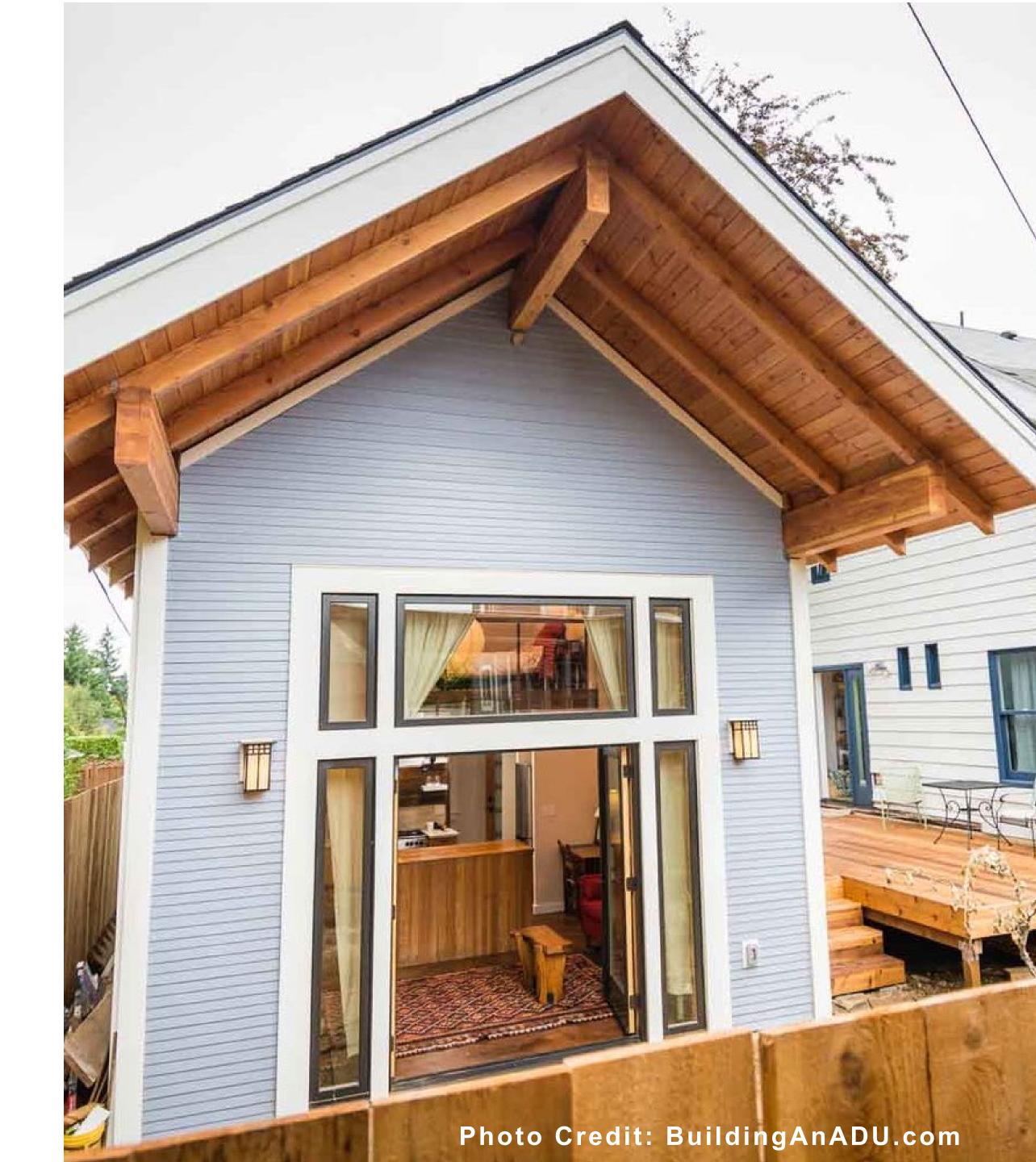
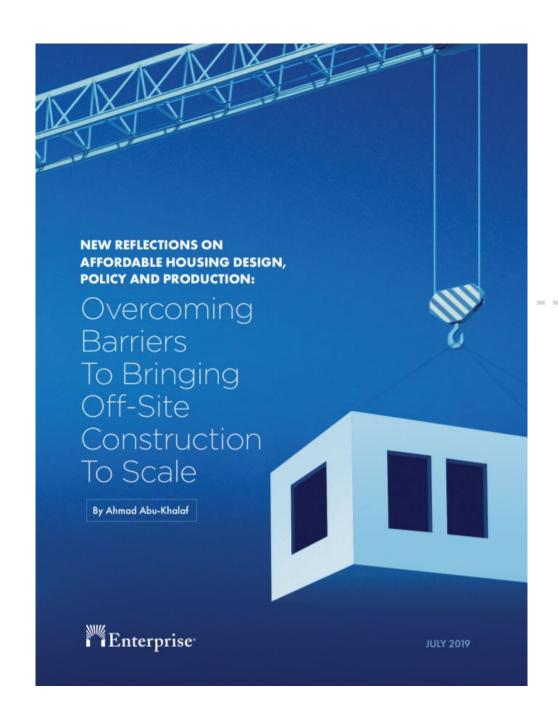


- The objective of Enterprise's research on affordable housing design, policy and production is to reframe the national conversation on construction and design innovations.
- Our research aims to shift the conversation from how those innovations could completely change how we build and deliver housing to how these strategies can function effectively as part of the existing housing delivery system.

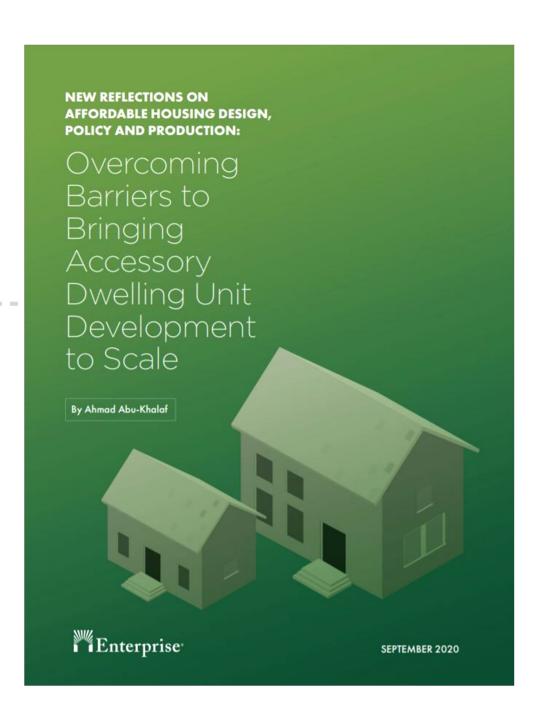


BACKGROUND



July 2019

Overcoming Barriers to Bringing Off-Site Construction to Scale



September 2020

Overcoming Barriers to **Bringing ADU** Development to Scale

BRINGING OFF-SITE CONSTRUCTION TO SCALE

OFF-SITE VS. TYPICAL SITE-BUILT CONSTRUCTION



BRINGING OFF-SITE CONSTRUCTION TO SCALE

The concept of using off-site construction techniques as a tool to boost the cost-effectiveness and productivity of the housing delivery system has been recurring in the industry for decades.

Our research identifies challenges and opportunities to using off-site construction to expand the supply of affordable homes and address cost challenges, focusing on four key elements:

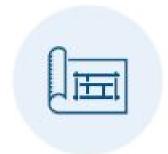


OPPORTUNITIES AND CHALLENGES





- Compared with traditional construction, often perceived as an investment with higher risk
- Generally, requires at least 50 percent of the total fabrication cost upfront to cover material procurement cost



REGULATIONS AND LOGISTICS

- In addition to obtaining a building permit ahead of construction, developers typically required to pass factory and on-site inspections
- Majority of states require a governmental /third-party agency to complete factory inspections to ensure compliance with state codes governing off-site construction

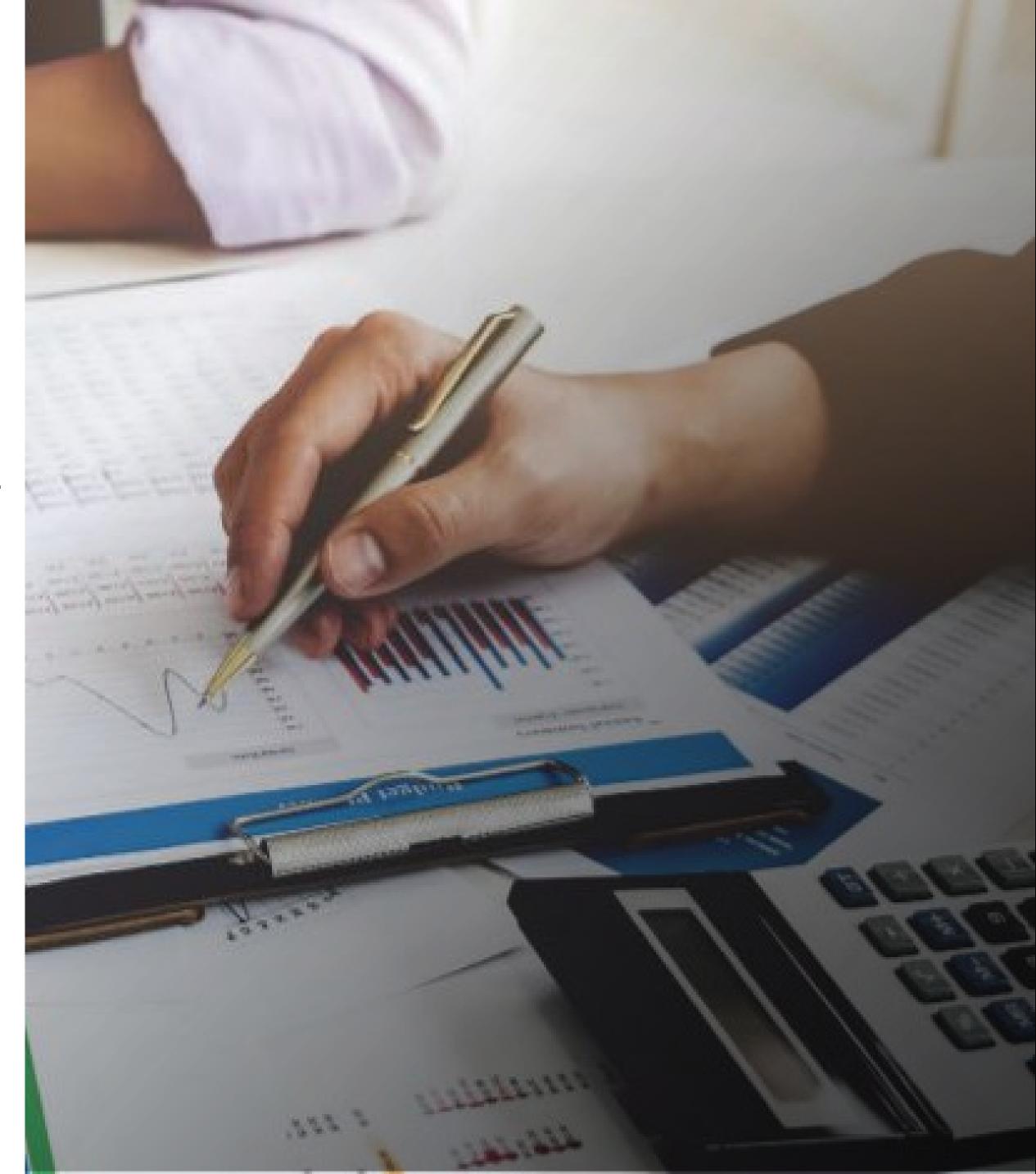


CONSTRUCTION **TIMELINE AND COST**

- Allows for conducting site and foundation work concurrently with factory fabrication phase, which can accelerate construction timeline and offer time-related cost benefits
- Majority of cost benefits are in the accelerated construction timeline but permitting and approval hurdles can erase associated cost savings

HIDDEN COSTS

- While modular and prefabricated construction strategies can help reduce development costs, there are hidden costs in off-site construction.
- These costs include higher transportation cost and additional costs induced by on-site technical issues.
- Currently, there are no regional or market-level data that capture the cost of off-site construction, which presents challenges in identifying and analyzing cost savings in this construction strategy.



OVERCOMING BARRIERS TO BRINGING OFF-SITE CONSTRCUTION TO SCALE

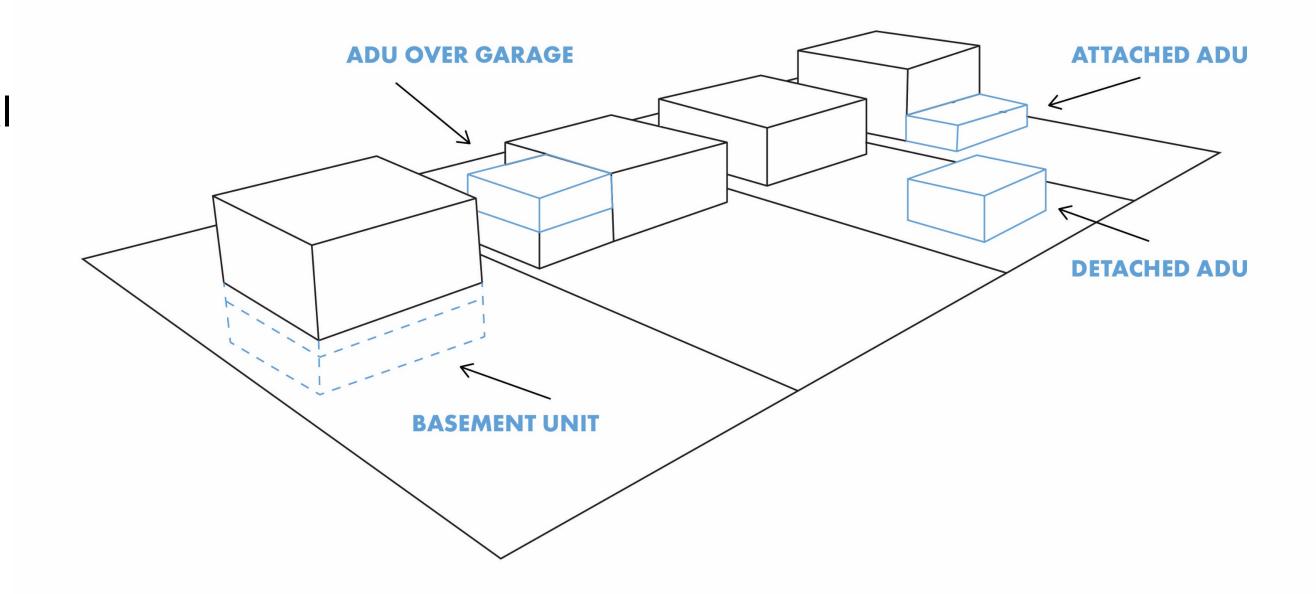
- Innovative solutions can offset perceived financing risks. This could include:
 - Hiring third-party inspectors to ensure the fabrication process follows the agreed timeline and specifications to provide more certainty for lenders.
 - Assigning specific modules or construction elements to each project to clarify any uncertainty around ownership and pre-assembly.
 - Creating pools of private capital that can supplement construction loans by enabling developers to cover the procurement of raw material at the early stages of their projects.
- Jurisdictions could consider adopting innovative ways to accelerate the permitting, inspection and approval processes for off-site construction developments.

BRINGING ADU DEVELOPMENT TO SCALE

ADU DEVELOPMENT & GENTLE DENSITY

Accessory dwelling unit (ADU) is a broad term that refers to a smaller, self-contained residential dwelling that is located on the same parcel as a primary, larger residential dwelling, typically a single-family home

ADU development is the low end of the gentle density (missing middle housing) spectrum. Permitting ADU development in single-family zoned areas is the first step toward supporting gentle density



REGULATORY BARRIERS TO ADU DEVELOPMENT

- At a minimum, municipal governments must permit ADU development in some/all single-family zones to support ADU development
- In many jurisdictions where ADU development is permitted, there are zoning provisions that can create regulatory barriers to ADU development
- These regulatory barriers can result in complex, lengthy permitting processes; reduce the feasibility of creating ADUs; and discourage homeowners from pursuing ADU development



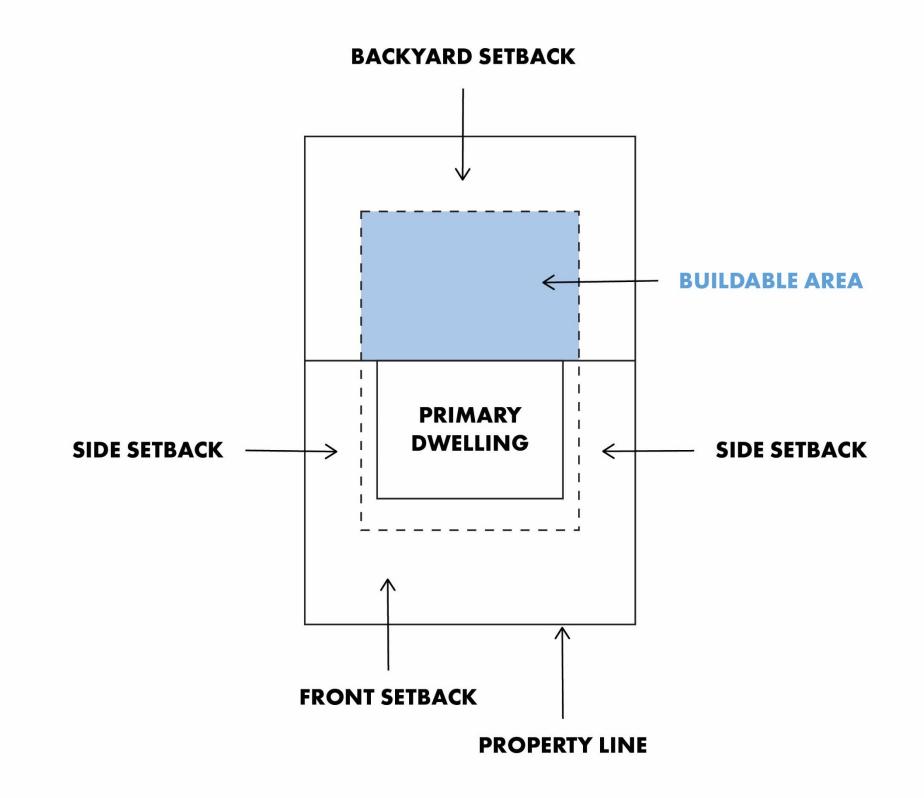
REGULATORY BARRIERS TO ADU DEVELOPMENT

Discretionary review processes

Owner-occupancy requirements

Off-street parking requirements

Minimum lot size requirements and large setbacks

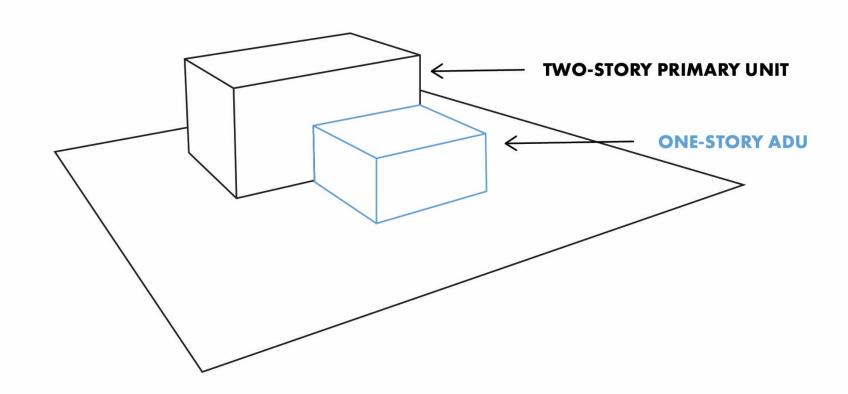


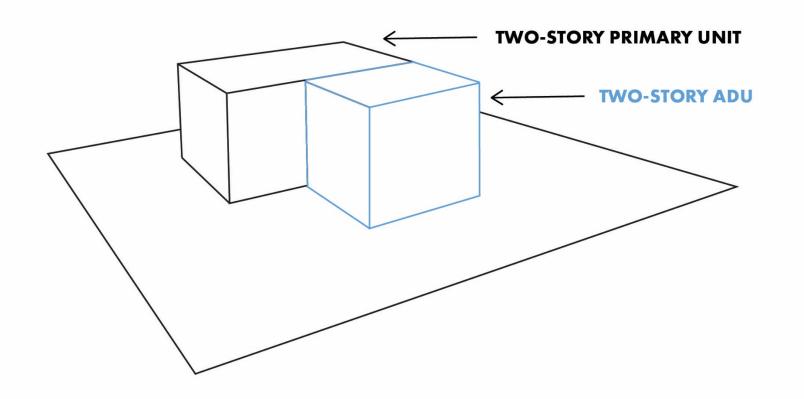
REGULATORY BARRIERS TO ADU DEVELOPMENT

Restrictive size and height caps

Prescriptive design standards

Impact fees and utility connections cost burdens





BARRIERS TO FINANCING ADU DEVELOPMENT

- There are persisting barriers to financing ADU development, especially for lower- and moderate-income homeowners
- The scarcity of lending products tailored for ADU financing has made tapping into homeowners' cash savings or home equity the most common path for financing ADU development
- Lower- and moderate-income homeowners are less likely to be able to use these financing mechanisms. In addition, there are challenges in using these lending products to finance ADU development



OVERCOMING BARRIERS TO FINANCING ADU DEVELOPMENT

- Federal agencies that back mortgages and private lenders can explore creating lending products tailored for ADU development. These products would:
 - Enable low- and moderate-income homeowners to finance and develop ADUs on their lots
 - Offer favorable loan terms and interest rates
 - Include the projected rental income from the ADU in calculating the Debt-To-Income ration and appraised value
 - Provide for a loan underwriting process tailored for the population in need of ADU financing
- Federal, state and local agencies, as well as private and philanthropic partners can also support ADU development through offering financial support to low- and moderate-income homeowners

