

Accessory Dwelling Units in Southern California Prototype Design Options Package

Case Study: City of Pasadena

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Prototype Design Options Package

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I. Introduction

A. Background

Recent state legislation has limited the restrictions cities can place on the development of accessory dwelling units (ADUs), with the goal of producing more housing to meet the growing needs of Californians during the ongoing housing crisis. ADUs, because of their smaller size and shared land, are generally considered more affordable than other types of new housing and are typically better able to fit into existing neighborhood character.

These changes to zoning attempt to gradually increase density and housing opportunities without more drastic up-zoning of single-family neighborhoods, which make up most land in cities throughout the U.S. Because they are infill development on already developed land, ADUs are also considered more sustainable since they can use existing infrastructure. It is the intent of State law to not only allow but streamline the construction of ADUs in residential and mixed-use zones statewide, though the real impact of ADUs varies by community.

B. Regional Early Action Planning Grant Program & Funding

The Southern California Association of Government's (SCAG's) Regional Council approved the 2020 Sustainable Communities Program (SCP) Housing and Sustainable Development (HSD) Call for Applications in November 2020. The goal of the SCP is to implement the policies and programs of Connect SoCal, the 2020 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). With the 2019-2020 Budget Act, \$250 million was budgeted to prioritize planning initiatives that would increase housing production to meet the needs of every community throughout the state.

The California Department of Housing and Community Development (HCD) received \$125 million of this funding to establish the Regional Early Action Planning (REAP) Grant Program. REAP provides one-time grants to regional entities for planning activities that facilitate compliance in implementing the sixth cycle of the Regional Housing Needs Allocation (RHNA). This includes efforts to accelerate housing production – such as the development of ADUs.

This report was prepared as a part of a SCAG REAP bundle project, for the cities of Pasadena, Laguna Beach, and Santa Monica. A report was prepared for each City, based on its unique conditions.

C. Objectives

This package provides the Prototype Design Options Package developed for the City of Pasadena. The prototypes are based on compatible ADU typologies, which were identified through analysis of the regulatory framework contained in Pasadena’s local regulations, the existing physical conditions of its residential neighborhoods, and trends in recently constructed ADUs.

This package is intended to be accessible to the public to help homeowners get a basic understanding of ADUs and what plans may include.

II. ADU Typologies

A. ADU Construction Trends

The following findings are summarized from the March 2022 ADU Interest and Experience Surveys which provided insight into the ADU development process from the user perspective, including homeowners, representatives, architects, designers, and general contractors. Of the 79 participants surveyed, 50 responded to the Experience Survey which highlighted a snapshot into development trends around ADU typologies. Typologies are primarily defined by the number of stories, bedroom count, and ADU location on the property (garage conversion, main house conversion, attached, or detached). In Pasadena, typology findings include:

- Most applicants built a two-bedroom ADU (46%), about a third (35%) built a one-bedroom ADU.
- Over 90% of applicants built their ADU on a property with an existing single-family unit.
- Over 75% of applicants either built a new detached ADU or garage conversion.
- The less prevalent ADU types were new attached ADUs and JADUs.

B. Neighborhood & Site Considerations

Information on neighborhood characteristics was examined to identify ADU typologies for the development of five plans.

As shown in **Figure 1**, the largest concentration of ADUs occurs in the 91103 and 91104 zip codes. The majority of lots feature two-car detached garages located at the rear of the property with access from the main street from a driveway. Lot dimensions range from 50-60 feet wide and 130-140 feet deep. The population of 91103 is 26,837, and the median income is \$71,600. The population of 91104 is 37,874, and the median income is \$77,919.

The lowest concentration of ADUs occurs in the 91105 and 91107 zip codes. The majority of lots feature two-car attached garages with access from the main street from a driveway. Lot dimensions in the 91107 zip code range from 70-90 feet wide and 170-200 feet deep. The population of 91107 is 32,503, and the median income is \$102,850. The population of 91105 is 34,100, and the median income is \$91,831.

Figure 1. ADU Permit Heat Map

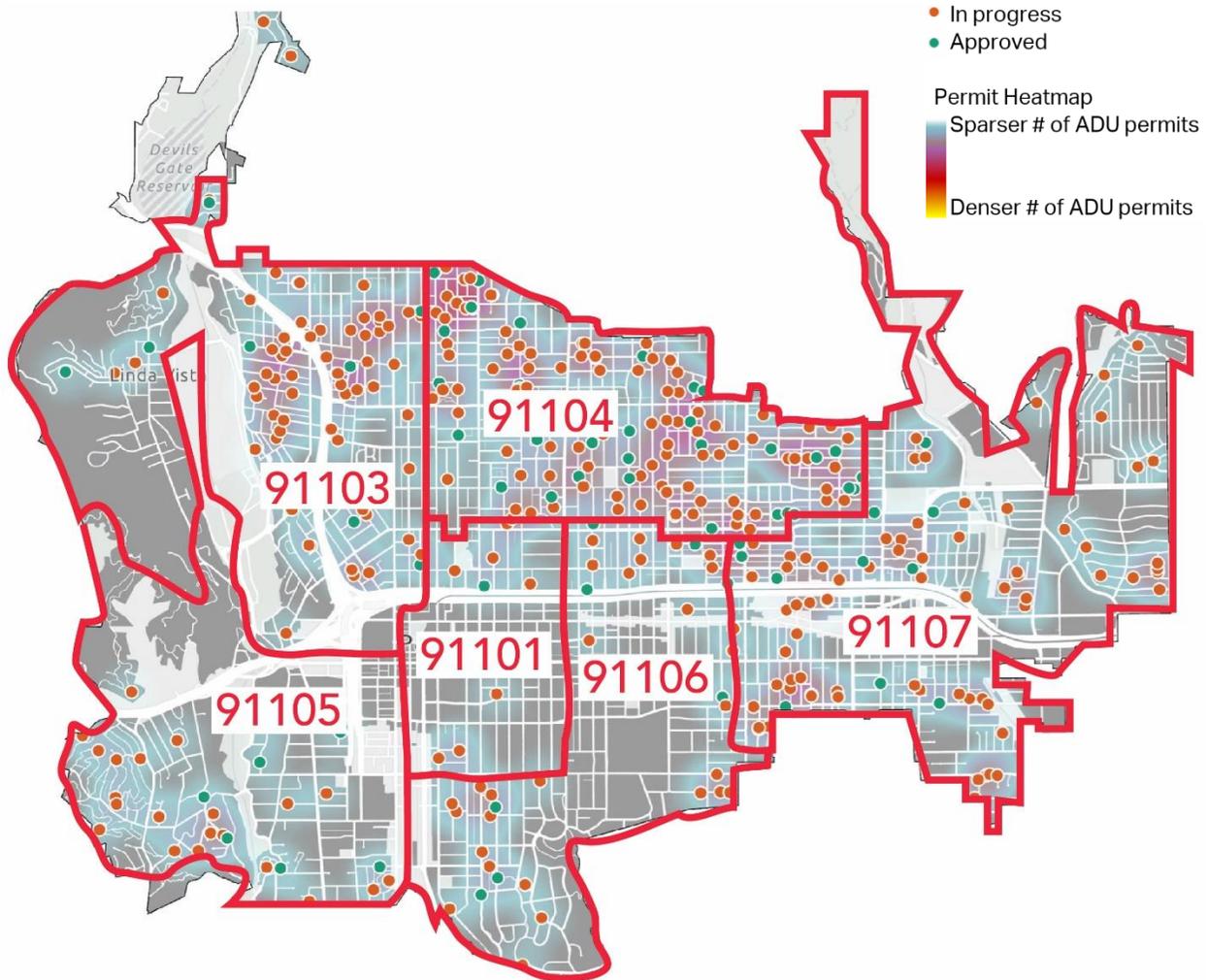
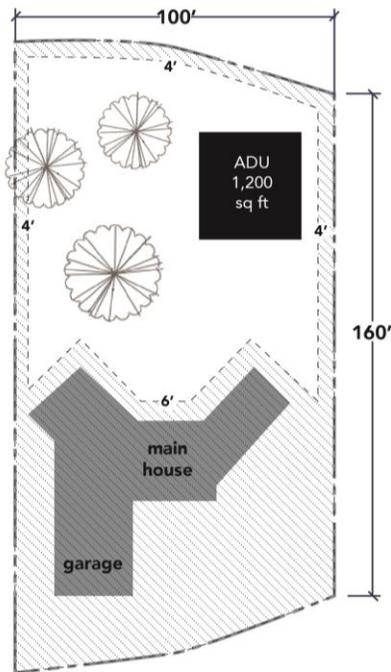
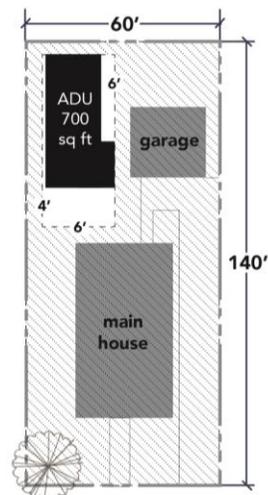


Figure 2 shows the typical site conditions found in neighborhoods across Pasadena that have the greatest ADU density, as referenced in Figure 1. The buildable area in each site is shown outside of the 4' required side and rear setbacks for ADUs in the non-hatched area in each backyard. A variety of ADU footprints are drawn on each site plan to highlight the variation of buildable area across different properties.

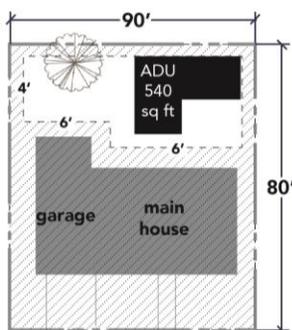
Figure 2. Example Site Plan Diagrams



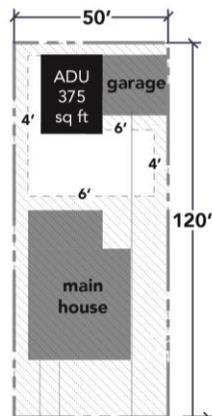
Lot Type A
Large lot with attached garage and native trees in rear yard
18,500 sq ft lot



Lot Type B
Midsize lot with detached garage in rear yard and native tree in front yard
8,400 sq ft lot



Lot Type C
Small square lot with attached garage and native trees in rear yard
7,200 sq ft lot



Lot Type D
Small lot with detached garage in rear yard
6,000 sq ft lot

C. Regulatory Conditions

Table 1 identifies ADU development standards which can be found on the City's ADU webpage: www.cityofpasadena.net/ADU.

Table 1. ADU Development Standards

Standard	Description	
Zoning	An ADU or JADU can be permitted if located on a lot zoned for residential use (including residential mixed-use) where only one residential dwelling unit exists or is proposed to be built on a lot.	
ADUs in Historic Districts	New Construction: - ADUs must not be visible from the public right-of-way.	Conversion: - ADUs and JADUs must not be visible from the public right-of-way. - Windows and doors original to structures on historic properties (including opening and garage) must be retained, unless this would prevent creation of the ADU.
ADUs in Individually Designated Historic Properties	New Construction: Not permitted	Conversion: Only converted ADUs are permitted
Tree Protection	Measures for protection for specific trees shall apply pursuant to PMC 8.52	
Height	New Construction: - Detached ADU: one-story, not to exceed 16 feet (') to the top plate and 17' to the highest ridge-line - Attached ADU: May be two stories if the primary residence is two stories in height	Conversion: none

Standard	Description	
<p>Unit Size</p>	<p>New Construction:</p> <ul style="list-style-type: none"> - Minimum: 150 square feet (sf) - Maximum detached: <ul style="list-style-type: none"> - 850 sf for studios and one-bedrooms - 1,000 sf for two+ bedrooms on parcels <10,000 sf and 1,200 sf on parcels ≥ 10,000 sf - Maximum attached: no more than 50% of the main dwelling size or 800 sf, whichever is greater 	<p>Conversion:</p> <ul style="list-style-type: none"> - Minimum: none - Maximum: none
<p>Setbacks</p>	<p>New Construction:</p> <ul style="list-style-type: none"> - ADU ≤ 800 sf: 4' side and 4' rear yard setbacks - ADU > 800 sf: side is 10% of lot width (between 5' - 10') and rear is 10' - ADU on top of an attached garage: 5' side and rear yard setbacks - Building Separation: Minimum 6' eave to eave separation between ADU and primary residence 	<p>Conversion:</p> <ul style="list-style-type: none"> - Setbacks: none - Building Separation: none
<p>Access & Locations</p>	<p>New Construction: ADU must be located behind the rear building line of the primary residence, and be clearly subordinate by location and size, unless this would prevent creation of an ADU ≤800 sf in size</p>	<p>Conversion: Must provide separate exterior access from the primary residence on a different façade as the primary residence entry door, unless this would prevent creation of the ADU</p>

D. Compatible ADU Types

All ADU typologies are based on the regulatory and physical context of residential parcels for existing ADUs in Pasadena. Specific considerations to key themes including size, height, and ADU location helped inform ADU typology development.

Typology Summary

- 1-story studio attached or detached 150 - 400 sf
- 1-story 1-bedroom attached or detached 400 - 850 sf
- 1-story 2-bedroom detached 600 sf - 1,200 sf

ADU Type

Most Experience Survey applicants built detached new construction ADUs. The second most prominent typology from the Survey are garage conversions, suggesting a need to focus on a typology that can utilize a typical garage footprint and openings.

ADU Sizes

The size of each ADU typology should take into consideration the lot widths, existing site features, and regulatory limits of square footage, as specified in Table 1. The Survey suggested 2-bedroom and 1-bedroom ADUs to be the most popular typology.

ADU Height

Because the heights vary across the City's residential neighborhoods it is recommended to focus first on developing conceptual 1-story ADU typologies so they can be utilized on most residential sites. However, while there has not been as much demand for 2-story ADUs to date, one typology was included to provide a range of options. Pasadena allows 2-story ADUs, where the ADU is attached to an existing 2-story primary residence.

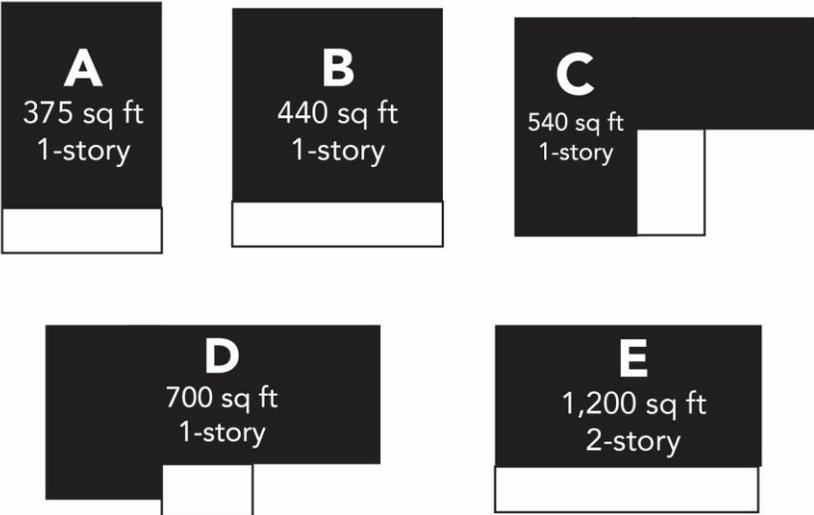
Prototype Design Options

This set of prototype design options is intended to help homeowners get a basic understanding of ADUs and what plans may include based on ADU development trends in the city, neighborhood and site considerations, regulatory conditions, and compatible ADU types. These five ADU design options include various sizes and layouts to give homeowners a sense of what is possible.

However, there are certain limitations to these options as they do not consider location specific factors or individual homeowners' considerations as they start the initial research into building an ADU. These options are intended to give an overall concept of what is possible for building an ADU and give an understanding of the basic concepts around potential unit size, layout, placement on a lot, and access. They are not intended to be used as plans for individual projects for use by homeowners.

The five prototype design options developed for Pasadena are listed and shown below and detailed on the following pages, including an illustrative site plan to show what the unit could look like on a typical lot, a floor plan showing the layout, and a rendering to illustrate what units could look like.

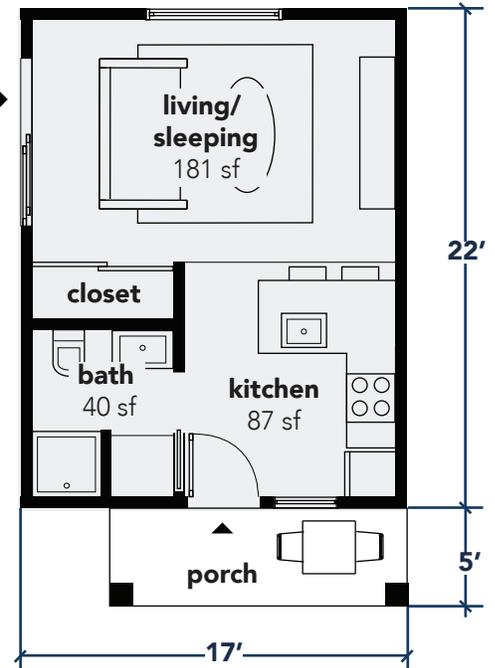
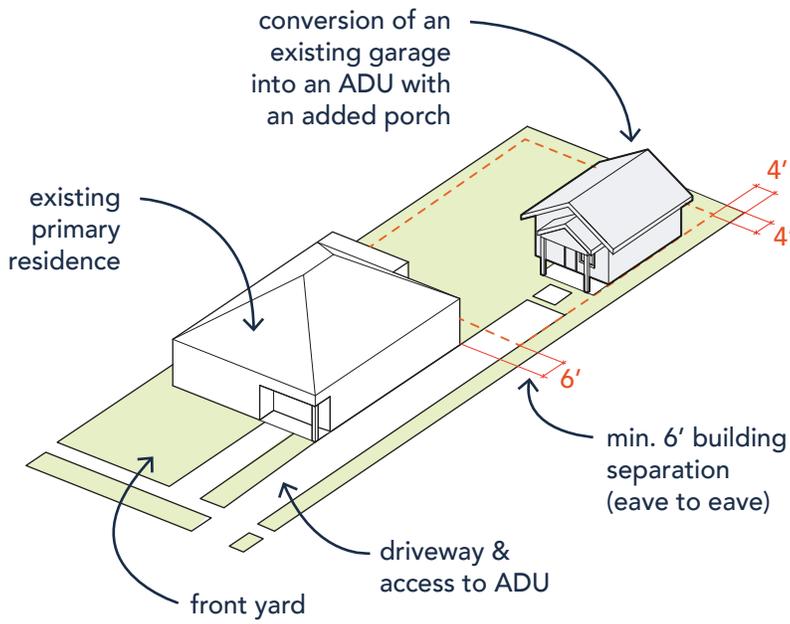
- A. 1-story studio 1-bath, 375 sq ft
- B. 1-story 1-bed 1-bath, 440 sq ft
- C. 1-story 1-bed 1-bath, 540 sq ft
- D. 1-story 2-bed 1-bath, 700 sq ft
- E. 2-story 3-bed 2.5 bath, 1,200 sq ft



Conceptual Unit Designs

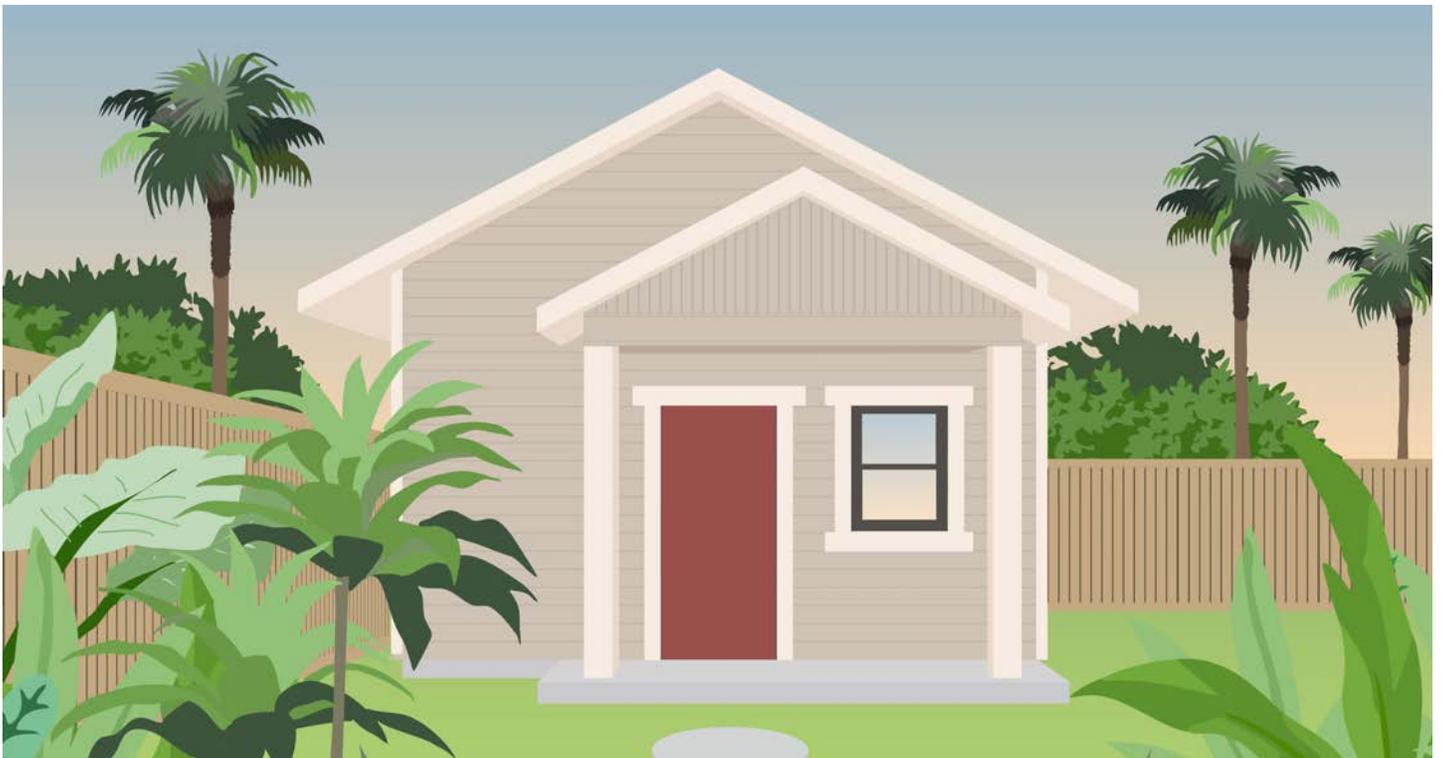
1-story, studio 1-bath

375 sq ft



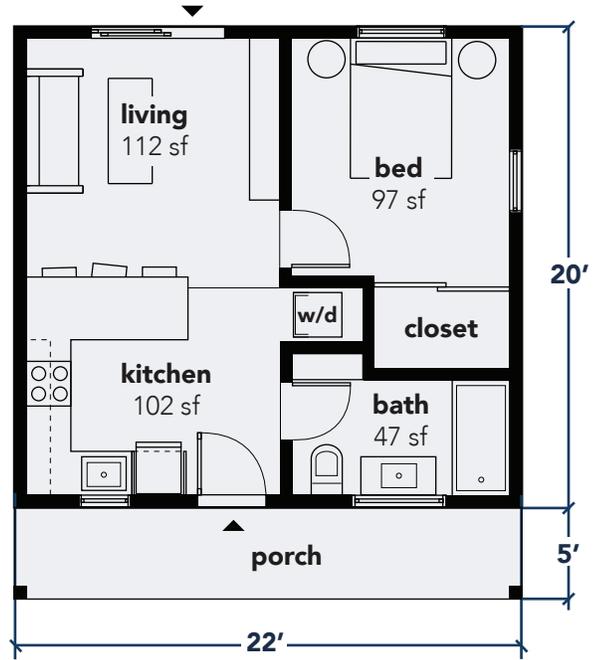
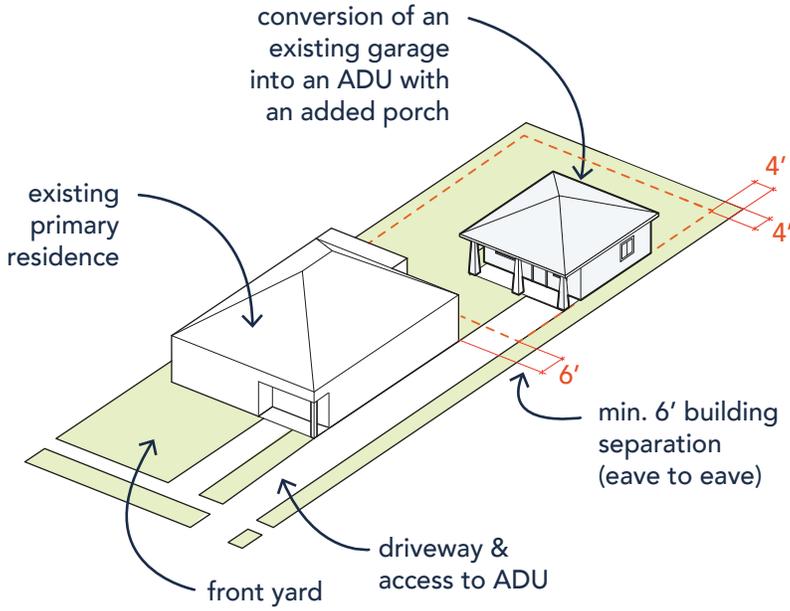
Sample Site Layout

Floor Plan



Unit Perspective - ADU | Craftsman Style Exterior

Conceptual Unit Designs
1-story, 1-bed 1-bath
440 sq ft



Sample Site Layout

Floor Plan

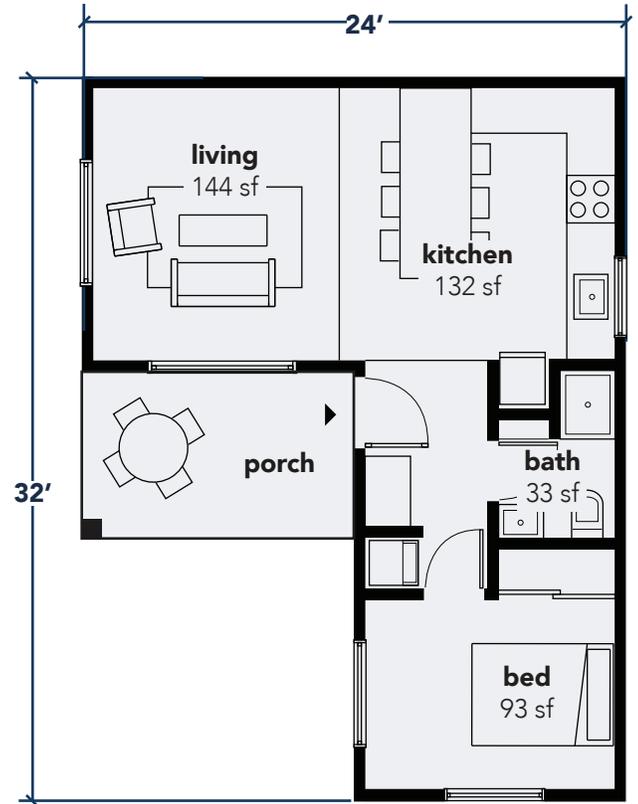
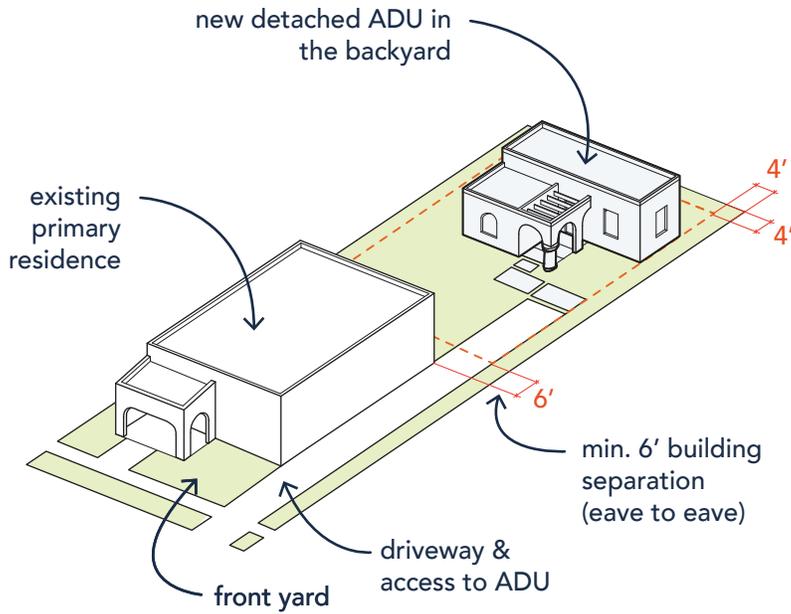


Unit Perspective - ADU | Craftsman Style Exterior

Conceptual Unit Designs

1-story, 1-bed 1-bath

540 sq ft



Sample Site Layout

Floor Plan



The front orientation of ADU in the floor plan is rotated 90 degree to the left

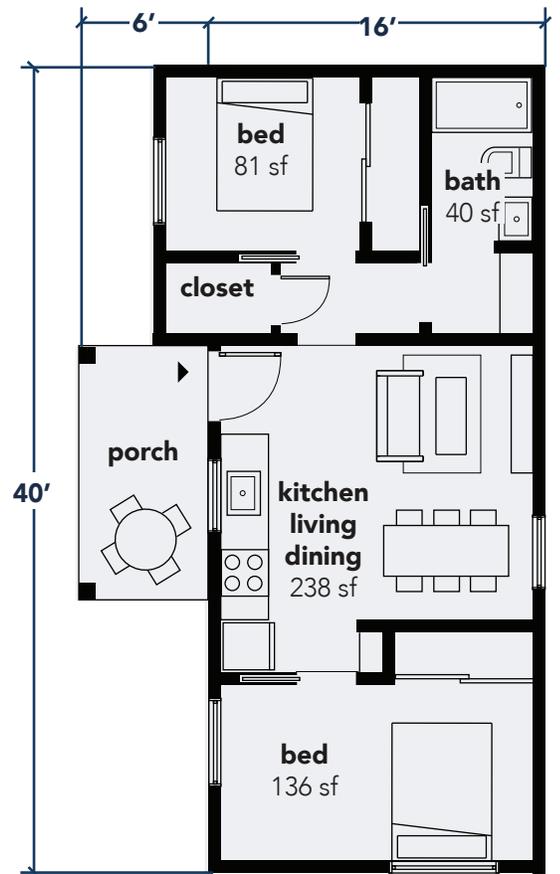
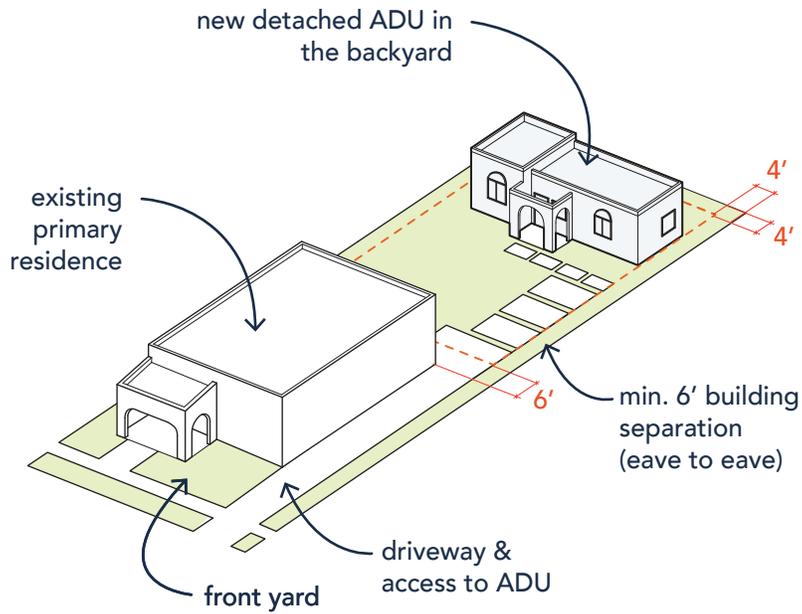


Perspective - ADU | Spanish Style Exterior

Conceptual Unit Designs

1-story, 2-bed 1-bath

700 sq ft



Sample Site Layout

Floor Plan



The front orientation of ADU in the floor plan is rotated 90 degree to the left

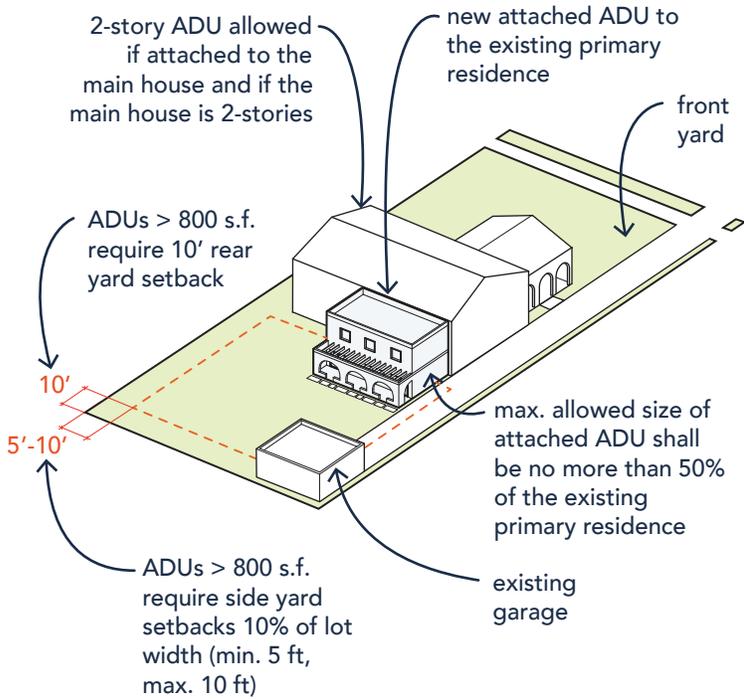


Perspective - ADU | Spanish Style Exterior

Conceptual Unit Designs

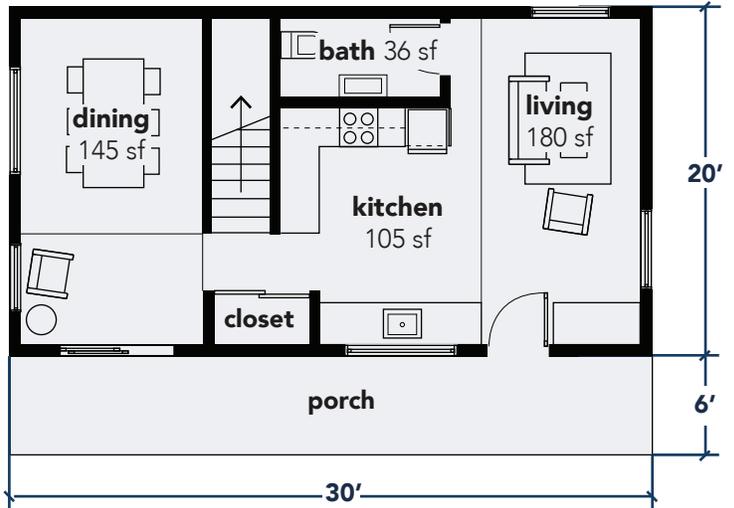
2-story, 3-bed 2.5-bath

1,200 sq ft

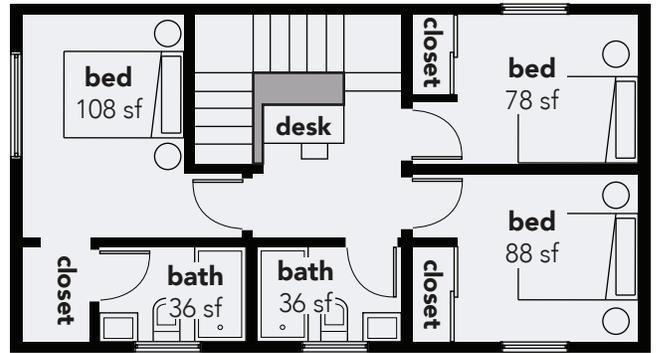


Sample Site Layout

First Floor



Second Floor



Floor Plan



Perspective - ADU | Spanish Style Exterior