

Building Electrification and Housing Affordability

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Housing Affordability

Key Concepts and Definitions

Housing Affordability | Key Concepts & Definitions

A Working Definition of Affordable Housing

High-quality, healthy homes in which all-in costs fit within a household's budget and do not force residents to make choices between other critical needs (such as food, utilities, medicine, and childcare.)

Housing Affordability | Key Concepts & Definitions

A common way to define whether housing is “affordable” is if all-in housing costs are below a certain percentage of residents’ income.

- **“Housing Cost Burden”** is typically defined as households paying more than 30% of their income on rental and housing costs.
- **“Extreme Housing Cost Burden”** is typically defined as households paying more than 50% of income on rental and housing costs.

There are pros and cons to defining housing affordability based on “housing cost burden”:

- **Pro:** It is necessary to have a standard and measurable definition of housing affordability to track trends and progress on improving housing affordability.
- **Con:** Percentage of household income is a blunt instrument and underestimates the disproportionate impacts on low-income people. Spending 30% of a very low household income leaves much less leftover for other needs than 30% of a higher income.

Housing Affordability | Key Concepts & Definitions

Regulated Affordable Housing

Housing that is regulated by a government program to restrict rents and/or restrict allowable resident incomes to maintain affordability.

- **Subsidized affordable housing:** Housing that receives tax credits, grants, and/or loans in exchange for restrictions on rents and/or restrictions on resident income levels.*
- **Rental assistance housing:** Receives funding for rent payment assistance, typically distributed to tenants in the form of a housing voucher (also known as “Section 8 housing” at the federal level).
- **Rent-controlled housing:** Places restrictions on how much rents can be increased, regardless of subsidy. This may or may not include restrictions on allowable resident income levels and/or may be tied to specific tenants.
- **Public housing:** Housing that is publicly owned and operated (typically by local governments) for income-qualified residents.

*This includes properties funded by the federal low-income housing tax credit (LIHTC), which is one of the largest sources of affordable housing financing in the U.S.

Housing Affordability | Key Concepts & Definitions

Unregulated Affordable Housing (aka “Naturally-Occurring Affordable Housing”)

Housing that is priced below local average market rate and/or is affordable to existing residents, but is not subject to regulations restricting rents or incomes.

- **May be located in lower-income areas**, often those that were historically redlined,* and may have access to fewer services, which can exacerbate existing inequities for residents.
- **May also be located in higher-income or gentrifying areas** and may offer low-quality housing and/or be undervalued, posing a threat to continued affordability due to market forces.
- **Generally makes up a substantial portion of a city’s housing stock**, although there is a lack of data on these buildings.

The Housing Affordability Crisis in Cities



Housing Affordability in Cities | Housing Cost Burden

At least 40% of renters are housing cost-burdened in most metro areas across the country, and these numbers are rapidly increasing.

The impacts are magnified in communities of color, which is a direct result of historic and ongoing racist policies that intentionally undervalued homes in these communities.

Share of Households with Cost Burdens in the U.S. (2021)

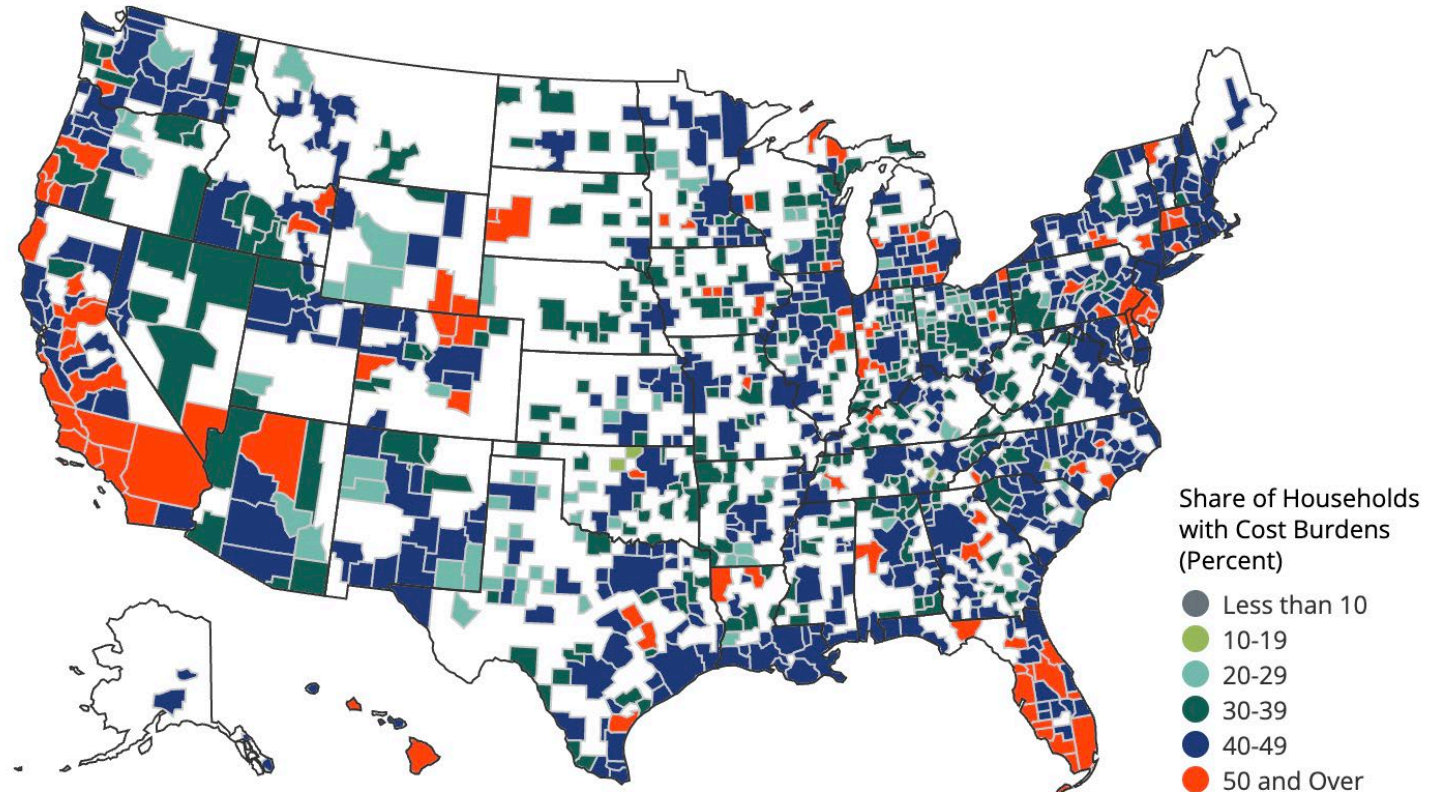


Image Source: Harvard University, Joint Center for Housing Studies

Housing Affordability in Cities | Displacement

As housing costs accelerate, the process of gentrification is displacing communities of color across the U.S. at alarming rates.

The experiences of Boston and the San Francisco Bay Area are increasingly playing out in cities across the country.

Change in African American Population, Greater Boston (1990-2017)

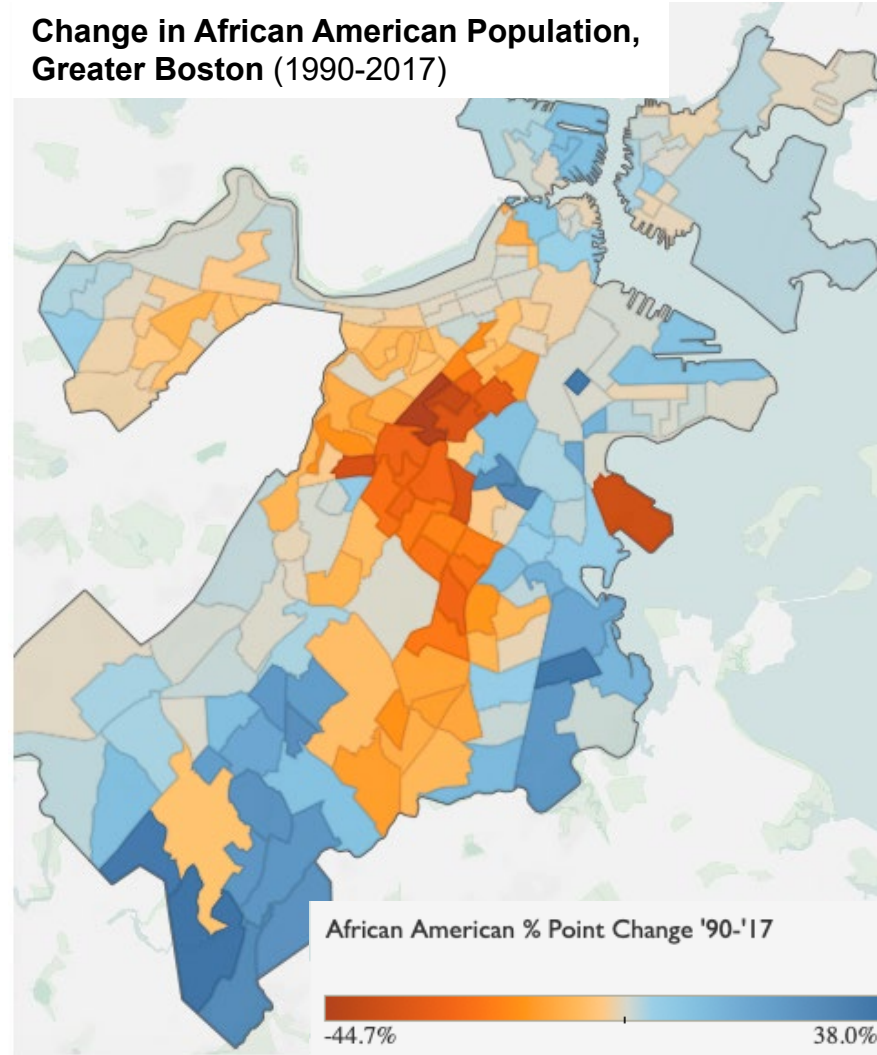


Image Source: *Changing Faces of Greater Boston*, a collaboration between Boston Indicators and University of Massachusetts

Change in Low-income (<80% AMI) Black Households in Alameda County (2000-2015)

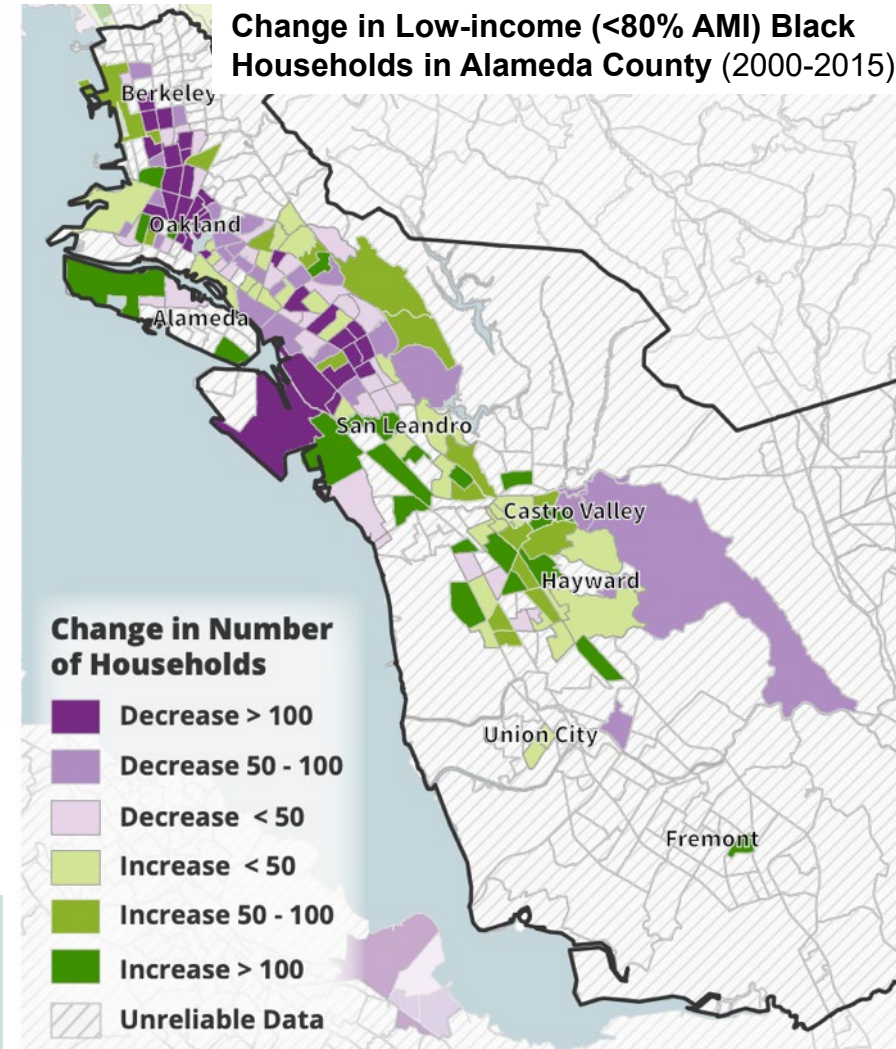


Image Source: *Rising Housing Costs and Re-Segregation in Alameda County*, Urban Displacement Project

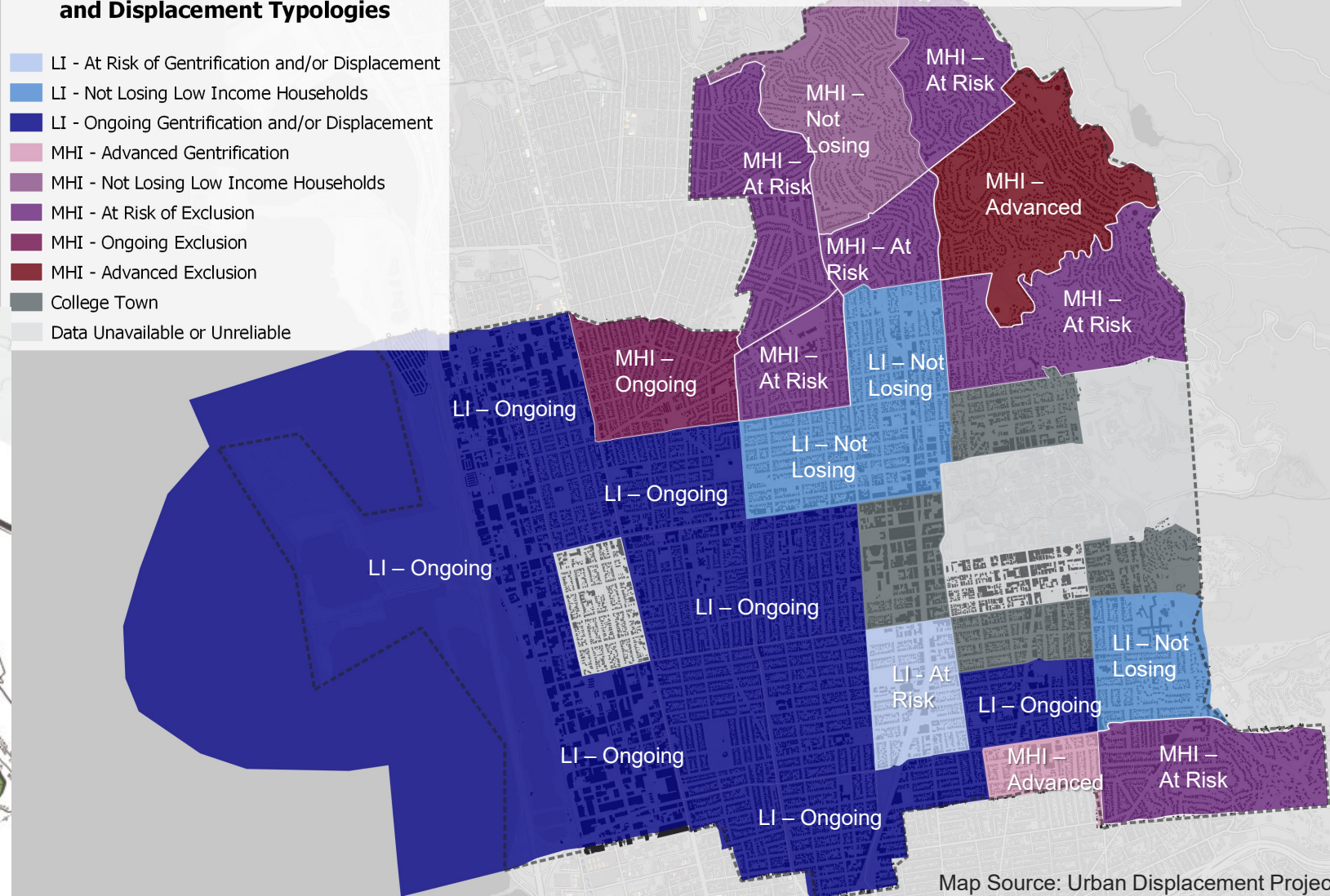
Housing Affordability in Cities | History of Redlining

Often, those who are being displaced are the same populations who suffered most from the history of government redlining.

UC Berkeley Gentrification and Displacement Typologies

- LI - At Risk of Gentrification and/or Displacement
- LI - Not Losing Low Income Households
- LI - Ongoing Gentrification and/or Displacement
- MHI - Advanced Gentrification
- MHI - Not Losing Low Income Households
- MHI - At Risk of Exclusion
- MHI - Ongoing Exclusion
- MHI - Advanced Exclusion
- College Town
- Data Unavailable or Unreliable

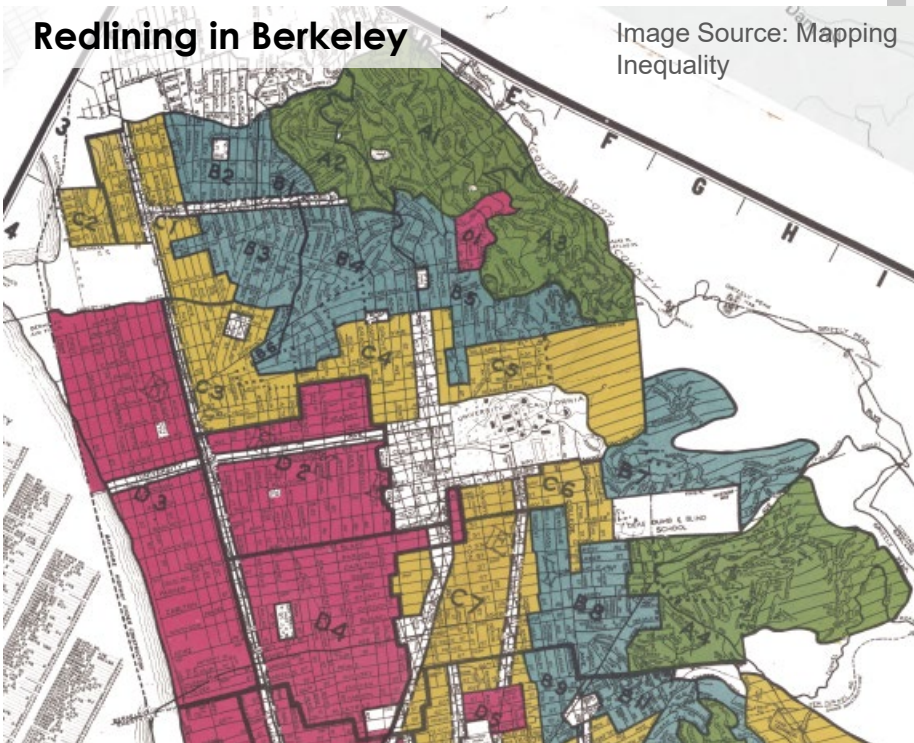
Urban Displacement in Berkeley



Map Source: Urban Displacement Project

Redlining in Berkeley

Image Source: Mapping Inequality



Housing Affordability in Cities | Health and Safety

For housing that is currently affordable, health and safety are often trade-offs.

- Affordable housing often has the highest instances of health and safety violations.
- Gas appliances are linked to childhood asthma, and the impact is greatest in smaller homes that are more likely to serve low-income families.¹
- Energy retrofits have shown a 50% reduction in asthma-related outcomes in children, but energy efficiency programs do not always work for low-income housing.²

Prevalence of 3+ Maintenance Deficiencies by Housing Type in NYC

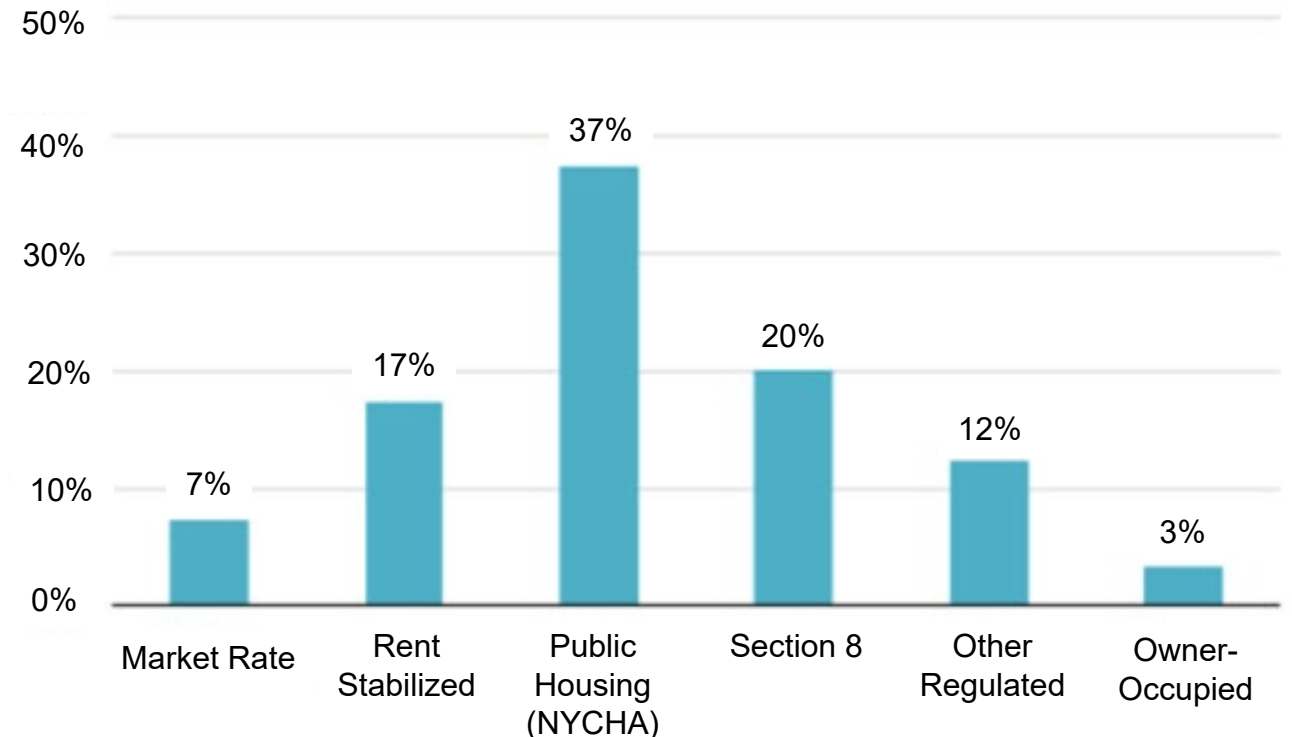


Chart Source: NYC Housing and Vacancy Survey, 2017 vis U.S. Census Bureau and NYC Housing Department of Preservation and Development

Housing Affordability in Cities | Building Upgrades

Building upgrades could exacerbate the housing affordability crisis and cause further displacement.

- Building owners may choose to recoup upgrade costs by increasing rents.
- Owners may choose to pass new or higher utility costs on to renters.
- Upgrades can displace tenants during construction and/or lead to unfair evictions.
- Improved amenities may allow building owners to ask for higher rents.

Example Costs and Potential Rent Increase
Retrofit to All-electric Building over 30 years (Northeast Climate)

	Total Installed Cost	Lifetime Bill Savings	Potential Rent Increase
Multifamily Building, High Energy User	\$4.8M	\$1.4M	\$50-\$250 per unit per month
Multifamily Building, Low Energy User	\$1.6M	No savings	

Depending on how a landlord decides to recoup the costs of a major building upgrade, **they may choose to increase the rent by anywhere from \$50 to \$250 per month.***

Solving Housing Affordability



Solving Housing Affordability | The Three Ps

Housing advocates have worked for years on solutions and have frameworks that can help align policies for both housing affordability and building electrification.

The Three Ps of Affordable Housing

Solving housing affordability requires deploying all three strategies, listed in order of priority to help stabilize communities:

- **PROTECT tenants:** Ensure renters are not unnecessarily forced out of their homes.
- **PRESERVE housing:** Ensure housing that is currently affordable remains affordable to those who live there.
- **PRODUCE** more affordable housing: Build new housing that serves all income levels to accommodate new residents.

Housing Affordability and Building Electrification



Housing Affordability and Building Electrification

Opportunities

- 1. Enact a strong, citywide and regional tenant protection regime**
- 2. Preserve existing affordable housing by funding electrification/energy upgrades and preventing housing cost and rent increases**
- 3. Enable the development of more (all-electric) affordable and “missing middle” housing**

Housing Affordability and Building Electrification

1. Enact a strong, citywide and regional tenant protection regime

Why it matters for building energy policies:

- Without proper protections, policies that accelerate building upgrades could lead to rising rents, tenant harassment, and evictions.
- A strong complementary tenant protection regime would be the surest way to provide protection for the broadest range of issues.

Example Policies:

1. Just Cause Eviction Policy
2. Right of First Refusal or “Tenant Opportunity to Purchase” (TOPA) Policies
3. Code Enforcement & Harassment Protection
4. Relocation Assistance
5. Right to Return
6. Regional Coordination for Displacement Prevention

Housing Affordability and Building Electrification

2. Preserve existing affordable housing by funding upgrades and preventing housing cost and rent increases

Key Opportunities:

- a) Ensure upgrades result in energy bill savings for priority customers to reduce their costs and ensure they are not left out of the clean energy transition.
- b) Ensure the capital costs of upgrades are not passed through to low- and moderate-income renters.
- c) Preserve existing affordable housing by increasing funding and outreach to bring more homes under affordable housing regulation.

Housing Affordability and Building Electrification

2. Preserve existing affordable housing by funding upgrades and preventing housing cost and rent increases

- a) Ensure upgrades result in energy bill savings for priority customers to reduce their costs and ensure they are not left out of the clean energy transition.

Example Programs and Policies

1. **Launch technical assistance programs** to help building owners combine upgrades that will ensure bill savings and to help them “stack” relevant funding sources.
 - Upgrades that support bill savings from electrification include: Solar photovoltaic (PV) systems, weatherization, battery storage, and other technologies.
2. **Advocate for favorable rate design** for electrification at the state and utility level.
 - Policies could include: Reduced electric rates for certain customers, time-of-use rates to encourage electrification, and a managed transition away from gas infrastructure.

Housing Affordability and Building Electrification

2. Preserve existing affordable housing by funding upgrades and preventing housing cost and rent increases

- b) Ensure the capital costs of upgrades are not passed through to low- and moderate-income renters and residents.

Example Programs and Policies

1. **Provide direct subsidies, grants, and/or property tax relief to affordable rental buildings** and pair these with restrictions that prevent passing on costs to renters.
2. **Provide direct subsidies, grants, and/or property tax relief for low-income homeowners**, particularly those who have deferred maintenance that are causing health and safety issues as well as homeowners who are on fixed incomes.
3. **Expand funding for existing affordable housing preservation programs** that provide subsidies for capital upgrades in exchange for regulations that maintain affordability.

Housing Affordability and Building Electrification

2. Preserve existing affordable housing by funding upgrades and preventing housing cost and rent increases

- c) Preserve existing affordable housing by increasing funding and outreach to bring more homes under affordable housing regulation.

Example Programs and Policies

1. **Expand existing affordable housing preservation programs**, including:
 - Low-income Housing Tax Credit (LIHTC) preservation programs
 - Section 8/rental assistance programs
 - Inclusionary housing programs
 - Rent-controlled housing programs*
 - Community land trusts and other innovative affordable housing programs
2. **Preserve currently unregulated affordable housing** by proactively reaching out to building owners and bringing them under affordability regulations in exchange for subsidies.**

Housing Affordability and Building Electrification

3. Enable the development of more (all-electric) affordable and “missing middle” housing

Cities must build significantly more housing for a greater diversity of income levels.

- Most new construction is luxury housing, serving only those with the highest incomes.
- Very little low-income and middle-income housing is being constructed. More housing for these income levels must be built to improve affordability in the near-term.

Example Policies

1. Enact an all-electric new construction policy to encourage or require all-electric new buildings
2. Upzone transit corridors and 1-2 family zoned areas to increase housing density and encourage the development of accessory dwelling units
3. Enact mandatory inclusionary housing
4. Invest directly in the development of new affordable housing, including on on city-owned property
5. Encourage or require private companies to develop new housing for employees

Housing Affordability and Building Electrification

3. Enable the development of more (all-electric) affordable and “missing middle” housing

All-electric construction is typically cheaper to build than mixed fuel construction that uses gas.

To date, nearly 80 jurisdictions across the country have enacted all-electric new construction policies to lower the costs of building construction and prevent the need for future retrofits.*

*Building Decarbonization Coalition, [Zero Emissions Building Ordinances](#)

Multifamily New Construction in Washington, DC
Mixed Fuel vs. All-electric Equipment Costs per Unit*

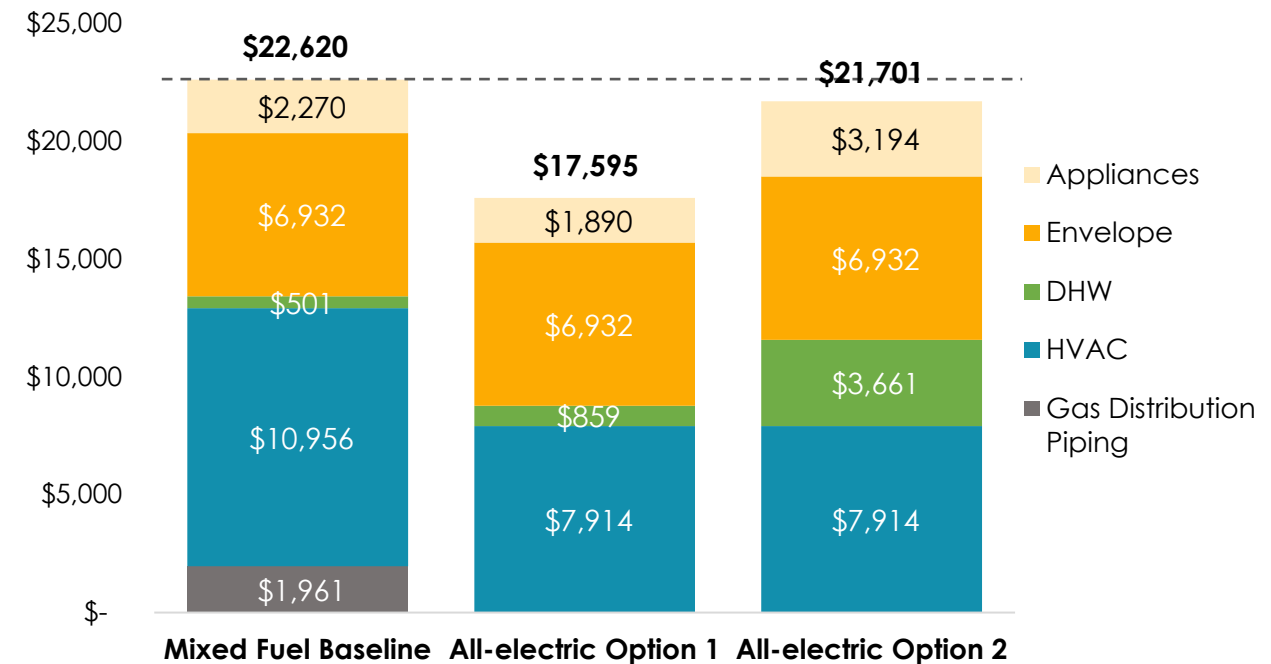


Chart Source: BEI, [Washington, DC Customer Economics Analysis for Building Electrification](#)

*Notes on assumptions: The main differences between All-electric Options 1 and 2 are the use of electric resistance water heater and electric stoves in Option 1 vs. heat pump water heater and induction stoves in Option 2.

Housing Affordability and Building Electrification

There is significant potential to accelerate building electrification and improve housing affordability, but the transition will require planning, investment, and the ability to work across siloes.

Key Considerations for Success:

- **Significantly more funding and investments are needed for housing preservation and rehabilitation to ensure affordability is not a tradeoff for building upgrades.**
- **It is critical to work closely with local housing departments and housing advocates and identify shared priorities.**
- **As new policies and programs are developed, success will require streamlining the retrofit process and aligning efforts with existing housing preservation processes.**

Housing Affordability Resources

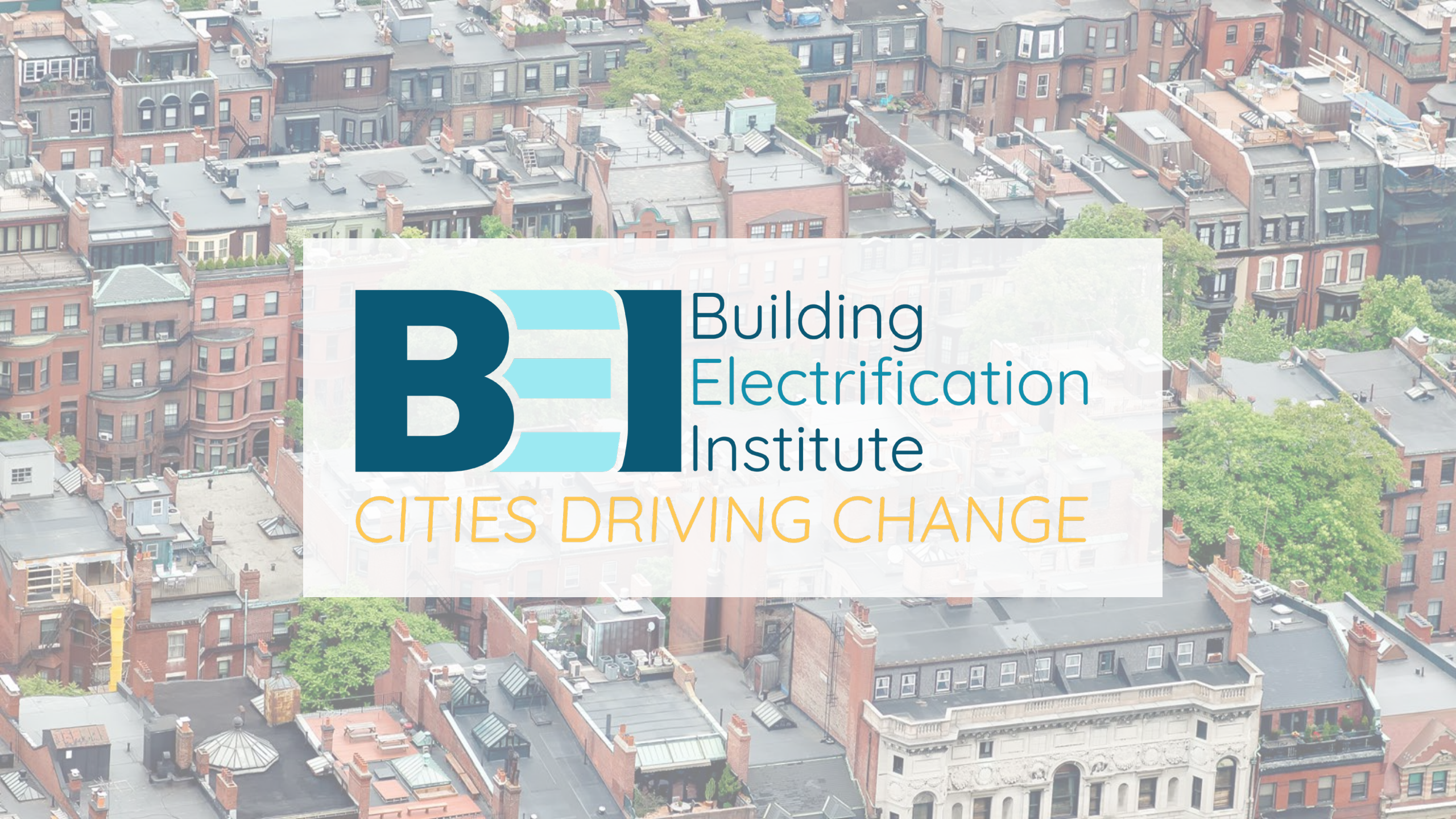


Housing Affordability Resources

BEI recognizes that thoughts and ideas of organizations who have long fought for housing affordability and justice contributed significantly to the content in this report.

Below are key resources that informed this report:

- Causa Justa, [Development without Displacement: Resisting Gentrification in the Bay Area](#)
- Chapple, K., & Thomas, T., and Zuk, M., [Urban Displacement Project website and resources](#)
- Harvard Joint Center for Housing Studies, [State of the Nation's Housing 2022](#)
- Harvard Joint Center for Housing Studies, [Housing Perspectives](#)
- Lopez, M. and Rothstein, R., [Segregated by Design](#)
- National Multifamily Housing Council, [Rent Control Laws by State](#)
- NPR Code Switch, [Housing Segregation in Everything](#)
- Right to the City Alliance, [Rise of the Renter Nation](#)
- Strategic Actions for a Just Economy (SAJE), [Los Angeles Building Decarbonization: Tenant Impact and Recommendations](#)
- UMass Boston, the UMass Donahue Institute, Boston Indicators, and the Boston Foundation, [Changing Faces of Greater Boston](#)
- University of Richmond, [Mapping Inequality](#)
- Urban Habitat, [Rooted in Home: Community-Based Alternatives to the Bay Area Housing Crisis](#)



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