How Can the LIHTC Program Most Effectively Be Used To Provide Affordable Rental Housing Near Transit?

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Abstract

For millions of Americans, public transportation is more than a mere convenience; it is a necessity for accessing jobs, educational opportunities, healthcare services, and other everyday needs, while living within their financial means. It can be significantly difficult, however, to finance the construction or preservation of affordable housing in location-efficient areas: high demand to live in transit-accessible areas drives up land costs, making it a challenge to acquire desirable sites for affordable housing and putting existing affordable rental housing at risk (Armstrong, 1994; Cervero and Duncan, 2002a, 2002b; Debrezion, Pels, and Rietveld, 2007; Gruen, Gruen & Associates, 1997; Immergluck, 2007; Lin, 2002). As the largest affordable rental housing production and preservation program in the nation, the Low-Income Housing Tax Credit (LIHTC) Program provides an opportunity to ensure that housing affordable to low- and moderate-income families is developed and preserved near public transportation. Yet, nearly 30 years after its enactment, the LIHTC Program remains one of the least studied federal programs. This article addresses a fundamental question: How can the LIHTC Program most effectively be used to promote the preservation and development of affordable rental housing near transit? To answer this question, this study relies on qualitative analysis of interviews of more than 100 housing policy agency staff, developers, and housing and transit policy experts and on a quantitative analysis of more than 400 qualified allocation plans issued during an 8-year period.

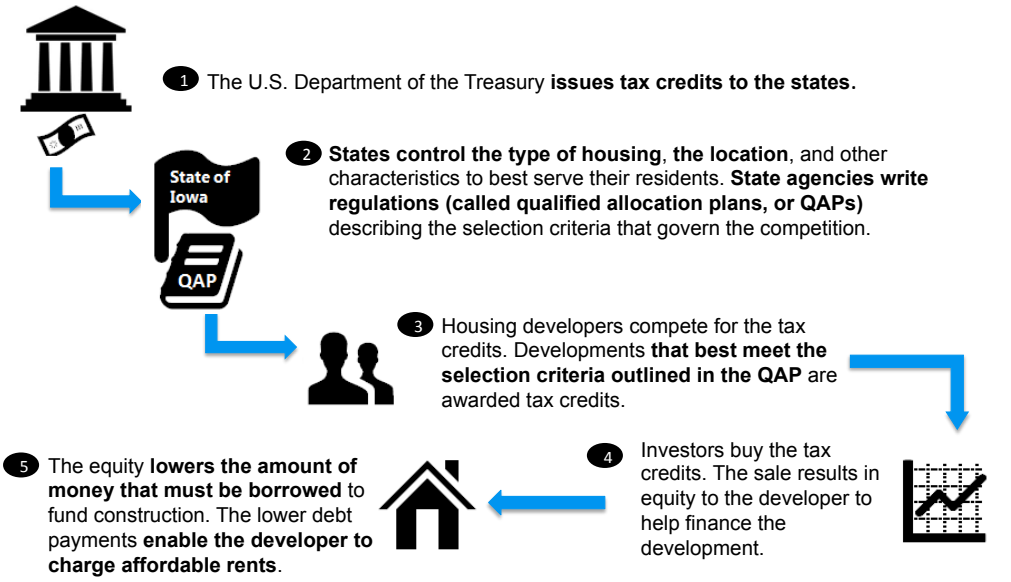
Introduction

Providing affordable rental homes near quality public transit ensures that low-income households are able to fit both housing and transportation expenses into their budget. Studies show that low-income households who live in autodependent neighborhoods can spend as much as 25 percent or more of their income on transportation costs (CTOD, 2009). In contrast, families who live in neighborhoods with quality public transit options, on average, spend only 9 percent of their income on transportation costs (CTOD, 2009). All too often, low-income households are shut out of such neighborhoods because they are unable to afford the high housing costs that come with living in locations that are convenient to transit and other amenities. As a result, many households face a difficult tradeoff, unaffordable housing or budget squeezing transportation costs (JCHS, 2010).[1]

The Low-Income Housing Tax Credit (LIHTC) Program[2] is a unique resource to create and preserve affordable homes near transit (exhibit 1). The LIHTC Program has been the primary source of funding for building new or preserving existing affordable housing since 1986 (JCHS, 2013). State housing agencies have the discretion to determine which developments receive funding and can

Exhibit 1

How the LIHTC Program Works



[1] The report found that low-income households with children that spent less than 30 percent of their income for housing devoted 4.4 times as much to transportation as those with high housing outlays.

[2] For the purposes of this article, references to the LIHTC refer only to the competitive 9-percent tax credit rate.

target resources to address pressing local housing needs, such as providing or maintaining affordable rental housing near transit. Section 42 of the Internal Revenue Code requires each housing credit agency to set forth selection criteria in a qualified allocation plan (QAP). Although the code states that the QAP must give preference to "developments serving the lowest income tenants," "developments obligated to serve qualified tenants for the longest periods," and "developments located in a Qualified Census Tract[3] and the development of which contributes to a concerted community revitalization plan," state housing agencies are granted the authority to otherwise allocate their credits based on their own set of criteria. Housing agencies generally use three mechanisms in their QAP to guide allocation decisions based on state and local housing needs: (1) threshold requirements,[4] (2) set-asides,[5] and (3) preferences.[6]

The report from which this article is drawn addresses a fundamental question: How can the LIHTC Program most effectively be used to promote the preservation and development of affordable rental housing near transit? To answer this question, the report examined the mechanisms through which state housing agencies evaluate LIHTC applicants and make funding decisions. Through a review of more than 400 QAPs issued during the 8-year period and interviews with more than 100 stakeholders, the report explores—

- The extent to which agencies seek to encourage the development and preservation of affordable housing near transit.
- Whether incentives had an observable impact on the location of LIHTC properties.
- Which other factors beyond these incentives—such as local relative land values and land use policies, transit availability and quality, and other QAP requirements or preferences—impact the location of LIHTC properties.

Two significant challenges must be addressed to effectively develop and preserve affordable housing near transit. States must seek a balance between promoting affordable housing near transit and other housing priorities. In addition, the importance of cost in developer decision making reinforces the notion that explicit QAP preferences in and of themselves are necessary, but not sufficient, to encourage the preservation or construction of affordable housing near transit.

Research Methodology and Data Sources

Both qualitative and quantitative methods were used to answer the research questions. The qualitative analysis was based on discussions with a sample of various stakeholders from 15 states

[3] Internal Revenue Code, 26 *U.S.C.* § 42. The term "Qualified Census Tract" means any census tract that is designated by the Secretary of Housing and Urban Development and, for the most recent year for which census data are available on household income in such tract, either in which 50 percent or more of the households have an income that is less than 60 percent of the gross Area Median Income for such year or that has a poverty rate of at least 25 percent.

[4] Threshold requirements set forth the minimum standards a proposal must meet to be considered for an allocation of LIHTCs.

[5] Set-asides allow housing agencies to reserve a portion of their LIHTCs for particular types of proposals.

[6] States' preferences allow housing agencies to weight selection criteria, often through the use of numerical points that allow for developments to be ranked against each other.

with a variety of QAP approaches, transit systems, and market dynamics.[7] Stakeholder discussions were semistructured and intended to identify and explore key themes. The Team developed a set of discussion guides tailored to each stakeholder category with a list of topics to explore. These guides provided open-ended prompts from which the Team began the discussion. The guides were adjusted based on the QAP incentives in the state (for example, the guide for a state with strong transit incentives in its QAP was different from the guide for a state with no transit incentives).

A quantitative analysis was conducted to examine the relationship between the accessibility of LIHTC properties to transit and the transit-oriented incentives incorporated into QAPs. In addition to the requirements and preferences incorporated into QAPs, the location of LIHTC properties is the result of complex interactions between the strength of the local real estate market and economy, the degree of competitiveness for LIHTCs in a state, local demographics, and other factors. Quantitative analysis that controls for as many of these factors as possible enables us to estimate the effects of transit preferences in QAPs and help to inform public policy. Therefore, the quantitative analysis examined the effect of transit incentives on the share of LIHTC properties over time in a metropolitan area that is transit accessible, controlling for several different factors.

The analytical approach included two phases—

1. Analysis of the percentage of LIHTC properties in a state each year that is transit accessible.
2. Regression modeling to explore the relationship between transit-oriented QAP incentives and the share of LIHTC properties in close proximity to transit stations.

More details about the methodology used are in the Quantitative Analysis section. Several data sources were used in this analysis, including stakeholder discussions, a QAP database compiled by the study team at the National Housing Trust (NHT), the Center for Transit-Oriented Development's (CTOD's) National TOD Database, HUD's National LIHTC Database, and other determinants of LIHTC property location, including state gross domestic product (GDP) data from the Bureau of Economic Analysis and census data on annual multifamily housing permits issued in each of the study years to serve as an indicator of the health of the housing market. The National Council of State Housing Agencies, or NCSHA, provided data about the competitiveness of LIHTCs.

Exhibit 2 summarizes how these data sources were used to answer the research questions.

[7] The 15 states selected for the qualitative analysis were Arizona, Colorado, Connecticut, Georgia, Illinois, Maryland, Massachusetts, Michigan, Minnesota, New York, North Carolina, Oregon, Utah, Washington, and Wisconsin.

Exhibit 2

Research Questions and Data Sources

Research Question	Data Source(s)
What incentives do QAPs provide for preserving or producing transit-accessible developments?	• NHT QAP database
How do stakeholders view the role of transit preferences in QAPs in influencing the location of LIHTC properties?	• Housing-policy expert or advocate • Transit-policy expert or advocate • Housing-agency staff • Affordable-housing developer or investor • Rural expert • Investor • Syndicator
Can the change in the number of LIHTC properties near transit be attributed to the QAP preference? Which other factors—such as local relative land value and land use policies, transit availability and quality, other QAP requirements of preferences, or statewide LIHTC competitiveness—might also have affected the change?	• LIHTC database (2002–2010) • CTOD's TOD database (2004–2012) • Census (2000) • ACS data (2005–2009); BEA • Data from NCSHA on tax-credit competitiveness • Stakeholder discussions

ACS = American Community Survey. BEA = U.S. Bureau of Economic Analysis. CTOD = Center for Transit-Oriented Development. LIHTC = low-income housing tax credit. NCSHA = National Council of State Housing Agencies. NHT = National Housing Trust. QAP = qualified allocation plan. TOD = transit-oriented development.

Transit Incentives in QAPs

Most states include incentives for transit proximity in their QAPs. States mostly use preferences expressed as points to encourage the use of LIHTCs to preserve or develop affordable rental housing near transit. This section describes the types of transit incentives incorporated into QAPs. It also discusses trends in the adoption of incentives for transit-accessible tax-credit properties over time and the challenges agencies face when seeking to balance the promotion of affordable housing near transit, while also addressing the housing needs of the entire state.

The study team at the NHT reviewed every state's QAP from 2003 through 2013 to determine how housing agencies use incentives to encourage LIHTC developments near transit. The specific attributes of incentives vary in a number of ways. Our analysis revealed that incentives range based on the following three characteristics—

1. **Explicit versus implicit incentives.** An explicit incentive directly references proximity to transit as qualifying criteria. An implicit incentive includes qualifying criteria for which transit access is embedded in other priorities, such as locating in urban areas or development that is consistent with smart growth principles.

2. **Standalone criteria versus in a category.** Standalone criteria require a development to meet the agency's definition of transit access to qualify for the incentive. For example, the Massachusetts Department of Housing and Community Development identifies transit proximity as a standalone category, requiring a development to be near transit to earn a perfect score.

In states that provide points in a category, LIHTC developments do not need to receive points for transit proximity to receive the total number of points awarded by the QAP. For example, the Indiana Housing and Community Development Authority awards applicants up to 5 points for being in close proximity to a range of public, private, or health-related services under the category of "Desirable Sites." Although public transportation is an eligible public service that can earn points, it is only one of many types of services for which an applicant can earn points. As a result, an applicant can earn the maximum 204 points awarded by the QAP without being near public transportation.

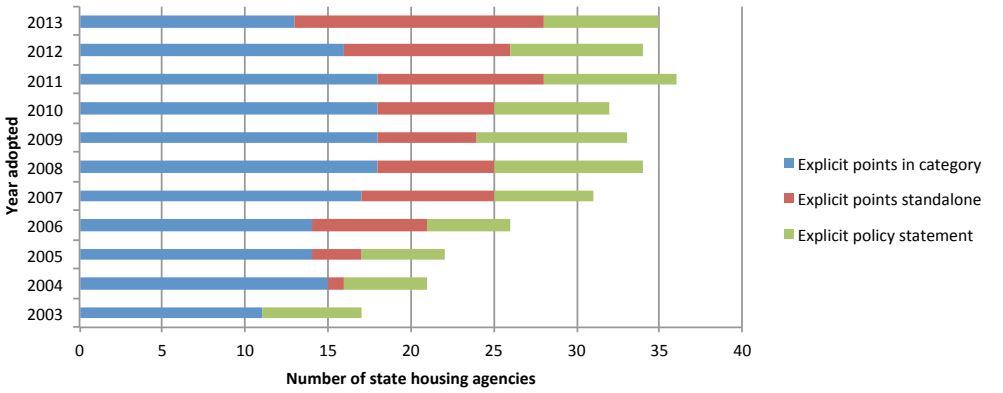
3. **Points versus policy statements.** Awarding points as part of the tax-credit evaluation and selection process is the most common means housing agencies use to encourage transit proximity in LIHTC properties. Some housing agencies, however, express a preference for transit proximity through a policy statement without awarding points. This approach typically is used because the agency does not use a point system to evaluate developments.

Explicit incentives for transit access have become more common in state housing agency QAPs, both in terms of the number of agencies that incorporate explicit incentives and how those incentives are structured. Exhibit 3 illustrates this change. As it demonstrates, the number of state housing agencies that incorporate some type of explicit incentive for transit access doubled from 17 in 2003 to 35 in 2013.

Much of this growth occurred by 2008 but the type of incentives included continues to change through 2013, with the growth uneven across the three incentive types. The primary type of incentive used among state housing agencies to encourage transit access in 2003 was "explicit points in a category." In 2003, no state agency incorporated "explicit standalone points" as the incentive type. By 2008, the number of agencies that incorporated incentives for transit access had increased to 34. The proportion of agencies that had adopted "explicit points in category" declined from 71 percent of all incentives in 2004 to 53 percent in 2008, however, while the proportion of agencies that had adopted explicit standalone points increased from 5 percent in 2004 to 21 percent in 2008.

Exhibit 3

Number of State Housing Agencies With Transit Incentives by Type, 2003 Through 2013



From 2008 through 2013, the total number of agencies that incorporated some type of explicit incentive for transit proximity remained fairly constant, but the proportion of agencies that adopted explicit standalone points increased to 40 percent.[8] The proportion of agencies that incorporated an explicit policy statement in support of transit proximity but did not award any points remained fairly constant from 2003 through 2013.

How housing agencies defined transit for the purpose of qualifying for the incentive vary. Requirements vary most commonly based on the following characteristics—

- Mode of transit; for example, bus versus rail.
- Distance of the development from the transit location.
- Frequency of service, including the hours of service and service headways.

Exhibit 4 illustrates examples of the variety of approaches some state agencies have used to implement the transit requirements in their QAPs.

Exhibit 4

Transit Requirement Examples (1 of 3)

	Transit	Distance	Geography	Other Requirements
Arizona	Bus	0.25 miles	Greater Phoenix	Minimum 15 hours of service on weekdays, 12 hours on weekends at 30-minute intervals between 6:00 a.m. and 6:00 p.m.
			Tucson	Minimum 12 hours of service on weekdays at 30-minute intervals between 6:00 a.m. and 6:00 p.m., minimum 10 hours of service on weekends at 1-hour intervals between 6:00 a.m. and 6:00 p.m.
			Balance of state	Minimum 8 hours of service on weekdays at 1-hour intervals from 9:00 a.m. to 5:00 p.m.
	Rail	0.50 miles		
California	Bus	0.33 miles		Scheduled service every 30 minutes from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.
	Rail	0.25 miles		
Colorado	Rail	0.50 miles		
Connecticut	Rail	0.50 miles		Must be part of a TOD, as defined by the Connecticut General Assembly.
Delaware	Bus	0.25 miles	New Castle County	
		0.50 miles	Kent/Sussex Counties	
District of Columbia	Bus	0.25 miles		
	Rail	0.50 miles		

[8] Note that the number of agencies providing explicit standalone points for transit doubled between 2010 and 2013. We unfortunately are unable to look for correlations between these policy changes and housing outcomes in our quantitative analysis because developments that were allocated tax credits in these years are not yet included in the national LIHTC database.

Exhibit 4

Transit Requirement Examples (2 of 3)

	Transit	Distance	Geography	Other Requirements
Georgia	Undefined	300 feet, 0.25 miles, or 0.50 miles		The stop must rest along a transit line that follows a fixed route and daily schedule.
Illinois	Bus, rail	0.25 miles	Chicago	Operates on a schedule beginning no later than 8 a.m. and ending no earlier than 6 p.m., Monday through Friday.
		0.50 miles	Chicago metropolitan area	
		0.75 miles	Other metropolitan area	
		1.00 miles	Nonmetropolitan area	
	Dial-A-Ride			
Indiana	Bus, rail, ferry	0.25 miles		Fixed-transit infrastructure must exist or be planned, approved, and funded at the time of application.
Maine	Undefined	1,500 feet		Year-round service available 5 days per week that provides regular service from 6:30 to 9:30 a.m. and 3:00 to 6:00 p.m. daily.
Maryland	Rail, bus	0.50 miles		Must be part of a TOD as designated by the Maryland Department of Transportation or within 0.5 miles of a planned or existing transit rail stop or station or a transit node that brings at least two bus lines or other forms of transit (excluding cars) together.
Massachusetts	Bus, rail, ferry	0.50 or 0.75 miles		Must be nearby services such as retail or commercial opportunities, grocery or convenience stores, restaurants, and municipal offices.
Michigan	Bus	0.10 miles		
	Walkability			Measured by the property's Walk Score.
Minnesota	Bus, rail	0.50 or 0.25 miles	Metropolitan area	Highest preference for properties within 0.5 miles of light rail transit, bus rapid transit, or commuter rail stations.
	Undefined, Dial-A-Ride	0.50 or 0.25 miles	Greater Minnesota	Fixed-route stop, or located within 5 miles of a job center, community services, and Dial-A-Ride service.
Montana	Undefined	1.50 miles		
Nevada	Undefined, school bus	0.25 miles		
New Jersey	Bus, rail, ferry	0.50 miles		Mixed-use TOD development or Transit Village as designed by the New Jersey Department of Transportation.
New Mexico	Bus, rail, ferry	0.50 miles	Suburban/midsize towns	At least 60 or more transit rides per weekday and some type of weekend ride option.
	Other	5.00 miles	Rural/tribal/small towns	Transit options include vehicle share program, Dial-A-Ride program, employer vanpool, and public-private regional transportation.

Exhibit 4

Transit Requirement Examples (3 of 3)

	Transit	Distance	Geography	Other Requirements
South Dakota	Bus, on demand	1 city block		Projects that provide free transportation on a regular schedule or on-call basis.
Tennessee	Bus, rail	0.50 miles 5.00 miles	Urban Rural	Includes regional transportation services using vans or buses and human resource agency vanpools.
Utah	Rail	0.33 miles		Highest preference for properties contiguous to a FrontRunner or TRAX rail station.
Virginia	Bus	0.25 miles		
Washington	Bus, rail, ferry	10-minute walkshed	King County	Located within a 10-minute walkshed of Fixed-Transit Infrastructure and located in an area zoned for high-capacity, transit-supported density.
Wisconsin	Bus, undefined	0.20 miles		
Wyoming	Undefined	1.50 miles		

TOD = transit-oriented development.

Key Challenge: Maintaining Balance in the QAP

For a property to receive low-income housing tax credits that will lead to a desired policy outcome, housing agencies must place sufficient incentives in the QAP to lead to that desired policy outcome; for example, by developing or preserving housing near transit. Housing agencies, however, can find it difficult to adopt QAP incentives that encourage development near transit while still addressing the housing needs of communities with little or no transit infrastructure. Housing agency staff and developers alike expressed concern about adopting transit incentives out of fear that it might skew the allocation process in favor or properties located in urban areas with heavy transit infrastructure and make it effectively impossible for suburban and rural properties to compete. A developer from Pennsylvania expressed her concern this way, echoing sentiments expressed by stakeholders from a variety of states.

> Too strong of an emphasis on transportation corridors will direct so many of the resources to just the urban hubs and truthfully we know we need affordable housing throughout the state whether it's rural, suburban or urban areas, so I think it's a very fine balancing act that HFA [housing finance agency] has to do.

Stakeholders also discussed the challenge of developing a workable definition of transit access that can be used as part of a statewide preference. It is difficult to develop a "one-size fits all" criterion for the type of transit and level of service a property should meet in most states given the diversity of urban, suburban, and rural communities. A developer who works in Massachusetts described this challenge.

> You have to look at a transit metric that is one thing in the city of Boston where we have mass transit and that's another thing in places like Wareham or New Bedford or

> Springfield where there might be a bus network. So it is difficult to find a good metric that could let people measure how their deals are going to score in those regards. It's easy to say transit access is important, but it's really hard to operationalize it for an application.

Several approaches that housing agencies adopted demonstrate how the QAP can maintain balance in meeting diverse state housing needs while still including robust preferences for properties located near transit or in areas that are otherwise location efficient. Approaches include—

- Creating **geographic pools** that allow for developments from similar types of communities to compete with each other; that is, a development from a suburban location would compete only with other suburban developments rather than with developments from an urban location. The use of geographic pools can result in a more equitable distribution of resources because they allow for properties from similar contexts to compete against each other. In a number of states, the introduction of geographic pools has enabled the housing agency to incorporate transit preferences for the first time or to develop more nuanced criteria tailored to the diversity of communities in the state.

  In its 2010 QAP, the Illinois Housing Development Authority (IHDA) created geographic set-asides for the first time and also adopted more nuanced selection criteria to evaluate a development's transit accessibility. The agency distributed the credit authority among four geographic typologies: the city of Chicago, the Chicago metropolitan area, other metropolitan areas, and nonmetropolitan areas. According to IHDA, the intent of the set-asides was to create a more level playing field by ensuring that the same scoring criteria were not being used to evaluate developments from different geographic contexts. Before the geographic set-asides, developments were considered close to transit if they were located within four blocks of a regular bus route or rapid-transit system. IHDA concluded that this definition of close proximity favored more urban areas. After the set-asides were established, IHDA adopted tailored selection criteria for each type of geography. Close proximity was defined as the following for each type of geography—

  - Chicago: 6 blocks.
  - Chicago metropolitan area: 1.0 mile.
  - Other metropolitan area: 1.5 miles.
  - Nonmetropolitan area: 2.0 miles.

- **Tailoring transit requirements** differently based on the variety of transit infrastructure that can be found throughout a state (for example, require bus service in urban areas to have more frequent service than bus service in suburban or rural areas). In Arizona, transit incentives in the QAP evolved over time as the Department of Housing (DOH) sought to reflect the housing needs and transit accessibility of the diverse range of communities throughout the state. DOH began incorporating incentives for sustainable development in 2008 when it awarded 10 points to properties that met three out of four indicators of sustainable development, including being located within 1 mile of a mass transit route. Consulting with TOD experts from

the state Department of Transportation DOT and the Sustainable Communities Collaborative, DOH increased the number of points available in 2010 and also more narrowly defined the types of transit and level of service required to qualify for the incentive.

After receiving pushback from developers and advocates who were concerned that very few developments would meet the strict service-frequency requirements given the lack of rail transit and high-frequency bus service outside of the Phoenix metropolitan area, DOH further adjusted the selection criteria to distinguish between Greater Phoenix, Tucson, and the rest of the state. According to agency staff, adjusting the criteria to distinguish between the various types of communities has enabled them to encourage developers to provide affordable housing where public transportation is, regardless of whether they are in Phoenix or a rural community. By developing different incentive requirements for different types of communities, DOH aims to encourage sustainable development that is appropriate to a variety of local contexts.

- **Incorporating other place-based criteria** to encourage development that is location efficient for reasons other than transit access, such as proximity to job or town centers. This approach promotes access to community amenities and reduces transportation costs without disadvantaging communities without transit service. In Minnesota, QAP incentives for transit access have evolved to reflect the variety of transportation options within the Twin Cities metropolitan region (Minneapolis-St. Paul) and throughout the rest of the state. The state's housing finance agency (HFA), Minnesota Housing, began to encourage development near transit through targeted incentives in the 2011 QAP. The agency initially focused on promoting affordable housing within walking distance of the central corridor light rail system in the Twin Cities metropolitan region. Fearing that the preference for fixed-route public transportation stops would discourage development in rural areas, advocates urged Minnesota Housing to adopt a more nuanced definition of location efficiency that recognized regional differences. In the 2012 QAP, the agency adjusted the location preference to reflect these concerns by awarding points to properties located outside of the Twin Cities metropolitan region if they were located within 5 miles of 2,000 low- and moderate-wage jobs and were located within 1 mile of at least four community facilities or services.

Key Challenge: Addressing the Cost of Developing Affordable Housing Near Transit

Housing developers generally recognize the benefits of locating affordable housing near transit. Higher costs associated with transit-accessible affordable housing can make it difficult for housing developers to identify sufficient sources of capital, however.

It became clear from our interviews with developers that many view providing access to transit as part of their mission to help improve the lives of their residents. A developer from a northwestern state cites the impact of high commuting costs can have on the budget of low-income households.

> In metro areas across the country, the cost of transportation for a low-income family can be very high and it's usually the number two household cost right after housing. So to the extent that we can help people either live without a car, or use their car less, we hope that will allow them to preserve more of their household income for other necessities.

Although providing access to transit is an important consideration to developers, the final decision of where to pursue development opportunities comes down to real estate fundamentals and the financial feasibility of a particular development. Determining financial feasibility consists of (1) assessing the costs of acquiring and developing the housing and the prospect of raising sufficient resources to secure those costs; and (2) evaluating whether operating and debt-service costs can reasonably be provided for based on expected operating income. Higher demand for sites near transit can bring higher costs, however. Access to transit can increase the value of a nearby property. A study released by the American Public Transportation Association and the National Association of Realtors found that during the last recession residential property values performed 41 percent better on average if they were located near public transportation with high-frequency service (CNT, 2013).

Developers identified the cost of providing affordable housing near transit as a significant barrier. Higher acquisition and development costs can make it difficult to finance the preservation and construction of affordable housing near transit, when compared with other locations. Affordable-housing developers are unlikely to have the capital on hand that is needed to acquire expensive sites. Lack of capital puts affordable-housing developers at a disadvantage when competing against market rate developers to acquire transit-accessible sites. As one would expect, these cost challenges can significantly impact a developer's decision to pursue transit-accessible sites.

Our interviews illuminated several strategies to address their barrier and increase the financial feasibility of LIHTC developments near transit. These strategies include—

- **Aligning gap-financing sources to support development near transit.** A number of respondents indicated that prioritizing gap financing for use in developments near transit would increase the competitiveness of such developments in the tax-credit competition and would have more significant impact on their development decisions than the incentives for transit access currently available in the QAP. Gap financing is often needed to ensure the financial feasibility of LIHTC developments. Tax-credit equity and debt products are typically insufficient to cover all of the acquisition, construction, and soft costs of a development. Various sources of gap financing—including public sources of funding from federal, state, and local government housing programs, philanthropic programs, tax increment financing, community banks, and community development financial institutions—are often required to bridge the gap in financing until all permanent financing sources are secured.

  Three key reasons make prioritizing gap financing for transit-proximate developments important within the context of using the tax-credit program to preserve and develop affordable housing.

  1. To be eligible for 9-percent LIHTCs, housing developers must demonstrate control of the site, which often requires significant additional capital.

  2. Land costs cannot be included when computing the amount of credits available to a particular project, indicating that higher costs developments—such as those located near transit—can have significant financing gaps and need additional sources of subsidies to cover the cost of acquisition.

3. It is common for QAPs to include point-scoring incentives for developments that have received a commitment of gap financing.

Respondents identified a number of examples of gap financing sources that are being used to leverage LIHTCs to support the development and preservation of affordable rental housing near transit, including Arizona's Sustainable Communities Fund, Denver's TOD Acquisition Fund, the Atlanta Beltline Affordable Housing Trust, Portland, Oregon's tax-increment financing (which is tied to Urban Renewal Areas), Connecticut's Housing Trust Fund, and Washington State's housing trust fund. Other important sources of gap financing are federal HOME Investment and Community Development Block Grant funds.

- **Reducing development costs through improved land use policies.** Local land use requirements can complicate the economics of an affordable-housing development by increasing the development costs, thereby making it difficult to finance. Respondents identified several types of land use policies that can be particularly challenging—

  1. Many respondents identified reductions in minimum *parking requirements* as an important incentive for developing affordable housing near transit, as the cost of providing parking can be expensive, especially if land is limited and structured parking is required. In addition, the benefit of locating near transit means fewer residents will rely on personal vehicles for transportation, thereby minimizing the need for parking.

  2. Many respondents also identified *relaxing restrictions on density or providing density bonuses* in exchange for setting aside affordable housing as important incentives for creating affordable housing near transit. Such policies can help foster mixed-income, transit-oriented communities. Mixed-income communities provide poorer households greater access to economic and social opportunities than do communities with concentrated poverty.

  3. *Property tax relief* was also identified as an important incentive that localities could use to support affordable housing near transit by reducing development costs. Such relief is already playing a role in preservation transactions in Massachusetts and Portland, Oregon.

- **Balancing cost containment in the LIHTC Program so that higher cost developments are not put at a disadvantage.** Policies such as caps on development costs and incentives for cost efficiencies in the QAP can make it difficult for transit-oriented developments to compete for 9-percent LIHTCs. Although most respondents acknowledged that it is important for agencies to implement strategies to contain costs, they also underscored the importance of doing so in a balanced manner that does not undermine the ability to deliver developments that best serve the needs of low- and moderate-income households. Discussions revealed a number of approaches housing agencies have adopted to achieve such a balance—

  1. Washington, Massachusetts, and Virginia consider the type of development and its location when assessing cost reasonableness, with some agencies establishing a variety of multiple per unit cost maximums based on different development conditions.

2. In states including Minnesota and Pennsylvania, housing agencies use point incentives to level the playing field by comparing developments that are similar in type and location.
3. Some agencies, such as those in Virginia and New Jersey, consider building characteristics related to higher density construction that can increase development costs.
4. A number of agency staff also expressed a willingness to waive per unit cost and credit limits for transit-oriented developments in certain circumstances.
5. Another approach housing agencies use to balance cost containment with other considerations is limiting the number of points developments can receive for cost efficiency, so as to not trump other important policy priorities. This approach is being used in Minnesota and Michigan, among other states.
6. Finally, housing agencies such as those in Minnesota and Arizona are employing cost predictive models to assess the cost reasonableness of proposed developments. These models predict expected total development costs based on an analysis of cost data from developments previously financed by the agency.

- **Expanding the use of the basis boost for transit-accessible developments.** The LIHTC basis boost was identified as a potential tool for improving the financial feasibility of developments with higher than average costs. Housing agencies have the discretion to increase a development's eligible basis by up to 30 percent, enabling the developer to raise more equity than would have been possible without the boost and reducing the amount of debt and gap funding needed to finance the development.[9]

  Priorities for awarding the basis boost vary across states, but include encouraging supportive housing, energy efficient and green housing, targeting very low-income households, developing in high-cost areas, rural housing, historic rehabilitation, transit-oriented housing, and preservation (Shelburne, 2011). Relative to other types of priorities, the use of the basis boost to support developments near transit is uncommon. Although a relatively small number of agencies have specifically identified development near transit as a priority (five states in 2010: Indiana, Missouri, Oregon, Texas, and Utah), some states have identified other uses of the boost that can benefit developments near transit. One other use of the boost is to support developments in areas with high land costs or in areas of opportunity.

- Finally, **improving coordination across transit and housing agencies to better leverage and maximize resources.** In a number of states reviewed for this report, coordination across housing and transit agencies has helped overcome some of the barriers to developing affordable housing near transit. In several states, housing agencies are in regular contact with their transit counterparts to better understand where new transit investments are being made so as to

[9] Before 2008, the basis boost could be applied only to developments in Qualified Census Tracts or Difficult Development Areas. As the economic crisis hit, it became difficult for developers to raise the equity needed to assure the financial feasibility of their developments. In response, Congress granted housing agencies the flexibility to establish their own criteria for awarding the boost. Although agencies most commonly used the boost to improve the financial feasibility of developments that were otherwise struggling because of the loss of tax-credit equity, more than one-half have identified other priorities for awarding the boost (GAO, 2012).

improve the chances that affordable-housing goals are incorporated into station area plans. This type of coordination has helped to leverage and maximize resources and increase the financial feasibility of affordable-housing developments.

Collaboration among housing and transit agencies can improve the use of the LIHTC to preserve and create affordable housing near transit. In Arizona, officials from the state DOH sought out expertise from the state DOT when they were developing a new scoring category for transit access in the QAP. In a similar way, collaboration among the Washington State Housing Finance Commission and the Puget Sound Regional Council led to the incorporation of targeted transit incentive criteria in the QAP. Collaboration with transit agencies is also important because it can identify opportunities for affordable-housing development in areas where new transit investments are planned—an opportunity that officials in both Connecticut and Maryland recognized during the interview portion of data gathering for this report. Integrating affordable housing into transit-oriented development is more likely to be successful if planning begins early in the development process. Identifying opportunities for affordable-housing development early can reduce costs, because land speculation often occurs as soon as plans for new transit investments are announced.

Quantitative Analysis of Transit Incentives in QAPs From 2003 Through 2010

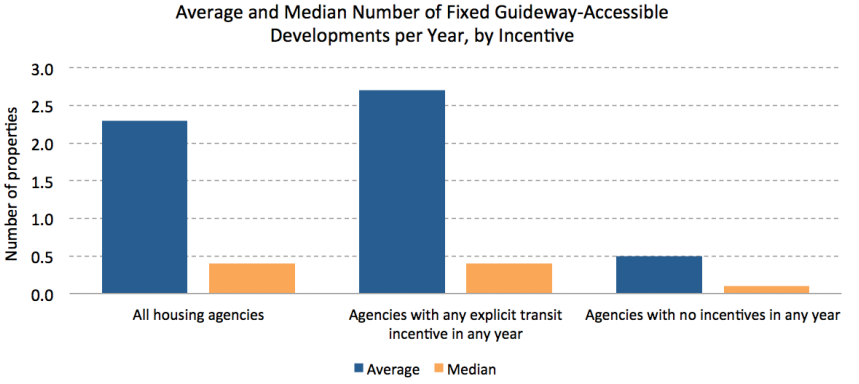
The preceding section of this article drew on discussions with a range of stakeholders to identify the right conditions for using the LIHTC Program to successfully develop affordable housing near transit. The case study analysis demonstrates explicit QAP preferences are necessary but not sufficient to encourage the preservation or construction of affordable housing near transit. To further test the impact of transit incentives on tax-credit allocation outcomes, a quantitative analysis was undertaken to estimate the effects of the incentives.

The results of the quantitative analysis suggest that explicitly including incentives for location near transit within a category (the most commonly used incentive during the study period) slightly increases the probability of LIHTC developments being located near transit. Quantitative analysis of the effect of other types of incentives—such as implicit preferences and implicit basis boosts—was inconclusive, however, partly because of the relatively short period that was examined. The analysis period was limited because LIHTC property data were available only through 2010. The number of agencies that adopted explicit standalone points for transit access, however, increased between 2010 and 2013. We found a small negative correlation between explicit standalone points and the location of LIHTC properties, but believe that the small number of observations available raises questions about the robustness of the results.

Cross-tabulation of data exposes an apparent relationship between LIHTC awards to transit-accessible properties and incentives. As shown in exhibit 5, across all housing agencies, the average number of tax-credit awards to transit-accessible properties annually was 2.2. Among agencies with any explicit incentive in any year, the average was slightly higher at 2.7. Among the

Exhibit 5

Relationship Between Transit-Accessible Properties and Incentives



five agencies with no incentives, the average was 0.5. The median number of LIHTCs awarded to transit-accessible properties annually was also somewhat higher for agencies with incentives than for those without, at one approximately every 3 years compared with one every 10 years.

Multivariate regression models were used to further explore the relationship between transit-accessible tax-credit properties and incentives used between 2003 and 2010. We also used these models to test whether provisions in the tax-credit housing agency's QAP were statistically related to a development's location relative to transit. For all analyses we tested both simple and fixed-effects model types for transit proximity defined as being within a 1/2 mile, a 1/3 mile, or a 1/4 mile of transit.

Methodology for Multivariate Analysis

Multivariate regression models are designed to account for the multitude of factors that affect the location of LIHTC properties. In addition to the requirements and preferences incorporated into QAPs, the location of LIHTC properties is the result of complex interactions between the strength of the local real estate market and economy, the degree of competitiveness for LIHTCs in a state, local demographics, and other factors. Regression models estimate the effects of transit preferences in QAPs, controlling for as many of these factors as possible.

Data Used for Analysis

As stated earlier in this article, this analysis relies on four main sources of data. The first of these sources is HUD's LIHTC database, which includes information on the location of properties placed in service in each year through 2010. The second is the CTOD's TOD database, which gives the location of fixed-guideway transit stations in 54 regions covering 90 metropolitan areas.[10]

[10] We did not have transit data for any metropolitan areas in Alabama, Alaska, Idaho, Iowa, Kentucky, Montana, Nebraska, North Dakota, Oklahoma, Puerto Rico, South Dakota, and Wyoming, so these states and territory are not included in our sample. This exclusion should not affect the analysis, because these places do not have fixed-guideway transit stations, so any QAP incentives would have no effect on the proximity of tax-credit properties to transit.

The study team combined these two data sources to calculate the relative proximity of each LIHTC property to its nearest transit station to determine whether or not properties are transit accessible. The third source of data, the QAP database, was created specifically for this study. It summarizes the type of transit incentives included in QAPs in all states in each year from 2003 through 2013. Other determinants of the location of LIHTC properties are also included in the analysis.

The study period for the quantitative analysis was 2003 through 2010. This analysis period was selected for two main reasons—

1. States began incorporating transit incentives in more frequency beginning in 2003.
2. Comprehensive data were available only for LIHTC developments placed in service through 2010.

Of the 7,509 properties in the LIHTC database from 2003 through 2010, 5,332 were competitively awarded and subject to incentives in the QAP to locate near transit. Among these, 3,193 properties were new construction and 1,764 involved the rehabilitation of existing properties. The remaining 375 properties could not be identified as either new construction or rehabilitation.

We excluded projects that were not located within one of the 54 regions for which we have transit location data. We did not exclude properties outside of a metropolitan statistical area because QAP transit incentives could have the effect of encouraging tax-credit properties to be built in metropolitan areas (that have access to transit) instead of nonmetropolitan areas. After culling, we had 3,702 projects in the dataset that were used for regression analysis.

Only fixed-guideway transit data were available in the TOD database used for this study. This data limitation means that for the purpose of the study, projects near bus stops but not transit stations are not considered to be near transit, although these projects may have qualified for transit incentives under some QAPs.[11]

Multivariate Regression Models

The primary independent variables we tested were the existence and types of incentives contained in a housing agency's QAP. In one set of regressions, these incentives were the only independent variables included. Two additional variables were included in another set of regressions to represent jurisdictions' time-variant features that could potentially influence the probability of a development being near transit. Many factors influence developers' decisions about where to site

[11] The study team sought other data sources to approximate the transit accessibility beyond just access to fixed-guideway rail stations. The team examined the Transit Score® dataset created by https://www.walkscore.com. This dataset had its own limitations, however. Although transit score incorporates both bus and rail transit access, the dataset available to use unfortunately includes only 100 cities (not metropolitan areas). About 75 percent of the properties in our LIHTC sample were not in sufficient proximity to a location with a transit score to be matched to a score, which limited the number of observations available for analysis. In addition, the transit score data reflect current transit accessibility, but we analyzed properties awarded tax credits in the past, from 2003 through 2010, and nonfixed-guideway transit service may have changed substantially over time. Because of the small number of observations and the likelihood that current transit accessibility does not reflect conditions at the time tax credits were awarded, we were unable to use these data in our analysis.

developments for which they seek LIHTCs, so we also controlled for two potentially intervening factors that change over time: state economic conditions and state housing market conditions. We specifically included—

- Annual percent changes in state GDP as a proxy for general economic conditions.
- Annual percent changes in state housing permits as a proxy for housing market conditions.

Two sets of regression models were tested. In the first, the probability of credits being allocated to a transit-accessible development is estimated as a simple function of incentives in the QAP. This analysis is strictly correlational and addresses the question of whether jurisdictions with certain provisions in their QAPs have more (or fewer) LIHTCs allocated to transit-accessible developments.

A limitation of this analysis is that correlation does not necessarily imply causation. Some jurisdictions may have more (or fewer) credits allocated for developments near transit for reasons completely unrelated to provisions in the QAP, such as the relative availability of developable land near transit, zoning, or high premiums for land located near transit. Jurisdictions with a lot of developable land near transit may offer no incentives and still have many developments located in proximity to transit, while jurisdictions with unfavorable geographies may offer aggressive incentives and still get a weak response.

The second set of models addresses this limitation to a degree by holding the jurisdiction fixed. This "fixed-effects approach essentially removes the influence of each jurisdiction's invariant (or fixed) features. These features include many geographical characteristics and perhaps political culture. For example, developers may traditionally have more political influence in some jurisdictions than in others. Because it implicitly controls for all the invariant features of the jurisdiction, the results of the fixed-effect approach may be considered closer to causal effects.

Three dependent variables were tested, indicating the probability that a LIHTC development was within 1 1/2 mile, 1/3 mile, or 1/4 mile of transit, measured "as a crow flies" (that is, not necessarily along pedestrian routes). Independent variables in the model indicated types of incentives contained in the QAP. The simple models were estimated using Probit, and the resulting coefficients were transformed to reflect percentage-point effects on the probability of a development being near transit. The results from the fixed-effect models also reflect percentage-point effects on the probability of a development being near transit.

We assume that the model takes the form—

$$p = Pr(Yt = 0) = C + (1 - C)F(x' \beta), \quad (1)$$

where Y is the response—either 0 or 1 (development is inside or outside of the specified distance from transit); β is a vector of parameter estimates; F is a cumulative distribution function of the standard normal distribution; x is a vector of explanatory variables (in the simple model, these are preferences—explicit, implicit, and tiebreaker points); p is the probability that a development is within 1/2 mile, 1/3 mile, or 1/4 mile of transit as the crow flies; and C is the natural (threshold) response rate.

In the fixed-effects model, a parameter indicating the HFA is added.

Other versions of this model also include two other parameters—

1. **State GDP.** Data from the Bureau of Economic Analysis were used to compute the annual change in per capita state GDP. This computation was used as proxy for general economic conditions in the state.
2. **Multifamily housing permits.** We used state-level census data on the annual number of multifamily housing permits issued in each of the study years to serve as an indicator of the housing market health, hypothesizing that more private multifamily housing construction may increase the demand for LIHTCs and therefore increase developers' responsiveness to incentives for locating units near transit.

We were unable to identify a measure of annual average household transportation costs[12] to use in testing the hypothesis that higher costs will increase the demand for transit-accessible units and lead to an uptake in developers taking advantage of the incentive.

Models were estimated on the following three samples—

1. All competitively awarded developments.
2. Competitively awarded developments and new construction developments.
3. Competitively awarded developments and existing or rehabilitation developments.

Bond-financed tax-credit developments were not included in the analysis, because they are not subject to a competitive process.

Effects of QAP Incentive Types

Controlling for GDP and housing permits, our analysis found that explicitly including an incentive for location near transit within a category (the most commonly used incentive during the study period) slightly increases the probability of LIHTC developments being located near transit. Incentives with consistent, statistically significant relationships in the fixed-effects models are "explicit points included in a category" and "explicit preference included in a category" for a new tax-credit construction. "Explicit points" is associated with an increased probability of a LIHTC development being located near a fixed-guideway transit stop, whereas "explicit preference" is associated with a reduced probability. It is important that this incentive was used in only six QAPs, so the number of observations is small. These effects were relatively small in both directions.

The results for these two incentive types are very similar regardless of whether controls for economic conditions are included in the model, as shown in exhibit 6. This similarity suggests that the potentially intervening factors we included did not exert substantial influence on the outcome beyond the effects rooted in the QAP incentives themselves and the invariant features or HFA jurisdictions.

[12] Data on transportation costs are available from the decennial census but not on an annual basis.

Exhibit 6

Fixed-Effects Models With No Controls Versus Two Controls

	Fixed-Effects Model			Fixed-Effects Model (controls for economic conditions)		
	1/2 Mile	1/3 Mile	1/4 Mile	1/2 Mile	1/3 Mile	1/4 Mile
Explicit points included in a category (incentive used in 16 jurisdictions)						
All	– 0.01	0.05	0.03	– 0.01	0.05	0.03
New construction	0.04	0.08	0.07	0.04	0.09	0.07
Rehabilitation	– 0.05	0.08	0.01	– 0.06	0.06	– 0.01
Explicit preference included in a category (incentive used in 6 jurisdictions)						
All	– 0.04	– 0.04	– 0.04	– 0.04	– 0.04	– 0.04
New construction	– 0.09	– 0.09	– 0.09	– 0.09	– 0.09	– 0.10
Rehabilitation	0.01	0.00	0.00	0.00	– 0.01	– 0.01

Notes: Statistically significant results are highlighted with varying shades of black and gray. Black results are highly significant ($p < .05$), dark gray results are of modest significance ($p < .10$), and light gray results are only suggestive ($p < .20$). We tested for and did not find evidence of collinearity among the independent variables.

Other incentives did not have a statistically significant relationship with the transit proximity of tax-credit properties. One reason for the lack of statistical significance for most incentives may be not enough observations. Only a few incentives were used by more than a handful of tax-credit allocating agencies, and some of these probably came into play only rarely. The period covered by the study is relatively short, and relatively few states used incentives at the beginning of the period, further reducing the opportunity to observe any impacts of transit incentives on the location of tax-credit properties placed in service. Other data limitations probably play some role as well. For example, our sample excludes properties in the tax-credit database that were not geocoded, because the properties' location could not be determined relative to transit. This culling reduced the number of observations.

The incentives used may also simply be too weak. Although two implicit incentives—preferences and points—were used by a relatively large number of allocating agencies, these incentives are indirect and therefore may not be very strong. Implicit points, for example, indicate that incentives for transit access are embedded in other priorities that receive points, such as locating in urban areas or demonstrating sustainable development. Connecticut's implicit points are a case in point. Points were awarded in QAPs in 6 of the 7 study years for urban location, which would refer to an urban area, major metropolitan area, downtown, city center, or inner-ring suburb, regardless of whether the specific location selected is near fixed-rail transit.

In addition to the limited number of observations and the short study period discussed previously, a key limitation of the analysis was the lack of comprehensive transit data available nationwide. The review of QAP transit incentives revealed that most states include frequent bus service as an eligible mode of transit. Transit locational data were available only for fixed-guideway rail stations, however, because no nationwide dataset of frequent bus service is available. Therefore, we suspect that some properties are near frequent bus service that benefited from the transit incentives but could not be included in our observable findings.

Conclusion

A growing number of states are including incentives for locating LIHTC developments near transit in their QAPs, with the number of such states more than doubling from 17 in 2003 to 35 by 2013. Furthermore, more states—40 percent as of 2013—are using the strongest type of incentives—explicit, standalone points. The other types of transit incentives—explicit policy statements and explicit points in a category—are relatively weak. Most states award LIHTCs based on point scores. Points for proximity to transit that are submerged in a larger category can be weak, because it is possible for a proposed development not located near transit to obtain all the points in the category or to outscore a property close to transit in the number of points obtained.

Even so, the quantitative analysis that attempted to relate transit incentives to the actual location of developments that were awarded LIHTCs found that points within a category increased slightly the probability that LIHTC developments would be located near fixed-guideway transit. The analysis of the effectiveness of the stronger, standalone points that states increasingly adopted after 2010 was inconclusive because of the small sample size.

Interviews with housing agency staff, developers, and housing and transit policy experts identified two challenges to developing or preserving affordable housing near transit: (1) conflicting state priorities—in particular, the desire to locate LIHTC developments in places not likely to have the type of transit access identified in strong incentives—and (2) the high cost of developing transit-accessible sites. The interviews identified strategies that some states have used to mitigate those barriers.

Balancing LIHTC Allocations and Tailoring to the Diverse Needs of Different Geographic Areas

Perhaps the most promising approach states have used to incorporate strong incentives for location near transit into a QAP that reflects other geographic priorities is separating the allocations of LIHTCs into geographic pools. That approach makes it possible to have very strong incentives for location near transit in the urban pool without preventing all developments in rural areas from scoring enough points for a LIHTC allocation.

Another approach taken by some states—tailoring transit requirements to the nature of the location, accepting greater distances from transit and longer headways to qualify for the transit points—would seem to dilute the meaning of the transit incentive, especially if it is not used in combination with separate geographic pools. Points awarded for proximity for transit then become points nearly any development can obtain.

Instead, states that are interested in other priorities should consider using separate geographic pools and then examine the policy priorities that are most relevant to each pool in the allocation of LIHTC, both in deciding what percentage of the state's allocation of 9-percent tax-credit authority goes into each pool and in implementing that priority through the QAP. State housing agencies should identify those areas that do have a pressing need for affordable housing—for example, resort communities or areas of fast growth associated with oil and gas extraction industries—and

then tailor the QAP incentives to the most promising way to preserve already existing affordable housing or build new affordable housing for low-income people who work in those areas, while reducing the burden of transportation costs.

As another example, many states are concerned about the fair housing implications of LIHTC locations and attempt to create incentives in their QAPs for locating housing, especially family housing, in areas with good schools and other dimensions of "opportunity" that may or may not be closely related in practice to transit access. Depending on the configuration of metropolitan areas in the state, the state agency may want to consider creating separate competitions for suburban developments and developments in the urban core. For developments in the urban core, states may want to incentivize preservation of the thousands of affordable apartments already located near transit that may otherwise be lost to the affordable housing stock. For the pool within which suburban properties compete, the QAP could have incentives that reflect a variety of place-based criteria, including access to existing and planned transit.

In crafting incentives that are appropriate to different geographic pools, housing officials should work closely with transportation officials on plans for the transportation infrastructure and on actual use patterns of public transit for journeys to work and other purposes. This study has shown that the definitions of distance from housing, times covered by transit service, and headways that are used in current transit incentives vary greatly from state to state. (Current incentives seem to be silent on fares and fare structures.) Incentives should be based on rigorous studies of the features of transit most likely to be used by nearby residents seeking to save time and money.

Improving the Financial Feasibility of Transit-Accessible LIHTC Developments

State housing agencies face competing priorities in the area of cost as well. Many states have per-unit or per-development caps on the amount of LIHTCs that can be allocated, and this cap reflects the understandable interest of state officials in using their allocations of 9-percent credits to support as many affordable homes as possible. States also often assess the reasonableness of the development costs of proposed LIHTC developments, creating threshold requirements that may apply to both 4- and 9-percent credits, because of their responsibility for exercising prudence in decisions about the use of public resources.

On the other hand, many states also recognize the need to develop and preserve affordable housing in neighborhoods where low- and moderate-income families have access to critical services. Those places, by definition, are places where the development costs are high—including sites near transit, where desirability of the location is reflected in the high cost of available sites.

Depending on the barriers to developing in transit-accessible locations, the state agency can adopt one or more of the promising practices identified in this article: consider the type of development and its location in applying both credit limits and development cost limits; use gap funding that the agency or its partner state and local agencies control in pursuit of locating affordable-housing developments in high-cost areas; use the "basis boost" in support of the same priorities; and change land use policies, such as parking requirements and density restrictions, that do not make sense in transit-oriented locations. The use of gap funding for LIHTC developments with access to

transit can have the added benefit of creating housing with a fully mixed income character, because "soft money" often comes with requirements for a portion of the development to be affordable for households with poverty-level incomes.

Future Research

Nearly 30 years after its enactment, LIHTC remains one of the least studied federal programs. This study of the use of QAPs to create incentives for locating affordable housing close to transit and of the challenges to, and promising practices for, achieving that end is one of the few to use indepth interviews with state agency officials, developers, and housing and transit experts to study the LIHTC Program. The study's findings suggest a strategy for further research. That research strategy is based on two approaches: one is intensive and based on piloting promising approaches, and the other is extensive and based on further analysis of national trends and patterns across states.

First, policy developers and researchers could build on this article's findings to work with one or more states on a model QAP allocation system that balances locating affordable housing near transit in urban areas with other policy priorities, including both tailoring LIHTC locations to the different needs of different types of geography and maintaining focus on the cost-effective use of public resources. Researchers would then conduct intensive case studies of the implementation and effectiveness of those systems. Among the issues to be examined in more depth than was possible in this study is how gap financing is—or could be—aligned with other state priorities, including locating affordable housing near transit.

Second, as LIHTC data for years beyond 2010 become available, researchers could repeat the quantitative analysis initiated by this article, with the particular objective of measuring the effectiveness of the stronger incentives for location near transit that more states have implemented in recent years. As national LIHTC data make strides toward fulfilling the statutory requirement for a national database on LIHTC that includes the demographic and income characteristics of occupants of tax-credit developments, research on the use of LIHTC nationally could examine the interplay between location near transit and the income levels and household composition of affordable housing produced by LIHTC.

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