

## Westside Cities Council of Governments

# Westside Development Constraints Cost and Land Use Regulation Policy Actions

## Task 1.4: Housing Production Policy Best Practices

June 29, 2022



Source: Arup

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# 1. Introduction

Task 1.4 Housing Production Policy Best Practices was a case study review of how regions and jurisdictions across the country and North America are confronting their respective housing crises. The analysis focused on strategies that increase housing production and address the affordability gap. Keeping up with housing demand and facing a housing affordability emergency is a shared struggle for Southern California's cities, so understanding case studies presents an opportunity for the Westside Cities Council of Governments (WSCCOG) subregion to identify proven strategies that are applicable for their jurisdictions. The strategies that were reviewed perform at least one of the following functions:

1. **Increase total housing units** – as the basic rule of economics states: an increase in supply leads to a decrease in costs. If thousands of new housing units came online to the market, it would likely pressure the rental costs to decrease as the new supply would create more competition between multi-family buildings to try and attract potential tenants. Another side effect can be an upward vacuum: greater housing options presents opportunities for residents in existing units to upgrade to a new unit, thereby freeing up some of the naturally occurring affordable housing.
2. **Increase deed-restricted Affordable Housing units** – Because of the deep housing affordability crisis in the Los Angeles region, there are strategies that look at increasing, specifically, the number of new deed-restricted affordable units being built. These units could be part of a mixed-income property as an inclusionary housing set aside or in a 100% affordable housing building.
3. **Increase revenue for Affordable Housing Trust Fund** – Strategies to increase the amount of revenue contributed to the local affordable housing trust fund are reviewed. Affordable Housing developers are able to apply and access this funding when building new affordable housing projects in the jurisdiction.
4. **Reduce rental rates** – There is significant renter cost burden in the Los Angeles region, so techniques that can help to constrict unit rental costs, across affordability levels, are identified. There is a need for housing at all levels of affordability, so these strategies mitigate factors that drive up the cost of building housing, which then drives up the rental rate of the unit, so that developers can rent out units at lower price points.
5. **Accelerate housing development** – These strategies look at accelerating the predevelopment or construction phases, so that new multi-family developments can come online to the market faster and provide more options for residents in a quicker timeframe than with the traditional processes.

In Section 6, the Feasibility Scorecard assesses each of the policy actions for its contribution to the housing solution while testing the viability of the recommendation for each of the Westside Cities and highlights actions that the WSCCOG subregion can take together.

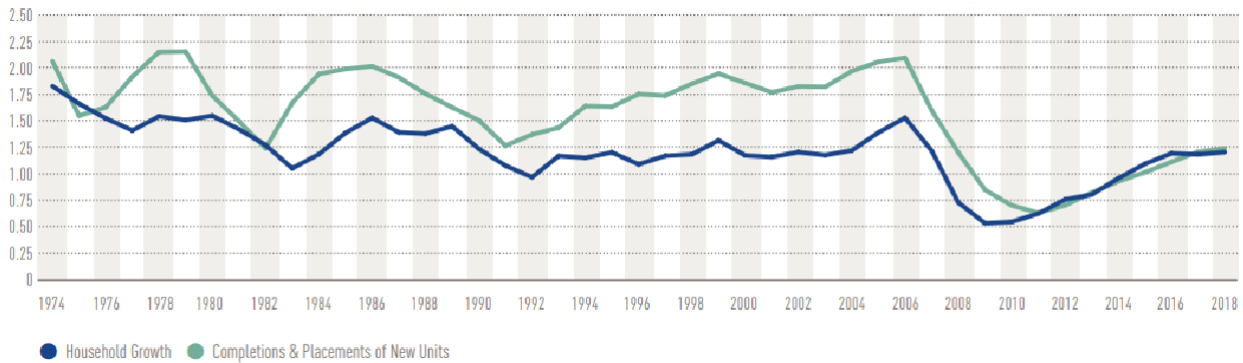
## The U.S. Housing Crisis

Two major contributors to the housing crisis are that (1) the housing supply has not kept up with the housing demand and (2) rents and housing costs have increased at a faster rate than household income. These are issues that are affecting the entire country but are exacerbated in coastal areas with higher land costs and in regions that are built out and rely on infill development for new units.

In 2018, the national vacancy rate for both owner-occupied and rental units was 4.4%, the lowest vacancy rate since 1994. Since the recession in 2008, housing completions have not returned to the pre-recession levels. In 2018, new housing placements totaled only 1.2 million units, which is the lowest annual production since 1982

(excluding the recession years). Since the recession, demand for housing has grown but new construction was slow to rebound. The additions to supply kept pace with the number of new households, when previously annual additions to the housing supply exceeded household growth by about 30% to accommodate replacement of the older housing stock, demand for second homes, population changes around the country, and the regular vacancy rate (Figure 1).<sup>1</sup>

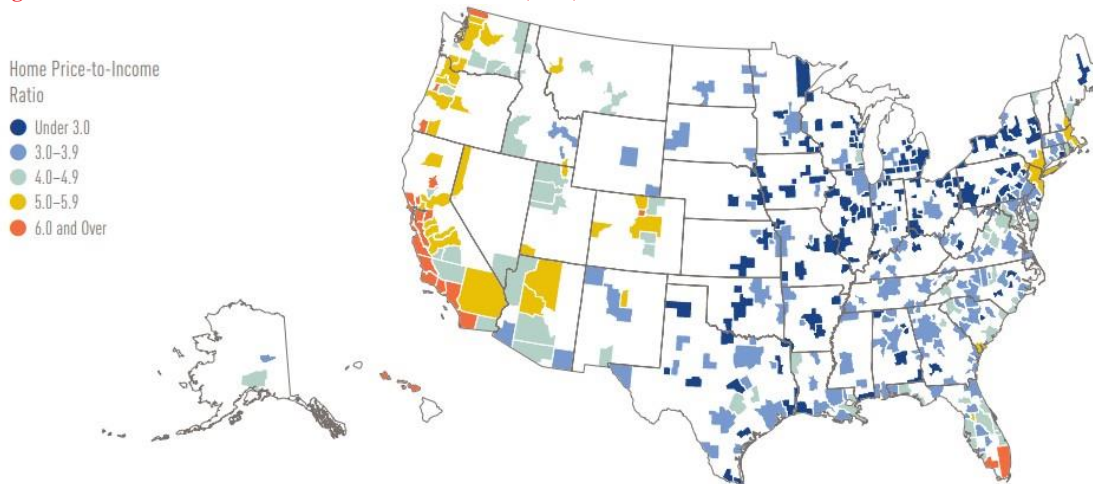
**Figure 1. Housing Construction and Household Growth in the United States, 1974-2018 (Units/millions)**



Source: Joint Center for Housing Studies, Harvard University

When understanding the affordability of housing, the ratio of median home price to median household income is used to indicate how difficult it is for would-be buyers to qualify for a mortgage and save for a down payment. In the US, this ratio was 3.3 in 2011 and 4.1 in 2018; however, on the West Coast, the ratio is 5.0 and greater, signifying that home values are more than 5 times the income in these metro areas (Figure 2). In metro regions with price-to-income ratios above 5.0, the median-income household could afford just 36% of recently sold homes on average in 2017.<sup>2</sup>

**Figure 2. Home Price-to-Income Ratio around the U.S. (2018)**



Source: Joint Center for Housing Studies, Harvard University

Therefore, around the country, residents are struggling to access housing and keep up with rising rental or mortgage costs. Households living on minimum wage are faced with an even higher home price-to-income ratio and larger barriers to owning a home. Adding to this burden are macroeconomic trends like the 2008 recession that are still causing strains on the existing housing supply. While the housing issues are intensified on the West

<sup>1</sup> “The State of the Nation’s Housing, 2019” Joint Center for Housing Studies Harvard University. 2019. [https://www.jchs.harvard.edu/sites/default/files/Harvard\\_JCHS\\_State\\_of\\_the\\_Nations\\_Housing\\_2019.pdf](https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_State_of_the_Nations_Housing_2019.pdf)

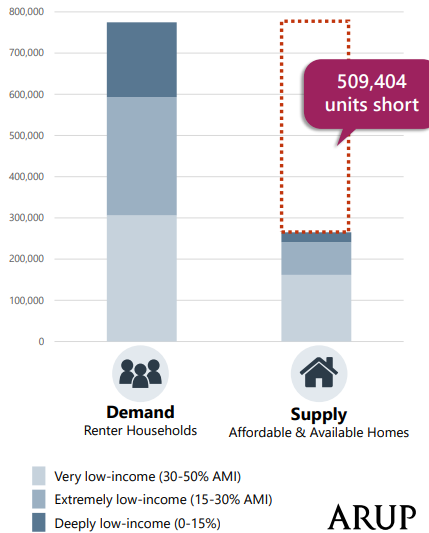
<sup>2</sup> *ibid.*

Coast, specifically Southern California, there are other regions facing similar issues and also trying to identify solutions.

## Housing Crisis in Southern California

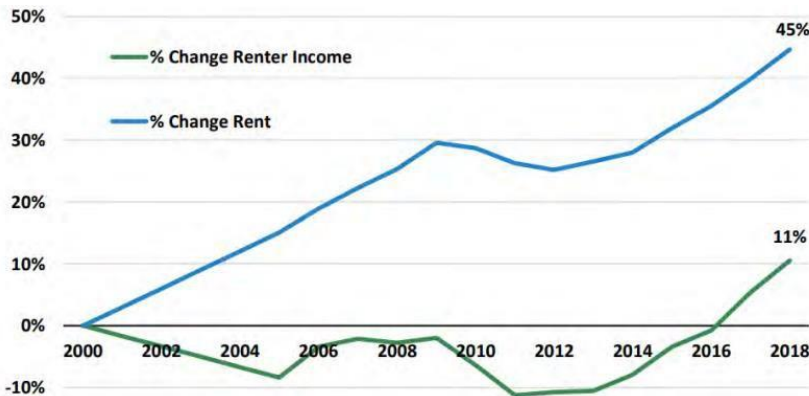
Zooming into Los Angeles County, housing affordability is one of the most pressing issues faced by the region: even before the COVID-19 pandemic, the County fell about half a million units short of demand (Figure 3). In addition to slow growth in housing supply, household income has not increased as quickly as housing costs have. Figure 4 shows the increase in household costs versus the more modest increase in household income, which helps explain the county’s extremely high housing cost burden rate.

**Figure 3. Rental Housing Shortfall (2018)**



Source: California Housing Partnership (graphic adapted by Arup)

**Figure 4. Median Renter Household Income Versus Median Rents in Los Angeles County (2000-2018)**



Source: California Department of Housing and Community Development

There are several trends driving and reinforcing the housing crisis across the country and in Los Angeles County. These are challenging macroeconomic trends to overcome, and the housing solution will need to be aggressive and comprehensive to meaningfully change the imbalance between supply and demand. While the effects of some of the strategies may not immediately pivot trendlines or provide a significant mass of units, they will improve the pipeline to help future generations have a more attainable housing future. It will not take just one policy or program, and the relief on the housing market will not happen overnight, but by enabling many housing programs the jurisdictions will be slowing the reach of the housing crisis and creating more housing opportunities for the future.



## 2. Local Policies

As the housing crisis is widespread across the region, local policy actions and interventions from across North America were reviewed to see how other jurisdictions are tackling their respective housing shortages. The policy actions include the cities taking a more hands-on approach to land availability, the siting of housing, and tax incentives to increase the supply of housing and take steps to decrease the relative cost of housing to income.

### 2.1 Land Strategies

Land availability and land costs remain huge barriers to new housing development so cities can look for opportunities to acquire or dedicate land for new housing development. Cities can also create more opportunities for affordable housing by buying land and prioritizing it for affordable housing development. Many cities have already taken advantage of this strategy:

- **Dallas** – the city’s housing authority bought a transit-oriented apartment building next to a commuter rail station. The housing authority leased it back to the developer with requirements that at least half of the units be dedicated as affordable housing units.<sup>3</sup>
- **Gary, Indiana** – the city’s housing authority bought an abandoned elementary school with plans to convert it to affordable housing.<sup>4</sup>
- **Cambridge, Massachusetts** – the housing authority has been buying existing properties to add to the affordable housing stock and paying building owners to extend the affordability period on housing built using federal subsidies, which usually last only 15 or 30 years.<sup>5</sup>

Since land cost often gets in the way of affordable housing development in particular, some cities have also chosen to donate or transfer land to community land trusts to build affordable:

- **Seattle** – the city transferred two parcels of underutilized land to Homestead Community Land Trust, which saved the land trust 20% of the total development costs.<sup>6</sup>
- **Houston** - The Houston Land Bank acquires property that is vacant, abandoned, or with delinquent property taxes and then, through the New Home Development Program (NHDP), the City of Houston funds construction of new homes on lots owned by the land bank.<sup>7</sup>

Cities around the country have created programs to help affordable housing developers access land, including land transfers and ground leases with nonprofit housing groups, to dedicate land for affordable housing. Ample vacant and available underutilized properties are key to these strategies, and these techniques have proven successful in certain markets. Given the WSCCOG subregion’s lack of available land, this type of strategy would only be applicable for some jurisdictions or select parcels and less viable as a widely applied approach. However, the techniques should still be considered when cities identify underutilized parcels in their jurisdictions. Section 3.1 Underutilized Land will cover strategies related to underutilized land in more detail.

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<sup>3</sup> Brown, Steve. “Dallas Housing Authority Adds to Affordable Housing with Purchase of Inwood Road Apartments.” The Dallas Morning News. May 6 2020. <https://www.dallasnews.com/business/real-estate/2020/05/06/dallas-housing-authority-adds-to-affordable-housing-with-purchase-of-inwood-road-apartments/>

<sup>4</sup> Carlson, Carole. “More vacant Gary schools sold; city biggest buyer.” Chicago Tribune. Dec 14, 2020. <https://www.chicagotribune.com/suburbs/post-tribune/ct-ptb-gary-schools-sold-st-1215-20201214-px3vzmrpwjbxjxmxtl64hq7m-story.html>

<sup>5</sup> Berg, Nate. “The Radical Way Cities are Tackling Affordable Housing.” Fast Company. Apr 27 2021. <https://www.fastcompany.com/90618596/the-radical-way-cities-are-tackling-affordable-housing>

<sup>6</sup> Long, Katherine Anne. “Seattle donates three underused parcels to develop affordable housing,” Sep 5, 2019.

<sup>7</sup> Gabobe, Nisma. “How Can Cities Move the Needle on Community Land Trusts?” Sightline Institute. August 23, 2021. <https://www.sightline.org/2021/08/23/how-can-cities-move-the-needle-on-community-land-trusts/#:~:text=Cities%20can%20help%20create%20city,support%20to%20smaller%2C%20grassroots%20efforts.>

## 2.2 TOD Plans and Existing Zoning

Many cities and regions are changing and adapting their zoning and development standards to promote housing development (these techniques are discussed in detail in Task 1.3). Cities understand that some of the regulations create barriers and additional costs on new housing development and have scaled back some of the requirements across cities or in targeted specific plan areas.

Planning and zoning for transit-oriented development (TOD) areas allow for higher density housing near transit. The resulting policy environment incentivizes developers to build near transit, which can help cities build more housing, create more walkable and carless communities, and reduce associated greenhouse gas emissions and air pollution. While many cities have embraced TOD plans for transit, cities should proactively create TOD plans and incentives in advance of new stations and transit lines opening. For some cities, this can include TOD policies as part of the city vision or specific incentives to encourage developers to build near transit stations. Base TOD incentives typically include exemption from parking requirements and increased floor area ratio (FAR). There are many variations of these incentives for different TOD projects.

- **Bay Area Rapid Transit (BART)** – BART does not require a parking minimum on district owned parcels subject to TOD zoning.
- **The City of Fremont** – The City explores several options including car share spaces or omitting one parking space for four bicycle parking spaces or two motorcycle parking spaces<sup>8</sup>. The City of Fremont also allows an increase of development intensity and density for individual parcels on TOD overlay districts, while setting a density minimum that new developments must achieve. Table 1 provides FAR and net density standards for the TOD overlay by land use designation.

**Table 1. Site Development Standards for TOD Overlay**

Standards	General Plan Land Use Designation				
	City Center	Town Center	General Commercial	Urban Residential	Industrial
Floor area ratio (FAR)	3.0 (maximum) 1.25 (minimum)	2.5 (maximum) 0.50 (minimum)	1.25 (maximum) (no minimum)	n/a	(no maximum) 0.50 (minimum)
Net density (units per net acre)	50 (minimum)	30 (minimum)	30 (minimum)	50 (minimum)	n/a

Source: City of Fremont, CA

- **San Jose** – in San Jose, the general plan includes a vision of developing 60 urban villages, which are walkable and bike-friendly communities that have good access to transit and other existing infrastructure. Residential projects that are 100% affordable deed-restricted by a public entity can proceed within an Urban Village without changes needing to be approved in the Urban Village Plan.<sup>9</sup>
- **Berkeley** – the City of Berkeley is working with BART to develop zoning and site parameters to re-imagine the Ashby and North Berkeley BART stations with housing, open space, and community amenities. BART’s TOD standards encourages local governments to enable a minimum net density of

<sup>8</sup> Fremont Municipal Code. Chapter 18.152 (TOD) Transit-Oriented Development Overlay District. <https://www.codepublishing.com/CA/Fremont/html/Fremont18/Fremont18152.html#18.152.070>

<sup>9</sup> City of San Jose. Envision San Jose 2040 General Plan. 2011. <https://www.sanjoseca.gov/home/showpublisheddocument/22359/637841721973600000>

75 units/acre, no minimum parking requirement, and to support affordable housing.<sup>10</sup> BART and Berkeley established a joint vision and priorities for these stations including a requirement that at least 35% of the housing units proposed would be deed-restricted to low, very low, and/or extremely low-income households, and anticipates 500-1,200 units of affordable housing at each station.<sup>11</sup>

- **Denver** - the Regional Transportation District created more flexibility for developers to build on surface lots near stations by removing the requirement to replace parking one-for-one. Parking construction costs are a significant price tag to any new development. Given the proximity to transit, the parking requirement was reduced since new residents do not need to solely rely on a personal vehicle. Removing this requirement can make projects more financially viable.<sup>12</sup>
- **Los Angeles Metropolitan Transportation Agency (LA Metro)** - LA Metro has a Joint Development Department, which is the real estate development program through which Metro collaborates with qualified developers to build transit-oriented developments on underutilized Metro-owned properties. Joint Development Policy prioritizes the development of 100% income-restricted housing on unused Metro-owned land, which also encourages transit use by linking housing and commercial opportunities with the transit network. Joint Development has completed about 21 developments on Metro property, is working on about ten active projects.<sup>13</sup>

All of the WSCCOG member cities have existing LA Metro rail lines or have an LA Metro rail line under construction or proposed. The cities also have many bus routes through their jurisdictions, including the Metro Rapid Bus 720 that cuts through the WSCCOG subregion. Cities should consider the existing transit lines when looking to locate higher density zoning, and also be forward thinking to create new TOD plans that incentivize housing and deed-restricted affordable units, in advance of the new transit lines opening.

In addition to TOD plans, jurisdictions around the country have rethought land use in areas zoned for single-family residential. This zoning designation has limited the development of denser housing, reinforced patterns of racial and economic segregation, and encouraged sprawled development.<sup>14</sup> Eliminating single-family zoning to allow for multiple units on one lot can create more opportunities for housing, potentially doubling or tripling the total amount housing available.

- **Minneapolis** - in 2018, the City approved a new comprehensive plan that eliminated single-family zoning throughout the City, allowing for triplexes on these parcels. While very few permits have been requested since the plan was adopted, planners are learning that other restrictions, including minimum lot size requirements, parking requirements, and height limits in these zoning districts are also responsible for making the development of denser housing difficult.<sup>15</sup>
- **The State of Oregon** - Oregon passed legislation in 2019 that effectively ended single-family zoning in the state.<sup>16</sup> While there are still more steps to be taken at the local level, this sends a message that the state is encouraging denser housing to meet urgent housing needs.<sup>17</sup>

The State of California passed SB 9 in September 2021, which allows a single-family property to be sub-divided into up to four units, considering certain parameters are met. Projects that meet the SB 9 requirements must be

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<sup>10</sup> Bay Area Rapid Transit. Transit-Oriented Development Guidelines. May 2017.

[https://www.bart.gov/sites/default/files/docs/BART\\_TODGuidelinesFinal2017\\_compressed\\_0.pdf](https://www.bart.gov/sites/default/files/docs/BART_TODGuidelinesFinal2017_compressed_0.pdf)

<sup>11</sup> City of Berkeley. Approval of a Memorandum of Understanding between the City of Berkeley and BART on Implementation of State Law AB 2923 at the Ashby and North Berkeley BART Stations and Establishment of a Community Advisory Group. December 10, 2019.

<sup>12</sup> Regional Transportation District. "2021. <https://www.rtd-denver.com/news-stop/news/rtd-board-approves-policy-encourages-development-of-affordable-housing-rtd-property>

<sup>13</sup> Los Angeles Metropolitan Transportation Authority. Joint Development. 2022. [https://www.metro.net/about/joint\\_dev\\_pgm/](https://www.metro.net/about/joint_dev_pgm/)

<sup>14</sup> American Planning Association. "Measuring the Early Impact of Eliminating Single-Family Zoning on Minneapolis Property Values." August 19, 2019. <https://www.planning.org/blog/9219556/measuring-the-early-impact-of-eliminating-single-family-zoning-on-minneapolis-property-values/#:~:text=The%20Minneapolis%20city%20council%20voted,for%20triplexes%20on%20these%20properties>

<sup>15</sup> Brasuell, James. Zoning Reforms Underwhelm in Minneapolis as Development Market Holds Course. Sep 2, 2020

<sup>16</sup> Ivory Abbt & Kent Colton. "Innovative Solutions for the Housing Crisis." Stanford Social Innovation Review. Dec 1, 2020.

[https://ssir.org/articles/entry/innovative\\_solutions\\_for\\_the\\_housing\\_crisis](https://ssir.org/articles/entry/innovative_solutions_for_the_housing_crisis)

<sup>17</sup> Mapes, Jeff. "Oregon Strikes Exclusive Single-Family Zoning, But Effects May Take Years." <https://www.opb.org/news/article/oregon-single-family-zoning-law-effect-developers/>

approved by a local agency ministerially and are not subject to the California Environmental Quality Act (CEQA). While passing the legislation to change the zoning was an important first step, as demonstrated by Minneapolis and Oregon, there are still other changes that the local jurisdiction needs to make to see the legislation translate into new housing. Since Minneapolis passed its legislation in 2018, the WSCCOG subregion should incorporate the lessons learned about ensuring the development standards, including lot size requirements, parking, and height limits, in single family zoned areas are not prohibitive to more dense development on the parcel. The WSCCOG subregion can encourage the proactive implementation of SB9 and incorporate the experiences from other jurisdictions into their planning efforts.

Also, the WSCCOG subregion can work together to lobby for changes at the state level; these changes will standardize the zoning and land use regulations so the entire region can tackle the housing issue and jurisdictions do not have differing standards, as differing standards may incentivize developers to work in one jurisdiction over another. Strategies that the WSCCOG subregion can tackle together are included in Section 6: Feasibility Scorecard.

## 2.3 Tax Incentives

Some cities have implemented tax incentives as a way to keep housing units occupied and to provide a cost break in exchange for community benefits. These strategies can work around the region, as they affect the existing housing stock and proposed housing stock, and do not require vacant or available land to work.

### 2.3.1 Vacancy Tax

Many cities with housing shortages have used a vacancy tax to combat speculation and raise revenue for the construction of affordable housing. A vacancy tax is a tax levied on parcels or units that sit empty for a significant period of time during the year. The tax is a way to encourage homeowners to live in the unit, sell the unit, or to rent out the unit as a way of increasing the housing supply. The tax revenue funds affordable housing programs to support future housing production. Cities have structured the tax rate in different ways and have their own definitions for the period of time that qualifies as “vacant”. Some policies apply to all vacant parcels of any use and not just housing units.

- **Vancouver** – the city implemented an “Empty Homes Tax” in 2017 on residential properties within the city limits that have been unoccupied for more than six months during the tax year, and the tax levied is 3% of the property’s assessed taxable value. This policy is discussed further in Section 5.1.
- **Oakland** - In 2018, voters in Oakland passed the Vacant Property Tax Act, by 70% of the vote, to impose a tax on homes that are in use fewer than 50 days a year. The tax is a flat fee based on the type of property, as shown in Figure 5. Oakland makes exceptions to this policy, including exempting very-low-income owners, low-income senior owners, disabled owners, non-profit organizations, and parcels that are in the development process (which includes having submitted an application, received entitlements, received building permits, or under construction).<sup>18</sup>

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<sup>18</sup> City of Oakland. Measure W ~ Authorizes a tax to be imposed on vacant property beginning July 1, 2020, for property deemed vacant in 2019. November 22, 2019. <https://www.oaklandca.gov/news/2019/measure-w-outreach-and-civic-engagement-forums>

**Figure 5. Oakland’s Vacant Property Tax Act Tax Rates**

Property Type	Annual Maximum Special Tax Rate
Residential	\$6,000 per parcel
Condominium, duplex, or townhome unit under separate ownership	\$3,000 per vacant residential unit
Nonresidential	\$6,000 per parcel
Parcel with ground floor commercial activity allowed but vacant	\$3,000 per parcel
Undeveloped	\$6,000 per parcel

Source: City of Oakland

Vacancy taxes are also being explored in other Bay Area cities, including San Francisco and Berkeley.

### 2.3.2 Multi-Family Tax Exemption Program

Seattle has implemented a multi-family tax exemption (MFTE) to incentivize affordable housing by providing tax breaks to buildings that reserve 20-25% of the units as affordable. In 2019, the program supported 4,500 low- and middle-income households and is expected to support an additional 1,300 affordable units by 2022.<sup>19</sup> MFTE is a voluntary program offering market rate developers with a property tax exemption during the timeframe that the units are leased at below-market rates, so that the developer can still achieve a reasonable return on investment for the project while providing significant rent reduction on units. The MFTE program was revised in 2021 to create further incentives for developers. As a result of this program, Vulcan Real Estate Development has built 2,860 units in Seattle with 20% of the units reserved as affordable housing. Vulcan planned to lease the affordable units at 85% of the area median income (AMI); however, through the MFTE program, Vulcan was able to restrict the rents of the affordable housing units to 65% of AMI while still delivering a financially feasible project.<sup>20</sup>

## 2.4 Policy Recommendations for the WSCCOG Subregion

The strategies above are all recent examples of policy actions taken to address the housing crisis and increase housing production. Based on the case studies described, the following strategies were identified as best practices to achieve housing production.

- **Land strategies** – Cities should rethink the parcels that they own and reserve city-owned land for housing development and identify ways to convey the land to non-profit housing developers. With the “work from home” trend, cities can reassess their office space needs and can conduct facilities assessment conditions to understand the usable life left on some of the buildings.
- **Incentivize development near existing/future transit**– Cities should consider how locations near transit would be suitable for higher density development and remove the barriers to building dense housing along these corridors. Cities should explore processing and exemptions from certain development standards for new TOD projects.
- **Zoning code reform** – With the passing of SB9, cities should rethink the zoning code to actively promote SB9 in the jurisdiction. Considering a significant portion of LA County is single-family zoned, cities should explore how they can best support the legislation in order to impact the housing pipeline.
- **Regional and state collaboration** - The WSCCOG can approach the State to address land use regulations at a higher level, to support housing production. Setting regional or statewide standards will

<sup>19</sup> Multi-Family Tax Exemption Program. City of Seattle. [https://durkan.seattle.gov/wp-content/uploads/sites/9/2019/07/HSN\\_MFTE-Fact-Sheet.pdf](https://durkan.seattle.gov/wp-content/uploads/sites/9/2019/07/HSN_MFTE-Fact-Sheet.pdf)

<sup>20</sup> Healey, Ada. “Expanding Affordable Housing Using Public/Private Partnerships”. Spring 2022. Urban Land Institute.

help to bring development to the Westside Cities since the requirements and incentives will be standardized amongst jurisdictions.

- **Enact a Vacancy Tax** – Cities should consider implementing a vacancy tax to collect additional revenue from housing units that sit empty for a significant portion of the year. Cities should review and assess their housing market to see if there is a high vacancy rate in owner occupied housing in the jurisdiction. If so, the city should explore a tax structure that works best for the jurisdiction and define the timeframe that qualifies as “vacant” for the jurisdiction. In addition, cities can explore extending the vacancy tax to other vacant and empty parcels, in order to encourage an owner to fill the vacancy or sell off the land, which could then support new housing development.
  - Enact other supplementary policies related to the vacancy tax include a flipping tax and a real estate transfers tax to limit speculative behavior in which buyers sell buildings for profit rather than be a long-term holder of the property, as a long-term hold of a property incentivizes owners to lease the buildings in order to make income.
- **Enact a Multi-Family Tax Exemption Program** – Cities can set ambitious targets for affordable housing units in new multi-family projects that provide deep levels of affordability of the units, in exchange for tax breaks. The reduction in taxes will help to offset the reduced income from the affordable units, allowing developers to rent the units out to an even lower AMI level than they could without the tax break. This tactic can bring deeply reduced affordable housing units to expensive real estate markets.

### 3. Found Land

The availability of vacant land in the WSCCOG subregion is very scarce, which further complicates the housing shortage. According to the latest County data, only 2.4% of land in the WSCCOG subregion is currently vacant. Without vacant land to develop on, cities will have to “find land” and identify parcels that already have existing uses that could be redeveloped into housing. To further complicate this issue, the majority of land in the WSCCOG subregion is zoned for single-family residential. While Section 2.1 focused on land strategies when there is available and vacant land, this section focuses on how cities can re-think existing land parcels to see where additional housing units can be squeezed in within the existing communities.

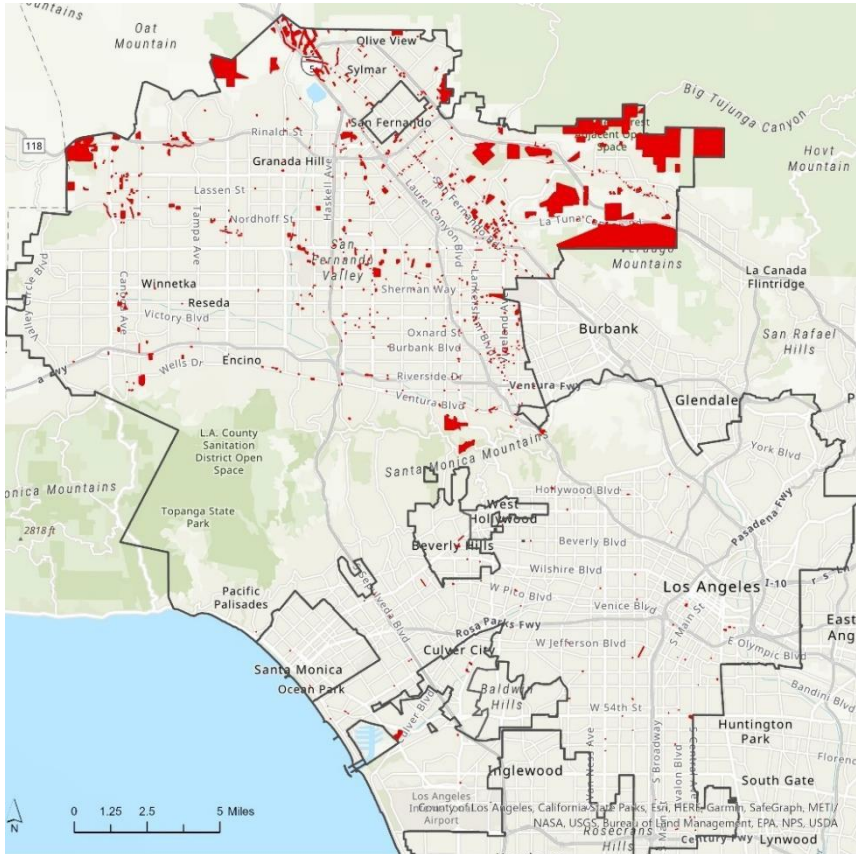
For any land that is deemed underutilized but that currently provides some amount of affordable housing requires specific attention to address displacement and the potential for residents to become homeless. Renter protections keep people housed with affordable rents within their communities are essential to avoid exacerbating the existing homelessness crisis.

Reviewing found land strategies is also an important component to the Housing Element (HE), as cities are required to create a site inventory of parcels suitable for housing. California’s Housing and Community Development (HCD) Department requires additional analysis for specific types of parcels on the site inventory list, in order to prove that housing is feasible on those sites. Specifically, HCD requires more analysis about:

- Nonvacant Sites
  - HE Site inventory lists that include “nonvacant sites” to accommodate 50% or more of the housing needs for lower-income households require substantial evidence that the existing use is not an impediment.
- Small Sites
  - HCD deems parcels that are smaller than half an acre as not suitable to provide lower-income housing. In order to proceed with smaller lots, documentation of other similar-sized parcels that provided lower-income housing units or other evidence that the site is adequate to accommodate lower-income housing is required. Also, the city can provide documentation of facilitating small-lot consolidation, or policies or incentives offered or proposed to encourage and facilitate lot consolidation.

Therefore, identifying strategies to promote finding land suitable for housing in the jurisdictions will help to implement housing production and satisfy HCD’s requirements with the Housing Element.

Figure 6. Vacant land (identified in red) in LA County and the WSCCOG subregion



Source: Los Angeles County

## 3.1 Underutilized Land

Many jurisdictions, including the State of California, have identified underutilized land as one way to build more housing in cities with low availability of land. Underutilized land is developable land currently not being developed to its full zoning potential, such as parking lots, abandoned uses, and uses that no longer require the full original space. HCD characterizes underutilized land as the following types of land<sup>21</sup>:

- Sites with obsolete uses that have the potential for redevelopment, such as a vacant restaurant;
- Nonvacant publicly owned surplus or excess land; portions of blighted areas with abandoned or vacant buildings;
- Existing high opportunity developed areas with mixed-used potential;
- Nonvacant substandard or irregular lots that could be consolidated; and
- Any other suitable underutilized land.

Cities and jurisdictions can employ their own definitions of underutilized land in an effort to help identify parcels that could be redeveloped to a higher and better use, specifically multi-family housing.

### 3.1.1 Public Land

Publicly owned land (i.e., owned by the city, state, and federal entities) is one example of underutilized land that cities can more readily repurpose for housing. Governor Newsom took several actions to prioritize state and local public lands for affordable housing development with the Surplus Land Act and requires cities and counties to inventory and report surplus and excess local public lands to be included in a statewide inventory.<sup>22</sup>

- **San Francisco** – the City has a Public Land for Housing program, which is a citywide effort to facilitate the development of housing on several of the city’s public sites. As part of this program, each department was asked to examine their underutilized land and their potential for housing opportunities. One example is the LA Fenix at 950, which is a housing development built on the site of the former Phoenix Continuation High School that was abandoned and listed as surplus property by the school district in 2002. The City purchased the property from the school district in 2015 and financed development with local housing bond dollars and federal low-income housing tax credits.
- **New York** - the Mayor’s Office created the New Housing Marketplace Plan, which was an initiative to create and preserve 165,000 units of affordable housing by 2013. The Mayor’s Office identified underutilized city-owned sites that could be redeveloped as affordable housing, including a New York City Housing Authority (NYCHA) -owned parking lot that served residents in the adjacent buildings. To offset the loss of parking for residents in the adjacent buildings, the developer built 26 underground parking spaces to be leased at NYCHA rates and provided residents who previously had parking spaces with a \$100 monthly stipend for alternate parking opportunities.<sup>23</sup> The housing development was constructed on the former lot, providing additional housing units for the community.

### 3.1.2 Shopping Malls and Shopping Centers

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<sup>21</sup> California Department of Housing and Community Development. Housing Elements Site Inventory Guidebook. 2021. [https://www.hcd.ca.gov/community-development/housing-element/docs/sites\\_inventory\\_memo\\_final06102020.pdf](https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf)

<sup>22</sup> California Department of Housing and Community Development. Public Lands for Affordable Housing Development. 2021. <https://www.hcd.ca.gov/community-development/public-lands-for-affordable-housing-development.shtml>

<sup>23</sup> US Department of Housing and Urban development. Making Better Use of Underutilized Land in New York City. [https://www.huduser.gov/portal/pdredge/pdr\\_edge\\_inpractice\\_100512.html](https://www.huduser.gov/portal/pdredge/pdr_edge_inpractice_100512.html)



Another potential opportunity is converting underutilized land in shopping malls and shopping centers to housing sites. In recent years, many shopping centers have seen a decrease in tenants and retail sales due to the rise of e-commerce, further accelerated by the COVID-19 Pandemic, and have been working with developers to both revive malls and address the housing shortage. In Southern California, there are at least 11 shopping malls that either have apartments or are in the process of developing them, such as Santa Ana’s MainPlace and Huntington Beach’s Bella Terra.<sup>24</sup>

Cities that do not have large indoor shopping malls have still been eyeing shopping centers and strip malls as strategic locations for new housing. These shopping centers are typically only one or two stories high and can have large surface parking lots, which makes them prime for a higher and better use.

- **Redondo Beach** – the City implemented policies to help in the redevelopment of shopping centers as part of the City’s Housing Element. The city allows the parking lot of a shopping center to be subdivided into a separate parcel, so that the parking lot portion can be redeveloped, and the existing structures can be kept intact and operational. The policy also promotes shared access agreements between the uses when detaching the parcels; for example, if it is an L-shaped shopping center with parking in the middle, when the parcels are detached, the users can enact a shared access agreement for the parking. Redondo Beach allows for a range of densities in the shopping center redevelopment so that the developer can allocate density as it makes sense for the site, which may include adding more density to the section of the shopping center that is obsolete and needs to be redeveloped. Also, there is not a retail minimum square footage on these sites, which can benefit housing development.

Other cities in Southern California have also provided flexibility for developers when redeveloping shopping centers. Specifically, developers have liked having a range of densities for the site, which can allow for a more innovative development and can make a parcel more appealing for redevelopment. Developers can identify areas of the site to build at 60 units/acre but then also identify locations on the site to build at a lower density, for instance 30-35 DU/acre. The project as a whole can still achieve a density target but breaking out the density requirements provides developers with more options and ways to create an interesting development, which could incentivize the developer to pursue the redevelopment plan.

### 3.1.3 Other Private Underutilized Land

There is privately owned land that may have existing uses on them, such as a gas station, but they could be considered underutilized land if the site is not built out to allowable floor area ratio (FAR) and if the parcel is in close proximity to transit or job clusters. Since these parcels are privately owned, cities do not have a lot of options for facilitating the redevelopment of the parcels into multi-family housing, but there are a few tools a city could use to increase the economic benefits for the landowner and developer, which may incentivize the private market to convey the land for redevelopment.

First, cities should proactively up-zone some of the areas with underutilized parcels and parcels near existing or future transit. As discussed in Task 1.3, zoning impacts the value of land, and up-zoning parcels and corridors will increase the land values. With higher land values, it may incentivize private landowners to sell off part of or all their land for redevelopment. With an increase density and allowable units for the project, the developer would be able to make the project pencil even with higher land acquisition costs. For instance, car washes and car dealerships typically have larger parcels but a small building footprint on the parcels, so these owners may be incentivized to re-think their land usage on the parcel if the price was right.

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<sup>24</sup> Collins, Jeff. “Malls adding apartments to offset dwindling numbers of shoppers.” The OC Register. <https://www.ocregister.com/2022/01/25/malls-adding-apartments-to-offset-dwindling-numbers-of-shoppers/>

**Martin Cadillac Dealership** - The 4.8-acre site at Olympic Boulevard and Bundy Drive previously held Martin Cadillac Dealership, which operated at this site for over 40 years. They sold the property to Hines and relocated the car dealership, and Hines has proceeded with redeveloping this parcel as West Edge, a mixed-use community with 600 apartments (15% of units reserved for workforce housing, and 5% of units for low-income households), retail space, a grocery store, and a 10-story office building. The project planned to break ground in early 2018, but a local group sued the city over the project, accusing it of spot zoning because the general plan for this area had not been updated, despite the fact this location is half a mile from the Expo/Bundy Metro station. The ruling sided with the project and it broke ground in 2019; however, the lawsuit over the zoning delayed the construction start by over a year.<sup>25</sup>

**Photograph 1. Martin Cadillac Dealership**



Source: Hines

**Felix Chevrolet/University Gateway Building** - The Shammas Family, who owns Felix Chevrolet, is a large landowner on the Figueroa Corridor near USC. They have consolidated the dealership operations to ground lease parcels for residential development. In 2009, they entered into a 55-year ground lease with USC to build the University Gateway Building, offering 421 units /1,656 beds for students. Felix Chevrolet is currently finishing construction on consolidating office operations into a vertical structure, in order to keep the dealership operating while leasing off pieces of the land for other uses.<sup>26</sup>

**Photograph 2. Felix Chevrolet/University Gateway Building**



Source: The Shammas Group

Cities could also waive fees to subdivide parcels so that a portion of the site could be sold off or leased off for multi-family housing. Fees for assemblage of smaller lots could also be waived to help a developer amass a site large enough to build a multi-family development. San Clemente implemented this strategy through their consolidation ordinance to waive or reduce lot merger fees and a waiver of development fees to promote developers to assemble lots for housing development.<sup>27</sup>

There are examples around Los Angeles of private underutilized land that are in the process of redevelopment for multi-family housing, so cities should pro-actively think about how they can create value for these parcels and support the conversion of existing commercial properties into multi-family housing. If sites deemed underutilized include existing residential uses, strategies must be developed to protect and benefit existing tenants. Strategies should be designed to address the potential threat of displacement that could leave residents unhoused, including:

- Keeping existing residents housed within the community, potentially by finding appropriate housing, subsidizing rent if there is an increase, or providing access to units in the newly developed site at an affordable rate.
- Turn existing residents into partners or shareholders in new development to provide them access to long-term wealth building, by transitioning the site to ownership by co-ops or land trusts including existing tenants.

<sup>25</sup> Barragan, Bianca. “New timeline for West LA’s Martin Expo Town Center, construction now set for 2019”. Urbanize LA. October 11, 2018.

<https://la.curbed.com/2018/10/11/17957590/west-la-martin-expo-town-center-lawsuit-groundbreaking>

<sup>26</sup> “Figueroa Corridor”. The Shammas Group. 2022. <https://shammasgroup.com/figueroa-corridor/>

<sup>27</sup> San Clemente Planning Commission. Lot Consolidation Ordinance Staff Report. August 19, 2020. <https://www.san-clemente.org/Home/ShowDocument?id=58994>

## 3.2 Policy Actions for the WSCCOG Subregion

Understanding that the WSCCOG subregion does not have ample vacant land to support all of the subregion's housing needs, means that the cities will have to have a comprehensive housing strategy that includes identifying underutilized land for new housing development, which can be achieved by considering the following policy actions:

- **Set affordability target for individual sites** – While all the WSCCOG cities currently have an inclusionary housing requirement, cities can set more aggressive targets for select sites, including city-owned surplus land and other sites near transit, to facilitate a higher affordable housing unit count.
- **Allow for flexibility in the redevelopment of commercial centers and other institutional parcels** – Consider allowing subdivisions of a shopping center so some uses can stay intact while other uses, specifically parking lots, can be redeveloped. These policies should affect smaller neighborhood shopping centers through larger regional shopping centers, to bring potential development throughout the region. Provide the developer flexibility in allocating density throughout the project by targeting a project-wide density to achieve. These policies should also affect other large parcels that have commercial or institutional uses, including churches, hospitals, and schools. This flexibility will allow existing uses to continue operating while surface parking lots could be redeveloped into housing.
- **Proactively up-zone commercial corridors** - By proactively up-zoning areas where higher density makes sense, the city can indirectly facilitate redevelopment on privately-owned land. The higher density will increase the land value and may entice the landowner to sell of the land or a portion of the land. It will also entice a developer to the parcel because redeveloping the parcel into multi-family housing because the developer will not need to apply for the re-zoning (adding time and uncertainty to the development process).
- **Waive fees for sub-dividing or consolidating parcels** - Reducing the fees to sub-divide a parcel could incentivize private landowners to right-size the amount of land necessary for their operations. Then, they could then sell or lease a portion of the land to a developer for multi-family housing. Cities should also make it easier for a developer to assemble parcels large enough to support multi-family housing development by expediting the assemblage process and waiving the fees. This strategy can help cities to justify the small parcels (under half an acre) identified in the site inventory list for the Housing Element to show they are supporting lot consolidation.
- **Require protections for existing residents** – In instances where the underutilized land currently has housing, cities should proactively address displacement and the threat that existing residential tenants of underutilized parcels have access to affordable housing within their communities and/or opportunities to benefit equitably from redevelopment.

### 3.3 Accessory Dwelling Units

Accessory Dwelling Units (ADUs) have the potential to increase the housing stock and add additional housing options in areas zoned for single-family residential and other low-density areas. ADUs can provide housing for family members or be leased on the rental market to bring in an extra source of revenue.

The State of California has been extremely supportive of ADUs and has passed legislation to streamline the permitting and construction process for ADUs. On January 1, 2020, a number of key policies that make ADUs more affordable and accessible went into effect, including:

- Faster ADU/JADU plan review times – local agencies must act on a completed application within 60 days.
- More flexible ADU size and set back requirements – a setback of no more than 4 feet from side and rear lots lines are required, unless an existing structure with no setbacks is being converted.
- Allows one ADU and one JADU per lot within a residential or mixed-use zone, given certain conditions are met.
- A JADU may be constructed within a single-family home and is not required to include an existing bedroom or an interior entry into the home.
- ADUs are allowed on multi-family properties and properties with duplexes.
- Prohibits local agencies from charging impact fees for ADUs under 750 sq. ft.
- ADUs created from a conversion of a garage, carport, or covered parking structure cannot require off street replacement parking spaces to be provided.
- ADU law removed the owner-occupancy requirements.<sup>28</sup>

Cities are provided with some autonomy through their own local ordinances to outline specific standards regarding zoning, off-street parking requirements, minimum lot size, maximum ADU size (sq. ft.), set-back requirements, development, and design standards in compliance with State ADU law. Each city's ADU ordinances vary and primarily depend on existing zoning and parking requirements, which are the primary indicators of the which parcels are allowed to develop ADUs. While the state legislation sets the minimum requirements that a city has to comply with (Table 2), cities are able to go above and beyond these requirements to create more ambitious policies to promote ADU development in the jurisdiction.

**Accessory dwelling units (ADUs)** can be detached from or attached to the primary structure and provides an independent unit with a separate bathroom, kitchen, and living space from the primary dwelling. Prefabricated ADUs can be purchased to save time and money.

**Junior accessory dwelling units (JADUs)** are a type of conversion of existing space contained entirely within an existing or proposed single family home (e.g., master bedroom) into a separate unit of no more than 500 sq. ft. They require relatively modest renovations as the JADU can share a bathroom with the primary dwelling and only needs a basic kitchen with small plug-in appliances.

Source: HCD

<sup>28</sup> California Department of Housing and Community Development. Accessory Dwelling Unit Handbook. December 2020. [https://www.hcd.ca.gov/policy-research/docs/adu\\_december\\_2020\\_handbook.pdf](https://www.hcd.ca.gov/policy-research/docs/adu_december_2020_handbook.pdf)

**Table 2. State of California ADU Mandate Summary (as of March 25, 2022)**

Category	Description
Zoning	Within single family residential, multifamily residential, or mixed -use zone
Externalities	Properties within fire hazard areas require additional fire safety measures
	Within water and sewer service areas
	Within the areas with less impacts on traffic flow
Density	ADUs are not counted as a unit and can exceed general plan and zoning densities
	Local governments can allow more than one ADU on a lot
Lot size	No minimum lot size
Setbacks	4 feet side and rear yard setbacks unless the foundation of an existing accessory building reaches the property line. Detached ADUs must be 4 feet away from the primary unit
	Extra setbacks can be imposed to properties in coastal zone
Number of units allowed	Single-family residential: one ADU and one JADU
	Multi-family residential:
	Up to 25 percent of existing multifamily structures or
	Two units (detached with the setback requirements)
Unit size	Local governments may establish minimum and maximum unit sizes; maximum can exceed 1,200 sq ft
	Maximum sizes must be at least 850 sq ft and 1,000 sq ft for ADUs with more than one bedroom; for local governments without an ordinance, maximum unit sizes are 1,200 sq ft for detached units and up to 50 percent of FA of primary dwelling for attached ADUs
	A height of at least 16 feet
Accessory Structures	Existing accessory structures are convertible to ADU without other limitations (e.g., setbacks and maximum sizes)
Parking	One space per unit, unless property is:
	located within 0.5-mile walking distance of public transit
	located within historic district
	located within one block from a car share vehicle
	part of the proposed or existing primary structure or an existing accessory structure
	located in a permit parking area where on-street parking permits are required, but not offered to the occupant(s) of the ADU
	When a garage, carport, or covered parking structure is demolished in conjunction with the construction of an ADU, or converted to an ADU, those off-street parking spaces for the primary unit are not required to be replaced
Impact Fees	No fees for an ADU less than 750 square feet; No school district impact fees for ADU less than 500 square feet
	Proportional fees in relation to the square footage of the ADU to the square footage of the primary dwelling unit (for R1)
	Local agencies can waive impact fees and use fee deferrals

**Table 3. ADU Assembly and Senate Bills**

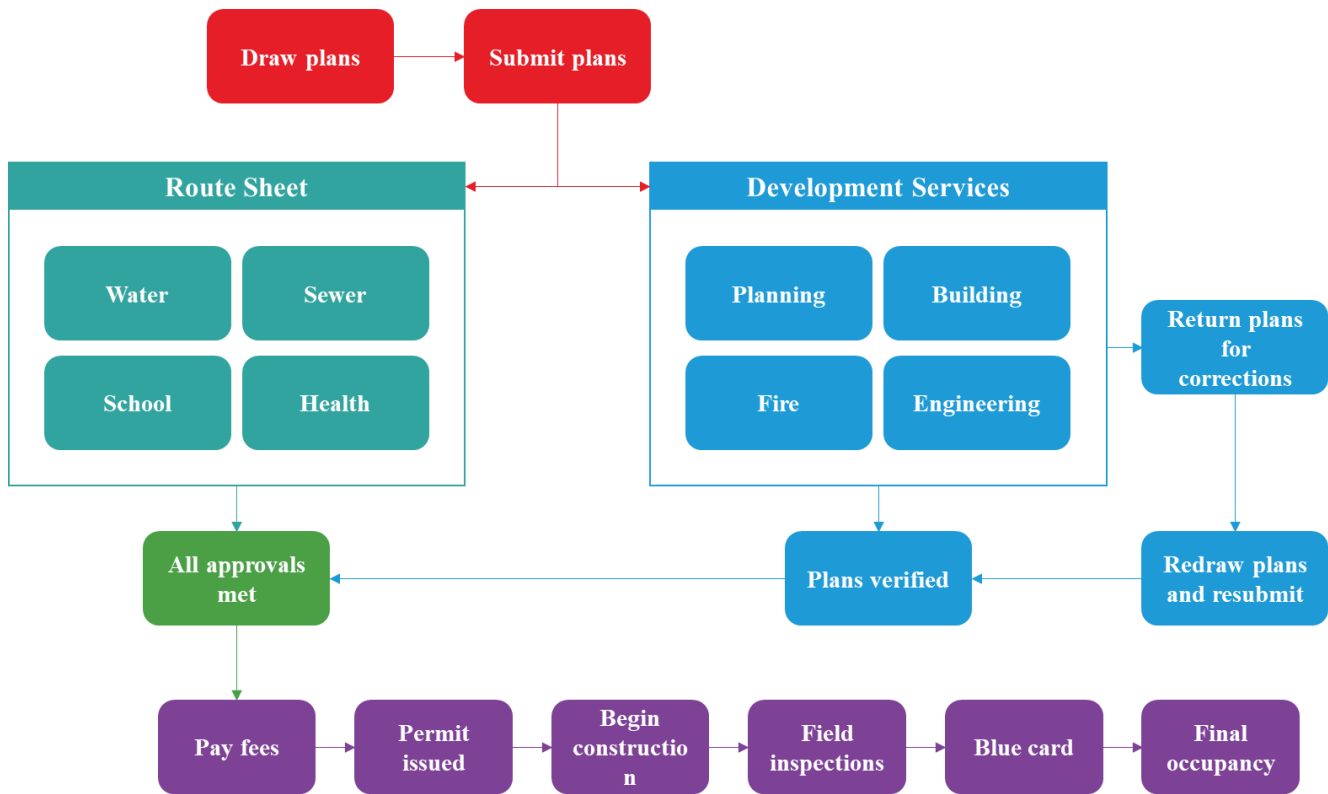
Assembly/ Senate Bill	Year	Description
AB 3182	2020	Build upon recent changes to ADU law to further address barriers to the development and use of ADUs and JADUs - an application for an ADU or JADU shall be deemed approved if the local agency has not acted within 60 days, allows one ADU and one JADU per lot within a residential or mixed-use zone, and provides rental and leasing guidance of ADUs and JADUs.
AB 68	2019	Build upon recent changes to ADU and JADU law and further addresses barriers to the development of ADUs and JADUs - prohibits lot size requirements, eliminate owner-occupancy requirements, designated ADU areas may be based on water and sewer services, impacts on traffic flow, and public safety, prohibits establishing maximum sizes, reduce off-street parking requirements for garage conversions, reduces application review time from 120 to 60 days, establish impact fee exemptions based on size, clarifies public transit definition, ADU or JADU sites can satisfy Regional Housing Needs Allocation (RHNA), HCD is authorized to notify local agency of non-compliance with state law, permits JADUs to be constructed within walls of existing residence, and allow 5 years for qualifying substandard ADU to correct violations as long as violation is not a health and safety issue.
AB 881		
SB 13		
AB 587	2019	Creates a narrow exemption to prohibition for ADUs to be sold separately from the primary dwelling; the primary dwelling and ADU must be built by a nonprofit to provide low-income housing to qualify.
AB 670		Covenants, conditions, and restrictions that prohibit construction of ADUs or JADUs are void and unenforceable.
AB 671		Requires local agencies to include a plan that incentivizes and promotes creation of ADUs that offer affordable rent for very low-, low-, or moderate-income households in their housing elements. HCD is required to develop a list of state grants and financial incentives for planning, construction, and operation of affordable ADUs.

Source: HCD ADU Handbook

## Permitting Process

The ADU permitting process for homeowners begins with a plan drafted by an architect, typically a custom design or a plan that has been pre-approved by the local jurisdiction. As shown in Figure 7, once the homeowner completes a drafted plan, they will submit it to the Community Development/Development Services Department, which typically includes planning, building, fire, and engineering. If the plan requires corrections, it will be returned to the homeowner to make corrections and resubmit, the final plan will be verified by the department. A route sheet listing the sequence of operations will need to be passed to water, sewer, school, and health for any impact fees required for the property. Once all approvals are met, the homeowner will pay all relevant fees and the permit will be issued. The homeowner can begin construction and schedule periodic field inspections to ensure that local building codes are met. A final building inspection will be required to obtain signatures on the Certificate of Occupancy, to signify the unit is now habitable.

Figure 7. ADU/JADU permitting process



Source: City of Encinitas

### 3.3.1 Best Practices

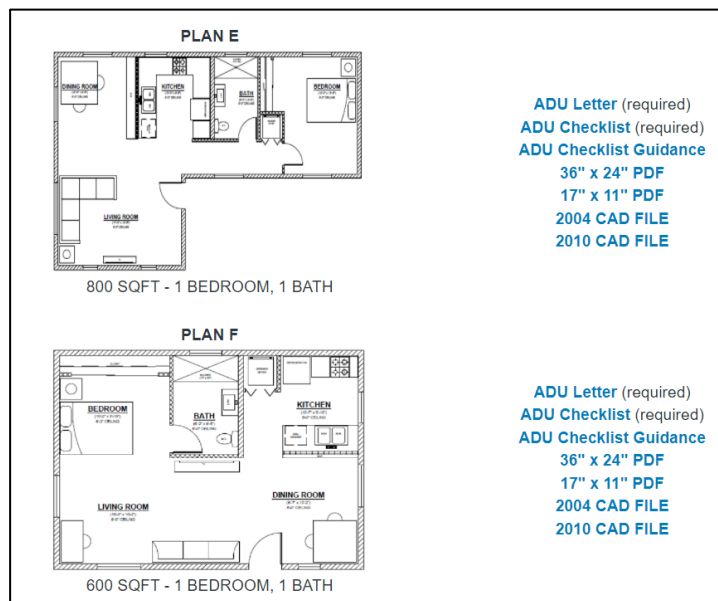
The State of California continues to address barriers for homeowners through amendments that ease requirements; while all cities need to be in compliance with the state ADU ordinance, some cities have taken more ambitious efforts to promote and increase the number of ADUs constructed in their communities. The following measures are best practices implemented by cities in California.

1. **Provide pre-approved plans** from several architecture firms for homeowners to access and choose from for their properties. The plans should offer studio, and 1–3-bedroom layouts with different square footage sizes. Custom ADU plans can cost anywhere between \$3,000 and \$12,000 depending on square footage and design features of the project, so jurisdictions that offer pre-approved plans can save homeowners thousands of dollars.<sup>29</sup> In addition to the cost savings, pre-approved plans can provide certainty that the plan meets the city’s requirements. Pre-approved plans are plans that are the majority of the way completed, up to a certain threshold, and the remaining portion of the design depends on individual site conditions, building codes, and the city’s development standards. While pre-approved plans can save time and are significantly cheaper than custom plans, the homeowner will need to consider the types of materials used to further lower costs when choosing a pre-approved plan.
  - o The **City of Los Angeles** allows architects to submit plans to the City to be reviewed; if approved, then the City will post the plans on the website for homeowners to access. In order to be considered for the City’s pre-approved ADU plans list, the architect/engineer needs to submit a floor plan, building elevations/cross sections, a foundation plan, roof framing, energy conservation (energy calcs), and comply with the green code (material specifications, notes and details). When a homeowner selects a pre-approved plan, the homeowner pays a fee to the architect in order to access and download the plans (Source: City of Los Angeles ADU FAQs).

The **City of Encinitas** Permit Ready ADU (PRADU) program offers expedited building permits if homeowners choose a pre-approved plan and waives all Development Services Department fees for the construction of new ADUs since the plans have already been reviewed and approved by the City (school and water district fees may still apply depending on location and size of the ADU). The City released a request for proposal (RFP) and chose local architects to design ADU base plans for homeowners. The base plans also allow for flexibility so an additional bedroom could be added to the ADU in the future, to allow for future expansion while reducing upfront costs. (Source: City of Encinitas PRADU Program)

- o **San Diego County** provides homeowners with links to floor plans that range from 600 sq. ft. to 1,200 sq. ft., which are 85% complete (Figure 7). The homeowner must work with a contractor to complete the plans based on the specific site conditions. The links provide detailed instructions, the construction method, and other groups to contact (e.g., fire authority, water districts, school districts, and Department of Environmental Health).<sup>30</sup> The checklist includes all the

Figure 8. Pre-approved floor plans from San Diego County



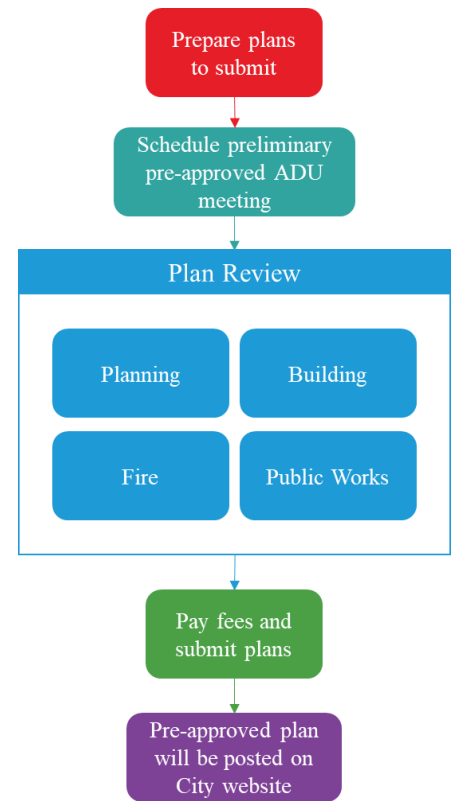
Source: [sandiegocounty.gov](http://sandiegocounty.gov)



information needed on plans before they can be accepted plan check. The pre-approved plans are available for download in PDF or CAD format providing structural dimensions, floor plans, side, front, and back view.

- The **City of San Jose** provides pre-approved plans from 12 vendors offering various ADU sizes. The City has an expedited application process if a homeowner uses a pre-approved plan, to accelerate the scheduling of an ADU meeting and reviewing of the final plans.<sup>31</sup> Architects who would like to be a vendor for the City’s pre-approved plans can continue to apply through the City’s website by following instructions for non-site-specific plans and submitting structural drawings and calculations. The City of San Jose has a dedicated ADU Ally Team that vendors can contact with questions. Next, the vendor will schedule a preliminary pre-approved ADU meeting to discuss plans with the City staff. After the meeting, the plans are submitted for review and approval by Building, Planning, Fire Prevention, and Public Works. The vendor pays the building fees for plan review; ADUs less than 750 sq. ft. cost \$952 and ADUs between 750 – 1,200 sq. ft. cost \$1,632 for plan review. Once plans are approved and fees are paid by the vendor, the business name, contact information, description of the size and type of ADU plan will be posted on the City website for homeowners to access.

Figure 9. Vendor pre-approved plan submittal process.



Source: City of San Jose

2. **Streamline the process** from approval to construction and provide step-by-step guidance in a “one stop shop” format that compiles all necessary resources and simplifies the process for homeowners. Create checklists and provide all permit applications and supporting materials on a dedicated ADU webpage; comprehensive analyses and reports are invaluable resources for both cities and homeowners to understand their local context and how to best approach developing an ADU.

- The **City of Oakland** provides information about the planning and building codes, permitting process, ADU prototypes, and financial analysis on the website. In addition, the City provides the *Oakland ADU Initiative – Existing Conditions and Barriers Report* that details existing conditions and barriers. The report analyzes several variables that affect ADU

<sup>29</sup> Superior ADUs. ADU Cost per Square Foot. 2022. <https://superioradus.com/adu-cost-per-square-foot/>

<sup>30</sup> San Diego County Planning and Development Services. County Standard ADU Building Plans. [https://www.sandiegocounty.gov/content/sdc/pds/bldg/adu\\_plans.html](https://www.sandiegocounty.gov/content/sdc/pds/bldg/adu_plans.html)

<sup>31</sup> City of San Jose. Pre-approved ADUs. <https://www.sanjoseca.gov/business/development-services-permit-center/accessory-dwelling-units-adus/adu-permit-plan-review-process/adu-single-family-master-plan-program>

production in the City including an analysis of how demographic data on housing, race, and income are indicators of ADU demand, the financial and regulatory environment related to ADU construction and tenant protections, an estimate of the ADU development potential in Oakland including unpermitted ADUs, conducting stakeholder outreach in the form of surveys, four focus groups, and twelve interviews.<sup>32</sup>

- The **City of San Francisco** released “sf-ADU “, a guide for homeowners, designers, and contractors considering adding an ADU to an existing residence in San Francisco. The handbook thoroughly explains the land use policy, the ADU process, planning and building codes, planning and permitting processes, ADU prototypes (partial garage conversions, full garage conversions, non-garage locations), and financial analysis (construction costs, income and assets, and financing).<sup>33</sup>
- **San Mateo County** has The One Stop Shop Pilot Program to provide no-cost support for homeowners interested in ADUs, as well as architects, general contractors, or lenders interested in working with ADUs. The program provides a step-by-step guide to building an ADU, as shown in Figure 10, to walk homeowners through the process, supplemented with links to resources, homeowner success stories, and an ADU calculator that estimates costs and value added based on the structure type, construction, finances, and rents.<sup>34</sup>

**Figure 10. San Mateo County One Stop Shop Program**



Source: [secondunitcentersmc.org/onestopshop](https://secondunitcentersmc.org/onestopshop)

<sup>32</sup> City of Oakland. Oakland ADU Initiative: Existing Conditions and Barriers Report. January 2020. <https://www.oaklandca.gov/topics/accessory-dwelling-units-adus-secondary-units>

<sup>33</sup> City of San Francisco. Accessory Dwelling Unit Handbook. December 2018. <https://sfplanning.org/resource/accessory-dwelling-unit-handbook>

<sup>34</sup> San Mateo County Second Unit Resources Center. One Stop Shop Pilot Program. 2022. <https://secondunitcentersmc.org/onestopshop/>

3. **Provide consolidated financing information** in one location to help homeowners understand how to pay for the costs of an ADU. Cities can provide a fact sheet for the different financing options and connect homeowners to other statewide resources
  - The **California Housing Finance Agency (CalHFA)** has an ADU Grant Program that provides up to \$40,000 to low- or moderate-income homeowners for pre-development and non-recurring closing costs associated with the construction of an ADU. The costs eligible include site prep, architectural designs, permits, soil tests, impact fees, property survey, and energy reports. CalHFA provides income limits for each County; Los Angeles County's income limit is \$158,000 as of June 2021 to be eligible for the grant program.<sup>35</sup>
  - **Casita Coalition** is a statewide non-profit organization that works to remove policy barriers to build small homes across California and their ADU Finance Guide for Homeowners offers a variety of finance options that can guide homeowners in different financial situations, including a cash-out refinance, second mortgage, home equity line of credit (HELOC), construction loan, 401k loan, renovation loan, reverse mortgage, and ground lease agreement.<sup>36</sup> The factsheet explains which options are best and supports homeowners create a strategy based on their location, credit score, income, existing debts, and home equity.
  - **Pasadena** has two loan programs available for homeowners who build an ADU on their property or permit a previously unpermitted unit and agree to rent out the ADU at 80% of the AMI. The New ADU Construction Loan provides up to \$150,000 and a three-year loan with a 1% interest rate; loan payments are deferred for the first three years. The Existing Unpermitted ADU Loan provides up to \$75,000 with a 20-year loan period and a 1% interest rate; loan payments are deferred for the first five years.<sup>37</sup>
4. Local governments can **allow for more than one ADU plus one JADU on a single-family lot**, specifically in neighborhoods with more square footage of land per lot.
  - The **City of San Diego** implemented an ADU Bonus Program which allows additional ADUs to be built on a property after the homeowner has maximized the number of ADUs allowed by-right (one ADU and one JADU on a single-family property). The program requires that the deed restricted ADU must have affordability restrictions for 10 years for at low-income households or 15 years for moderate-income households. An additional unrestricted property is allowed for every deed restricted ADU if the property falls within the City's Transit Priority Area (TPA).<sup>38</sup>
5. **Waive impact fees** for structures over 750 sq. ft.
  - **San Diego County** implemented an Impact Fee Waiver Pilot Program for a duration of 5 years for ADUs proposed in unincorporated areas in San Diego County.<sup>39</sup>
6. **Increase height limits** above 16 ft. to allow for two-story ADUs, which provides homeowners with more design options based on the existing site conditions.
  - **South Pasadena** allows for two story ADUs to rise 18 feet for a flat roof, plus a 1-foot parapet, or 22 feet for a pitched roof.<sup>40</sup>

<sup>35</sup> California Housing Finance Agency. ADU Grant Program. 2020. <https://www.calhfa.ca.gov/adu/index.htm>

<sup>36</sup> Casita Coalition. ADU Finance Guide for Homeowners. March 2021. <https://www.casitacoalition.org/guidebooks-adu-finance-lightturq?rq=finance>

<sup>37</sup> City of Pasadena. Pasadena Second Unit ADU Program. 2022. <https://www.cityofpasadena.net/housing/second-unit-adu-program/>

<sup>38</sup> San Diego Housing Commission. City of San Diego ADU Bonus Program. 2021. <https://www.sdhc.org/housing-opportunities/adu/>

<sup>39</sup> County of San Diego. ADU and JADU. April 2022. <https://www.sandiegocounty.gov/content/dam/sdc/pds/zoning/formfields/PDS-PLN-611.pdf>

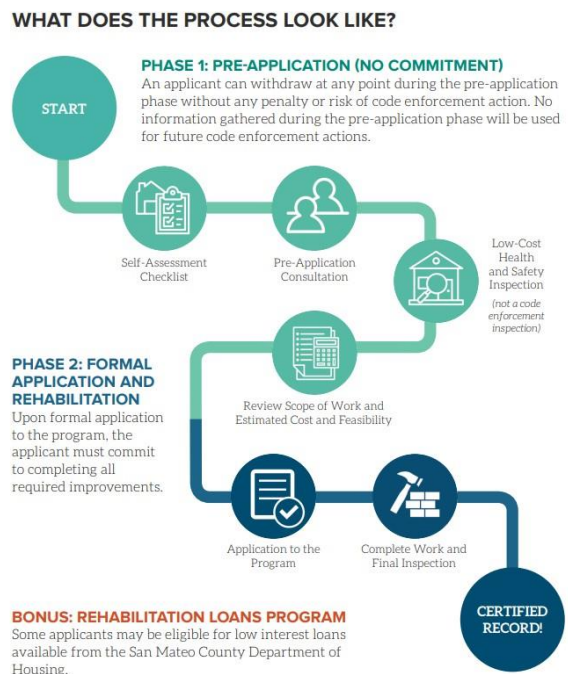
<sup>40</sup> ORDINANCE NO. 2356. City of South Pasadena. June 4, 2021. <https://www.southpasadenaca.gov/home/showpublisheddocument/26196/637581373329700000>

7. Identify an **ADU Team or Staff Lead** in order to provide homeowners with adequate support as they navigate ADU processes, cities should have a dedicated team or lead to offer guidance and technical support. Having a dedicated staff member or team for ADU applications or questions reduces the need for training, keeps responses consistent, and helps with overall interagency coordination. Additionally, regular staff training and expanded hour and services can facilitate the application processing. to ensure that current practices are up to date with the latest legislation and that helpful tools are provided to the public.
  - The **City of San Jose** provides an ADU Ally to support homeowners with ADU specific inquiries.
  - The **City of San Francisco** designates an ADU coordinator to oversee the ADU program for the City.

8. **Amnesty Programs** for unpermitted ADUs allow homeowners to have these units inspected, brought up to code, and permitted without penalty. This can also bring these units into the formal housing market and ensure the units are safe and inhabitable. Creating an amnesty program can potentially save homeowners time and money, and possibly add to the number of affordable housing units available in the city.

- **San Mateo County** has an amnesty program and created a graphic to walk homeowners through the process (Figure 10).<sup>41</sup>
- **San Jose** implemented an ADU Amnesty Program that saved homeowners up to \$10,000 in fee waivers.<sup>42</sup>
- **South Pasadena** has an amnesty program that allows a homeowner to turn an unpermitted ADU into a permitted ADU, and the only city fee the homeowner pays is the inspection fee.<sup>43</sup>

**Figure 11. San Mateo County Amnesty Program steps**



Source: San Mateo County

### 3.3.2 Case Studies

#### City of Long Beach

As the State of California continues to ease ADU requirements, cities across the state have seen a significant increase in ADU permit applications. The City of Long Beach issued 150 permits in 2017, and the number of ADU application submissions nearly doubled every year; by 2021, there were 854 application submissions and 445 permitted ADU builds. Throughout the application process, the primary barriers identified by homeowners were construction costs, and not related to the permitting processes with the City. Long Beach has an amnesty

<sup>41</sup> County of San Mateo. Accessory Dwelling Unit Amnesty - Health & Safety Certification Program. <https://planning.smcgov.org/second-unit-amnesty>

<sup>42</sup> City of San Jose. ADU Amnesty Program. <https://www.sanjoseca.gov/business/development-services-permit-center/accessory-dwelling-units-adus/adu-amnesty-program>

<sup>43</sup> City of South Pasadena. Accessory Dwelling Units. <https://www.cityofpasadena.net/planning/planning-division/community-planning/accessory-dwelling-units/>

program for unpermitted ADUs. The City currently operates the ADU program under state law with some provisions for permissive actions, most of which have now been absorbed by recent state mandate amendments. As of March 2022, the City is looking to draft a local ordinance and promote ADUs by providing pre-approved plans to help expedite the approval process for homeowners. The City may also apply for a state planning grant through SB2 to fund a “one-stop-shop” website to further streamline the process for interested homeowners. Additionally, the City may provide homeowners with incentives, such as additional floor plan space, to provide affordable housing for low-income tenants.

### City of Encinitas

The City of Encinitas adopted two new ADU ordinances in 2018 to update development standards to promote new construction and to allow and define JADU provisions consistent with state law. In the same year, City staff created the Housing for Generation and Permit-Ready ADU (PRADU) programs. PRADU was officially launched in 2019 providing homeowners with eight ADU floor plans for free. The City estimates that the free plans can save homeowners 3-6 months that it would have typically taken for designs to be drafted and about \$10,000-\$15,000 in design fees. Homeowners who submitted the PRADU pre-approved plans received approvals 25% faster than standard ADU applications. The City constructed 357 new units between 2010 and 2019; 154 of those units were constructed in 2017 and 2018, with 102 permitted ADUs in just 2019 when the PRADU program was released. Due to the increased number of constructed and permitted ADUs, the Development Services Department recommended further incentives in 2020. Planning staff proposed an ADU Incentive Program:

- Streamlining the Permitting Process – explore ways to further reduce review time in addition to digital application submittal and contracting employees to assist in reviews.
- Expansion of the PRADU Program – explore plans for ADUs above both one-car and two-car garages due to high interest from homeowners.
- Permit Ready Plans Clearinghouse – create a statewide collection of all permit-ready (pre-approved) plans as other cities create their own programs similar to PRADU.
- Increase Affordable ADUs – in addition to fee waivers, free plans, and reduced timeframes, the City would like to provide incentives to rent at affordable rates, and offer homeowners low-interest, zero percent, or forgivable loan programs. The City can also use the Affordable Housing Fund to finance an ADU pilot program to create affordable housing units and utilize the Permanent Local Housing Allocation (PLHA). Table 4 provides the proposed affordable rents for the affordable ADU program. (*Source: City of Encinitas City Council Agenda Report, October 21, 2020*)

Table 4. Affordable rent for proposed ADU Incentive Program.

#### Affordable Rent

Unit Size	30% AMI (Extremely Low)	50% AMI (Very Low)	60% AMI (Low)	110% AMI (Moderate)
Studio	\$487	\$811	\$973	\$1,784
1-Bedroom	\$556	\$927	\$1,112	\$2,039
2-Bedroom	\$626	\$1,043	\$1,251	\$2,294
3-Bedroom	\$695	\$1,159	\$1,391	\$2,549

Effective: 4-30-2020 --- San Diego Median Income: \$92,700 -- Source: <http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml>

Source: City of Encinitas


### City of South Pasadena

The City of South Pasadena engaged Arup to create an informational ADU brochure for homeowners, which is accessible online or at the Permit Center. The brochure breaks down the planning concepts and design requirements and provides step by step instructions for the permitting process. The virtual brochure includes tracking technology to see how many people are accessing the information to understand the reach of the brochure. In addition, the city hosted informational webinars to answer questions about building an ADU and posted them on the website for residents to access.

Figure 12. City of South Pasadena ADU Brochure for Homeowners

### Building Your ADU in South Pasadena: Let's Get Started

**What is an ADU?**  
 Accessory Dwelling Units (ADUs) are housing units with independent living facilities for one or more persons, located on the same parcel as an existing residential property.  
 ADUs can house friends, relatives, and caregivers, such as adult children and aging family members, offering proximity with privacy and independence. ADUs can also provide a steady source of income to homeowners to help pay a mortgage.  
 ADUs offer a way to expand South Pasadena's housing stock, creating smaller, relatively more affordable homes throughout the community with minimal impacts.



### The ADU Permitting Process

**1. Prepare Your Project**

**Review development standards & design requirements**

- Find details on siting, square footage, height limits, and other requirements in Zoning Code Section 36.350-200.

**Prepare your ADU plans**

- We recommend engaging an experienced architect / designer / contractor to develop your design and guide you through the development process.

**Identify, apply, and receive prerequisite permits**

- Prerequisites may include a demolition permit with Cultural Heritage Commission review, Hillside Development Permit, or a Public Works tree removal permit.

**2. Apply for Your Permits**

**First: Planning Approval**

- Access the application at the [Virtual Planning Desk](#) and follow all instructions. Make sure to include everything in the checklist!
- Use the Virtual Planning Desk to schedule an application submittal appointment.
- Submit a complete application at your scheduled virtual appointment time.
- Planning approval will be issued within 60 days of application being deemed complete.

**Next: Apply for a Building Permit**

- Building permit applications are available at the South Pasadena Building Division web page and via the Virtual Planning Desk.
- Contact [permits@cityofsouthpasadenaca.gov](mailto:permits@cityofsouthpasadenaca.gov) to arrange E-Plan submittal.
- Submit ADU plans electronically at E-Plan portal.
- Receive your ADU building permit after all plan check corrections have been made.

**3. Time to Break Ground!**

It's time to build your ADU! During construction, your contractor will call Building & Safety for regular inspections as the work progresses, with a final inspection when construction is completed. Prior to final Building sign-off, Planning staff will also conduct a final inspection to verify that the ADU was built according to the approved plans. If fire sprinklers were required, the Fire Department will also conduct a final inspection before final sign-off.

### Types of ADUs

	ADU TYPE	SQUARE FOOTAGE	HEIGHT AND STORIES
NEW CONSTRUCTION	<b>New detached ADU</b> A newly-constructed freestanding structure, often in the backyard.	Minimum: 150 sq ft Maximum: 1,200 sq ft	One-story ADU: maximum 16 ft to top of parapet or pitched roof. Free construction ADUs on residential property must be one story only.
	<b>New attached ADU</b> A newly-constructed ADU attached to the rear wall with the primary structure.	Minimum: 150 sq ft Maximum: 800 sq ft for one-bedroom ADU, 1,000 sq ft for ADU with 2+ bedrooms.	Two-story ADU (including an ADU to meet needs of transient, short-term) must meet 16 ft to top of parapet, or 22 ft for a pitched roof.
CONVERSIONS	<b>Conversion of garage or other accessory structure</b> A conversion of an existing structure on the site, typically a garage.	Conversion of an existing accessory structure or a portion of the existing primary residence are not subject to size requirements.	Two-story ADUs must comply with additional standards for structural frame setbacks, antennas, windows, and balconies.
	<b>Home conversion</b> A converted area of the primary residence with its own kitchen & bathroom.	Dimensions of 150 sq ft are allowed for kitchen and living areas. An ADU that encloses the existing structure in excess of 150 sq ft is subject to the maximum of 1,200 sq ft.	Conversion ADUs (without an expansion) height of the existing structure.
	<b>Junior ADU (JADU)</b> A smaller conversion that is not required to have a private bathroom.	Minimum 150 sq ft Maximum 500 sq ft	

### Additional Considerations

**High Risk Fire Area:** Additional fire safety measures, including sprinklers, apply if your property is south of Monterey Road or west of Meridian Avenue.



**Parking:** Parking is not required for ADUs located within 1/2 mile of transit among other criteria. Parking may be required for ADUs on multifamily properties, and on narrow streets within High Risk Fire Areas.

Figure 1. High-Risk Fire Area / Area near transit

Source: City of South Pasadena, Arup

### 3.3.3 Barriers to ADUs

#### ADU Costs

The per square footage costs for homeowners to build ADUs exceeds the per square footage costs to build a traditional stick-built multi-family building. Building an ADU is similar to building a traditional stick-built building, but on a smaller scale so the costs would be expected to be similar. However, building a smaller unit prevents the ADUs from benefiting from economies of scale, and thus these projects pay a higher labor and materials cost than a larger project would pay.

Based on the cost data from Task 1.2, on average, ADU's involving existing garages are about 20%-25% less expensive than new construction ADU's; the primary cost savings comes from the reuse of existing foundation, framed walls, and roof. However, the cost savings depend on the existing conditions of the garage. If the garage requires additional structural work to comply with code, then the costs of converting a garage may be higher than the average quoted cost.

**Table 5. ADU construction costs per square footage**

Type of ADU	Price per SF
Detached New Construction	\$306
Attached ADU	\$300
Garage Conversion	\$294
Detached Above Garage	\$223
<b>Average</b>	<b>\$281</b>

Source: Arup

### Community Pushback

ADUs have received pushback from single family residents concerned about lowering property values, noise associated with increased density, and parking issues that may arise from additional units in their neighborhood. Neighbors also have concerns about privacy, especially as it relates to two-story ADUs. Some of the land use regulations and parking requirements can make ADU builds more challenging, especially in high-risk fire areas, and the process is further complicated by the lack of feasible financing options.

## 3.4 Policy Recommendations for the WSCCOG Subregion

Cities can be bold in the allowance of ADUs and employ more ambitious tactics to exceed state ADU regulations and expand the construction of ADUs. For supporting and increasing the number of homeowners who are constructing ADUs, cities should explore the following recommendations:

- **Establish specialized group or staff leader for ADU project permitting** – cities should identify a specific ADU case planner or small team that handles project permitting for ADUs and the team should allocate one or two days a week to focus on ADU activities: reviewing permits, meeting with homeowners, and answering questions. This helps homeowners to know who to contact at the city about ADUs. While experienced developers oversee the process for multi-family residential projects, homeowners, who may not have any experience in development, are the primary builders of ADUs and will need additional support and guidance.
  - Cities should provide a “one-stop shop” for all elements of the ADU process on their websites, to ensure information and resources are readily accessible to homeowners. For instance, cities should provide information about ADU finance programs that homeowners can use to help finance the costs of the ADU construction.
  - This team should expedite the application and permitting of ADUs, and work with homeowners to get their applications ready to submit.
  - The team should track the ADU process to see how many homeowners who start the process follow through and build the ADU, and if not, at what part of the process do these homeowners drop out.
- **Outreach and educational events:** Cities should also be promoting the ADU program to homeowners and letting residents know about the options they have for building an ADU. While the ADU staff lead can address questions and the application process for homeowners who reach out to the city, the cities should also be proactively reaching out and sharing information with homeowners who have not yet

contacted the city. Cities could host virtual ADU webinars and post them to the city website, and also attend community events, such as farmers' markets, to spread information about ADUs.

- **Provide pre-approved ADU plans:** Providing pre-approved plans adds significant value for homeowners, as they reduce the cost of building an ADU and they provide a level of certainty to a homeowner. If the homeowner is new to land development, pre-approved plans remove a significant barrier to building an ADU.
  - Also, if a pre-approved plan is used, then the plan check fees should be waived (or at least reduced) since the city has already approved the plan for development. This will reduce another barrier to ADU development because the production costs are already high for ADUs.
- **Allow for more than one ADU to be built on a single-family property:** While the State currently allows one ADU and one JADU on a single-family property and more than one ADU on a multi-family property, local jurisdictions could also choose to allow two (or more) ADUs on a single-family property. Local jurisdictions should consider this for parcels with sufficient space for the ADUs that comply with all of the development standards.
- **Waive impact fees for ADUs over 750 sq. ft.:** While ADUs under 750 sq. ft. are exempt from impact fees (500 sq. ft. limit to be exempt from school impact fees), cities can choose to waive, or defer, impact fees for all ADUs and could implement the waiver for a set period of time in order to get more ADUs in construction. This removes or delay one of the upfront costs a homeowner needs to pay.
- **Amnesty program** – Cities should create an amnesty program to legalize illegal ADU units, as long as they meet building standards or are brought up to code, and a city inspector approves the unit. There should be no penalty fees for having an unpermitted unit, and the homeowner should only pay the inspection fee. If the unit does not conform to the existing zoning/development standards, then cities should waive these requirements as long as the building inspector gives the unit a passing mark.
- **Increase height limits to allow for 2 story ADUs** – increase height limits above 16 ft. to allow for 2-story ADUs so that homeowners have more design options with the available footprint.



## 4. Innovations in Construction

Mass timber and modular buildings are new trends in construction that are driving changes in the real estate market and providing additional benefits over the traditional construction process. These construction types will need to be adopted by the private development sector to fully gain momentum, but it is important that cities are aware and understand how these construction trends work so their plan check review supports these construction types and not be a barrier to their widespread adoption.

### 4.1 Mass Timber

Mass timber describes any type of building in which the primary load-bearing structure is composed mostly of solid or engineered wood. These products include panels, columns, beams, and posts, and are compressed layers of wood, engineered to be exceptionally strong, yet lighter than concrete and steel. The most common type of mass timber is cross-laminated timber (CLT), a wood product that consists of layers of kiln-dried wood glued at right angles; there are also other types of mass timber including glue-laminated timber (glulam), dowel-laminated timber (DLT), laminated strand lumber (LSL), laminated veneer lumber (LVL), parallel strand lumber (PSL), and nail-laminated timber (NLT).<sup>44</sup>

#### 4.1.1 Benefits of Mass Timber

There are many benefits of using mass timber. Since timber is a renewable source, there are significant embodied carbon savings compared to a conventional building because wood does not emit carbon. Instead, wood absorbs and sequesters it, providing additional carbon savings. Mass timber also requires less energy to manufacture and has a lower thermal conductivity than conventional building materials, leading to improved air tightness and building efficiency. Mass timber is sustainable and using it to replace steel reduces carbon dioxide emissions by up to 20%. Some reports have identified that mass timber construction is more cost efficient than steel buildings for buildings over eight stories.<sup>45</sup>

Mass timber can be prepared in a controlled factory setting and assembled on site, reducing construction time, and increasing safety. With prefabrication, a significant portion of the work is completed in controlled factories and can be completed by robots and machines. Furthermore, prefabrication in the factory can also prevent issues with labor shortages.<sup>46</sup> Unlike concrete, which must be poured and cured, timber has a shorter assemblage time on-site, which creates less dust impacts and noise disruption to the surrounding communities. Also, the weight of a mass timber structure is a fraction of the weight of a concrete or steel building, which reduces the total load, earthwork, and footings of the project to provide cost savings. Mass timber buildings are 25% faster to construct than concrete buildings and require 90% less construction traffic.

Mass timber also provides fire resistance properties because timber is naturally slow burning, as the charring that takes place on the outer layers work as a protective mechanism, to protect the load-bearing properties of the inner layers. Therefore, some building codes do not require the wood to be protected, however there is still some doubt about the fire-protection and safety elements of mass timber buildings. To alleviate some of the concerns, some projects include gypsum wallboards, concrete, and more redundant sprinkler systems to provide extra comfort.<sup>47</sup> Mass timber also performs well during seismic activity.<sup>48</sup>

While currently the data does not show a significant cost savings for a project that uses mass timber versus traditional construction materials, there can be secondary savings effects in terms of construction time savings, increased site safety, and from energy efficiency. Also, as this is still a newer trend to be adopted, with an increase in demand of mass timber project will lead to lower prices in the future (Mass Timber: A Multidisciplinary Perspective, Arup).

<sup>44</sup> Mass timber and taller wood construction. Website. Accessed April 2022. <https://www.naturallywood.com/topics/mass-timber/>

<sup>45</sup> Laura Newpoff. How mass timber is changing options for builders both now and in the future. Website. 25 March 2020. <https://www.bizjournals.com/sanfrancisco/news/2020/03/25/how-mass-timber-is-changing-options-for-builders.html>

<sup>46</sup> Laura Newpoff. How mass timber is changing options for builders both now and in the future. Website. 25 March 2020. <https://www.bizjournals.com/sanfrancisco/news/2020/03/25/how-mass-timber-is-changing-options-for-builders.html>

<sup>47</sup> Hallie Busta. Mass timber 101: Understanding the emerging building type. Website. 24 April 2017. <https://www.constructiondive.com/news/mass-timber-101-understanding-the-emerging-building-type/>

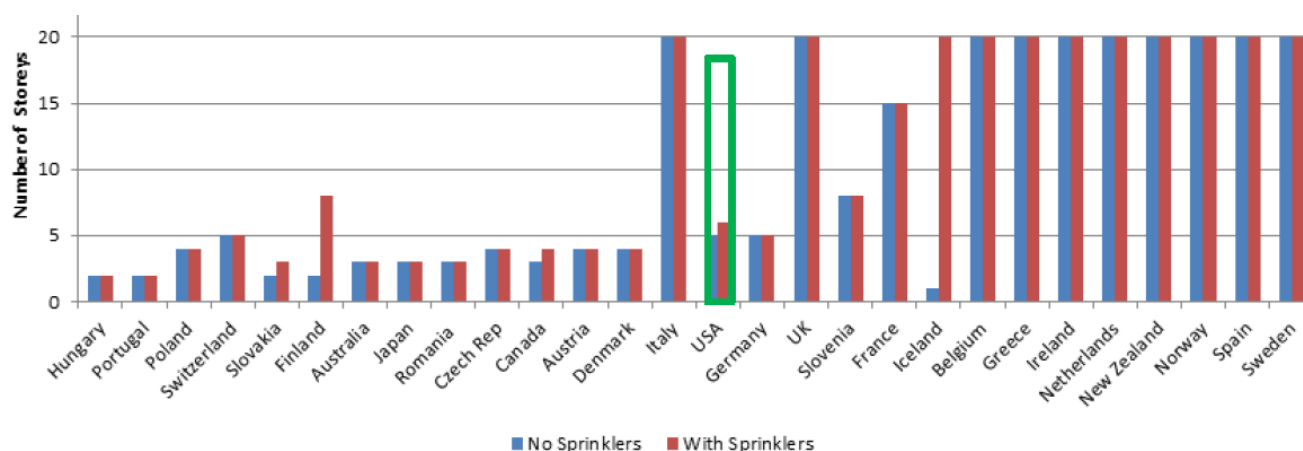
timber-101-understanding-the-emerging-building-type/443476/

<sup>48</sup> Central City Association. Mass Timber: A Faster, More Affordable, and More Sustainable Way to Build Housing. White Paper Publication. 2018.  
[https://www.ccala.org/clientuploads/directory/whitepapers/CCA\\_\\_Mass\\_Timber\\_White\\_Paper\\_final.pdf](https://www.ccala.org/clientuploads/directory/whitepapers/CCA__Mass_Timber_White_Paper_final.pdf)

## 4.1.2 Limitations of Mass Timber

There are some challenges associated with using mass timber as a core building material, primarily because of limitations from municipal building and safety codes. While building commissions and committees in Europe and Canada have embraced the use of mass timber in construction, the US has been slower to adopt this construction type. In 2013, there were 11 countries that allowed mass timber buildings to reach 20 stories, while the policy in the U.S. allowed for its use only for significantly smaller buildings (Figure 12).

Figure 9. Maximum story height for timber buildings in 2013 and 2021 (in green)



Source: Arup

In 2021, California, Oregon, Washington, Utah, Denver, and Virginia adopted mass timber provisions to align with the International Building Code and allow for mass timber construction up to 18 stories or 270 feet. This will aid the cost-competitiveness of mass timber against steel or concrete construction; typically, a building needs to transition to Type 1 steel construction after about eight stories, however steel construction is very expensive and usually does not pencil for a project unless the project achieves 18+ stories. Therefore, mass timber can fill the gap of providing buildings at heights that are too high for Type V construction but not high enough to necessitate steel construction. Oregon was the first state in the country to allow mass timber building to rise higher than six stories without special consideration. Also, Oregon has become the first state to approve the use of science-based building code requirements for tall mass timber buildings under their statewide alternate method (SAM) which, allows for early technical consideration and approval on a statewide basis.<sup>49</sup>

In addition to code acceptance, supply chain availability is instrumental to the adoption of mass timber. Supply chain and schedule risks that stem from increased demand or lower supply can interfere with construction schedules and budgets. Two additional constraints are the lack of labor expertise and manufacturing capacity; however, an increase in demand for mass timber will lead to more job creation in the timber and manufacturing industries.

<sup>49</sup> Jonathan Hilburg. Oregon becomes first state to legalize mass timber high rises. Website. 14 August 2018. <https://www.archpaper.com/2018/08/oregon-legalize-mass-timber-high-rises/>

**Table 6. SWOT Analysis of Mass Timber**

Strength	Weaknesses
<ul style="list-style-type: none"> <li>• Lower carbon footprint &amp; more renewable source</li> <li>• Light weight construction for multi-story dwellings</li> <li>• Improved performance (thermal, hygrometric, acoustic, fire protection, seismic)</li> <li>• Secondary cost savings (time savings, energy efficiency)</li> <li>• Requires fewer on-site construction workers</li> <li>• Prefabricated beams can allow for a quick and safer assembly <sup>50</sup></li> </ul>	<ul style="list-style-type: none"> <li>• General regulations (non-CLT specific regulations) can create ambiguous standards for construction</li> <li>• Regional diffusion</li> <li>• Perceptions about fire safety issues</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Reuse and circular economy of parts</li> <li>• Expedited processes are becoming available</li> <li>• Expansion of CLT and adjacent industries is promoting job creation and knowledge sharing</li> <li>• Potential to provide housing at higher stories without requiring the cost of steel construction</li> <li>• Potential to decrease constructions costs with an increase in demand</li> </ul>	<ul style="list-style-type: none"> <li>• Not as many pre-approved layouts, standards, and codes for dealing with CLT</li> <li>• Oversizing of additional insulation layers (to compensate for performance gaps in models)</li> <li>• Material competitiveness with other building materials</li> <li>• Misinformed or uninformed installers/builders during construction process</li> <li>• Smaller supply chain</li> <li>• Lack of local precedence for CLT for multi-family residential</li> </ul>

### 4.1.3 Case Studies

To date, the U.S. has typically seen mass timber construction used for commercial and institutional buildings. The adoption of mass timber for multi-family residential projects has been slower, partly due to perceived fire life safety issues and a higher cost of construction than traditional building materials (excluding steel). The two case studies below showcase multi-family residential buildings that delivered luxury units to residents while providing energy efficiency.

#### Portland, Oregon

Up until 2020, Carbon 12 was the largest mass timber residential project in the U.S. rising 85 feet. The eight-story structure has 42,000 square feet of luxury condos, over ground floor retail and underground parking. The project provides significant energy efficiency from the wood construction, specifically because it took less energy to produce, transport and assemble than other materials; the project was also more resilient to withstand an earthquake or other natural disaster due to its buckling-restrained brace frame core. The mass timber allowed the project to achieve sustainable outcomes, while creating aesthetically appealing units that showcase the wood beams (Source: Carbon12).

**Photograph 3: Carbon 12 Condo Interior**



Source: Carbon 12

#### Milwaukee, Wisconsin

The current tallest mass timber project in the world is the Ascent in Milwaukee that rises 25 stories (over 284 ft) featuring 259 apartments over five levels of concrete parking garage. The project is currently leasing up units that are opening Summer 2022. The building is comprised of glue-laminated timber (glulam) beams and columns support cross-laminated timber floors with two concrete cores to provide lateral stability. The building meets or exceeds the fire rating code requirements and exceeds Milwaukee’s energy conservation code requirements (Source: Thornton Tomasetti). The mass timber construction of the building delivered additional benefits to the construction process, including having 90% less construction traffic that significantly reduced emissions, 75% fewer on-site workers, and a 25% faster construction timeline (Source: Ascent MKE).

**Photograph 4: Ascent in Construction**

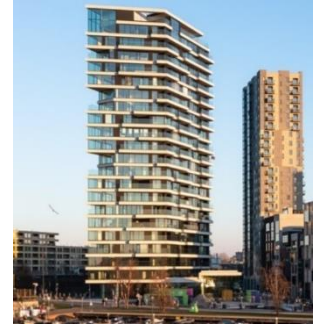


Source: Thornton Tomasetti

## Amsterdam

In Amsterdam, the HAUT residential building is a mass timber structures that rises 240 feet (21 stories) tall and is one of the tallest timber-hybrid buildings in the world HAUT was just completed in 2022 and provides 55 apartments. The project used over 2,000 cubic meters of timber, resulting in a 50% carbon reduction as compared to a conventional building of the same size. In conjunction with concrete and steel, HAUT made use of a custom-designed precast timber-concrete hybrid floor plate to provide additional stability, increase fire safety, and improve acoustical performance. In 2018, the project was awarded an International BREEAM Award, which recognizes sustainable building designs.<sup>51</sup>

Photograph 5. HAUT Residential Building



Source: Arup

Photograph 6. CLT building by Dalston Works



Source: Arup

## London

In 2017, Dalston Works was completed and was one of the largest CLT building in the world. The 10-story residential building has 121- units and is built almost entirely of CLT, including the floors, walls, stairs, and shafts, to reduce the carbon footprint of the building in both material production and onsite energy consumption. The whole building is encased in brick to reduce fire risk and to meet the requirements for a residential building.<sup>52</sup> Adopting lightweight CLT construction rather than the heavier concrete alternative allowed the developer to add 15 extra apartments over three additional stories, with an additional load capacity for 20 extra apartments to be added in

future.<sup>53</sup>

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<sup>50</sup> Antonino Di Bella and Milica Mitrovic. Acoustic Characteristics of Cross-Laminated Timber Systems. Publication. 2020. [https://www.researchgate.net/publication/342942130\\_Acoustic\\_Characteristics\\_of\\_Cross-Laminated\\_Timber\\_Systems](https://www.researchgate.net/publication/342942130_Acoustic_Characteristics_of_Cross-Laminated_Timber_Systems)

<sup>51</sup> Designing and engineering the Netherlands' tallest timber-hybrid residential building. Arup Publication. 2022. <https://www.arup.com/projects/haut>

<sup>52</sup> Rethinking Timber Buildings. Arup Publication. March 2019. <https://www.arup.com/perspectives/publications/research/section/rethinking-timber-buildings>

<sup>53</sup> Rafael Pico. 9 Mass Timber Projects Inspiring Change in the Industry. Website. 14 July 2021. <https://gbdmagazine.com/mass-timber-projects/>

## 4.2 Modular Construction

Modular construction is a construction process in which a structure (building, dwelling, etc.) is constructed off-site, typically in a controlled factory or plant setting, and then transported to and assembled on-site. Modular construction utilizes the same materials (modules can be built out of steel or wood) and adheres to the same codes and standards, but by designing the modules in a controlled setting condenses the time of construction.

One subset of modular construction is the use of shipping containers, and the conversion of recycled shipping containers has been a trend for some housing developments, specifically affordable and homeless housing. Shipping container homes are durable, transportable, and quick to convert. Conversely, it can be difficult to obtain the required permits and also can be difficult to customize the layout or design of the container.

### 4.2.1 Benefits of Modular Construction

Because modules are constructed in a controlled setting, most weather delays are mitigated, translating to a faster construction process, and potentially a more cost-efficient process. They also increase safety because more of the construction is completed in a factory and not on the job site. Modular construction also enables the site development and module construction to occur simultaneously, saving additional time and costs. Some modular manufacturers report that this type of construction can have a cost savings of 20% and time savings of 40-50%.<sup>54</sup>

There are additional sustainability benefits and community benefits from modular construction; there is less material waste associated modular units and a significant portion of construction is completed off-site, so less pollutants and byproducts (such as sawdust) are produced that compromise the surrounding air quality. There are additional benefits for the community with less construction impacts, including noise, parking, and traffic, due to a significant portion of construction happening in the factory.<sup>55</sup>

### 4.2.2 Limitations of Modular Construction

There are some challenges associated with modular construction. For example, finding an appropriate site location can be a big deterrent depending on the permitting processes, site constraints and zoning codes of the municipality. For instance, height limits may preclude modular construction, since a modular building will be taller than a traditional building of the same number of stories; each module contains both a floor and a ceiling, so when units are stacked on top of one another, there is additional space between the top and bottom unit more so than in a traditional stick-built building. Also, both the state and the local jurisdiction needs to inspect the project, which can add additional time to the process; HCD inspects the modules at the factory and then the local jurisdiction inspects the modules and project on-site. However, sometimes the local jurisdictions also want to inspect the modules at the factory. Additionally, obtaining financing and loans for modular construction can be a hurdle, especially since it is a newer alternative to traditional construction. Some banks may be hesitant to approve a loan for modular construction until the completion of the building, however many builders require full

**Photograph 7. Modular unit being hoisted onto the building**



Source: Arup

<sup>54</sup> “Modular Construction for Multifamily Affordable Housing.” Arup. February 2018. [https://www.nibs.org/files/pdfs/NIBS\\_OSCC\\_EPAm modular-construction\\_2015.pdf](https://www.nibs.org/files/pdfs/NIBS_OSCC_EPAm modular-construction_2015.pdf)

<sup>55</sup> “Arup & Volumetric Modular Construction [PowerPoint Slides]” Arup. April 13, 2021.

payment before they begin to manufacture and produce the modules. The resale value of modular construction is lower than traditional construction methods, as the perception is modular is of lower quality.<sup>56</sup>

Transportation of modules from factory to site can be another barrier, especially if the factory where the modules are being manufactured is a considerable distance from the site. Likewise, because modules must be transported, there are limits on the size of individual modules to fit on the trucks. When modules are arriving at the construction site, some streets need to be closed in order to get the modules to the site and in order to store the units until they are hoisted onto the project. The units typically need a few days to acclimate in the new location, and the project needs to accumulate many modules on site as the construction of units moves very quickly.<sup>57</sup>

**Table 7. SWOT Analysis of Modular Construction**

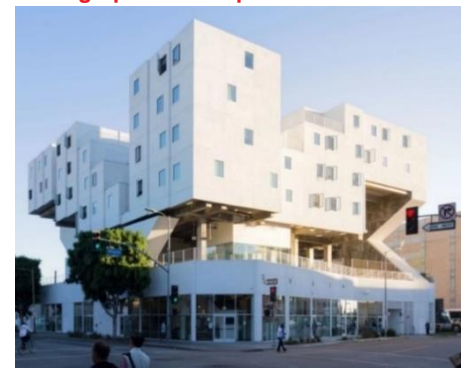
Strength	Weaknesses
<ul style="list-style-type: none"> <li>• Lower emissions (due to quality control) and waste</li> <li>• Controlled spend and forecasting of production costs</li> <li>• Accelerated construction timeline</li> <li>• Potentially lower costs</li> <li>• Potentially better acoustic and thermal performance</li> <li>• Less community disruption during construction</li> <li>• Safer job site</li> </ul>	<ul style="list-style-type: none"> <li>• Size restraints due to transportation of units</li> <li>• Availability of suitable land for modular construction</li> <li>• Restricted customization and flexibility of units (Shipping containers)</li> <li>• Requires inspections by both the state and local jurisdiction</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Pre-approved layouts and designs</li> <li>• Once codes and procedures are standardized and approved, ability to project demand and costs and speed up time to deploy units</li> <li>• Ability to respond to market changes</li> <li>• Closed loop with decommissioned shipping containers</li> <li>• Increase of supporting industries/labor</li> </ul>	<ul style="list-style-type: none"> <li>• Utility connections</li> <li>• Restrictive municipal/building codes</li> <li>• Financing (loan processes, payment structures, subsidies)</li> <li>• Some modular factories go down when they do not have a current project; additional time is required to get labor and the factory back up and running</li> </ul>

### 4.2.3 Case Studies

#### Star Apartments, Los Angeles, CA

In Downtown Los Angeles, Star Apartments is a six-story modular housing development for formerly homeless individuals. The development is 106,000 square feet and provides housing for 100 individuals plus a 15,000 square foot health and wellness center. The prefabricated wood-framed units were built in a factory in Boise and transported to Los Angeles on a flatbed truck and hoisted into place by a crane. Because of the lighter weight prefabricated wood system, the project was able to be built on top of an existing one-story building footprint and allowed for the “gravity-defying” design.<sup>58</sup>

**Photograph 8. Star Apartments**



Source: gb&d Magazine

#### CitizenM Hotel NOMA, Washington, D.C.

The CitizenM Hotel NOMA in Washington D.C is built of modular units. The project broke ground in 2020 and will open to guests in the Summer of 2022. Figure 10 shows that after the foundation is placed, the assemblage of modules onsite moves extremely fast, which accelerates the overall construction timeline and reduces the timeframe of construction disruptions to the surrounding community.<sup>59</sup>

<sup>56</sup> “Modular Construction for Multifamily Affordable Housing.” Arup. February 2018. [https://www.nibs.org/files/pdfs/NIBS\\_OSCC\\_EPAm modular-construction\\_2015.pdf](https://www.nibs.org/files/pdfs/NIBS_OSCC_EPAm modular-construction_2015.pdf)

<sup>57</sup> Ibid.

<sup>58</sup> Think Wood. 5 Affordable Housing Prototypes Making Housing More Accessible <https://gbdmagazine.com/affordable-housing-prototypes/>

<sup>59</sup> “Arup & Volumetric Modular Construction [PowerPoint Slides]” Arup. April 13, 2021.

Figure 14. CitizenM Hotel NOMA (Washington, D.C.) – Modular Construction Timeline





## 4.3 Policy Recommendations for the WSCCOG Subregion

The implementation of mass timber and modular construction in Southern California primarily relies on the real estate sector to adopt and build with these construction types. As discussed above, there are still some supply chain issues and other policies slowing the adoption of these construction types; however, there remains interest from the real estate market. As more projects are built with mass timber and modular units, it will put pressure on the supply chain to increase operations and keep up with the demand, which then will help to reduce the costs and supply chain issues. Therefore, the WSCCOG should work to get up to speed on this industry and grow the knowledge with mass timber and modular, in order to remove local barriers to implementation and be ready to handle an increase in permitting for these types of construction in the jurisdictions. Also, the WSCCOG subregion should work together to understand the changes to the building code and the cost implications of the building code provisions relative to their benefits, in order to work with the State and continue to push the growth in mass timber and modular projects.

To actively allow and encourage the construction of mass timber and modular buildings, the WSCCOG should employ the following techniques:

### 4.3.1 Mass Timber

- **Advocate the State to keep updating the building code and policies** – Keep up with the new innovations and trends with mass timber and keep an eye on other states who are leading the efforts with mass timber, to advocate California to implement similar measures.
- **Education of city staff and identify a mass timber lead** - there are different kinds of considerations for these types of projects, so it will be important for the cities to know how to support these developers, specifically:
  - Fire, Life Safety Considerations – mass timber structures have different requirements around fire, life safety and the city plan checkers should be familiar with how to review and comment on these projects.

### 4.3.2 Modular

- **Ensure height limits are appropriate for modular construction** – Modular units are each constructed with a floor and ceiling; therefore, a 5-story modular project would likely be taller than a 5-story traditional stick build project, so ensure the zoning code has a height limit that allows for modular construction.
- **Advocate the State to keep updating the building code and policies** – Stay abreast with the new innovations and trends with modular construction to advocate California to implement progressive measures to expand the allowance of modular developments.
- **Education of city staff and identify a modular lead** - there are different kinds of considerations for these types of projects, so it will be important for the cities to know how to support these developers and to understand how to facilitate the permitting process for modular projects. Some specific considerations include:
  - Projects typically need some street closures when moving a modular unit to site, so the city should understand the street closures needs and help them to come up with a solution.
  - Modular units need to acclimate for a few days before they can be hoisted onto the project, so working with the developer to identify storage spaces can help.
  - Fire proofing and plumbing plans have been an area of concern for other jurisdictions, so cities should understand the requirements and know how to review these plans.

## 5. Case Study Cities

Sections 2 through 4 have provided many strategies for addressing the housing shortage and housing affordability crisis in Southern California. In order to have a comprehensive housing strategy, cities need to implement and layer many housing policies and programs to meet the housing need. Vancouver and Denver are two cities that have implemented many housing initiatives that have been discussed in this memo to address the housing crisis from all angles: increasing the total housing units, increasing affordable units, increasing funding for affordable housing, reducing rental/ownership costs, and accelerating construction timelines with modular projects. The case study cities show that a successful housing growth strategy requires a multi-faceted approach and the stacking of many policies in order to have a significant impact on the housing pipeline.

### 5.1 Vancouver, BC

Vancouver has a population of just over 630,000 people and the Metropolitan Vancouver area has a population over 2,460,000 people, which makes it the third largest metropolitan region in Canada.<sup>60</sup> Like many cities, Vancouver is struggling to keep up with the demand for housing and to provide housing at all affordability levels. The City has been aggressive in implementing initiatives and programs aimed at increasing the housing supply, with a focus on accelerating the production of affordable housing units.

The City of Vancouver created the Rental 100 program in 2012 to offer developers incentives to build 3,350 new rental units by 2021 and to meet the City's affordable housing targets for market rental housing. These incentives include waived Development Cost Levies, reductions in parking requirements, unit size reductions, speedier permitting processes, and additional density in certain cases.<sup>61</sup> As discussed in Task 1.3, the restrictions and requirements in the development process often create barriers and costly delays for housing development, so the city also wanted to tackle those barriers as part of a successful housing growth strategy. This program resulted in the approval of 3,245 units, reduced processing times from an average of five years to three years (which is still a significant processing time), and new guidelines for developer fee waivers, construction cost limits, and family room requirements. The program demonstrated that removing the barriers from development standards can accelerate housing production.<sup>62</sup>

In 2017, Vancouver implemented the Empty Homes Tax on properties within the city limits that have been unoccupied for more than six months during the tax year (Jan 1 – Dec 31). The revenue from the tax funds affordable housing initiatives. The program is meant to encourage the use and occupancy of the existing housing stock and to encourage owners to live in their units, sell the units, or to rent out their units. The tax applies to “Class 1, Residential”, which includes single-family residences, multi-family residences, duplexes, apartments, condominiums, nursing homes, seasonal dwellings, and manufactured homes. The tax is based off the property's assessed taxable value and for the 2021 tax year, the Empty Homes Tax rate was 3%, which is an increase over the 2020 rate (1.25%) and the 2017-2019 rate (1%).<sup>63</sup>

The Vancouver region municipalities have found that long-term leasing of municipal land has been effective at facilitating non-market housing and supportive housing. While some municipalities may want to donate land to nonprofits for development of non-market housing, long term leasing enables municipalities to contribute to affordable housing stock while retaining the public interest in the land asset. For any affordable housing development, land cost is one of the largest capital costs. The City of Surrey provided the site for Timber Grove

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<sup>60</sup> Canada Population. Vancouver Population 2021/202. January 16, 2022. <https://canadapopulation.org/vancouver-population/>

<sup>61</sup> Metro Vancouver Regional Housing. What Works: Affordable Housing Initiatives in Metro Vancouver Municipalities. November 2012. [http://www.metrovancouver.org/services/housing/HousingPublications/1267\\_WhatWorks\\_LR.pdf](http://www.metrovancouver.org/services/housing/HousingPublications/1267_WhatWorks_LR.pdf)

<sup>62</sup> City of Vancouver. Rental Incentive Program Review. July 2019. <https://vancouver.ca/files/cov/rental-incentive-program-review-cityspaces-report-july.pdf>

<sup>63</sup> City of Vancouver. Empty Homes Tax FAQ. 2022. <https://vancouver.ca/home-property-development/empty-homes-tax-frequently-asked-questions.aspx#about>

Apartments, supportive housing for homeless and people with mental illness, on a long-term 60-year lease at a nominal rate of \$10 per year (land valued at \$2.3 million).<sup>3</sup>

To facilitate a new modular housing project, the City of Vancouver provided undeveloped, City-owned land to VAHA at 220 Terminal Avenue. Funding to support this development came from the Government of Canada, Vancity, and a private donation. Horizon North was selected from a shortlist of manufacturers to construct the temporary modular housing project. Through the use of innovative design ideas and products, the building can be relocated and reconfigured to fit a number of different sites; even the foundation system is reusable. The unique design allows the temporary modular homes to be relocated to future sites.<sup>64</sup>

Vancouver has taken a comprehensive approach to addressing the shortage of housing, with a priority focus on expanding the number of affordable units.

## 5.2 Denver, Colorado

While Denver is facing a significant shortage of housing like other major metropolitan areas, the City has also had a boom in housing production across different housing types and initiated innovate housing strategies to improve affordability. Denver has a population of about 730,000 people and the metropolitan region has over 2,900,000 residents.<sup>65</sup>

In 2015, Denver launched a \$10 million affordable housing revolving loan fund to help build more affordable apartments and other multifamily housing. A revolving loan fund is a replenishing source of capital or funding from which loans are made. The revolving loan fund is seeded with \$6 million from the City and County of Denver, \$3 million from the Colorado Department of Local Affairs Division of Housing and \$1 million from the Colorado Housing Finance Authority. Loan repayments will revolve back into the fund, growing it over time.<sup>66</sup>

Denver has embraced modular construction, which has helped to add units to the pipeline in a faster and more cost-efficient way. A four-story modular project at 1775 Federal Blvd helped to reduce the costs of a 43-unit workforce multi-family project; the one-bedroom units were 660 sq. ft. for \$1,496 (\$2.27 per sq. ft.) and two bedrooms for \$2,096, or (\$2.12 per sq. ft.).<sup>67</sup> The developer of the project, who is an experienced modular developer, estimated that the modular route saved about 20% in construction costs, which helped to keep the rental costs of the units down. When the units arrived on site, they already had the kitchen and bath appliances and fixtures in place. In addition, there are time savings, as the traditional construction route would have taken 12 to 14 months, but the modular route took six-to-eight-months. The modular manufacturer

**Photograph 9. Inside of the Modular Unit Arriving On-Site at 1775 Federal Blvd**



Source: Bisnow

<sup>64</sup> Vancouver Affordable Housing Agency. 220 Terminal Avenue, Vancouver's First Temporary Modular Housing. Vancouver Affordable Housing Agency. <https://vaha.ca/this-is-a-vaha-post-with-an-image-and-a-long-title-its-also-an-external-post/>

<sup>65</sup> Murray, Jon. "Denver's population growth leads Colorado as urban areas outpace rural." Denver Post. March 25, 2020. <https://www.denverpost.com/2020/03/25/denver-colorado-2019-census-population-growth-estimates/>

<sup>66</sup> Armbrister, Molly. "Denver launches \$10 million affordable housing fund." Denver Business Journals. Feb 2, 2015. [https://www.bizjournals.com/denver/blog/real\\_deals/2015/02/denver-launches-10-million-affordable-housing-fund.html](https://www.bizjournals.com/denver/blog/real_deals/2015/02/denver-launches-10-million-affordable-housing-fund.html)

<sup>67</sup> Jackson, Margaret. "Modular Workforce Housing Project Rises Across from Mile High Stadium". July 1, 2019. <https://www.bisnow.com/denver/news/multifamily/modular-the-building-blocks-of-workforce-housing-99698>

completed all 43 units in four and a half weeks, built inside in a factory so the schedule was not affected by any weather delays and employees worked in a safer environment.<sup>68</sup>

Modular has also been popular with for-sale units; there is a 24-unit modular project with the units constructed in a factory in Texas and transported to Denver, and then placed on top of a ground floor retail space. The project is built in a popular neighborhood, but the developer sold the units for \$400,000, which is below the average home sale price in Denver in 2017 of \$480,140. Another modular development includes three duplexes built from modular sections that will be priced in the low \$400,000 range, showing how modular projects can bring price effective home ownership opportunities.<sup>69</sup>

Also, Denver has reviewed its permitting and land use policies in order to make sure they are efficient. The City is known for being fast on issuing permits. Projects that cannot receive “Walk-Through review” and need the full permit review with Denver’s Building Department usually take between 2-4 weeks, and large-scale residential projects may take up to 2-3 months for review.<sup>70</sup> Denver works hard to turn around the permits within that timeframe as to not be a barrier to the construction of new housing.

Unique to Denver is the Lower Income Voucher Equity (LIVE) program, which is a two-year pilot program, in which private employers, foundations, and the City of Denver subsidizes rents of vacant for-profit housing to create affordable housing options for participating employees. The goal of the program is to fill vacant apartments and help working people who earn too much to qualify for federal housing vouchers, but do not earn enough to afford market-rate rents. As the first of its kind, the program faced many challenges getting started including a lack key roles: strong political champion, housing experts on city staff, and participating employers. While many apartment owners were eager to participate, only one employer and three households participated. Other challenges included ensuring compliance with fair housing laws and logistics of who pays security deposits.<sup>71</sup> While the initial pilot program may not have been a success, it highlights an innovative approach that Denver took to fill existing vacant units that may be at the high end of affordability and connect them to residents needing housing.

While there has been no single solution to building more affordable housing in Denver, the City has shown leadership in identifying many strategies and solutions to address this urgent issue.

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<sup>68</sup> Bryson, Donna. “It’s a home! On a crane! A modular construction project draws a crowd in West Colfax”. Denverite. June 25, 2019.

<https://denverite.com/2019/06/25/its-a-home-on-a-crane-a-modular-construction-project-draws-a-crowd-in-west-colfax/>

<sup>69</sup> Rubino, Joe. “Developers embracing modular construction to combat housing affordability in Denver metro”. The Denver Post. April 21, 2018.

<https://www.denverpost.com/2018/04/21/denver-modular-construction-housing/>

<sup>70</sup> Get Permits Fast | Denver Building Permits. Service First Permits. <https://servicefirstpermits.com/denver-building-permits/>

<sup>71</sup> Quinton, Sophie. “This ‘Innovative’ Housing Program Serves Just 3 Households.” Pew Trusts. April 17, 2019. <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2019/04/17/this-innovative-housing-program-serves-just-3-households>

## 6. Feasibility Scorecard

The Feasibility Scorecard assesses the policy actions and recommendations for suitability for each individual WSCCOG member jurisdiction. There are a few recommendations that the WSCCOG subregion should tackle together. A yellow circle in the city's column indicates that the city should implement the policy/recommendation and a half circle indicates that the city partially has a similar policy in place, while a blank cell indicates a city has already implemented that policy and/or has a similar policy in place. The policy actions and recommendations are also categorized by their impact to development, including the following categories:

- Increase Affordable Housing Units
- Increase Affordable Housing Funding
- Increase Total Units
- Reduce Rental Rates
- Accelerate Housing Development