42,017	52,137	**50,731**
Washington: Median residential square footage	40,950	42,061	46,664	36,254	46,878	**40,185**
Washington: Median number of residential buildings	4	2	2	1	9	**3**
Total: Median gross square footage	**63,550**	**55,796**	**52,997**	**54,648**	**69,724**	**57,376**
Total: Median residential square footage	**46,301**	**49,520**	**49,750**	**47,673**	**56,034**	**49,272**
Total: Median number of residential buildings	**4**	**3**	**4**	**4**	**4**	**4**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Gross square footage data were only available for 586 projects from five allocating agencies. Residential square footage data were available for 1,663 projects from 11 allocating agencies but were not available from New York. Residential building data were missing for 1 project in California (less than 1 percent) and 17 projects in Illinois (about 14 percent).

Table 22: Unit Sizes (Bedrooms) of LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Unit size	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of units**	**Percent of units**
Arizona: Fewer than two bedrooms	465	404	230	428	386	**1,913**	**41**
Arizona: Two bedrooms	393	152	269	250	297	**1,361**	**29**
Arizona: More than two bedrooms	358	229	304	262	216	**1,369**	**29**
California: Fewer than two bedrooms	1,118	2,707	2,636	3,954	1,568	**11,983**	**48**
California: Two bedrooms	1,316	1,435	1,485	1,939	790	**6,965**	**28**
California: More than two bedrooms	1,274	1,212	1,177	1,670	569	**5,902**	**24**
Chicago: Fewer than two bedrooms	245	52	89	160	276	**822**	**51**
Chicago: Two bedrooms	70	168	37	70	35	**380**	**23**
Chicago: More than two bedrooms	116	142	29	77	54	**418**	**26**
Florida: Fewer than two bedrooms	1,122	1,053	493	1,154	609	**4,431**	**36**
Florida: Two bedrooms	2,097	1,001	764	923	380	**5,165**	**42**
Florida: More than two bedrooms	1,381	460	333	357	182	**2,713**	**22**
Georgia: Fewer than two bedrooms	517	1,209	747	1,059	597	**4,129**	**37**
Georgia: Two bedrooms	948	1,473	1,020	1,120	876	**5,437**	**48**
Georgia: More than two bedrooms	391	388	441	220	235	**1,675**	**15**
Illinois: Fewer than two bedrooms	869	1,124	1,336	384	496	**4,209**	**52**
Illinois: Two bedrooms	525	519	644	376	405	**2,469**	**31**
Illinois: More than two bedrooms	346	388	161	204	267	**1,366**	**17**
New York: Fewer than two bedrooms	-	-	-	-	-	**-**	**-**
New York: Two bedrooms	-	-	-	-	-	**-**	**-**
New York: More than two bedrooms	-	-	-	-	-	**-**	**-**
New York City: Fewer than two bedrooms	728	737	742	999	260	**3,466**	**62**
New York City: Two bedrooms	401	356	298	319	87	**1,461**	**26**
New York City: More than two bedrooms	210	150	170	92	14	**636**	**11**
Ohio: Fewer than two bedrooms	668	957	823	1,103	803	**4,354**	**46**
Ohio: Two bedrooms	636	589	604	855	663	**3,347**	**35**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Unit size	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of units**	**Percent of units**
Ohio: More than two bedrooms	416	348	347	497	153	**1,761**	**19**
Pennsylvania: Fewer than two bedrooms	1,073	720	609	580	1,260	**4,242**	**47**
Pennsylvania: Two bedrooms	882	365	510	406	738	**2,901**	**32**
Pennsylvania: More than two bedrooms	495	270	300	386	527	**1,978**	**22**
Texas: Fewer than two bedrooms	763	1,704	2,422	2,191	1,404	**8,484**	**37**
Texas: Two bedrooms	1,102	1,995	2,580	2,766	1,893	**10,336**	**45**
Texas: More than two bedrooms	455	592	1,109	967	1,200	**4,323**	**19**
Washington: Fewer than two bedrooms	440	411	779	687	242	**2,559**	**54**
Washington: Two bedrooms	442	228	251	155	97	**1,173**	**25**
Washington: More than two bedrooms	364	112	277	143	91	**987**	**21**
Total: Fewer than two bedrooms	**7,932**	**11,072**	**10,906**	**12,691**	**7,847**	**50,448**	**44**
Total: Two bedrooms	**8,777**	**8,236**	**8,462**	**9,148**	**6,261**	**40,884**	**36**
Total: More than two bedrooms	**5,769**	**4,184**	**4,648**	**4,853**	**3,508**	**22,962**	**20**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Unit size (number of bedrooms) data were not available from New York. Percentage columns may not add to 100 percent due to rounding.

Table 23: Tenant Type for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Tenant type	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Arizona: Nonsenior	13	6	7	7	9	**42**	**60**
Arizona: Senior	9	5	5	6	3	**28**	**40**
California: Nonsenior	53	75	75	96	37	**336**	**82**
California: Senior	8	17	15	23	10	**73**	**18**
Chicago: Nonsenior	5	2	1	3	3	**14**	**58**
Chicago: Senior	2	0	1	1	3	**7**	**29**
Chicago: Missing	0	1	1	1	0	**3**	**13**
Florida: Nonsenior	41	18	11	12	6	**88**	**68**
Florida: Senior	8	8	5	17	4	**42**	**32**
Georgia: Nonsenior	11	14	15	13	8	**61**	**39**
Georgia: Senior	12	21	15	14	12	**74**	**48**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Tenant type	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Georgia: Missing	5	5	3	4	3	**20**	**13**
Illinois: Nonsenior	15	21	18	13	13	**80**	**65**
Illinois: Senior	7	14	13	6	3	**43**	**35**
New York: Nonsenior	21	21	31	17	12	**102**	**77**
New York: Senior	12	7	9	1	1	**30**	**23**
New York City: Nonsenior	51	34	35	23	10	**153**	**97**
New York City: Senior	1	2	0	1	0	**4**	**3**
Ohio: Nonsenior	21	16	20	34	13	**104**	**57**
Ohio: Senior	16	20	11	15	14	**76**	**42**
Ohio: Missing	0	0	0	0	1	**1**	**1**
Pennsylvania: Nonsenior	23	18	18	20	31	**110**	**59**
Pennsylvania: Senior	21	14	9	14	13	**71**	**38**
Pennsylvania: Missing	1	2	0	0	1	**4**	**2**
Texas: Nonsenior	14	18	39	35	30	**136**	**64**
Texas: Senior	8	17	18	24	9	**76**	**36**
Washington: Nonsenior	23	10	13	13	3	**62**	**81**
Washington: Senior	2	2	5	4	2	**15**	**19**
Total: Nonsenior	**290**	**251**	**283**	**285**	**174**	**1,283**	**69**
Total: Senior	**105**	**127**	**106**	**126**	**74**	**538**	**29**
Total: Missing	**6**	**8**	**4**	**5**	**5**	**28**	**2**
Total: Total	**401**	**386**	**393**	**416**	**253**	**1,849**	**100**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Senior projects must meet the Housing for Older Persons exemption to the Fair Housing Act (42 U.S.C. § 3607(b)(2)): either 80 percent of the units must be occupied by at least one person aged 55 or older, or 100 percent of the units must be occupied by individuals aged 62 or older. Percentage columns may not add to 100 percent due to rounding.

Table 24: Number and Percentage of Low-Income Units in LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

Allocating agency Unit statistics	**2011**	**2012**	**2013**	**2014**	**2015**	**All years**
Arizona: Total units	1,218	785	803	940	899	4,645
Arizona: Low-income units	1,197	761	802	931	896	4,587

Allocating agency Unit statistics	2011	2012	2013	2014	2015	All years
Arizona: Percent low-income units	98	97	100	99	100	99
California: Total units	3,708	5,354	5,297	7,557	2,927	24,843
California: Low-income units	3,643	5,265	5,189	7,421	2,841	24,359
California: Percent low-income units	98	98	98	98	97	98
Chicago: Total units	431	361	155	306	365	1,618
Chicago: Low-income units	395	295	143	280	346	1,459
Chicago: Percent low-income units	92	82	92	92	95	92
Florida: Total units	4,600	2,514	1,590	2,434	1,171	12,309
Florida: Low-income units	4,515	2,514	1,564	2,408	1,171	12,172
Florida: Percent low-income units	98	100	98	99	100	99
Georgia: Total units	1,856	3,070	2,208	2,398	1,708	11,240
Georgia: Low-income units	1,674	2,839	2,133	2,283	1,639	10,568
Georgia: Percent low-income units	90	92	97	95	96	95
Illinois: Total units	1,740	2,030	2,141	964	1,168	8,043
Illinois: Low-income units	1,647	1,894	2,054	937	1,084	7,616
Illinois: Percent low-income units	95	93	96	97	93	95
New York: Total units	1,688	1,843	2,363	1,115	717	7,726
New York: Low-income units	1,647	1,807	2,275	1,075	690	7,494
New York: Percent low-income units	98	98	96	96	96	96
New York City: Total units	1,338	1,248	1,213	1,411	362	5,572
New York City: Low-income units	1,171	1,080	1,056	1,328	344	4,979
New York City: Percent low-income units	88	87	87	94	95	88
Ohio: Total units	1,720	1,894	1,774	2,455	1,619	9,462
Ohio: Low-income units	1,718	1,857	1,749	2,452	1,581	9,357
Ohio: Percent low-income units	100	98	99	100	98	99
Pennsylvania: Total units	2,450	1,355	1,419	1,372	2,525	9,121
Pennsylvania: Low-income units	2,347	1,345	1,307	1,361	2,464	8,824
Pennsylvania: Percent low-income units	96	99	92	99	98	98
Texas: Total units	2,320	4,291	6,111	5,924	4,497	23,143
Texas: Low-income units	2,289	4,176	6,046	5,757	4,146	22,414
Texas: Percent low-income units	99	97	99	97	92	97
Washington: Total units	1,246	751	1,307	985	430	4,719
Washington: Low-income units	1,225	743	1,278	955	424	4,625
Washington: Percent low-income units	98	99	98	97	99	98
Total: Total units	**24,167**	**25,339**	**26,381**	**27,800**	**18,334**	**122,021**
Total: Low-income units	**23,341**	**24,436**	**25,596**	**27,127**	**17,572**	**118,072**

Allocating agency Unit statistics	2011	2012	2013	2014	2015	All years
Total: Percent low-income units	**98**	**98**	**98**	**98**	**97**	**98**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals.

Table 25: Tenant Income Limits for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Income limits	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of units**	**Percent of units**
Arizona: 30 percent or less of AMGI	0	0	0	0	30	**30**	**1**
Arizona: 50 percent or less of AMGI	879	474	578	696	671	**3,298**	**72**
Arizona: 60 percent or less of AMGI	318	287	224	235	195	**1,259**	**27**
California: 30 percent or less of AMGI	507	1,224	948	1,589	503	**4,771**	**20**
California: 50 percent or less of AMGI	2,175	2,970	3,301	4,529	1,681	**14,656**	**60**
California: 60 percent or less of AMGI	961	1,071	940	1,303	657	**4,932**	**20**
Chicago: 30 percent or less of AMGI	16	12	0	34	73	**135**	**9**
Chicago: 50 percent or less of AMGI	285	132	132	35	51	**635**	**43**
Chicago: 60 percent or less of AMGI	94	152	11	211	222	**690**	**47**
Florida: 30 percent or less of AMGI	66	97	77	115	91	**446**	**4**
Florida: 50 percent or less of AMGI	491	245	156	359	89	**1,340**	**11**
Florida: 60 percent or less of AMGI	3,958	2,172	1,331	1,934	991	**10,386**	**85**
Georgia: 30 percent or less of AMGI	19	37	5	0	0	**61**	**1**
Georgia: 50 percent or less of AMGI	538	680	441	436	373	**2,468**	**23**
Georgia: 60 percent or less of AMGI	1,117	2,054	1,687	1,847	1,266	**7,971**	**75**
Georgia: Missing	0	68	0	0	0	**68**	**1**
Illinois: 30 percent or less of AMGI	131	216	252	187	182	**968**	**13**
Illinois: 50 percent or less of AMGI	475	414	407	94	208	**1,598**	**21**
Illinois: 60 percent or less of AMGI	1,041	1,264	1,395	656	694	**5,050**	**66**
New York: 30 percent or less of AMGI	216	202	333	419	117	**1,287**	**17**
New York: 50 percent or less of AMGI	795	1,147	1,077	381	291	**3,691**	**49**
New York: 60 percent or less of AMGI	636	458	865	275	282	**2,516**	**34**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Income limits	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of units**	**Percent of units**
New York City: 30 percent or less of AMGI	-	-	-	-	-	**-**	**-**
New York City: 50 percent or less of AMGI	-	-	-	-	-	**-**	**-**
New York City: 60 percent or less of AMGI	-	-	-	-	-	**-**	**-**
New York City: Missing	1,338	1,248	1,213	1,411	362	**5,572**	**100**
Ohio: 30 percent or less of AMGI	8	6	0	2	100	**116**	**1**
Ohio: 50 percent or less of AMGI	991	1,104	925	1,307	792	**5,119**	**55**
Ohio: 60 percent or less of AMGI	719	747	724	1,010	689	**3,889**	**42**
Ohio: Missing	0	0	100	133	0	**233**	**2**
Pennsylvania: 30 percent or less of AMGI	160	142	202	178	222	**904**	**10**
Pennsylvania: 50 percent or less of AMGI	1,621	928	634	692	1,315	**5,190**	**59**
Pennsylvania: 60 percent or less of AMGI	566	275	471	491	927	**2,730**	**31**
Texas: 30 percent or less of AMGI	162	277	434	568	485	**1,926**	**9**
Texas: 50 percent or less of AMGI	649	1,864	2,689	2,149	1,231	**8,582**	**38**
Texas: 60 percent or less of AMGI	1,478	2,035	2,923	3,040	2,430	**11,906**	**53**
Washington: 30 percent or less of AMGI	415	320	572	367	191	**1,865**	**40**
Washington: 50 percent or less of AMGI	593	271	431	462	156	**1,913**	**41**
Washington: 60 percent or less of AMGI	217	152	275	126	77	**847**	**18**
Total: 30 percent or less of AMGI	**1,692**	**2,516**	**2,823**	**3,459**	**1,980**	**12,470**	**11**
Total: 50 percent or less of AMGI	**9,405**	**10,172**	**10,771**	**11,140**	**6,839**	**48,327**	**41**
Total: 60 percent or less of AMGI	**11,073**	**10,601**	**10,846**	**11,067**	**8,409**	**51,996**	**44**
Total: Missing	**1,338**	**1,316**	**1,313**	**1,544**	**362**	**5,873**	**5**

Legend: AMGI = area median gross income; LIHTC = Low-Income Housing Tax Credit; - = data unavailable

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits (LIHTC) from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. In 2011–2015, developers were required to reserve LIHTC units for households earning up to 60 percent of the AMGI, adjusted for family size. The Consolidated Appropriations Act of 2018 amended this rule to allow developers to reserve at least 40 percent of available units for households earning as much as 80 percent of AMGI, provided that the average household income of the project remains at 60 percent or less of AMGI. Pub. L. No. 115-141, Div. T,§ 103 (2018), (amending 26 U.S.C. §.42 (g)(1)). Percentage columns may not add to 100 percent due to rounding.

Table 26: Location Type for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Location type	2011	2012	2013	2014	2015	Number of projects	Percent of projects
Arizona: Rural	4	1	1	0	0	**6**	**9**
Arizona: Suburban	2	2	0	1	0	**5**	**7**
Arizona: Urban	16	8	11	12	12	**59**	**84**
California: Rural	2	4	12	8	5	**31**	**8**
California: Suburban	11	13	13	11	3	**51**	**12**
California: Urban	48	75	65	100	39	**327**	**80**
Chicago: Rural	0	0	0	0	0	**0**	**0**
Chicago: Suburban	0	0	0	0	0	**0**	**0**
Chicago: Urban	7	3	3	5	6	**24**	**100**
Florida: Rural	4	1	1	0	0	**6**	**5**
Florida: Suburban	6	1	0	2	0	**9**	**7**
Florida: Urban	39	24	15	27	10	**115**	**88**
Georgia: Rural	13	3	4	5	4	**29**	**19**
Georgia: Suburban	7	9	11	8	5	**40**	**25**
Georgia: Urban	8	28	17	18	14	**85**	**55**
Georgia: Missing	0	0	1	0	0	**1**	**1**
Illinois: Rural	1	6	10	2	1	**20**	**16**
Illinois: Suburban	7	10	4	3	3	**27**	**22**
Illinois: Urban	14	19	17	14	12	**76**	**62**
New York: Rural	4	0	4	2	3	**13**	**10**
New York: Suburban	4	2	9	0	1	**16**	**12**
New York: Urban	25	26	27	16	9	**103**	**78**
New York City: Rural	0	0	0	0	0	**0**	**0**
New York City: Suburban	0	0	0	0	0	**0**	**0**
New York City: Urban	52	36	35	24	10	**157**	**100**
Ohio: Rural	7	7	7	11	3	**35**	**19**
Ohio: Suburban	6	7	1	1	7	**22**	**12**
Ohio: Urban	24	22	23	37	18	**124**	**69**
Pennsylvania: Rural	4	1	1	3	1	**10**	**5**
Pennsylvania: Suburban	7	4	3	3	5	**22**	**12**
Pennsylvania: Urban	34	29	23	28	39	**153**	**83**
Texas: Rural	1	0	8	10	4	**23**	**11**
Texas: Suburban	2	4	10	11	7	**34**	**16**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Location type	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Texas: Urban	19	31	39	38	28	**155**	**73**
Washington: Rural	9	0	4	2	0	**15**	**19**
Washington: Suburban	3	2	2	1	0	**8**	**10**
Washington: Urban	13	10	12	14	5	**54**	**70**
Total: Rural	**49**	**23**	**52**	**43**	**21**	**188**	**10**
Total: Suburban	**55**	**54**	**53**	**41**	**31**	**234**	**13**
Total: Urban	**297**	**309**	**287**	**332**	**201**	**1,426**	**77**
Total: Missing	**0**	**0**	**1**	**0**	**0**	**1**	**0**
Total: Total	**401**	**386**	**393**	**416**	**253**	**1,849**	**100**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency and Department of Agriculture data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Location type designations are based on the Department of Agriculture's Rural-Urban Commuting Area codes. Percentage columns may not add to 100 percent due to rounding.

Table 27: Economic Area Designations for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Economic area designation	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Arizona: Difficult development area	4	0	2	1	1	**8**	**11**
Arizona: Qualified census tract	10	7	7	9	9	**42**	**60**
Arizona: Both	1	1	0	0	0	**2**	**3**
Arizona: Neither	7	3	3	3	2	**18**	**26**
California: Difficult development area	12	16	21	35	7	**91**	**22**
California: Qualified census tract	29	41	30	46	19	**165**	**40**
California: Both	4	8	7	7	4	**30**	**7**
California: Neither	16	27	32	31	17	**123**	**30**
Chicago: Difficult development area	0	1	0	0	0	**1**	**4**
Chicago: Qualified census tract	5	2	3	2	5	**17**	**71**
Chicago: Both	0	0	0	0	0	**0**	**0**
Chicago: Neither	2	0	0	3	1	**6**	**25**
Florida: Difficult development area	11	8	5	5	0	**29**	**22**
Florida: Qualified census tract	19	11	4	13	6	**53**	**41**
Florida: Both	3	2	1	2	1	**9**	**7**
Florida: Neither	16	5	6	9	3	**39**	**30**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Economic area designation	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of projects**
Georgia: Difficult development area	13	5	5	6	3	**32**	**21**
Georgia: Qualified census tract	7	22	6	6	9	**50**	**32**
Georgia: Both	6	1	2	3	1	**13**	**8**
Georgia: Neither	2	12	20	16	10	**60**	**39**
Illinois: Difficult development area	0	1	2	2	1	**6**	**5**
Illinois: Qualified census tract	9	14	8	7	6	**44**	**36**
Illinois: Both	0	0	0	0	0	**0**	**0**
Illinois: Neither	13	20	21	10	9	**73**	**59**
New York: Difficult development area	4	1	3	1	0	**9**	**7**
New York: Qualified census tract	15	11	14	11	9	**60**	**45**
New York: Both	2	4	0	0	0	**6**	**5**
New York: Neither	12	12	23	6	4	**57**	**43**
New York City: Difficult development area	5	6	7	2	4	**24**	**15**
New York City: Qualified census tract	41	11	11	8	0	**71**	**45**
New York City: Both	0	16	15	10	5	**46**	**29**
New York City: Neither	6	3	2	4	1	**16**	**10**
Ohio: Difficult development area	0	0	0	0	0	**0**	**0**
Ohio: Qualified census tract	18	16	19	25	11	**89**	**49**
Ohio: Both	0	0	0	0	0	**0**	**0**
Ohio: Neither	19	20	12	24	17	**92**	**51**
Pennsylvania: Difficult development area	0	1	0	0	0	**1**	**1**
Pennsylvania: Qualified census tract	21	18	11	18	28	**96**	**52**
Pennsylvania: Both	0	0	0	0	0	**0**	**0**
Pennsylvania: Neither	24	15	16	16	17	**88**	**48**
Texas: Difficult development area	3	7	8	7	11	**36**	**17**
Texas: Qualified census tract	11	10	17	17	8	**63**	**30**
Texas: Both	0	0	1	2	2	**5**	**2**
Texas: Neither	8	18	31	33	18	**108**	**51**
Washington: Difficult development area	4	1	3	2	1	**11**	**14**
Washington: Qualified census tract	7	5	7	5	0	**24**	**31**
Washington: Both	0	0	0	0	0	**0**	**0**
Washington: Neither	14	6	8	10	4	**42**	**55**
Total: Difficult development area	**56**	**47**	**56**	**61**	**28**	**248**	**13**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Economic area designation	2011	2012	2013	2014	2015	Number of projects	Percent of projects
Total: Qualified census tract	**191**	**166**	**137**	**167**	**109**	**770**	**42**
Total: Both	**16**	**32**	**26**	**24**	**13**	**111**	**6**
Total: Neither	**138**	**141**	**174**	**164**	**103**	**720**	**39**
Total: Total	**401**	**386**	**393**	**416**	**253**	**1,849**	**100**

Legend: LIHTC = Low-Income Housing Tax Credit

Source: GAO analysis of allocating agency and Department of Housing and Urban Development data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. A difficult development area is designated by the Secretary of Housing and Urban Development as an area which has high construction, land, and utility costs relative to the area median gross income. 26 U.S.C. §42(d)(5)(B)(iii)(I). A qualified census tract is one in which 50 percent or more of households have an income less than 60 percent of area median gross income or which has a poverty rate of at least 25 percent. 26 U.S.C. § 42(d)(5)(B)(ii)(I). Percentage columns may not add to 100 percent due to rounding.

Table 28: Other Federal Sources for LIHTC Projects Completed in 2011–2015, by Selected Allocating Agency

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Federal sources	2011	2012	2013	2014	2015	Number of projects	Percent of all projects
Arizona: ARRA	18	4	0	0	0	**22**	**31**
Arizona: CDBG	1	0	0	0	0	**1**	**1**
Arizona: HOME	11	3	3	2	3	**22**	**31**
Arizona: HOPE VI	1	1	0	0	0	**2**	**3**
Arizona: USDA-Rural Development	4	1	0	1	1	**7**	**10**
California: ARRA	21	37	9	2	0	**69**	**17**
California: CDBG	4	8	7	18	2	**39**	**10**
California: HOME	26	38	31	57	16	**168**	**41**
California: HOPE VI	0	0	0	0	0	**0**	**0**
California: USDA-Rural Development	15	15	23	14	9	**76**	**19**
Chicago: ARRA	2	1	0	0	0	**3**	**13**
Chicago: CDBG	0	0	0	0	0	**0**	**0**
Chicago: HOME	3	2	0	2	4	**11**	**46**
Chicago: HOPE VI	1	2	0	0	1	**4**	**17**
Chicago: USDA-Rural Development	0	0	0	0	0	**0**	**0**
Florida: ARRA	47	23	3	0	1	**74**	**57**
Florida: CDBG	-	-	-	-	-	**-**	**-**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Federal sources	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of all projects**
Florida: HOME	1	2	0	1	1	**5**	**4**
Florida: HOPE VI	-	-	-	-	-	**-**	**-**
Florida: USDA-Rural Development	-	-	-	-	-	**-**	**-**
Georgia: ARRA	25	23	3	0	0	**51**	**33**
Georgia: CDBG	0	4	3	1	1	**9**	**6**
Georgia: HOME	7	7	8	14	5	**41**	**26**
Georgia: HOPE VI	1	2	0	2	0	**5**	**3**
Georgia: USDA-Rural Development	10	3	2	5	1	**21**	**14**
Illinois: ARRA	10	23	4	0	0	**37**	**30**
Illinois: CDBG	1	0	1	1	2	**5**	**4**
Illinois: HOME	7	16	18	8	7	**56**	**46**
Illinois: HOPE VI	3	1	0	0	0	**4**	**3**
Illinois: USDA-Rural Development	4	5	3	0	0	**12**	**10**
New York: ARRA	11	3	2	0	0	**16**	**12**
New York: CDBG	1	2	0	0	1	**4**	**3**
New York: HOME	16	9	12	5	7	**49**	**37**
New York: HOPE VI	0	0	0	0	0	**0**	**0**
New York: USDA-Rural Development	1	0	4	0	0	**5**	**4**
New York City: ARRA	0	1	0	1	0	**2**	**1**
New York City: CDBG	0	0	3	0	0	**3**	**2**
New York City: HOME	46	27	20	15	7	**115**	**73**
New York City: HOPE VI	0	0	0	0	0	**0**	**0**
New York City: USDA-Rural Development	0	0	0	0	0	**0**	**0**
Ohio: ARRA	25	27	5	0	0	**57**	**31**
Ohio: CDBG	0	1	0	0	0	**1**	**1**
Ohio: HOME	4	4	6	9	7	**30**	**17**
Ohio: HOPE VI	1	0	1	0	0	**2**	**1**
Ohio: USDA-Rural Development	3	3	4	8	4	**22**	**12**
Pennsylvania: ARRA	30	23	9	0	0	**62**	**37**
Pennsylvania: CDBG	3	3	3	1	1	**11**	**7**
Pennsylvania: HOME	24	12	11	16	11	**74**	**44**
Pennsylvania: HOPE VI	1	2	0	0	0	**3**	**2**

n/a	n/a	n/a	n/a	n/a	n/a	All years	
Allocating agency Federal sources	**2011**	**2012**	**2013**	**2014**	**2015**	**Number of projects**	**Percent of all projects**
Pennsylvania: USDA-Rural Development	0	1	0	0	0	**1**	**1**
Texas: ARRA	9	7	0	1	0	**17**	**8**
Texas: CDBG	0	0	1	0	0	**1**	**0**
Texas: HOME	4	7	22	21	19	**73**	**35**
Texas: HOPE VI	0	0	0	1	0	**1**	**0**
Texas: USDA-Rural Development	1	0	6	7	1	**15**	**7**
Washington: ARRA	20	0	0	0	0	**20**	**26**
Washington: CDBG	0	1	0	0	0	**1**	**1**
Washington: HOME	3	2	2	6	0	**13**	**17**
Washington: HOPE VI	1	2	1	0	0	**4**	**5**
Washington: USDA-Rural Development	6	1	2	1	1	**11**	**14**
Total: ARRA	**218**	**171**	**35**	**4**	**1**	**429**	**23**
Total: CDBG	**10**	**19**	**18**	**21**	**7**	**75**	**4**
Total: HOME	**151**	**127**	**133**	**156**	**86**	**653**	**36**
Total: HOPE VI	**8**	**9**	**2**	**3**	**1**	**23**	**1**
Total: USDA-Rural Development	**44**	**29**	**44**	**36**	**17**	**170**	**10**

Legend: LIHTC = Low-Income Housing Tax Credit; - = data unavailable, ARRA = American Recovery and Reinvestment Act of 2009; CDBG = Community Development Block Grant; HOME = HOME Investment Partnerships Program; USDA Rural Development = Department of Agriculture Office of Rural Development grants or loans (Section 514, 515, 516, and 538)

Source: GAO analysis of allocating agency data. | GAO-18-637

Notes: The data in the table are for projects that were completed in 2011–2015 and received 9 percent Low-Income Housing Tax Credits from 12 selected allocating agencies. Chicago and Illinois jointly funded six projects, which we included in the data for both allocating agencies but only once in the total row. As a result, the year columns may not sum to the totals. Eighteen projects in Pennsylvania and one project in Texas were missing data on whether there were ARRA subsidies. All 130 projects in Florida, 23 projects in Pennsylvania, and 1 project in Texas were missing data on whether there were CDBG, HOPE VI, or USDA-Rural Development subsidies. Sixteen projects in Pennsylvania and one project in Texas were missing data on whether there was HOME funding. All percentages are relative to the number of projects from each allocating agency and will not add up to 100 because not all projects received federal sources and some received more than one.

Appendix V: Summary of State Housing Agency-Sponsored Studies on Development Costs for LIHTC Projects

Five state housing agency-sponsored studies examined development costs of Low-Income Housing Tax Credit (LIHTC) projects and characteristics that may have affected costs.[1] Although the studies' methodologies differed, they demonstrate that per-unit costs for new construction projects ranged from about $124,000 (Texas) to $276,000 (California) among the allocating agencies reviewed.[2] The studies did not provide a consensus on the characteristics that affected per-unit cost—some confirmed our findings on the general effect on per-unit cost of characteristics including scale, senior projects, developer type, and location; and other studies presented opposite findings.[3]

Two Studies Identifying Associations between Project Characteristics and Per-Unit Cost

Two of the five studies we reviewed used statistical models to identify the association between project characteristics and per-unit cost.

[1]We identified five agency-sponsored studies of costs through a literature search of key terms and interviews with industry groups, which confirmed the completeness of our literature search results. We excluded a 1997 cost study from Portland, Oregon, due to its age.

[2]We report all costs in nominal terms because not all studies presented real costs (adjusted for inflation). Also, some studies measured development costs differently than we did. For example, the California study excluded land costs, and the study that included Texas adjusted costs based on unit and project sizes.

[3]Although we generally discuss the results of analyses of per-unit cost, some studies also reviewed other cost measures, such as per-bedroom and per-square foot costs. In some cases, these results differed from the per-unit cost results.

California

The authors of a 2014 study sponsored by several California agencies found that the median per-unit cost (excluding land costs) of 400 new construction projects approved for 4 percent or 9 percent LIHTCs in 2001–2011 was $276,000.[4] Using a regression analysis to control for multiple characteristics, they found a variety of characteristics were associated with differences in per-unit costs.

- Similar to our results, the authors found that per-unit costs decreased as the number of units increased or as the unit size decreased.
- Projects with buildings that had four or more stories were also about 10 percent more expensive per-unit. The authors found higher land costs tended to indirectly increase construction costs, because developers responded by building taller and more often included structured parking—another cost driver.
- Also similar to our results, they estimated that senior projects were less costly than projects targeted to families (by about 18 percent), and projects from nonprofit developers were more expensive than projects from for-profit developers (by about 9 percent).

The authors of the California study also reviewed characteristics that we did not. For example, they found that projects with a higher degree of construction quality, durability, and energy efficiency had higher costs. Local factors, such as design review and approval requirements, also added to per-unit total cost.

While data limitations prevented the authors from comparing the cost of LIHTC projects to market-rate developments in a conclusive way, they found that the per-unit construction costs of LIHTC projects in their sample were within the 50th and 75th percentile of estimated costs for market-rate projects with similar height, area, location, and wages.

[4]Department of Housing and Community Development, California Tax Credit Allocation Committee, California Debt Limit Allocation Committee, California Housing Finance Agency, and California Debt Limit Allocation Committee, *Affordable Housing Cost Study: Analysis of the Factors That Influence the Cost of Building Multifamily Affordable Housing in California* (Sacramento, Calif.: Oct. 6, 2014).

Washington

The authors of a 2009 study sponsored by the Washington State Department of Commerce reviewed 65 affordable multifamily housing projects, including 41 LIHTC projects that received funding from the state's Housing Trust Fund in 2003–2009.[5] The average per-unit cost of new construction projects was about $177,000. Similar to our results, about 62 percent of the cost was attributed to construction.

Using a regression analysis to control for multiple characteristics, the authors found that projects financed with LIHTCs tended to be larger and more expensive than affordable non-LIHTC projects.

- Architect fees were most strongly associated with per-unit costs, because architect fees may have approximated the complexity of the projects' designs.
- Similar to our results, they found higher costs among urban projects relative to rural ones.
- In contrast to our results, the authors did not find that per-unit costs decreased as the number of units increased. Rather, for new construction LIHTC projects in urban areas, per-unit construction costs increased as the number of units increased. According to the authors, the cost increases may have been due to amenities associated with larger urban projects, such as structured parking.
- The authors also noted several characteristics that were not associated with per-unit costs, including the presence of a special needs population or the developer type.

Three Studies Comparing Cost Differences

The remaining three studies we reviewed compared cost differences among groups, typically by comparing averages between exclusive categories (for example, senior and nonsenior projects). But they did not statistically control for characteristics that may have differed among projects.

[5]Washington State Department of Commerce, *Affordable Housing Cost Study* (Olympia, Wash.: September 2009).

Colorado

The authors of a 2016 study sponsored by the Colorado Housing and Finance Authority analyzed 247 LIHTC projects that applied for 4 percent or 9 percent LIHTCs in Colorado in 2011–2016.[6] They found the average per-unit cost of new construction projects increased by about 32 percent during this period to about $258,000 in 2016. The authors noted that the increase may have stemmed from the decreasing size of projects in Colorado and the increasing cost of construction.

The authors studied the characteristics of the highest- and lowest-cost projects and stated that only two characteristics (project size and year of application) were consistently different between the groups. For projects that received 9 percent credits, characteristics such as location, developer type, and tenant types did not consistently differ between the highest- and lowest-cost projects.

The authors also conducted 25 interviews with architects, consultants, developers, and general contractors, who stated that the most significant contributor to cost increases was higher labor costs due in part to shortages among skilled laborers and federal prevailing wage requirements. In addition, developers stated that while affordable housing developers were more focused on the long-term durability of their projects than market-rate developers, hard costs were generally similar between affordable and market-rate projects. However, soft costs tended to be higher as a result of legal fees associated with LIHTC syndication.

New Mexico (and Other States)

The authors of a 2014 study sponsored by the New Mexico Housing Mortgage Finance Agency reviewed cost drivers across 259 new construction projects that received 9 percent LIHTCs in 2006–2013 from multiple allocating agencies—Arizona, Colorado, Nevada, New Mexico, Texas, and Utah.[7] The authors found the average per-unit cost (including reserves) ranged from about $124,000 in Texas to about $199,000 in

[6]BBC Research and Consulting, *LIHTC Development Cost Study* (Denver, Colo.: Colorado Housing Finance Agency, Nov. 30, 2016).

[7]Novogradac & Company LLP, *New Mexico Affordable Housing Cost Study: Analysis of NM Construction Trends, Comparison of NM Construction Costs with Surrounding States, and Analysis of NM Low-Income Housing Tax Credit Distribution* (Albuquerque, N.M.: New Mexico Mortgage Finance Authority, Aug. 1, 2014).

Colorado.[8] In New Mexico, average per-unit costs generally decreased in 2007–2010 and then increased thereafter through 2013. Similar to our results, the authors found that hard and soft costs comprised about 65 and 35 percent of project costs, respectively, among the states.

Although the authors of the New Mexico study did not use a statistical analysis that would have controlled for multiple differences among project characteristics, the authors reported differences in construction costs among several groups.

- Similar to our results, the authors found slightly lower per-unit construction costs among senior projects compared to nonsenior projects, and that the largest projects (60 units or more) were generally less costly than the smallest projects (30 units or fewer).
- In contrast to our results, they noted higher per-unit construction costs among rural projects compared to urban projects.
- Also in contrast to our findings, the authors did not find a difference in the per-unit construction costs of nonprofit and for-profit developers.

Minnesota

In a 2013 study, a research intern working for the Minnesota Housing Finance Agency reviewed the costs of 412 affordable housing projects that applied for agency financing in 2003–2012, including 216 LIHTC projects, to determine the extent to which costs changed in response to cost containment strategies.[9] The author found that the average per-unit cost of new construction LIHTC projects in the Minneapolis-St. Paul metropolitan area was about $237,000.

- Similar to our results and those of the other studies we reviewed, the author estimated that construction costs comprised about 61 percent of LIHTC project costs.
- Also similar to our findings, the author found that the per-unit cost of all affordable new construction projects generally increased during the

[8]The authors attempted to normalize project costs for each allocating agency based on its average unit size (number of bedrooms) and project size (number of units).

[9]Brian Deppe, *Development Cost Trends in Multifamily Housing* (St. Paul, Minn.: Minnesota Housing Finance Agency, August 2013).

sample period while the per-unit cost of rehabilitation projects generally decreased.

- For LIHTC projects specifically, the per-unit cost decreased by about 8 percent compared to about an 18 percent decrease among non-LIHTC affordable projects in 2003–2012. The author noted that these decreases are important as they coincided with an increased focus by the housing agency on characteristics expected to have increased costs, such as green building standards.

The author also noted that the housing agency previously found—in a separate study using its predictive cost model—that construction costs for the agency's affordable housing projects were about 12 percent higher than estimates for similar market-rate projects in the same geographical area.

Appendix VI: Cost-Management Approaches for Each Allocating Agency, as of 2017

This appendix provides information on cost-management approaches of allocating agencies, based on our review of qualified allocation plans (QAP) and related documents for 57 agencies as of 2017. The agencies were located in all 50 states, the District of Columbia, the 4 U.S. territories that received a Low-Income Housing Tax Credit (LIHTC) allocation in 2017 (Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands), and two suballocating agencies (Chicago and New York City).[1] See table 29 for the name and location of each agency.

Table 29: Allocating Agency Names

Location	Agency
Alabama	Alabama Housing Finance Authority
Alaska	Alaska Housing Finance Corporation
Arizona	Arizona Department of Housing[a]
Arkansas	Arkansas Development Finance Authority
California	California Tax Credit Allocation Committee[a]
Chicago	Chicago Department of Planning and Development[a]
Colorado	Colorado Housing and Finance Authority
Connecticut	Connecticut Housing Finance Authority
Delaware	Delaware State Housing Authority
District of Columbia	District of Columbia Department of Housing and Community Development
Florida	Florida Housing Finance Corporation[a]
Georgia	Georgia Department of Community Affairs[a]

[1]We excluded American Samoa from our analysis because it did not receive a LIHTC allocation in 2017. Like Chicago and New York City, Minneapolis/St. Paul is a suballocating agency, but we excluded it from our review because its QAP uses Minnesota's guidelines for cost management.

Location	Agency
Guam	Guam Housing and Urban Renewal Authority
Hawaii	Hawaii Housing Finance and Development Corporation
Idaho	Idaho Housing and Finance Association
Illinois	Illinois Housing Development Authority[a]
Indiana	Indiana Housing and Community Development Authority
Iowa	Iowa Finance Authority
Kansas	Kansas Housing Resources Corporation
Kentucky	Kentucky Housing Corporation
Louisiana	Louisiana Housing Corporation
Maine	Maine State Housing Authority
Maryland	Maryland Department of Housing and Community Development
Massachusetts	Massachusetts Department of Housing and Community Development
Michigan	Michigan State Housing Development Authority
Minnesota	Minnesota Housing Finance Agency
Mississippi	Mississippi Home Corporation
Missouri	Missouri Housing Development Commission
Montana	Montana Board of Housing
Nebraska	Nebraska Investment Finance Authority
Nevada	Nevada Department of Business and Industry, Housing Division
New Hampshire	New Hampshire Housing Finance Authority
New Jersey	New Jersey Housing and Mortgage Finance Agency
New Mexico	New Mexico Mortgage Finance Authority
New York	New York State Division of Housing and Community Renewal[a]
New York City	New York City Department of Housing Preservation and Development[a]
North Carolina	North Carolina Housing Finance Agency
North Dakota	North Dakota Housing Finance Agency
Northern Mariana Islands	Northern Marianas Housing Corporation
Ohio	Ohio Housing Finance Agency[a]
Oklahoma	Oklahoma Housing Finance Agency
Oregon	Oregon Housing and Community Services
Pennsylvania	Pennsylvania Housing Finance Agency[a]
Puerto Rico	Puerto Rico Housing Finance Authority
Rhode Island	Rhode Island Housing
South Carolina	South Carolina State Housing Finance and Development Authority
South Dakota	South Dakota Housing Development Authority
Tennessee	Tennessee Housing Development Agency
Texas	Texas Department of Housing and Community Affairs[a]

Location	Agency
U.S. Virgin Islands	Virgin Islands Housing Finance Authority
Utah	Utah Housing Corporation
Vermont	Vermont Housing Finance Agency
Virginia	Virginia Housing Development Authority
Washington	Washington State Housing Finance Commission[a]
West Virginia	West Virginia Housing Development Fund
Wisconsin	Wisconsin Housing and Economic Development Authority
Wyoming	Wyoming Community Development Authority

Source: GAO analysis of allocating agency documentation. | GAO-18-637

[a]We selected 12 agencies for our analysis of development cost data and conducted interviews with these agencies as part of our review of agency cost-management approaches. The 12 agencies (10 states and 2 cities) accounted for 50 percent of the total 2015 credit ceiling amount and spanned the five major geographic regions.

We identified four main approaches that agencies used to manage project-development costs: cost limits, credit allocation limits, fee limits, and cost-based scoring criteria. Agencies implemented these approaches in various ways, as shown in table 30.

Table 30: Cost-Management Approaches by Allocating Agencies, as of 2017

Cost-management approach	Number of agencies (out of 57)	Percent
Cost limits[a]	39	68
Total development cost limits	33	
By project type[b]	16	
By bedroom type[c]	14	
By location[d]	11	
By project size[e]	2	
Other	10	
Eligible basis limits	10	
By project type[b]	2	
By bedroom type[c]	5	
By location[d]	5	
By project size[e]	1	
Other	4	
Credit allocation limits[f]	34	60
Per unit	6	
Per project	29	
Per developer	14	

Cost-management approach	Number of agencies (out of 57)	Percent
Fee limits[g]	51	89
Developer fee limit	51	
Developer fee acquisition limit	25	
Developer fee cap	16	
General contractor fee limit	47	
Related party fees	27	
Other fee limits	20	
Cost-based scoring criteria[h]	51	89
Blind measure[i]	18	
Cost standard[j]	24	
Credit efficiency[k]	11	
Penalty for past poor performance[l]	3	
Tiebreaker[m]	35	
Other	7	

Source: GAO analysis of allocating agency documentation. | GAO-18-637

[a]Agencies limited total development cost or eligible basis. Total development cost is the overall cost to develop a Low Income Housing Tax Credit (LIHTC) project. Eligible basis typically includes costs associated with acquisition, construction, and rehabilitation and most soft costs, but excludes costs associated with land, permanent financing, and tax credit syndication.

[b]Project type includes population served, construction type (new or rehabilitation), and other categories that varied across agencies.

[c]Bedroom type is the number of bedrooms per unit.

[d]Location definitions varied across agencies, including by region, county, or based on Department of Housing and Urban Development program definitions.

[e]Project size is total number of units or stories.

[f]Credit allocation is the amount of LIHTCs available per unit, per project, or per developer.

[g]Developers, general contractors, and others such as architects may receive fees in exchange for their work on a project.

[h]Agencies may use a competitive scoring process to award LIHTCs and many included one or more cost-based criteria.

[i]Blind measures award points based on how a project's costs compare to competing applications.

[j]Cost standards award or subtract points based on agency-specific limits that included total development cost, eligible basis, and developer fees.

[k]Agencies generally defined credit efficiency as the ratio of LIHTCs per unit.

[l]Penalties for past poor performance subtract points from projects with developers or general contractors that failed to adhere to program requirements or cost standards for projects previously awarded credits.

[m]Tiebreakers are additional criteria used to decide LIHTC awards if two projects receive the same number of points.

In addition, the types and number of cost-management approaches employed by each agency varied, as shown in table 31. The quantity of approaches used by an agency is not necessarily indicative of the quality

or effectiveness of an agency's cost management, which we were unable to measure.

Table 31: Types of Cost-Management Approaches by Each Allocating Agency, as of 2017

Location	Cost limits[a]	Credit allocation limits[b]	Fee limits[c]	Cost-based scoring criteria[d]
Alabama	did not have	had	had	had
Alaska	had	did not have	had	had
Arizona	had	did not have	had	had
Arkansas	had	did not have	had	had
California	had	had	had	had
Chicago	did not have	did not have	had	did not have
Colorado	had	had	had	did not have
Connecticut	had	did not have	did not have	had
Delaware	had	did not have	had	had
District of Columbia	had	did not have	had	had
Florida	had	did not have	had	did not have
Georgia	had	had	had	had
Guam	did not have	did not have	did not have	had
Hawaii	did not have	did not have	had	had
Idaho	did not have	had	had	had
Illinois	had	had	had	had
Indiana	did not have	had	had	had
Iowa	had	had	had	had
Kansas	had	did not have	had	had
Kentucky	had	had	had	had
Louisiana	had	had	had	had
Maine	had	had	had	had
Maryland	had	had	had	had
Massachusetts	had	had	had	had
Michigan	had	had	had	had
Minnesota	had	had	had	had
Mississippi	had	had	had	had
Missouri	had	had	had	did not have
Montana	had	had	had	had
Nebraska	had	had	had	had
Nevada	had	did not have	had	had
New Hampshire	had	had	had	had

Location	Cost limits[a]	Credit allocation limits[b]	Fee limits[c]	Cost-based scoring criteria[d]
New Jersey	had	did not have	had	had
New Mexico	had	had	had	had
New York	did not have	had	had	had
New York City	had	did not have	had	had
North Carolina	did not have	had	had	had
North Dakota	did not have	did not have	had	did not have
Northern Mariana Islands	did not have	did not have	did not have	had
Ohio	did not have	did not have	had	had
Oklahoma	had	had	had	had
Oregon	had	did not have	had	had
Pennsylvania	had	had	had	had
Puerto Rico	did not have	did not have	had	had
Rhode Island	did not have	had	had	had
South Carolina	had	did not have	did not have	had
South Dakota	had	did not have	had	had
Tennessee	did not have	had	had	had
Texas	did not have	had	had	had
U.S. Virgin Islands	did not have	did not have	did not have	had
Utah	did not have	had	had	had
Vermont	did not have	had	had	did not have
Virginia	had	did not have	had	had
Washington	had	had	had	had
West Virginia	had	had	had	had
Wisconsin	had	had	did not have	had
Wyoming	had	had	had	had

Legend: ● = had; - = did not have

Source: GAO analysis of allocating agency documentation. | GAO-18-637

[a]Agencies limited total development cost or eligible basis. Total development cost is the overall cost to develop a Low Income Housing Tax Credit (LIHTC) project. Eligible basis typically includes costs associated with acquisition, construction, and rehabilitation and most soft costs, but excludes costs associated with land, permanent financing, and tax credit syndication.

[b]Credit allocation is the amount of LIHTCs available per unit, per project, or per developer.

[c]Developers, general contractors, and others such as architects may receive fees in exchange for their work on a project.

[d]Agencies may use a competitive scoring process to award LIHTCs and many included one or more cost-based criteria.

The extent of each agency's practices for each type of cost-management approach also varied, as shown in tables 32–35.

Table 32: Allocating Agencies with Cost Limits, as of 2017

Location	Total development cost limits						Eligible basis cost limits				
n/a	Cost limits[a]	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other
Alabama	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Alaska	had	did not have	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Arizona	had	had	did not have	did not have	did not have	did not have	had	had	had		
Arkansas	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
California	had	did not have	did not have	did not have	did not have	did not have	did not have	had	had	did not have	did not have
Chicago	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Colorado	had	did not have	did not have	did not have	did not have	did not have	did not have	had	had	did not have	did not have
Connecticut	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Delaware	had	had	did not have	did not have	did not have	did not have		had	had	did not have	
District of Columbia	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Florida	had	had	did not have	had	did not have	had	did not have	did not have	did not have	did not have	did not have
Georgia	had	did not have	did not have	did not have	did not have	had	did not have	did not have	did not have	did not have	did not have
Guam	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Hawaii	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have

Location	Total development cost limits						Eligible basis cost limits				
n/a	Cost limits[a]	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other
Idaho	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Illinois	had	did not have	had	did not have	had	did not have	did not have	did not have	did not have	did not have	did not have
Indiana	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Iowa	had	did not have	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Kansas	had	did not have	had	had	did not have	had	did not have	did not have	did not have	did not have	did not have
Kentucky	had	did not have	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Louisiana	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Maine	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Maryland	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Massachusetts	had	had	did not have	had	did not have	did not have	had	did not have	had	did not have	did not have
Michigan	had	did not have	did not have	did not have	did not have	had	did not have	did not have	did not have	did not have	did not have
Minnesota	had	had	did not have	had	did not have		did not have	did not have	did not have	did not have	did not have
Mississippi	had	did not have	did not have	did not have	did not have	had	did not have	did not have	did not have	did not have	did not have
Missouri	had	did not have	had	had	did not have	had	did not have	did not have	did not have	did not have	did not have
Montana	had	did not have	did not have	did not have	did not have	had	did not have	did not have	did not have	did not have	did not have

Location	Total development cost limits						Eligible basis cost limits				
n/a	Cost limits[a]	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other
Nebraska	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	had
Nevada	had	did not have	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have
New Hampshire	had	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
New Jersey	had	did not have	did not have	did not have	had	did not have	did not have	did not have	did not have	did not have	had
New Mexico	had	did not have	did not have	did not have	did not have	had	did not have	did not have	did not have	did not have	did not have
New York	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
New York City	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	had
North Carolina	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
North Dakota	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Northern Mariana Islands	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Ohio	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Oklahoma	had	did not have	had	had	did not have	had	did not have	did not have	did not have	did not have	did not have
Oregon	had	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Pennsylvania	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	had
Puerto Rico	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have

Location	Total development cost limits						Eligible basis cost limits				
n/a	Cost limits[a]	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other	Project type[b]	Bedroom type[c]	Location[d]	Project size[e]	Other
Rhode Island	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
South Carolina	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
South Dakota	had	had	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Tennessee	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Texas	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
U.S. Virgin Islands	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Utah	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Vermont	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Virginia	had	had	did not have	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Washington	had	did not have	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
West Virginia	had	did not have	had	did not have	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Wisconsin	had	did not have	had	had	did not have	had	did not have	did not have	did not have	did not have	did not have
Wyoming	had	did not have	did not have	did not have	did not have	did not have	did not have	had	did not have	had	did not have

Legend: ● = had; - = did not have

Source: GAO analysis of allocating agency documentation. | GAO-18-637

[a]Agencies limited total development cost or eligible basis. Total development cost is the overall cost to develop a Low Income Housing Tax Credit (LIHTC) project. Eligible basis typically includes costs associated with acquisition, construction, and rehabilitation and most soft costs, but excludes costs associated with land, permanent financing, and tax credit syndication.

[b]Project type includes population served, construction type (new or rehabilitation), and other categories that varied across agencies.

[c]Bedroom type is the number of bedrooms per unit.

[d]Location definitions varied across agencies, including by region, county, or based on Department of Housing and Urban Development program definitions.

[e]Project size is total number of units or stories.

Table 33: Allocating Agencies with Credit Allocation Limits, as of 2017

Location	Types of credit limits			
n/a	Credit limits[a]	Per unit	Per project	Per developer
Alabama	had	did not have	had	did not have
Alaska	did not have	did not have	did not have	did not have
Arizona	did not have	did not have	did not have	did not have
Arkansas	did not have	did not have	did not have	did not have
California	had	did not have	had	did not have
Chicago	did not have	did not have	did not have	did not have
Colorado	had	did not have	had	did not have
Connecticut	did not have	did not have	did not have	did not have
Delaware	did not have	did not have	did not have	
District of Columbia	did not have	did not have	did not have	did not have
Florida	did not have	did not have	did not have	did not have
Georgia	had	did not have	had	did not have
Guam	did not have	did not have	did not have	did not have
Hawaii	did not have	did not have	did not have	did not have
Idaho	had	did not have	did not have	had
Illinois	had	had	had	did not have
Indiana	had	did not have	had	did not have

Location	Types of credit limits			
n/a	Credit limits[a]	Per unit	Per project	Per developer
Iowa	had	had	did not have	had
Kansas	did not have	did not have	did not have	did not have
Kentucky	had	had	did not have	did not have
Louisiana	had	did not have	had	had
Maine	had	had	had	did not have
Maryland	had	did not have	had	did not have
Massachusetts	had	did not have	had	did not have
Michigan	had	did not have	had	had
Minnesota	had	did not have	had	had
Mississippi	had	did not have	had	had
Missouri	had	did not have	had	did not have
Montana	had	did not have	had	had
Nebraska	had	did not have	had	did not have
Nevada	did not have	did not have	did not have	did not have
New Hampshire	had	did not have	had	did not have
New Jersey	did not have	did not have	did not have	
New Mexico	had	did not have	had	had
New York	had	had	had	did not have
New York City	did not have	did not have	did not have	did not have
North Carolina	had	did not have	had	had
North Dakota	did not have	did not have	did not have	did not have

Location n/a	Types of credit limits			
	Credit limits[a]	Per unit	Per project	Per developer
Northern Mariana Islands	did not have	did not have	did not have	did not have
Ohio	did not have	did not have	did not have	did not have
Oklahoma	had	did not have	had	did not have
Oregon	did not have	did not have	did not have	did not have
Pennsylvania	had	did not have	did not have	had
Puerto Rico	did not have	did not have	did not have	did not have
Rhode Island	had	did not have	had	did not have
South Carolina	did not have	did not have	did not have	did not have
South Dakota	did not have	did not have	did not have	did not have
Tennessee	had	did not have	had	had
Texas	had	did not have	had	had
U.S. Virgin Islands	did not have	did not have	did not have	did not have
Utah	had	did not have	had	had
Vermont	had	did not have	had	did not have
Virginia	did not have	did not have	did not have	did not have
Washington	had	did not have	had	had
West Virginia	had	had	did not have	did not have
Wisconsin	had	did not have	had	did not have
Wyoming	had	did not have	had	did not have

Legend: ● = had; - = did not have

Source: GAO analysis of allocating agency documentation. | GAO-18-637

[a]Credit allocation is the amount of LIHTCs available per unit, per project, or per developer.

Table 34: Allocating Agencies with Fee Limits, as of 2017

Location	Types of fee limits						
n/a	Fee limits[a]	Developer fee limit	Developer fee acquisition limit	Developer fee cap	General contractor fee limit	Related party fee limits	Other fee limits
Alabama	had	had	did not have	did not have	had	did not have	did not have
Alaska	had	had	had	did not have	had	had	had
Arizona	had	had	did not have	did not have	had	did not have	had
Arkansas	had	had	did not have	did not have	had	did not have	did not have
California	had	had	did not have	had	had	did not have	had
Chicago	had	had	did not have	had	had	had	did not have
Colorado	had	had	did not have	did not have	had	did not have	did not have
Connecticut	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Delaware	had	had	did not have	had	had	had	had
District of Columbia	had	had	had	did not have	had	had	had
Florida	had	had	did not have	did not have	had	did not have	did not have
Georgia	had	had	had	had	had	did not have	did not have
Guam	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Hawaii	had	had	had	had	had	did not have	did not have
Idaho	had	had	had	did not have	had	had	had
Illinois	had	had	had	did not have	had	had	had
Indiana	had	had	did not have	had	had	did not have	had
Iowa	had	had	had	did not have	had	had	did not have
Kansas	had	had	did not have	did not have	had	did not have	had
Kentucky	had	had	did not have	had	had	did not have	did not have
Louisiana	had	had	had	did not have	had	had	had

Location	Types of fee limits						
n/a	Fee limits[a]	Developer fee limit	Developer fee acquisition limit	Developer fee cap	General contractor fee limit	Related party fee limits	Other fee limits
Maine	had	had	had	did not have	had	did not have	did not have
Maryland	had	had	had	had	had	did not have	had
Massachusetts	had	had	had	did not have	had	had	did not have
Michigan	had	had	had	had	had	had	did not have
Minnesota	had	had	did not have	did not have	had	had	had
Mississippi	had	had	had	did not have	had	did not have	had
Missouri	had	had	had	had	had	had	had
Montana	had	had	had	did not have	had	did not have	did not have
Nebraska	had	had	had	did not have	had	had	had
Nevada	had	had	did not have	did not have	had	did not have	did not have
New Hampshire	had	had	did not have	did not have	had	had	did not have
New Jersey	had	had	had	did not have	had	had	did not have
New Mexico	had	had	did not have	had	had	had	did not have
New York	had	had	had	did not have	had	did not have	did not have
New York City	had	had	had	did not have	did not have	did not have	did not have
North Carolina	had	had	did not have	had	had	had	had
North Dakota	had	had	had	did not have	had	did not have	did not have
Northern Mariana Islands	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Ohio	had	had	had	had	had	had	had
Oklahoma	had	had	did not have	did not have	had	did not have	did not have
Oregon	had	had	did not have	did not have	had	had	had
Pennsylvania	had	had	had	had	did not have	had	did not have

Location	Types of fee limits						
n/a	Fee limits[a]	Developer fee limit	Developer fee acquisition limit	Developer fee cap	General contractor fee limit	Related party fee limits	Other fee limits
Puerto Rico	had	had	did not have	did not have	had	did not have	had
Rhode Island	had	had	did not have	did not have	had	had	had
South Carolina	did not have	did not have	did not have	did not have	did not have	did not have	did not have
South Dakota	had	had	did not have	did not have	had	did not have	did not have
Tennessee	had	had	did not have	did not have	had	had	did not have
Texas	had	had	did not have	did not have	had	did not have	did not have
U.S. Virgin Islands	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Utah	had	had	had	did not have	had	did not have	did not have
Vermont	had	had	did not have	had	did not have	had	did not have
Virginia	had	had	had	did not have	had	had	did not have
Washington	had	had	did not have	did not have	did not have	had	did not have
West Virginia	had	had	had	did not have	had	had	did not have
Wisconsin	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Wyoming	had	had	did not have	had	had	had	did not have

Legend: ● = had; - = did not have

Source: GAO analysis of agency documentation. | GAO-18-637

[a]Developers, general contractors, and others such as architects may receive fees in exchange for their work on a project.

Table 35: Allocating Agencies with Cost-Based Application Scoring Criteria, as of 2017

Location		Types of costdid not havebased scoring criteria					
n/a	Costdid not havebased scoring criteria[a]	Blind measure[b]	Cost standard[c]	Credit efficiency[d]	Penalty for past poor performance[e]	Tiebreaker[f]	Other
Alabama	had	did not have	did not have	did not have	did not have	had	did not have

Location		Types of costdid not havebased scoring criteria					
n/a	Costdid not havebased scoring criteria[a]	Blind measure[b]	Cost standard[c]	Credit efficiency[d]	Penalty for past poor performance[e]	Tiebreaker[f]	Other
Alaska	had	did not have	had	did not have	did not have	had	had
Arizona	had	did not have	did not have	did not have	did not have	had	did not have
Arkansas	had	did not have	had	did not have	had	had	did not have
California	had	did not have	had	had	did not have	had	did not have
Chicago	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Colorado	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Connecticut	had	had	had	did not have	did not have	had	had
Delaware	had	did not have	had	did not have	did not have	had	did not have
District of Columbia	had	did not have	had	did not have	did not have	did not have	did not have
Florida	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Georgia	had	did not have	did not have	did not have	did not have	had	did not have
Guam	had	did not have	did not have	had	did not have	did not have	did not have
Hawaii	had	had	had	had	did not have	did not have	did not have
Idaho	had	did not have	did not have	did not have	did not have	had	did not have
Illinois	had	had	did not have	did not have	did not have	did not have	did not have
Indiana	had	had	did not have	did not have	did not have	had	did not have
Iowa	had	did not have	had	did not have	did not have	had	did not have
Kansas	had	had	did not have	did not have	did not have	had	did not have
Kentucky	had	did not have	had	did not have	did not have	had	did not have
Louisiana	had	did not have	had	did not have	did not have	had	did not have

Location		Types of costdid not havebased scoring criteria					
n/a	Costdid not havebased scoring criteria[a]	Blind measure[b]	Cost standard[c]	Credit efficiency[d]	Penalty for past poor performance[e]	Tiebreaker[f]	Other
Maine	had	had	had	did not have	did not have	had	did not have
Maryland	had	did not have	did not have	did not have	did not have	did not have	did not have
Massachusetts	had	did not have	did not have	did not have	did not have	did not have	had
Michigan	had	had	did not have	had	did not have	had	did not have
Minnesota	had	had	did not have	did not have	did not have	had	did not have
Mississippi	had	did not have	had	did not have	did not have	had	did not have
Missouri	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Montana	had	did not have	did not have	did not have	did not have	had	did not have
Nebraska	had	did not have	had	had	did not have	had	did not have
Nevada	had	had	had	did not have	did not have	had	did not have
New Hampshire	had	had	did not have	did not have	did not have	had	did not have
New Jersey	had	did not have	did not have	did not have	did not have	had	did not have
New Mexico	had	did not have	did not have	had	did not have	had	did not have
New York	had	had	did not have	did not have	did not have	did not have	did not have
New York City	had	had	had	had	did not have	had	had
North Carolina	had	had	had	did not have	did not have	had	did not have
North Dakota	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Northern Mariana Islands	had	did not have	did not have	had	did not have	did not have	had
Ohio	had	did not have	had	had	did not have	did not have	did not have
Oklahoma	had	did not have	did not have	did not have	did not have	had	did not have
Oregon	had	did not have	had	did not have	did not have	had	had

Location		Types of costdid not havebased scoring criteria					
n/a	Costdid not havebased scoring criteria[a]	Blind measure[b]	Cost standard[c]	Credit efficiency[d]	Penalty for past poor performance[e]	Tiebreaker[f]	Other
Pennsylvania	had	had	did not have	did not have	did not have	did not have	did not have
Puerto Rico	had	did not have	did not have	did not have	did not have	did not have	had
Rhode Island	had	did not have	had	had	had	did not have	did not have
South Carolina	had	did not have	did not have	did not have	did not have	had	did not have
South Dakota	had	did not have	had	had	did not have	did not have	did not have
Tennessee	had	did not have	did not have	did not have	did not have	had	did not have
Texas	had	did not have	had	did not have	did not have	did not have	did not have
U.S. Virgin Islands	had	did not have	did not have	did not have	did not have	had	did not have
Utah	had	had	did not have	did not have	did not have	had	did not have
Vermont	did not have	did not have	did not have	did not have	did not have	did not have	did not have
Virginia	had	had	did not have	did not have	had	did not have	did not have
Washington	had	had	had	did not have	did not have	had	did not have
West Virginia	had	did not have	did not have	did not have	did not have	had	did not have
Wisconsin	had	had	did not have	did not have	did not have	had	did not have
Wyoming	had	did not have	had	did not have	did not have	had	did not have

Legend: ● = had; - = did not have

Source: GAO analysis of agency documentation. | GAO-18-637

[a]Agencies may use a competitive scoring process to award Low-Income Housing Tax Credits (LIHTC) and many included one or more cost-based criteria.

[b]Blind measures award points based on how a project's costs compare to competing applications.

[c]Cost standards award or subtract points based on agency-specific limits that included total development cost, eligible basis, and developer fees.

[d]Agencies generally defined credit efficiency as the ratio of LIHTCs per unit.

[e]Penalties for past poor performance subtract points from projects with developers or general contractors that failed to adhere to program requirements or cost standards for projects previously awarded credits.

[f]Tiebreakers are additional criteria used to decide LIHTC awards if two projects receive the same number of points.

Appendix VII: Comments from the Internal Revenue Service

DEPUTY COMMISSIONER

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
WASHINGTON, D.C. 20224

August 29, 2018

Daniel Garcia-Diaz
Director, Financial Markets and Community Investment
United States Government Accountability Office
Washington, DC 20548

Dear Mr. Garcia-Diaz:

Thank you for the opportunity to review your draft report entitled, "Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management" (GAO-18-637).

As your report notes, the Low-Income Housing Credit (commonly referred to as "LIHTC") is the largest source of Federal assistance for developing affordable rental housing. The Internal Revenue Service (IRS) administers the credit in conjunction with State-chartered governmental Housing Finance Agencies (HFAs), also called "housing credit agencies." Under the relevant statute and regulations, the HFAs are responsible for the day-to-day administration of the credit. Specifically, they award the potential to earn LIHTCs (including a determination whether development costs are reasonable and feasible), and they monitor LIHTC property compliance with the requirements for receiving the credits.

By statute, each State receives an annual amount of potential to earn LIHTCs computed using a statutory formula based on the State's population. The HFAs award portions of their State's potential credit to competing owners of proposed rental housing projects that promise to qualify for LIHTCs by reserving all or a portion of their units for low-income tenants, at restricted rents, in habitable condition. A qualified application plan (QAP) guides each HFA in the allocation process. A QAP must contain certain statutorily mandated Federal preferences and factors, and may contain State factors as well. (These non-Federal factors are sometimes required by State legislation.)

In vesting the allocation responsibility in the HFAs, the tax code prohibits an HFA from allocating to a project potential credits that "exceed the amount the housing credit agency determines is necessary for the financial feasibility of the project and its viability as a qualified low-income housing project throughout the credit period." 6 USC 42(m)(2)(A). The amounts allocated to a project establish an annual ceiling on the credits that the project can earn, even if the project's actual cost basis might justify more credits than that ceiling.

As part of their responsibilities, HFAs are required to inspect properties. When properties are not in compliance, the HFAs are required to notify the IRS using Form 8823, *Low-Income House Credit Agencies Report of Noncompliance or Building Disposition*. Allocating agencies are also required to annually report a summary of compliance monitoring activities to the IRS on Form 8610, *Annual Low-Income Housing Credit Agencies Report*. As described by GAO in its prior report titled "*Low-Income Housing Tax Credit: Joint IRS-HUD Administration Could Help Address Weaknesses in Oversight*" (GAO-15-330), the IRS provides extensive information to the allocating agencies through an Audit Technique Guide titled "*Guide for Completing Form 8823.*" The IRS compliance unit reviews Forms 8823 and 8610. The Office of Chief Counsel for the IRS generally does not review forms filed with the IRS related to the LIHTC. However, the IRS does forward Forms 8610 to the Office of Chief Counsel for the limited purpose of assisting in the issuance of annual ministerial guidance on the LIHTC annual national pool.

There are two ways in which a properly functioning HFA allocation process should prevent excessive costs from generating inappropriately high levels of tax credits. The first is competition. As between two otherwise equivalent proposals, an HFA is expected to allocate LIHTC potential to the proposal requesting the lower amount of potential credits. Second, as was just described, the HFA has a statutory responsibility to allocate only the potential credits that a project needs for feasibility and no more than that. If no excess amounts are allocated, excessive costs cannot produce excessive LIHTCs. Absent excessive allocations from HFAs, project owners have strong (non-tax) economic incentives to manage their costs. Inappropriately high costs may increase depreciation deductions but they cannot raise the project owner's LIHTCs above the annual ceiling that the applicable HFA had allocated.

A central issue, therefore, is whether the tax code authorizes the IRS to evaluate either the State or local HFAs' allocation processes or the QAPs that are supposed to guide those processes. In the absence of specific authorization, the IRS collects data only to the extent necessary for tax administration. Without statutory authorization or a tax administration need, any data collection may be a misuse of IRS resources and problematic under the Paperwork Reduction Act.

In considering the recommendations in the draft report, therefore, we have to take into account the absence of explicit statutory authority. Moreover, tax administration does not generally include evaluating the efficacy or wisdom of the various provisions in the tax code that have a non-tax purpose.

We appreciate the valuable feedback you have provided. Responses to your specific recommendations are enclosed. If you have questions, please contact me, or a member of your staff may contact Brenda Dial, Director, Examination, Small Business/Self-Employed Division at 240-613-5163.

Sincerely,

Kirsten B. Wielobob
Deputy Commissioner for Services and Enforcement

Enclosure

Enclosure

GAO Recommendations and IRS Responses to GAO Draft Report Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management (GAO-18-637)

Recommendation:
IRS's Associate Chief Counsel, in consultation with Treasury's Assistant Secretary for Tax Policy, should require general contractor cost certifications for LIHTC projects to verify consistency with the developer cost certification. (Recommendation 1)

Comment:
We disagree with this recommendation as written. The draft report describes the use of misrepresented contractor costs that could potentially inflate basis and thus produce excess LIHTCs. The IRS, the Office of Chief Counsel, and the Office of Tax Policy will seriously consider whether the certifications recommended would help uncover and deter this type of behavior. We note, however, it is not clear that this recommendation would address this type of behavior.

Recommendation:
In collaboration with HUD, allocating agencies, and other LIHTC stakeholders, IRS's Commissioner of the Small Business/Self-Employed Division should develop a framework for the collection of cost-related LIHTC data—including data elements, definitions, and formats—designed to help allocating agencies analyze cost trends and drivers and make comparisons to other agencies. (Recommendation 2)

Comment:
We disagree with this recommendation. The IRS has not inferred implicit authority to oversee the HFAs' allocation practices or the QAPs that guide them, and the contemplated information collection would not be necessary for tax administration.

Recommendation:
IRS's Associate Chief Counsel, in consultation with Treasury's Assistant Secretary for Tax Policy, should communicate to credit allocating agencies how to collect information on and review LIHTC syndication expenses, including upper-tier partnership expenses. (Recommendation 3)

Comment:
We disagree with this recommendation. Consistent with the statute and underlying regulations, we currently communicate regularly with credit allocating agencies and other stakeholders regarding LIHTC compliance issues and best practices at trade group sponsored meetings and conferences. Further, under Treas. Reg. § 1.42-17(a)(3), allocating agencies are already required to collect and evaluate "all sources and uses of funds" paid, incurred, or committed by the taxpayer for the project. This regulatory requirement already covers LIHTC syndication expenses, including upper-tier

partnership expenses. To the extent that GAO is recommending that we revise the regulations, we believe that, although § 42(n) provides broad authority to issue regulations to administer the credit, this does not necessarily extend to mandating how credit allocating agencies should collect LIHTC syndication expense data, including upper-tier partnership expense data.

Appendix VIII: Comments from the National Council of State Housing Agencies

August 17, 2018

Mr. Daniel Garcia-Diaz
Director, Financial Markets and Community Investment
United States Government Accountability Office
441 G Street, N.W.
Washington, DC 20001

Dear Mr. Garcia-Diaz:

Thank you for giving the National Council of State Housing Agencies (NCSHA) the opportunity to comment on the U.S. Government Accountability Office's (GAO) draft of its report on Low Income Housing Tax Credit (Housing Credit) development costs. As you know, NCSHA represents the Housing Finance Agencies (HFAs) of every state and the agencies that administer the Housing Credit in the few states where the HFA does not.

This report is the third major study in a series of reports GAO has completed on the Housing Credit in recent years. Throughout this process, GAO has consulted with NCSHA to gain our perspectives on various aspects of Housing Credit administration. We have appreciated the opportunity to contribute to GAO's work on the program and, in particular, are grateful for the chance to respond directly to the drafts of this and the other reports GAO has conducted in this series.

State Housing Credit allocating agencies take very seriously their responsibilities as administrators of this program. In devolving the Housing Credit program to states for direct administration, Congress recognized the states' strong track record in running affordable housing programs and their commitment to mission. We believe states have risen to that challenge, as is evidenced by GAO's review of state policies in this report on development costs and its 2016 report on state administration of the program.

This report outlines in great detail the many policies and practices states have adopted to oversee and contain Housing Credit development costs. These policies go well above and beyond the statutory and regulatory requirements of the program. Though different states may take different approaches to this task, the commitment to maximizing Housing Credit resources is unanimous across states.

While states actively seek to maintain cost reasonableness, many of the forces that impact costs are outside their control. The costs of materials, land, and labor—the major drivers of development cost for all multifamily construction, not just Housing Credit construction—are subject to market forces. Other cost drivers, such as local regulatory requirements, permitting and impact fees, and construction delays, which may result from neighborhood opposition, are also beyond the scope of control of state agencies.

Still, states do their best to ensure that they make the most of the finite federal resources provided through the Housing Credit to serve as many households as they can, while addressing to the best of their abilities federal and state policy priorities such as serving the lowest income households for the longest time possible, helping those with special needs, advancing community revitalization, encouraging energy efficiency, and building in areas where tenants will have access to quality schools, transportation, and employment opportunities.

NCSHA and Its HFA Members

NCSHA represents the HFAs of the 50 states, the District of Columbia, New York City, Puerto Rico, and the U.S. Virgin Islands.[1] HFAs are governmental and quasi-governmental, nonprofit agencies created by their jurisdictions to address the full spectrum of housing need, from homelessness to homeownership. HFAs are dedicated to their common affordable housing mission, reinvest their earnings in the furtherance of that mission, and are publicly accountable.

HFAs have established over many decades a track record of outstanding performance in affordable housing finance. In addition to administering the Housing Credit, HFAs issue tax-exempt private activity Housing Bonds, and many administer other federal housing programs, such as Section 8, the HOME Investment Partnerships program, and the Housing Trust Fund.

Housing Credit Development Costs

Most of GAO's findings regarding development costs and cost drivers are consistent with independent research NCSHA recently commissioned on Housing Credit development costs. Over the last year, on behalf of NCSHA, Abt Associates (Abt)—a research and consulting firm with strong expertise in affordable housing and other social policy areas—has collected and analyzed Housing Credit development cost data from properties across the country using information provided by 14 syndicators, including eight of the largest national syndicators and six regional equity funds. Abt's data set includes cost data for more than 2,500 projects containing more than 160,000 housing units.

[1] NCSHA is a nonprofit, nonpartisan organization. None of NCSHA's activities related to federal legislation or regulation are funded by organizations that are prohibited by law from engaging in lobbying or related activities.

The data Abt collected differs from GAO's data set in two major ways:

- Whereas GAO received cost certifications for all properties placed in service in 10 states between 2011 and 2015, Abt's analysis uses data from properties across the nation, including at least two projects in every state and nearly every territory, and more than 25 projects in each of 35 states placed in service between 2011 to 2016 (though it does not have complete data for any individual state).

- The Abt data also includes some tax-exempt bond-financed 4 percent Housing Credit properties along with 9 percent Housing Credit properties, whereas GAO's data set includes 9 percent Housing Credit properties only. (Abt estimates that the data it uses in its analysis represents 47 percent of the 9 percent Housing Credit properties and 20 percent of the 4 percent Housing Credit properties placed in service during the time period studied.)

Despite these differences, Abt's analysis generally supports the GAO's conclusions regarding certain cost drivers and the impact of property characteristics on development costs.

The median per unit total development cost (TDC) of properties in the Abt data set was $164,757, which is less than the $204,000 TDC per unit GAO observed. We surmise that the difference is in part due to the national scope of the Abt research, while several of the 10 states participating in GAO's research happen to include some of the highest cost cities in the nation, such as San Francisco, Los Angeles, New York City, Seattle, Chicago, and Miami. In addition, unlike the GAO data, the Abt data included 4 percent Housing Credit properties, which Abt found to be less expensive on average than 9 percent properties (a statistically significant finding).

However, despite this difference, the Abt analysis suggests many of the same findings as GAO's work related to property characteristics. Specifically, larger projects with more units cost less per unit than smaller projects with fewer units due to economies of scale, projects in urban areas are more expensive than projects in other areas, and projects serving seniors are less expensive than other projects on average.

The Abt study finds the following about Housing Credit total development costs:

- The median TDC per unit, inclusive of "soft costs" (e.g., fees for contractors, architects, and other professionals) and land costs, between 2011 and 2016 was $164,757, adjusted for construction cost inflation.

- The mean TDC per unit, inclusive of soft costs and land costs, between 2011 and 2016 was $182,498, adjusted for construction cost inflation.

These figures reflect TDCs for newly constructed buildings as well as rehabilitations of existing properties.

Answers to two questions put these figures in context:

- How do Housing Credit development costs compare to the costs of multifamily apartment development overall?
- How does the recent growth in Housing Credit development costs compare to that of multifamily apartment development overall?

With respect to comparing Housing Credit development costs to overall apartment development costs, the Abt analysis does not attempt to answer this question, but other research helps to do so. According to data provided to NCSHA by Dodge Data and Analytics, *construction costs* — not including soft costs and land — for *all newly constructed apartments* averaged approximately $151,000 per unit between 2011 and 2016.[2]

According to Fannie Mae, *soft costs* account for an average of 25 percent of overall apartment development costs.[3] While *land prices* vary widely and national data is difficult to obtain, anecdotal evidence suggests they may account for 5 to 10 percent, on average, of TDC (much more in high-cost areas).

Adjusting the $151,000 per unit in construction costs by 30 to 35 percent to account for soft costs and land yields an average TDC per unit for multifamily apartments overall of roughly $196,000 to $204,000 between 2011 and 2016. Abt found that the average Housing Credit cost per unit for new construction, including soft costs and land, was approximately $209,000 during that period.

The slightly higher costs for Housing Credit developments suggested are likely explained by financing requirements on them that generally do not apply to market-rate apartment developments, such as the need for higher upfront operating reserves and funding to cover the developer's services. Market-rate apartments can generate capital to pay these costs by charging higher rents. Housing Credit properties by law cannot: *They must serve low-income households at restricted rents for several decades.*

With respect to development cost growth, the Abt analysis suggests that Housing Credit TDCs during the study period grew at roughly the same average annual rate as overall apartment development costs, based on the RS Means Historical Cost Index: roughly eight percent.

However, other analysis of overall construction cost growth during the time period studied indicates that overall apartment development costs rose much more than Housing Credit development costs. For example, a 2017 report from Fannie Mae indicated that overall apartment construction costs had risen 10 to 30 percent between 2011 and 2016.[4]

[2] Report by Dodge Data and Analytics, "Historical Starts Information: Multifamily Starts US Summary, Annual Totals," August 2018.
[3] Fannie Mae, "Fannie Mae Multifamily Market Commentary," March 2017.
[4] Fannie Mae, "Fannie Mae Multifamily Market Commentary," March 2017.

The Abt study, complemented by other equally credible analysis, suggests that Housing Credit development costs are generally consistent with overall apartment development costs and have grown at the same rate, if not slower, as overall apartment development costs in recent years.

Housing Credit Data Quality

While GAO's analysis describes state agencies' extensive policies and practices designed to contain development costs, it points out that the 12 agencies it studied for its analysis do not collect all of the same information about the properties they finance, may categorize or define costs in different ways, and use various formats for their data collection. GAO recommends that Congress consider designating a federal agency to maintain and analyze standardized data on Housing Credit costs.

Somewhat differing administrative approaches reflect the devolved nature of the Housing Credit, which authorizes every state agency the flexibility to design a program that best meets its needs and collect the data it believes is necessary to support its own efforts.

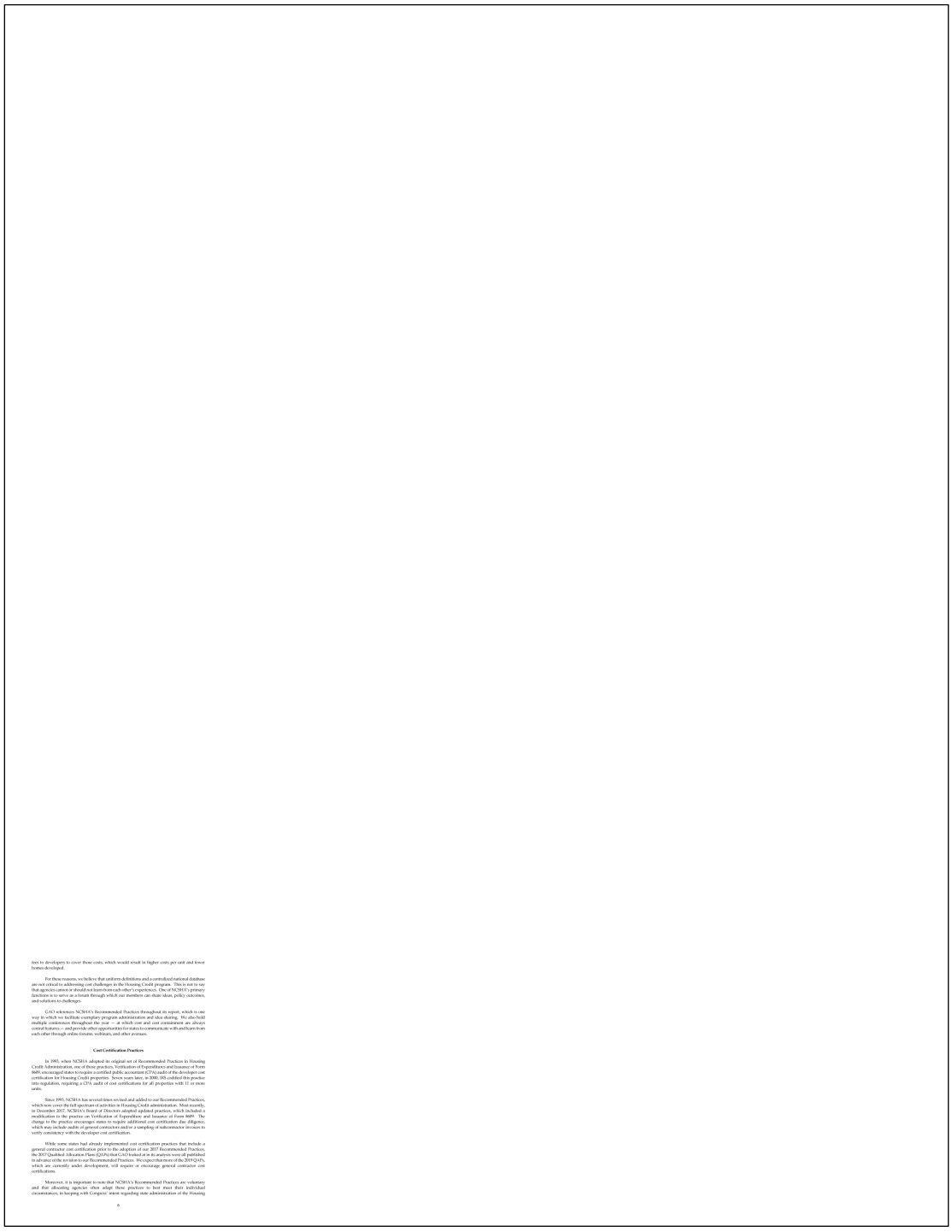
It is true that the structure of the Housing Credit program and the resulting limitations on uniform data across states can make academic study of development costs nationwide more difficult to undertake. Should Congress decide that such research is necessary and worthy of federal investment, HFAs stand willing to assist in this data collection.

However, NCSHA questions whether a centralized development cost data system administered by a federal bureaucracy is worth the cost. Cost drivers in different states and regions vary substantially, and some are difficult or impossible to ascertain from quantitative data. While the information may be interesting to have, the utility of comparing development costs in Hawaii to those in Arkansas is not clear.

We do not believe this sort of cross-state comparison is critical for evaluating the success of the program as a whole. It is most important that agencies understand the trends and cost drivers within their own states so that they may make policy decisions that will help them make the most of their resources.

We are also concerned that given GAO's recommendation, Congress could require the collection of Housing Credit development cost data but not appropriate the funds to implement this mandate. When Congress passed the Housing and Economic Recovery Act (HERA) of 2008, for example, it required state agencies administering the Housing Credit to submit demographic and economic data on Housing Credit tenants to HUD, so that HUD could process and report that information. While HERA authorized $6 million to support this effort, Congress has never appropriated those funds. Without federal resources to cover the cost of developing a centralized database and to help states to provide that data, allocating agencies would be forced to charge

5



fees to developers to cover those costs, which would result in higher costs per unit and fewer homes developed.

For these reasons, we believe that uniform definitions and a centralized national database are not critical to addressing cost challenges in the Housing Credit program. This is not to say that agencies cannot or should not learn from each other's experiences. One of NCSHA's primary functions is to serve as a forum through which our members can share ideas, policy outcomes, and solutions to challenges.

GAO references NCSHA's Recommended Practices throughout its report, which is one way in which we facilitate exemplary program administration and idea sharing. We also hold multiple conferences throughout the year — at which cost and cost containment are always central features — and provide other opportunities for states to communicate with and learn from each other through online forums, webinars, and other avenues.

Cost Certification Practices

In 1993, when NCSHA adopted its original set of Recommended Practices in Housing Credit Administration, one of those practices, Verification of Expenditures and Issuance of Form 8609, encouraged states to require a certified public accountant (CPA) audit of the developer cost certification for Housing Credit properties. Seven years later, in 2000, IRS codified this practice into regulation, requiring a CPA audit of cost certifications for all properties with 11 or more units.

Since 1993, NCSHA has several times revised and added to our Recommended Practices, which now cover the full spectrum of activities in Housing Credit administration. Most recently, in December 2017, NCSHA's Board of Directors adopted updated practices, which included a modification to the practice on Verification of Expenditure and Issuance of Form 8609. The change to the practice encourages states to require additional cost certification due diligence, which may include audits of general contractors and/or a sampling of subcontractor invoices to verify consistency with the developer cost certification.

While some states had already implemented cost certification practices that include a general contractor cost certification prior to the adoption of our 2017 Recommended Practices, the 2015 Qualified Allocation Plans (QAPs) that GAO looked at in its analysis were all published in advance of the revision to our Recommended Practices. We expect that more of the 2019 QAPs, which are currently under development, will require or encourage general contractor cost certifications.

Moreover, it is important to note that NCSHA's Recommended Practices are voluntary and that allocating agencies often adapt these practices to best meet their individual circumstances, in keeping with Congress' intent regarding state administration of the Housing

Credit. While we expect some states that did not do so in the past may begin requiring general contractor cost certifications in future QAPs now that these Recommended Practices have been adopted, others feel that they have enough information to judge the validity of costs based on the developer cost certification.

The developer cost certification required by IRS regulation even on its own is a rigorous process that involves review by an independent CPA of the developer's general ledger of expenses associated with the project and the monthly draw packages submitted to the lender and syndicator for payment. These draw packages include copies of invoices from the general contractor documenting all costs incurred during the month.

If a state requires, in addition to the developer cost certification, a general contractor cost certification, the CPA would also review copies of invoices from the various subcontractors involved in project development to verify consistency with the general contractor invoice. This review of subcontractor invoices will add to the cost of the CPA certification, though accounting firms have told NCSHA it is not cost prohibitive. However, some states may decide this additional cost is not necessary.

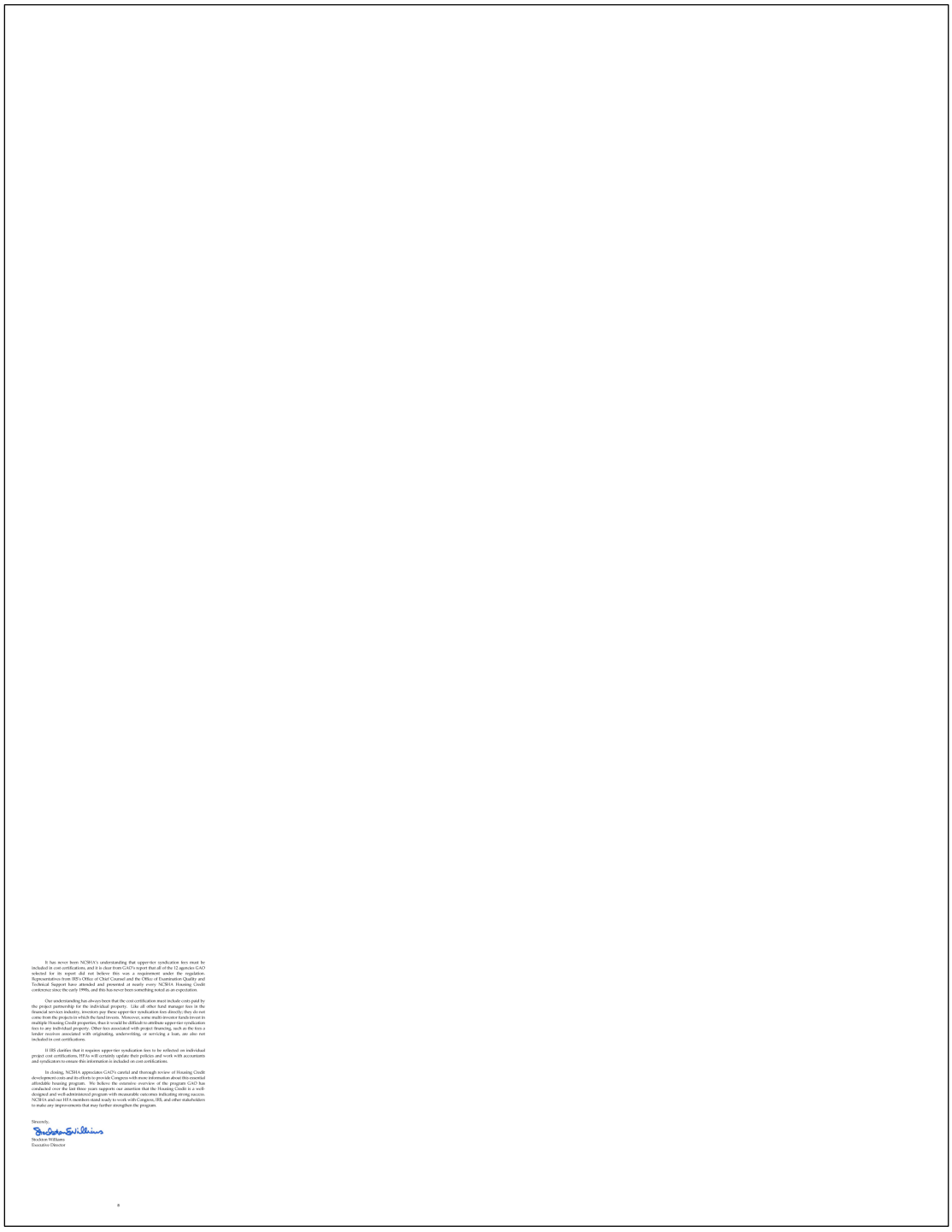
GAO's report references two instances of fraud perpetrated against the Housing Credit program in Florida — one in which the developer colluded with the general contractor and others to inflate costs, and another in which a developer and related party to the developer submitted fraudulent cost information to the state agency. While we do not know whether increased cost certification due diligence would have prevented these frauds from occurring, the Florida Housing Finance Corporation has since instituted very strict cost certification requirements in response to these crimes.

Although always unacceptable, fraud has been rare over the 30-year history of the Housing Credit, and safeguards are strong. In the small number of known instances of fraud, state allocating agencies have responded swiftly and aggressively, cooperating fully in its investigation and prosecution, as evidenced by the Florida agency's response to the situations GAO references.

Syndicator Fees

We were surprised to see in GAO's report that IRS officials indicated their regulations require the reporting of all syndication expenses on the project cost certification, including not only lower-tier fees but also upper-tier fees. As GAO notes, "None of the documents IRS pointed to — the regulations, Technical Advice Memorandum, or Revenue Ruling previously cited — draw a clear distinction between upper- and lower-tier expenses, leaving the requirement open to interpretation."

7



It has never been NCSHA's understanding that upper-tier syndication fees must be included in cost certifications, and it is clear from GAO's report that all of the 12 agencies GAO selected for its report did not believe that a requirement, under the regulations Representatives from IRS's Office of Chief Counsel and the Office of Examination Quality and Technical Support have attended and presented at nearly every NCSHA Housing Credit conference since the early 1990s, and this has never been something noted as an expectation.

Our understanding has always been that the cost certification must include costs paid by the project partnership for the individual property. Like all other fund manager fees in the financial services industry, investors pay these upper-tier syndication fees directly; they do not come from the projects in which the fund invests. Moreover, some multi-investor funds invest in multiple Housing Credit properties, thus it would be difficult to attribute upper-tier syndication fees to any individual property. Other fees associated with project financing, such as the fees a lender receives associated with originating, underwriting, or servicing a loan, are also not included in cost certifications.

If IRS clarifies that it requires upper-tier syndication fees to be reflected on individual project cost certifications, HFAs will certainly update their policies and work with accountants and syndicators to ensure this information is included on cost certifications.

In closing, NCSHA appreciates GAO's careful and thorough review of Housing Credit development costs and its efforts to provide Congress with more information about this essential affordable housing program. We believe the extensive overview of the program GAO has conducted over the last three years supports our assertion that the Housing Credit is a well-designed and well-administered program with measurable outcomes indicating strong success. NCSHA and our HFA members stand ready to work with Congress, IRS, and other stakeholders to make any improvements that may further strengthen the program.

Sincerely,

Stockton Williams
Executive Director

8

Appendix IX: GAO Contact and Staff Acknowledgments

GAO Contact

Daniel Garcia-Diaz, (202) 512-8678 or garciadiazd@gao.gov

Staff Acknowledgments

In addition to the contact named above, Steve Westley (Assistant Director), Cory Marzullo (Analyst in Charge), Stephen Brown, Heather Chartier, Farrah Graham, Brandon Kruse, John McGrail, John Mingus, Marc Molino, Ed Nannenhorn, Daniel Newman, and Barbara Roesmann made key contributions to this report.

Appendix X: Accessible Data

Data Tables

Accessible Data for Figure 3: Median Per-Unit Development Cost, LIHTC Allocation, and Estimated LIHTC Equity for Selected Allocating Agencies, by Construction Type, 2011–2015

	Median per-unit cost	Median per-unit LIHTC allocation	Median per-unit equity
New construction	$ 217,768	$ 158,951	$ 147,196
Rehabilitation	$ 168,698	$ 108,709	$ 102,643

Accessible Data for Figure 4: Cost Categories as a Percentage of Development Costs for Selected Allocating Agencies, by Construction Type, 2011–2015

		Percent of total cost	
		Rehabilitation	**New Construction**
Hard Costs	Land	5	7
	Existing structures	18	0
	Direct construction	50	61
Soft Costs	Contractor fees	6	7
	Architect and engineer fees	3	4
	Developer fees	10	10
	Indirect costs	9	11

Accessible Data for Figure 5: Median Per-Unit Development Cost in Constant Dollars for Selected Allocating Agencies, by Construction Type, 2011–2015

	2011	2012	2013	2014	2015
New Construction	207,938	214,958	212,153	237,260	221,535
New Construction (excluding California)	200,796	190,748	195,013	199,027	192,766
Rehabilitation	206,965	174,830	166,984	151,011	152,696

	2011	2012	2013	2014	2015
Rehabilitation (excluding New York City)	148,151	167,685	136,564	144,301	147,544

Accessible Data for Figure 6: Actual and Projected Median Per-Unit Construction Costs in Nominal Dollars of New Construction Projects for Selected Allocating Agencies, 2011–2015

	2011	2012	2013	2014	2015
Actual LIHTC construction costs	$ 136,114	$ 145,712	$ 146,336	$ 157,565	$ 150,440
Projected LIHTC construction costs	$ 136,114	$ 139,134	$ 143,217	$ 145,863	$ 150,161

Accessible Data for Figure 7: Per-Unit Development Costs for New Construction Projects, by Selected Allocating Agency, 2011–2015

	25th perc.	Median	75th perc.
AZ	163,766	197,388	224,320
CA	258,957	326,020	414,191
CHI	261,162	314,615	356,035
FL	172,279	201,424	240,895
GA	129,244	139,385	149,858
IL	193,115	229,715	288,657
NY	213,608	263,702	323,580
NYC	244,437	281,711	329,958
OH	163,152	176,917	210,264
PA	212,382	243,415	288,679
TX	113,763	125,866	136,180
WA	194,909	210,402	257,885

Accessible Data for Figure 8: Per-Unit Development Costs for New Construction Projects, by Selected Cities, 2011–2015

	25th perc.	Median	75th perc.	n
Chicago	261,162	314,615	356,035	20
Los Angeles	352,458	400,850	458,339	47

	25th perc.	Median	75th perc.	n
Miami	234,378	264,310	288,421	22
New York City	242282	281750	329,958	27
Philadelphia	240,018	287,977	341,534	29
San Francisco	326,398	385,616	451,510	14
Seattle	209,679	267,590	302,485	23

Accessible Data for Figure 9: Hard and Soft Costs as a Proportion of New Construction Development Cost, by Selected Allocating Agency, 2011–2015

HFA	Total cost	Hard costs	Soft costs	Direct construction	Land	Existing structures	Indirect costs	Developer fees	Contractor fees	Architect & engineer fees
TX	125,866	68	32	78109	8020	0	12039	14590	9962	3147
GA	139,385	69	31	89318	7100	0	12453	16571	10352	3591
OH	176,917	69	31	114631	6796	0	15627	21260	13305	5298
AZ	197,388	68	32	122638	11300	0	21738	21399	12731	7582
FL	201,424	66	34	116241	16655	641	22488	25724	14056	5620
WA	210,402	74	26	143952	10670	1170	19425	14687	9558	10940
IL	229,715	72	28	155074	8479	1964	20371	19085	17784	6958
PA	243,415	70	30	162297	7135	1094	16970	26800	19218	9900
NY	263,702	67	33	165915	11015	1052	23263	28549	24488	9420
NYC	281,711									
CHI	314,615	76	24	227062	10805	885	23957	18251	22565	11089
CA	326,020	67	33	181170	37825	663	45187	24096	20960	16119

Accessible Data for Figure 10: Estimated Effect of Project Size on Per-Unit Development Costs for Selected Allocating Agencies, 2011–2015 (Relative to Projects with Fewer Than 37 Units)

Units	Decrease in per-unit total cost
37-50 units	-30,620
51-100 units	-55,676
More than 100 units	-85,473

Accessible Data for Figure 14: Median Per-Unit Development Costs (2015 dollars) of LIHTC New Construction and Rehabilitation Projects Completed in 2011–2015, by Selected Allocating Agency

	Rehab				
	Median per-unit development cost				
Allocating agency	**2011**	**2012**	**2013**	**2014**	**2015**
Arizona	185,263	195,462	182,576	142,137	165,703
California	169,571	196,244	179,181	190,860	171,119
Chicago	226,590		248,197	268,235	358,070
Florida	142,981	147,256	134,703	125,834	127,182
Georgia	133,484	139,612	122,635	129,068	146,550
Illinois	78,352	108,669	91,088	335,999	112,236
New York	267,436	194,436	253,278	314,854	248,047
New York City	275,067	184,476	232,126	225,910	291,364
Ohio	132,357	132,180	123,539	132,153	129,324
Pennsylvania	224,262	265,567	307,396	289,008	153,108
Texas	92,806	97,084	119,367	124,853	129,425
Washington	112,168	175,112	129,428	138,484	136,912

	New Construction				
	Median per-unit development cost				
Allocating agency	**2011**	**2012**	**2013**	**2014**	**2015**
Arizona	200,719	195,531	193,130	162,629	202,099
California	303,860	344,737	316,942	325,676	335,727
Chicago	315,324	352,436	274,924	377,540	267,527
Florida	179,650	192,698	210,374	219,292	216,397
Georgia	131,293	133,249	147,404	138,797	142,258
Illinois	247,538	215,283	216,977	245,604	301,879
New York	273,919	261,341	270,364	292,771	223,860
New York City	245,346	284,590	283,395	277,950	349,185
Ohio	174,427	175,220	168,683	176,917	183,828
Pennsylvania	229,317	242,949	260,054	244,585	260,897
Texas	118,869	121,187	126,051	128,323	126,916
Washington	204,521	240,589	202,440	243,625	296,529

Agency Comment Letters

Accessible Text for Appendix VII: Comments from the Internal Revenue Service

Page 1

August 29, 2018

Daniel Garcia-Diaz

Director, Financial Markets and Community Investment United States Government Accountability Office Washington, DC 20548

Dear Mr. Garcia-Diaz:

Thank you for the opportunity to review your draft report entitled, "Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management" (GAO-18-637).

As your report notes, the Low-Income Housing Credit (commonly referred to as "LIHTC")is the largest source of Federal assistance for developing affordable rental housing. The Internal Revenue Service (IRS) administers the credit in conjunction with State-chartered governmental Housing Finance Agencies (HFAs), also called "housing credit agencies." Under the relevant statute and regulations, the HFAs are responsible for the day-to-day administration of the credit. Specifically, they award the potential to earn LIHTCs (including a determination whether development costs are reasonable and feasible}, and they monitor UHTC property compliance with the requirements for receiving the credits.

By statute, each State receives an annual amount of potential to earn LIHTCs computed using a statutory formula based on the State's population. The HFAs award portions of their State's potential credit to competing owners of proposed rental housing projects that promise to qualify for LIHTCs by reserving all or a portion of their units for low-income tenants, at restricted rents, in habitable condition. A qualified application plan (QAP) guides each HFA in the allocation process. A QAP must contain certain statutorily mandated Federal preferences and

factors, and may contain State factors as well. (These non-Federal factors are sometimes required by State legislation.)

In vesting the allocation responsibility in the HFAs, the tax code prohibits an HFA from allocating to a project potential credits that "exceed the amount the housing credit agency determines is necessary for the financial feasibility of the project and its viability as a qualified low-income housing project throughout the credit period." 6 USC 42(m)(2)(A). The amounts allocated to a project establish an annual ceiling on the credits that the project can earn, even if the project's actual cost basis might justify more credits than that ceiling.

Page 2

As part of their responsibilities, HFAs are required to inspect properties. When properties are not in compliance, the HFAs are required to notify the IRS using Form 8823, Low-Income House Credit Agencies Report of Noncompliance or Building Disposition. Allocating agencies are also required to annually report a summary of compliance monitoring activities to the IRS on Form 8610, Annual Low-Income Housing Credit Agencies Report. As described by GAO in its prior report titled "Low-Income Housing Tax Credit: Joint IRS-HUD Administration Could Help Address Weaknesses in Oversight" (GAO-15-330), the IRS provides extensive information to the allocating agencies through an Audit Technique Guide titled "Guide for Completing Form 8823." The IRS compliance unit reviews Forms 8823 and 8610. The Office of Chief Counsel for the IRS generally does not review forms filed with the IRS related to the LIHTC. However, the IRS does forward Forms 8610 to the Office of Chief Counsel for the limited purpose of assisting in the issuance of annual ministerial guidance on the LIHTC annual national pool.

There are two ways in which a properly functioning HFA allocation process should prevent excessive costs from generating inappropriately high levels of tax credits. The first is competition. As between two otherwise equivalent proposals, an HFA is expected to allocate LIHTC potential to the proposal requesting the lower amount of potential credits. Second, as was just described, the HFA has a statutory responsibility to allocate only the potential credits that a project needs for feasibility and no more than that. If no excess amounts are allocated, excessive costs cannot produce excessive LIHTCs. Absent excessive allocations from HFAs, project owners have strong (non-tax) economic incentives to manage their costs. Inappropriately high costs may increase depreciation

deductions but they cannot raise the project owner's LIHTCs above the annual ceiling that the applicable HFA had allocated.

A central issue, therefore, is whether the tax code authorizes the IRS to evaluate either the State or local HFAs' allocation processes or the QAPs that are supposed to guide those processes. In the absence of specific authorization, the IRS collects data only to the extent necessary for tax administration. Without statutory authorization or a tax administration need, any data collection may be a misuse of IRS resources and problematic under the Paperwork Reduction Act.

In considering the recommendations in the draft report, therefore, we have to take into account the absence of explicit statutory authority. Moreover, tax administration does not generally include evaluating the efficacy or wisdom of the various provisions in the tax code that have a non-tax purpose.

Page 3

We appreciate the valuable feedback you have provided. Responses to your specific recommendations are enclosed. If you have questions, please contact me, or a member of your staff may contact Brenda Dial, Director, Examination, Small Business/Self- Employed Division at 240-613-5163.

Sincerely,

Kirsten B. Wielobob

Deputy Commissioner for Services and Enforcement

Enclosure

Page 4

GAO Recommendations and IRS Responses to GAO Draft Report

Low-Income Housing Tax Credit: Improved Data and Oversight Would Strengthen Cost Assessment and Fraud Risk Management

(GAO-18-637)

Recommendation:

IRS's Associate Chief Counsel, in consultation with Treasury's Assistant Secretary for Tax Policy, should require general contractor cost certifications for LIHTC projects to verify consistency with the developer cost certification. (Recommendation 1)

Comment:

We disagree with this recommendation as written. The draft report describes the use of misrepresented contractor costs that could potentially inflate basis and thus produce excess LIHTCs. The IRS, the Office of Chief Counsel, and the Office of Tax Policy will seriously consider whether the certifications recommended would help uncover and deter this type of behavior. We note, however, it is not clear that this recommendation would address this type of behavior.

Recommendation:

In collaboration with HUD, allocating agencies, and other LIHTC stakeholders, IRS's Commissioner of the Small Business/Self-Employed Division should develop a framework for the collection of cost-related LIHTC data-including data elements, definitions, and formats-designed to help allocating agencies analyze cost trends and drivers and make comparisons to other agencies. (Recommendation 2)

Comment:

We disagree with this recommendation. The IRS has not inferred implicit authority to oversee the HFAs' allocation practices or the QAPs that guide them, and the contemplated information collection would not be necessary for tax administration.

Recommendation:

IRS's Associate Chief Counsel, in consultation with Treasury's Assistant Secretary for Tax Policy, should communicate to credit allocating agencies how to collect information on and review LIHTC syndication expenses, including upper-tier partnership expenses. (Recommendation 3)

Comment:

We disagree with this recommendation. Consistent with the statute and underlying regulations, we currently communicate regularly with credit

allocating agencies and other stakeholders regarding LIHTC compliance issues and best practices at trade group sponsored meetings and conferences. Further, under Treas. Reg. § 1.42- 17(a)(3), allocating agencies are already required to collect and evaluate "all sources and uses of funds" paid, incurred, or committed by the taxpayer for the project. This regulatory requirement already covers LIHTC syndication expenses, including upper-tier

Page 5

partnership expenses. To the extent that GAO is recommending that we revise the regulations, we believe that, although § 42(n) provides broad authority to issue regulations to administer the credit, this does not necessarily extend to mandating how credit allocating agencies should collect LIHTC syndication expense data, including upper-tier partnership expense data.

Accessible Text for Appendix VIII: Comments from the National Council of State Housing Agencies

Page 1

August 17, 2018

Mr. Daniel Garcia-Diaz

Director, Financial Markets and Community Investment United States Government Accountability Office

441 G Street, N.W.

Washington, DC 20001

Dear Mr. Garcia-Diaz:

Thank you for giving the National Council of State Housing Agencies (NCSHA) the opportunity to comment on the U.S. Government Accountability Office’s (GAO) draft of its report on Low Income Housing Tax Credit (Housing Credit) development costs. As you know, NCSHA represents the Housing Finance Agencies (HFAs) of every state and the agencies that administer the Housing Credit in the few states where the HFA does not.

This report is the third major study in a series of reports GAO has completed on the Housing Credit in recent years. Throughout this process, GAO has consulted with NCSHA to gain our perspectives on various aspects of Housing Credit administration. We have appreciated the opportunity to contribute to GAO's work on the program and, in particular, are grateful for the chance to respond directly to the drafts of this and the other reports GAO has conducted in this series.

State Housing Credit allocating agencies take very seriously their responsibilities as administrators of this program. In devolving the Housing Credit program to states for direct administration, Congress recognized the states' strong track record in running affordable housing programs and their commitment to mission. We believe states have risen to that challenge, as is evidenced by GAO's review of state policies in this report on development costs and its 2016 report on state administration of the program.

This report outlines in great detail the many policies and practices states have adopted to oversee and contain Housing Credit development costs. These policies go well above and beyond the statutory and regulatory requirements of the program. Though different states may take different approaches to this task, the commitment to maximizing Housing Credit resources is unanimous across states.

Page 2

While states actively seek to maintain cost reasonableness, many of the forces that impact costs are outside their control. The costs of materials, land, and labor—the major drivers of development cost for all multifamily construction, not just Housing Credit construction—are subject to market forces. Other cost drivers, such as local regulatory requirements, permitting and impact fees, and construction delays, which may result from neighborhood opposition, are also beyond the scope of control of state agencies.

Still, states do their best to ensure that they make the most of the finite federal resources provided through the Housing Credit to serve as many households as they can, while addressing to the best of their abilities federal and state policy priorities such as serving the lowest income households for the longest time possible, helping those with special needs, advancing community revitalization, encouraging energy efficiency, and building in areas where tenants will have access to quality schools, transportation, and employment opportunities.

NCSHA and Its HFA Members

NCSHA represents the HFAs of the 50 states, the District of Columbia, New York City, Puerto Rico, and the U.S. Virgin Islands.[1] HFAs are governmental and quasi-governmental, nonprofit agencies created by their jurisdictions to address the full spectrum of housing need, from homelessness to homeownership. HFAs are dedicated to their common affordable housing mission, reinvest their earnings in the furtherance of that mission, and are publicly accountable.

HFAs have established over many decades a track record of outstanding performance in affordable housing finance. In addition to administering the Housing Credit, HFAs issue tax- exempt private activity Housing Bonds, and many administer other federal housing programs, such as Section 8, the HOME Investment Partnerships program, and the Housing Trust Fund.

Housing Credit Development Costs

Most of GAO's findings regarding development costs and cost drivers are consistent with independent research NCSHA recently commissioned on Housing Credit development costs. Over the last year, on behalf of NCSHA, Abt Associates (Abt)—a research and consulting firm with strong expertise in affordable housing and other social policy areas—has collected and analyzed Housing Credit development cost data from properties across the country using information provided by 14 syndicators, including eight of the largest national syndicators and six regional equity funds. Abt's data set includes cost data for more than 2,500 projects containing more than 160,000 housing units.

[1] NCSHA is a nonprofit, nonpartisan organization. None of NCSHA's activities related to federal legislation or regulation are funded by organizations that are prohibited by law from engaging in lobbying or related activities.

Page 3

The data Abt collected differs from GAO's data set in two major ways:

- Whereas GAO received cost certifications for all properties placed in service in 10 states between 2011 and 2015, Abt's analysis uses data from properties across the nation, including at least two projects in every state and nearly every territory, and more than 25 projects in each of 35 states placed in service between 2011 to 2016 (though it does not have complete data for any individual state).

- The Abt data also includes some tax-exempt bond-financed 4 percent Housing Credit properties along with 9 percent Housing Credit properties, whereas GAO's data set includes 9 percent Housing Credit properties only. (Abt estimates that the data it uses in its analysis represents 47 percent of the 9 percent Housing Credit properties and 20 percent of the 4 percent Housing Credit properties placed in service during the time period studied.)

Despite these differences, Abt's analysis generally supports the GAO's conclusions regarding certain cost drivers and the impact of property characteristics on development costs.

The median per unit total development cost (TDC) of properties in the Abt data set was $164,757, which is less than the $204,000 TDC per unit GAO observed. We surmise that the difference is in part due to the national scope of the Abt research, while several of the 10 states participating in GAO's research happen to include some of the highest cost cities in the nation, such as San Francisco, Los Angeles, New York City, Seattle, Chicago, and Miami. In addition, unlike the GAO data, the Abt data included 4 percent Housing Credit properties, which Abt found to be less expensive on average than 9 percent properties (a statistically significant finding).

However, despite this difference, the Abt analysis suggests many of the same findings as GAO's work related to property characteristics. Specifically, larger projects with more units cost less per unit than smaller projects with fewer units due to economies of scale, projects in urban areas are more expensive than projects in other areas, and projects serving seniors are less expensive than other projects on average.

The Abt study finds the following about Housing Credit total development costs:

- The median TDC per unit, inclusive of "soft costs" (e.g., fees for contractors, architects, and other professionals) and land costs, between 2011 and 2016 was $164,757, adjusted for construction cost inflation.

- The mean TDC per unit, inclusive of soft costs and land costs, between 2011 and 2016 was $182,498, adjusted for construction cost inflation.

These figures reflect TDCs for newly constructed buildings as well as rehabilitations of existing properties.

Page 4

Answers to two questions put these figures in context:

- How do Housing Credit development costs compare to the costs of multifamily apartment development overall?

- How does the recent growth in Housing Credit development costs compare to that of multifamily apartment development overall?

With respect to comparing Housing Credit development costs to overall apartment development costs, the Abt analysis does not attempt to answer this question, but other research helps to do so. According to data provided to NCSHA by Dodge Data and Analytics, construction costs — not including soft costs and land — for all newly constructed apartments averaged approximately $151,000 per unit between 2011 and 2016.[2]

According to Fannie Mae, soft costs account for an average of 25 percent of overall apartment development costs.[3] While land prices vary widely and national data is difficult to obtain, anecdotal evidence suggests they may account for 5 to 10 percent, on average, of TDC (much more in high-cost areas).

Adjusting the $151,000 per unit in construction costs by 30 to 35 percent to account for soft costs and land yields an average TDC per unit for multifamily apartments overall of roughly

$196,000 to $204,000 between 2011 and 2016. Abt found that the average Housing Credit cost per unit for new construction, including soft costs and land, was approximately $209,000 during that period.

The slightly higher costs for Housing Credit developments suggested are likely explained by financing requirements on them that generally do not apply to market-rate apartment developments, such as the need for higher upfront operating reserves and funding to cover the developer's services. Market-rate apartments can generate capital to pay these costs by charging higher rents. Housing Credit properties by law cannot: They must serve low-income households at restricted rents for several decades.

With respect to development cost growth, the Abt analysis suggests that Housing Credit TDCs during the study period grew at roughly the same average annual rate as overall apartment development costs, based on the RS Means Historical Cost Index: roughly eight percent.

However, other analysis of overall construction cost growth during the time period studied indicates that overall apartment development costs rose much more than Housing Credit development costs. For example, a 2017 report from Fannie Mae indicated that overall apartment construction costs had risen 10 to 30 percent between 2011 and 2016.[4]

[2] Report by Dodge Data and Analytics, "Historical Starts Information: Multifamily Starts US Summary, Annual Totals," August 2018.

[3] Fannie Mae, "Fannie Mae Multifamily Market Commentary," March 2017.

[4] Fannie Mae, "Fannie Mae Multifamily Market Commentary," March 2017.

Page 5

The Abt study, complemented by other equally credible analysis, suggests that Housing Credit development costs are generally consistent with overall apartment development costs and have grown at the same rate, if not slower, as overall apartment development costs in recent years.

Housing Credit Data Quality

While GAO's analysis describes state agencies' extensive policies and practices designed to contain development costs, it points out that the 12 agencies it studied for its analysis do not collect all of the same information about the properties they finance, may categorize or define costs in different ways, and use various formats for their data collection. GAO recommends that Congress consider designating a federal agency to maintain and analyze standardized data on Housing Credit costs.

Somewhat differing administrative approaches reflect the devolved nature of the Housing Credit, which authorizes every state agency the flexibility to design a program that best meets its needs and collect the data it believes is necessary to support its own efforts.

It is true that the structure of the Housing Credit program and the resulting limitations on uniform data across states can make academic study of development costs nationwide more difficult to undertake. Should

Congress decide that such research is necessary and worthy of federal investment, HFAs stand willing to assist in this data collection.

However, NCSHA questions whether a centralized development cost data system administered by a federal bureaucracy is worth the cost. Cost drivers in different states and regions vary substantially, and some are difficult or impossible to ascertain from quantitative data. While the information may be interesting to have, the utility of comparing development costs in Hawaii to those in Arkansas is not clear.

We do not believe this sort of cross-state comparison is critical for evaluating the success of the program as a whole. It is most important that agencies understand the trends and cost drivers within their own states so that they may make policy decisions that will help them make the most of their resources.

We are also concerned that given GAO's recommendation, Congress could require the collection of Housing Credit development cost data but not appropriate the funds to implement this mandate. When Congress passed the Housing and Economic Recovery Act (HERA) of 2008, for example, it required state agencies administering the Housing Credit to submit demographic and economic data on Housing Credit tenants to HUD, so that HUD could process and report that information. While HERA authorized $6 million to support this effort, Congress has never appropriated those funds. Without federal resources to cover the cost of developing a centralized database and to help states to provide that data, allocating agencies would be forced to charge

Page 6

fees to developers to cover those costs, which would result in higher costs per unit and fewer homes developed.

For these reasons, we believe that uniform definitions and a centralized national database are not critical to addressing cost challenges in the Housing Credit program. This is not to say that agencies cannot or should not learn from each other's experiences. One of NCSHA's primary functions is to serve as a forum through which our members can share ideas, policy outcomes, and solutions to challenges.

GAO references NCSHA's Recommended Practices throughout its report, which is one way in which we facilitate exemplary program administration and idea sharing. We also hold multiple conferences throughout the year

— at which cost and cost containment are always central features — and provide other opportunities for states to communicate with and learn from each other through online forums, webinars, and other avenues.

Cost Certification Practices

In 1993, when NCSHA adopted its original set of Recommended Practices in Housing Credit Administration, one of those practices, Verification of Expenditures and Issuance of Form 8609, encouraged states to require a certified public accountant (CPA) audit of the developer cost certification for Housing Credit properties. Seven years later, in 2000, IRS codified this practice into regulation, requiring a CPA audit of cost certifications for all properties with 11 or more units.

Since 1993, NCSHA has several times revised and added to our Recommended Practices, which now cover the full spectrum of activities in Housing Credit administration. Most recently, in December 2017, NCSHA's Board of Directors adopted updated practices, which included a modification to the practice on Verification of Expenditure and Issuance of Form 8609. The change to the practice encourages states to require additional cost certification due diligence, which may include audits of general contractors and/or a sampling of subcontractor invoices to verify consistency with the developer cost certification.

While some states had already implemented cost certification practices that include a general contractor cost certification prior to the adoption of our 2017 Recommended Practices, the 2017 Qualified Allocation Plans (QAPs) that GAO looked at in its analysis were all published in advance of the revision to our Recommended Practices. We expect that more of the 2019 QAPs, which are currently under development, will require or encourage general contractor cost certifications.

Moreover, it is important to note that NCSHA's Recommended Practices are voluntary and that allocating agencies often adapt these practices to best meet their individual circumstances, in keeping with Congress' intent regarding state administration of the Housing

Page 7

Credit. While we expect some states that did not do so in the past may begin requiring general contractor cost certifications in future QAPs now that these Recommended Practices have been adopted, others feel that

they have enough information to judge the validity of costs based on the developer cost certification.

The developer cost certification required by IRS regulation even on its own is a rigorous process that involves review by an independent CPA of the developer's general ledger of expenses associated with the project and the monthly draw packages submitted to the lender and syndicator for payment. These draw packages include copies of invoices from the general contractor documenting all costs incurred during the month.

If a state requires, in addition to the developer cost certification, a general contractor cost certification, the CPA would also review copies of invoices from the various subcontractors involved in project development to verify consistency with the general contractor invoice. This review of subcontractor invoices will add to the cost of the CPA certification, though accounting firms have told NCSHA it is not cost prohibitive. However, some states may decide this additional cost is not necessary.

GAO's report references two instances of fraud perpetrated against the Housing Credit program in Florida — one in which the developer colluded with the general contractor and others to inflate costs, and another in which a developer and related party to the developer submitted fraudulent cost information to the state agency. While we do not know whether increased cost certification due diligence would have prevented these frauds from occurring, the Florida Housing Finance Corporation has since instituted very strict cost certification requirements in response to these crimes.

Although always unacceptable, fraud has been rare over the 30-year history of the Housing Credit, and safeguards are strong. In the small number of known instances of fraud, state allocating agencies have responded swiftly and aggressively, cooperating fully in its investigation and prosecution, as evidenced by the Florida agency's response to the situations GAO references.

Syndicator Fees

We were surprised to see in GAO's report that IRS officials indicated their regulations require the reporting of all syndication expenses on the project cost certification, including not only lower-tier fees but also upper-tier fees. As GAO notes, "None of the documents IRS pointed to — the regulations, Technical Advice Memorandum, or Revenue Ruling

previously cited — draw a clear distinction between upper- and lower-tier expenses, leaving the requirement open to interpretation."

Page 8

It has never been NCSHA's understanding that upper-tier syndication fees must be included in cost certifications, and it is clear from GAO's report that all of the 12 agencies GAO selected for its report did not believe this was a requirement under the regulation. Representatives from IRS's Office of Chief Counsel and the Office of Examination Quality and Technical Support have attended and presented at nearly every NCSHA Housing Credit conference since the early 1990s, and this has never been something noted as an expectation.

Our understanding has always been that the cost certification must include costs paid by the project partnership for the individual property. Like all other fund manager fees in the financial services industry, investors pay these upper-tier syndication fees directly; they do not come from the projects in which the fund invests. Moreover, some multi-investor funds invest in multiple Housing Credit properties, thus it would be difficult to attribute upper-tier syndication fees to any individual property. Other fees associated with project financing, such as the fees a lender receives associated with originating, underwriting, or servicing a loan, are also not included in cost certifications.

If IRS clarifies that it requires upper-tier syndication fees to be reflected on individual project cost certifications, HFAs will certainly update their policies and work with accountants and syndicators to ensure this information is included on cost certifications.

In closing, NCSHA appreciates GAO's careful and thorough review of Housing Credit development costs and its efforts to provide Congress with more information about this essential affordable housing program. We believe the extensive overview of the program GAO has conducted over the last three years supports our assertion that the Housing Credit is a well- designed and well-administered program with measurable outcomes indicating strong success. NCSHA and our HFA members stand ready to work with Congress, IRS, and other stakeholders to make any improvements that may further strengthen the program.

Sincerely,

Stockton Williams

Executive Director

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website (https://www.gao.gov). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to https://www.gao.gov and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, https://www.gao.gov/ordering.htm.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on Facebook, Flickr, Twitter, and YouTube.
Subscribe to our RSS Feeds or E-mail Updates. Listen to our Podcasts.
Visit GAO on the web at https://www.gao.gov.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: https://www.gao.gov/fraudnet/fraudnet.htm

Automated answering system: (800) 424-5454 or (202) 512-7700

Congressional Relations

Orice Williams Brown, Managing Director, WilliamsO@gao.gov, (202) 512-4400,
U.S. Government Accountability Office, 441 G Street NW, Room 7125,
Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

Strategic Planning and External Liaison

James-Christian Blockwood, Managing Director, spel@gao.gov, (202) 512-4707
U.S. Government Accountability Office, 441 G Street NW, Room 7814,
Washington, DC 20548