

Residential Feasibility Analysis

Petaluma General Plan

August 10, 2023

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Executive Summary

Strategic Economics examined barriers to development of market rate higher-density housing development in Petaluma by analyzing the financial feasibility of four housing development “prototypes.” The analysis examined 1) whether these types of development products are currently feasible in Petaluma, 2) the major factors driving costs and revenues for each prototype, and 3) how potential City policies can enhance the feasibility of the prototypes. The City of Petaluma commissioned this study as part of its General Plan update process to inform decisions regarding City policies that impact housing development.

The vast majority of residential buildings in Petaluma are currently three stories or shorter. No known past or current proposed housing developments in Petaluma exceed five stories. However, the City of Petaluma requested an analysis of some housing products that exceed five stories, based on the possibility that such products may be allowed or proposed in the future given the community’s priorities of growing within the urban growth boundary while encouraging more walkable and transit-oriented communities that enable fewer vehicle miles traveled and reduced greenhouse gas emissions. Therefore, the development prototypes analyzed in this analysis consisted of four market rate rental products ranging from three to eight stories:

- 3-story multifamily building with “tuck-under” parking
- 5-story “wrap” product in which housing units wrap around a concrete parking structure
- 8-story podium product in which housing units sit atop a multilevel concrete parking structure
- 8-story podium product with a parking ratio of 1.25 spaces per housing unit, rather than the 1.5 spaces per unit assumed in the other three prototypes

Higher-density rental housing products are currently generally financially infeasible in Petaluma due to high regional construction costs and limited achievable local rents and sales prices. Based on the results of the feasibility analysis, none of the four development prototypes are currently financially feasible in Petaluma. This finding reflects generalized conditions for land costs, development costs, expected rents, and required return. Actual development conditions will vary from project to project and some projects may still be viable; individual developers may have unique development cost structures, land costs, or financing conditions that allow them to move forward with projects even under difficult market circumstances. However, developers throughout the Bay Area are currently finding it difficult to construct financially feasible multifamily projects due to increases in material costs of construction, increasing interest rates, and difficulty obtaining financing. Development costs in Petaluma are similar to those in other parts of the Bay Area, since costs of labor and materials do not vary significantly within the region. At the same time, achievable rents and sales prices in Petaluma are generally lower than those found in core Bay Area locations such as the Peninsula, Silicon Valley, Berkeley, and parts of Oakland.¹

City policy decisions can modestly impact factors that drive development costs and revenues, although most of these factors are outside the City’s control. Examples of City policy adjustments that can reduce development costs or enhance revenues include the following:

- Reducing municipal fees, which the City has recently done for affordable housing units

¹ For example, CoStar real estate market data indicates that the average asking rent per square foot for apartments in Petaluma for 2023 year-to-date was \$2.46, which was eight percent higher than Santa Rosa overall but 13 percent lower than Oakland and 40 percent lower than San Francisco.

- Reducing inclusionary housing requirements and in-lieu fees, and providing flexibility for developers to provide inclusionary units or pay the in-lieu fee
- Reducing parking requirements
- Ensuring local planning and building regulations accommodate new and emerging construction techniques such as mass timber and modular construction
- Removing ground floor retail requirements where appropriate
- Providing greater certainty and speed for approving development projects in order to reduce development risk and reduce property holding costs
- Investing in district amenities and desirability in order to enhance achievable rents and sales prices

City policy interventions can enhance the likelihood that higher-density development products would become financially feasible in the future. Total development costs must be reduced by between 30 percent and 43 percent for the prototypes to achieve financial feasibility. Illustrative analysis found that the policy alternatives could potentially reduce development costs by 13.8 percent for the 3-story prototype or approximately 17 percent for the wrap and podium prototypes. These changes would approximately halve the total reduction of development costs needed to make each of the prototypes financially feasible without changes to rents.

Regardless of any changes to City policies, significant shifts in overall market and development conditions will still be necessary for most higher-density residential projects to move forward in Petaluma. Regional development costs will need to decline and/or local achievable rents and sales prices must increase for typical projects like these prototypes to become financially feasible to construct. While individual real-world projects may differ, projects like the five-story and eight-story prototypes are especially unlikely to become financially feasible in the immediate future. However, local rents, local sales prices, and the regional cost of materials and labor will shift over time, and may eventually enable development of these products in Petaluma.

Any potential changes to City policies that affect housing feasibility must also consider other critical policy goals and priorities. The City must consider how each of the potential policy changes listed above will impact the ability of Petaluma to achieve other critical goals and priorities. For example, reduction of municipal fees will diminish funding for City infrastructure and operations; reducing inclusionary housing requirements will negatively impact production of deed-restricted affordable housing when market-rate development occurs; and removing ground floor retail requirements could harm the vitality of pedestrian-oriented districts and reduce growth of City sales tax revenue.

Introduction

As part of the General Plan process, the City of Petaluma is currently considering alternatives to its zoning code and housing policies. The City of Petaluma seeks to encourage development of a diverse range of housing product types targeted to a variety of household needs, including relatively higher-density multifamily apartments and condominiums in appropriate infill locations. To this end, Strategic Economics analyzed the development feasibility of various types of market rate housing development products and identified product-specific barriers to achieving development feasibility. The analysis essentially examined different housing product types from the perspective of a potential developer, who would consider whether local achievable revenues generated by the project would cover construction costs and provide a competitive return compared to other investment opportunities.

The purpose of this analysis was to identify the current barriers to development of multifamily housing, including higher-density housing up to eight stories in height. Strategic Economic examined how conditions would need to change for these development products to become financially feasible, and identified policies the City could adopt to increase the likelihood of these products being built by developers in Petaluma. The findings of this analysis provide input for consideration in developing General Plan housing policies, land use policies, and future implementation actions by the City.

Report Organization

The remainder of this report includes the following sections:

- **Housing Development Prototypes:** Overview of the four different types of housing products that were analyzed in the feasibility analysis; discusses the extent to which each project type has previously been built in Petaluma.
- **Development Feasibility Analysis:** Detailed findings of the pro forma analysis used to assess development feasibility for each of the four prototypes.
- **Policy Implications:** Discusses the implications of the pro forma analysis findings for housing policy and future housing development in Petaluma. This section offers suggestions and recommendations for improving development feasibility in the future and identifies the extent to which different policies could reduce development costs to accelerate production of higher-density housing products.

Housing Development Prototypes

Strategic Economics developed four housing prototypes to serve as representative models of residential development product types in the feasibility analysis. Each prototype consists of a set of building structure, size, unit distribution, and parking format assumptions. Each prototype is a generalized set of assumptions representative of a “prototypical” development of a given product type—not an exact replica of an individual housing development in Petaluma. Strategic Economics used these generalized models to evaluate feasibility across a range of development types that could be built in Petaluma in the future.

These prototypes were developed in a multi-stage process that considered community priorities, the current development pipeline in Petaluma, and examples of higher-density housing projects currently being developed elsewhere in the Bay Area. The City first provided Strategic Economics with guidance on the types of residential product that should be included in the feasibility analysis, including some types currently being built in the City as well as some housing types that are not currently allowed under

Petaluma’s existing zoning code. These project types reflect the possibility that such products may be allowed or proposed in the future given the community’s priorities of growing within the urban growth boundary while encouraging more walkable and transit-oriented communities that enable fewer vehicle miles traveled and reduced greenhouse gas emissions.. Strategic Economics reviewed example projects from throughout the region to inform preliminary assumptions about the basic characteristics of each of the recommended types of housing. The prototypes were then refined based on input from Raimi+Associates (lead consultant for the General Plan update) and local developers to ensure that each prototype accurately reflect real-world housing products.

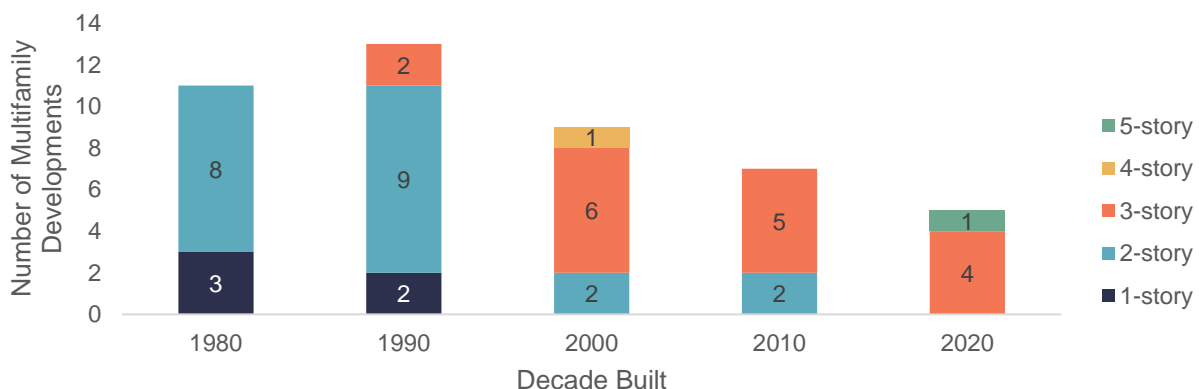
The remainder of this section of the report provides an overview of existing housing and planned/proposed development projects in Petaluma, and a description of the characteristics assumed for each of the four residential prototypes.

Typical Housing Development Product Types in Petaluma

Historically, multifamily buildings in Petaluma rarely exceeded two to three stories in height.

Strategic Economics reviewed data regarding existing multifamily rental buildings and recently completed and proposed multifamily buildings in Petaluma to identify longer-term trends in typical residential building heights. Figure 1 shows the number of stories for completed multifamily rental housing developments in Petaluma, as tracked by real estate data service CoStar. Of the existing multifamily rental housing stock, nearly all residential buildings in Petaluma are three stories or shorter. Only one housing development built prior to 2020 was above three stories. City data regarding all recently built and proposed multifamily developments shows that one five-story development was also proposed in recent years. However, as Figure 1 demonstrates, the typical height of residential multifamily buildings is increasing slightly over time. The majority of multifamily housing developments built in the 1980s consists of two-story buildings, while the majority of multifamily housing developments built in the 1990s consists of three-story buildings.

Figure 1: Multifamily Development Projects in Petaluma, by Decade Built and Number of Stories, 1980 to Present—as Tracked by CoStar



Source: CoStar, 2022. Note: 2020 decade includes some projects that have not yet been completed.

Petaluma’s current zoning code allows for multifamily housing developments taller than five stories in some locations, but no residential buildings at this height have been proposed in recent years—implying that these projects are not currently financially feasible for developers to build.

Petaluma allows housing developments of up to six stories in some parts of the Central Petaluma Specific Plan Area/Downtown SMART Station Area.² However, no current development proposals reach this six-story maximum. Of the 24 market rate housing projects in Petaluma’s development pipeline as of late-2022, only two projects were greater than three stories in height and none were taller than five stories. Of the remaining market rate projects in the development pipeline, approximately one-quarter were two- or three-story multifamily projects, one-quarter were mixed-product projects including some combination of single-family, townhomes, condos, and multifamily units; and the remainder were single-family projects or projects with less than five units total.

In light of community preferences that new development should occur on infill parcels within the Urban Growth Boundary, and a desire to promote transit-oriented development, the City of Petaluma could consider allowing multifamily buildings of up to eight stories in height as part of the General Plan update; thus, the City requested inclusion of these product types in the feasibility analysis. Though no housing developments of this height have been proposed in Petaluma, some comparable examples were proposed recently in Santa Rosa; however, these product types are primarily built outside the North Bay.

Housing Prototype Summaries

Strategic Economics evaluated the feasibility of four residential multifamily development prototypes that represent a range of three-story to eight-story product types. A three-story development prototype represents relatively typical multifamily housing development products in Petaluma, while a five-story prototype represents the maximum development height and density recently proposed in the city. Two eight-story prototypes represent a taller, higher-density product type that could potentially be allowed in limited areas of the City via the General Plan update process.

These height differences are important because they influence the types of materials used in each construction project, and therefore the overall costs of building that project. Developers must comply with building codes that specify life safety requirements for fire resistance and building evacuation.

Meeting those requirements entails use of different materials and construction techniques depending on building height. As a result, construction expenses per square foot of building area increase as buildings exceed certain heights. For example, the three-story prototype can be constructed with relatively inexpensive “Type V” wood frame construction comparable to a single family home; the five-story prototype is likely to require more costly Type III wood frame construction for the housing units; and the eight story prototype would consist of very expensive “Type I” concrete construction for the lower floors and Type III construction for the upper floors (since this construction technique may not be used beyond six stories on its own). Any project exceeding approximately 85 feet—typically eight stories—would need to be constructed with costly Type I construction materials such as concrete or steel, or the emerging technique of using mass timber “Type IV” construction. Each of these height increases makes housing units more expensive to build on a per square foot basis.

² City of Petaluma. (2013). Petaluma SMART Rail Station Areas: TOD Master Plan.

For each prototype, site size determinations were based on the parcel size that developers reported was the most efficient approach for that product type. For example, the five-story wrap product site is relatively large because the approach of “wrapping” the housing around a parking garage creates a larger building footprint and is therefore less efficient on sites smaller than four acres.

The four development prototypes vary based on the following characteristics.:

- The first prototype is a **three-story building with “tuck-under” garage parking** that is representative of some projects that are currently being built in Petaluma.
 - This prototype contains 31 housing units on a one-acre site—approximately on-par with the density limits in Petaluma’s R-5 and MU2 zoning areas.
 - This prototype uses a combination of surface and “tuck-under” parking, in which the building is built on top of semi-enclosed parking spaces. The latter approach is more expensive to build, but allows for more housing units to be developed on the same site.
- The second prototype is a **five-story “wrap” product type**, in which residential units wrap around the perimeter of a four-story parking garage, with some ground-floor retail space.
 - This prototype assumes the use of a four-acre site to develop 247 units.
- The third and fourth prototypes are similar but have different parking ratios to test the impacts of potentially reducing parking amounts and construction costs. Both are **eight-story “podium”** products on a 1.5-acre site, with a residential density of over 90 housing units per acre. These prototypes consist of five stories of residential use over three stories of a concrete podium consisting of parking and ground-floor retail space.
 - **Prototype A** has a parking ratio of 1.5 spaces per housing unit, which allows for the development of 142 units on a 1.5 acre site.
 - **Prototype B** has a lower parking ratio at 1.25 spaces per housing unit; this allows for 23 additional residential units.

Each of the last three prototypes also contain at least 16,000 square feet of retail space. Additional retail parking is included in these prototypes, at a ratio of at least three spaces per 1,000 square feet of retail. This reflects the fact that retail is often required and/or included in these types of residential development product types. This inclusion typically has a slightly negative impact on development feasibility. Full details of all four prototypes are shown in Table 1.

Table 1: Summary of Development Prototypes

	3-Story Tuck- Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
Parcel Size (acres)	1.0	4.0	1.5	1.5
Number of Housing Units	31	247	142	165
Gross Sq. Ft. of Building (excludes parking)	41,397	316,400	158,000	181,000
Residential Density (dwelling units per acre)	31	62	95	110
Average Unit Size (net square feet)	1,000	900	750	750
Number of Stories	3	5	8	8
Retail Square Feet	-	20,000	16,000	16,000
Construction Type	VB	III A around IA	III A over IA	III A over IA
Parking				
Number of Stories in Structure	-	4	3	3
Parking Spaces				
Podium	-	-	261	255
Wrap	-	438	-	-
Tuck-Under	29	-	-	-
<u>Surface</u>	<u>19</u>	<u>-</u>	<u>-</u>	<u>-</u>
<i>Total</i>	<i>48</i>	<i>438</i>	<i>261</i>	<i>255</i>
Residential Parking Ratio (spaces per unit)	1.5	1.5	1.5	1.25
Retail Parking Spaces	-	67	48	48
Retail Parking Ratio (spaces per 1,000 sq. ft.)	-	3.3	3.0	3.0
<i>Sources: Strategic Economics, 2022; Raimi + Associates, 2022.</i>				

3-Story Tuck-Under Example Image:



5-Story Wrap Example Image:



8-Story Podium Example Image:

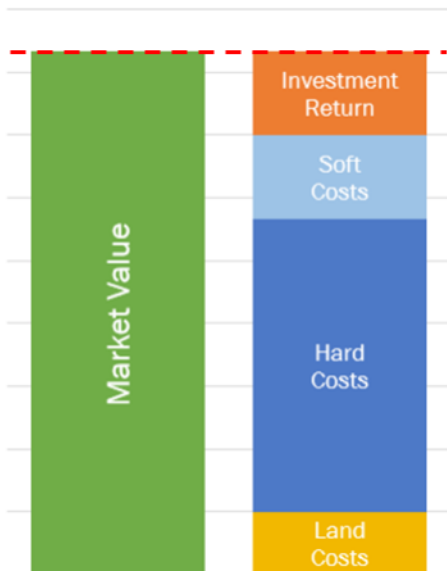


Sources: City of Petaluma, 2022; City of Santa Rosa, 2022; Strategic Economics, 2023. Renderings produced by Jerry Allen Kler Associates, AG Spanos Corporation, and Solomon Cordwell Buenz.
Note: Projects are shown as examples of buildings similar to the prototypes, but do not reflect the exact prototypes described in the analysis.

Development Feasibility Analysis

Development feasibility analysis provides an indication of whether a prototypical project is financially viable under current development conditions in Petaluma. Financial feasibility is a function of a variety of factors, such as site preparation expenses, “hard” construction costs, municipal fees and entitlement costs, project revenue, and the availability of financing for a particular project. Figure 2 shows a simplified version of how these costs add together in comparison to the market value of a project. In addition, two related development conditions are critical for evaluating feasibility: whether the project provides sufficient return on investment for the developer and investors, and whether the project is then also able to generate sufficient “residual land value” to support land acquisition costs. Each of the assumptions used for evaluating these feasibility considerations are explained in the methodology section that follows.

Figure 2: Components of Financial Feasibility



Note: This chart represents a highly simplified version of the costs and revenue components used in calculating feasibility.

Source: Strategic Economics, 2023.

Differences in factors such as actual site acquisition cost, cost efficiencies for a particular developer, or increased demand—and therefore higher achievable rents and sales prices—for a particular location can improve the feasibility of an individual real-world project. Thus, individual projects could vary in feasibility from the conditions depicted in the present “prototypical” analysis, particularly as market conditions change over time. The feasibility analysis that follows represents a generalized model for development conditions in Petaluma, although different areas of the city may exhibit slightly different development market conditions.

Based on the results of the feasibility analysis, none of the four development prototypes are currently financially feasible in Petaluma. This finding stems from the combination of two current development conditions in Petaluma:

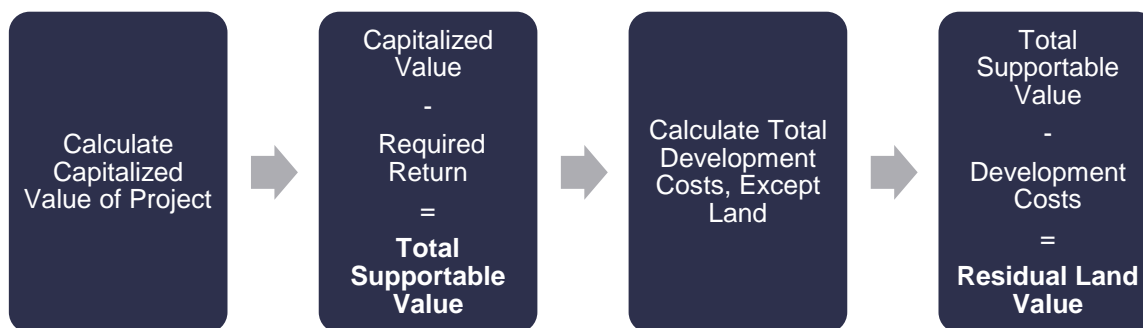
- Developers throughout the Bay Area are currently finding it difficult to get multifamily projects to “pencil” due to increases in material costs of construction,³ increasing interest rates, and difficulty obtaining financing.
- Development costs in Petaluma are similar to those in other parts of the Bay Area (since costs of labor and materials do not vary significantly within the region), while achievable rents and sales prices are generally lower than those found in core Bay Area locations such as the Peninsula, Silicon Valley, Berkeley, and parts of Oakland.⁴

This section of the report provides an overview of the methodology used to obtain these findings, the detailed results of the feasibility analysis, and how individual components of cost and revenue impact the development feasibility results. The purpose of this section is to highlight how each individual factor influences the overall feasibility of new residential development. These findings will be used in the final portion of this report to discuss potential policy changes or adjustments that can be used to improve the likelihood of multifamily development in the future.

Methodology

Strategic Economics used a static “pro forma” model to analyze the current feasibility of each of the four development prototypes. This pro forma model provides a financial accounting of all expected costs and revenues associated with each development prototype. Strategic Economics identified the residual land value of each prototype to test financial feasibility. The residual land value is the value remaining after accounting for the development project’s value, development cost, and required developer return, as shown in Figure 3

Figure 3: Summary of Residual Land Value Calculations



The project is considered feasible if the residual land value is greater than the expected land costs. This method involves the following steps:

1. Estimate the net operating income for the project’s first stabilized year, and the corresponding capitalized value of each prototype. These figures are based on the expected market-rate rents, affordable unit revenue, and the current expected cap rate;

³ In recent interviews, Bay Area developers have indicated that construction costs have been increasing by approximately ten percent per year over the past two years, with these increases slowing in 2023.

⁴ For example, CoStar real estate data indicates that the average asking rent per square foot for apartments in Petaluma for 2023 year-to-date was \$2.46, which was eight percent higher than Santa Rosa overall but 13 percent lower than Oakland and 40 percent lower than San Francisco.

2. Calculate the total supportable value of the project, based on the capitalized value of the project and the developer “target return” – i.e. the current industry standard return on investment the developer would need to pursue the project;
3. Estimate all development costs *except land cost*. These costs include direct construction costs (“hard” costs) and indirect costs (“soft” costs such as design, engineering, taxes, insurance, professional fees, municipal and development impact fees, and developer overhead, as well as financing costs and a contingency for unanticipated overruns);
4. Subtract the development costs estimated in Step 3 from the total supportable value of the project estimated in Step 2. The result is the **residual land value**. In real estate economics, the residual land value represents the maximum amount the developer can pay for land for the project to be feasible.

Strategic Economics refined the pro forma models’ assumptions based on market research, data from interviews with local developers, broker reports, and consideration of appropriate assumptions relative to other recently completed feasibility analyses in Bay Area communities. Key assumptions for developer return, revenues, and development costs are shown in the sections that follow. The full pro forma results can be found in Appendix A, and more details on development assumptions can be found in Appendix B: Development Feasibility Assumptions.

Calculating Revenue and Project Value

The total value of a multifamily resident development project is based on a combination of the rent it is expected to generate, its expected operating costs, and prevailing risk-adjusted market capitalization (or “cap”) rates. Strategic Economics calculated each of these revenue components based on market research and feedback from developers. Rents were determined based on unit location, amenity, size, and affordability restrictions, while cap rates incorporated typical market conditions and consideration of risk. Net operating income was based on the annual rent of each prototype, less vacancy and operating costs. Project value was calculated by dividing net operating income by the cap rate.

The assumed rent for market-rate housing units in each prototype ranged from \$3.20 per square foot for the three-story multifamily to \$3.58 per square foot for the podium projects, which have smaller average unit sizes. Based on market research and feedback from local developers, the current market rents vary in Petaluma depending on the location and size of an apartment. Smaller apartments typically command a higher average rent per square foot than larger apartments, but lower overall rent. These overall rent levels also reflect the likelihood that new multifamily developments will be built in high-demand areas of Petaluma, and therefore command a higher rent than might be typical for the average older apartment in the city.

Table 2: Multifamily Rent Assumptions, by Prototype

	3-story multifamily	5-story wrap	8-story podium-A	8-story podium-B
Average Unit Size - Square Feet	1,000	900	750	750
Rent per Square Foot	\$3.20	\$3.35	\$3.58	\$3.58
Rent Premium	0%	5%	7%	7%
Monthly Rent per Unit	\$3,200	\$3,015	\$2,681	\$2,681
<i>Sources: CoStar, 2022; Strategic Economics, 2022; Zillow, 2022.</i>				
<i>Note: Rent per square foot is expected to be higher for smaller unit sizes. This increase in prices was calculated using current rents from apartments in Petaluma, as well as real estate listings elsewhere in the Bay Area.</i>				

Strategic Economics also accounted for two other sources of revenue: affordable housing revenue and retail rents. Affordable housing revenue estimates followed the requirements of Petaluma’s Inclusionary Housing program shown in Table 12 of Appendix B: Development Feasibility Assumptions; the estimates assumed provision of on-site inclusionary housing units rather than payment of the in-lieu fee. Retail revenue was estimated based on current market conditions as tracked by CoStar market data and was assumed to be \$2.00 per square foot per month on a triple-net basis.⁵

Strategic Economics calculated the total capitalized value of each prototype by estimating the net operating income for each product type based on assumed revenue minus operating expenses. Strategic Economics used the rent per square foot and the average unit size of each prototype to calculate the annual rent. Net operating income was estimated using an assumption of five percent vacancy and the assumption that operating costs are roughly thirty percent of revenue for market-rate multifamily projects. Using this net operating income estimate, Strategic Economics calculated the capitalized value of each prototype based on a cap rate assumption of 4.25 percent.⁶

Calculating Developer Return

“Developer return” describes the acceptable threshold for return on investment that must be met for a developer of market rate housing to pursue a project. Strategic Economics used the metric yield-on-cost as the measure for evaluating developer return in this analysis. Yield-on-cost is defined as the net operating income (total annual revenue less operating costs) of the project divided by total development costs. Based on local developer feedback and experience with recently completed analyses elsewhere in the Bay Area, Strategic Economics assumed a minimum yield-on-cost of five percent.⁷

⁵ A triple net lease requires the tenant to pay insurance, maintenance, and taxes in addition to base rent.

⁶ This cap rate assumption was based on feedback from local developers as well as recent property listings and market reports.

⁷ Note that this assumption pertains only to for-profit market rate development, and is influenced by a variety of factors, including expectations from lenders. Affordable housing development typically functions differently, as it is often carried out by non-profit entities, who may take a development “fee” to account for their time investment but do not seek to maximize their return on investment.

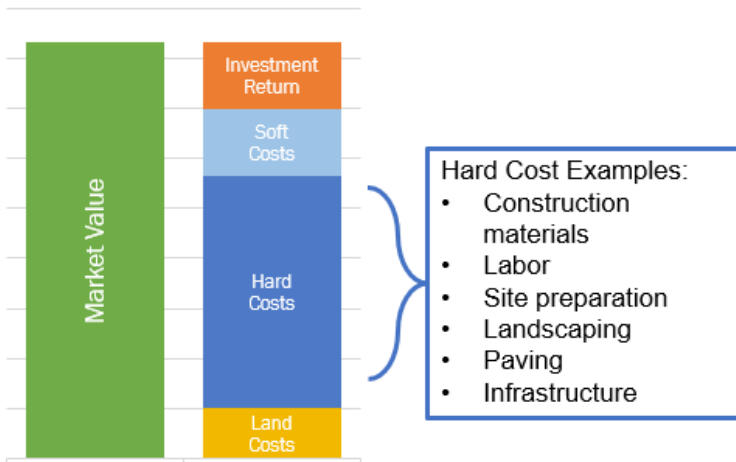
Calculating Costs

Total development costs of each project consist of the four primary categories of development costs: direct or “hard” costs, indirect or “soft” costs, financing costs, and land costs.

Hard Costs

Hard costs include the direct cost of constructing buildings and other site improvements such as building demolition, landscaping, paving, and infrastructure. In the pro forma analysis, Strategic Economics aggregated these costs into three categories: vertical hard costs, site preparation costs, and parking costs.

Figure 4: Examples of Hard Costs



Source: Strategic Economics, 2023.

Vertical hard costs refer to the “hard” costs of construction—such as materials and labor—for the building itself. For the three-story multifamily prototype, hard costs of constructing the building (excluding surface parking) were estimated to be \$265 per gross square foot of building area, based on the building primarily consisting of relatively inexpensive wood frame construction. In comparison, the hard costs were higher for the five-story and eight-story prototypes, ranging from \$300 per gross square foot to \$325 per gross square foot for the residential components of each building, and \$350 for the retail component (all excluding parking costs). Hard costs are higher for the five- and eight-story prototypes due to the greater costs of materials to meet stricter “life safety” building code requirements for these higher-density and taller building formats.

Of the remaining hard costs, site preparation costs were assumed to be the same for each prototype, while parking costs varied from prototype to prototype. For example, a typical surface parking space costs approximately \$7,500 per space to construct, while a typical podium parking format costs approximately \$38,000 per space. Based on input from developers and experience from other research and analyses, Strategic Economics assumed that site preparation expenses would collectively cost \$25 per square foot of land, regardless of prototype.

Soft Costs

In addition to these hard costs, development expenses also include “soft” costs—which cover indirect expenses such as architecture, engineering, taxes, contingency, and City fees. Of these categories of expenses, municipal fees constitute the largest proportion, at around eight to nine percent of total development costs. This includes factors such as impact fees, building permits, and planning fees—and is one of the areas in which the City has the most flexibility to impact costs and development feasibility outcomes. Contingency represents a buffer factored into the pro forma to account for unexpected expenses. It is typically estimated as five percent of hard costs, or around three or four percent of total development costs. Lastly, the remainder of soft costs—including architecture, engineering, taxes, and legal fees—constitute around seven to eight percent of total development costs. A line-by-line list of these assumptions and corresponding sources is provided in Table 13 in Appendix B: Development Feasibility Assumptions.

Financing Costs

Financing costs were calculated based on assumptions for a typical loan-to-cost ratio, the average outstanding loan balance, construction loan fees, and prevailing interest rates. Each of these assumptions was informed by local developer input, as well as prior market research. Strategic Economics assumed a 60 percent loan-to-cost ratio, a 55 percent outstanding loan balance, and a 1.5 percent construction loan fee for each of the prototypes. Interest rates were adjusted upwards based on recent trends in the Federal 30-year home mortgage rate as of late-2022, to an assumed value of seven percent.

Land Costs

Strategic Economics used average local sales prices to estimate land values in places where construction is currently occurring in Petaluma—recognizing that individual projects may be able to obtain land for a different price. Land costs are highly variable, and depend greatly on site-specific conditions. In addition, estimation of land costs can depend on the location of the site, its existing zoning, its current use, and the overall market demand for the site. Strategic Economics evaluated sales prices from recent residential land sales in Petaluma to identify prevailing trends in market value per square foot of land. Because the analyzed prototypes correspond to the highest residential densities possible in Petaluma, the prototypes are more likely to be built in locations where higher land prices justify higher-density construction and reflect greater desirability of a location. Strategic Economics used an approximately 80th percentile land price—\$60 per square foot—for testing feasibility based on comparison of the residual land value of each prototype versus typical land costs.

Pro Forma Results

Under existing market and policy conditions, none of the four prototypes are currently financially feasible to build. As discussed previously, there may be some individual exceptions to these findings: developers may be able to identify unique market, financial, and development cost efficiencies, or developers may have acquired their land at lower prices in the past. However, development costs are generally currently expected to be greater than the expected project revenue regardless of which prototype is considered. High development costs are particularly challenging for the eight-story podium prototypes, which are considerably more expensive to construct on a per square foot basis than the three-story or five-story alternatives. Table 3 provides a summary of the pro forma results for each of these prototypes.

Table 3: Summary of Results (in Millions of Dollars)

	3-Story Tuck-Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
Revenues				
Residential Net Operating Income	\$0.7	\$4.9	\$2.6	\$3.0
Retail Net Operating Income	\$0.0	\$0.0	\$0.0	\$0.0
<u>Combined Net Operating Income</u>	<u>\$0.7</u>	<u>\$5.0</u>	<u>\$2.6</u>	<u>\$3.0</u>
Total Capitalized Value	\$15.7	\$116.5	\$60.8	\$71.6
Development Costs				
Total Hard Costs	\$12.2	\$112.4	\$63.9	\$71.1
Total Soft Costs	\$3.7	\$32.3	\$18.4	\$20.8
<u>Financing Costs</u>	<u>\$0.7</u>	<u>\$6.3</u>	<u>\$3.6</u>	<u>\$4.0</u>
Total Development Costs	\$16.6	\$151.0	\$85.9	\$95.9
Feasibility Summary				
Minimum Yield on Cost	5%	5%	5%	5%
Total Supportable Project Value	\$13.3	\$98.7	\$51.5	\$60.7
<u>Total Development Costs</u>	<u>\$16.6</u>	<u>\$150.2</u>	<u>\$85.3</u>	<u>\$95.3</u>
Residual Land Value	-\$3.3	-\$52.2	-\$34.4	-\$35.2
<u>Typical Site Acquisition Cost</u>	<u>\$2.6</u>	<u>\$10.5</u>	<u>\$3.9</u>	<u>\$3.9</u>
Residual Land Value Less Typical Acquisition Cost	-\$5.9	-\$62.7	-\$38.3	-\$39.1
<i>Sources: Strategic Economics, 2022; Developer Interviews, 2022; CoStar, 2022.</i>				

Although all the prototypes are infeasible, each has unique building format and unit size considerations that influence revenues and costs. None of the prototypes support a project value that exceeds total development costs—even before costs of land are considered. However, there are differences among the prototypes. For example, as shown in revenues and costs per unit in Table 4, the “Capitalized Value per Unit” declines as heights increase since the prototypes assumed inclusion of smaller units with lower per-unit rents in the taller and denser building formats. Yet those smaller units also allow an increase in overall housing unit density and therefore concentrate greater *total* project value on a given site. As another example, the eight-story podium B prototype has the lowest construction cost per housing unit among the 5- and 8-story products due to the prototype’s lower parking ratios. This allows the Podium B prototype to generate more revenue from the additional units while decreasing the quantity of costly structured parking that needs to be built.

Table 4: Summary of Pro Forma Results (on a Per Unit Basis)

	3-Story Tuck-Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
Revenues				
Residential Net Operating Income	\$21,529	\$19,912	\$18,006	\$18,288
Retail Net Operating Income	\$0	\$132	\$184	\$158
<u>Combined Net Operating Income</u>	<u>\$21,529</u>	<u>\$20,043</u>	<u>\$18,190</u>	<u>\$18,446</u>
Capitalized Value per Unit	\$506,566	\$471,611	\$427,998	\$434,023
Development Costs				
Total Hard Costs	\$393,603	\$454,996	\$449,842	\$431,058
Total Soft Costs	\$119,945	\$130,646	\$129,689	\$125,901
<u>Financing Costs</u>	<u>\$22,416</u>	<u>\$25,563</u>	<u>\$25,297</u>	<u>\$24,311</u>
Development Costs per Unit	\$535,965	\$611,206	\$604,827	\$581,270
Feasibility Summary				
Minimum Yield on Cost	5%	5%	5%	5%
Supportable Project Value per Unit	\$429,293	\$399,670	\$362,710	\$367,816
<u>Development Costs per Unit</u>	<u>\$535,965</u>	<u>\$611,206</u>	<u>\$604,827</u>	<u>\$581,270</u>
Residual Land Value per Unit	-\$106,672	-\$211,536	-\$242,117	-\$213,454
<u>Site Acquisition Cost per Unit</u>	<u>\$84,310</u>	<u>\$42,326</u>	<u>\$27,608</u>	<u>\$23,760</u>
Residual Land Value Less Site Acquisition Cost	-\$190,981	-\$253,861	-\$269,726	-\$237,214
<i>Sources: Strategic Economics, 2022; Developer Interviews, 2022; CoStar, 2022.</i>				

Revenue and Cost Factors that Impact the Financial Feasibility of the Prototypes

Multiple revenue and cost factors would need to change for higher-density residential development projects to become financially feasible to build in Petaluma. Current development costs far exceed the value that a developer can expect to receive from the construction of a new multifamily project in Petaluma, as demonstrated by the analyses' residual land value results. This gap between project value and cost cannot be explained by minor fluctuations in any single revenue or cost factor. Rather, costs would need to decrease in multiple categories, or revenue would need to increase substantially for the development prototypes to become financially feasible to build. The following revenue and cost descriptions explain the most significant revenue and cost factors that contribute to the financial feasibility gap that exists across the examined multifamily prototypes.

Revenue and Project Value Factors

Residential revenue would need to increase by between 45 to 75 percent, depending on the development prototype, for the prototypes to achieve financial feasibility while holding development costs constant. Using the rents per square foot provided in Table 2, these increases would correspond to rents of between \$4.60 per square foot and \$6.25 per square foot. These rent levels are currently not realistic to attain in Petaluma due to weaker demand compared to core Bay Area locations. Within the Bay Area, residential rents above \$4.60 per square foot are achievable in certain locations within places such as Berkeley, Oakland, the Peninsula, and San Francisco.⁸ Not coincidentally, these locations are among the few in the Bay Area in which tall and higher-density podium development products are built.

The building “efficiency ratio” plays an important role in determining revenue relative to costs. A building efficiency ratio refers to the ratio of rentable or saleable housing unit space in the building versus common areas such as corridors, amenity spaces, elevators, etc. Since the gross building area needs to be built regardless of the amount of revenue-generating space, increasing the efficiency ratio generates additional project revenue while only requiring modest increases in construction costs to build additional housing units or space. The development prototypes assumed a conservative 75 percent building efficiency ratio. However, developers could potentially increase this ratio to approximately 85 percent with different design approaches. This increase would result in a corresponding increase in overall project revenues, though total revenues would still be insufficient to result in a financially feasible development at Petaluma's currently achievable rents and sales prices. Developers must also balance pursuing a highly efficient building versus including non-leasable amenity spaces that reduce the efficiency ratio yet increase the building's desirability for prospective tenants and buyers.

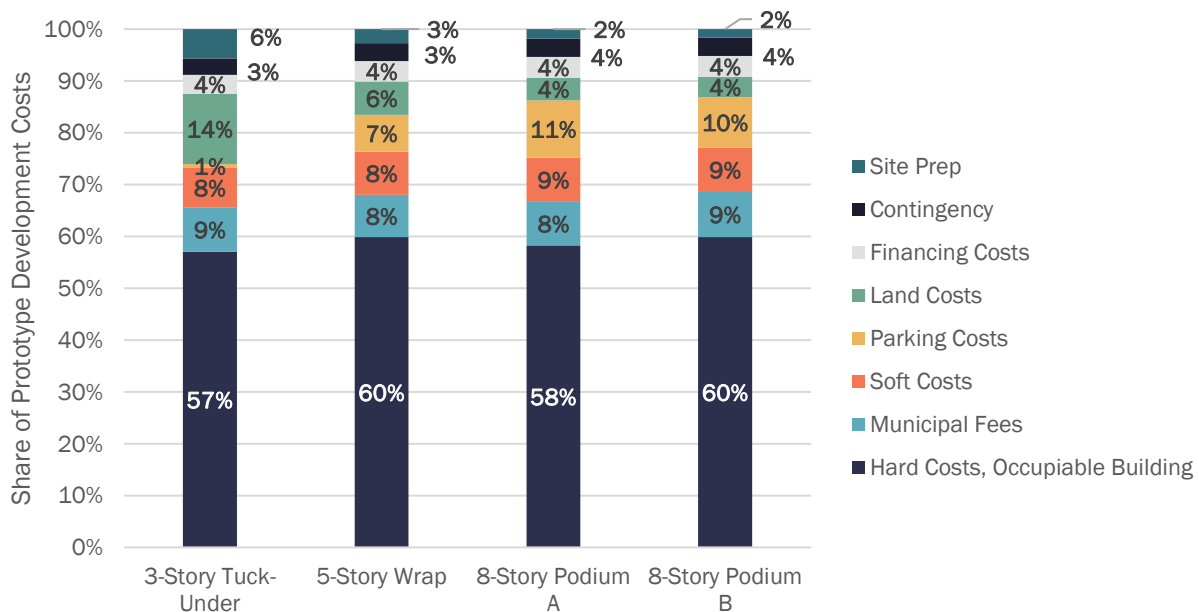
Development Cost Factors

Holding all other factors constant, development costs would need to decrease by approximately 20 to 30 percent for three-story projects to become feasible in Petaluma, and by 30 to 40 percent for five- and eight-story residential projects. Figure 5 shows the share of total development costs that each category of development cost constitutes for the development prototypes, while potential

⁸ Jones Lang Lasalle. (2022). East Bay Economic Update.

development cost reductions are explored more fully in the Policy Implications section. The largest component of development costs are the “hard” costs of constructing the occupiable building area, but other individually significant cost factors include parking construction, soft costs, municipal fees, and costs of land acquisition.

Figure 5: Share of Development Costs by Prototype, Including Land



Source: Strategic Economics, 2022.

Parking construction costs contribute a significant share of overall construction costs when parking is provided in a structured garage. For prototypes with a structured parking format, such as a concrete structured wrap or podium format—parking represents between seven and 11 percent of total construction costs. For the three-story prototype, which uses relatively inexpensive tuck-under and surface parking, parking costs represent a relatively small proportion of total project costs—around one percent. Parking constitutes 11 percent of construction costs for the eight-story podium prototype A, and 10 percent of construction cost for prototype B—which has a lower parking ratio. This difference illustrates how reductions in parking can result in a reduction of overall project costs for wrap and podium products. The reduction in parking also allows greater building area to be used as livable area.

Land costs, municipal fees, and other soft costs represent the largest remaining components of development costs. Municipal fees represent between eight and nine percent of total costs, while land costs were estimated to range between four percent and 14 percent of total development costs. Land costs constitute a larger proportion of total development costs for the three-story prototype, which generates less revenue and has lower costs per square foot of land than the eight-story alternatives. The remainder of development costs are shown in Figure 5.

Policy Implications

At the most basic level, higher-density market-rate housing is currently difficult to feasibly build in Petaluma due to relatively low achievable rents and sales prices compared to the highest-demand locations of the central Bay Area. Most development costs do not vary substantially from one location to another across the Bay Area. This is true of materials and labor (hard costs), financing costs, many soft costs, and contingency requirements. Since higher-density development projects are relatively expensive to build on a per square foot basis regardless of location, developers only undertake these projects when rents and sales prices are high enough to generate a return on investment competitive with other investment alternatives that offer a similar level of risk.

Despite these fundamental challenges, the City of Petaluma can potentially improve the likelihood that higher-density housing product types will eventually be built in Petaluma. These opportunities consist of policy changes that reduce development costs, increase flexibility in meeting the City's requirements, or enhance the desirability of districts in which higher-density housing might be built. Strategic Economics analyzed the potential impact of four categories of policy changes; the results are described in the remainder of this report.

Policy Alternatives

Strategic Economics considered four different categories of City policies to identify the impact of each factor on overall development feasibility. These categories included municipal fees, inclusionary housing requirements, parking requirements, and other marginal improvements through City investments or improving the speed and certainty of development approvals. Although each of the policy adjustments could improve development feasibility, these decisions are accompanied by difficult tradeoffs in meeting other City needs.

Municipal Fees

Based on the feasibility analysis, municipal fee reductions could reduce overall development costs for the prototypes by eight to nine percent. Cities hold direct control over the building permits/fees and impact fees that they charge. Petaluma's municipal fees constitute approximately eight to nine percent of total development costs for each project, as shown in Table 5. Impact fees constitute most of these expenses. While these fees are used to provide for important public infrastructure to serve the new housing—such as water, schools, parks, and traffic mitigation—the City could consider some reductions of fees to increase development feasibility. A 50 percent reduction in impact fees, for example, would reduce total development costs by an average of 3.6 percent across the development prototypes.

Table 5: Share of Total Development Costs (Including Land) by Municipal Fee Category

	3-Story Tuck-Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
Building Permits/Fees	1.3%	1.0%	1.0%	1.0%
Impact Fees	7.1%	7.1%	7.4%	7.6%
Total	8.3%	8.2%	8.4%	8.7%
<i>Source: City of Petaluma, 2022; Strategic Economics, 2022.</i>				

Inclusionary Housing Requirements

Petaluma’s inclusionary housing program requirements are currently less expensive for multifamily developers to meet by paying an in-lieu fee rather than providing on-site inclusionary affordable housing units. The inclusionary housing program requires developers to contribute to the production of affordable housing in Petaluma by either providing on-site affordable units or paying an in-lieu fee used by the City to fund affordable housing developments elsewhere. Though the City typically requires compliance with this policy through providing on-site units, Strategic Economics found that developers can substantially increase development feasibility by paying the current in-lieu fees instead. When developers provide on-site affordable units, they reduce the total revenue generated by those units compared to market rate units. At the same time, project development costs do not change from a scenario in which those same units were produced as market-rate units. By paying an in-lieu fee, developers can instead achieve market rate revenues from all units, and instead increase their total development costs by paying a larger fee.

The City could reduce development costs by as much as ten percent by encouraging developers to pay the in-lieu fee instead of providing on-site units, and by as much as 12 percent by eliminating inclusionary requirements completely. The extent to which these requirements would benefit a project differ slightly depending on the prototype. The impact is most significant for the three-story tuck-under project, which has larger average unit sizes and therefore loses a larger proportion of its revenue by providing affordable units. Table 6 shows the effect of different inclusionary requirements on reducing the amount of further cost reductions necessary to enable the prototypes to become financially feasible.

Any reductions to existing inclusionary housing policies and in-lieu fee payment amounts/options would be accompanied by a significant tradeoff in the City’s ability to provide affordable housing units and revenues. Setting inclusionary housing requirements, in-lieu fee levels, and policy approaches for these tools requires careful consideration of their effects in producing desirable affordable housing units and revenues. Although reducing requirements would enhance the likelihood of higher-density development projects being built, the reduced requirements would represent a missed opportunity to ensure that eventual housing construction helps the City to meet its affordable housing goals and needs.

Table 6: Further Reduction in Total Development Costs Needed to Achieve Feasibility After Accounting for Different Inclusionary Requirements

	3-Story Tuck-Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
On-Site Inclusionary Units	-31%	-39%	-42%	-39%
Payment of Fee In-Lieu of On-Site Units	-21%	-29%	-34%	-31%
Without any Inclusionary Requirement	-19%	-28%	-33%	-30%
<i>Source: City of Petaluma, 2022; Strategic Economics, 2022.</i>				

Parking Requirements

A 50 percent reduction in parking spaces could potentially reduce development costs of the development prototypes by as much as 5.5 percent, as shown in Table 7. Parking constitutes between seven and 11 percent of total costs for the wrap and podium development prototypes (though only one percent for the 3-Story Tuck-Under prototype).

A variety of options exist for Petaluma to enable and encourage developers to build less parking. These options include reducing or eliminating minimum parking requirements, instituting maximum parking restrictions, and requiring enhanced transportation demand management measures. The City could also pursue a centralized parking management strategy, in which the parking supply is managed at a district-wide scale such that parking for new housing is provided in off-site lots and structures.

The City’s ability to reduce actual parking ratios in new housing developments is constrained by the negative impact on project feasibility if parking is reduced to a level unacceptable to potential renters and buyers of housing units. Developers report that tenants and buyers in the Petaluma market typically expect a minimum level of parking to be provided, whether as part of the cost of the housing unit or as a separate “unbundled” cost. If a development project’s parking ratio falls below required levels, then the project becomes less desirable and achievable rents or sales prices decline.

Table 7: Parking’s Share of Total Development Costs and Outcome of a 50 Percent Reduction, by Prototype

	3-Story Tuck-Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
Parking’s Current Share of Total Development Costs	0.7%	7.1%	11.0%	9.7%
Reduction of Development Costs by Reducing Parking by 50%	0.4%	3.5%	5.5%	4.9%
<i>Source: Strategic Economics, 2022.</i>				

Other Construction Costs and Revenues

The City of Petaluma should ensure that its local planning and permitting requirements accommodate new and emerging construction technologies that may reduce construction costs over time. Past research conducted by Strategic Economics in San Francisco found that the widespread adoption of mass timber or modular construction in the future could reduce hard costs of construction by as much as 15 to 30 percent, as economies of scale for these technologies reduce their costs.⁹ The use of these building techniques is largely governed by the California Building Code. However, the City of Petaluma can ensure that new and lower cost building techniques may be used in the city by ensuring compatibility with local requirements.

Investment in amenities and the economic vitality of Petaluma’s mixed-use, walkable districts can increase desirability and enhance future achievable rents and sales prices for new development—although this process requires further investment in affordable housing to ensure equitable access to these benefits. Developers operating throughout the Bay Area note that higher-density housing, such as the eight-story prototypes, requires a combination of local amenities that increase the desirability of a district and enhance local rents and sales prices to levels that support higher-density housing development. Examples of these amenities include job access, walkable access to retail and services, and robust transit access to major destinations. Within Petaluma, limited elements of these amenities exist only in the downtown area. The City can continue to invest in the public realm and to identify and encourage growth of other walkable, transit-oriented, amenity-rich districts to gradually enhance local rents and sales prices. However, the City must also work to maintain and expand deed-restricted affordable housing and tenant protections to ensure that the benefits of these districts can be enjoyed by all residents regardless of income and wealth.

Adjustments to ground-floor retail requirements can reduce construction costs for development projects. Developers in Petaluma frequently noted that ground-floor retail requirements increase construction costs because the space itself is more expensive to build yet is difficult to lease if the building is not in a desirable location for businesses. Strategic Economics found that these retail spaces cost approximately \$350 per gross square foot to construct, compared to \$300 or \$325 per square foot for the residential portions of the same mixed-use projects. While retail requirements should be maintained in truly pedestrian-oriented districts, the City might reconsider requirements in other parts of the City. Removal of retail from the development prototypes would not on its own allow them to achieve financial feasibility but would still have a positive impact on the results.

Providing greater certainty and speed for development approvals can further encourage investment and reduce construction costs. Providing greater certainty regarding expectations for housing development projects helps to reduce perceived investment risk in these projects. This lower risk translates to lower required return by investors and developers and increases the likelihood that developers will pursue projects. Accelerated entitlement and permitting approval processes reduce development costs by lowering the amount of time developers must pay holding costs for properties. Examples of these costs include taxes, financing payments, purchase option payments, insurance, maintenance, and utilities.

⁹ Strategic Economics. (2021). Housing Development Feasibility and Costs. White Paper produced for the San Francisco Planning Department's Housing Affordability Strategies.

Combined Effects of Policy Changes

Strategic Economics estimated the combined potential reduction of development costs for the four prototypes based on the three quantified “policy alternative” changes described above. The three alternatives include reductions in impact fees, encouraging use of in-lieu fees instead of on-site inclusionary units, and reducing parking requirements.

The three quantified policy alternatives could potentially reduce total costs of housing development in Petaluma by approximately 17 percent for the wrap and podium prototypes—representing a substantial improvement toward these products becoming feasible to build. As shown in Table 8, total development costs must be reduced by between 30.6 percent and 42.5 percent for the prototypes to become financially feasible to build. The three policy alternatives can reduce costs by 13.8 percent for the 3-story prototype, or approximately 17 percent for the wrap and podium prototypes. These changes would approximately halve the total reduction of development costs needed to make each of the prototypes feasible, as shown in the last row of the table.

The policy alternatives’ collective reductions in development costs are still insufficient to achieve financial feasibility for the prototypes in Petaluma; regional development costs will need to decline and/or local achievable rents and sales prices must increase to achieve financial feasibility. As shown in the last row of Table 8, substantial cost reductions would still be necessary for the development prototypes to become financially feasible to construct. The higher-density prototypes are especially unlikely to become financially feasible to build in the immediate future. However, local rents, local sales prices, and the regional cost of materials and labor will shift over time and may eventually allow these products to be developed in Petaluma.

Table 8: Percent Reduction of Total Development Costs, by Source of Costs

	3-Story Tuck- Under	5- Story Wrap	8-Story Podium A	8-Story Podium B
Total Reduction of Development Costs Required to Achieve Feasibility	-30.6%	-38.7%	-42.5%	-39.0%
Cost Reductions Associated with Policy Alternatives:				
Reduce Impact Fees by 50 Percent	3.5%	3.6%	3.7%	3.8%
Payment of Fee In-Lieu Instead of On-Site Units	9.9%	10.0%	8.4%	7.8%
Reduce Parking Costs by 50 Percent	<u>0.4%</u>	<u>3.5%</u>	<u>5.5%</u>	<u>4.9%</u>
Remaining Reduction of Development Costs Required to Achieve Feasibility	-16.8%	-21.6%	-24.9%	-22.6%
<i>Source: Strategic Economics, 2022.</i>				

Appendix A: Detailed Pro Forma Results

Table 9: Detailed Pro Forma (In Millions of Dollars)

	3-Story Tuck- Under	5-Story Wrap	8-Story Podium A	8-Story Podium B
Revenues				
Residential				
Gross Residential Income	\$1.1	\$8.0	\$4.1	\$4.9
Less Operating Costs & Vacancy	-\$0.4	-\$3.1	-\$1.6	-\$1.8
<u>Residential Net Operating Income</u>	<u>\$0.7</u>	<u>\$4.9</u>	<u>\$2.6</u>	<u>\$3.0</u>
Retail Net Operating Income	\$0.0	\$0.0	\$0.0	\$0.0
Combined Net Operating Income	\$0.7	\$5.0	\$2.6	\$3.0
Total Capitalized Value	\$15.7	\$116.5	\$60.8	\$71.6
Development Costs				
Hard Costs				
Site Prep	\$1.1	\$4.4	\$1.6	\$1.6
Vertical Hard Costs	\$11.0	\$95.9	\$51.8	\$59.2
Parking Costs	\$0.1	\$11.4	\$9.9	\$9.7
Tenant Improvement Allowance	\$0.0	\$0.7	\$0.6	\$0.6
Soft Costs				
Hard Cost Contingency	\$0.6	\$5.6	\$3.2	\$3.6
Municipal Fees	\$1.6	\$13.2	\$7.6	\$8.6
In-Lieu Fees	\$0.0	\$0.0	\$0.0	\$0.0
Other Soft Costs	\$1.5	\$13.5	\$7.7	\$8.5
<u>Financing Costs</u>	<u>\$0.7</u>	<u>\$6.3</u>	<u>\$3.6</u>	<u>\$4.0</u>
Total Development Costs	\$16.6	\$151.0	\$85.9	\$95.9
Feasibility Summary				
Minimum Yield on Cost	5%	5%	5%	5%
Total Supportable Project Value	\$13.3	\$98.7	\$51.5	\$60.7
<u>Total Development Costs</u>	<u>\$16.6</u>	<u>\$151.0</u>	<u>\$85.9</u>	<u>\$95.9</u>
Residual Land Value	-\$3.3	-\$52.2	-\$34.4	-\$35.2
<u>Typical Site Acquisition Cost</u>	<u>\$2.6</u>	<u>\$10.5</u>	<u>\$3.9</u>	<u>\$3.9</u>
Residual Land Value Less Typical Acquisition Cost	-\$5.9	-\$62.7	-\$38.3	-\$39.1
<i>Sources: Strategic Economics, 2022; Developer Interviews, 2022; CoStar, 2022.</i>				

Appendix B: Development Feasibility Assumptions

Table 10: Multifamily Vacancy, Operating Expenses, and Cap Rate Assumptions

Apartment Assumptions	Units	Value
Operating Expenses	% of Gross Rent	30%
Vacancy Rate	% of Gross Rent	5%
Cap Rate	Percent	4.25%
<p><i>Note: All values represent standard assumptions in residential pro forma analyses, informed by current market data and local developer interviews.</i> <i>Sources: Strategic Economics, 2022; Developer Interviews, 2022; North Bay Business Journal, 2022.</i></p>		

Table 11: Affordable Housing Maximum Monthly Rents, by Income and Bedroom Size

Income Level	Studio	1-BD	2-BD	3-BD
Very Low	\$769	\$847	\$910	\$957
Low	\$966	\$1,073	\$1,164	\$1,239
Moderate	\$1,953	\$2,201	\$2,432	\$2,649
<p><i>Note: The maximum monthly cost for each unit type was based on 30 percent of maximum household income and a utility allowance as determined by Sonoma County.</i> <i>Sources: Strategic Economics, 2022; CoStar, 2022.</i></p>				

Table 12: Inclusionary Housing Requirements, by Income Level

Income Level	Rental	Ownership
Very Low	7.5%	0.0%
Low	7.5%	7.5%
Moderate	0.0%	7.5%
<p><i>Sources: City of Petaluma, 2022.</i></p>		

Table 13: Cost Assumptions Used in the Development Feasibility Analysis

	Unit of Measure	Value
Site Acquisition Cost		
Land Costs	per square foot	\$60.00
Hard Costs		
Site Prep/Demo	per square foot	\$25
Vertical Hard Costs		
Type VA Residential	per gross sf	\$265
Type IIIA Residential	per gross sf	\$300 to \$325
Retail	per gross sf	\$350
Parking		
Surface	per space	\$7,500
Podium	per space	\$38,000
Wrap	per space	\$26,000
Tenant Improvement Allowance (Retail)	per square foot	\$40
Soft Costs		
Architecture, Engineering, Taxes, Developer Overhead	overall	10%
Other Soft Costs	% of hard costs	2%
Hard Cost Contingency	% of vertical costs	5%
Municipal Fees and Permits	See Next Figure	
Financing		
Amount Financed (Loan-to-cost)	% of hard + soft costs	60.0%
Average outstanding balance	% of Amt Financed	55.0%
Construction Loan Fee	% of Amt Financed	1.5%
Construction Interest (annual)	Rate	7.0%
<u>Term</u>	<u>Months</u>	<u>18</u>
Total Financing Cost	% of hard + soft costs	4.4%
Developer Return		
Cap Rate	Net Operating Income/Total Capitalized Value	4.25%
Minimum Yield on Cost	Net Operating Income / (TDC+Land Costs)	5%
<i>Sources: Strategic Economics, 2022; Developer Interviews, 2022; CoStar, 2022; City of Petaluma, 2022.</i>		

Table 14: Municipal Fee Calculations

	3-story tuck- under	5-story wrap	8-story podium A	8-Story podium B
Total Units	31	247	142	165
Building Permits/Fees				
Building Permits and Plan Check Fees	\$115,330	\$930,840	\$506,808	\$578,568
Other Permits	\$78,395	\$678,992	\$366,709	\$419,558
<u>Other Planning Fees - Estimated</u>	<u>\$50,000</u>	<u>\$50,000</u>	<u>\$50,000</u>	<u>\$50,000</u>
Total Permits	\$243,725	\$1,659,832	\$923,517	\$1,048,126
Impact Fees				
Water	\$350,703	\$2,794,311	\$1,606,446	\$1,866,645
School	\$168,900	\$1,222,512	\$589,920	\$683,760
City Facilities	\$154,845	\$1,235,765	\$710,890	\$825,775
Open Space	\$10,850	\$88,450	\$51,300	\$59,350
Park Land	\$199,764	\$1,627,908	\$944,040	\$1,092,252
Public Art	\$109,702	\$959,200	\$517,500	\$592,250
Traffic Mitigation	\$355,043	\$3,549,871	\$2,203,110	\$2,466,529
<u>Other</u>	<u>\$6,625</u>	<u>\$26,500</u>	<u>\$9,938</u>	<u>\$9,938</u>
Total Impact Fees	\$1,356,432	\$11,504,517	\$6,633,144	\$7,596,499
Total Municipal Fees	\$1,600,157	\$13,164,349	\$7,556,660	\$8,644,624
<i>Source: City of Petaluma, 2022; Strategic Economics, 2022.</i>				

Table 15: Municipal Fees per Housing Unit

	3-story tuck-under	5-story wrap	8-story podium A	8-Story podium B
Total Units	31	247	142	165
Building Permits/Fees				
Building Permits and Plan Check Fees	\$3,720	\$3,769	\$3,569	\$3,506
Other Permits	\$2,529	\$2,749	\$2,582	\$2,543
<u>Other Planning Fees - Estimated</u>	<u>\$1,613</u>	<u>\$202</u>	<u>\$352</u>	<u>\$303</u>
Total Permits	\$7,862	\$6,720	\$6,504	\$6,352
Impact Fees				
Water	\$11,313	\$11,313	\$11,313	\$11,313
School	\$5,448	\$4,949	\$4,154	\$4,144
City Facilities	\$4,995	\$5,003	\$5,006	\$5,005
Open Space	\$350	\$358	\$361	\$360
Park Land	\$6,444	\$6,591	\$6,648	\$6,620
Public Art	\$3,539	\$3,883	\$3,644	\$3,589
Traffic Mitigation	\$11,453	\$14,372	\$15,515	\$14,949
<u>Other</u>	<u>\$214</u>	<u>\$107</u>	<u>\$70</u>	<u>\$60</u>
Total Impact Fees	\$43,756	\$46,577	\$46,712	\$46,039
Total Municipal Fees	\$51,618	\$53,297	\$53,216	\$52,392
<i>Source: City of Petaluma, 2022; Strategic Economics, 2022.</i>				