STRATEGICECONOMICS

SAN JOSÉ OPPORTUNITY HOUSING

FEASIBILITY OF MISSING MIDDLE HOUSING IN RESIDENTIAL AREAS

Prepared for:

The City of San José
October 4, 2021

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I. INTRODUCTION

The City of San José is exploring the potential of allowing 2-4 unit housing development projects (Opportunity Housing) on parcels within one-half mile of transit-oriented Urban Villages. These locations have been identified in the Envision San José General Plan. Opportunity Housing areas are envisioned as walkable, bikeable, and transit-rich neighborhoods that could eventually include a mix of a single-family home, duplex, triplex, or fourplex units on parcels, while generally maintaining zoning setbacks and heights. Opportunity Housing could potentially take a variety of forms, including newly built stacked apartments, condos, duplexes, townhomes, and small lot single family homes. To help assess the viability of Opportunity Housing, the City of San José Planning Department retained Strategic Economics and Opticos Design (the Consultant Team) to evaluate the financial feasibility of new development projects.

This report, prepared by Strategic Economics, presents the analyses conducted to test the financial feasibility of various housing types that could be included in the Opportunity Housing policy. Opticos Design prepared a second companion report completed in September 2021, which evaluates with a site design lens the extent to which certain Missing Middle housing types, such as stacked fourplexes, could be built in residential neighborhoods. Opticos Design's report can be found in Appendix C, on Page 56. Strategic Economics used Opticos Design's analysis to develop more detailed financial feasibility prototypes presented in this report. The feasibility prototypes are distinct from housing types because they incorporate assumptions about tenure (ownership versus rental) and market values (sales prices or rents) necessary to test financial performance.

Opticos Design's report addresses the following:

- Locations where Opportunity Housing would likely be eligible in San José, if the City implements a policy that allows Opportunity Housing in areas adjacent to Urban Villages.
- The existing urban form, regulatory context, and street network connectivity for those areas as well as for the City.
- Lots that could accommodate a stacked fourplex, the initial housing type that Opticos Design evaluated, which informed the first two prototypes that Strategic Economics tested. [1]
- Lots that could accommodate other Missing Middle housing types, such as duplexes, townhomes, multiplexes, and other types.
- Lot testing. This analysis illustrated the options for building dimensions and parking for the development of the stacked fourplex, duplex addition, attached townhomes, small lot single-family, and stacked eightplex housing types on commonly occurring single-family lots in San José. Certain "test fits" directly informed the feasibility prototypes shown in this report.

[1] The Stacked Fourplex Rental and Stacked Fourplex Condo, described on Page 12.

II. APPROACH

To evaluate financial feasibility of Opportunity Housing across the City, Strategic Economics performed following steps:

Step 1: Sub-areas and Market Tiers

Strategic Economics analyzed and mapped the market for ownership condominiums and rental housing in 12 San José sub-areas, which correspond to the Inclusionary Housing Ordinance Market Areas/Development Fee Framework Areas established by the City of San José. [2] Then, each sub-area was categorized into a market tier. This analysis helped describe the potential for Opportunity Housing by location within the city.

Step 2: Development of Prototypes

Strategic Economics worked with Opticos Design iteratively to develop housing prototypes that represented potential Opportunity Housing types. They ranged from small-lot single-family units to stacked rental apartments or condominiums. The process to refine these prototypes is described in more detail on Page 11.

Step 3: Feasibility Analysis

Strategic Economics evaluated feasibility using a pro forma model. The pro forma model tallied the project values (rental revenues or unit sales), subtracted development costs (construction costs, soft costs, and profit) and calculated the residual value. To be considered financially feasible, the project's residual value would need to be equal or greater than the value of acquiring a typical lot.

The feasibility results reflect a snapshot in time, and they do not account for potential future changes in San José's real estate market. With this in mind, it is important to note that market shifts could change the feasibility outlook for the prototypes evaluated in this analysis.

Strategic Economics also conducted a cash-flow pro forma analysis from the perspective of an existing owner.

The methodology for each step of the feasibility analysis is described in more detail in Section III on Page 17.

Sub-Areas and Market Tiers

Strategic Economics analyzed the housing market for each of the 12 sub- areas , and categorized each sub-area into a "market tier." This step allowed for the study to reflect that different areas of the City have different land values, sales prices, and rents, affecting the likelihood of Opportunity Housing being built. The analysis considered the following data points:

[2] The Inclusionary Housing Ordinance Market Areas can be found at this link: https://csj.maps.arcgis.com/apps/webappviewer/index.html?id=8518bc095ae54f4ea025d7743c650881

- The price of townhomes and condominium units built from 2000 to 2021, and sold from 2019 to 2021, according to Redfin. This characterizes the strength of the townhome and condo ownership market.
- The rental rates for multifamily rental properties built since 1980 (not subject to the Apartment Rent Ordinance), based on Costar data, which shows the strength of the multifamily rental market.
- The price of single-family homes built from 2000 to 2021, and sold from 2019 to 2021, according to Redfin. This characterizes the current value of single-family properties, which provided supplemental data on the dynamics of the home ownership market. While traditional single-family homes were not studied as a prototype, this is a more robust dataset than Redfin's townhome and condo data, and it can serve to clarify home value assumptions in places with limited townhome and condo data.
- The price of single-family homes that are smaller than 1,250 square feet, that were built before 1970, and that sold for less than $1,275,000. This Redfin dataset included home sales between December 2020 to June 2021. This indicated expected acquisition costs for properties that would be priced most competitively to be acquired for Opportunity Housing development.[3]

After reviewing and mapping this data, each sub-area was assigned a market tier based on the strength of the housing prices and rents. Tier 1 represents the highest value market tier, while Tier 3 is the lowest value. When sub-areas lacked data for certain product types, they were categorized based on available housing market data within the sub-area and in neighboring sub-areas.

The classification of each sub-area's market tier is summarized in Figure 1 for rental housing and Figure 2 for condo housing. The maps of the rental and condo market tiers are shown below in figures 3 and 4.

FIGURE 1. MARKET TIERS FOR RENTAL PROTOTYPES

	Sub-areas
Tier 1: High	West Valley, Willow Glen, Central, North
Tier 2: Moderate	Alviso, Cambrian/Pioneer, Almaden, Berryessa, South, Edenvale
Tier 3: Low	Evergreen, Alum Rock

Source: Strategic Economics, 2021.

FIGURE 2. MARKET TIERS FOR CONDO PROTOTYPES

	Sub-areas
Tier 1: High	West Valley, Willow Glen, Cambrian/Pioneer, North
Tier 2: Moderate	Alviso, Almaden, Central, Berryessa
Tier 3: Low	South, Evergreen, Edenvale, Alum Rock

Source: Strategic Economics, 2021.

[3] The timeframe of this dataset is narrower than the other Redfin datasets that were analyzed because of limitations with Redfin's data export process.

FIGURE 3. SAN JOSÉ RENTAL SUBAREAS BY TIER

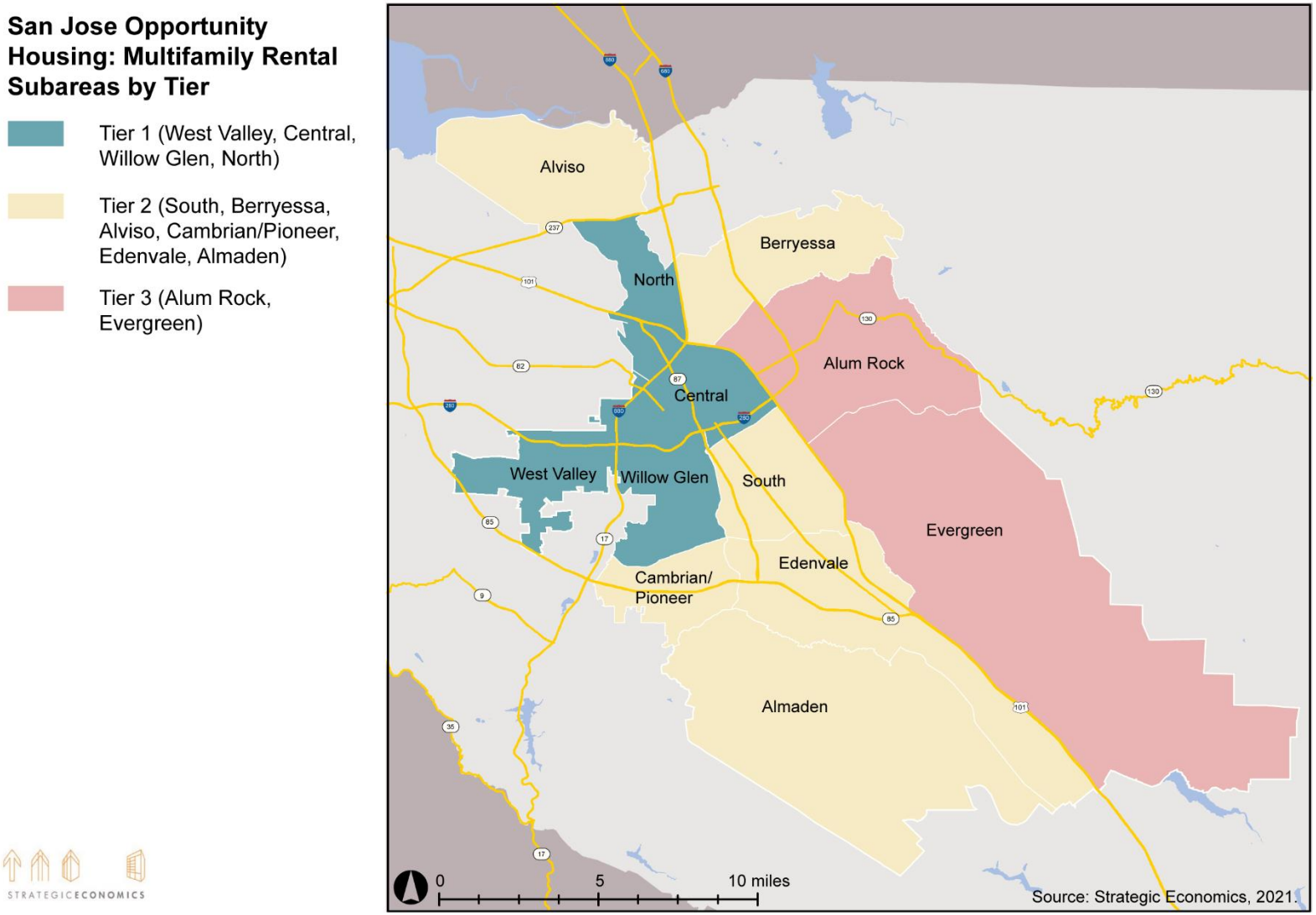

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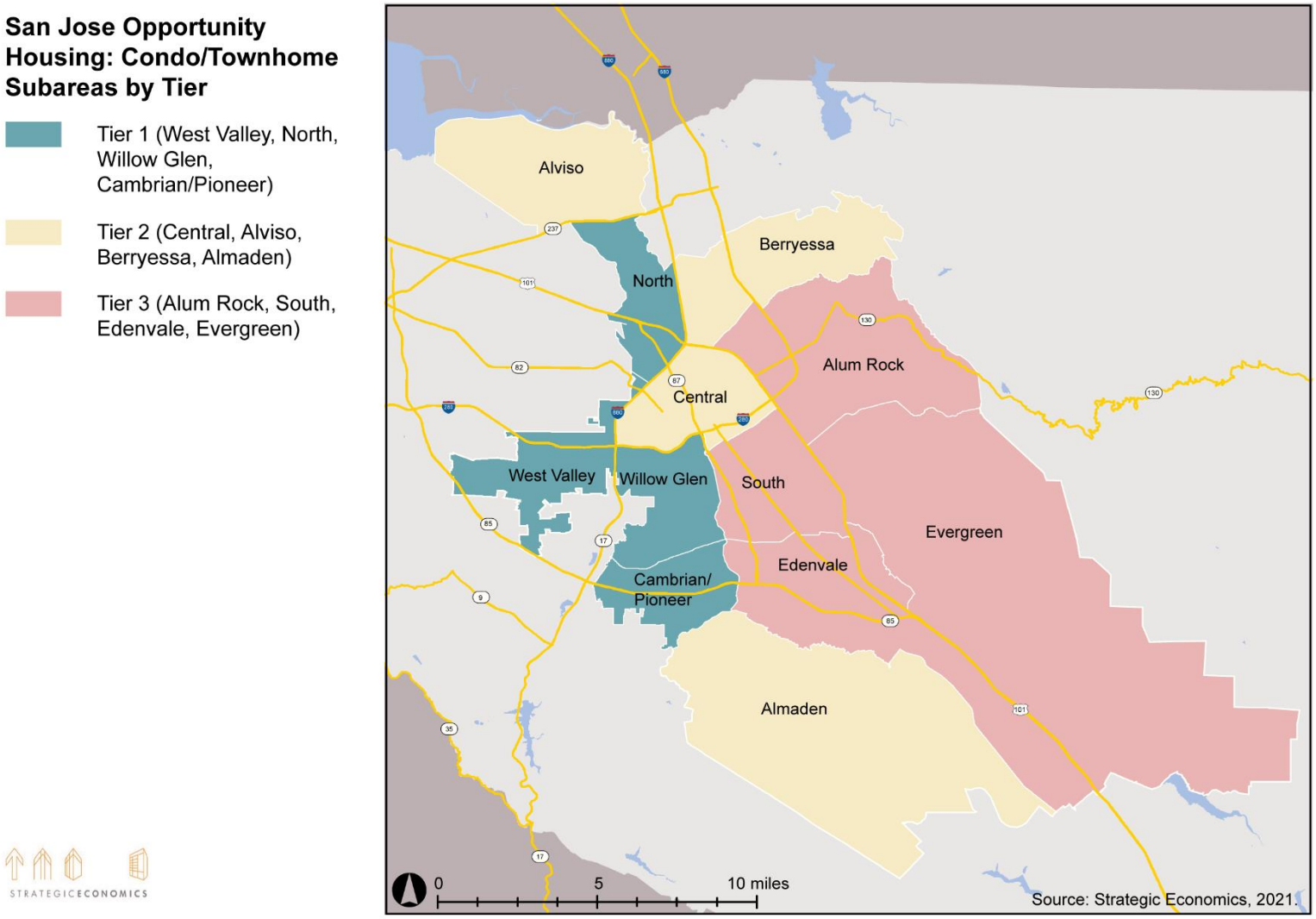
FIGURE 4. SAN JOSÉ CONDO SUBAREAS BY TIER



As shown, some sub-areas have stronger, more established markets for rental housing than for condo housing. For example, Central San José is classified as a Tier 1 rental market because it has attracted significant new luxury rental housing projects. However, recently built condos in Central San José command lower sale values than West San José, placing it in the Tier 2 category for condos.

The tiers are a general characterization of the City's condo and rental markets by sub-area. There might be certain neighborhoods within sub-areas that command higher or lower values than the designated market tier.

Interview Findings

Before conducting the financial feasibility analysis, the Consultant Team interviewed eight individuals with real estate development experience who are active in San José and Silicon Valley. The Consultant Team spoke with the following people during spring of 2021.

- Adam Mayberry, Mayberry Workshop
- Jerry Strangis, Strangis Properties
- Kurt Anderson, Anderson Architects
- Mark Robson, Robson Homes
- Paul Ring, Urban Catalyst
- Reyad Katwan, Hawkstone Development
- Andrew and Ryan Quinley, Twinley Homes

The interviewees had a variety of perspectives and specializations. They range from overseeing large-scale firms to running their own independent operations. The interviewees also had different niches, with some developing larger, townhome-style units in more suburban contexts, while others focused on multiplex buildings with smaller units in central locations.

Because there is limited potential for Opportunity Housing under current land use policies, there are few developers with direct experience building these housing types. Most prototypes tested in this analysis are not currently permitted in San José. The larger-scale developers that were interviewed did not have on-the-ground experience in developing housing on small lots; developers with experience building 2-4 unit projects had only completed a small number of projects in San José.

There are many different approaches that developers and property owners might pursue to add units to existing single-family lots. Property owners may choose to subdivide their existing home into multiple units or subdivide their lot to build infill units. Experienced housing developers are more likely to maximize the density on their lots with townhome-style or multiplex projects to enhance the financial feasibility of projects. Both rental and for-sale projects are possible, depending on the preferences of the developer or property owner. These varied approaches suggest that San José's Opportunity Housing policy should be flexible enough to accommodate the many interests and specializations of those in the development community.

Central San José and West San José, which command higher rents and home values and offer high-quality transit, would be the most attractive locations for the development of Opportunity Housing, from a market perspective. According to interviewees, areas in the Central sub-area, which includes downtown San José, as well as areas in West San José (including West Valley and Willow Glen) have the strongest markets for Opportunity Housing. The Central sub-area in particular, which has a very

strong rental market, would be best-suited for smaller units and developments with reduced parking, especially in areas near high-quality transit.

Allowing three-story buildings and parking reductions may be appropriate in certain contexts to create incentives for Opportunity Housing. Developers believed that three-story buildings could be appropriate in some transition areas between Urban Villages and single-family neighborhoods. Buildings with reduced parking, which generally can provide deeper affordability, could be suitable for areas near high-quality transit.

Pioneering developers may run into construction financing hurdles. Developers seeking to build Opportunity Housing projects may find it difficult to get construction financing approval, especially if the product they are seeking to build does not yet have a proven market in San José. Independent, smaller-scale builders are more likely to consider building these housing types that are less common in San José, such as stacked multiplexes, or buildings with reduced parking. They may find it more cumbersome to obtain financing than larger developers who tend to have access to institutional capital.

Condos are more expensive to build than rentals in San José. Because of the construction liability issues of attached condominium buildings, there are fewer sub-contractors available to bid on condominium projects, which drives up construction bids. Establishing a homeowner's association, and other administrative requirements associated with condominiums can also create more burdens on condominium development compared to rental housing.

The high cost of utility hookups might discourage developers from incorporating more units. According to a developer that specialized in multiplex housing, utility hookup fees can be as high as $100,000 per unit, because individual meters are often required. Allowing multiplexes to share one meter would alleviate this issue. Encouraging developers to provide more units on-site would translate to deeper affordability, generally.

Prototypes

Strategic Economics tested the feasibility of 12 Opportunity Housing prototypes, which were based on extensive lot analysis and test fits provided by Opticos Design. The prototypes include small single-family units (four units on a lot), townhomes, duplexes, and fourplexes. In a supplementary analysis, the Consultant Team also examined the feasibility of sixplex and eightplex units to provide additional context.

The prototypes are organized into three sets, described below in Figure 5. All prototypes incorporate a new construction component, and two (the Side-by-Side Duplex Condo in Rear Yard and the Side-by-Side Duplex Rental in Rear Yard prototypes), incorporate the preservation of an existing home.[4] The lot size, which is consistent across the prototypes, was chosen as a baseline for the analysis because it is a typical-sized lot in many residential neighborhoods in San José, and is sufficiently large to accommodate small multifamily buildings with on-site parking.

[4] It is also possible that a property owner would subdivide their existing home into multiple units. However, this method tends to be less cost-effective than the new-construction methods that were tested. There are also many more factors involved (e.g. age, size, and condition of the existing home) that make it difficult to test the feasibility of this approach in a generalized manner.

FIGURE 5. PROTOTYPES SUMMARY

Lot Size	7,500 Sq. Ft.
Lot Dimensions	60 x 125 Ft.
Set 1: Two-Story Buildings with 2-4 Units	
Stacked Fourplex Rental	
Stacked Fourplex Condo	
Side-by-Side Large Duplex Condo	
Side-by Side Duplex Rental in Rear Yard	
Side-by-Side Duplex Condo in Rear Yard	
Set 2: Three-Story Single-Family/Attached Townhome Projects with Four Units	
Attached Townhomes	
Small Lot Single-Family	
Set 3: Stacked Multiplexes with More than Four Units	
Three-Story Sixplex Rental	
Three-Story Sixplex Condo	
Two-Story Eightplex Rental	
Three-Story Eightplex Rental	
Three-Story Eightplex Condo	

Source: Strategic Economics, 2021.

SET 1: TWO-STORY BUILDINGS WITH 2-4 UNITS

The first set of prototypes (Figure 6) are in line with the initial guidance from City staff regarding building height, on-site parking expectations, and other parameters for the Opportunity Housing program. All Set 1 prototypes provide between two and four units on one residential lot. They are two stories in height, with a minimum parking ratio of one space per unit (a "1:1 ratio"). The prototypes have a floor-area-ratio (FAR) of about 0.60. Set 1 prototypes are incorporate the following housing types:

- Stacked Fourplex: A traditional stacked fourplex (with one common entrance, and two units on each floor), which was tested as both a condo and a rental project.
- Side-by-Side Large Duplex: A side-by-side duplex condo with the same gross building square feet as the stacked fourplex.
- Side-by-Side Duplex in Rear Yard: A new construction side-by-side duplex built in the rear yard of an existing single-family home, resulting in three total units on one lot. This was tested as both a condo and a rental project.

FIGURE 6. SET 1 PROTOTYPES: TWO-STORY BUILDINGS WITH 2-4 UNITS

	Stacked Fourplex Rental	Stacked Fourplex Condo	Side-by-Side Large Duplex Condo	Side-by-Side Duplex Rental in Rear Yard	Side-by-Side Duplex Condo in Rear Yard
Parcel Size (Sq. Ft.)	7,500	7,500	7,500	7,500	7,500
Gross Building Sq. Ft.	4,800	4,800	4,800	4172 (b)	4172 (b)
Net Building Sq. Ft.	4,320	4,320	4,800	4,172	4172
Building Efficiency (a)	90%	90%	100%	1	100%
Number of Units	4	4	2	2 new construction and 1 existing	2 new construction and 1 existing
Units Per Acre	23	23	12	17	17
Stories	2	2	2	2	2
Unit Type	2-BR	2-BR	4-BR	3-BR	3-BR
Unit Size	1,080	1,080	2,400	1,286 (c)	1,286 (c)
Parking Type	Surface	Surface	Surface	Surface	Surface
Parking Spaces	5	5	5	3	3
Parking Ratio	1.25	1.25	2.5	1	1

Notes:
(a) Net square feet (square feet associated with the livable space in units) divided by gross square feet (which includes common areas and garages).
(b) Includes both the new construction duplex and the existing home.
(c) Refers to the units in the new construction duplex. The existing single-family home has 1,250 square feet and three bedrooms.

Source: Strategic Economics, 2021.

SET 2: THREE-STORY SINGLE-FAMILY/ATTACHED TOWNHOME PROJECTS WITH FOUR UNITS

The second set of prototypes (Figure 7) are townhome-style buildings that include tuck-under garages, and are three stories. These prototypes also maintain a parking ratio of at least "1:1", and they have higher floor-area ratios than Set 1, due to the third story. Both prototypes are for-sale condos, and the unit sizes are the same. They are described below:

- Attached Townhomes: Four attached townhomes on one lot.
- Small Lot Single Family: Four detached "small lot single family" units on one lot.

FIGURE 7. SET 2 PROTOTYPES: THREE-STORY SINGLE-FAMILY/ATTACHED TOWNHOME PROJECTS WITH FOUR UNITS

	Attached Townhomes	Small Lot Single Family
Parcel Size (Sq. Ft.)	7,500	7,500
Gross Building Sq. Ft. (includes garages)	6,840	6,840
Net Building Sq. Ft. (excludes garages)	5,920	5,920
Building Efficiency (a)	87%	87%
Floor Area Ratio	0.91	0.91
Number of Units	4	4
Units Per Acre	23	23
Stories	3	3
Unit Type	3-BR	3-BR
Unit Size	1,480	1,480
Parking Type	Tuck under garage	Tuck under garage
Parking Spaces	6	4
Parking Ratio	1.5	1

Notes:
(a) Net square feet (square feet associated with the livable space in units) divided by gross square feet (which includes common areas and garages).
Source: Strategic Economics, 2021.

SET 3: STACKED MULTIPLEXES WITH MORE THAN FOUR UNITS

Opportunity Housing is currently defined as projects with two to four units. However, it is possible to develop more than four units on a single-family lot, while staying within similar building envelopes as the prototypes in Set 1 and Set 2. Adding more units allows the cost per unit to be reduced significantly, potentially making it more financially feasible.

The third set of prototypes (Figure 8) has parking ratios less than "1:1", because the prototypes fit more units on the lot than in the previous sets. They are all iterations of the Stacked Fourplex in Set 1 shown earlier in Figure 6. The prototypes incorporate the following housing types:

- Three-Story Sixplex: The Sixplex, tested as both a rental and condo, adds a third story to the fourplex, and has two more units that are the same as the fourplex on the third story.
- Two-Story Eightplex: The Two-Story Eightplex, tested as a rental, has the same gross building square footage as the Stacked Fourplex, but with four units on each floor. These units are the smallest tested.
- Three-Story Eightplex, tested as rental and condo, has the same building square footage as the Three-Story Sixplex, but with three units that are smaller on the first two floors.

These prototypes achieve the highest unit densities of the three sets, and their floor-area ratios (FARs) are similar to the townhome-style prototypes.

FIGURE 8. PROTOTYPES: STACKED MULTIPLEXES WITH MORE THAN FOUR UNITS

	Three- Story Sixplex Rental	Three-Story Sixplex Condo	Two-Story Eightplex Rental	Three-Story Eightplex Rental	Three-Story Eightplex Condo
Parcel Size (Sq. Ft.)	7,500	7,500	7,500	7,500	7,500
Gross Building Sq. Ft.	7,200	7,200	4,800	7,200	7,200
Net Building Sq. Ft.	6,480	6,480	4,080	6,120	6,120
Building Efficiency (a)	90%	90%	85%	85%	85%
Floor Area Ratio	0.96	0.96	0.64	0.96	0.96
Number of Units	6	6	8	8	8
Units Per Acre	35	35	46	46	46
Stories	3	3	2	3	3
Unit Type 1	2-BR	2-BR	1-BR	1-BR (6 units)	1-BR (6 units)
Unit Size	1,080	1,080	510	680	680
Unit Type 2	n/a	n/a	n/a	2-BR (2 units)	2-BR (2 units)
Unit Size	n/a	n/a	n/a	1,020	1,020
Parking Type	Surface	Surface	Surface	Surface	Surface
Parking Spaces	5	5	5	5	5
Parking Ratio	0.83	0.83	0.63	0.63	0.63

Notes:
(a) Net square feet (square feet associated with the livable space in units) divided by gross square feet (which includes common areas and garages).
Source: Strategic Economics, 2021.

Potential Impacts of SB 9 and SB 10

In September 2021, Governor Gavin Newsom signed SB 9 and SB 10 into state law, and both go into effect January 2022. Both pieces of legislation, which are described below, could have implications for Missing Middle housing in California cities.

SB 9: BY-RIGHT DUPLEXES AND LOT SPLITS IN SINGLE-FAMILY ZONES

SB 9 allows by-right duplexes and lot splits on most single-family lots. SB 9 will require that cities allow duplexes and lot splits on single-family lots. This in practice legalizes four units on single-family lots, because duplexes would be permissible on lot splits. Typically, this type of proposal might have required zoning changes or conditional use permits, with entitlement process timelines comparable to those for multifamily development. Under SB 9 however, cities will be required to grant ministerial approval (or "by-right" approval) to duplex and lot split applications that meet objective design standards. SB 9 will also limit the amount of off-street parking that cities can require. The legislation establishes that cities can only require up to one off-street parking space per unit, and that cities cannot require off-street parking in locations near high-quality transit.

There are specific criteria that will determine whether lots are eligible for lot splits and duplexes under SB 9. They include the following:

- Only owner occupants[5] and non-profit owners (e.g. community land trusts and neighborhood development corporations) are eligible to initiate lot splits.
- Properties in fire zones are not eligible.
- Historically significant properties are not eligible.
- There are demolition restrictions for properties with affordable housing units and units that have been recently used as rentals..[6]
- Cities can determine whether they want to allow demolition of existing single-family homes that have not been recently rented. [7]

SB 9 will make the development of new market-feasible units possible within San José's residential areas. A Terner Center analysis found that under SB 9, 319,000 parcels would be eligible for lot splits in Santa Clara County, and 40,000 financially feasible units that before SB 9's passage would not have been allowed would now be legal. [8]

Some prototypes evaluated in this report may be considered legal by-right once SB 9 takes effect. Two prototypes involve the construction of a duplex in the rear yard of an existing single-family home (Side-by-Side Duplex Condo in Rear Yard and Side-by-Side Duplex Rental in Rear Yard). These prototypes reflect a scenario that would be possible under SB 9. In this circumstance, a homeowner could split their lot and build a new duplex in the rear of their lot under the legislation. The other prototypes that incorporate four units or less could also be permissible, depending on the objective design standards that the City of San José adopts. Note that for any circumstance that involves a lot split, the property owner would be required to live in one of the units for three years.

SB 10: CITY PROCESS TO UPZONE UP TO 10 UNITS PER PARCEL IS SIMPLIFIED

SB 10 streamlines the residential upzoning process for cities. It allows them to zone lots for up to 10 dwelling units in urban infill locations and transit-rich areas. This legislation does not impose new requirements on cities. Rather, it allows cities to upzone certain parcels up to ten units per parcel without having to undergo requirements associated with the California Environmental Quality Act (CEQA) that previously would have been triggered by such an upzoning. It also allows cities to override land use regulations established through voter initiatives if the regulation requires a more restrictive density than the state law. [9]

SB 10 will likely have a narrower impact on Missing Middle development than SB 9. In the areas where the City chooses to upzone, projects with up to ten units (or with up to the number of units specified by the City) will undergo a more simplified approval process. A developer seeking to build a sixplex, or an eightplex, such as the prototypes in Set 3, may find that there are more well-located areas within the City of San José that are zoned for such projects. The City will have deference in determining if any eligible areas should be upzoned.

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[5] Owner occupants are required to reside in one of the units for three years following the lot split.
[6] The project cannot involve the demolition or alteration of designated affordable or rent-stabilized housing, housing that has been withdrawn from the rental market in the last 15 years, or housing that has been renter-occupied in the last three years.
[7] JDSupra.com, https://www.jdsupra.com/legalnews/sb-9-it-s-not-a-duplex-bill-it-s-a-2431534/
[8] Metcalf, Ben, David Garcia, Ian Carlton, and Kate MacFarlane, "Will Allowing Duplexes and Lot Splits on Parcels Zoned for Single-Family Create New Homes?" *The Terner Center,* 2021.
[9] California Legislative Information, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB10. ; JDSpura.com, https://www.jdsupra.com/legalnews/sb-10-to-facilitate-upzonings-but-does-7275826/

III. FINANCIAL FEASIBILITY ANALYSIS

Financial feasibility was calculated for all 12 prototypes using a static pro forma model that measures the residual land value (RLV) of a development project. This "point in time" model reflects the process a developer would undertake in determining whether to pursue a project, and it assumes that most developers would have to acquire land to build Opportunity Housing.

Residual land value is the net value available for land acquisition after accounting for all revenues and development costs, including profit. If the residual value is higher than the expected acquisition cost of the lot, then the development project is considered feasible for a developer who has to purchase land. However, if the residual value is less than the acquisition cost, then the development is considered infeasible.

This model is effective at evaluating feasibility for traditional developers who have access to substantial capital. It is possible that existing property owners would also develop Opportunity Housing.

There could be instances where investor-owners build Opportunity Housing on their properties. The static pro forma model illustrates the feasibility outlook for investors who also have strong access to capital. With the property already owned, the prototypes would be considered feasible as long as the residual value is positive.

Owner-occupants, who have significantly less access to capital, might also pursue Opportunity Housing development. An owner-occupant who builds Opportunity Housing would be making a major personal financial decision that would require them to navigate complex challenges. Strategic Economics conducted a supplemental cash flow analysis, which was applied to one prototype, from the perspective of an owner-occupant. This analysis may also be more appropriate for understanding the decision-making process of a small-scale investor with less capital.

The development cost and revenue inputs, which generally inform both the static and cash flow pro forma analyses, are described in detail in this section. Instances are noted where assumptions only inform one of the two models.

Land Acquisition Cost

The land acquisition cost varies depending on the lot's location within the City. Strategic Economics analyzed Redfin point sales data for lots with older, smaller single-family homes that would be the most likely targets for a redevelopment project.[10] Because there are so few vacant parcels within the fabric of residential neighborhoods, it was assumed that any developer interested in pursuing an Opportunity Housing project would have to acquire a lot with an existing home. The acquisition data was collected and summarized by sub-area and by quartile. The acquisition price per square foot of land is based on the lower end of the range for home sales (first quartile) in the sub-areas of each market tier. The acquisition cost assumptions are summarized by market tier in Figure 9. As shown, areas with the strongest housing market (Tier 1) have the highest acquisition price. Note that existing

[10] Redfin provides easily available sales data for recent sales for custom geographies. The Redfin data included all sales in San José between 12/7/2020 and 6/7/2021, for homes that were less than 1,250 square feet, that were built before 1970, and sold for less than $1.25 million, which is just under the median home sale price in San José, which is currently $1.3 million. This dataset includes 378 home sales.

property owners do not need to account for property acquisition costs in their decision-making processes.

FIGURE 9. LAND ACQUISITION COST ASSUMPTIONS BY TIER

Tier	Land Cost per Sq. Ft.	Total Land Cost
Tier 1	$170	$1,275,000
Tier 2	$155	$1,162,500
Tier 3	$130	$975,000

Source: Redfin, 2021; Strategic Economics, 2021.

Development Costs

HARD COSTS

Hard costs also sometimes called "direct costs," are costs associated with construction. This includes "horizontal" costs, which include demolition, site preparation, grading, and utility connections, as well as "vertical" costs, which refer to costs associated with the building itself.

The hard cost assumptions are based on input from residential developers with experience in San José [11] and the Bay Area, Strategic Economics' recent work on feasibility analysis for other development projects in Santa Clara County, and recent studies on the cost of development in San José.

The COVID-19 pandemic has greatly impacted global supply chains, significantly increasing the cost of lumber, appliances and fixtures, and other construction materials. Therefore, the vertical building hard costs are based on cost expectations before the pandemic, under the assumption that the price of materials will eventually stabilize.

For the prototypes, the horizonal site development cost was assumed to be **$10 per land square foot**, which includes demolition cost, as well as utility connections and other costs associated with preparing the lot for development. Because of the scarcity of vacant single-family parcels in San José, it is assumed that a developer would be more likely to purchase a lot with an existing home that would be demolished. For the Side-by-Side Duplex Condo in Rear Yard and Side-by-Side Duplex Rental in Rear Yard prototypes, the horizontal site cost is just $6 per land square foot, reflecting that just a portion of the lot is being prepared for construction, and there is no demolition cost.

The vertical construction cost assumptions depend on the complexity of the various product types as well as on housing tenure. Detached products, such as the Small Lot Single-Family prototype, are the most straightforward to build. The side-by-side duplexes are also relatively straightforward. Attached townhomes are more expensive because they are slightly more complex, with more party walls, and possible design constraints. Stacked multiplexes, including fourplexes, sixplexes, and eightplexes, are

[11] The developers that were interviewed included: 1) developers with experience working on townhome and duplex projects, but at larger scales than the single lot; and 2) developer-builders with small-scale operations that have niche expertise based on their projects. There are few examples of recently built Opportunity Housing projects in San José because it is currently not permitted in most areas of the City, and there is a lack of developers interested in projects of this scale.

the most complicated to construct. Among the prototypes tested, they have the most party walls, the most complex building systems, and the greatest chance of design constraints, which all add to costs.

Condos are also more expensive to build than rentals because there are fewer subcontractors for attached or stacked ownership housing, which drives up the bids. Furthermore, condo buildings typically have higher-end finishings than rental apartments.

The per-square-foot assumptions for each prototype are displayed below in Figure 10.

FIGURE 10. VERTICAL COSTS BY PROTOTYPE

Prototype	Hard Costs per Gross Building Sq. Ft.
Small Lot Single Family (a)	$175
Side-by-Side Large Duplex Condo	$175
Side-by-Side Duplex Rental in Rear Yard (b)	$160
Side-by-Side Duplex Condo in Rear Yard (b)	$175
Attached Townhomes (a)	$250
Rental Stacked Flats (fourplex, sixplex, eightplex)	$275
Condo Stacked Flats (fourplex, sixplex, eightplex)	$300

Notes

(a) Includes garage cost.

(b) Renovation cost of $100,000 for existing home is also applied to total vertical cost .

Source: Interviews with developers, 2021; Strategic Economics, 2021.

Lastly, a **contingency cost of five percent of the total vertical cost**, is also applied universally for each prototype, which is a standard assumption.

SOFT COSTS

Soft costs, sometimes referred to as "indirect" costs, are development costs associated with other items besides construction, such as design, overhead, and other costs of doing business, like legal costs, and taxes. There are certain soft costs, primarily those associated with consulting fees for project design, as well as developer overhead, that are expected to be consistent across prototypes, since all the prototypes are at the single-lot scale. It is assumed that these costs would together total **$50,000 per project**. Therefore, this is a smaller share of total development cost for the stacked multiplex prototypes, which cost the most overall to build, and translate to the highest unit densities.

Other soft cost items, include taxes, legal costs, accounting costs, and insurance costs, as well as holding costs. These are assumed to be equivalent to **eight percent of total hard costs**, which is a standard assumption that is commonly used by real estate developers across specializations.

MUNICIPAL FEES

Various municipal fees and taxes would be charged for all the prototypes. These fees help fund City services, as well as the administrative tasks and requirements associated with processing permit applications at the City.

FEES EVALUATED FOR FEASIBILITY IMPACTS

Strategic Economics evaluated the feasibility impacts of two types of municipal fees:

- **Site Development Permit fees**, which would only be charged if Opportunity Housing is not permitted by-right; and,
- The **Parkland In-Lieu Fee**, a park use impact fee, which is in the process of being revised.

This report will assist the City in determining how these fees should apply to Opportunity Housing projects. Further discussion on the feasibility impacts of these fees is found in Section VI on Page 36.

Both the site development and park fees were incorporated into the total development cost used in the pro formas for the prototypes, because the pro forma analyses reflect what would currently be charged on the prototypes if they were developed today.[12]

Other Standard Fees and Taxes

There are other standard fees and taxes that would apply to all the prototypes. These fees are shown below in Figure 11 and include:

- City fees associated with processing project building permits, which include permit issuance, plan review, and inspection fees. Based on the City's fee schedule, the fees are estimated at approximately $9,700 per unit for single-family and duplex projects, or $26,000 per project for projects with three or more units.
- School district impact fees. For areas that fall in the San José Unified School District, the fee amount is $3.48 per net residential square feet.
- The Building and Structure Construction Tax (Municipal Code, Chapter 4.46), which is between approximately $7,000 and $12,000 per project, depending on the building valuation, which is tied to the gross building square feet.
- The Commercial, Residential, Mobile Home Park Construction Tax (Municipal Code, Chapter 4.47), which is between approximately $11,000 and $19,000 per project, which also depends on the building valuation.
- Other city and state construction taxes that charge nominal fees, including the City's Residential Construction Tax (Municipal Code, Chapter 4.64), the Construction Tax (Municipal Code 4.54), and the State's SMIPA and BSARSF taxes.

Note that the City of San José's Inclusionary Housing Ordinance (IHO), which was revised in 2021, only applies to projects with ten or more units. Therefore, the IHO fees were not incorporated into the fee calculation for any of the prototypes, which are all under 10 units. [13]

[12] Note that the feasibility analysis in Section VI uses a different approach. It shows the percentage increase on total development cost that each fee adds for the prototypes, if total development cost hypothetically did not include these fees. This approach was used because the total development cost calculated in the pro forma analyses vary across tiers because the Parkland In-Lieu fee varies by sub-area. The hypothetical total development cost used in this detailed municipal fee analysis standardizes the denominator across the three tiers, which more accurately shows the impact of these fees by tier.

[13] City of San José, 2021. https://www.sanJoséca.gov/your-government/departments/housing/developers/inclusionary-ordinance-housing-impact-fee

FIGURE 11. OVERVIEW OF TYPICAL MUNICIPAL FEES

Fee	Fee Amount	Basis
San José Unified Developer Fee (a)	$3.48	Per Net Sq. Ft.
Building Permit Fees (b)		
Single Family, Duplex	$9,740	Per Unit
3+ Units (per project)	$26,037	Per Project
City Construction Taxes		
Building and Structure Construction Tax	1.54%	Of building valuation (c)
Residential Construction Tax	2.42%	Of building valuation (c)
Construction Tax	$113	Per unit
Residential Construction Tax	$135	Per unit
State Construction Taxes (d)	$65-$113	Per project, depending on gross sq. ft.

Notes

(a) Some areas of San José fall into other school districts that charge their own fees. These districts tend to charge varying fees for elementary, middle, and high schools. The San José Unified fee was used for all scenarios because San José Unified charges just one, universal fee for projects in its jurisdiction, and the district covers most of the areas of the City analyzed in this study.

(b) Includes permit issuance, plan review, and inspection fees. For single family and duplexes, new units between 1,000 and 3,000 gross square feet are charged the same flat fee, per unit. For 3+ unit building types, new projects that are less than 10,000 gross square feet are charged the same flat fee, per project.

(c) For residential uses: $112 per gross square feet.

(d) Includes SMIPA and BSARSF

Sources: City of San José, 2021; Strategic Economics, 2021.

FINANCING COSTS FOR TRADITIONAL DEVELOPERS

The total financing cost for traditional developers includes the cost of interest payments associated with the construction loan, and the construction loan fee. Total financing cost ranges from $30,000 to $90,000 per project depending on the overall development cost of the prototype, and this cost is equivalent to approximately three percent of total development cost (excluding land). The assumptions used to calculate financing costs are below in Figure 12. These financing assumptions are only applicable in the static pro forma model.

FIGURE 12. FINANCING COST ASSUMPTIONS

Financing Costs	
Amount financed (loan-to-cost)	60% of hard and soft costs
Average Outstanding Balance	55% of amount financed
Construction Loan Fee	2% of amount financed
Construction Interest Rate (annual)	4.25%
Term	18 months

Source: Strategic Economics, 2021.

PROFIT EXPECTATION FOR TRADITIONAL DEVELOPERS

Figure 13 below shows the assumptions used to estimate the developer's profit. These profit expectation assumptions are only applicable in the static pro forma model.

For the rental prototypes, the profit expectation is based on the yield on cost (YOC), which is calculated as annual net operating income (NOI) divided by total development cost. For the purposes of this

analysis, the target YOC is between 5.0 and 6.0 percent, which is at least one percentage point higher than the current capitalization rates for multifamily housing in San José.

The minimum developer return for the condo prototypes is based on the Return on Cost (ROC) measure, which is calculated as the net value divided by total development cost. The return on cost target is 18 percent of development costs, excluding land.

FIGURE 13. DEVELOPER PROFIT EXPECTATION

Rental Prototypes	Target Return
Minimum Yield on Cost	5% (NOI/TDC)
Condo Prototypes	
Minimum Return on Cost	18% of development costs, excluding land

Source: Strategic Economics, 2021.

Revenues

A detailed revenue analysis was conducted to identify monthly rent and sale price assumptions for new rental and condo development. Strategic Economics collected multifamily rental data from Costar and townhome/condo sales data from Redfin for recently built product, organized by tier.

RENTS

Rents were estimated based on Costar data for recently built multifamily projects in San José. Because of the short-term impacts of the COVID-19 pandemic on rental rates, the rents used in this analysis are based on pre-pandemic conditions in San José, with the expectation that the market will become more stable over the next several years.

The rent assumptions for each of the units associated with rental prototypes are shown below in Figure 14, organized roughly by set. The table includes the unit size, the rent per square foot, and the overall unit rent for each of the unit types associated with the rental prototypes by tier. As shown in the table, there is an inverse relationship between unit size and rent per square foot, with the smaller units yielding higher rents per square foot than the larger units.

FIGURE 14. EXPECTED RENTS FOR RENTAL PROTOTYPES BY TIER

	Tier 1	Tier 2	Tier 3
Side-by-Side Duplex Rental in Rear Yard (a)			
3-Bedroom			
Unit Size (Sq. Ft.)	1,286	1,286	1,286
Rent per Sq. Ft.	$3.13	$2.95	$2.66
Unit Rent	$4,030	$3,790	$3,420
Fourplex, Sixplex Rentals (b)			
2-Bedroom			
Unit Size (Sq. Ft.)	1,080	1,080	1,080
Rent per Sq. Ft.	$3.33	$3.13	$2.83
Unit Rent	$3,600	$3,380	$3,060
Two-Story Eightplex Rental			
1-Bedroom			
Unit Size (Sq. Ft.)	510	510	510
Rent per Sq. Ft.	$4.25	$3.63	$3.27
Unit Rent	$2,170	$1,850	$1,670
Three-Story Eightplex Rental			
1-Bedroom			
Unit Size (Sq. Ft.)	680	680	680
Rent per Sq. Ft.	$3.96	$3.38	$3.06
Unit Rent	$2,695	$2,300	$2,080
2-Bedroom (c)			
Unit Size (Sq. Ft.)	1,020	1,020	1,020
Rent per Sq. Ft.	$3.35	$3.15	$2.85
Unit Rent	$3,420	$3,210	$2,910

Notes:
(a) Refers to the new construction duplex. The existing single-family home, which is 1,250 square feet, would garner $4,530 in Tier 1, $4,260 in Tier 2, and $3,850 in Tier 3.
(b) Refers to both the Stacked Fourplex Rental, and the Three-Story Sixplex Rental, which have equivalent units.
(c) The two-bedroom units in the Three-Story Eightplex Condo are slightly smaller due to the building's lower efficiency ratio.
Source: Costar, 2021; Strategic Economics, 2021.

The vacancy loss is expected to be **five percent of gross rent revenue**, and the operating expenses are expected to be **30 percent of gross rent revenue**. Both assumptions are standard industry assumptions. The net annual revenue of the prototypes is identified after subtracting vacancy loss and operating expenses.

CONDOS

The expected sales prices for the condo prototypes are shown below in Figure 15. The net revenues include a marketing cost of **four percent of the gross sales price**, which is a standard industry assumption. The table includes the unit size, the price per square foot, and the overall unit price for each of the unit types associated with the condo prototypes. It is organized roughly by set. The stacked condo units have the lowest overall sales prices, since they are the smallest units, and the Side-by-Side Large Duplex Condo units have the highest sales prices. As shown in the table, there is an inverse

relationship between unit size and price per square foot, with the smaller units yielding higher sales prices per square foot than the larger units.

FIGURE 15. EXPECTED SALES PRICES FOR CONDO PROTOTYPES BY TIER

	Tier 1	Tier 2	Tier 3
Side-by-Side Large Duplex Condo			
4-Bedroom			
Unit Size (Sq. Ft.)	2,400	2,400	2,400
Rent per Sq. Ft.	$667	$588	$425
Unit Rent	$1,600,000	$1,410,000	$1,020,000
Side-by-Side Duplex Condo in Rear Yard (a)			
3-Bedroom			
Unit Size (Sq. Ft.)	1,286	1,286	1,286
Rent per Sq. Ft.	747	655	570
Unit Rent	960,000	842,000	733,000
Small Lot Single-Family, Attached Townhomes (b)			
3-Bedroom			
Unit Size (Sq. Ft.)	1480	1480	1480
Rent per Sq. Ft.	$740	$649	$509
Unit Rent	$1,095,200	$960,500	$753,300
Fourplex, Sixplex Condos (c)			
2-Bedroom			
Unit Size (Sq. Ft.)	1080	1080	1080
Rent per Sq. Ft.	$769	$675	$612
Unit Rent	$831,000	$729,000	$661,000
Three-Story Eightplex Condo			
1-Bedroom			
Unit Size (Sq. Ft.)	680	680	680
Rent per Sq. Ft.	$831	$729	$661
Unit Rent	$564,800	$495,700	$449,600
2-Bedroom (d)			
Unit Size (Sq. Ft.)	1020	1020	1020
Rent per Sq. Ft.	$769	$675	$612
Unit Rent	$784,400	$688,500	$624,200

Notes:

(a) The existing single-family home, which is 1,250 square feet, would sell for $1,075,000 in Tier 1, $927,000 in Tier 2, and $807,000 in Tier 3.

(b) The units in Small Lot Single-Family and the Attached Townhomes prototypes are the same size, with the same sale prices.

(c) Refers to both the Stacked Fourplex Condo, and the Three-Story Sixplex Condo, which have equivalent units.

(d) The two-bedroom units in the Three-Story Eightplex Condo are slightly smaller due to the building's lower efficiency ratio.

Source: Redfin, 2021; Strategic Economics, 2021.

Cash-Flow Analysis: Property Owner Perspective

Strategic Economics conducted a supplemental cash flow feasibility analysis for the Side-by-Side Duplex Rental in Rear Yard prototype, to illustrate the likelihood that existing homeowners would develop Opportunity Housing on their property. The development cost assumptions and rent revenue assumptions are consistent with the "point in time" pro forma analysis for this prototype, with some variation based on the expectations that: 1) the property owner already resides in the existing home; 2) they are pursuing a different financing product; and 3) they are evaluating their decision based on the time that they break even.

- In the static pro forma analysis, $100,000 was added to the construction cost to reflect the fact that a developer is purchasing a property with a lower-end home that they would renovate to earn competitive rents for the home. In this analysis, there is no renovation cost for the existing home.
- In the static pro forma analysis, the total revenue is associated with the rental income from the two duplex units and the existing home. In this scenario, the revenue is only from the two duplex units.
- In the static pro forma analysis, the financing costs and profit expectation are incorporated into total development cost. These costs have been removed, because: 1) the financing costs associated with the cash-out refinance mortgage, discussed below, are already accounted for in the cash flow model; and 2) The cash flow model identifies the year the homeowner breaks even, so a separate profit metric is unnecessary. Additionally, it is very unlikely a homeowner would incorporate a profit expectation in their total development cost estimate because doing so would raise their debt amount.

In this scenario, it is assumed that an existing property owner would apply for a **cash-out refinance mortgage,** provided that they have paid off most of their existing mortgage or own their property outright. With cash-out refinance mortgages, property owners can access the equity in their property to pay for construction of the duplex. There are few restrictions on what the loan can be used for, but lenders require that the total mortgage amount may not exceed 80 percent of the property value, less their principal balance. The assumptions regarding the cash-out refinance mortgage are discussed below:

- The mortgage is a conventional, **30-year, fixed rate** loan, which is typical for cash-out refinance mortgages. For the purposes of the cash flow analysis, it is assumed that the owner has paid off the entirety of their mortgage for purchasing the property.
- An **interest rate** of **3.25 percent** was used, which is a conservative estimate, approximately 0.75 percent higher than existing rates as of September 2021. This is a similar approach that was used to identify the interest rate for the construction loan, because it is likely that interest rates, which are currently very low for most real estate loan products, may rise in the near future.
- **Closing costs** are expected to be **four percent** of the loan amount, which reflects the mid-point of the typical range for cash-out refinance mortgages.
- The **existing property value** informs the maximum value of the loan. If the loan amount is less than the total development cost, the property owner would need to pay for the difference up front. Because the development cost is generally the same across tiers, (except for variation in park fees), property owners in Tier 3 would need to provide significant funds up front. There are of course variations in property value across the tiers, but generally these assumptions

indicate that homeowners with higher property values will be better positioned to use this financing tool. The median value of homes in San José in May 2021 was approximately **$1.2 million,** according to Zillow. It is assumed that this would correlate to the estimated value for a property owner in Tier 2. According to Redfin's single-family home data analyzed in this report, the median sale price for Tier 1 is approximately eight percent higher than in Tier 2, while the median sale value for Tier 3 is approximately 17 percent lower than in Tier 2. This relationship informs the following land value assumptions shown below in Figure 16.

FIGURE 16. EXPECTED VALUE FOR EXISTING PROPERTY BY TIERS IN 2021

	Expected Property Value
Tier 1	$1,296,000
Tier 2	$1,200,000
Tier 3	$996,000

Source: Zillow, 2021; Redfin, 2021; Strategic Economics, 2021.

IV. SUMMARY OF RESULTS

The feasibility of Opportunity Housing is determined by the residual land value generated from development. If the residual land value is lower than the expected acquisition cost for a lot in the market tier, the project is infeasible. If the residual land value is greater or equal to the cost of acquisition, the prototype is feasible. However, it is important to note that a project could be feasible but still not generate developer interest if there are other development alternatives that might be more lucrative. For example, a luxury single-family home may still generate a higher residual land value than any of the Opportunity Housing prototypes tested.

Generally, the prototypes that benefit from lower construction costs and high-end sales prices for larger units, such as the duplex condos and townhome-style prototypes are the most feasible to develop.

Existing property owners benefit from not needing to acquire land, which substantially reduces their total development cost. In this circumstance, any prototype where the residual land value is positive would be feasible. A supplemental cash flow analysis, which better illustrates the dynamics associated with typical homeowners, is also included for the Side-by-Side Duplex Rental in Rear Yard.

The detailed pro forma results are included in Appendix A on Page 41, and the detailed results of the cash flow analysis are included in Appendix B, on Page 53.

Results by Prototype

SET 1: TWO-STORY BUILDINGS WITH 2-4 UNITS

The feasibility by tier for prototypes in Set 1 is shown below in Figure 17, with the feasible scenarios shaded in green, and infeasible scenarios shaded in red. Within Set 1, the duplex prototypes tend to be more feasible than the fourplex prototypes. The duplexes are more straightforward to build, and the sale revenues associated with the two duplex condos are strong enough to make the projects feasible. The Side-by-Side Large Duplex Condo is feasible in both Tier 1 and Tier 2 while the Side-by-Side Duplex Condo in Rear Yard is just feasible in Tier 1.

FIGURE 17. SET 1 FEASIBILITY: RESIDUAL LAND VALUE LESS EXPECTED ACQUISITION COST

	Tier 1	Tier 2	Tier 3
Side-by-Side Large Duplex Condo	Feasible	Feasible	Not Feasible
Side-by-Side Duplex Condo in Rear Yard	Feasible	Not Feasible	Not Feasible
Side-by-Side Duplex Rental in Rear Yard	Not Feasible	Not Feasible	Not Feasible
Stacked Fourplex Rental	Not Feasible	Not Feasible	Not Feasible
Stacked Fourplex Condo	Not Feasible	Not Feasible	Not Feasible

Source: Strategic Economics, 2021.

The Side-by-Side Duplex Rental in Rear Yard is not feasible in this analysis. However, the supplemental cash flow analysis evaluated this prototype from a homeowner's perspective. These results are on Page 30.

SET 2: THREE STORY SINGLE-FAMILY/ATTACHED TOWNHOME PROJECTS WITH FOUR UNITS

For both townhome-style prototypes, developers benefit from lower construction costs, and high-end sales prices. As shown in Figure 18, The Small Lot Single-Family prototype is more feasible than the Attached Townhomes prototype because the construction process for detached units is more straightforward, which translates to lower construction costs. Still, both prototypes are expected to be feasible in Tier 1, and the Small Lot Single-Family prototype is also expected to be feasible in Tier 2.

FIGURE 18. SET 2 FEASIBILITY: RESIDUAL LAND VALUE LESS EXPECTED ACQUISITION COST

	Tier 1	Tier 2	Tier 3
Small Lot Single Family	Feasible	Feasible	Not Feasible
Attached Townhomes	Feasible	Not Feasible	Not Feasible

Source: Strategic Economics, 2021.

SET 3: STACKED MULTIPLEXES WITH MORE THAN FOUR UNITS

Within Set 3, the two condo prototypes, as well as the Three-Story Eightplex Rental are feasible, but only in Tier 1. (Figure 19). These prototypes generally have the highest construction costs. The condos perform better because the expected sale revenues generate higher profits than the rent revenues, which incorporate operating and vacancy costs.

FIGURE 19. SET 3 FEASIBILITY: RESIDUAL LAND VALUE LESS EXPECTED ACQUISITION COST

	Tier 1	Tier 2	Tier 3
Three-Story Sixplex Condo	Feasible	Not Feasible	Not Feasible
Three Story Eightplex Condo	Feasible	Not Feasible	Not Feasible
Three Story Eightplex Rental	Feasible	Not Feasible	Not Feasible
Three-Story Sixplex Rental	Not Feasible	Not Feasible	Not Feasible
Two Story Eightplex Rental	Not Feasible	Not Feasible	Not Feasible

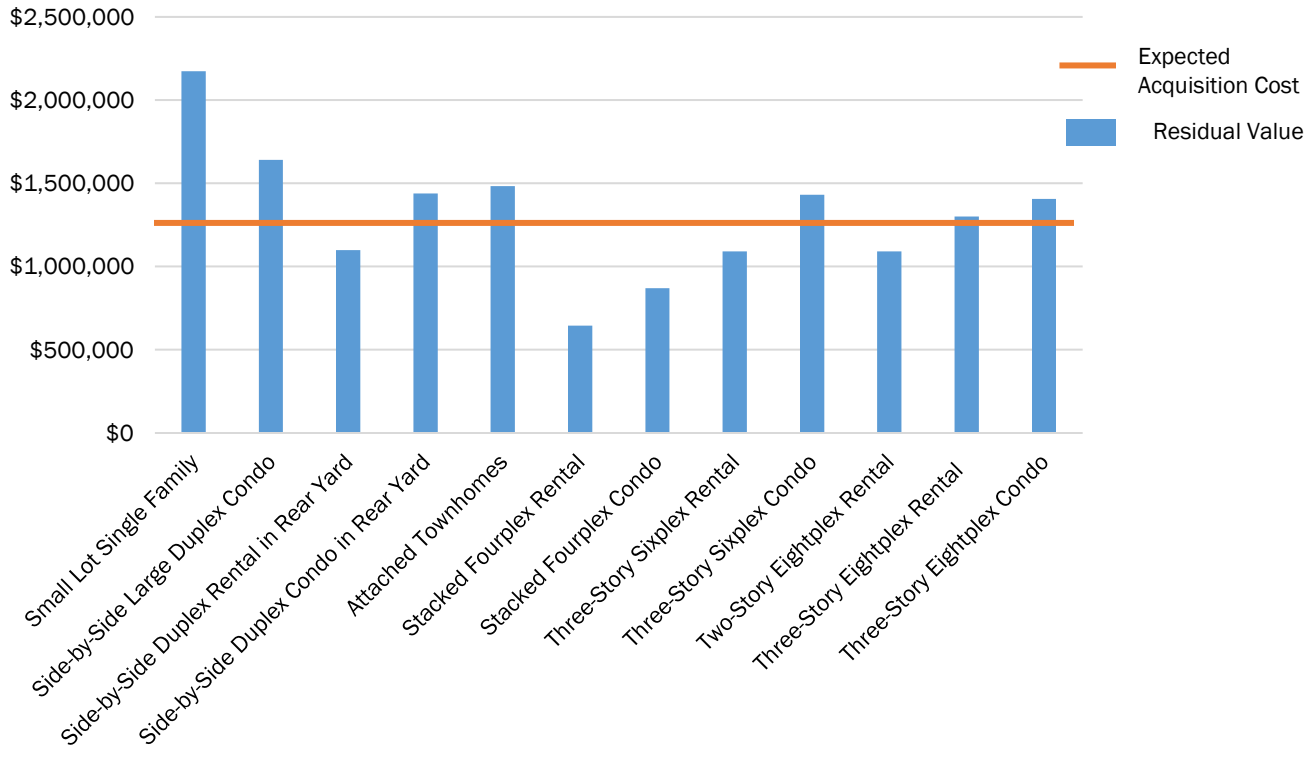
Source: Strategic Economics, 2021.

Results by Market Tier

The following charts (Figures 20-22) demonstrate the feasibility results by market tier. As shown, a variety of Opportunity Housing prototypes are feasible in Tier 1, including 2-4 unit for-sale projects (small lot single-family, duplex condos, attached townhomes). None of the fourplex prototypes are feasible, but the sixplex and eightplex condos, as well as the Three-Story Eightplex Rental are financially feasible.

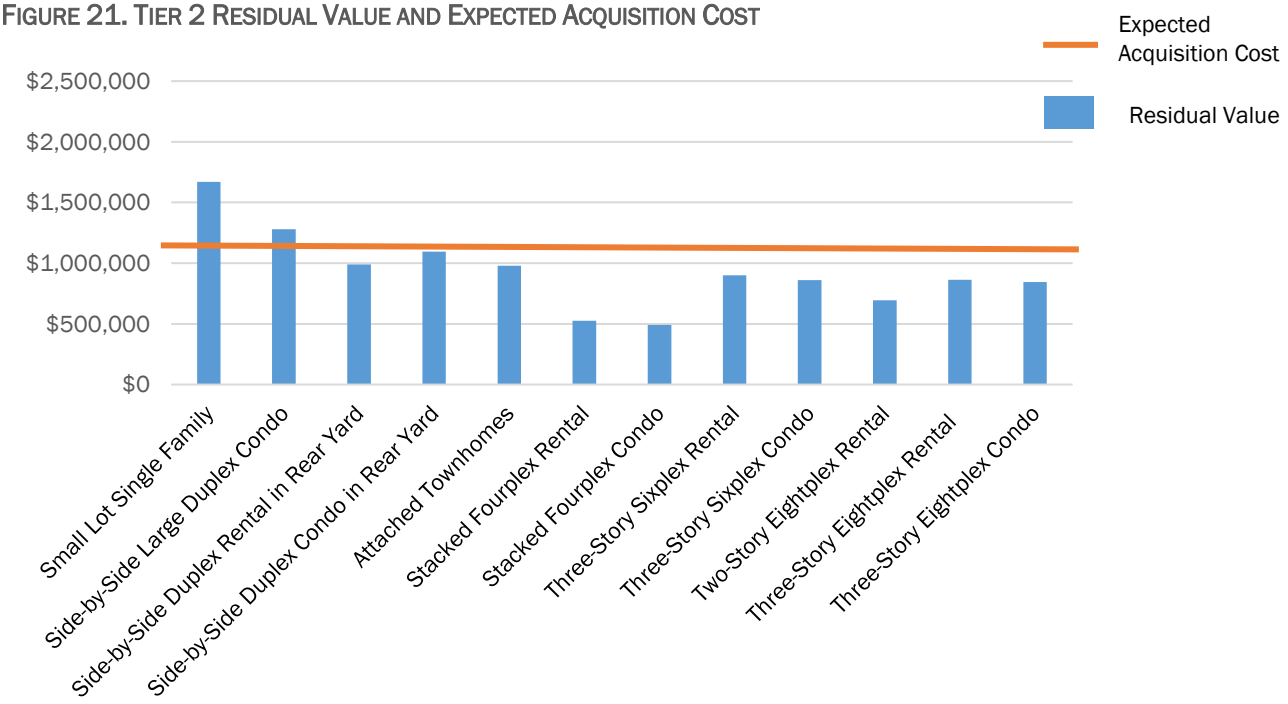
In Tier 2, only the Small Lot Single-Family and the Side-by-Side Large Duplex Condo prototypes are feasible. In Tier 3, none of the prototypes tested are feasible because the revenues generated are insufficient to cover the cost of development and site acquisition.

FIGURE 20. TIER 1: RESIDUAL VALUE AND EXPECTED ACQUISITION COST



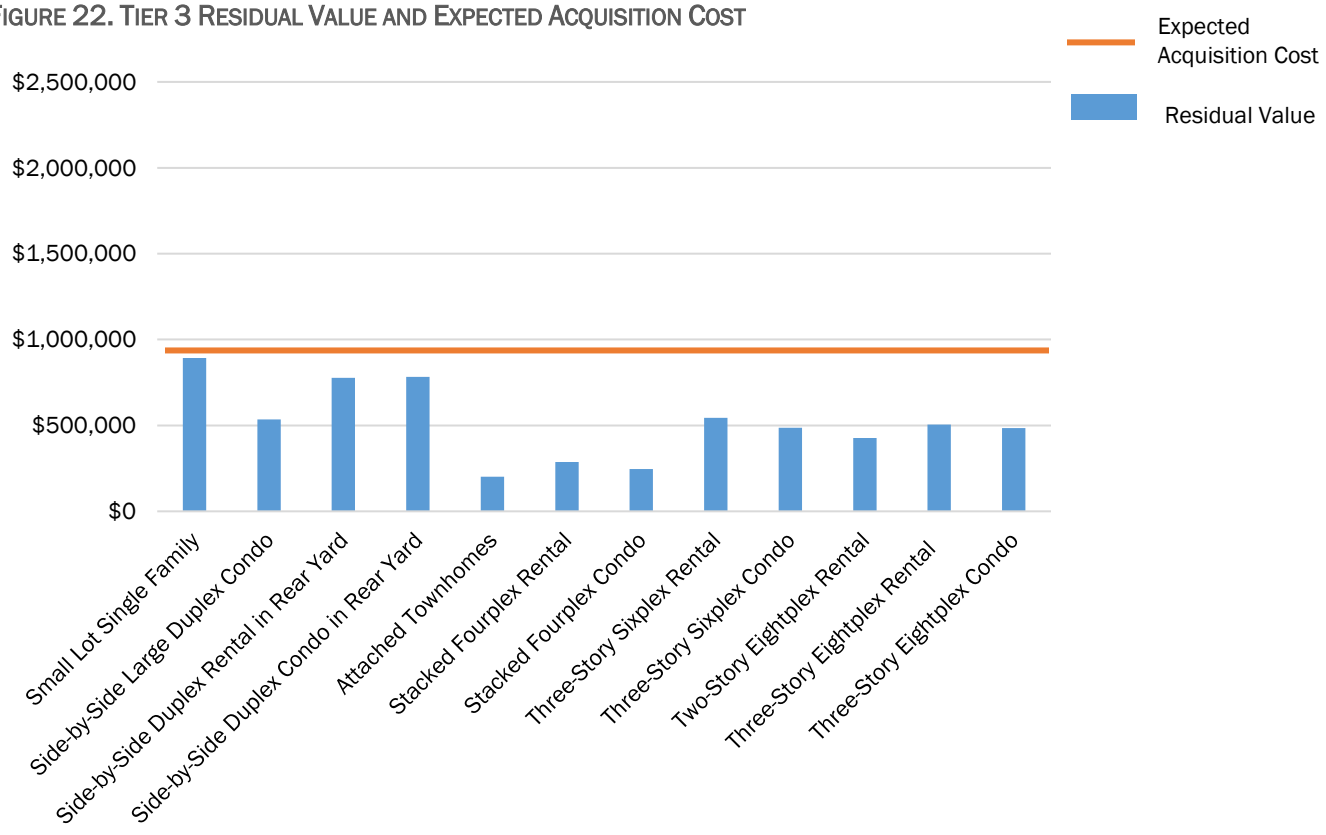
Source: Strategic Economics, 2021.

FIGURE 21. TIER 2 RESIDUAL VALUE AND EXPECTED ACQUISITION COST



Source: Strategic Economics, 2021.

FIGURE 22. TIER 3 RESIDUAL VALUE AND EXPECTED ACQUISITION COST



Source: Strategic Economics, 2021.

Results of Cash-Flow Analysis

A supplemental cash flow analysis was also conducted to illustrate the perspective of an existing property owner adding units to their lot. The Side-by-Side Duplex Rental in Rear Yard prototype was evaluated with this lens, because it would be the least disruptive to an existing resident, since it does not involve demolition. It would also be legal by-right if the property owner resides in the existing home under SB 9. This analysis assumes the property owner owns their property outright, either by paying off the entirety of their previous mortgage or by having purchased their home with cash.

Figure 23 below provides a summary of the cash flow analysis findings. As shown in this table, property owners in Tier 1 and Tier 2 are most likely to pursue this strategy because they would not have to pay substantial upfront costs. Tier 1 property owners are best-positioned, due to the relatively higher rent revenues.

With a cash-out refinance mortgage, the loan value is tied to the existing property value. Property owners with higher home values are expected to be better positioned to use this financing product, because the loan values will more likely cover the development cost.[14]

[14] There are other financing products that property owners in this position could theoretically use, such as a construction loan, or a HELOC, but the cash-out refinance mortgage is expected to be the most common, because it typically offers lower interest rates than these other products.

The cash flow analysis calculates the profit from Year 1 (the year that the mortgage begins, during which the duplex is built) through Year 30 (the year the mortgage would be paid off). Property owners start to earn rental income in Year 2, when the duplex is completed. Property owners in Tier 1, who likely have higher home values, would break even and start to see a profit on their investment earliest in Year 6, while Tier 2 homeowners would see a profit in Year 7. Because of the lower rent revenues, Tier 3 owners would not break even until Year 14. Property owners with lower existing property values pursuing a cash-out refinance mortgage, as shown in Tier 3, would have to pay significant upfront costs. This is major barrier for property owners pursuing this strategy.

FIGURE 23. CASH FLOW SUMMARY: EXISTING PROPERTY OWNER BUILDS DUPLEX RENTAL IN REAR YARD

	Tier 1	Tier 2	Tier 3
Net Annual Operating Income (a)	$62,868	$59,124	$53,352
Total Development Cost (b)	$887,186	$863,610	$864,616
Cash-Out Refinance Mortgage Financing Summary			
Expected Property Value	$1,296,000	$1,200,000	$996,000
Maximum Loan Amount Possible (c)	$1,036,800	$960,000	$796,800
Loan Amount	$887,186	$863,610	$796,800
Closing Costs (d)	$35,487	$34,544	$31,872
Development Costs Paid Up Front	$0	$0	$67,816
Total Cost Required Up Front	$35,487	$34,544	$99,688
Annual Mortgage Payment (e)	$46,333	$45,102	$41,613
Year that Property Owner Breaks Even	Year 6	Year 7	Year 14

Notes:
(a) Rent from two duplex units, less 5% vacancy and 30% operating costs.
(b) Equivalent to total development cost for Duplex Rental in Rear Yard prototype, less the $100,000 renovation cost of existing home, and less developer profit and financing cost assumptions.
(c) 80% of expected property value, which reflects the total loan amount available to homeowners who own their property outright.
(d) 4% of loan amount.
(e) Assumes 30-year fixed rate mortgage with 3.25% interest rate.

Furthermore, ff an owner only owns a share of equity on their home, the maximum possible value of the loan would be significantly reduced, and the owner would have to pay a much larger sum of money up front. This would be a major barrier for typical property owners interested in this type of project.[15] The City of San José could explore collaborating with local credit unions or CDFIs to develop specialized financing products that could allow homeowners more options to pursue these projects. For example, innovative loan products could allow homeowners to rely on the expected future value of their property with the duplex constructed, or on the future rental income, as a basis for their loan.

[15] To illustrate this, an additional analysis was conducted for a property owner in Tier 1 with 50 percent equity in their home. With a hypothetical purchase price of $1,100,000, they would have $550,000 equity in their home and $550,000 of principal still outstanding. With a current value of $1,296,000, they would qualify for a cash-out refinance mortgage of just $486,800 (80 percent of current value, less outstanding principal). In this scenario, they would have to pay $400,386 in development costs up front plus $19,472 in closing costs.

V. AFFORDABILITY OF OPPORTUNITY HOUSING

The affordability of the prototypes in both tiers 1 and 2 was calculated, to provide context around the households that these types of units would serve. The methodology for calculating the affordability of the prototypes' units is described below.

Methodology for Estimating Unit Affordability

The methodology for identifying the affordability of the prototypes' units is described below:

1) The affordability levels were identified by calculating the incomes needed to afford the housing costs associated with the prototypes' units. For rental housing, it was assumed that housing would be considered affordable if the household pays no more than 30 percent of their income on housing costs. For ownership housing, housing is considered affordable if housing costs account for no more than 35 percent of their household income.[16]
2) Other housing costs in addition to either rent or mortgage payments were estimated based on standard industry assumptions and available research on the various cost categories. For rental prototypes, the monthly housing cost simply includes rent and a utility cost estimate. For condo prototypes, the monthly housing cost includes a variety of other items besides the mortgage payment, including utilities, property taxes, HOA fees, mortgage insurance, and homeowner's insurance.
3) The incomes required to afford the unit were then translated into AMI levels, calculated from the Santa Clara County median income levels for the relevant household sizes, published annually by CA HCD. The household sizes were identified by multiplying the unit's bedroom amount by 1.5 people, which is a standard method used by TCAC.

Figure 24 below shows AMI ranges associated with income levels that are tied to affordable housing programs and plans, ranging from "Extremely Low Income" up to "Above Middle Income." Most affordable housing programs focus on producing housing that is affordable for households considered "low-income" or below, which is 80 percent of AMI or less. In high-cost cities like San José, there have also been efforts to increase the supply of moderate-income housing, which is between 80 and 120 percent of AMI.

FIGURE 24. INCOME LEVELS AND ASSOCIATED "% OF AMI" RANGES

Income Level	AMI Range	Annual Income (3-Person Household)
Extremely Low Income	<30% AMI	<$41,000
Very Low Income	30-50% AMI	$41,000 - $75,000
Low Income	50-80% AMI	$75,000 - $106,000
Moderate Income	80-120% AMI	$106,000 - $163,000
Middle Income	120-150% AMI	$163,000 - $204,000
Above Middle Income	>150% AMI	>$204,000

Source: City of San José, 2020; Strategic Economics, 2021.

[16] The assumption that no more than 30% of a household's income should be used for housing costs for the housing to be considered affordable is a standard industry assumption. In cases where the affordability of luxury, market-rate, for-sale housing is being evaluated, the percentage is increased to 35% to reflect the fact that higher-income households are able to spend a higher share of their income on housing.

Affordability of Opportunity Housing

A summary of the affordability of the Opportunity Housing prototypes in Tiers 1 and 2 is displayed below in Figures 25 and 26. The tables, which are organized by set, show the affordability for the units in every prototype, and those that were found financially feasible are color-coded in green. The affordability for Tier 3 is not shown because every prototype in Tier 3 was found to be infeasible. As shown in Section IV, feasibility is significantly more attainable in Tier 1 than in Tier 2, but it is plausible that there could be instances where prototypes that were found infeasible in Tier 2 could be feasible in certain circumstances.

Most prototypes in Tier 1 fall in the "middle-income" range, which is between 120 and 150 percent of AMI, while there are some prototypes with units that are considered "moderate-income." Middle-income households are generally well-served by the existing stock of market-rate housing. A three-person, middle-income household in Santa Clara County would earn between $165,000 and $205,000 annually in 2021.

The stacked multiplex prototypes in Tier 1 achieve deeper affordability than the duplex and townhome-style prototypes, which have larger units. Some multiplex units are affordable to households in the moderate-income range. These smaller units are more affordable by design.

Rental prototypes, all of which are in stacked multiplexes, are more affordable than condo prototypes largely because of the added expenses associated with condo ownership. For example, the Stacked Fourplex Rental is affordable to a household at 125 percent of AMI, while the Stacked Fourplex Condo is affordable to a household at 135 percent of AMI. The 2-Story Eightplex Rental has the lowest rent, and is affordable to households between 80 and 90 percent of AMI, depending on household size.

More prototypes are considered feasible in Tier 1 because the revenues associated with the prototypes are highest. Therefore, households would be required to pay more in housing costs for prototypes in Tier 1 than in other tiers, making housing in Tier 1 less affordable overall.

FIGURE 25. TIER 1 AFFORDABILITY SUMMARY

Prototype	Income Needed to Afford Unit	Affordable to Household at:
Set 1		
Stacked Fourplex Rental (2-BR)	$153,320	125% AMI
Stacked Fourplex Condo (2-BR)	$183,198	135% AMI
Side-by-Side Large Duplex Condo (4-BR)	$339,550	195% AMI
Side-by-Side Duplex Rental in Rear Yard (3-BR)	$172,000	105-115% AMI
Side-by-Side Duplex Condo in Rear Yard (3-BR)	$210,224	130-140% AMI
Set 2		
Small Lot Single Family (3-BR)	$237,702	145-155% AMI
Attached Townhome (3-BR)	$237,291	145-155% AMI
Set 3		
Three-Story Sixplex Rental (2-BR)	$153,320	125% AMI
Three-Story Sixplex Condo (2-BR)	$183,198	135% AMI
Two-Story Eightplex Rental (1-BR)	$94,840	80-90% AMI
Three-Story Eightplex Rental		
1-BR	$115,840	95-110% AMI
2-BR	$146,120	105% AMI
Three-Story Eightplex Condo		
1-BR	$128,809	105-120% AMI
2-BR	$173,869	130% AMI

Notes:
(a) Condo prototypes: Housing is considered affordable if monthly housing costs do not exceed 35% of monthly household income. It is assumed the buyer uses a 30-year fixed rate mortgage, and contributes a 5% down payment. An interest rate of 3.8% was used, based on average interest rates over the last five years. Other monthly housing costs include: utility costs, which are between $200 and $300 per month depending on unit type; homeowners' association dues, which are on average $258 per month, according to a previous housing affordability analysis for San José by Strategic Economics and Street Level Advisors; Monthly property taxes based on an annual cost equivalent to 0.75% of the sales price; Annual homeowner's insurance estimated to be 0.28% of the sales value, based on the average rates for California homebuyers (Quotewizard.com); and annual mortgage insurance estimated to be 0.7% of the mortgage amount, based on median PMI rates for California homebuyers (bpfund.com).

(b) Rental prototypes: Housing is considered affordable if monthly housing costs do not exceed 30% of monthly household income. It is assumed that households pay monthly utility costs of between $180 and $230 per month, depending on unit type.

Household sizes: The affordability levels are based on Santa Clara County 2021 income limits, published by CA HCD. They are tied to specific household sizes, which are based on federal TCAC guidelines of 1.5 people per bedroom. (Ex. The AMI for 2-bedroom units is based on 3-person households). When the associated household size calculation is between integers, the affordability for both household sizes are shown (i.e., For 3-bedroom units, the affordability for both 4-person and 5-person households is shown).
Source: CA HCD, 2021; ValuePenguin.com, 2021; Street Level Advisors; 2019; Santa Clara County Utility Allowance Schedule, 2021; Strategic Economics, 2021.

The affordability summary for Tier 2 is shown below in Figure 26. These units would be more affordable than Tier 1 prototypes, but the Small Lot Single-Family prototype and the Side-by-Side Large Duplex Condo are the only prototypes expected to be feasible in Tier 2 based on this analysis. They would be affordable to households in the 130 to 140 percent and 170 percent of AMI ranges, respectively. If other prototypes were feasible, they could reach deeper levels of affordability. For example, the Two-Story Eightplex Rental would be affordable to low-income households. However, the development of these prototypes is much less likely in Tier 2.

FIGURE 26. TIER 2 AFFORDABILITY SUMMARY

Prototype	Income Needed to Afford Unit	Affordable to Household at:
Set 1		
Stacked Fourplex Rental (2-BR)	$144,536	105% AMI
Stacked Fourplex Condo (2-BR)	$162,778	120% AMI
Side-by-Side Large Duplex Condo (4-BR)	$301,513	170% AMI
Side-by-Side Duplex Rental in Rear Yard (3-BR)	$162,000	100-105% AMI
Side-by-Side Duplex Condo in Rear Yard (3-BR)	$186,601	115-125% AMI
Set 2		
Small Lot Single Family (3-BR)	$210,735	130-140% AMI
Attached Townhome (3-BR)	$210,324	130-140% AMI
Set 3		
Three-Story Sixplex Rental (2-BR)	$144,536	105% AMI
Three-Story Sixplex Condo (2-BR)	$162,778	120% AMI
Two-Story Eightplex Rental (1-BR)	$82,040	70-75% AMI
Three-Story Eightplex Rental		
1-BR	$100,040	85-95% AMI
2-BR	$137,720	100% AMI
Three-Story Eightplex Condo		
1-BR	$114,975	95-110% AMI
2-BR	$154,670	115% AMI

Notes:
(a) Condo prototypes: Housing is considered affordable if monthly housing costs do not exceed 35% of monthly household income. It is assumed the buyer uses a 30-year fixed rate mortgage, and contributes a 5% down payment. An interest rate of 3.8% was used, based on average interest rates over the last five years. Other monthly housing costs include: utility costs, which are between $200 and $300 per month depending on unit type; homeowners' association dues, which are on average $258 per month, according to a previous housing affordability analysis for San José by Strategic Economics and Street Level Advisors; Monthly property taxes based on an annual cost equivalent to 0.75% of the sales price; Annual homeowner's insurance estimated to be 0.28% of the sales value, based on the average rates for California homebuyers (Quotewizard.com); and annual mortgage insurance estimated to be 0.7% of the mortgage amount, based on median PMI rates for California homebuyers (bpfund.com).

(b) Rental prototypes: Housing is considered affordable if monthly housing costs do not exceed 30% of monthly household income. It is assumed that households pay monthly utility costs of between $180 and $230 per month, depending on unit type.

Household sizes: The affordability levels are based on Santa Clara County 2021 income limits, published by CA HCD. They are tied to specific household sizes, which are based on federal TCAC guidelines of 1.5 people per bedroom. (Ex. The AMI for 2-bedroom units is based on 3-person households). When the associated household size calculation is between integers, the affordability for both household sizes are shown (i.e., For 3-bedroom units, the affordability for both 4-person and 5-person households is shown).
Source: CA HCD, 2021; ValuePenguin.com, 2021; Street Level Advisors; 2019; Santa Clara County Utility Allowance Schedule, 2021; Strategic Economics, 2021.

VI. ROLE OF MUNICIPAL FEES

In addition to standard municipal fees, such as building permit fees, school district fees, and construction taxes described on Page 20, Parkland In-Lieu fees and Site Development Permit fees would also be charged on the prototypes if they were to be developed today. Strategic Economics evaluated the feasibility impacts of these two fee categories. While exempting either of these fees does not make any infeasible prototypes feasible, they both constitute sizeable shares of total development cost, and the feasibility outlook of the prototypes would improve if there are circumstances where these fees could be reduced for Opportunity Housing projects.

Parkland In-Lieu Fee

The Parkland In-Lieu Fee is an impact fee paid to the Department of Parks, Recreation, and Neighborhood Services (PRNS), that addresses the increased need for public recreational facilities from new residents associated with the creation of new housing units.

This section shows the feasibility impact of the current Parkland In-Lieu fees under the existing methodology. PRNS is in the process of reviewing the Parkland In-Lieu Fee and has hired a consultant to carry out that analysis.[17]

The current fee, which is charged on a per-unit basis, varies depending on the building type.[18] The fees also vary based on the Multiple Listing Service (MLS) district in which the project falls. The MLS districts are similar to the 12 sub-areas used in this analysis. There are higher fees in MLS districts that have higher land values because the expected cost of acquiring land for new facilities would be higher in those districts. The MLS districts with higher fees correlate to the sub-areas that fall into Tier 1, because those sub-areas have the highest land costs. Therefore, the Parkland In-Lieu fee has the greatest impact on feasibility for Tier 1, specifically. Note that residential development projects can apply for credits towards this fee obligation which can effectively lower the cost. In addition, credits are also applied when a project incorporates the demolition of an existing housing unit, since the fee is based on needs associated with new households.

Figure 27 and 28 below show the per-unit fees by building type and sub-area, organized by tier. The average fee for the sub-areas in each tier was used to assess the feasibility impacts of the fee.

Note that the Tier 1 fee for rental prototypes is higher than for condo prototypes because Central San José, which is in Tier 1 for rental and Tier 2 for condo prototypes, has a higher fee compared to other

[17] The Department of Parks Recreation and Neighborhood Services has hired a consultant to review and recommend updates to the Parkland Dedication and Park Impact ordinances (SJMC: 19.38 and 14.25). The park fee schedule has not been modified since December 2017 (effective date March 2018) and the underlying assumptions that support the fee schedule have not been re-evaluated since the early 2000's, making this current study critically important. The selected consultant will assist staff in a comprehensive analysis of the ordinances which may include: 1) Recommending a methodology for the City to annually assess fair market land values for the purposes of assessing impact fees in-lieu of land dedication; 2) Assessing various methods of how fees are calculated in other jurisdictions and recommending a methodology for San José; 3) Evaluating the geographic boundaries where fees can be spent and evaluate mechanisms for equitable and fair distributions; 4) Modernizing how credits toward the PDO/PIO are qualified and applied; and 5) Demonstrating the legal nexus for any recommended changes.

[18] The per-unit fees are highest for single-family buildings, and lowest for buildings with five or more units. This is because the average household size in San José for households in single-family units is larger than the average household size for households in units that are part of multifamily buildings.

sub-areas. This also translates to a higher fee assumption for condo prototypes than rental prototypes in Tier 2.

The fee is highest for sub-areas where land costs are higher, which largely fall into Tier 1. The fees in Central San José, West Valley, and Willow Glen range between $24,400 and $28,600 per unit for 2-4 unit projects and between $19,300 and $22,600 per unit for buildings with five or more units. The fee is lower in sub-areas that generally fall into tiers 2 and 3, such as South San José and Alum Rock ($11,600 per unit for 2-4 unit projects and $9,200 per unit for buildings with five or more units).

FIGURE 27. RENTAL PROTOTYPES: PARKLAND IN-LIEU FEE ASSUMPTIONS BY TIER AND BUILDING TYPE

	2-4 Unit Building	5+ Unit Building
Tier 1 (a)		
Willow Glen	$26,300	$20,800
West Valley	$24,400	$19,300
Central	$28,600	$22,600
Tier 1 Average	**$26,433**	**$20,900**
Tier 2		
Alviso	$10,100	$8,000
Cambrian/Pioneer	$13,500	$10,700
Almaden	$15,500	$12,200
Berryessa	$17,400	$13,800
South	$11,600	$9,200
Edenvale	$13,200	$10,400
Tier 2 Average	**$13,550**	**$10,717**
Tier 3		
Evergreen	$16,600	$13,100
Alum Rock	$11,600	$9,200
Tier 3 Average	**$14,100**	**$11,150**

Notes:
(a) While North San José is in Tier 1, the North fee was excluded from the average because it is a very high outlier ($52,000 per unit for 2-4 unit projects and $41,600 for five or more units).

Source: City of San José, 2021; Strategic Economics, 2021.

FIGURE 28. CONDO PROTOTYPES: PARKLAND IN-LIEU FEE ASSUMPTIONS BY TIER AND BUILDING TYPE

	Single-Family (Detached and Attached)	2-4 Unit Building	5+ Unit Building
Tier 1 (a)			
Willow Glen	$29,400	$26,300	$20,800
West Valley	$27,300	$24,400	$19,300
Cambrian/Pioneer	$15,100	$13,500	$10,700
Tier 1 Average	**$23,933**	**$21,400**	**$16,933**
Tier 2			
Central	$32,000	$28,600	$22,600
Alviso	$11,200	$10,100	$8,000
Almaden	$17,300	$15,500	$12,200
Berryessa	$19,500	$17,400	$13,800
Tier 2 Average	**$20,000**	**$17,900**	**$14,150**
Tier 3			
South	$13,000	$11,600	$9,200
Edenvale	$14,700	$13,200	$10,400
Evergreen	$18,600	$16,600	$13,100
Alum Rock	$13,000	$11,600	$9,200
Tier 3 Average	**$14,825**	**$13,250**	**$10,475**

Notes:

(a) While North San José is in Tier 1, the North fee was excluded from the average because it is a very high outlier ($58,800 per unit for single-family project, $52,000 per unit for 2-4 unit projects and $41,600 for five or more units).

Source: City of San José, 2021; Strategic Economics, 2021.

The Parkland In-Lieu Fee has the greatest impact on development feasibility in Tier 1. Figure 29 shows the share of total development cost that the Parkland In-Lieu fee comprises, with the prototypes organized by density, (as shown in Figures 20-22). The fee constitutes between one and eight percent of total development cost in Tier 1, and approximately between one and three percent of total development cost in Tiers 2 and 3.

FIGURE 29. PARKLAND IN-LIEU FEE AS SHARE OF TOTAL DEVELOPMENT COST

	Tier 1	Tier 2	Tier 3
Small Lot Single Family	4.4%	3.7%	2.7%
Side-by-Side Large Duplex Condo	1.6%	1.3%	1.0%
Side-by-Side Duplex Rental in Rear Yard	5.0%	2.6%	2.7%
Side-by-Side Duplex Condo in Rear Yard	3.7%	3.1%	2.3%
Attached Townhomes	3.2%	2.7%	2.0%
Stacked Fourplex Rental	4.4%	2.2%	2.3%
Stacked Fourplex Condo	3.3%	2.7%	2.0%
Three-Story Sixplex Rental	3.8%	1.9%	2.0%
Three-Story Sixplex Condo	2.8%	2.4%	1.7%
Two-Story Eightplex Rental	7.8%	2.2%	2.3%
Three-Story Eightplex Rental	5.4%	2.8%	2.9%
Three-Story Eightplex Condo	4.1%	3.4%	2.5%

Notes:
The total development cost does not include the Parkland In-Lieu or Site Development Permit fees. The shares vary by tier because the parkland fee is higher in certain areas of the City.
Source: City of San José, 2021; Strategic Economics, 2021.

Site Development Permit Fees

A site development permit would be required for projects that are not permitted by right in the City's zoning code. This process would trigger various fees associated with processing the permit. Within the City, the Planning, Building, and Code Enforcement Department (PBCE) as well as the Public Works Department both charge site development permit fees.

PCBE currently charges a site development permit fee of $12,952 per residential project.[19], as well as $565 for every unit beyond two units.

Public Works charges a fee of $927 per project for projects with one or two units. For projects with three or more units, it charges a flat fee of $3,202 per project, plus $76 per unit.

These fees would be applicable for the prototypes if they were built under existing development regulations in the City of San José. Once SB 9 is implemented, these fees would likely not apply to some of the prototypes that have between two and four units. As part of the implementation process of the Opportunity Housing policy, the City will consider to what extent Opportunity Housing in general could be allowed by right, particularly for buildings that will not be allowed by right as a part of SB 9.

The site development permit fees account for between 0.7 percent and 1.3 percent of the total development cost for the prototypes. Since both the PBCE and Public Works fees are based on a

[19] This amount incorporates the Department of Transportation's flat site development permit fee of $447 per project.

project's number of units, prototypes with the same number of units have equivalent fees. These fees are applied universally across the City, so there is no variation across tiers. While these fees do not have a large impact on the overall feasibility of the prototypes, allowing projects to be permitted by right would still help developers save money both directly and by reducing the amount of time for project approvals.

FIGURE 30. SITE DEVELOPMENT PERMIT FEES AS SHARE OF TOTAL DEVELOPMENT COST

	Total Site Development Permit Fees	Site Development Permit Fees as Share of Total Development Cost
Small Lot Single Family	$17,588	1.1%
Side-by-Side Large Duplex Condo	$13,879	1.2%
Side-by-Side Duplex Rental in Rear Yard	$13,879	1.3%
Side-by-Side Duplex Condo in Rear Yard	$13,879	1.2%
Attached Townhomes	$17,588	0.8%
Stacked Fourplex Rental	$17,588	1.0%
Stacked Fourplex Condo	$17,588	0.9%
Three-Story Sixplex Rental	$18,870	0.7%
Three-Story Sixplex Condo	$18,870	0.7%
Two-Story Eightplex Rental	$20,152	1.1%
Three-Story Eightplex Rental	$20,152	0.8%
Three-Story Eightplex Condo	$20,152	0.7%

Notes:
The total development cost does not include the Parkland In-Lieu or Site Development Permit fees. The shares vary by tier because the parkland fee is higher in certain areas of the City.
Source: City of San José, 2021; Strategic Economics, 2021.

The Site Development Permit fees are base fees, and other permitting fees might also be applicable depending on the project and its location. This could include fees associated with tentative map requirements, lot line adjustments, tree removal, Riparian Corridor Policy Conformance requirements, historic analysis, environmental review, and others.

VII. APPENDIX A: DETAILED PRO FORMA RESULTS

The full pro formas for each prototype are included below. Scenarios that are considered feasible are highlighted in green.

Set 1 Results

FIGURE 31. PRO FORMA RESULTS: STACKED FOURPLEX RENTAL

	Tier 1	Tier 2	Tier 3
Revenues			
Annual Gross Scheduled Income	$172,800	$162,259	$146,880
Less Vacancy	-$8,640	-$8,113	-$7,344
Less Expenses	-$51,840	-$48,678	-$44,064
Net Operating Income	$112,320	$105,468	$95,472
Capitalized Value	$2,642,824	$2,481,611	$2,246,400
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$1,320,000	$1,320,000	$1,320,000
Contingency	$69,750	$69,750	$69,750
Soft Costs	$161,600	$161,600	$161,600
Municipal Fees (excl. Parkland, Site Development)	$63,327	$63,327	$63,327
Parkland In-Lieu Fee	$76,167	$38,425	$40,600
Site Development Permit Fees	$17,588	$17,588	$17,588
Financing Costs	$57,371	$57,371	$57,371
Total Development Cost	$1,840,803	$1,803,061	$1,805,236
Minimum Return	$156,468	$153,260	$153,445
Residual Land Value	$645,552	$525,290	$287,719
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	-$629,448	-$637,210	-$687,281

Source: Strategic Economics, 2021.

FIGURE 32. PRO FORMA RESULTS: STACKED FOURPLEX CONDO

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$3,324,000	$2,916,000	$2,644,000
Less Marketing Costs	-$132,960	-$116,640	-$105,760
Net Sales Revenue	$3,191,040	$2,799,360	$2,538,240
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$1,440,000	$1,440,000	$1,440,000
Contingency	$75,750	$75,750	$75,750
Soft Costs	$171,200	$171,200	$171,200
Municipal Fees (excl. Parkland and Site Development)	$63,327	$63,327	$63,327
Parkland In-Lieu Fee	$61,667	$51,600	$38,175
Site Development Permit Fees	$17,588	$17,588	$17,588
Financing Costs	$61,612	$61,612	$61,612
Total Development Costs	$1,966,143	$1,956,077	$1,942,652
Feasibility Summary			
Net Revenue Less Development Costs	$1,224,897	$843,283	$595,588
Minimum Return	$353,906	$352,094	$349,677
Residual Land Value	$870,991	$491,190	$245,911
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	-$404,009	-$671,310	-$729,089

Source: Strategic Economics, 2021.

FIGURE 33. PRO FORMA RESULTS: SIDE-BY-SIDE LARGE DUPLEX CONDO

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$3,200,000	$2,820,000	$2,040,000
Less Marketing Costs	-$128,000	-$112,800	-$81,600
Net Sales Revenue	$3,072,000	$2,707,200	$1,958,400
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$840,000	$840,000	$840,000
Contingency	$45,750	$45,750	$45,750
Soft Costs	$123,200	$123,200	$123,200
Municipal Fees (excl. Parkland and Site Development)	$58,048	$58,048	$58,048
Parkland In-Lieu Fee	$18,867	$15,800	$11,675
Site Development Permit Fees	$13,879	$13,879	$13,879
Financing Costs	$38,270	$38,270	$38,270
Total Development Costs	$1,213,014	$1,209,947	$1,205,822
Feasibility Summary			
Net Revenue Less Development Costs	$1,858,986	$1,497,253	$752,578
Minimum Return	$218,342	$217,790	$217,048
Residual Land Value	$1,640,644	$1,279,463	$535,530
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$365,644	$116,963	-$439,470

Source: Strategic Economics, 2021.

FIGURE 34. PRO FORMA RESULTS: SIDE-BY-SIDE DUPLEX RENTAL IN REAR YARD

	Tier 1	Tier 2	Tier 3
Revenues			
Annual Gross Scheduled Income	$151,080	$142,080	$128,280
Less Vacancy	$7,554	$7,104	$6,414
Less Expenses	$45,324	$42,624	$38,484
Net Operating Income	$98,202	$92,352	$83,382
Capitalized Value	$2,310,635	$2,172,988	$1,961,929
Development Costs			
Site Prep	$45,000	$45,000	$45,000
Vertical Hard Costs	$767,520	$767,520	$767,520
Contingency	$38,376	$38,376	$38,376
Soft Costs	$111,402	$111,402	$111,402
Municipal Fees (excl. Parkland, Site Development)	$53,068	$53,068	$53,068
Parkland In-Lieu Fee	$52,867	$27,100	$28,200
Site Development Permit Fees	$13,879	$13,879	$13,879
Financing Costs	$34,648	$34,648	$34,648
Total Development Cost	$1,116,759	$1,090,992	$1,092,092
Feasibility Summary			
Minimum Return	$94,924	$92,734	$92,828
Residual Land Value	$1,098,952	$989,262	$777,010
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	-$176,048	-$173,238	-$197,990

Source: Strategic Economics, 2021.

FIGURE 35. PRO FORMA RESULTS: SIDE-BY-SIDE DUPLEX CONDO IN REAR YARD

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$2,977,000	$2,611,000	$2,273,000
Less Marketing Costs	-$119,080	-$104,440	-$90,920
Net Sales Revenue	$2,857,920	$2,506,560	$2,182,080
Development Costs			
Site Prep	$45,000	$45,000	$45,000
Vertical Hard Costs	$830,100	$830,100	$830,100
Contingency	$43,755	$43,755	$43,755
Soft Costs	$120,008	$120,008	$120,008
Municipal Fees (excl. Parkland and Site Development)	$53,068	$53,068	$53,068
Parkland In-Lieu Fee	$42,800	$35,800	$26,500
Site Development Permit Fees	$13,879	$13,879	$13,879
Financing Costs	$53,632	$53,632	$53,632
Total Development Costs	$1,202,242	$1,195,242	$1,185,942
Feasibility Summary			
Net Revenue Less Development Costs	$1,655,678	$1,311,318	$996,138
Minimum Return	$216,404	$215,144	$213,470
Residual Land Value	$1,439,274	$1,096,174	$782,668
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$164,274	-$66,326	-$192,332

Source: Strategic Economics, 2021.

Set 2 Results

FIGURE 36. PRO FORMA RESULTS: SMALL LOT SINGLE -FAMILY

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$4,380,800	$3,842,000	$3,013,200
Less Marketing Costs	-$175,232	-$153,680	-$120,528
Net Sales Revenue	$4,205,568	$3,688,320	$2,892,672
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$1,197,000	$1,197,000	$1,197,000
Contingency	$63,600	$63,600	$63,600
Soft Costs	$151,760	$151,760	$151,760
Municipal Fees (excl. Parkland and Site Development)	$91,326	$91,326	$91,326
Parkland In-Lieu Fee	$71,800	$60,000	$44,475
Site Development Permit Fees	$17,588	$17,588	$17,588
Financing Costs	$53,632	$53,632	$53,632
Total Development Costs	$1,721,706	$1,709,906	$1,694,381
Feasibility Summary			
Net Revenue Less Development Costs	$2,483,862	$1,978,414	$1,198,291
Minimum Return	$309,907	$307,783	$304,989
Residual Land Value	$2,173,955	$1,670,631	$893,302
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$898,955	$508,131	-$81,698

Source: Strategic Economics, 2021.

FIGURE 37. PRO FORMA RESULTS: ATTACHED TOWNHOMES

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$4,380,800	$3,842,000	$3,013,200
Less Marketing Costs	-$175,232	-$153,680	-$120,528
Net Sales Revenue	$4,205,568	$3,688,320	$2,892,672
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$1,710,000	$1,710,000	$1,710,000
Contingency	$89,250	$89,250	$89,250
Soft Costs	$192,800	$192,800	$192,800
Municipal Fees (excl. Parkland and Site Development)	$78,403	$78,403	$78,403
Parkland In-Lieu Fee	$71,800	$60,000	$44,475
Site Development Permit Fees	$17,588	$17,588	$17,588
Financing Costs	$72,357	$72,357	$72,357
Total Development Costs	$2,307,198	$2,295,398	$2,279,873
Feasibility Summary			
Net Revenue Less Development Costs	$1,898,370	$1,392,922	$612,799
Minimum Return	$415,296	$413,172	$410,377
Residual Land Value	$1,483,075	$979,751	$202,422
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$208,075	-$182,749	-$772,578

Source: Strategic Economics, 2021.

Set 3 Results

FIGURE 38. PRO FORMA RESULTS: THREE-STORY SIXPLEX RENTAL

	Tier 1	Tier 2	Tier 3
Revenues			
Annual Gross Scheduled Income	$259,200	$243,389	$220,320
Less Vacancy	-$12,960	-$12,169	-$11,016
Less Expenses	-$77,760	-$73,017	-$66,096
Net Operating Income	$168,480	$158,203	$143,208
Capitalized Value	$3,964,235	$3,722,417	$3,369,600
Development Costs			
Site Prep	$72,000	$72,000	$72,000
Vertical Hard Costs	$1,980,000	$1,980,000	$1,980,000
Contingency	$102,600	$102,600	$102,600
Soft Costs	$214,160	$214,160	$214,160
Municipal Fees (excl. Parkland, Site Development)	$81,720	$81,720	$81,720
Parkland In-Lieu Fee	$95,833	$48,525	$51,100
Site Development Permit Fees	$18,870	$18,870	$18,870
Financing Costs	$82,852	$82,852	$82,852
Total Development Cost	$2,648,036	$2,600,727	$2,603,302
Feasibility Summary			
Minimum Return	$225,083	$221,062	$221,281
Residual Land Value	$1,091,117	$900,628	$545,017
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	-$183,883	-$261,872	-$429,983

Source: Strategic Economics, 2021.

FIGURE 39. PRO FORMA RESULTS: THREE-STORY SIXPLEX CONDO

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$4,986,000	$4,374,000	$3,966,000
Less Marketing Costs	-$199,440	-$174,960	-$158,640
Net Sales Revenue	$4,786,560	$4,199,040	$3,807,360
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$2,160,000	$2,160,000	$2,160,000
Contingency	$111,750	$111,750	$111,750
Soft Costs	$228,800	$228,800	$228,800
Municipal Fees (excl. Parkland and Site Development)	$81,720	$81,720	$81,720
Parkland In-Lieu Fee	$77,667	$64,900	$48,025
Site Development Permit Fees	$18,870	$18,870	$18,870
Financing Costs	$89,384	$89,384	$89,384
Total Development Costs	$2,843,191	$2,830,424	$2,813,549
Feasibility Summary			
Net Revenue Less Development Costs	$4,786,560	$4,199,040	$3,807,360
Minimum Return	$511,774	$509,476	$506,439
Residual Land Value	$1,431,595	$859,140	$487,372
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$156,595	-$303,360	-$487,628

Source: Strategic Economics, 2021.

FIGURE 40. PRO FORMA RESULTS: TWO-STORY EIGHTPLEX RENTAL

	Tier 1	Tier 2	Tier 3
Revenues			
Annual Gross Scheduled Income	$208,320	$177,600	$160,320
Less Vacancy	-$10,416	-$8,880	-$8,016
Less Expenses	-$62,496	-$53,280	-$48,096
Net Operating Income	$135,408	$115,440	$104,208
Capitalized Value	$3,186,071	$2,716,235	$2,451,953
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$1,320,000	$1,320,000	$1,320,000
Contingency	$69,750	$69,750	$69,750
Soft Costs	$161,600	$161,600	$161,600
Municipal Fees (excl. Parkland, Site Development)	$63,048	$63,048	$63,048
Parkland In-Lieu Fee	$137,633	$69,958	$73,400
Site Development Permit Fees	$20,152	$20,152	$20,152
Financing Costs	$82,852	$82,852	$82,852
Total Development Cost	$1,930,035	$1,862,360	$1,865,802
Feasibility Summary			
Minimum Return	$164,053	$158,301	$158,593
Residual Land Value	$1,091,982	$695,574	$427,558
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	-$183,018	-$466,926	-$547,442

Source: Strategic Economics, 2021.

FIGURE 41. PRO FORMA RESULTS: THREE-STORY EIGHTPLEX RENTAL

	Tier 1	Tier 2	Tier 3
Revenues			
Annual Gross Scheduled Income	$276,120	$242,640	$219,600
Less Vacancy	-$13,806	-$12,132	-$10,980
Less Expenses	-$82,836	-$72,792	-$65,880
Net Operating Income	$179,478	$157,716	$142,740
Capitalized Value	$4,223,012	$3,710,965	$3,358,588
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$1,980,000	$1,980,000	$1,980,000
Contingency	$102,750	$102,750	$102,750
Soft Costs	$214,400	$214,400	$214,400
Municipal Fees (excl. Parkland, Site Development)	$80,829	$80,829	$80,829
Parkland In-Lieu Fee	$137,633	$69,958	$73,400
Site Development Permit Fees	$20,152	$20,152	$20,152
Financing Costs	$82,852	$82,852	$82,852
Total Development Cost	$2,693,617	$2,625,942	$2,629,383
Feasibility Summary			
Minimum Return	$228,957	$223,205	$223,498
Residual Land Value	$1,300,438	$861,818	$505,707
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$25,438	-$300,682	-$469,293

Source: Strategic Economics, 2021.

FIGURE 42. PRO FORMA RESULTS: THREE-STORY EIGHTPLEX CONDO

	Tier 1	Tier 2	Tier 3
Revenues			
Gross Sales Revenue	$4,957,600	$4,351,200	$3,946,000
Less Marketing Costs	-$198,304	-$174,048	-$157,840
Net Sales Revenue	$4,759,296	$4,177,152	$3,788,160
Development Costs			
Site Prep	$75,000	$75,000	$75,000
Vertical Hard Costs	$2,160,000	$2,160,000	$2,160,000
Contingency	$111,750	$111,750	$111,750
Soft Costs	$228,800	$228,800	$228,800
Municipal Fees (excl. Parkland and Site Development)	$80,829	$80,829	$80,829
Parkland In-Lieu Fee	$111,533	$93,200	$68,975
Site Development Permit Fees	$20,152	$20,152	$20,152
Financing Costs	$53,632	$53,632	$53,632
Total Development Costs	$2,841,697	$2,823,363	$2,799,138
Feasibility Summary			
Net Revenue Less Development Costs	$4,759,296	$4,177,152	$3,788,160
Minimum Return	$511,505	$508,205	$503,845
Residual Land Value	$1,406,094	$845,583	$485,177
Typical Site Acquisition Cost	$1,275,000	$1,162,500	$975,000
Residual Land Value Less Typical Acquisition Cost	$131,094	-$316,917	-$489,823

Source: Strategic Economics, 2021.

VIII. APPENDIX B: CASH FLOW PRO FORMA RESULTS

The full cash-flow pro formas for property owners building the Side-by-Side Duplex Rental in Rear Yard are shown below for each market tier. The year during which the property owner breaks even is highlighted in green.

FIGURE 43. TIER 1: SIDE-BY-SIDE DUPLEX RENTAL IN REAR YARD CASH FLOW FOR PROPERTY OWNER

Mortgage Year	Net Operating Income	Annual Mortgage Payment	Annual Net Revenue	Overall Profit
Year 1 (a)	$0	-$81,821	-$81,821	-$81,821
Year 2	$62,868	-$46,333	$16,535	-$65,286
Year 3	$62,868	-$46,333	$16,535	-$48,751
Year 4	$62,868	-$46,333	$16,535	-$32,216
Year 5	$62,868	-$46,333	$16,535	-$15,681
Year 6	$62,868	-$46,333	$16,535	$854
Year 7	$62,868	-$46,333	$16,535	$17,389
Year 8	$62,868	-$46,333	$16,535	$33,924
Year 9	$62,868	-$46,333	$16,535	$50,459
Year 10	$62,868	-$46,333	$16,535	$66,994
Year 11	$62,868	-$46,333	$16,535	$83,528
Year 12	$62,868	-$46,333	$16,535	$100,063
Year 13	$62,868	-$46,333	$16,535	$116,598
Year 14	$62,868	-$46,333	$16,535	$133,133
Year 15	$62,868	-$46,333	$16,535	$149,668
Year 16	$62,868	-$46,333	$16,535	$166,203
Year 17	$62,868	-$46,333	$16,535	$182,738
Year 18	$62,868	-$46,333	$16,535	$199,273
Year 19	$62,868	-$46,333	$16,535	$215,808
Year 20	$62,868	-$46,333	$16,535	$232,343
Year 21	$62,868	-$46,333	$16,535	$248,878
Year 22	$62,868	-$46,333	$16,535	$265,412
Year 23	$62,868	-$46,333	$16,535	$281,947
Year 24	$62,868	-$46,333	$16,535	$298,482
Year 25	$62,868	-$46,333	$16,535	$315,017
Year 26	$62,868	-$46,333	$16,535	$331,552
Year 27	$62,868	-$46,333	$16,535	$348,087
Year 28	$62,868	-$46,333	$16,535	$364,622
Year 29	$62,868	-$46,333	$16,535	$381,157
Year 30	$62,868	-$46,333	$16,535	$397,692

Notes:

(a) In Year 1, there is no Net Operating Income because it is expected that the duplex construction would take one year to complete after financing is acquired. The annual mortgage payment for Year 1 also includes $35,487 in closing costs.

Source: Strategic Economics, 2021.

FIGURE 44. TIER 2: SIDE-BY-SIDE DUPLEX RENTAL IN REAR YARD CASH FLOW FOR PROPERTY OWNER

Mortgage Year	Net Operating Income	Annual Mortgage Payment	Annual Net Revenue	Overall Profit
Year 1 (a)	$0	-$79,646	-$79,646	-$79,646
Year 2	$59,124	-$45,102	$14,022	-$65,624
Year 3	$59,124	-$45,102	$14,022	-$51,602
Year 4	$59,124	-$45,102	$14,022	-$37,580
Year 5	$59,124	-$45,102	$14,022	-$23,557
Year 6	$59,124	-$45,102	$14,022	-$9,535
Year 7	$59,124	-$45,102	$14,022	$4,487
Year 8	$59,124	-$45,102	$14,022	$18,509
Year 9	$59,124	-$45,102	$14,022	$32,531
Year 10	$59,124	-$45,102	$14,022	$46,553
Year 11	$59,124	-$45,102	$14,022	$60,576
Year 12	$59,124	-$45,102	$14,022	$74,598
Year 13	$59,124	-$45,102	$14,022	$88,620
Year 14	$59,124	-$45,102	$14,022	$102,642
Year 15	$59,124	-$45,102	$14,022	$116,664
Year 16	$59,124	-$45,102	$14,022	$130,686
Year 17	$59,124	-$45,102	$14,022	$144,709
Year 18	$59,124	-$45,102	$14,022	$158,731
Year 19	$59,124	-$45,102	$14,022	$172,753
Year 20	$59,124	-$45,102	$14,022	$186,775
Year 21	$59,124	-$45,102	$14,022	$200,797
Year 22	$59,124	-$45,102	$14,022	$214,820
Year 23	$59,124	-$45,102	$14,022	$228,842
Year 24	$59,124	-$45,102	$14,022	$242,864
Year 25	$59,124	-$45,102	$14,022	$256,886
Year 26	$59,124	-$45,102	$14,022	$270,908
Year 27	$59,124	-$45,102	$14,022	$284,930
Year 28	$59,124	-$45,102	$14,022	$298,953
Year 29	$59,124	-$45,102	$14,022	$312,975
Year 30	$59,124	-$45,102	$14,022	$326,997

Notes:
(a) In Year 1, there is no Net Operating Income because it is expected that the duplex construction would take one year to complete after financing is acquired. The annual mortgage payment for Year 1 also includes $34,544 in closing costs.
Source: Strategic Economics, 2021.

FIGURE 45. TIER 3: SIDE-BY-SIDE DUPLEX RENTAL IN REAR YARD CASH FLOW FOR PROPERTY OWNER

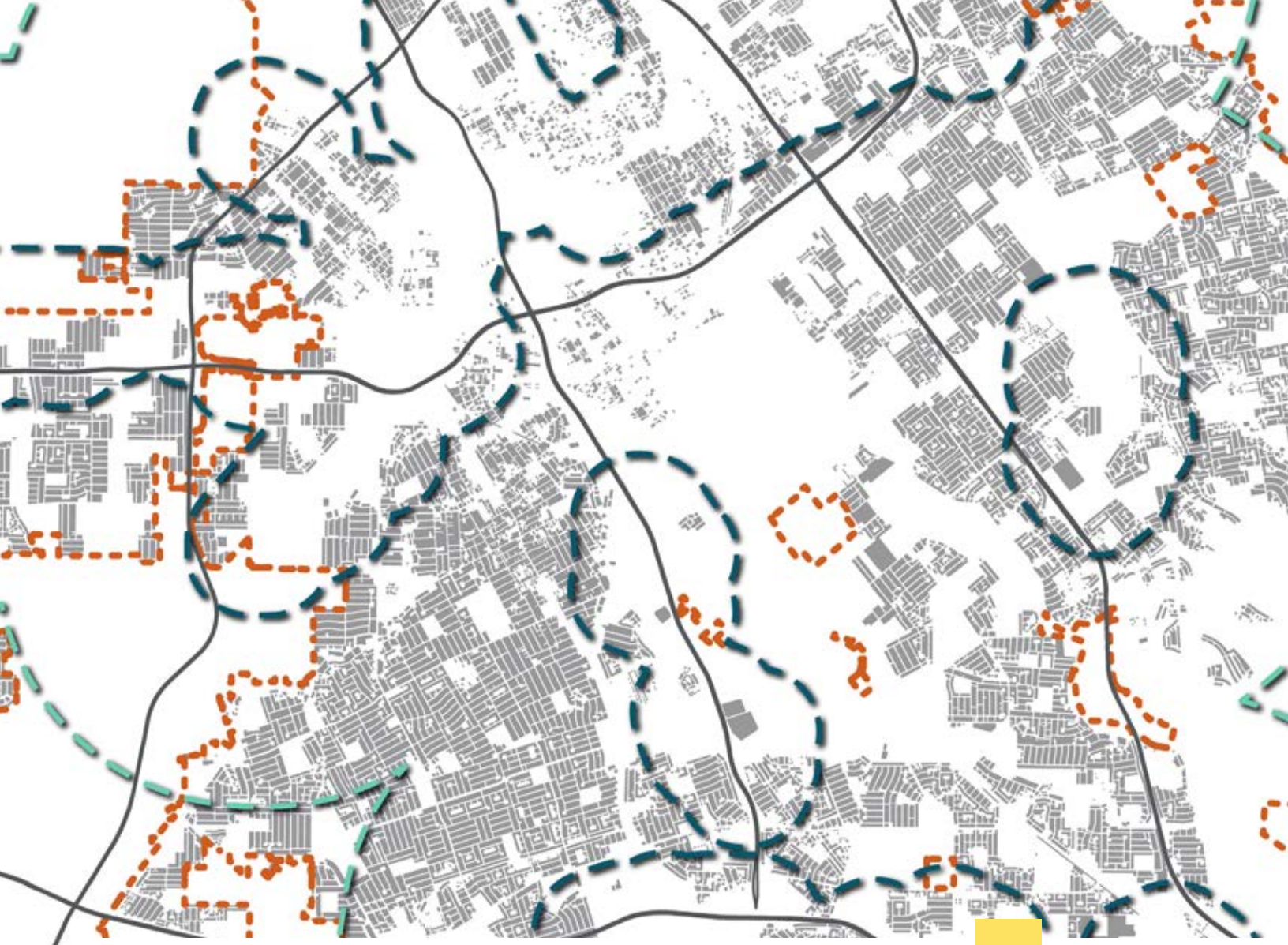
Mortgage Year	Net Operating Income	Annual Mortgage Payment	Annual Net Revenue	Overall Profit
Year 1 (a)	$0	-$141,301	-$141,301	-$141,301
Year 2	$53,352	-$41,613	$11,739	-$129,562
Year 3	$53,352	-$41,613	$11,739	-$117,822
Year 4	$53,352	-$41,613	$11,739	-$106,083
Year 5	$53,352	-$41,613	$11,739	-$94,344
Year 6	$53,352	-$41,613	$11,739	-$82,605
Year 7	$53,352	-$41,613	$11,739	-$70,865
Year 8	$53,352	-$41,613	$11,739	-$59,126
Year 9	$53,352	-$41,613	$11,739	-$47,387
Year 10	$53,352	-$41,613	$11,739	-$35,647
Year 11	$53,352	-$41,613	$11,739	-$23,908
Year 12	$53,352	-$41,613	$11,739	-$12,169
Year 13	$53,352	-$41,613	$11,739	-$429
Year 14	$53,352	-$41,613	$11,739	$11,310
Year 15	$53,352	-$41,613	$11,739	$23,049
Year 16	$53,352	-$41,613	$11,739	$34,789
Year 17	$53,352	-$41,613	$11,739	$46,528
Year 18	$53,352	-$41,613	$11,739	$58,267
Year 19	$53,352	-$41,613	$11,739	$70,007
Year 20	$53,352	-$41,613	$11,739	$81,746
Year 21	$53,352	-$41,613	$11,739	$93,485
Year 22	$53,352	-$41,613	$11,739	$105,224
Year 23	$53,352	-$41,613	$11,739	$116,964
Year 24	$53,352	-$41,613	$11,739	$128,703
Year 25	$53,352	-$41,613	$11,739	$140,442
Year 26	$53,352	-$41,613	$11,739	$152,182
Year 27	$53,352	-$41,613	$11,739	$163,921
Year 28	$53,352	-$41,613	$11,739	$175,660
Year 29	$53,352	-$41,613	$11,739	$187,400
Year 30	$53,352	-$41,613	$11,739	$199,139

Notes:

(a) In Year 1, there is no Net Operating Income because it is expected that the duplex construction would take one year to complete after financing is acquired. The annual mortgage payment for Year 1 also includes $31,872 in closing costs and $67,816 in development costs not covered by the loan.

Source: Strategic Economics, 2021.

IX. APPENDIX C: OPTICOS DESIGN: OPPORTUNITY HOUSING CITYWIDE ANALYSIS



Opportunity Housing Citywide Analysis

San Jose, CA

Summary Report
October 2021

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

STRATEGICECONOMICS

OPTICOS

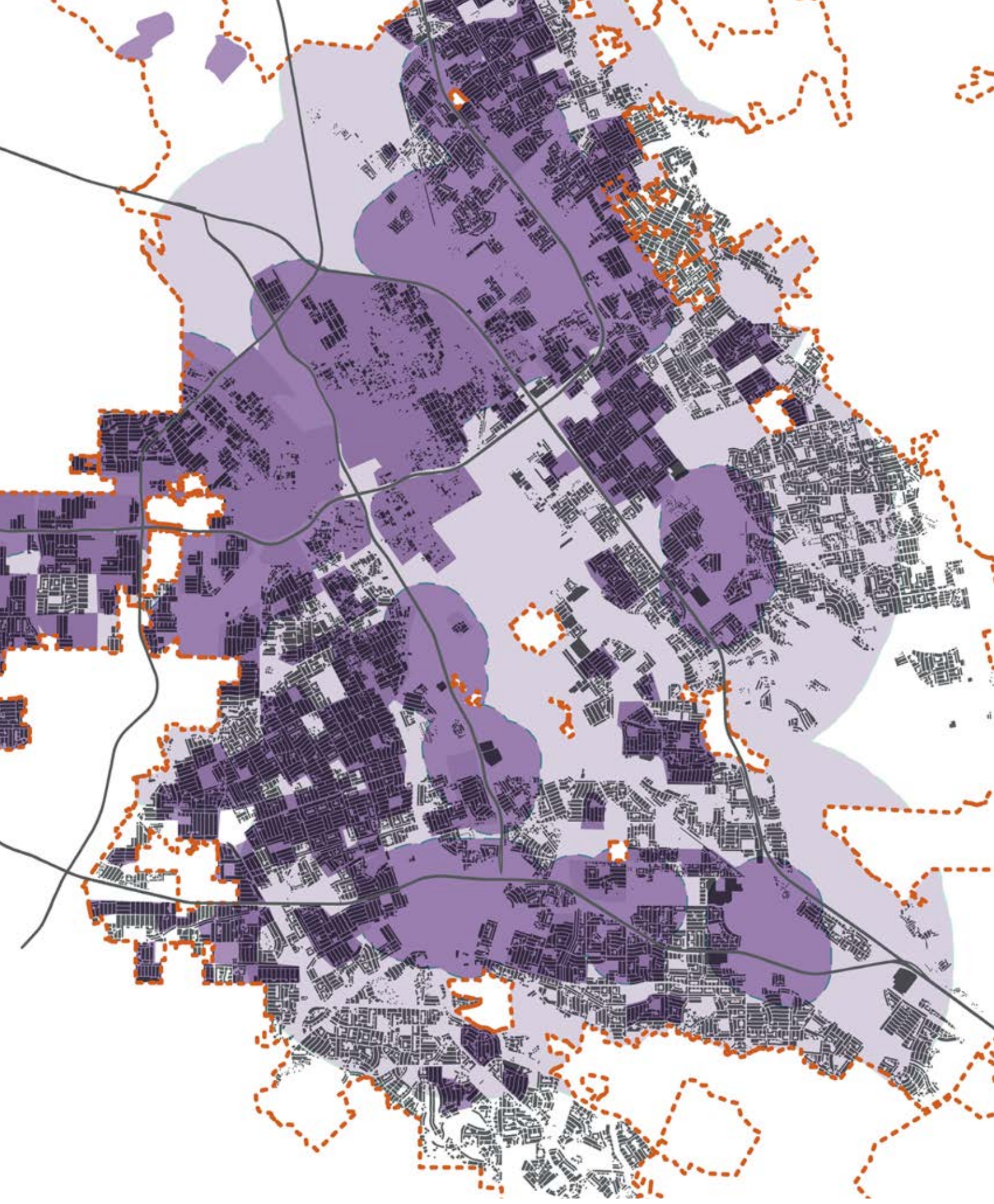
The City of San Jose is studying Opportunity Housing as a response to the housing crisis.

Purpose Of This Study

The City of San Jose, like the rest of the Bay Area, is experiencing a severe housing shortage. One potential strategy proposed by the City Council to address this housing shortage is to change regulatory standards that currently limit the number of dwelling units on a parcel, raising the standards from allowing only a single-family house to allowing four housing units per lot in select areas of the city. **This study analyzes existing conditions that contribute to the feasibility of allowing units such as stacked fourplexes both in the half-mile radius around transit-oriented Urban Villages and on parcels citywide as a potential policy solution to alleviate the housing crisis.**

Regulatory barriers have not been the only barriers to constructing adequate housing in San Jose. Regional real estate and economic trends are formidable hurdles. Astronomical land prices and high construction costs impact the feasibility of small-scale development projects and a developer will typically not receive the rent or sale price of a duplex that justifies the investment of land and construction costs. **This study includes "lot testing" of stacked fourplexes and similar housing types on a range of lot conditions as part of a financial feasibility analysis carried out by Strategic Economics to produce an accurate cost analysis for Opportunity Housing.** Understanding the conditions required for successful development of Opportunity Housing types can help guide housing policy and stimulate housing production in San Jose.

This study supports and references the feasibility report titled "San Jose Opportunity Housing: Feasibility Results" (October 2021) prepared by Strategic Economics for the City of San Jose.



Contents

Methodology + Objectives

This study relies on both qualitative and quantitative analysis in order to inform policy recommendations that would enable Opportunity Housing.

Starting Point

This study builds upon the City's prior work identifying Urban Villages as part of the San Jose 2040 General Plan and designating blocks within one-half mile of transit-oriented Urban Villages as Opportunity Housing Areas.

Purview and Objectives

This study gives particular focus to the potential for Opportunity Housing (typically two to four housing units per lot) within the Opportunity Housing Areas discussed above. However, the city's Opportunity Housing Task Force has also directed staff to evaluate the potential for Opportunity Housing citywide due to equity concerns. As a result, this study is citywide in extent.

This study aims to analyze Opportunity Housing Areas using a variety of metrics to identify optimal locations where Opportunity Housing may be viable. In doing so, the analysis considers existing street patterns, built context, urban form, and regulatory standards.

Since the threshold established by the Opportunity Housing Task Force and City Council is of two to four housing units on a lot, this study uses a typical stacked fourplex as a building type for analysis. Additional Missing Middle building types that are eligible for Opportunity Housing (such as duplexes, townhomes, multiplexes, etc.) were also considered in assessing the development potential of Opportunity Housing Areas.

Qualitative Analysis

Qualitative analysis is an essential component of a complete approach to crafting housing policy, which is intertwined with placemaking, a complex phenomenon that is not comprehensively captured by quantitative methods alone. Qualitative analysis, such as the development and categorization of context types, involves trained observation and judgment to organize patterns into a meaningful framework, and yields greater insight than quantitative analysis alone.

Quantitative Analysis

Quantitative analysis is a second essential component of this study, used to generate critical information about the comparative performance of housing types in different real estate submarkets of the city; the percentage of parcels that could physically fit a typical fourplex if regulations were changed; and the potential net gain of units that could result from changes in housing policy, among other insights.

Multiple Scales of Analysis

This study included analysis at two scales: the citywide scale and the district scale. The citywide scale was a jumping-off point; it illustrated macroscopic patterns that invited further study. The district scale analysis zoomed into specific characteristics of blocks, lots, and building footprints to understand the microscale conditions responsible for citywide patterns, as well as meaningful distinctions between different areas of the city.

Study Methodology

The study employs the following steps for the citywide analysis.

Identify **Urban Villages and Opportunity Housing Areas** citywide

Analyze **urban form patterns,** including building footprints and open space

Study the **regulatory context,** including current zoning and land uses

Analyze **context types** including street connectivity and built form

Identify **the range of lots** that can physically accommodate stacked fourplexes

Carry out **lot testing** using typical stacked fourplexes and other housing types to support financial feasibility analysis

Missing Middle Housing Types

Missing Middle Housing types offer a palette of house-form multi-unit housing options that are compatible with the range of two to four units per lot being considered for Opportunity Housing in San Jose.

Why Definition Matters

Building form will be an important consideration when establishing policies to deliver multi-unit housing into San Jose's existing primarily single-family neighborhoods in a way that expands housing options and also has a positive impact on the surrounding neighborhood.

Building form is an essential component of the concept of **Missing Middle Housing**, which is why several Missing Middle housing types have been considered for this study. Defined as "*a range of multi-unit or clustered housing types (ranging from two to 19 units per lot) that are compatible in scale with single-family homes, Missing Middle Housing types help meet the growing demand for walkable urban living, respond to shifting household demographics, and meet the need for more housing choices at different price points.*"[1]

Beginning with a specific building type in mind such as a stacked duplex or a stacked fourplex enables sharp economic analysis and a clear and communicable vision for the built results of any proposed policy change for Opportunity Housing.

Since the upper threshold established by the San Jose Opportunity Housing Task Force is of four housing units per lot, a stacked fourplex is an important prototype to consider for both its unit count and also its form characteristics.

What Is A Stacked Fourplex?

A Missing Middle Housing type with four units in one house-form building, a stacked fourplex is an optimal building type to study the implications of allowing four units per lot in Opportunity Housing Areas.

A Building Type, Not Just Unit Count

In this study, the term *fourplex* and *stacked fourplex* have been used interchangeably. Both refer to the Missing Middle housing type, and not (as the term is sometimes used) to just any configuration of four housing units on a lot. A stacked fourplex is defined as **"a small to medium-sized structure that consists of two units on the ground floor and two units stacked directly above them."**[2] Delivering four units as a stacked fourplex has many benefits: it can be built on smaller lots, it lives much like a single-family home, and its small-to-medium footprint and two-story height is compatible in scale with existing single-family neighborhoods.

What Is *Not* a Stacked Fourplex

Other ways to deliver four units on a lot may include four side-by-side townhouses, oriented to face the street, or perpendicular to the street with a driveway on one side (sometimes called a "slot home"); or even as four detached units. These alternatives do deliver housing but typically have larger unit sizes than the stacked fourplex, and are thus likely not available at attainable price points. Also, not all configurations of four units on a lot may contribute to good urban form and an active public realm.

[1,2] *Parolek, Dan. Missing Middle Housing: Thinking Big and Building Small to Respond to Today's Housing Crisis*

Typical Lot Dimensions	
Lot Width	50' - 100'
Lot Depth	100' - 150'
Resultant Density (du/acre)	
Without ADU	12 - 36
With ADU	18 - 55

Stacked Fourplex

- *Two units are located on the ground floor and two other units are stacked above them*
- *A common stoop and entrance is used to access all four units*
- *Has the form and scale of one house*

Not a Stacked Fourplex

- *Units are located side-by-side, not stacked*
- *Each unit has distinct massing and a separate entrance*
- *Much wider than one house*

Transit-Oriented Urban Villages + Opportunity Housing

These frameworks identify strategic locations for Opportunity Housing.

Summary

The City of San Jose has designated multiple "Urban Villages" to accommodate growth in both employment and housing. The locations of the Urban Villages were determined during the Envision San Jose 2040 General Plan process. Urban Villages are typically walkable, bikeable, mixed-use, and transit-rich. A subset of Urban Villages are planned around existing or planned regional and local transit stops such as BART, VTA light rail, BRT, and Caltrain, and are designated as *transit-oriented* Urban Villages.

The City has designated the parcels within one-half mile of these transit-oriented Urban Villages as Opportunity Housing Areas, which are priority areas for consideration in the construction of multifamily housing. In the City's words:

Opportunity Housing refers to enabling multi-unit housing on properties with a Residential Neighborhood General Plan land use designation. In San José, these are typically properties in single-family neighborhoods.

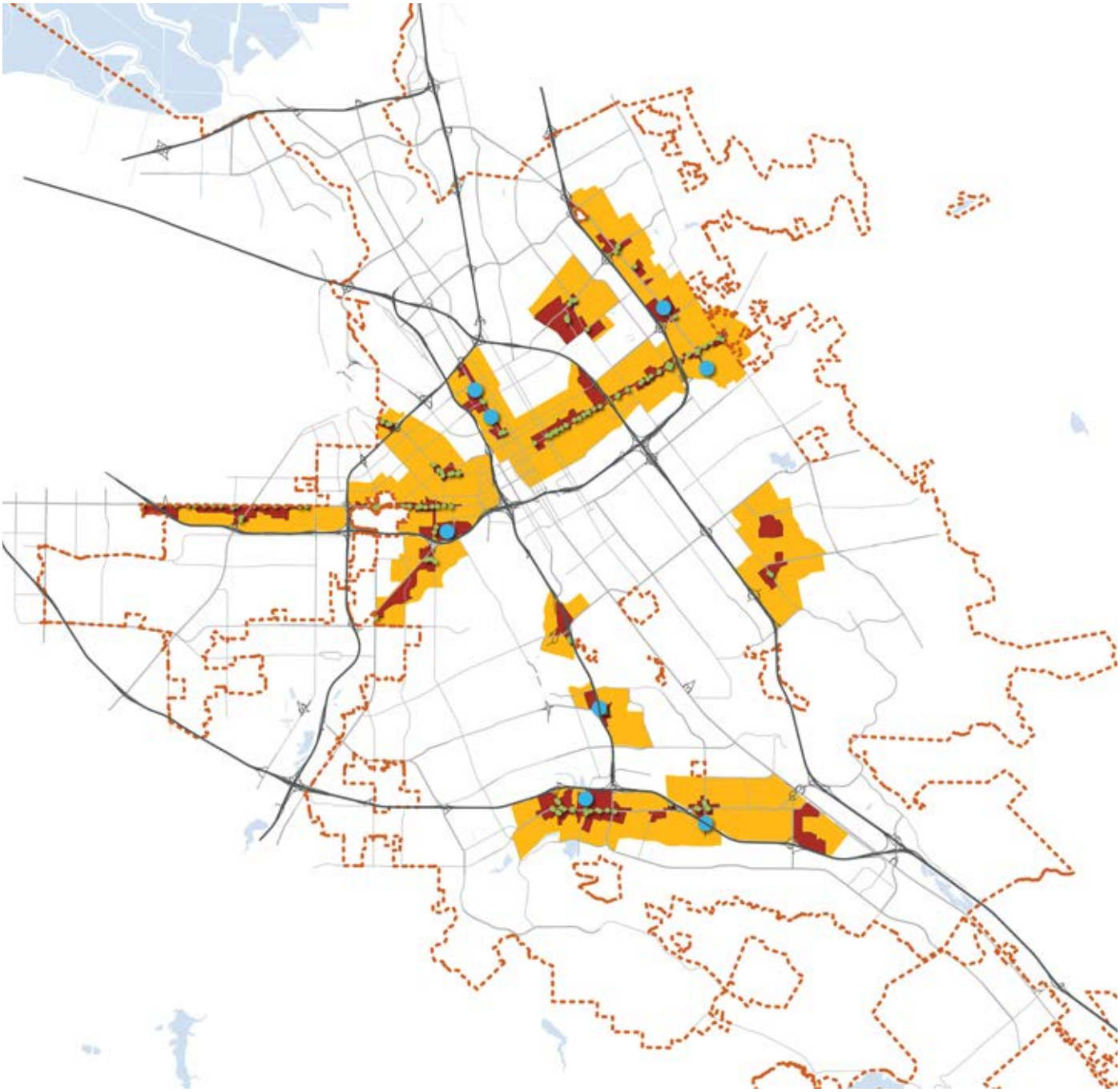
Staff and the General Plan Review Task Force explored allowing up to four units per parcel that could include a mix of a single-family home, duplex, triplex, or fourplex for a total of four dwelling units on the parcel while generally maintaining zoning setbacks and heights. This type of development was allowed in San José prior to World War II and still exists in many older neighborhoods.

Although the present analysis is citywide, it pays special attention to the locations of transit-oriented Urban Villages and their surrounding Opportunity Housing Areas as strategic locations for new multifamily housing.

Key Components of Analysis

Transit Routes

Transit routes and stops are concentrated within the transit-oriented Urban Villages, making these areas prime candidates for walkable, transit-oriented development that can support Missing Middle Housing. San Jose has rich transit providing both local and regional service, including ACE, Caltrain, Amtrak Capital Corridor, and VTA light rail and buses.



Transit-Oriented Urban Villages and Opportunity Housing Areas

Transit-oriented Urban Villages and their surrounding Opportunity Housing Areas are distributed throughout the city, with many clustered around downtown. Located near transit stops, these designations were created and mapped by the City prior to the present study.

Key

- Transit-oriented Urban Village
- Potential Opportunity Housing Area
- Light rail stop
- Bus stop
- City limit

Urban Form

Analyzing the form of the built environment reveals different kinds of places within the city.

Summary

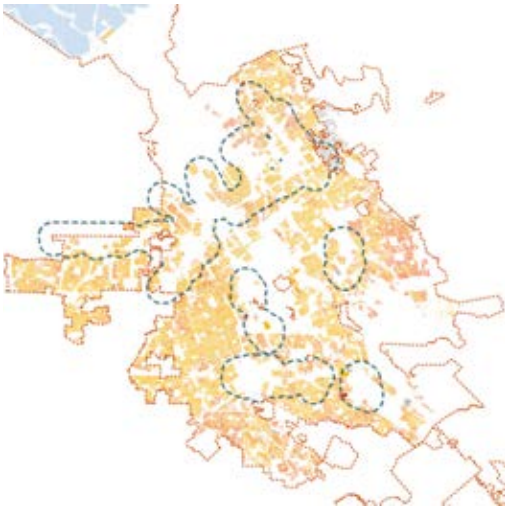
Buildings, streets, and blocks play a key role in shaping the public realm, which in turn impacts walkability. The sizes and shapes of buildings and the uses that occur within them can indicate an area's walkability or lack thereof.

San Jose contains diverse patterns of urban form including a finely gridded downtown with buildings at the edge of the sidewalk, neighborhoods with gridded streets and one- to two-story buildings with small or medium setbacks, neighborhoods with curvilinear streets and one- to two-story buildings with deep setbacks; as well as corridors with large-footprint one-story retail buildings set behind surface parking lots.

Key Components of Analysis

1-2 stories
typical building height

1 unit
predominant among residential buildings



Existing Building Heights
Buildings in San Jose are predominantly one to two stories in height.

Number of Units Per Lot
Most residential units in San Jose are in single-unit buildings (e.g. single-family homes).

Urban Form

San Jose and its transit-oriented Urban Villages (red fill) and Opportunity Housing Areas (yellow fill) include a diverse range of urban patterns.

Widely-spaced medium-footprint buildings in a curvilinear street pattern

Closely-spaced small-footprint buildings arranged in a modified street grid

Widely-spaced large-footprint buildings organized as a district

Regulatory Context

Current zoning standards regulate housing in different parts of the city. The General Plan allocates land uses and provides policy direction for how those neighborhoods should evolve in the future.

Summary

The zoning standards applying to a large portion of the city do not yet support the type of housing envisioned by the Opportunity Housing Areas study.

Key Components of Analysis

8 du/ac

is the maximum allowed density in Single-Family Residential zones

At this density, a lot would need to be

150'x150'

in order to accommodate a fourplex (much larger than physically needed)

General Plan Land Use
In the 2040 General Plan land use map, the predominant land use is Residential Neighborhood (shown here in purple). The General Plan describes this land use as encompassing "*most of the established, single-family residential neighborhoods, including both the suburban and traditional residential neighborhood areas which comprise the majority of its developed land.*"

Zoning and Building Footprints
The building footprints show the pattern of building forms and built up area across the city. Overlaid on zoning districts, these footprints provide a snapshot of development resulting from zoning standards.

Zoning

The zone covering the largest land area in the city is Single-Family Residential (shown in green) allowing up to 8 dwelling units per acre. Fourplexes are not allowed in this zone under the current standards. Opportunity Housing Areas (represented with the blue dashed line designating a half-mile buffer from transit-oriented Urban Villages) contain many parcels that currently have this zoning designation.

Legend

- City limit
- Cluster (R-M)
- Cluster (R-1-5)
- Cluster (R-1-8)
- R-M
- PD
- R-M(PD)
- R-1-1(PD)
- R-2(PD)
- R-1-2(PD)
- R-1-8(PD)
- R-1-RR
- R-1-8
- R-1-5
- R-1-1
- R-1-2
- TEC
- R-2
- RM-H
- Non-Residential

Connectivity Context Types

A key ingredient for walkability is street connectivity. Analyzing existing connectivity revealed context types, one indicator of where Opportunity Housing and other Missing Middle Housing types are appropriate and/or likely to occur under existing conditions.

Background

Missing Middle building types, including stacked fourplexes, are generally viable only when they have no more than one parking space per unit. This parking ratio is suitable for a walkable or bikeable context. This analysis looks at connectivity to establish context types that are walkable and bikeable. Note that this is a snapshot of existing conditions, and context types within San Jose may change over time, particularly in the areas surrounding transit-oriented Urban Villages. Urban Village boundaries may also change.

Methodology

Analyze street and lot patterns to classify groups of blocks as walkable urban, transitional urban-suburban, or suburban context types. These designations account for street connectivity and building placement only. Additional factors such as the mix of uses, quality of the public realm, and multimodal infrastructure also impact walkability.

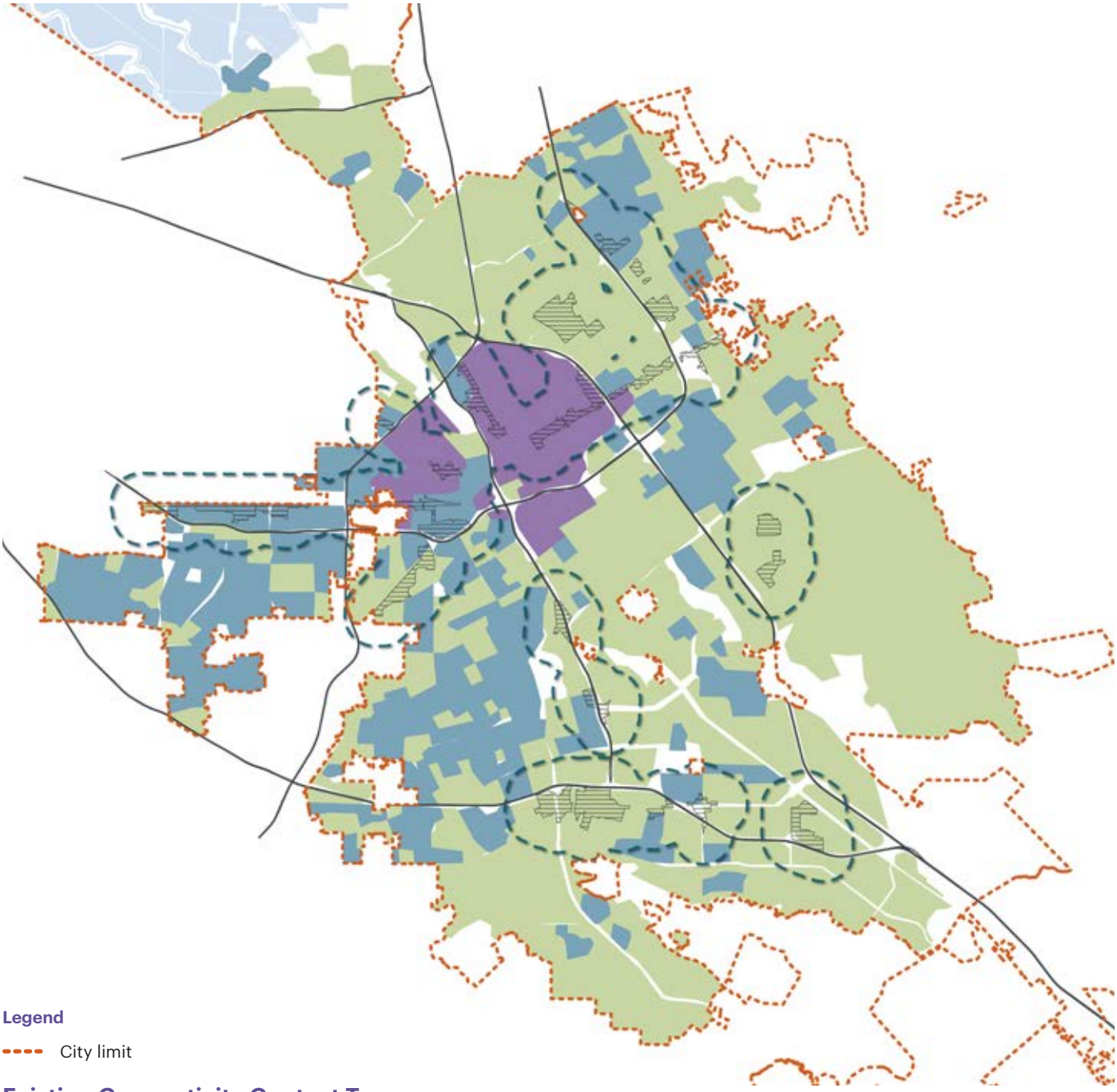
Key Findings

Extensive walkable urban context in Central; extensive transitional context in West Valley and in Berryessa; transitional or suburban context in and adjacent to most other transit-oriented Urban Villages.

Key Components of Analysis

Connectivity and Street Types
The level of connectivity can be read from intersection frequency and number of connections within a neighborhood and to the surrounding street network.

Building Footprints
Building footprints provide information about how building form interfaces with the public realm. Walkable places tend to have buildings near the sidewalk where they are easily visible and accessible to pedestrians.



Legend

City limit

Existing Connectivity Context Types

Walkable Urban

Streets are well-connected with frequent intersections. Lots are long and narrow and some include alley access.

Transitional Urban-Suburban

Streets are well-connected within the neighborhood but may have limited connection to external streets. Lots are wide and deep.

Drivable Suburban

Streets have low intersection frequency and many dead-ends. Lots are large and irregular.

Fourplex-Supportive Lots

This analysis identifies lots that can physically accommodate fourplexes, specifically "stacked fourplexes". Lot size considerations can help to refine density and off-street parking requirements.

Methodology

Establish thresholds for lot dimensions that can fit a typical stacked fourplex: lot width may range from 50 ft to 100 feet, and lot depth may range from 100 ft to 150 feet.

Key Findings

The stacked fourplex building type can fit on a known range of lot depths and lot widths. San Jose has an abundance of lots that fit these dimensional requirements. 113,400 lots, which accounts for approximately **76 percent** of all Residential Neighborhood General Plan land use lots within San Jose, are fourplex-supportive based upon these typical dimensional requirements (lot width and lot depth).

If one considers only the more typical lot dimensions for fourplexes - 50 to 65 feet in width by 100 to 150 feet in depth, approximately **57 percent** of the over 149,700 Residential Neighborhood General Plan land use lots could physically fit a stacked fourplex. An additional 1 percent of the lots could physically fit a fourplex with minimum setbacks and no parking requirement.

Key Components of Analysis

113,400

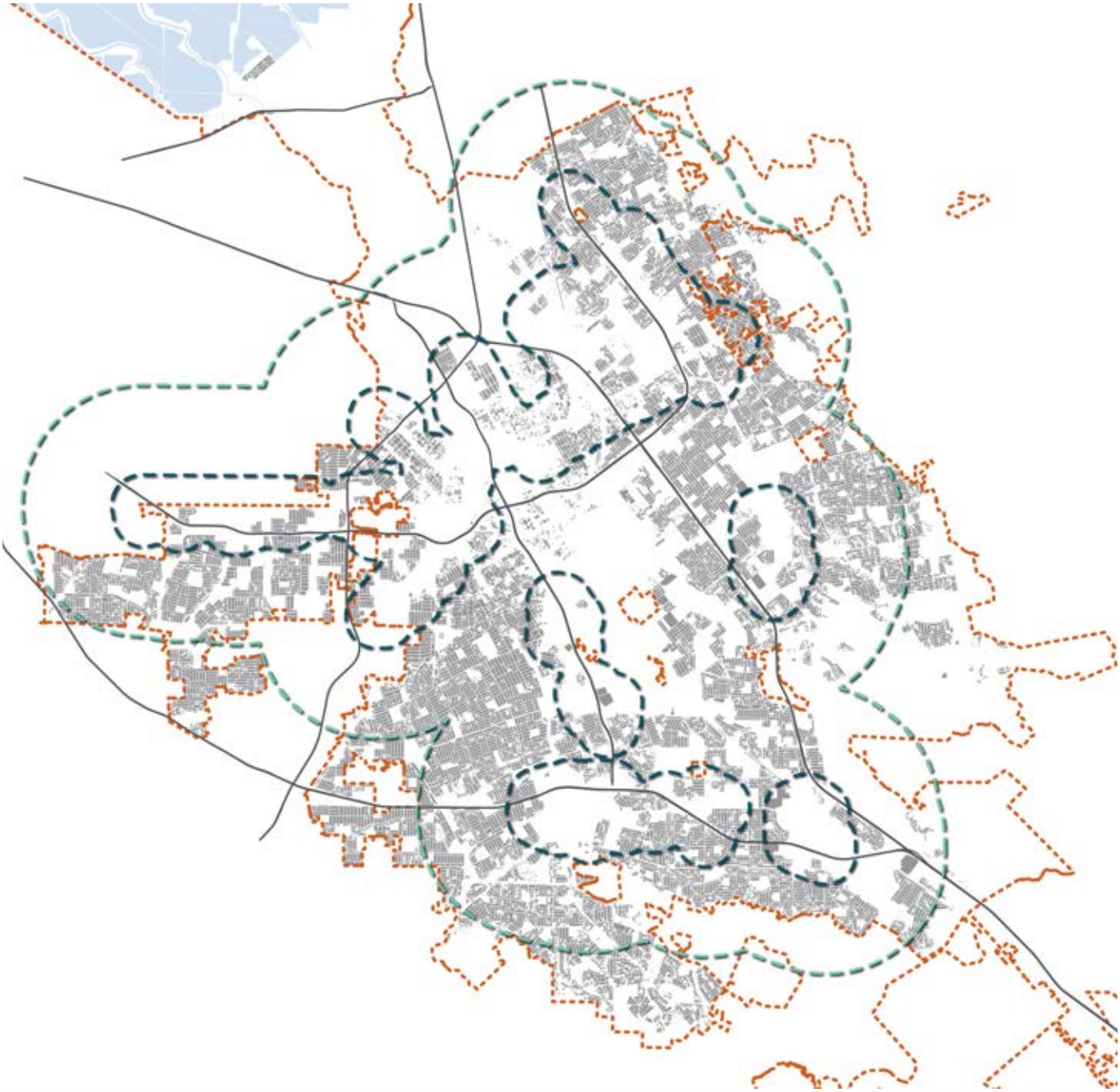
lots dimensionally suitable for fourplex development

=76%

of all Residential Neighborhood General Plan land use lots

Lot Width
The most prevalent dimensional range is greater than 50 feet wide and less than or equal to 75 feet wide. 119,412 lots fall into this range.

Lot Depth
Similar to the lot width analysis, parcels were classified as belonging to one of several ranges of lot depths. The most prevalent dimensional range is greater than 100 feet and less than or equal to 150 feet. 123,009 lots fall into this range.



Fourplex-Supportive Lots

This map displays the lots that meet both the lot width and the lot depth dimensional requirements for fourplexes, along with the half-mile walk shed (dark blue dashed line) and two-mile bike shed (light blue dashed line) from transit-oriented Urban Villages. Parking requirements further refine the lot size required for a fourplex project. As the map shows, significant parts of the city that are outside Opportunity Housing Areas can support fourplexes. This analysis provided the starting point for the lot testing analysis, that also examined additional economic and regulatory factors.

Legend

- Fourplex-supportive lots
- 1/2 mile walk shed
- 2 mile bike shed
- City limit

Missing Middle-Supportive Lots

In analyzing the potential for Opportunity Housing, additional Missing Middle Housing types were also considered that can further the City's Opportunity Housing goals.

145,241 lots

dimensionally supportive of duplexes

30,171 lots

dimensionally supportive of courtyard apartments, cottage courts, townhouses, and multiplexes

Methodology

The parcel data of all parcels designated as Residential Neighborhood General Plan land use were charted in a matrix that shows the number of lots that fall within specific width and depth ranges. These were then classified to indicate what parcels a typical stacked fourplex would physically fit on, with setbacks and parking. The range of lots that can fit fourplexes varies from the smallest at 50 foot wide by 75 foot deep lot up to 65 foot wide by 175 foot wide lot. The matrix also provides a snapshot of other Missing Middle Housing types that can physically fit within the lot width and depth ranges.

Key Findings

79 percent of the over 149,700 Residential Neighborhood General Plan land use lots are larger than the minimum lot size needed to accommodate a stacked fourplex. These lots could develop as multiple fourplexes or might accommodate a different building type such as a courtyard building or a cottage court.

This analysis can be further refined based on parcels that:

- City staff has recommended as Opportunity Housing sites (16,855 lots), based upon a half-mile walkshed from transit stops within each transit-oriented Urban Village;
- Are within a half-mile mile of city designated transit-oriented Urban Villages but not part of the city staff identified Opportunity Housing sites (20,452 lots); or
- Are within the city of San Jose and outside the half-mile radius of the city designated transit-oriented Urban Villages (93,484 lots).

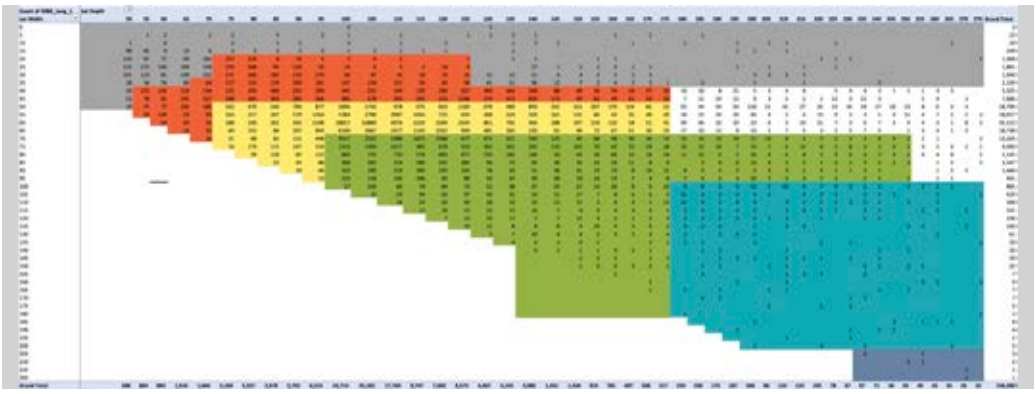
Next Steps

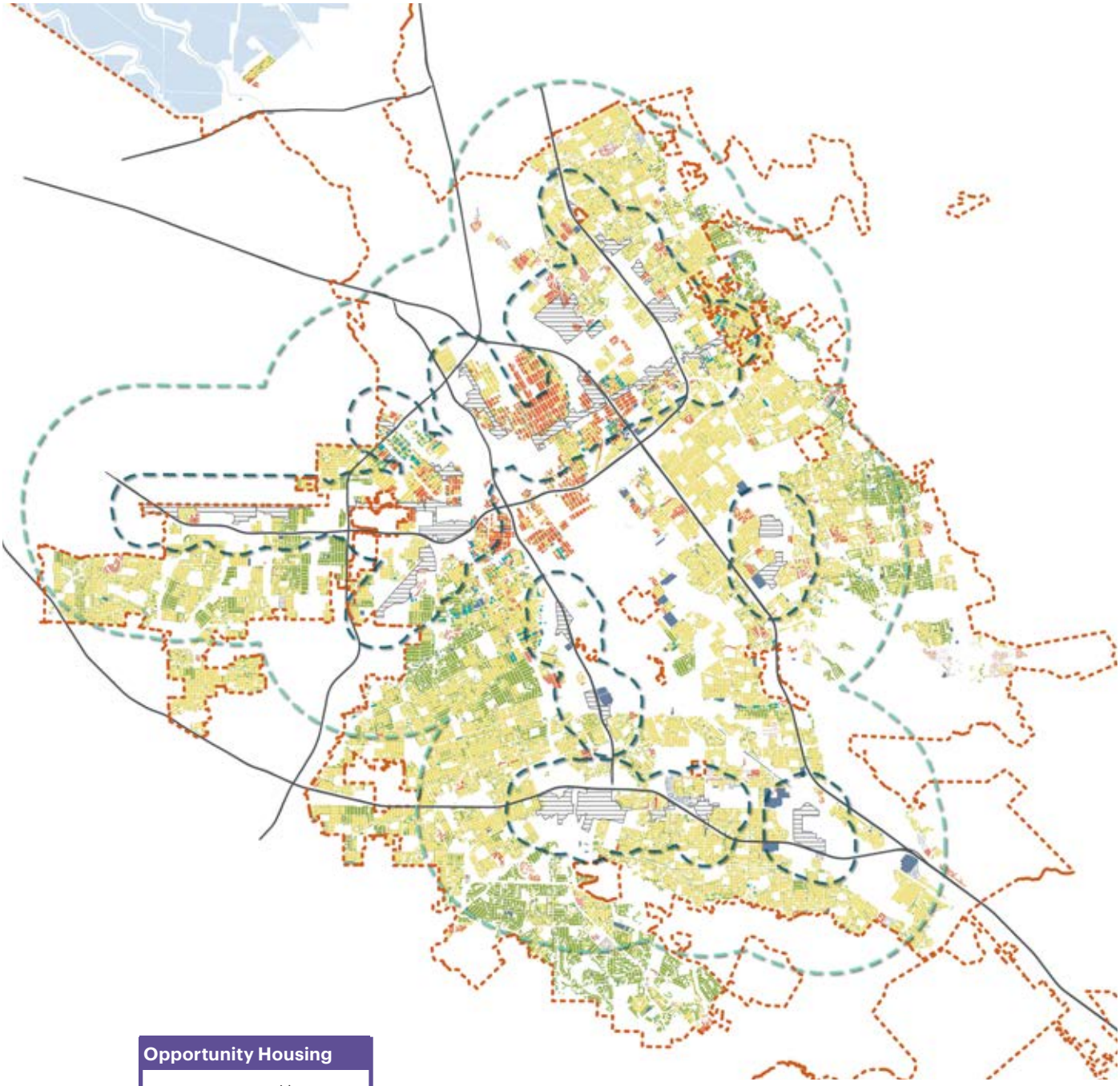
While this analysis explored the range of lots that could accommodate a stacked fourplex building type, additional consideration for financial feasibility will need to be taken into consideration to understand where true redevelopment potential exists.

Right: A matrix used to analyze the distribution of lot widths and depths across all General Plan Residential Neighborhood land use lots in San Jose

Lot Size Categories

- Extra Small
- Small
- Medium
- Large
- Outliers





Lot Size Categories	Single-Family	Opportunity Housing								
		Duplex	Triplex	Fourplex	Courtyard Apt	Cottage Court	Townhouse	Multiplex	Live/Work	Mid-Rise
Extra Small	■	■								
Small	■	■	■	■						
Medium	■	■	■	■	■	■	■	■	■	
Large	■	■	■	■	■	■	■	■	■	■
Outliers	■	■	■	■	■	■	■	■	■	■

Legend

City limit

Lots Supportive of Missing Middle Housing Types

This map displays a range of lot size categories based on lot width and depth. Displayed are lots that physically accommodate various Missing Middle housing types, corresponding to the matrix at left.

Considerations for Enabling Stacked Fourplexes

Particular site conditions and parking requirements further refine dimensional requirements for stacked fourplexes.

Refining Dimensions for Particular Conditions

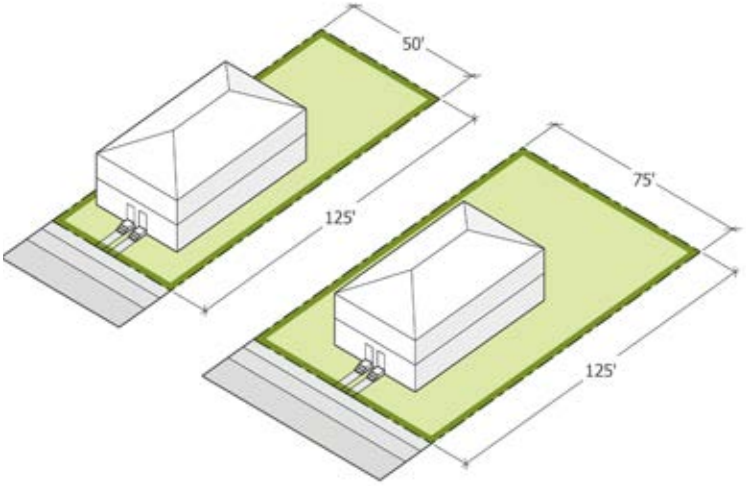
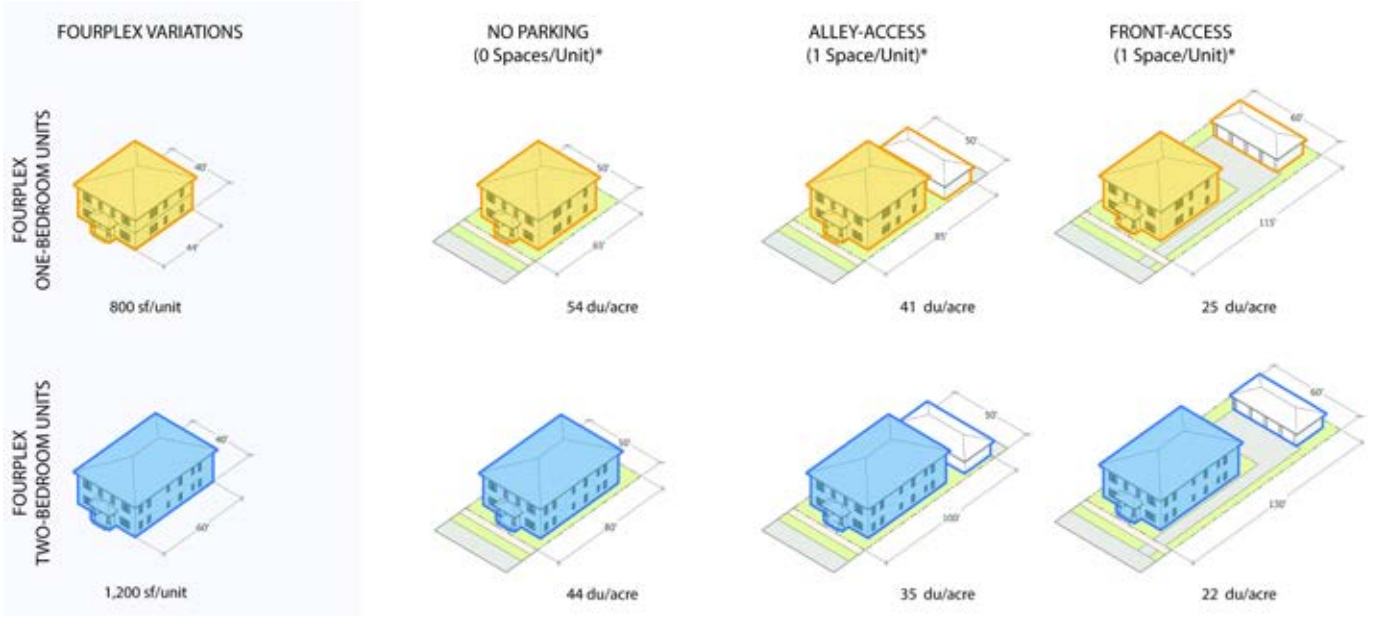


Image Copyright 2020 Opticos Design

The diagram at left illustrates how the dimensional requirements for a stacked fourplex are further refined beyond the two extremes of the lot width range. The 50 by 75 feet lot would accommodate a compact fourplex with 5 foot setbacks and one parking space per unit provided from a rear lane or alley, while a 65 x 175 feet lot would accommodate a larger fourplex with more substantial setbacks and up to two parking spaces per unit. Lots wider than 75 feet and/or deeper than 175 feet can accommodate fourplexes but would not likely develop as a single fourplex building. Larger lots might develop as multiple fourplexes or might accommodate a different building type such as a courtyard building.

Variations in Unit Size and Parking Configuration

The diagram below illustrates how unit size, parking requirements, and whether parking is accessed from the street or from the alley all impact the minimum lot size that can physically accommodate a fourplex.



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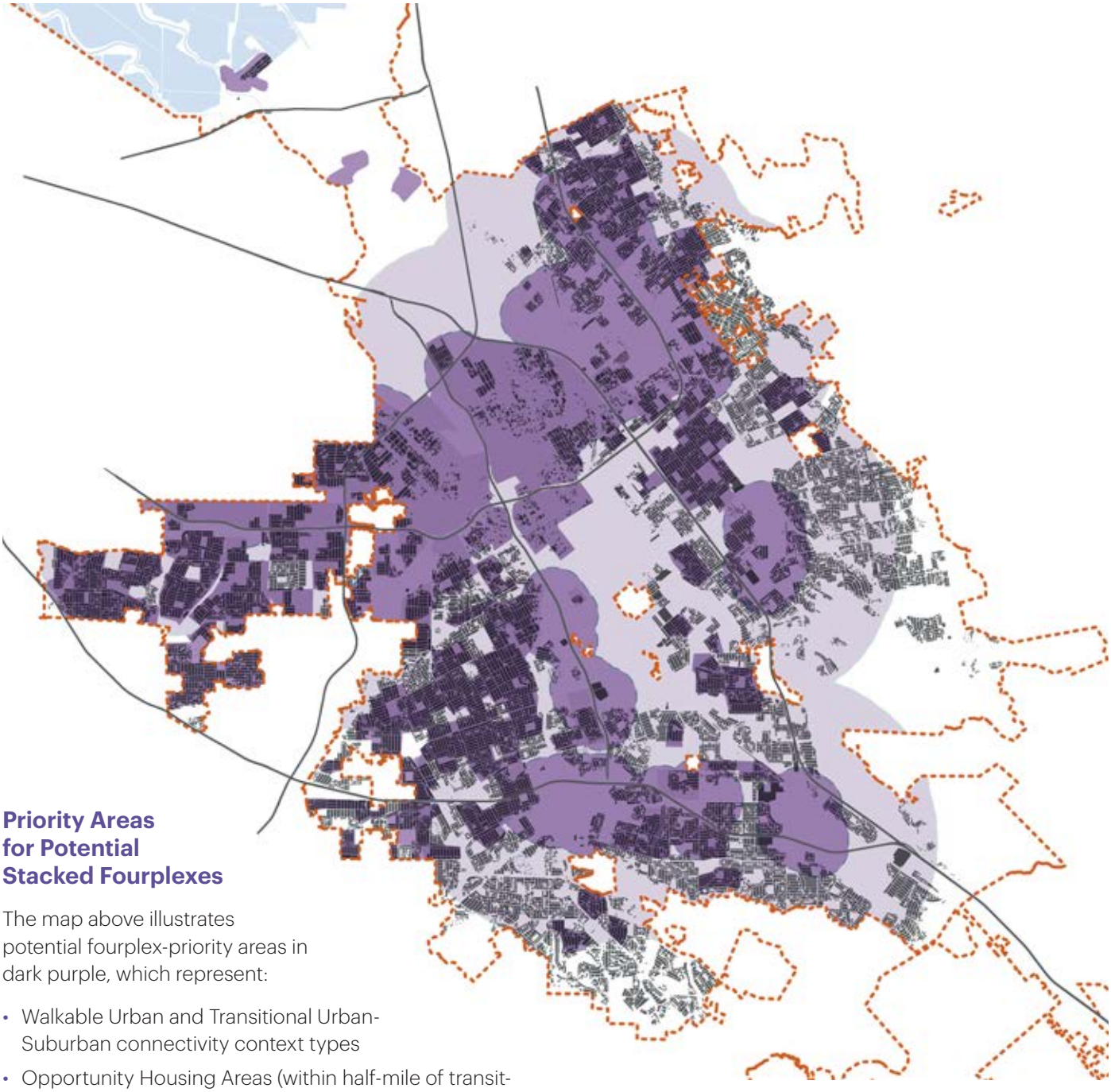


Priority Areas for Potential Stacked Fourplexes

The map above illustrates potential fourplex-priority areas in dark purple, which represent:

- Walkable Urban and Transitional Urban-Suburban connectivity context types
- Opportunity Housing Areas (within half-mile of transit-oriented Urban Villages)

Additionally, the City should consider the bike shed (two-mile radius, shown in lavender) in addition to the walk shed (half-mile) from transit-oriented Urban Villages as stacked fourplex-priority areas.

The form of the housing provided also impacts which areas have the potential to prioritize fourplexes. Missing Middle housing types, such as stacked fourplexes, typically provide smaller units than are offered by, for example, four attached townhomes. Smaller units expand housing access, and typically can rent or sell with just one parking space per unit, even if not located within a walkable urban context type or within a walk shed of a transit-oriented Urban Village.

Legend

- Stacked fourplex-supportive lots
- Stacked fourplex priority areas
- 2 mile bike shed
- City limit

Lot Testing + Feasibility Analysis

To assess the viability of building types on specific lot configurations, lot testing is an essential step to inform the cost feasibility analysis of Opportunity Housing.

The Purpose of Lot Testing

Lot testing involves the design testing of typical building prototypes on select lot configurations. Since specific building types have inherent minimum dimensions, lot testing reveals the impacts and limitations of lot width and lot depth toward building size and off-street parking. The process seeks to optimize the unit count and parking count for a given lot size, with respect to desired building form within the allowed density and/or FAR. Since this involves using actual building types and site and parking layout, the results are more precise than numeric calculations based only on density or FAR.

Determining the Inputs

The first criteria for lot selection were allowed land use and lot size. Lots selected for this purpose were in the Residential Neighborhood General Plan land use with lot widths ranging from 50 to 60 feet. More information on the selection criteria is described on the facing page.

For the selected lot widths (50 feet and 60 feet), a stacked fourplex was a logical baseline building type for comparative feasibility analysis, since the upper threshold set by the Opportunity Housing Task Force and City Council for this analysis was four units per lot.

A stacked fourplex was selected because it provides four units, but within an overall footprint that is generally comparable to the footprints of single-family homes. The remaining lot area not dedicated to the building footprint could be utilized for a more intense parking approach when appropriate. The lot testing also considered variations in fourplex unit and building footprint sizes, and this in turn affected the parking approach as well.

Iterative Learning

The lot testing consisted of three rounds, and the process involved close collaboration with Strategic Economics. For each round, the development program achieved from the lot test was analyzed for financial feasibility for both rental and for-sale products in the three tiered submarkets identified for San Jose by Strategic Economics. For additional information on the submarkets, please refer to the report titled "San Jose Opportunity Housing: Feasibility Results", by Strategic Economics, October 2021.

A Note About ADUs

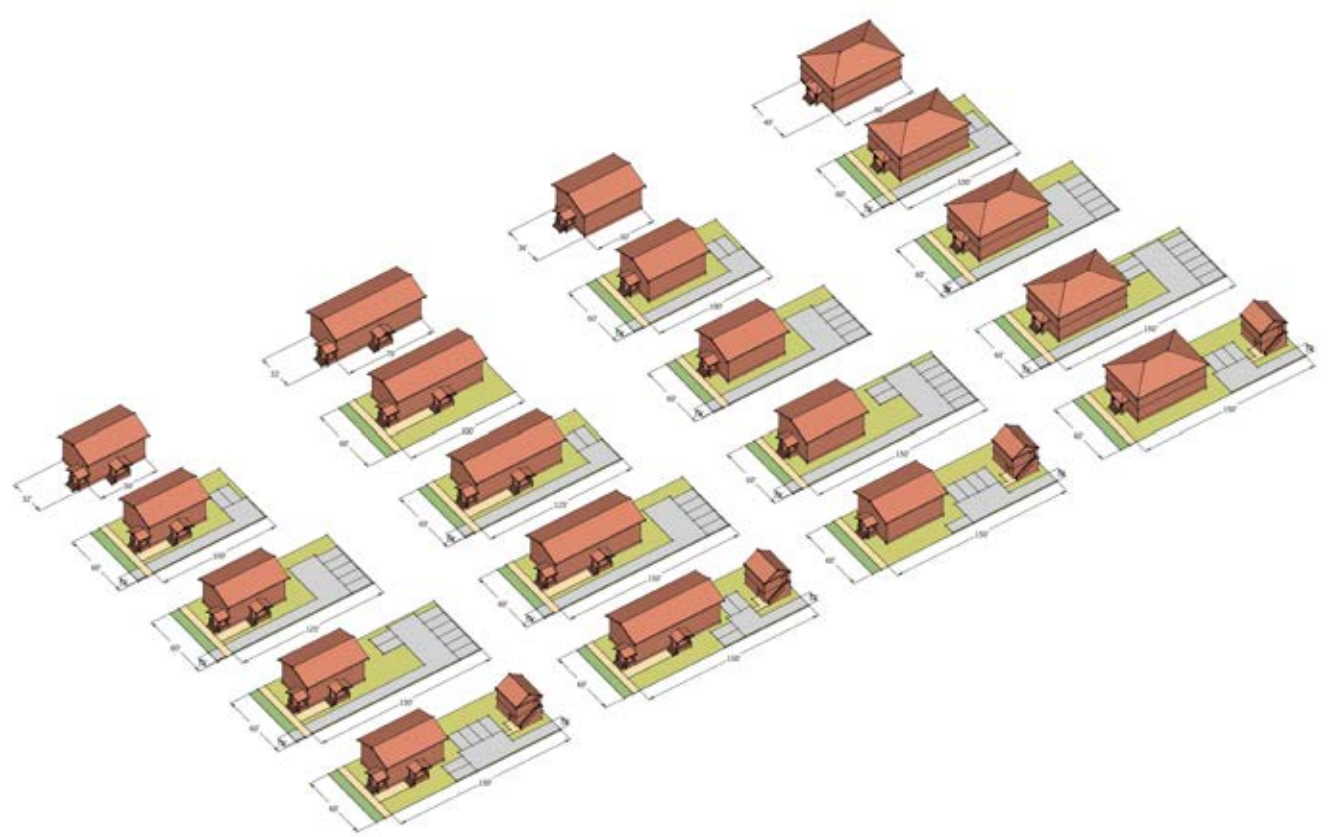
Accessory dwelling units were considered for 150-feet deep lots in the first round of testing and for select 125-feet deep lots in the second round. However, for consistency in comparing the different lot tests, ADUs are excluded from the FAR calculated and the feasibility results.

Attainability and Livability Considerations

In assessing financial feasibility, an important consideration to keep in mind is whether the "financially feasible" outcomes are also attainable at area median incomes. Unless the additional housing units delivered as part of Opportunity

CLOSER LOOK

Selecting Lot Sizes for Feasibility Testing



Four variations of the stacked fourplex building type were tested on lots 50 feet and 60 feet wide, and varying lot depths commonly found in San Jose. The graphic above shows the lot testing for 60 feet-wide lots.

Lot sizes were determined through citywide analysis of lot widths and depths of lots with the Residential Neighborhood General Plan land use designation. Lot widths and depths were arranged in a matrix to show the number of lots with each dimension, grouped in five-foot increments, revealing the most prevalent lot dimensions throughout the city. For example, the matrix showed that 60 feet is the most commonly occurring lot width with 90,364 lots having this dimension, more than double the number of lots with any other lot width. As a result, 60 feet was the lot width selected for study in most prototypes.

A lot depth of 125 feet allows most traditional fourplexes to have 4 off-street surface parking spaces, accessed by a front-loaded driveway that leads to the parking area in the middle and rear of the lot. The lot testing showed that 100-feet deep lots are not able to support off-street parking at a ratio of 1 space per unit, and 150-feet deep lots are able to support off-street parking at a ratio of 1:1 or slightly greater.

After an initial round of analysis, the lot size of 60 feet x 125 feet was determined to be most suitable for further testing. About five thousand (5,030) lots fall in the range of 60-65 feet width and 125-150 feet depth.

Housing are attainable to a majority of the San Jose population, the policy will be limited in its equity goals.

Another key consideration in drafting policy is that of livability. The manner in which the new housing will respond to privacy concerns from existing homeowners, and how the new housing types will engage with the street and sidewalk will be important. For instance, when building entrances face the street, it contributes to a safer, more walkable environment and helps build a sense of community. When building facades "back on" or "side on" to a street, this aspect is not addressed. Similarly, if a new building has all its units with windows overlooking a neighbor's yard, it may cause friction. These and other form criteria should form part of policy decisions regarding Opportunity Housing.

Summary of Lot Testing Results

The three rounds of lot testing included testing a variety of units on the same lot size (7,500 sq ft; 60 x 125 feet) for consistency. Strategic Economics tested the types described below for financial feasibility, in addition to other variations. The following steps were followed:

Round 1. Test an "idealized" housing type and additions

The first round tested a stacked fourplex, considered an ideal type to deliver attainability (due to its smaller unit sizes) and livability (due to its massing and orientation that work well in single-family neighborhoods). The stacked fourplex was found to be financially unfeasible (both rental and for-sale) across all three submarket tiers.

A stacked duplex prototype with larger, for-sale units had better feasibility in two of the three submarket tiers. This round also tested the scenario of maintaining the primary single family home while adding a duplex at the rear yard of the lot. This option was feasible in one submarket as a for-sale product but not as rental.

With these initial findings, the team sought to explore options that would be more feasible.

Round 2. Test housing types most likely to be market-feasible

In the second round, the team selected housing types more likely to achieve feasibility. These included a set of four side-by-side townhouse units oriented perpendicular to the street, a common lot configuration seen in San Jose and parts of the Bay Area. A set of four detached single-family homes were also studied. Modifications to improve financial feasibility included increasing unit sizes and building footprints, and adding a third story. These types were found to be financially viable in some submarkets under current market conditions.

The results from this round showed that increasing FAR improved the potential for market feasibility. As building size increased, so did the unit size, up to the market threshold beyond which it became more appropriate to increase unit count as opposed to unit size. Given that the lot size stayed the same, FAR could increase with additional height or larger footprints with reductions to the open space on the lot, but generally the parking count could not be increased without drastic reductions to existing setbacks.

While prototypes tested in this round are financially feasible, they typically may not provide housing that is attainable to most median-income residents. In terms of building form and orientation, these do not make much contribution to neighborhood character or an active public realm.

Round 3. Find the sweet spot for feasibility, attainability and livability

In the third round of testing, the team sought to make modifications to the housing types to achieve financial feasibility while also aiming for good urban form and addressing attainability concerns.

To do this, the team had to push the defined parameters for Opportunity Housing, and add units beyond the established threshold of four per lot. In this round, the prototypes tested include two- and three-story stacked eightplexes and three-story stacked sixplexes. For this exercise, unit sizes and building footprints were kept similar to those used in the first round, and parking was reduced. Overall FAR was increased to improve financial feasibility by adding on a third floor.

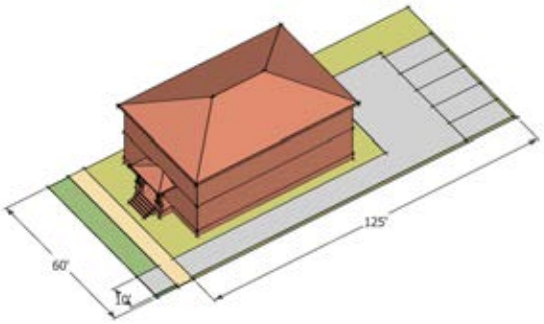
Some of these prototypes were found to be feasible in some submarkets under current market conditions. These also would likely be more attainable, since unit sizes are smaller. These typically have reduced on-site parking, which may limit their appeal to some.

In the following pages, the three rounds of testing are described, with supporting graphics and program summaries.

For additional information about the feasibility analysis across the tiered submarkets, refer to the report prepared by Strategic Economics titled "San Jose Opportunity Housing: Feasibility Results", October 2021. This report by Strategic Economics also includes discussion on related topics such as potential impacts of recent state-wide legislation on Opportunity Housing (SB9, SB10) and other relevant information.

Round 1 Test an "idealized" housing type and additions

Stacked Fourplex



This lot test used a typical stacked fourplex building type, known to promote livability and attainability. A typical fourplex has smaller individual units, with an overall building footprint that closely matches that of a medium-to-large single-family house. For achieving the equity goals of Opportunity Housing, it was important to test this type.

However, the financial model showed this prototype to be financially infeasible, for both rental and for-sale products. **As a result, this type is unlikely to contribute to additional housing in San Jose.** A variation tested was a larger side-by-side duplex. **This type was found to be feasible as a for-sale product in two of the three submarket tiers.** However, the larger unit sizes indicate that attainability may be an issue with this prototype.

Lot + Building Specifications	
Lot size	*7,500 sf*
Lot dimensions	*60 ft x 125 ft*
# of units	*4*
# of parking spaces	*5 (1.25 per unit)*
Unit types	*2 bd / 2 ba*
Unit sizes	*1,080 sf*
Density	*23 du/ac*
FAR	*0.64*

Feasibility by Submarket

Note: Calculated based on residual value to acquisition cost ratio

	For-Sale	***Rental***
Tier 1	*Not feasible*	*Not feasible*
Tier 2	*Not feasible*	*Not feasible*
Tier 3	*Not feasible*	*Not feasible*

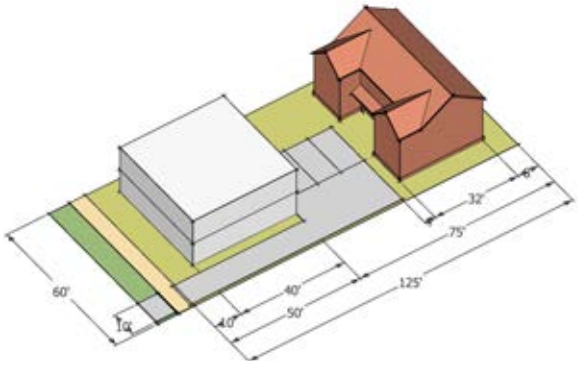
Attainability **Feasibility** **Livability**

Variation Tested (not shown here)

Two-Story Side-by-Side Large Duplex. This was tested as a for-sale product and was feasible in Tiers 1 and 2.

Round 1 *(Continued)*

Side-by-Side Duplex Addition



This prototype adds a side-by-side duplex to the rear yard of an existing single-family home. Approaches to off-street parking for this scenario can vary. The single-family home may have a front-loaded garage with a driveway that can support one or two tandem parking spaces. In lieu of that, a separate drive aisle for mid-lot parking could provide up to two parking spaces, with the portential for additional tandem parking within the drive aisle.
This prototype was found to be feasible in one submarket tier, as a for-sale product.

Lot + Building Specifications	
Lot size	*7,500 sf*
Lot dimensions	*60 ft x 125 ft*
# of units	*2*
# of parking spaces	*2 (1 per unit)*
Unit types	*3 bd / 3 ba*
Unit sizes	*1,290 sf*
Density	*12 du/ac*
FAR	*0.36*

Feasibility by Submarket

Note: Calculated based on residual value to acquisition cost ratio

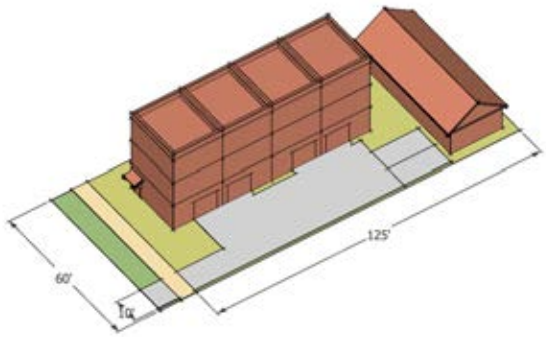
	For-Sale	***Rental***
Tier 1	*Feasible*	*Not feasible*
Tier 2	*Not feasible*	*Not feasible*
Tier 3	*Not feasible*	*Not feasible*

Attainability **Feasibility** **Livability**



Round 2 Test housing types most likely to be market-feasible

Side-by-Side Townhouses



This round evaluated building types proven to be market-feasible based upon their recent production in San Jose. Understanding the financial performance of these types provided a helpful benchmark against which to compare the performance of other tested types. The prototype tested consists of four attached three-story townhouse units with tuck-under parking; oriented perpendicular to the street, all fronting onto a common driveway (colloquially called "slot houses"). **This type is financially feasible, but with larger units, the typical sale price or rent of this type of housing will be too high to provide additional attainable housing at area median incomes.**

Lot + Building Specifications	
Lot size	*7,500 sf*
Lot dimensions	*60 ft x 125 ft*
# of units	*4*
# of parking spaces	*6 (1.5 per unit)*
Unit types	*3 bd / 2.5 ba*
Unit sizes	*1,480 sf*
Density	*23 du/ac*
FAR	*0.91*

Feasibility by Submarket

Note: Calculated based on residual value to acquisition cost ratio

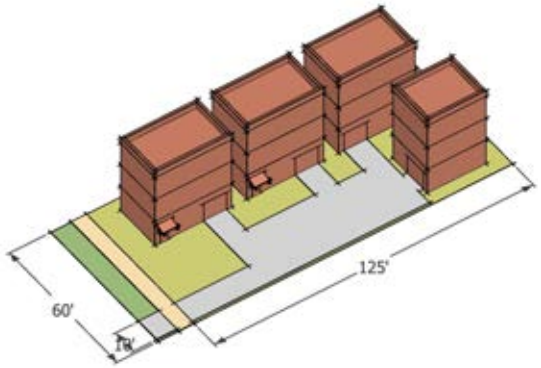
	For-Sale	***Rental***
Tier 1	*Feasible*	*Not tested*
Tier 2	*Not feasible*	*Not tested*
Tier 3	*Not feasible*	*Not tested*

Attainability **Feasibility** **Livability**



Round 2 (*Continued*)

Multiple Single-Family Houses



Also as part of Round 2, a prototype tested included four detached three-story single-family units, oriented perpendicular to the street and fronting onto a common driveway. A variety of parking approaches can be used for this type, including garages, tuck-under and/or tandem parking in the driveway. **Similar to the attached side-by-side townhouse prototype, this type is financially feasible, but with larger units, the typical sale price or rent of this type of housing will be too high to provide additional attainable housing at area median incomes.**

Lot + Building Specifications	
Lot size	*7,500 sf*
Lot dimensions	*60 ft x 125 ft*
# of units	*4*
# of parking spaces	*4 (1 per unit)*
Unit types	*3 bd / 2.5 ba*
Unit sizes	*1,480 sf*
Density	*23 du/ac*
FAR	*0.91*

Feasibility by Submarket

Note: Calculated based on residual value to acquisition cost ratio

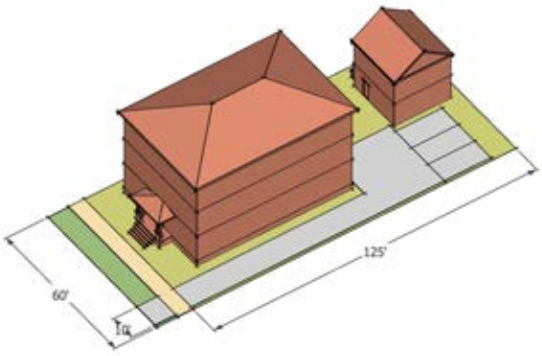
	For-Sale	***Rental***
Tier 1	*Feasible*	*Not tested*
Tier 2	*Feasible*	*Not tested*
Tier 3	*Not feasible*	*Not tested*

Attainability **Feasibility** **Livability**



Round 3 Find the sweet spot for feasibility, attainability, and livability

Three-Story Stacked Sixplex



In Round 3, the team expanded on the unit count thresholds established for Opportunity Housing in order to explore housing options that could deliver livability and attainability while also being financially feasible. In this round, sixplexes and eightplexes were tested. Unit sizes were kept the same as the fourplex tested in Round 1, but FAR was increased by adding on a third story. Since the building footprint remained the same, a reasonable amount of parking could be provided. Alternatively, the building envelope could be increased, providing slightly larger units, when used in areas where parking is not a high priority (such as Opportunty Housing Areas adjacent to transit stops). **This type is financially more feasible, and with additional smaller units, potentially more attainable. While reduced parking may limit its appeal, it is likely to yield additional housing, in at least some of San Jose's submarkets.**

Lot + Building Specifications	
Lot size	*7,500 sf*
Lot dimensions	*60 ft x 125 ft*
# of units	*6*
# of parking spaces	*3 (0.5 per unit)*
Unit types	*2 bd / 2 ba*
Unit sizes	*1,080 sf*
Density	*35 du/ac*
FAR	*0.96*

Feasibility by Submarket

Note: Calculated based on residual value to acquisition cost ratio

	For-Sale	***Rental***
Tier 1	*Feasible*	*Not feasible*
Tier 2	*Not feasible*	*Not feasible*
Tier 3	*Not feasible*	*Not feasible*

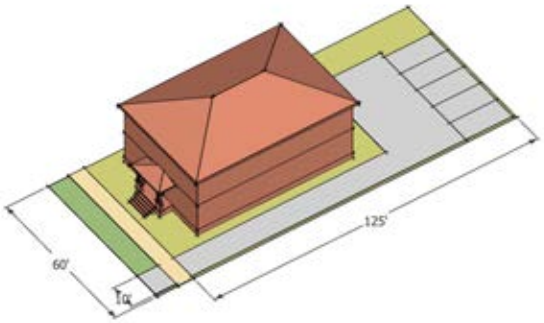
Attainability **Feasibility** **Livability**

Variations Tested (not shown here)

Three-Story Stacked Eightplex. This prototype was derived by adding a 2-story, 2-unit wing to the rear of a 3-story fourplex. The increased FAR made this type feasible as both a for-sale and as a rental product but only in Tier 1, not Tiers 2 and 3.

Round 3 *(Continued)*

Two-Story Stacked Eightplex



Also as part of Round 3, a two-story stacked eightplex was tested as a rental product. This prototype had similar unit sizes to the fourplex tested in Round 1. While this configuration is likely to blend in well with adjacent single-family homes, and also has reasonably small unit sizes to address attainability, it does have higher construction costs per square foot. **This housing type was found to be infeasible, and is not is likely to contribute to additional housing in San Jose.**

Lot + Building Specifications	
Lot size	*7,500 sf*
Lot dimensions	*60 ft x 125 ft*
# of units	*8*
# of parking spaces	*5 (0.6 per unit)*
Unit types	*2 bd / 2 ba*
Unit sizes	*1,048 sf*
Density	*47 du/ac*
FAR	*1.24*

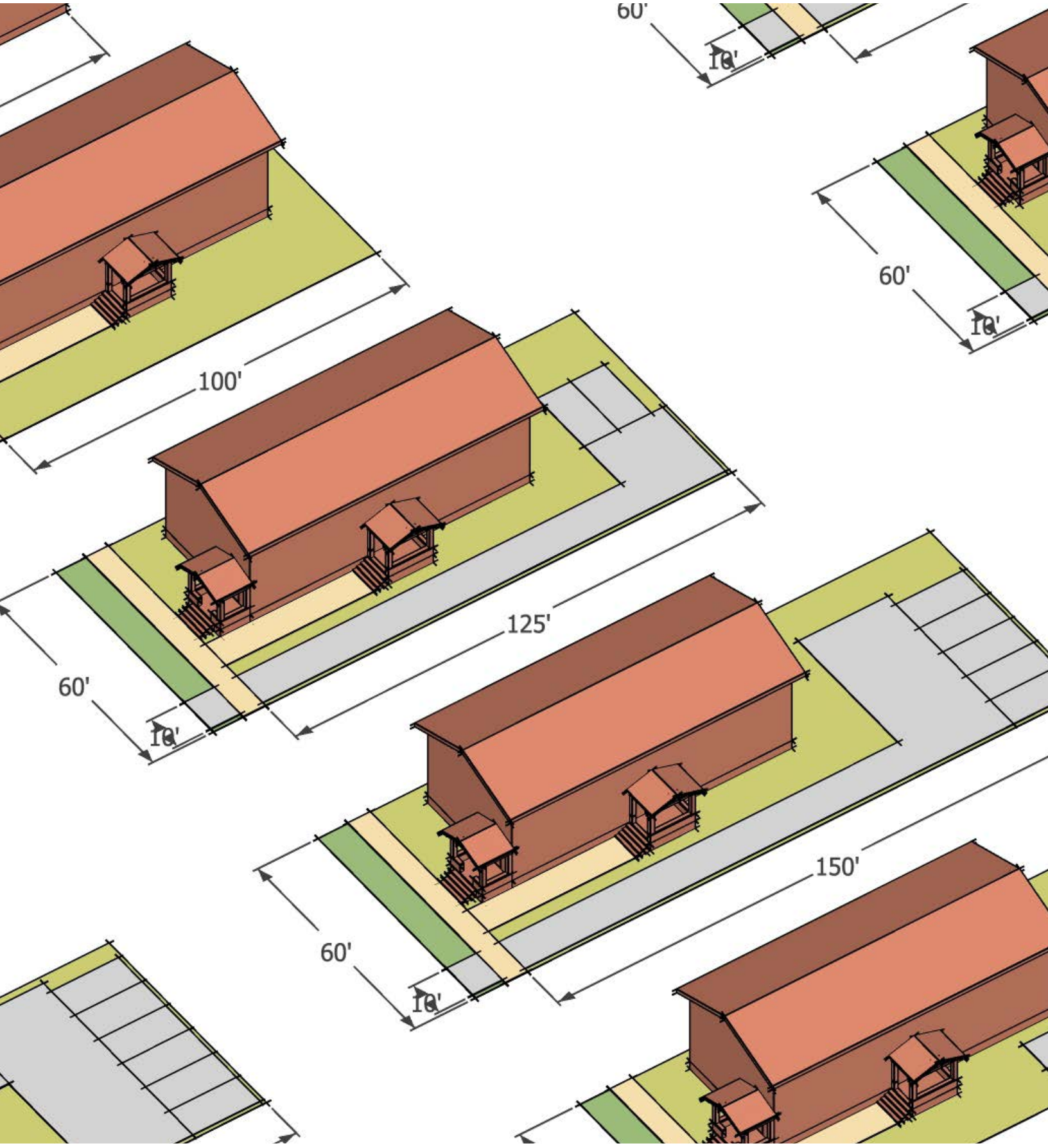
Feasibility by Submarket

Note: Calculated based on residual value to acquisition cost ratio

	For-Sale	***Rental***
Tier 1	*Not tested*	*Not feasible*
Tier 2	*Not tested*	*Not feasible*
Tier 3	*Not tested*	*Not feasible*

Attainability **Feasibility** **Livability**




60'
100'
60'
125'
60'
150'
60'