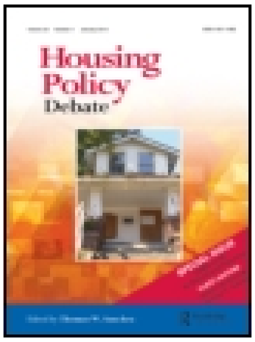

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Challenges for Low-Income Housing Tax Credit Projects at Year 15 and Beyond in a Weak Housing Market: The Case of Detroit, Michigan

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ABSTRACT
Projects financed through the Low-Income Housing Tax Credit (LIHTC) program, the largest producer of affordable housing in the United States, face ownership transition after 15 years in service when tax-credit investors leave. In Detroit, Michigan, projects whose transitions were complete but that were subject to additional affordability restrictions fared much worse than national surveys showed. Many projects continued to provide affordable housing, but a share experienced mortgage or tax foreclosure, and many units became permanently uninhabitable, increasing disinvestment in neighborhoods. Projects reaching year 15 from 2016 through 2022 were under considerable financial stress as of 2015 and would likely need financial restructuring. Few high-capacity nonprofit developers existed to assume property ownership. The intervention of mission-driven syndicators helped stabilize numerous projects. Detroit's experience illustrates the challenges LIHTC projects are likely to face in weak-market cities. Additional studies should investigate the year-15 challenges in diverse housing markets and the efforts to address those challenges.

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The Low-Income Housing Tax Credit (LIHTC) program has become the largest producer of affordable rental housing in the United States since its creation in 1986. As of 2017, the program had financed 47,511 projects, with 3.13 million housing units (U.S. Department of Housing and Urban Development, 2019a). The program, administered by the Internal Revenue Service (IRS), gives states the equivalent of nearly $8 billion in annual budget authority to issue tax credits for new construction or rehabilitation of units affordable for households making 60% of area median income (AMI) or less.

Developers who wish to build affordable housing apply for tax credits from their state housing finance agencies (HFAs). If awarded, developers sell tax credits to investors (usually through syndicators that act as intermediaries between investors and developers); the investors contribute equity to the development in exchange for an ownership position that allows them to claim the tax credits and other tax benefits from the projects. Developers may apply for 9% credits through a competitive allocation process (which amounts to about 70% of the present value of qualifying project costs) or for 4% credits awarded outside that process (equal to about 30% of qualifying costs). A project must provide at least 20% of units for households with incomes that are 50% or less of area median income (AMI) or at least 40% of units for households with incomes 60% or less of AMI. Developers and investors work in partnership, with developers as general partners and investors as limited partners. Together, they must ensure that projects maintain affordability for 15 years and remain in satisfactory physical condition. If they do not do so, the IRS may rescind or recapture tax credits from investors (26 U.S.C. 42; Khadduri, Climaco, Burnett, Gould, & Elving, 2012; U.S. Government Accountability Office, 2017).

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When a project reaches year 15, most investors have little incentive to stay in the project since they have claimed the tax credits and other tax benefits. They seek to transfer their ownership to the general partner or a third party. Until the year-15 transition occurs, syndicators play key roles in monitoring LIHTC projects and assuring they remain in compliance. They manage the assets and help underperforming projects with loans. Federal regulations require projects with tax credit allocations after 1989 to maintain low-income occupancy for another 15 years following the initial 15-year compliance period, the extended-use agreement. As investors exit ownership after year 15, the new owners have to meet the extended-use requirement under the watch of state HFAs.[1] The federal government provides no oversight or guaranteed funding to enforce or support the additional 15 years of affordability. Owners may seek release from the program's restrictions by requesting a qualified contract if they did not waive the right to do so when they applied for tax credits (26 U.S.C. 42; Khadduri et al., 2012; Michigan State Housing Development Authority, 2018b).[2]

Many LIHTC projects have reached year 15; those financed in the early 1990s are approaching year 30. Preserving these projects as affordable housing in good condition is essential as housing affordability nationally has become an acute problem over the last decade (Joint Center for Housing Studies, 2018). Despite the size of the stock and the need for such housing, only a small number of studies have investigated the challenges the year-15 transition may pose for the performance of LIHTC projects after year 15. This article addresses this gap through an in-depth study of the year-15 issues that LIHTC projects in Detroit, Michigan, face today. Detroit has a weak housing market that the recent recession further undermined. This poses significant challenges to the operation and management of LIHTC projects. We examined the status of the Detroit LIHTC projects that have passed year 15 and the financial performance of the projects that have recently reached or will soon reach year 15 to identify the challenges these projects face for their year 15 transition. We found that projects whose year 15 transitions were complete fared worse in continuing to provide affordable housing than past national surveys showed. Projects that were approaching year 15 were under considerable financial stress in 2015. The Detroit experience illustrates difficult lessons for the long-term provision of affordable housing through the LIHTC program in weak housing markets.

Research on LIHTC at Year 15

LIHTC has received considerable scholarly attention as the largest affordable housing production program. Numerous studies have examined various aspects of the program, such as cost effectiveness (Deng, 2005; U.S. General Accounting Office, 2002), project location and neighborhood opportunities (Deng, 2007; Ellen, Horn, & Kuai, 2018; Lens & Reina, 2016; McClure, 2006), and neighborhood spillover effects (Albright, Derickson, & Massey, 2013; Deng, 2013; Ellen, Horn, & O'Regan, 2016). Most scholars have focused on how to improve the LIHTC development process, especially in assuring that projects are located in areas of opportunity and do not concentrate poverty.

A small number of studies have examined what happened to LIHTC projects after year 15. Those studies, all conducted at the national level using data from the early 2000s, found that year 15 did not trigger significant loss of affordable housing; very few LIHTC projects were converted to market-rate housing. Schwartz and Meléndez (2008) found that the greatest threat to long-term viability of LIHTC housing stemmed from the need for major capital improvements, not from expiration of income or rent restrictions. Meléndez, Schwartz, and DeMontrichard (2008) showed that LIHTC projects were more likely to remain affordable if they had nonprofit general partners, additional affordability restrictions, and high rehabilitation costs associated with conversion to market-rate housing. Khadduri et al. (2012) found that most LIHTC projects continued to operate as affordable housing without recapitalization after year 15; a smaller number were recapitalized as affordable housing, often with another round of LIHTC, and underwent rehabilitation; a very small number were converted to market-rate housing. Over time, they stated, older LIHTC properties would resemble other mid-market rental housing and would need to meet their capital needs the way other rental housing does.

These national studies pointed out that what happens at year 15 has implications for the preservation of LIHTC properties over the long term, such as who will own the properties, whether the new owners will exercise their qualified contract option to gain release from affordability compliance, and how owners will meet repair and renovation needs. Local market and neighborhood conditions affect all of these (Khadduri et al., 2012; Meléndez et al., 2008; Schwartz & Meléndez, 2008). "These developments will continue to fare quite differently depending on where they are located," Khadduri et al. (2012, p. xv) stated.

Financial advisors specializing in LIHTC assess project operating performance regularly during the initial 15-year compliance period. Based on national surveys, they have reported positive results for that stock, a finding that suggests most properties are in sound financial condition as they approach the year 15 transition. For example, a survey of LIHTC properties nationally by CohnReznick (2018) showed a small number of properties experienced foreclosure, with a cumulative foreclosure rate of only 0.71% nationwide through 2016, far below that for conventional apartment buildings. The survey showed a median debt coverage ratio of 1.40 and $688 per unit per year net cash flow (cash flow remaining after expenses, mandatory debt service, and required replacement reserve contributions), both very favorable results.

Despite these favorable industry analyses, several reports based on roundtable discussions, focus groups, and interviews with industry participants have pointed to likely challenges at year 15 for the preservation of LIHTC housing (e.g., Belsky & Nipson, 2010; Clarke, 2012). The participants cited the difficulties in obtaining new capital to address the need for repairs and rehabilitation, the complexities of restructuring partnerships and negotiating investors' exit, and the need for stronger physical and asset management. They also noted that many general partners were not prepared for the year-15 changes.

The lack of additional empirical research on the year-15 issue suggests that housing scholars and industry participants see challenges in the ownership transition and the properties' financial and physical conditions at year 15 but that they do not consider these a serious threat to the preservation of LIHTC housing. The research, surveys, and reports, however, leave several gaps in knowledge. The most recent study (Khadduri et al., 2012) examined LIHTC projects that reached year 15 before 2009. Since then, the nation's rental housing market has tightened. The supply of low-cost rental housing shrank considerably after the recession, with low-income renters now far outnumbering the units they can afford. Forty-seven percent of renters are cost burdened, paying more than 30% of their incomes in rent (Joint Center for Housing Studies, 2018). The need for affordable housing has intensified. However, in some markets the severe recession that began in 2007 stressed LIHTC properties' finances and undermined the capacity of general partners. These changes could affect the experience at year 15 and the viability of projects in the extended use period. The generalizations in the older national studies might have become less applicable.

Furthermore, at the time of the national studies, most of the LIHTC projects that had reached year 15 were only 15 to 20 years old. We do not know how projects fared further into the extended-use period. Regular industry surveys of LIHTC properties' performance do not cover those projects since they rely on data from syndicators whose investors no longer own the properties. State HFA monitoring and enforcement of program compliance after year 15 vary and, in many cases, are unknown (Aurand, Emmanuel, Stater, & McElwain, 2018). Properties likely function differently than they did in the first 15 years, because government officials have little leverage over owners, properties have aged, and neighborhood contexts may have changed.

With its decentralized, market-driven approach, the LIHTC program works within the constraints of local housing markets. No studies have examined in detail the relationship between local housing market conditions and the year-15 transition. The state and local government officials and others who assume responsibility for preserving LIHTC housing after year 15 need to know what challenges year 15 poses for LIHTC properties in their local housing markets to develop strategies to preserve quality affordable housing. The history of U.S. housing policy has shown that sustaining affordable housing over time is difficult in all types of housing markets (Bratt, Keyes, Schwartz, &

Vidal, 1994; Bratt, Vidal, Schwartz, Keyes, & Stockard, 1998; Clay & Wallace, 1990; Korman-Houston, 2009; Smith, 1999). Studies have not thoroughly examined the challenges weak housing markets pose for LIHTC projects' ownership transition at year 15 or preservation after year 15.

Research Design and Methods

This research fills some of the gaps in knowledge through a study of the challenges that LIHTC projects face as they approach year 15 in Detroit. Detroit has a weak housing market, as explained further below, and thus provides a particularly useful picture of how LIHTC projects fare when local conditions are difficult. This research addressed two principal questions. First, what happened to LIHTC projects that reached year 15 through 2017, and how does their status vary by project type? Second, what are the financial conditions of projects that have recently reached year 15 or soon will?

To determine what happened to projects that reached year 15 through 2017, we used public records to investigate the history and current conditions of the 155 projects with 5,448 low-income units that had reached that transition.[3] We also searched for news about projects and developers. We reviewed financial audits for 2015 when we could obtain these. We interviewed 19 individuals about their knowledge of projects' status and about details of program implementation. Interviewees were involved in developing and managing LIHTC projects, syndicating tax credits, overseeing projects from the Michigan State Housing Development Authority (MSHDA), and addressing legal aspects of LIHTC projects. The interviewees served as key informants who helped us learn the roles that industry participants played in the complex LIHTC operating system and in the year-15 transition. We looked at photographs in Google StreetView and Motor City Mapping (Data Driven Detroit & Loveland Technologies, 2013–2014; Google Maps, 2007–2018). In some cases, we visited the properties to see whether they were occupied or in habitable condition. We judged a property permanently uninhabitable if the structure had been demolished, the building was vacant and open (many of which were owned by the Detroit Land Bank Authority), the structure had extensive fire damage, or the project's audit stated the number of units permanently removed from occupancy (usually due to flood or fire). Because we could not identify all units permanently removed from service in this way, our estimate of units not habitable is an underestimate.

To determine financial conditions, we analyzed the 2015 financial audits for 63 of the 105 Detroit projects reaching year 15 from 2016 through 2022. We received the audits from two syndicators, MSHDA, and three nonprofit developers. We interviewed those who gave us audits to check our understanding of the findings. The projects with audits have characteristics similar to all projects so we expect the findings represent what all 105 projects likely face (see Appendix Figure A1).

We undertook this research in partnership with the Community Development Advocates of Detroit (CDAD, the trade association for community development organizations) Affordable Housing Work Group. The work group, besides CDAD staff, includes representatives from syndicators, Detroit Local Initiatives Support Corporation, other community development financial institutions, and several nonprofit developers who served as general partners in LIHTC projects; lawyers who work on all stages of LIHTC projects; and the policy director and staff of the Detroit Housing and Revitalization Department. The group formed in mid-2015 because of their alarm about the status of thousands of LIHTC units that would soon reach year 15, a situation they termed a "crisis." About half of all LIHTC units in Detroit, about 7,700, would reach year 15 from 2016 through 2022. We attended their meetings and worked with them from 2015 through 2019 to provide data analysis and help identify challenges and strategies for addressing these. We interviewed them, often several times; they referred us to data and industry analyses, reacted to our preliminary results, and pointed out additional issues to consider.

The next sections first explain the context of the LIHTC housing stock and the local housing market. Then we analyze, first, the status of the projects that have reached year 15, and, second, the financial conditions of projects now facing year 15. Both have implications for the future of the LIHTC projects after they have reached year 15 and for interventions to preserve them. The last section discusses the implications of our study and what remains unknown.

LIHTC Development in Detroit

From 1987 through 2015, Detroit saw the development of 317 LIHTC projects, with a total of 15,257 low-income units. Most of the low-income LIHTC units were in multifamily structures (see Table 1). Two thirds of these multifamily units were in rehabilitated projects. The focus on rehabilitation in Detroit reflected the fact that the city has a declining population and an old housing stock, with 80% of the city's housing units built before the 1960s. The large number of units in rehabilitated buildings suggested that these could need considerable renovation after year 15 unless the original rehabilitation had been extensive (Khadduri et al., 2012, p. xiv). The city had few new housing developments from the 1970s through the early 2000s. Although a minority of the LIHTC production, the new housing units added significantly to the city's housing stock, accounting for about a quarter to a third of all new housing units built since 1990.[4]

About 10% of the low-income units were single-family housing. From 1987 through 1996, in a first phase of funding single-family houses, MSHDA awarded tax credits to a few for-profit landlords for the rehabilitation of houses, for a total of 125 units. None had syndicator involvement; the landlords used the tax credits to reduce their businesses' tax liability. The rehabilitated units in the first phase are long past year 15.

Starting in 2000, in a second phase, MSHDA awarded tax credits to 33 new scattered-site, single-family housing developments that collectively produced 1,384 units. All worked with syndicators, and the majority included nonprofit developers. These projects greatly increased nonprofit developers' involvement in real estate development. The nonprofit organizations' goal, shared by Detroit city officials and reflected in MSHDA policy, was to strengthen neighborhoods and encourage others' investment (Deng, 2013; Dewar, 2013; Michigan State Housing Development Authority, 2019: 2001–2008 Qualified Allocation Plans; Rose, 2003). Units produced in the second phase have recently reached year 15 or will soon do so (Michigan State Housing Development Authority [MSHDA], 2015/2018; U.S. Department of Housing and Urban Development, 2018).

A large number of these Detroit LIHTC units have reached year 15, and many more will soon face this transition (see Figure 1), the cause of the CDAD work group's concern. From 2016 through 2022, 105 LIHTC projects—7,743 low-income units (about half the city's total low-income units in LIHTC projects)—have reached or will reach year 15. Although the transition is straightforward for some projects, the changes can take several years for others. Several characteristics of projects can affect this transition, as discussed below.

Table 1. Number of projects and units in different types of Low-Income Housing Tax Credit projects with tax credits allocated 1987–2015 in Detroit, Michigan.

Type of development	No. of projects	All projects (%)	No. of units	All units (%)	No. of low-income units	Low-income units (%)
Multifamily	181	57.1	15,205	91.0	13,748	90.1
New construction	77	24.3	4,795	28.7	4,002	26.2
Acquisition and rehabilitation	96	30.3	9,596	57.4	9,115	59.7
Both new construction and acquisition/rehab	8	2.5	814	4.9	631	4.1
Single family	136	42.9	1,509	9.0	1,509	9.9
Scattered-site new construction	33	10.4	1,384	8.3	1,384	9.1
Single-family rehabilitation	103	32.5	125	0.7	125	0.8
Total	317	100.0	16,714	100.0	15,257	100.0

Sources: National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/

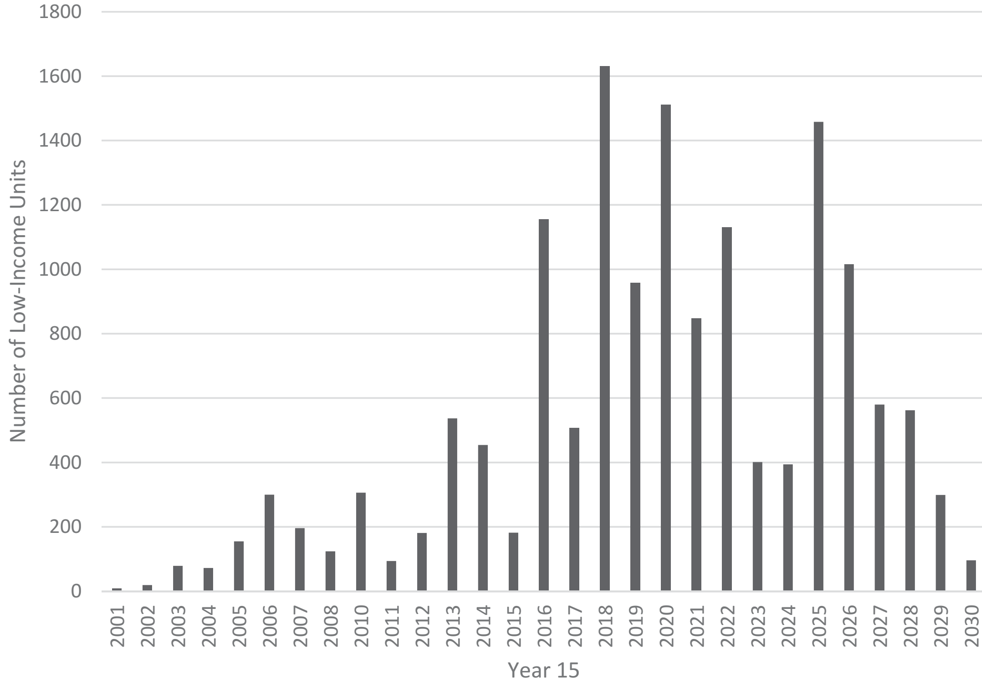

Figure 1. Number of low-income units by year 15.

Sources: National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/.

LIHTC Projects by Credit Type and Project-Based Assistance

The type of tax credits projects received and whether projects have other project-based rent assistance affect the financial condition in the compliance period and therefore have implications for the projects' year-15 transition. The majority of multifamily housing projects received 9% tax

Table 2. Types of tax credit financing and provision of project-based assistance[a] for multifamily Low-Income Housing Tax Credit projects with allocations of tax credits through 2015 in Detroit, Michigan.

Type of tax credits	No. of projects	No. of low-income units	Low-income units (%)	Project-based assistance	No. of projects	No. of low-income units
4%	22	3,849	27.9	No	5	445
				Yes	17	3,404
9%	137	8,560	62.0	No	83	3,687
				Yes	54	4,873
Section 1602 tax credit exchange program[b]	14	967	7.0	No	4	262
				Yes	10	705
Unknown	9	420	3.0	No	8	408
				Yes	1	12
Total	182	13,796	100.0	No	100	4,802
				Yes	82	8,994

[a]Project-based assistance includes several U.S. Department of Housing and Urban Development rental assistance programs (Section 8 New Construction/Rehabilitation, Section 8 Property Disposition & Loan Management Program, Section 236), public housing (including HOPE VI redevelopment), and project-based vouchers administered by MSHDA. All single-family housing projects in Detroit were funded by 9% tax credits, and none have project-based assistance.

[b]The Section 1602 tax credit exchange program under the American Recovery and Reinvestment Act (ARRA) of 2009 provided direct development grants instead of tax credits. Projects that received these do not need to go through a transition at year 15, and we exclude them from subsequent analysis of year 15 prospects.

Sources: National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; The HOME program: Home investment partnerships, by U.S. Department of Housing and Urban Development, 2019a, retrieved from https://www.hud.gov/hudprograms/home-program; Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/; Development projects, by Detroit Housing Commission, 2018, retrieved from http://www.dhcmi.org/developmentProjects.aspx.

credits (see Table 2). Many multifamily projects received other project-based assistance in addition to tax credits. Many of the projects with project-based assistance were rehabilitated older properties that had been subsidized through earlier housing programs. More than three fourths of 4% tax credit projects had project-based assistance, whereas about 40% of the 9% projects had such assistance.

Project-based assistance meant that many units could serve households with lower incomes than the LIHTC program required. Eighty-one percent of the units with rents restricted at the 60% AMI level were in developments that also received other project-based assistance, and so may have served tenants with much lower incomes if the other project-based assistance paid the difference between the rents charged by the units and households' ability to pay.

Location of LIHTC Projects

LIHTC projects existed in many parts of the city but were densest in the greater downtown area, where development interest grew and rents rose in the last decade (see Figure 2(a)). About one third of the low-income housing units were located in this area. The projects had been built in urban renewal areas or were rehabilitated when demand for housing in the area had been weak in past decades. These multifamily projects were most vulnerable to owners' efforts to obtain release from affordability restrictions after year 15 through the qualified contract process or mortgage or tax foreclosure. Fifty-five percent of the projects in the greater downtown area had no nonprofit partners and were not part of HOPE VI, adding to the risk of conversion to market rate.

City officials designated targeted multifamily housing areas in 2016. The director of the Housing and Revitalization Department announced that city officials would endorse applications for grants and subsidies for new construction only in the multifamily housing areas, to reinforce those stronger neighborhood housing markets (City of Detroit Housing and Revitalization Department, 2018a). About 20% of LIHTC low-income units were in those target areas. Forty-seven percent of the low-income tax credit units, including most single-family, scattered-site projects, were located outside the greater downtown and the targeted areas, in areas less likely to receive investment from either public or private sectors. As Figure 2(b) shows, the pattern is similar for LIHTC projects reaching year 15 from 2016 through 2022. Although many of the areas not targeted might have been considered neighborhoods with potential for improvement through subsidized housing development in the early 2000s, the loss of population during the recession undermined them. City officials stated that they would work on preserving projects outside the targeted areas; nevertheless, recapitalization in those locations could be difficult, and continued neighborhood decline could challenge LIHTC project operation (City of Detroit Housing and Revitalization Department, 2018b).

Changes in the Detroit Housing Market and Their Effects on LIHTC Projects

Projects reaching year 15 from 2016 through 2022 received financing in the early 2000s before the severe recession that began in 2008. The conditions they face at year 15 reflect changes in the local housing market that have affected the operation and financial performance of the projects. Detroit experienced a modest housing boom in the late 1990s and early 2000s that led to an increase in property values and rents despite continuing population loss. This changed in the mid-2000s as the city experienced widespread mortgage foreclosures. As one of the worst-hit housing markets in the country, Detroit lost all the property value gains of the early 2000s and more (Deng, Seymour, Dewar, & Thomas, 2018). The total housing vacancy rate rose from 8% in 2005 to 29% in 2010 (see Table 3). Rising unemployment reduced household incomes. As many homeowners had to rent after losing their homes to mortgage foreclosure, rents continued to increase, although slowly.

After 2010, as much of the country recovered from the recession, the Detroit housing market remained weak. Housing values continued to decline, although housing vacancy stabilized. In 2015, 40% of the city's population lived in poverty, and a majority of households rented their homes (U.S. Bureau of the Census, 2015). Like many other housing markets, Detroit had an undersupply of

Figure 2. (a) Location of Low-Income Housing Tax Credit (LIHTC) projects in Detroit, Michigan, in relation to targeted multifamily housing areas and greater downtown; (b) location of LIHTC projects reaching year 15 from 2016 through 2022.

Note. The maps do not include projects that received financing through the tax credit exchange program of Section 1602 in 2008 and 2009 under the American Recovery and Reinvestment Act. Figure 2(a) also excludes 106 projects (520 low-income units; 96 single-unit projects) that MSHDA no longer monitors. The number of units in both maps reflects an average number of units calculated by dividing the total number of units by the number of addresses in each project. Projects range from one address to as many as 60.

Sources: National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/; Property addresses for single-family, scattered-site houses, by Michigan State Housing Development Authority, 2016, received through Freedom of Information Act request; 2000 TIGER/Line Shapefiles, by U.S. Bureau of the Census, 2000b, retrieved from https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html; Parcel map [datafile], by City of Detroit Assessor's Office, 2015, retrieved from City of Detroit open data portal.

Table 3. Characteristics of the housing market in Detroit, Michigan, 2000–2015.

Year	Population	Housing vacancy rate (%)	Median housing value ($)	Homeownership rate (%)	Median gross rent ($)	Median renter household income ($)	Costburdened renter households (%)[a]
2000	951,270	10	63,600	55	486	20,530	40
2005	836,056	8	88,300	55	675	17,240	59
2010	713,777	29	53,900	53	733	15,596	70
2015	677,124	29	42,600	47	747	18,526	64

[a]Cost-burdened means that households paid more than 30% of their income for rent.

Sources: 2000 census of population and housing, SF1 & SF3, by U.S. Bureau of the Census, 2000a, retrieved from https://www.census.gov/programs-surveys/decennial-census/data/datasets.2000.html; 2005 American community survey, 1-year estimates, by U.S. Bureau of the Census, available through American FactFinder; 2010a American community survey, 1-year estimates, by U.S. Bureau of the Census, available through American FactFinder; 2010b census of population and housing, by U.S. Bureau of the Census, available through American FactFinder; 2015 American community survey, by U.S. Bureau of the Census, available through American FactFinder. Margins of error are not shown.

affordable housing for extremely low-income households. In 2015 about 22,700 units could be rented at or below $500 and were affordable to households with incomes at or less than 30% of AMI, but these units could house only a little more than 30% of the rental households in this income range. In contrast, the city had an oversupply of units for households making between 30% and 60% of AMI; these households would occupy only about 44% of the units that were affordable for them (U.S. Bureau of the Census, 2015).[5] A majority of rental households could not find affordable housing; almost two thirds of them were cost burdened (paying more than 30% of their income on housing) in 2015.

The losses in the Detroit housing market after 2005 posed challenges for the operation and management of LIHTC properties, especially those placed in service in the early 2000s and now approaching year 15. The decline in household incomes meant that AMI (determined at the county level) either stagnated or declined after 2007. Even with full occupancy, rents that LIHTC projects could collect barely grew. The underwriting for LIHTC projects built in the early 2000s had often assumed a 2% annual growth in AMI and rents that had been reasonable at that time. Population loss and the resulting vacancy and disinvestment in neighborhoods also made management more difficult, especially for single-family, scattered-site projects. City government had long suffered declining revenues and cut city services. By the time the city government declared bankruptcy in 2013, even fire and police services were inadequate (Bomey, 2017). LIHTC property owners needed to supply many services that the city no longer did. Projects' reduced revenue-generating capacity coupled with rising operating costs meant that many projects struggled financially.

The prolonged recession decimated the city's nonprofit development industry, a type of developer more likely to preserve affordable housing over the long term, according to previous studies (Meléndez et al., 2008). Detroit lost 40% of its community development corporations, and among those that survived, 72% lost revenue during the recession (Thomson & Etienne, 2017).[6] As in the nation as a whole, for-profit developers had built or renovated a majority of the LIHTC projects; nonprofit developers produced only about 18% of the low-income units in Detroit, sometimes in partnership with for-profit developers (Michigan Department of Licensing and Regulatory Affairs, 2018; U.S. Department of Housing and Urban Development, 2018). For projects reaching year 15 from 2016 through 2022, 23 projects with about 16% of the low-income units had a nonprofit general partner (Michigan Department of Licensing and Regulatory Affairs, 2018; MSHDA, 2015/2018). These projects accounted for more than 1,000 low-income units. As our community partners frequently pointed out in interviews and meetings, by 2015, few of the nonprofit general partners had both capacity and willingness to take over property ownership after year 15, which had implications for projects' ability to provide quality affordable housing in the extended-use period.

In the context of very weak market conditions, the LIHTC housing has been a major source of the city's newer and better quality housing available to lower income households. The city's housing stock has deteriorated over decades of falling housing demand. In addition, single-family housing units dominate the city's housing stock, whereas demand for multifamily housing is growing

(Poethig et al., 2017). A majority of the LIHTC projects provide multifamily housing, which has addressed some of the need for such housing. Ensuring that the LIHTC projects can continue to operate in good condition after year 15, despite a weak market, is important for the city's future.

Although the weakness of Detroit's housing market is extreme, the city shares characteristics with other older industrial cities that have experienced population loss and disinvestment (Dewar & Thomas, 2013). Even in cities where population loss is not a major concern, some neighborhoods with LIHTC projects have very weak market conditions. The situation facing projects in cities with weak markets gets hidden in national studies, and consideration of citywide conditions in stronger markets may ignore the challenges facing LIHTC projects in neighborhoods with weaker housing submarkets. The Detroit case thus serves to expose more clearly what projects in those market contexts may face, and offers lessons on the long-term viability of LIHTC developments in those places. The next two sections examine the year-15 challenges more closely for Detroit LIHTC projects.

Detroit LIHTC Projects' Experience After Year 15

From 2004 through 2017, 75 multifamily and 80 single-family Detroit projects with 5448 low-income units reached year 15. These projects had been placed in service after 1989 and thus fell under the extended-use agreement. What happened to these projects after year 15 suggests the challenges that LIHTC projects face in a weak housing market and may indicate what will happen to projects that now face the year-15 transition. Our community partners expected multifamily projects to have more positive results than single-family projects after year 15 because of greater efficiency in property management. Previous research pointed to the importance of syndicators in LIHTC projects (U.S. Government Accountability Office, 2017). The status of the projects did indeed vary between multifamily and single-family projects and between single-family projects with syndicators and those without. These differences illustrated the important role that mission-driven syndicators can play in preserving LIHTC housing over the long term.[7]

As noted earlier, empirical studies of what has happened to properties nationally after year 15 concluded that the greatest threat to projects' continuing to provide affordable housing in good condition was the need to finance physical improvements. The "vast majority" (Khadduri et al., 2012, p. 49) of projects that had passed year 15 continued to provide affordable housing to the same populations although without significant new financing. A "moderate number" (Khadduri et al. 2012, p. 49) of properties were recapitalized as affordable housing with major new subsidies that allowed extensive renovations. Brokers and syndicators estimated that 15% to 20% of projects were resyndicated with tax credits. "The smallest group" (Khadduri et al., 2012, p. 49) of properties were repositioned as market-rate housing. Foreclosures were extremely rare, 1% to 2% (Khadduri et al., 2012; Meléndez et al., 2008; Schwartz & Meléndez, 2008).[8]

Multifamily Projects

Detroit multifamily projects that reached year 15 through 2017 had less favorable results than these generalizations about the national picture, most notably in the higher rate of foreclosures and the numbers of uninhabitable units. Nearly half the projects continued to operate as before at the same rent levels, serving the same populations, without recapitalization—a smaller proportion than suggested by the previous studies. These projects accounted for close to 40% of the low-income units (see Table 4).

A little less than 30% of projects were recapitalized as affordable housing within a few years after they reached year 15, a share slightly higher than the national studies' estimates. MSHDA helped with most of those. Six of the 19 recapitalized projects received a second round of 9% tax credit financing. Three received Section 1602 tax credit exchange grants, one of these with a taxable bond mortgage as well. Most commonly, the projects received an allocation of 4% tax credits with a tax-exempt-bond-financed mortgage, an option that MSHDA promoted for preservation of LIHTC projects.

Table 4. Status in late 2018 of all multifamily projects placed in service after 1989 that reached year 15 through 2017.

Status as of late 2018	No. of projects	Projects (%)	No. of low-income units	Low-income units (%)
Continue to operate as restricted affordable rentals without recapitalization	36	48.0	2,070	40.0
Some units not habitable	2	2.7	28	0.5
Recapitalized as affordable housing	22	29.3	2,002	38.7
With MSHDA funds	19	25.3	1,809	35.0
Some units not habitable	1	1.3	62	1.2
Foreclosed[a] or terminated	11	14.7	480	9.3
Rents higher than affordable	4	5.3	102	2.0
Rents remain affordable	4	5.3	169	3.3
Could not determine rent level	1	1.3	38	0.7
No longer habitable	2	2.7	171	3.3
Transition incomplete or could not be determined	6	8.0	621	12.0
Some units not habitable	0	0.0	0	0.0
Total	75	100.0	5,173	100.0

[a]Includes two tax and nine mortgage foreclosures. One project had both, and one was terminated early after the developer was murdered (Man charged in death of community activist, press release, by Wayne County Office of the Prosecuting Attorney, 2005, August 10.

Sources: Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/; National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; Wayne County land records, public search, by Wayne County Register of Deeds (2018), retrieved from https://www.waynecountylandrecords.com; Parcels with ownership, assessment, and taxable value [datafile], by City of Detroit Assessor's Office, 2018, available through City of Detroit open data portal; StreetView photographs, by Google Maps (2007–2018), available at google.com/maps; Corporate filings, business entity search, by Michigan Department of Licensing and Regulatory Affairs, 2018, retrieved from https://cofs.lara.state.mi.us/corpweb/CorpSearch/CorpSearch.aspx; Motor City Mapping certified results [datafile], by Data Driven Detroit & Loveland Technologies, 2013, December–2014, January, available through Data Driven Detroit open data portal; Homes for rent [website], by Zillow, 2018, retrieved from Zillow.com; interviews with developers and syndicators.

Other post-year-15 experiences diverged from the national findings. Almost 15% of Detroit multifamily projects had gone through tax or mortgage foreclosure, including slightly more than 9% of low-income units, much higher than what national studies had reported. One project had experienced both types of foreclosure. Foreclosure of either type ended the projects' affordability restrictions, with the requirement that tenants would have up to 3 years to find other housing (Michigan State Housing Development Authority, 2013).

The foreclosures revealed challenges in the preservation of projects. MSHDA was the foreclosing lender for eight projects (a bank foreclosed on the one other project that experienced mortgage foreclosure and later went through tax foreclosure as well). All but one MSHDA foreclosure occurred after year 15. Since these projects had mortgages from MSHDA, the agency had a fiduciary responsibility to their bond investors to carry out foreclosure. Nevertheless, MSHDA could have worked more closely with city officials and syndicators to avoid foreclosure, according to those involved in these issues in the city.

Three of MSHDA's foreclosed projects continued to provide affordable housing because MSHDA operated them in areas where prevailing market rents were low or, in one case, because MSHDA sold the property to the Detroit Housing Commission, securing affordability. In two other cases, MSHDA sold the properties to investors who charged much higher rents. In another, a private investor purchased the property at the sheriff's auction following mortgage foreclosure in an area that had experienced a considerable jump in property values and rents after a 2018 announcement of a major redevelopment project by Ford Motor Company. This was the first time that an investor prevented MSHDA from taking ownership of a property in a foreclosure proceeding. As of 2018, MSHDA continued to own three of the foreclosed projects. The agency planned to sell one of these located in an area of rising rents (Michigan State Housing Development Authority, 2018c). Another had sat vacant and unsecured for years and likely would require demolition. One other property had gone through tax foreclosure. It was located near the Detroit Institute of Arts, an area of rising rents, and was under renovation as market-rate housing in 2018.

Unlike the estimates from the national studies, many of the multifamily projects that had passed year 15 had some or all units that were uninhabitable. These uninhabitable units made up at least 5% of the low-income units. This number did not include units that were temporarily uninhabitable but that would be repaired and reoccupied. In one case, a financial institution foreclosed on a project with 135 low-income units about a year before the building reached year 15. The financial institution sold the building to a company which then sold the property again. The new owner initially sought to renovate the building, but the recession interfered, and the owner lost the building to tax foreclosure in 2011. As of 2018 the building remained open and vacant. In another situation, a project experienced a major fire in one of its two multifamily buildings, and the owners decided to continue to secure the vacant, fire-damaged building and to use the insurance funds to improve the condition of the other building to address its financial difficulties.

Although investors usually wish to exit projects at year 15, they do not necessarily do so because the general partner may not have the capacity or willingness to assume ownership or because a mission-driven syndicator seeks to assure that the financial condition is stable, the property in adequate condition, and the management capable. With these conditions met, the new owner more likely will be able to sustain the units as well-maintained, affordable housing. The transition of ownership occurred an average of 2 years after year 15, with a range from 3 years before the end of the compliance period to 10 years after. As of late 2018, the ownership transition was incomplete or sometimes not reflected in regulatory filings, in the case of out-of-state, for-profit syndicators, for six multifamily projects that had reached year 15 by 2017.

Table 5. Status in late 2018 of single-family houses placed in service after 1989 that reached year 15 through 2017.

	With syndicators		Without syndicators		Total	
Status as of late 2018	No. of units	No. of units	No. of units	No. of units	No. of units	No. of units
Continue to operate as restricted affordable rentals	110	60.8	0	0.0	110	40.0
Recapitalized as affordable housing	0	0.0	0	0.0	0	0.0
Operate as unrestricted rental housing	0	0.0	54	57.4	54	19.6
Owner occupied	0	0.0	7	7.4	7	2.5
Foreclosed[a]	0	0.0	64	68.1	64	23.3
Units no longer habitable or vacant lots	0	0.0	33	35.1	33	12.0
Transition not complete	71	39.2	Not applicable		71	25.8
Units no longer habitable or vacant lots	6	3.3	Not applicable		6	2.2
Owned by the Detroit Land Bank	0	0.0	32	34.0	32	11.6
Total	181	100.0	94[b]	100.0[b]	275	100.0

[a]Units without syndicators experienced 64 tax and 17 mortgage foreclosures with four properties experiencing two tax foreclosures, one experiencing three tax foreclosures, and 12 experiencing both tax and mortgage foreclosures.

[b]Columns sum to more than totals because 31 of the foreclosed houses that did not have syndicators' involvement continued as rental or owner-occupied houses, and the properties owned by the Land Bank had also been tax foreclosed; therefore, 63 properties were counted more than once.

Sources: Parcels with ownership, assessment, and taxable value [datafile], by City of Detroit Assessor's Office, 2018, available through City of Detroit open data portal; StreetView photographs, by Google Maps, 2007–2018, available at google.com/maps; Archival tax foreclosures in Detroit [datafile], by Data Driven Detroit, 2002–2013, available through Data Driven Detroit open data portal; Demolitions [datafile], by Detroit Land Bank Authority & Detroit Building Authority, 2014, January–2018, November, available through City of Detroit open data portal; Motor City Mapping certified results [datafile], by Data Driven Detroit & Loveland Technologies, 2013, December–2014, January, available through Data Driven Detroit open data portal; NESHAP notifications tied to demolition activity [datafile], by Michigan Department of Environment, Great Lakes, and Energy, 2009–2015, April, available from Data Driven Detroit http://portal.datadrivendetroit.org/datasets/df78e3e7ab44493aa15855f0b308643d_0; Corporate filings, business entity search, by Michigan Department of Licensing and Regulatory Affairs, 2018, retrieved from https://cofs.lara.state.mi.us/corpweb/CorpSearch/CorpSearch.aspx; Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/; National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; Wayne County land records, public search, by Wayne County Register of Deeds, 2018, retrieved from https://www.waynecountylandrecords.com; Homes for rent [website], by Zillow, 2018, retrieved from Zillow.com; interviews with developers and syndicators.

Single-Family Housing Projects

Single-family houses made up only about 5% of the low-income units financed in Detroit after 1989 that had reached year 15 through 2017. Single-family projects fared worse than multifamily ones after the year-15 transition, our community partners asserted often, and data confirmed this (see Table 5). The experience with the year-15 transition for single-family, scattered-site projects shows that preserving such housing as affordable and well maintained is difficult and requires substantial additional resources when the general partners are unable or unwilling to take over the projects. In part, the difficulties are due to the loss of property value in relation to debt, as mentioned above, and the lack of capacity to repay new debt given low net operating income. Forty percent of the single-family housing units continued to operate under restricted affordability, as they had since they were placed in service. None were recapitalized. Twenty-three percent of units experienced tax or mortgage foreclosure or both. Fourteen percent were no longer habitable; some of these houses had been demolished, and others needed demolition.

Projects With Syndicators

This overall picture hides considerable differences between projects with syndicators and those without. Projects with syndicators fared better. The differences in results show the importance of syndicators, especially mission-focused ones, in managing the assets during the first 15 years and in exiting projects only when projects are positioned to continue as affordable housing. Syndicators purchased the tax credits for five single-family, scattered-site projects with a total of 181 units; they monitored the properties and intervened to assure the projects could continue and to preserve the investors' returns. All the housing units were new, placed in service from 2000 through 2003. In the initial application for tax credits, developers had stated that the houses would be part of a lease-to-own program, but no projects had prepared for sale to the renters during the 15-year period. Nonprofit developers had led all except one project, and that one had been developed in consultation with the neighborhood community development organization. Previous studies of the national experience at year 15 said that the presence of nonprofit general partners made continued affordability more likely (Khadduri et al., 2012; Meléndez et al., 2008; Schwartz & Meléndez, 2008). All the units in the three projects where investors had exited from property ownership continued to operate as restricted affordable rentals. The year-15 ownership transition had not yet occurred for two of the projects. In these two, six of 71 units had been demolished.

For the three projects (110 units) where investors had exited, the ownership change was not expected to last long. The new owners intended to sell houses to the tenants if they wished to purchase and had the financial capacity to do so (Welch, 2017). The viability of selling homes to tenants in the case of some projects depended on negotiation of debt with lenders because projects had lost so much value during the recession that debt could exceed value. Tenants would not be willing or able to take over that much debt; another source of subsidy would be needed.

Numerous single-family, scattered-site projects that had not reached year 15 faced significant challenges that would make their year-15 transition even more difficult. A large for-profit real estate developer based in Cleveland, Ohio, had partnered on this type of LIHTC project with multiple nonprofit organizations but did not participate in projects' management after these were placed in service. In numerous cases, the syndicators replaced general partners/developers with organizations affiliated with the syndicators when the general partners went out of business or could not keep projects financially and physically viable. Syndicators also purchased privately held debt to prevent mortgage foreclosures. In a public meeting in 2018, an official from MSHDA said of single-family, scattered-site projects, "It didn't work out real well.... They leave a black eye on the LIHTC program." A 2018 windshield assessment of the houses that were part of a project built by the Cleveland for-profit developer and a Detroit nonprofit organization showed that 12 of the 45 houses were vacant; many of these were only partially boarded and therefore likely permanently uninhabitable; two of the 12 vacant structures had burned.

A mission-driven, nonprofit syndicator, Cinnaire, has the largest portfolio in the city. By 2018 Cinnaire had taken over 400 single-family houses, serving as both general partner and limited partner. This was not their line of business, a Cinnaire representative said; they would rather sell properties to the general partner or to another entity. As leaders of Cinnaire's transition efforts stated, however, strong demand existed for such houses as long as management maintained the properties. Cinnaire's goal to preserve the single-family stock of affordable housing distinguished the organization from for-profit syndicators seeking to get out of projects even when the projects were experiencing management or financial difficulties.

Projects Without Syndicators

Single-family housing projects with LIHTC financing that did not involve syndicators fared considerably worse than did the scattered-site projects with syndicators, with over one third of properties demolished or uninhabitable (see Table 4). Although MSHDA no longer allocates tax credits to such projects, the results show what is likely to happen to single-family housing units in the longer term without strong property stewardship in a weak housing market.

This portfolio included six single-family, scattered-site projects with a total of 25 houses, and 69 projects that each had a single house (69 houses). All were rehabilitation projects carried out by a few landlords based in the suburbs or elsewhere in Michigan; all except four houses had been owned by entities associated with one investor. All projects received financing before 1997. Instead of selling tax credits to investors, these landlords used the tax credits to reduce their own tax liability, a practice that became less common later with changes in federal tax law (Khadduri et al., 2012, p. 32).

Although all these projects were placed in service after 1989 and fell under the restrictions for 30 years of affordability, all of them operated as unrestricted rentals as of 2018. In many cases, the properties had gone through mortgage or tax foreclosure or both, which released them from the affordability restrictions. In other cases, MSHDA had released the properties from restrictions. Many, perhaps all, units that remained rental housing were likely rented at levels below the maximum allowed by the LIHTC program.[9] A small share of the houses had become owner occupied. Owners had purchased the houses from the original investors, from subsequent investors, or at the county tax foreclosure auction.

Nearly 70% of the houses had experienced foreclosure. The investor who initially owned most of the properties purchased back a share of these at the tax foreclosure auction under different names. Many of the tenants had housing choice vouchers that guaranteed their rent payments (MacDonald, 2014).[10] Other properties had a range of experiences that reflected the practices of investors who were milking properties. As one example, in 2013 the United States District Court for the Eastern District of Michigan ruled on a case of mortgage fraud involving two of the same principal investor's LIHTC houses (U.S. District Court, 2013). Overall, more than half of the single-family properties without syndicators that had experienced foreclosure were uninhabitable or had been demolished as of late 2018.

The Detroit Land Bank Authority owned 34% of the houses or the vacant lots where demolition had occurred. This meant that the properties had gone through tax foreclosure and no one had bought them at two tax foreclosure auctions; the opening bid in the second auction was $500. After the second tax foreclosure auction, the Wayne County Treasurer transferred unsold properties to the City of Detroit, which passed the properties on to the Detroit Land Bank (MCL 211.78; Dewar, Seymour, & Druță, 2015).

Financial Condition of LIHTC Projects Approaching Year 15

In 2015, Detroit projects approaching year 15 were more financially stressed than projects included in national surveys. The projects' financial difficulties reflected the weak housing market conditions discussed above. Although rents and incomes rose slightly, expenses rose much more, according to project owners and syndicators. Table 6 compares financial indicators for Detroit projects with those of a national survey (CohnReznick, 2017). The median debt

Table 6. Financial condition for projects nationally and for Detroit projects reaching year 15 in 2016–2022.

	Status in 2015		Status in 2016
Indicator	Detroit projects reaching year 15, 2016–2022	National survey, all projects	National survey, projects reaching year 15, 2016–2022
Median debt coverage ratio[a] or income expense ratio	0.95	1.34	1.24–1.34
% of projects that are underperforming[b]	55	19	Not available
Median per unit net operating income minus hard debt service minus required replacement reserve[c]	($72)	$599	$458–$615
Median % economic occupancy[d]	97	97	96.2–97

[a]Debt coverage ratio = (net operating income − required replacement reserve contribution)/(mandatory debt service payments). In the cases where properties do not have hard debt, the income expense ratio is calculated as operating income divided by operating expenses (including replacement reserves contribution).
[b]A project is underperforming if the debt coverage ratio or income expense ratio is less than 1 or if economic occupancy is less than 90%.
[c]Replacement reserves are the amount LIHTC projects are required to put aside annually out of operating income to fund capital repairs and renovations.
[d]Economic occupancy is the ratio of actual collected rental income divided by gross potential rental income.
Sources: Housing tax credit investments: High performance and increased need, by Tax Credit Investment Services, CohnReznick, 2017, Sept., Boston, MA: Author; Housing tax credit investments: Investment and operational performance, by Tax Credit Investment Services, CohnReznick, 2018, April, Boston, MA: Author; 2015 financial audits for 63 of 105 Detroit projects reaching year 15, 2016–2022.

coverage ratio or income expense ratio in Detroit was 0.95, compared with a national median of 1.34. This meant that Detroit projects could not fund their replacement reserves sufficiently and risked mortgage foreclosure or management intervention by limited partners. More than half the projects were designated underperforming because their debt coverage ratio or income expense ratio was less than 1, because economic occupancy was less than 90%, or because both were true. Detroit projects lost a median of $72 per unit in 2015, whereas projects nationally realized a median of almost $600 per unit in their net operating income minus hard debt payments and required replacement reserves. The median economic occupancy rate in Detroit matched that of the national survey—both at 97%. That such a high level of LIHTC units were occupied and collecting rents in Detroit reflected strong demand for such housing, but the rent collected on many projects was insufficient to pay the debt obligations and expenses.

Projects' financial performance tends to weaken as buildings age with more repairs needed. Even so, comparison of the financial performance of Detroit projects approaching year 15 with those in a national survey showed Detroit projects had much weaker financial indicators. Nationally, financial data from 2016 showed that the median debt coverage ratio or income expense ratio ranged from 1.24 to 1.34 for the annual cohorts of projects reaching year 15 from 2016 through 2022, and the median net operating income per unit far exceeded that in Detroit despite the national cohorts' slightly lower median economic occupancy (CohnReznick, 2018).

The financial stress many Detroit projects faced meant that they had not funded their reserves as required. Even when fully funded, those reserves are usually insufficient to cover the need for renovation and repairs after 15 years (Khadduri et al., 2012, p. 48). For the 63 projects for which audits were available, the median reserve amount was only $1,327 per unit (see Table 7). A median of only 41% of the mandatory replacement reserves per project had been funded. Only six projects had funded replacement reserves up to the minimum amount required. Eleven of the 63 projects reported no replacement reserves at all. Therefore, unless projects received an infusion of external resources, they would not be able to meet their need for major capital improvements as properties aged.

Financial conditions varied for different types of projects approaching year 15 (see Table 8). Overall, multifamily projects fared better than scattered-site, single-family projects did. Multifamily projects with more units often did better than those with fewer units. Projects with other project-based rental

Table 7. Status of reserve funds in 2015 for projects reaching year 15 in 2016–2022 in Detroit, Michigan.

Reserve status	Minimum	Median	Maximum
Replacement reserves per unit	$0	$1,327	$7,868
% of mandatory replacement reserves funded	0	41	260
Total all types of reserves per unit[a]	$0	$2,829	$21,010

[a]Total reserves include operating reserves and escrow accounts as well as replacement reserves.
Source: 2015 financial audits for 63 of 105 Detroit projects reaching year 15 in 2016–2022.

Table 8. Financial indicators in 2015 for different types of projects reaching year 15 in 2016–2022 in Detroit, Michigan.

Type of project	No. of projects	No. of low-income units	Median debt coverage ratio or income expense ratio[a]	Projects under-performing (%)[b]
All	63	4,653	0.95	55.6
Multifamily	47	3,994	1.01	55.3
More than 30 units	35	3,787	1.04	54.3
30 or fewer units	12	207	0.91	58.3
With project-based assistance	15	2,703	1.10	40.0
Without project-based assistance	32	1,291	0.92	62.5
New construction	13	572	1.04	53.8
Acquisition and rehabilitation	33	3,348	0.95	57.6
Mix of new construction and rehabilitation	1	74	1.94	0.0
Scattered-site, single family	16	659	0.89	56.3
9% tax credits	56	3,052	0.94	60.7
4% tax credits	7	1,601	1.27	14.3

[a]Debt coverage ratio = (net operating income − required replacement reserve contribution) / (mandatory debt service payments). In the cases where properties do not have hard debt, the income expense ratio is calculated as operating income divided by operating expenses (including contribution to replacement reserves).
[b]A project is underperforming if the debt coverage ratio or income expense ratio is less than 1 or if economic occupancy is less than 90%.
Source: 2015 financial audits for 63 of 105 Detroit projects reaching year 15 in 2016–2022.

assistance, all of them multifamily, fared better than those without. Projects with 4% tax credits had a stronger financial position than those with 9% tax credit financing. The median debt coverage ratio or income expense ratio for 4% tax credit projects was above 1.25, whereas it was less than 1 for 9% tax credit projects. Reasons for these differences include the fact that all except one of the 4% projects had the advantage of other project-based rental assistance that allowed them to charge rents up to 60% of AMI, and all but one had over 100 units, thus offering economies of scale in management.

Overall, projects carried substantial debt as they approached year 15, meaning that they would need to renegotiate terms of hard debt and request forgiveness of some or all soft debt to sustain their operations, given their low debt coverage and income expense ratios. Four-percent projects carried a median total debt of about $59,000 per unit; 9% projects carried a median total debt of $41,000 per unit (see Table 9). For a rough comparison, the median housing value in Detroit was $42,600 in 2015 (see Table 3), and many projects were in neighborhoods where housing values were below the median. As our community partners often pointed out, the amount of debt was higher than the property value for many projects.

The type of debt varied between 4% and 9% projects. Because of the lower equity investment 4% projects received, they assumed a large amount of debt, with a median hard debt of almost $46,000 per unit. Six of the seven 4% projects received other project-based assistance so they could take on larger amounts of hard debt. The only 4% project without other project-based assistance was a mixed-income development where 60% of the units rented at market rate. Some 4% projects also had soft debt. In contrast, 9% projects had much smaller amounts of hard debt, with a median of almost $21,000 per unit. Eighteen of the fifty-six 9% projects with audits had no hard debt in 2015. Many of the 9% projects, however, carried substantial amounts of soft debt, with a median of about $46,000 per unit.

By 2015, most debt for any type of projects approaching year 15 came from MSHDA, the City of Detroit, and the syndicator Cinnaire. Although banks and other syndicators provided hard debt as

Table 9. Low-Income Housing Tax Credit projects' debt in 2015 as they approached year 15.

	Total debt		Hard debt[a]		Soft debt[a]	
Credit type	No. of projects	Median total debt per unit	No. of projects with hard debt	Median hard debt per unit	No. of projects with soft debt	Median soft debt per unit
4%	7	$58,817	7	$45,830	4	$10,367
9%	56	$41,142	38	$20,803	41	$46,052

[a]Hard debt refers to loans from banks and other entities that involve a contractual arrangement requiring repayment under specified terms and where the property serves as collateral backing the loan. A lender who forecloses on a property for the owner's failure to make debt payments takes ownership of the property. Soft debt refers to loans made by government agencies or other lenders that require payments only when the project has sufficient cash flow or only at maturity. When we had questions, we identified hard debt versus soft debt after consulting with our community partners.
Source: 2015 financial audits for 63 of the 105 projects reaching year 15 2016–2022.

Table 10. Major lenders in Low-Income Housing Tax Credit projects approaching year 15.

	Hard debt[a]				Soft debt[b]			
Credit type	No. of projects with hard debt	Top hard debt lenders	No. of projects funded by top lenders	Percentage of total hard debt by top lenders	No. of projects with soft debt	Top soft debt lenders	No. of projects funded by top lenders	Percentage of total soft debt by top lenders
4%	7	MSHDA	6	83	4	[b]	[b]	[b]
9%	38	Cinnaire	20	28	41	City of Detroit	30	79
		MSHDA	4	28		MSHDA	3	5

[a]Hard debt refers to loans from banks and other entities that involve a contractual arrangement requiring repayment under specified terms and where the property serves as collateral backing the loan. A lender who forecloses on a property for the owner's failure to make debt payments takes ownership of the property. Soft debt refers to loans made by government agencies or other lenders that require payments only when the project has sufficient cash flow or only at maturity. When we had questions, we identified hard debt versus soft debt after consulting with our community partners.
[b]Four lenders each made a loan to one of four projects. The City of Detroit made the largest loan, which was 32% of total soft debt to 4% tax-credit projects.
Sources: 2015 financial audits for 63 of the 105 projects reaching year 15 in 2016–2022.

well, no single bank or other syndicator dominated. This meant that loan renegotiation would primarily focus on MSHDA and the City of Detroit. Almost all hard debt for 4% projects came from MSHDA through bond financing (see Table 10) since only MSHDA-issued housing bonds can be used with 4% tax credits.

Among the 9% tax credit projects, the syndicator Cinnaire was the major lender of hard debt, accounting for 28% of the total amount (see Table 10). Syndicators' main responsibility is to raise equity, and they rarely make loans to projects at the development stage, but as many projects experienced financial difficulty before the end of year 15, the syndicators stepped in, either by issuing new loans or by purchasing the hard debt from other lenders to avoid mortgage foreclosure. MSHDA held hard debt for four out of thirty-eight 9% projects, also accounting for about 28% of the hard debt in 9% projects. MSHDA provided those loans through either taxable housing bonds or its other funding sources. Banks also provided hard debt for several 9% projects, but each of them held loans for only one or two projects.

The City of Detroit was the dominant provider of soft debt for 9% projects. Thirty of the forty-one 9% projects with soft debt had received a City of Detroit HOME loan, funded by the U.S. Department of Housing and Urban Development (HUD) HOME Investment Partnerships Program block grants for creating affordable housing for low-income households (U.S. Department of Housing and Urban Development, 2019b). City HOME funds accounted for 79% of the total amount of these projects' soft debt. Because 9% projects had much smaller amounts of hard debt and a large amount of soft debt from the City of Detroit, mortgage foreclosure rarely occurred. The intervention of syndicators was critical when projects could not make payments on hard debt.

Debt restructuring to preserve LIHTC housing after year 15 became a major policy issue for city officials. Delinquency on HOME loans was common. Deferred or accrued interest payments meant HOME loan balances grew over time. In the early 2000s, the city government had received more than $18 million per year in HOME funding from the federal government, but that funding dropped to only $4.3 million annually in 2016 (City of Detroit Housing and Revitalization Department, 2018a). Getting repayment of HOME loans could add to the resources for supporting affordable housing. Furthermore, HOME loans required an affordability period longer than 15 years, determined by the per-unit amount of HOME assistance and whether the project was new construction or rehabilitation (U.S. Department of Housing and Urban Development, 2019b). Many Detroit projects committed to adhering to HOME requirements for 20 years. City officials had to ensure that this requirement was met with the year 15 financial or ownership restructuring, or HUD would recapture HOME funding.

Implications of Detroit's Year-15 Experience for the LIHTC Program

The challenges facing Detroit's LIHTC projects at year 15 and afterward raise concerns about preservation of LIHTC projects in cities with weak housing markets. In Detroit, the status of projects that have passed year 15 and the financial condition of projects nearing year 15 are much worse than the national analyses of projects showed. Although many Detroit projects continued to operate as affordable housing without recapitalization after the year 15 transition, a considerable share of properties went through mortgage or tax foreclosure, and a sizable percentage were permanently lost from the housing stock. For the large number of projects that have reached year 15 in the last few years or are working on the transition now, financial indicators and information from industry participants suggest that their future is uncertain and could be worse than for those that completed the transition in the last 10 years or so. Without financial restructuring, some projects could experience mortgage foreclosure, and others may deteriorate quickly after limited partners exit ownership. This will not only result in the loss of public investment but also contribute to neighborhood disinvestment, as did some earlier LIHTC projects.

The preservation challenges vary for different types of projects and in different locations. The situation is especially dire for single-family, scattered-site housing projects. The dispersed locations of those units make property management challenging. Although MSHDA no longer funds this type of development, preservation of the large number of existing single-family units will require substantial intervention. Smaller multifamily projects are also in jeopardy after year 15, as MSHDA's mortgage foreclosures have shown. In contrast, in areas of rising rents, for-profit developers may seek to convert LIHTC projects to market-rate housing after they reach year 15. Although this risk is smaller for projects that received a tax credit allocation after 2005 because MSHDA required applicants to waive the qualified contract option, numerous multifamily projects in the greater downtown area received funding before 2005. Both public alarm, over rising housing costs and resident displacement, and city officials' announcements about preservation efforts have focused on the greater downtown area, although threats to LIHTC housing elsewhere in the city may be more extreme due to financial problems (Fox 2 Staff, 2019; Jemison, 2017; Williams, 2018).

In addition to financial and physical challenges, finding new owners to take over property ownership after year 15 is difficult in Detroit. Some nonprofit general partners went out of business, and others lacked capacity or interest in acquiring the projects (Thomson & Etienne, 2017). Some for-profit developers of troubled properties were also no longer active or had left the city. A small number of high-capacity nonprofit developers as well as a few for-profit developers that specialize in affordable housing preservation are likely to take over some of the properties and increase their economies of scale in affordable housing development and management. However, the size of the LIHTC housing stock reaching year 15 exceeds the capacity of the organizations that might be candidates for assuming ownership of additional projects. The issues associated with the year-15 ownership transition show that LIHTC's public–private partnership model, despite its achievements, can introduce uncertainties and risks about ownership that a direct development subsidy program does not have to face, especially if the investors or syndicators are not mission driven. LIHTC properties funded by the Section 1602 tax credit exchange grant do not need to go through ownership transition at year 15, although many of them face financial challenges.

Regardless of who will own the LIHTC properties after year 15, the central challenge in Detroit is how to ensure that the operation of affordable housing is a viable business. The Detroit experience highlights the tension between up-front cost-efficiency and long-term sustainability. Throughout the country LIHTC projects tend to be underwritten with tight margins to assure that projects receive the minimum subsidy needed to make the project work (Khadduri et al., 2012, p. 43). When the Detroit housing market did not fulfill the prerecession underwriting assumptions, properties became severely financially distressed. Recognizing these problems, MSHDA has adopted more conservative underwriting criteria, such as raising the projected utility costs and limiting the share of the units for extremely low-income households, so that properties will have sufficient revenues to deal with operating challenges (MSHDA, 2019). However, such efforts may be at odds with other objectives such as the need to preserve public subsidies up front while reaching the lowest income groups. This dilemma also illustrates the limitation of LIHTC as a development subsidy program to finance production, not operation. The stronger performance of the 4% tax credit properties with other project-based rental assistance shows that in a weak housing market, additional operating support is likely needed to ensure the financial viability of properties in the longer term. As properties age, significant funding will also be needed to address capital needs.

The Detroit experience also highlights the value of mission-driven syndicators in addressing the challenges of affordable housing operation in a weak market. Previous research on privately owned affordable housing projects has often emphasized the differences between for-profit and nonprofit owners, where nonprofit owners were found to be more likely to keep their properties affordable for the long term (Aurand et al., 2018; Meléndez et al., 2008). Research on syndicators has pointed to few differences in the characteristics of nonprofit and for-profit syndicators (Khadduri et al., 2012, ch. 2; U.S. General Accounting Office, 2017), but Detroit's experience has shown that these differences are important in the way they address difficult situations for LIHTC projects. With a weak nonprofit development industry, mission-driven syndicators such as Cinnaire played especially important roles in assuring that projects exited the 15-year compliance period with financial stability and capable ownership, as the experience of past projects showed. They infused substantial resources into projects, established work-out plans, and sometimes took over management of troubled properties. In contrast, some for-profit syndicators sought to exit projects without necessarily assuring the projects' viability because the projects threatened the returns for their investors and because preserving housing after year 15 was not a high priority. Further research would enrich understanding of the role of syndicators and their differences in the development, operation, and preservation of LIHTC properties.

Because of the importance of the LIHTC projects in meeting Detroit's housing needs, many efforts are underway to address the year 15 challenges. For instance, city officials developed a multifamily housing strategy that led to the creation of an Affordable Housing Leverage Fund; several organizations are working to develop a lease-to-sale model for single-family, scattered-site projects; city officials worked with syndicators and general partners to restructure HOME debt; and MSHDA allocated another round of tax credit financing to numerous projects. Unlike older subsidized housing programs, LIHTC properties involve multiple stakeholders. Coordinating the actions of these different stakeholders so that they build on and complement each other will be key to the success of those year-15 efforts.

Research on the Detroit experience shows that the year-15 transition warrants greater attention from housing scholars and policymakers. Although previous studies showed that the transition did not trigger a significant loss of affordable housing nationwide, the results vary in different housing markets, as this research demonstrates. What happens at year 15 has a significant impact on the provision of affordable housing in the longer term. This study points to the need for more research on specific cities with diverse housing markets and varied portfolios of projects to develop a better understanding of how challenges differ on the ground. The research also shows the need for more investigation of efforts to address those challenges and to preserve the affordable housing that the LIHTC program has produced across the country. Solutions to the challenges of preservation depend on the capacity, commitment, and resources of the many actors involved in the LIHTC program. In weak markets like Detroit's with few financial resources, these require considerable effort and creativity.

Notes

1. No prescribed consequences exist for owners who do not comply. Penalties could include a lawsuit by tenants, HFA legal action, HFA refusal to award future resources to the same developers, and reluctance by potential purchasers to buy a property that is out of compliance (Collignon, 1999; Khadduri et al., 2012).
2. Owners of LIHTC projects may request a qualified contract after the fourteenth year of the compliance period. The state HFA has a year to find a buyer who will maintain the project's affordability and makes an offer at the price determined by a federally mandated formula. The formula includes the fair market value of the non-low-income portion of the project plus, for the low-income portion, the sum of the outstanding debt, the adjusted investor equity, and other capital contributions minus cash distributions from the project. The calculated price is almost always greater than any reasonable market valuation, so state HFAs have difficulty finding buyers. If the HFA does not do so, the qualified contract process leads to the release of the affordability restrictions, which phase out over 3 years (26 U.S.C. 42; Kincer & Shelburne, 2017; MSHDA, 2018b).
3. The public records included city assessor data, annual lists of tax-foreclosed properties, county register of deeds files, City of Detroit demolition lists, city building permits showing demolitions and renovations, State of Michigan National Emission Standards for Hazardous Air Pollutants (NESHAP) notifications related to demolitions, State of Michigan corporate registration records, MSHDA records on types of financing provided, Zillow's reports on rents, and Detroit Land Bank Authority ownership and sales (City of Detroit Assessor's Office, 2018; City of Detroit Buildings, Safety Engineering & Environmental Department, 2010–2018; Data Driven Detroit, 2002–2013; Detroit Land Bank Authority, 2018a, 2018b, 2018c, 2018d; Detroit Land Bank Authority & Detroit Building Authority, 2014–2018; Loveland Technologies, 2014–2018; Michigan Department of Environment, Great Lakes, and Energy, 2009–2015; Michigan Department of Licensing and Regulatory Affairs, 2018; Michigan State Housing Development Authority, 2018a; Wayne County Register of Deeds, 2018; Zillow, 2018). The air quality division of the Michigan Department of Environment, Great Lakes, and Energy implements the NESHAP program for asbestos; the division requires a notification of intent to demolish and conducts inspections of demolitions. The NESHAP database therefore functions as a list of demolitions (Michigan Department of Environment, Great Lakes, and Energy, 2009–2015).
4. Authors' calculation based on the U.S. Bureau of the Census (2015).
5. The area median income for Wayne County, which determines AMI for Detroit, was $67,700 in 2015.
6. Housing development and rehabilitation had contributed substantially to the revenues of Detroit community development corporations before the recession. When the recession made development financially infeasible, the loss of revenues meant that the organizations had little in the way of operating funds. Detroit also has a weak organizational network for community development corporations, so no reliable and predictable support existed to help those community development corporations experiencing financial problems (Dewar, 2013; Thomson & Etienne, 2017).
7. Mission-driven syndicators are nonprofits that focus on earnings and community investment impact, a "double bottom line" (Local Initiatives Support Corporation, 2019).
8. Previous studies did not provide estimates of the percentage of projects that had different types of experiences after year 15 (Abt Associates & VIVA Consulting, 2012; Khadduri et al., 2012; Schwartz & Meléndez, 2008).
9. This assessment was based on rents that Zillow displayed and on advertisements for tenants. Zillow does not explain the meaning of rents on their site, but these rents and the prices listed in advertisements are likely asking prices, higher than tenants' actual rents (Zillow, 2018).
10. Michigan law stated that property owners who owed property taxes could not purchase properties at the tax auction. Therefore, investors commonly bought back the properties they had lost under another name, thus avoiding paying property taxes for 3 years at a time, the period of tax delinquency that led to tax foreclosure.

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Appendix

Projects with audits and all projects have similar characteristics, so findings about financial status with respect to audited projects are likely to resemble those for a random sample or for all projects.

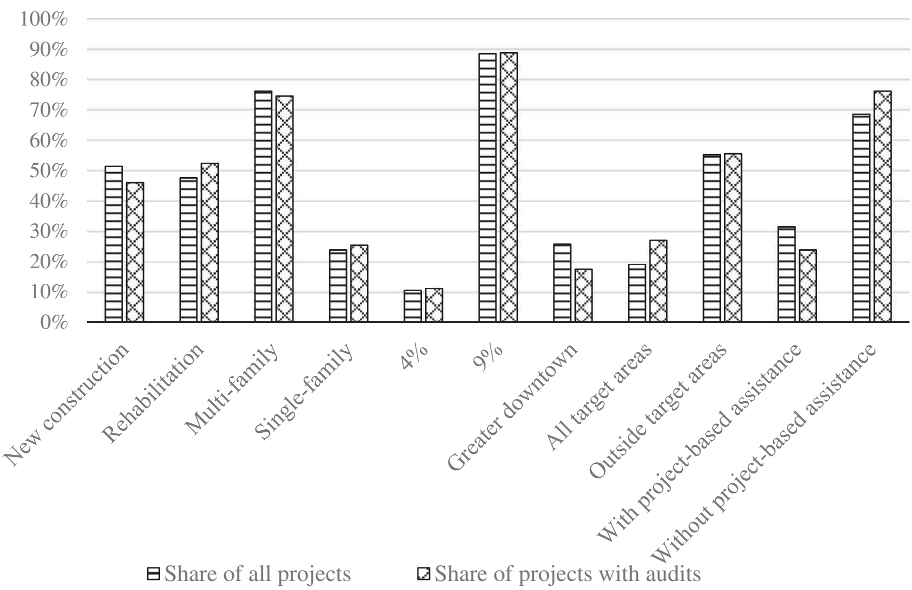

Figure A1. The percentage of 63 projects with audits compared with the percentage of all 105 projects having various characteristics reaching year 15 from 2016 through 2022 in Detroit, Michigan.

Sources: 2015 financial audits; Michigan affordable rental housing directory [database], by Michigan State Housing Development Authority, 2015/2018, retrieved from https://housing.state.mi.us/; National LIHTC database, by U.S. Department of Housing and Urban Development, 2018, retrieved from https://www.huduser.gov/portal/datasets/lihtc.html; Property addresses for single-family, scattered-site houses, by Michigan State Housing Development Authority, 2016, received through Freedom of Information Act request.