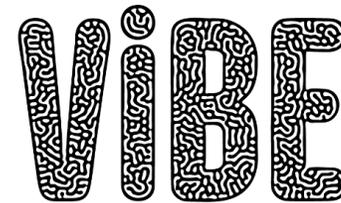


# ***SUPERNORMAL***

Architecture, urbanism, and design research

An engaged design practice that meets the world  
as it is, and with a glass that is half full



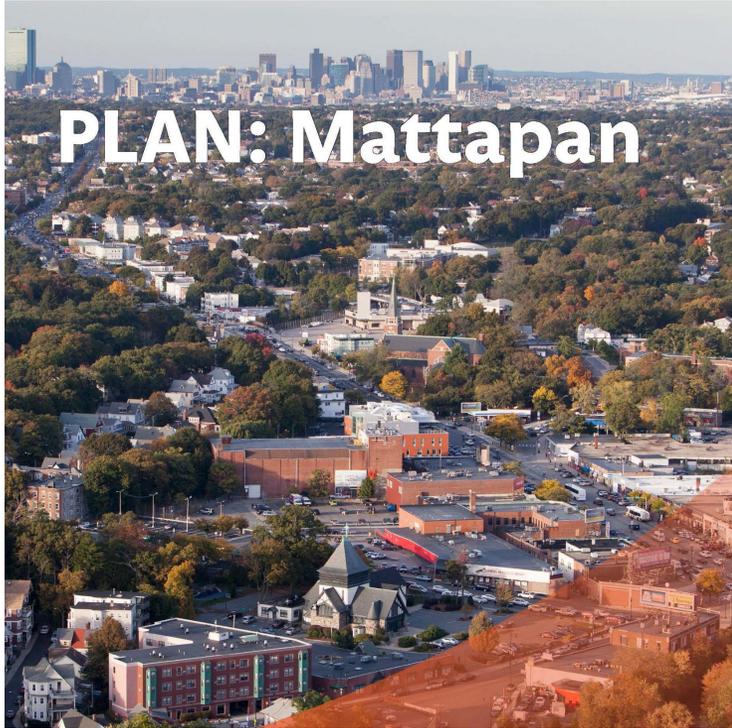
Laboratory for Values in the Built Environment

Scalable systems of design  
Socio-technical systems

***SUPERNORMAL***

**vIBE**

Blending the visible power of design imagination with  
the invisible urban mechanics that enable it  
to create positive change for more people and more places.



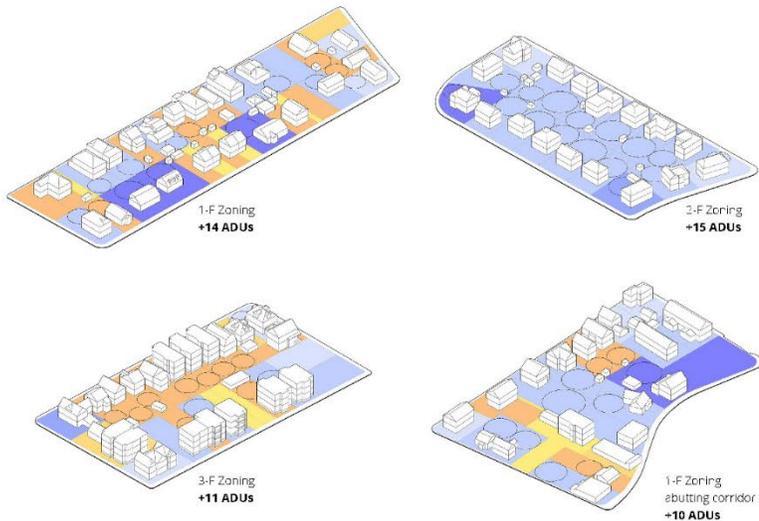
01 Introduction

Goals

We aim to preserve and enhance the character of Mattapan while amplifying economic and social opportunity for its residents.



Team:  
Mass Design Group  
Supernormal  
Grayscale Collaborative  
Toole Design  
RKG



**Filling in the gaps, lowering the barrier to entry**  
 In order to facilitate change and local development, the barrier to entry needs to be lowered. A combination of regulatory and financial strategies are needed to support incremental housing growth.

The permitting and approvals process in Boston can be complicated and costly, creating an unintended barrier to the provision of small-scale housing in the residential fabric. By providing clear design guidelines and supports that are designed to meet the needs of Mattapan residents today, relevant and needed housing can be more easily and quickly delivered in Mattapan.

Urban design recommendations should consider multiple building types. Building types, which may be developed in collaboration with the community, may include ADUs as well as 2-4 unit types that can fill in vacant lots in sub-districts where zoning permits 2-4 family buildings.

**Abutting parcels**

In addition to the back-yard opportunities for increased equity and affordable rental units provided by new ADU zoning guidelines, there are hundreds of vacant residential

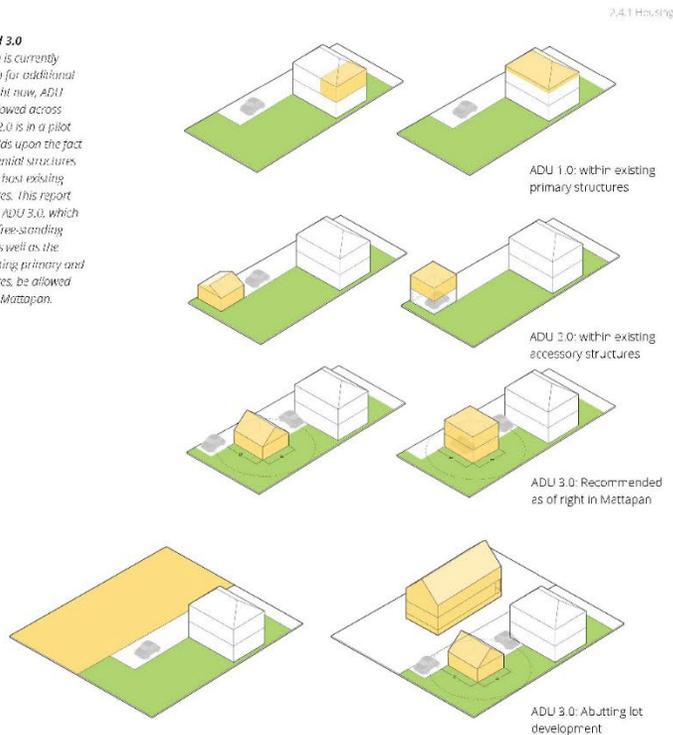
parcels in Mattapan, most of which are owned by an abutting residential property owner. These parcels pose an additional opportunity for equity and the provision of affordable rental units. Like pre-approved ADU plans, enabling pre-approved 2-4 unit building plans will lower the barrier to entry for more and more relevant housing units. A future co-design process with the community can ensure an optimal match between local needs and unit design.

**Explore alternative and collective ownership models**  
 Enabling development by existing property owners is critical but needs to be complemented by encouraging a new class of residents to attain housing equity for the first time. This is a challenging goal within traditional models of homeownership and management; this plan recommends the exploration of alternative and collective models of ownership with the goal of maintaining high levels of homeownership in Mattapan.

One particularly promising model is the Limited Equity Housing Co-op (LEHC), which may work alongside a Community Land Trust (CLT) to pair and acquisition and/or development with a management and operational infrastructure. The LEHC is an alternative ownership and

**ADU 1.0, 2.0, and 3.0**

The City of Boston is currently piloting regulation for additional dwelling units. Right now, ADU 1.0 is currently allowed across Boston and ADU 2.0 is in a pilot program that builds upon the fact that 35% of residential structures in Boston already host existing accessory structures. This report recommends that ADU 3.0, which would allow new free-standing accessory units, as well as the renovation of existing primary and accessory structures, be allowed as of right across Mattapan.

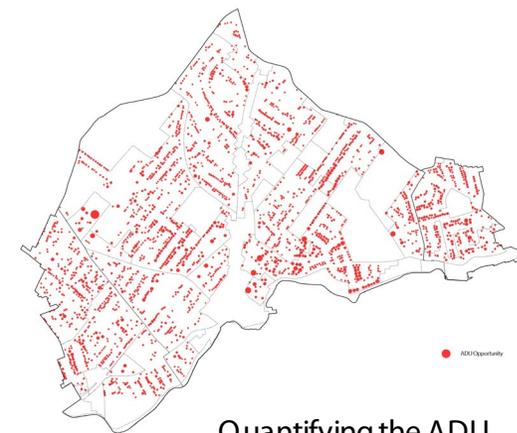


management model designed to increase ownership prospects and provide housing sustainability across more income levels and parcels within Mattapan.

A community partner is needed to build lasting change on this front, and some form of public-private partnership must be explored for such models to succeed. If local interests exist and efficacy is achieved, these models hold the potential to provide a much broader variety of units for populations that are often excluded from the housing market. Co-living, transitional housing, and traditional family units may provide partial equity offerings alongside residential management and related services to deepen local impact.

**Maintain lot coverage, minimize changes in height**

The goal of PLAN: Mattapan is to guide transformative changes to the nodes and corridors. As such, new developments in the residential fabric should prioritize the prevailing lot coverages of the area and only consider modest changes in height from the existing heights of primary structures. These changes should be coupled with increased affordability and other community benefits.



Quantifying the ADU opportunity in Mattapan

## Challenges

ADUs require homeowners to pursue a variance to zoning regulations to build.

## R&D Innovation + Solutions

→ Zoning reform in Mattapan allows ADUs as-of-right, becoming a pilot for city-wide zoning changes.

### Efforts to allow backyard units in Mattapan go before planning board this week

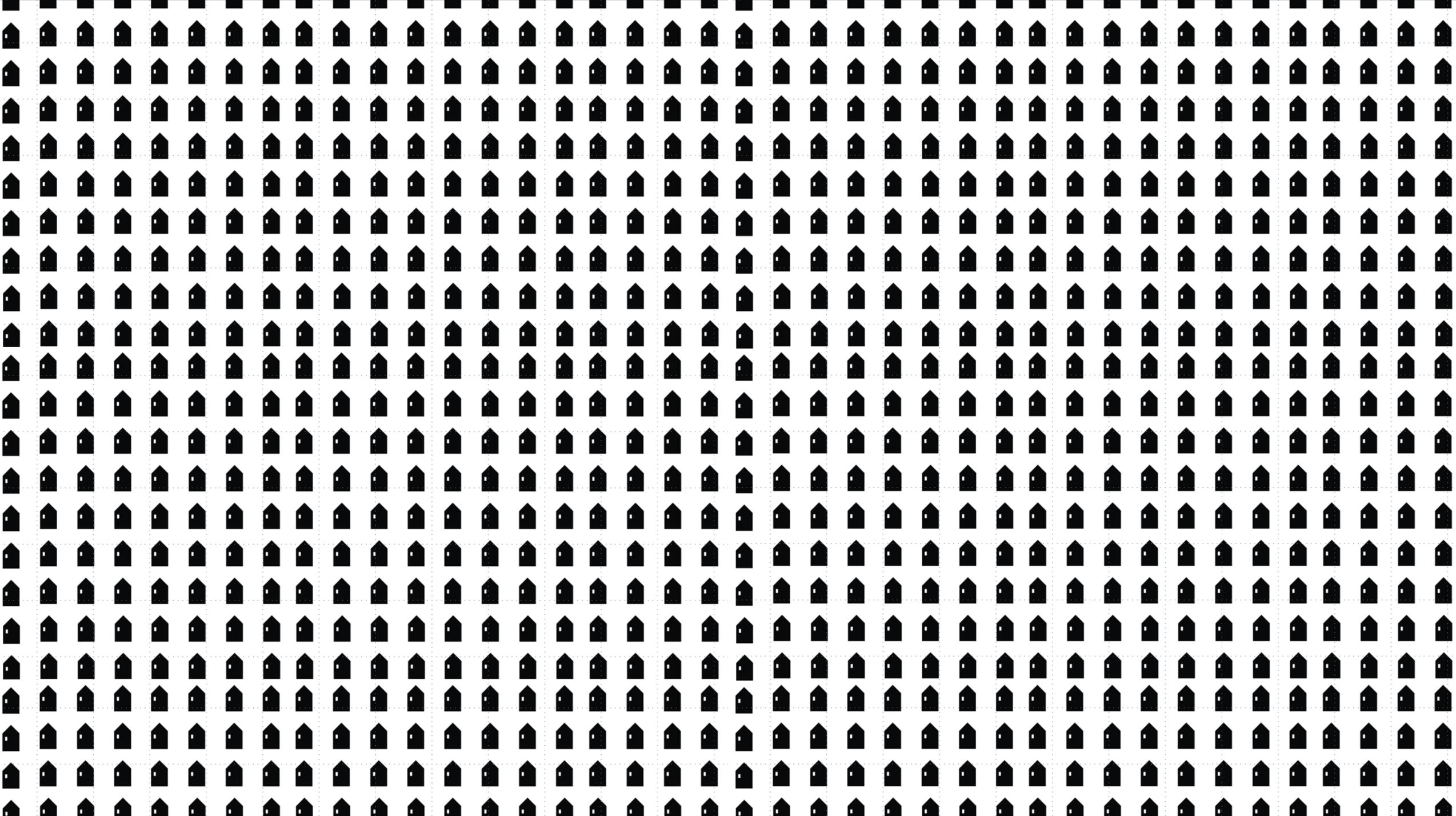
May 08, 2023 | By Gintautas Dumcius, Dorchester Reporter

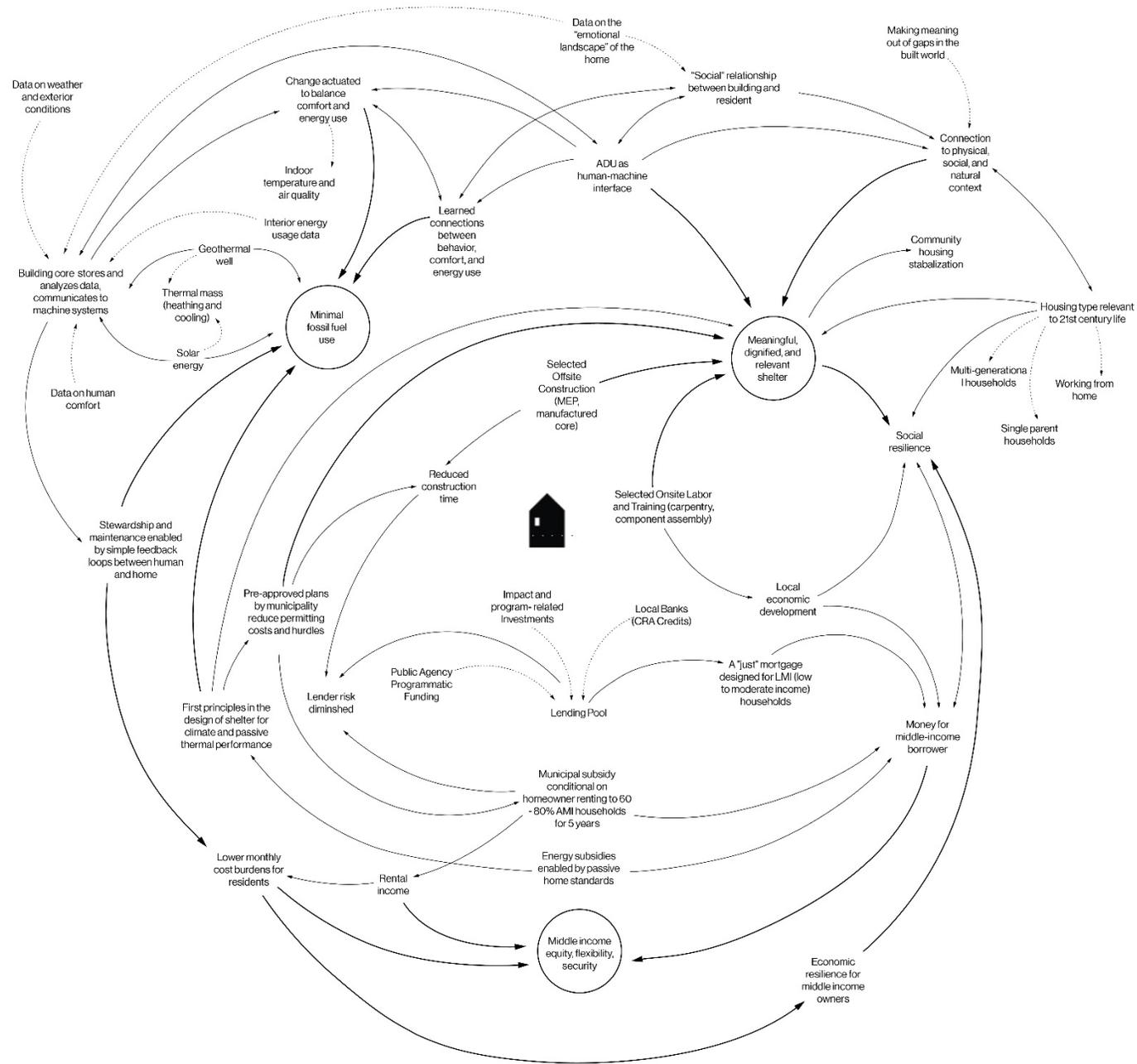


A row of single story shops on Blue Hill Avenue. The authors of PLAN: Mattapan suggest raising one- and two-story commercial buildings by adding residential units above them, to increase population density. (Robin Lubbock/WBUR)

“PLAN: Mattapan,” an effort to remake the neighborhood by allowing backyard residential units and strengthening Mattapan Square as one of the city’s economic hubs, is set to be placed before the Boston Planning and Development Agency’s board







## Challenges

- **Municipal:** zoning (BPDA) and permitting (ISD)
- **Financing Institutions:** lack of safe and accessible lending opportunities for low- to moderate-income (LMI) households
- **Construction ecosystem:** high cost due to changing skills and tasks required to deliver necessary building performance
- **Design:** accommodate changing household compositions, local neighborhood character, challenging fire codes



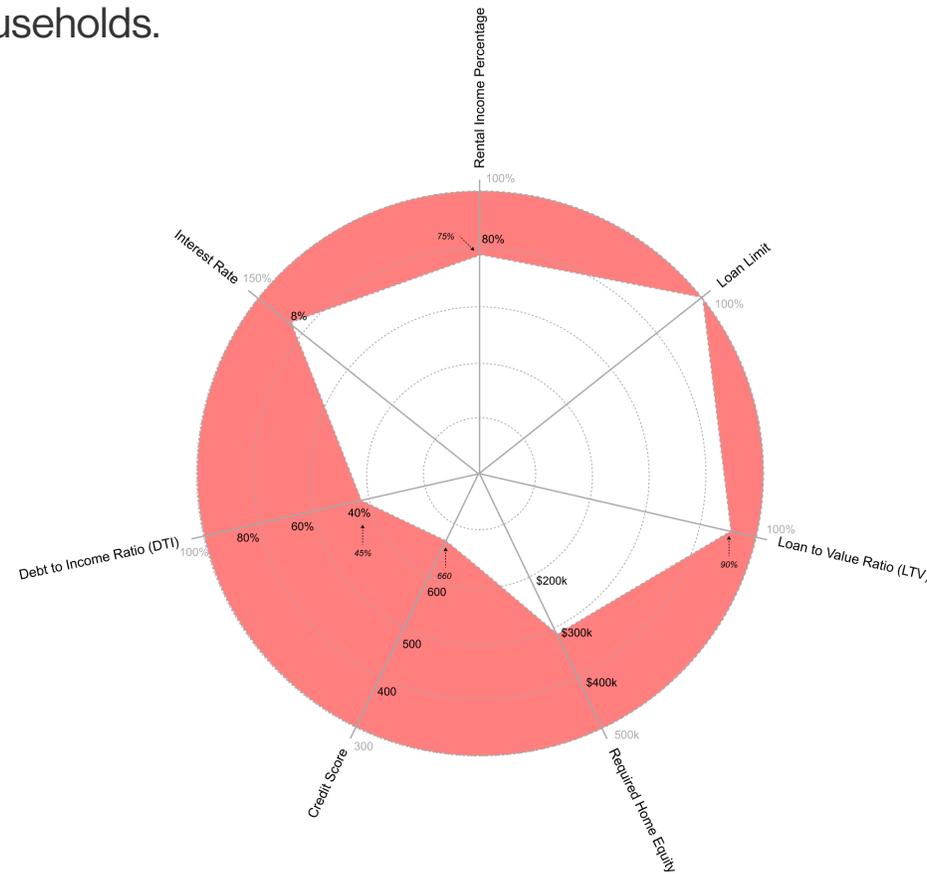
## Challenges

ADUs require homeowners to pursue a variance to zoning regulations to build.

While ADUs are allowed as-of-right, a lack of safe financing options prevents ADU construction for low- and moderate-income (LMI) households.

## R&D Innovation + Solutions

Zoning reform in Mattapan allows ADUs as-of-right, becoming a pilot for city-wide zoning changes.



## Challenges

ADUs require homeowners to pursue a variance to zoning regulations to build.

While ADUs are allowed as-of-right, a lack of safe financing options prevents ADU construction for low- and moderate-income (LMI) households.

## R&D Innovation + Solutions

Zoning reform in Mattapan allows ADUs as-of-right, becoming a pilot for city-wide zoning changes.

Develop innovative lending solutions for LMI households with local banks.



### Senior Households

#### **Homeownership assumptions:**

- High home equity
- Low income

#### **Possible solutions:**

- Structuring a product exclusively around rental income so that the rental income services the loan (e.g. Monterra's 2nd mortgage solution)



### Multi-Generational Households

#### **Homeownership assumptions:**

- Insufficient home equity
- Moderate household income

#### **Possible solutions:**

- Income has proven solutions to increase affordability (e.g. increase term, add rental income)
- Increase home equity with "as-completed" appraisal value, increasing LTV, recognizing Restorative Value

## City of Boston announces new tools to assist residents in building Accessory Dwelling Units (ADUs)

*New financial assistance and guidebook will make it easier for residents to create more housing on their properties*

BOSTON - Wednesday, November 20, 2024 – The City of Boston today announced a new program to support Boston homeowners in building Accessory Dwelling Units (ADUs) on their property. This initiative, administered by the Boston Home Center (BHC), a division of the Mayor's Office of Housing, offers a new bank loan option alongside grants and other financial assistance to help cover costs related to designing, permitting, and building an ADU. Additionally, the Planning Department is releasing an Accessory Dwelling Unit (ADU) Guidebook, an illustrated manual that will help property owners in Boston who may want to build an ADU on their property. This book is available online, and in all Boston Public Library branches. Building on the Mayor's leadership to make Boston a home for everyone, these steps are important to increasing the City's multigenerational housing stock, keeping families together and building wealth.

"Accessory Dwelling Units are a powerful tool in our efforts to address the housing crisis in Boston," said **Mayor Michelle Wu**. "By creating more flexible and affordable living options, ADUs allow homeowners to maximize their property while contributing to the availability of housing in our neighborhoods. This initiative not only supports families looking to generate extra income or house loved ones but also strengthens our communities with more diverse and accessible housing choices."

Through the loan programs, the BHC provides income-eligible owners of 1-3 unit homes who plan to add an ADU with a Technical Assistant Grant of up to \$7,500. This grant provides eligible homeowners with targeted funding and staff guidance throughout the pre-construction phases of researching, designing, and permitting their ADU. Additionally, homeowners can apply for an ADU Loan from the City of up to \$50,000 to support construction costs. The ADU Loan carries 0% interest and is deferred, meaning there are no monthly payments. Homeowners approved for this program are paired with a BHC Construction Specialist who monitors progress throughout the building process. Eligible homeowners who receive an ADU Loan may also explore additional financing opportunities with participating lenders. To qualify for the program, applicants must meet specific income and asset limits.

"Accessory Dwelling Units are an important part of our strategy to expand housing options in Boston," said **Sheila A. Dillon, Chief of Housing**. "ADUs give homeowners a way to create additional living spaces that can serve as a source of income, provide housing for family members, and help address the city's housing needs. By making it easier to build ADUs, we are supporting residents, increasing housing supply, and strengthening neighborhoods."

As part of this effort, the City is also piloting a new ADU Bank Loan in partnership with local banks, Leader Bank, Dedham/Southshore Bank, Needham Bank, and the Cooperative Bank. Recognizing the challenges posed by construction expenses, the Boston Home Center and the Mayor's Office of New Urban Mechanics initiated a collaboration with Harvard's Laboratory for Values in the Built Environment and local lending institutions to develop innovative solutions that ensure low- and moderate- income homeowners can access the unique benefits ADUs provide. This resulting loan fills a gap in the market, providing affordable financing to cover construction costs associated with building ADUs.

"Our research shows that homeowners need new loan products to meet the unique opportunity that rental ADUs can offer homeowners, and provide equitable access to ADU financing," said **Charu Singh, Research Associate at the Laboratory for Values in the Built Environment at Harvard GSD**. "I'm proud of the groundbreaking work our group has done to equitably expand the lending toolbox, especially during this time when Boston is struggling with too few housing options and high costs."

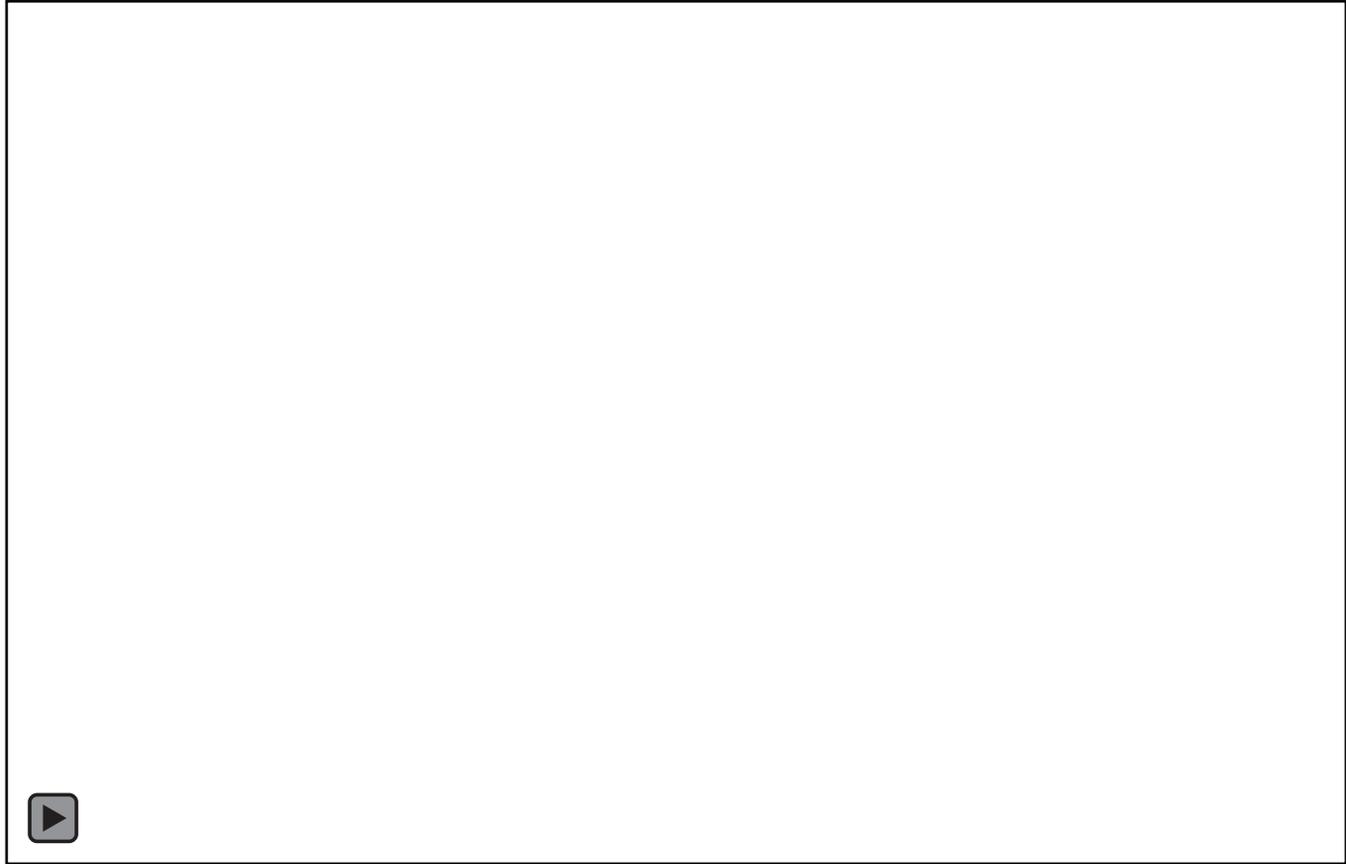
*Recognizing the challenges posed by construction expenses, the Boston Home Center and the Mayor's Office of New Urban Mechanics initiated a collaboration with Harvard's Laboratory for Values in the Built Environment and local lending institutions to develop innovative solutions that ensure low- and moderate-income homeowners can access the unique benefits ADUs provide. This resulting loan fills a gap in the market, providing affordable financing to cover construction costs associated with building ADUs.*

"ADUs give homeowners a way to create additional living spaces that can serve as a source of income, provide housing for family members, and help address the city's housing needs. By making it easier to build ADUs, we are supporting residents, increasing housing supply, and strengthening neighborhoods."

**Sheila A. Dillon, Chief of Housing**



Sample capital stack visualization for financing a \$225,000 ADU with minimal homeowner savings.



## Challenges

ADUs require homeowners to pursue a variance to zoning regulations to build.

While ADUs are allowed as-of-right, a lack of safe financing options prevents ADU construction for low- and moderate-income (LMI) households.

Even with access to safe financing, the complexity of the local construction delivery and municipal permitting ecosystem is a barrier to entry for LMI homeowners.

## R&D Innovation + Solutions

Zoning reform in Mattapan allows ADUs as-of-right, becoming a pilot for city-wide zoning changes.

Develop innovative lending solutions for LMI households with local banks.

Pilot 3 ADUs to discover the nature and source of construction delivery and cost-related hurdles.

- Join efficiencies of off-site and on-site methods
- Train local on-site labor in low-energy methods
- Permitting-friendly design
- Dignified, low-energy, and relevant design for changing household compositions

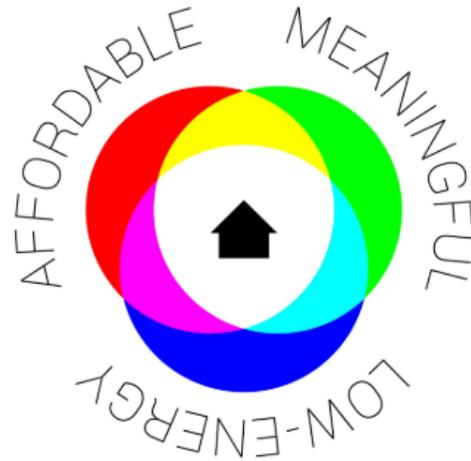
*The ADU Solutions Program is a collaborative program to confront the intersection of the housing crisis, environmental sustainability, and the racial wealth gap by building capacity for low-energy construction and creating rapid access to home equity in communities of color, starting with Boston's neighborhood of Mattapan.*

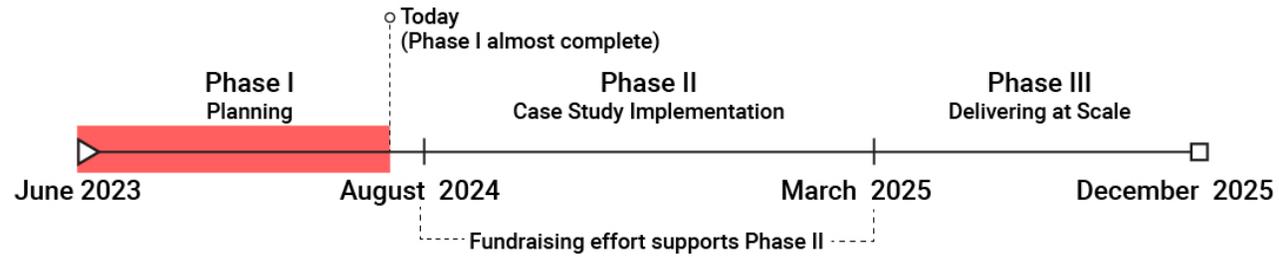
ADU Solutions Program: Mattapan Pilot

## **Accessory Dwelling Unit (ADU) Solutions Program Mattapan Pilot:**

An urgent and tangible plan to build three homes and a skilled construction ecosystem of emerging builders to confront the intersection of climate crisis and the racial wealth gap

The ADU Solutions Program is a collaborative program to confront the intersection of the housing crisis, environmental sustainability, and the racial wealth gap by building capacity for low-energy construction and creating rapid access to home equity in communities of color, starting with Boston's neighborhood of Mattapan.





### Supporters

Rappaport Institute for Greater Boston  
Harvard Center for Green Buildings and Cities  
LISC Massachusetts

### Team

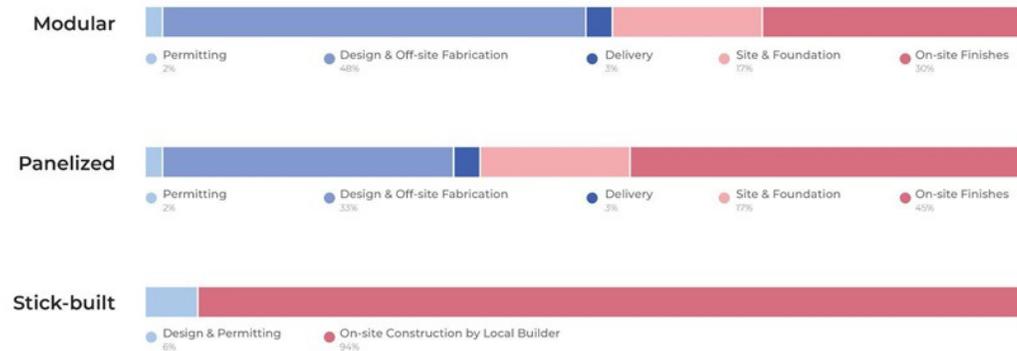
City of Boston  
Mayor's Office of Housing  
Boston Home Center  
Mayor's Office of New Urban Mechanics

### ViBE Lab

Elizabeth Bowie Christoforetti (PI)  
Connor Gravelle  
Sulaya Rangit  
Charu Singh  
Alec Wagner  
Clara Wong

#### 4. ADU Types and Construction: Comparative Costs by Phase

Minimizing cost for construction while ensuring energy efficiency is essential for short-term ADU viability and long-term building management. Collecting real cost-related data across construction types and phases will yield essential information about upfront and ongoing costs for homeowners.



#### 4. ADU Types and Construction: Comparative Timelines

Minimizing construction timeline and complication for the homeowner is essential to the success of the ADU effort. The three selected construction types vary in terms of their balance of off-site and on-site construction. Because labor and access to off-site production is highly dependent upon local factors, testing each in Boston for strengths and weaknesses is important.

