01
Special Meeting Item

Office of the City Manager

WORKSESSION
May 21, 2024

To: Honorable Mayor and Members of the City Council

From: Dee Williams-Ridley, City Manager

Submitted by: Margot Ernst, Interim Deputy Director, Health, Housing, and Community Services

Subject: Residential Feasibility Analysis and In-Lieu Fee Recommendations

SUMMARY

Strategic Economics and Street Level Advisors conducted a financial feasibility analysis of City requirements related to new market-rate housing development in Berkeley. This includes the Inclusionary Housing Ordinance (Berkeley Municipal Code Chapter 23.328), the Helping Achieve Responsible Development with Healthcare and Apprenticeship Training Standards ("HARD HATS") ordinance, the Bird Safe Building ordinance, and the prevailing wage requirements within the Southside Plan area.

Staff are seeking input on potential updates to the City's inclusionary housing In-Lieu fee amount and application based on the analysis findings. The report proposes recommendations to support affordable housing production and medium-density ("Middle Housing") housing development. These include simplifying the fee structure, providing an exemption to support Middle Housing, setting the In-Lieu fee at $56.25 per square foot, and adjusting fees biennially based on the Construction Cost Index. The economic feasibility analysis and policy recommendations are summarized in this report and described in detail in Attachment 1.

In-Lieu fee revenue is deposited in the City's Housing Trust Fund (HTF) program (with a set aside for administration). Bond measures, such as Measure O, provide a significant but one-time source for affordable housing. The In-Lieu fee is Berkeley's primary dedicated funding source to support 100% affordable housing and leverage County, State, and federal funding.

Staff will bring revisions to the Inclusionary Housing Ordinance (Berkeley Municipal Code Chapter 23.328) and a resolution for an inclusionary housing In-Lieu fee to the Housing Advisory Commission, Planning Commission, and City Council later this year.

CURRENT SITUATION AND ITS EFFECTS

On February 14, 2023, the Berkeley City Council updated affordable housing requirements for new market-rate construction, transitioning from the Affordable Housing Mitigation Fee (AHMF) ordinance to the Inclusionary Housing Ordinance (IHO).

This shift established on-site Below Market Rate (BMR) housing requirements and introduced an alternative In-Lieu fee payment option. The In-Lieu fee calculation changed from per unit to per square foot of Residential Unit Floor Area (RUFA), with a set fee of $56.25 per square foot, adjusted biennially with the California Construction Cost Index (CCI).

The fee determination was based on the 2020 AHMF equivalent for typically sized units, to account for market shifts post-COVID-19. Council directed Staff to conduct a feasibility analysis of the In-Lieu fee in light of current market conditions.

A temporary exemption (until April 1, 2025) was adopted for projects under 5,000 square feet to evaluate the In-Lieu fee's impact on Middle Housing production. For purposes of this analysis, Middle Housing refers to housing projects with two to 19 units on sites equivalent to one or two single-family lots.

In addition to the IHO, the City Council recently adopted further policy changes affecting market-rate housing development, including the HARD HATS ordinance, Bird Safe Building ordinance, and prevailing wage requirements within the Southside Plan Area.

The City retained Strategic Economics and Street Level Advisors to analyze the impacts of these requirements on the financial feasibility of new market-rate housing development. Their task was to provide recommendations for the City’s affordable housing In-Lieu fee amount and application.

Recommendations

Staff are seeking the City Council’s input on four recommendations from the Strategic Economics and Street Level Advisors report (Attachment 1). These recommendations were drafted considering the financial feasibility analysis and the following policy goals:

- Continue producing affordable housing through on-site BMR units and In-Lieu fees, which leverage external funding for 100% affordable housing developments.
- Support the financial feasibility of market-rate housing to a) generate on-site BMR units or In-Lieu fee funding; and b) expand Berkeley’s housing stock.
- Offer flexibility for projects to choose between multiple compliance options depending on different circumstances.
- Promote the development of Middle Housing product types that add between two and 19-unit housing options in Berkeley’s neighborhoods.

Staff will incorporate Council’s input and feedback into revisions to the Inclusionary Housing Ordinance (Berkeley Municipal Code Chapter 23.328) and a resolution for an inclusionary housing In-Lieu fee, which staff will present to the Housing Advisory Commission, Planning Commission, and City Council later this year.

Recommendation 1: Apply the same In-Lieu fee level to all housing development projects

- Remove the current In-Lieu fee exemption for projects under 5,000 square feet.
- Remove the tiered fee scale for projects between 5,000 and 12,000 square feet.
- Apply the same In-Lieu fee level to all housing development projects.
- Goal: This simplification removes the incentive to manipulate project sizes to avoid higher fees, promoting clarity and fairness in fee application. It will also facilitate a more streamlined application process for City staff.

Recommendation 2: Support Middle Housing by exempting 5,000 square feet of RUFA from the In-Lieu fee calculation for any project opting to pay the full fee

- Exempt 5,000 square feet of RUFA from the In-Lieu fee for projects opting to pay the full fee instead of providing on-site BMR units.
- Goal: This exemption encourages the development of Middle Housing by facilitating relatively lower fees for Middle Housing projects while maintaining fees for mid-rise and high-rise projects, which typically provide on-site BMR units to access the State Density Bonus ("Density Bonus"). The Density Bonus allows for increased project density in exchange for on-site BMR units, and is commonly used for Berkeley's multi-family housing development. Since Density Bonus provides significant benefits for larger projects, most will likely continue to opt to provide on-site BMR units and pay a pro-rated In-Lieu fee for the remaining obligation.

Recommendation 3: Maintain the existing $56.25 maximum In-Lieu fee level as the universally applicable In-Lieu fee.

- Maintain the maximum In-Lieu fee level at $56.25 per square foot, and apply this to all development projects.
- This is the equivalent of the maximum fee in the current tiered fee scale.
- Goal: Maintaining the current fee level ($56.25 per square foot) achieves close consistency with the maximum justifiable fee determined by applying an Average Local Contribution to Affordable Housing approach ($58.59 per square foot), but avoids imposing new development costs, especially during challenging development conditions. This allows the City to maintain a fee that is approximately equivalent to the City's typical direct contributions to the cost of leveraging off-site affordable housing units at deeper affordability levels. It ensures the City will maintain its primary affordable housing funding source,

mitigating the risk of lost opportunity to secure funding when market conditions shift.

Recommendation 4: Regularly Adjust In-Lieu Fee Based on Construction Cost Index

- Continue the current policy of adjusting the In-Lieu fee every two years based on the California Construction Cost Index (CCCI).
- Goal: The City's average per unit Housing Trust Fund contribution continues to increase as nonprofit development must manage market fluctuations (e.g., labor, materials, financing costs). Adjusting the fee consistent with CCCI facilitates the City's ability to adequately support future HTF projects as development costs shift. This practice supports the fee's ability to address affordable housing needs over time but does not guarantee it will align with the City's HTF costs. This is because the CCCI is a generalized index of labor and materials costs that cannot fully account for all project costs or the unique circumstances of specific local projects.

Figure 1: Current In-Lieu Fee Policy and Recommended Changes

Policy	Current In-Lieu Fee	Recommended Changes
In-Lieu Fee Amount	$0 per square foot for projects below 5,000 square feet (residential unit floor area) $38.75 for projects between 5,000 and 5,999 square feet, and then incrementally increases for each thousand square feet between 6,000 up to 11,999 square feet $56.25 for projects of 12,000 square feet or more	$56.25 per square foot for all projects
Application to Projects Opting to Pay the Full Fee and Provide No Qualifying On-Site Inclusionary Units	See above	The first 5,000 square feet would be exempt from the In-Lieu fee for any project opting to pay the full fee instead of providing any

Policy	Current In-Lieu Fee	Recommended Changes
		on-site inclusionary units (Density Bonus projects would not qualify for the exemption)
Fee Level Adjustment Over Time	The In-Lieu fee is adjusted every two years based on the California Construction Cost Index	Maintain the CCCI adjustment.

Findings

The analysis' findings examine the in-lieu fee from multiple perspectives, including consideration of comparability with the costs of providing on-site BMR units, the cost to produce an off-site affordable housing unit via fee revenue, financial feasibility conditions, and consideration of barriers and opportunities to support Middle Housing.

Justifiable Fee Ranges
The analysis used three approaches to determine a range of potential maximum justifiable in-lieu fee levels. The justifiable In-Lieu fee level is based on an analysis determining the per-square-foot fee equivalent to providing an on-site unit. These fee levels should be considered within the context of external factors influencing housing development. These factors and the methodology of each approach are summarized below.

- Affordability Gap: the maximum justifiable in-lieu fee for the rental prototypes is $117.69 per square foot.

- Production Cost: the maximum justifiable in-lieu fee for the rental prototypes is $103.77 per square foot.

- Average Local Contribution to Affordable Housing: a fee of $58.59 per square foot is approximately equivalent to the City's typical direct contributions to the cost of leveraging off-site affordable housing units. This is approximate to the current maximum fee level of $56.25. The HTF per unit contribution has consistently increased over time to reflect the same market increases (e.g., labor, materials, financing) the private market is experiencing.

Medium Density Middle Housing
Smaller Middle Housing products—Small Lot Single Family and Fourplex/Townhomes—demonstrate financial capacity to support an In-Lieu fee when built as ownership

products, but these housing types are rarely built due to other challenges. The financial feasibility analysis cannot capture the qualitative factors preventing the development of these housing types. The survey of development activity shows that these types of small infill projects are not often built in Berkeley, despite their strong financial performance as a high-end ownership product.

The mismatch between financial performance and actual outcomes is attributable to factors including the lack of small-scale developers with capacity and interest in this type of development and the limited inventory of lower-cost underutilized sites available for sale in existing neighborhoods.

The financial performance of larger Middle Housing products, such as the 10-unit small multifamily, were more limited by financial constraints of current development and market conditions (e.g., construction costs, financing) and did not benefit from economies of scale.

HARD HATS, Prevailing Wage, and Bird Safe Building

HARD HATS and prevailing wage requirements increase development costs at a level comparable to switching from largely non-union labor to union labor for a development project, increasing hard costs (i.e., labor). This would increase costs by approximately 18 to 25 percent for projects that do not otherwise use union labor. These cost increases are the same whether the project invokes one or both requirements if union labor is used.

Cost impacts will be relatively limited for high-rise construction projects since a larger share of trades for these projects typically use union labor. However, smaller mid-rise projects are more likely to use a higher percentage of non-union trades for their development. The additional costs driven by HARD HATS/prevailing wage could become a significant factor for determining when or whether a mid-rise project is built as market conditions shift. Over the past five years, these mid-rise projects comprised approximately two-thirds of new permitted housing units in Berkeley, so these policies could have significant implications for future housing production.

The additional development costs associated with the HARD HATS, prevailing wage, and Bird Safe Glass requirements are not likely to pose an insurmountable barrier to future market-rate residential development in Berkeley when development conditions improve, but the requirements will constrain the likelihood and pace of future housing production.

The Bird Safe Building requirement adds approximately 1.5 percent to the hard costs of construction (i.e., materials). The costs associated with the policy likely will not determine whether a project is built.

State Density Bonus Impact

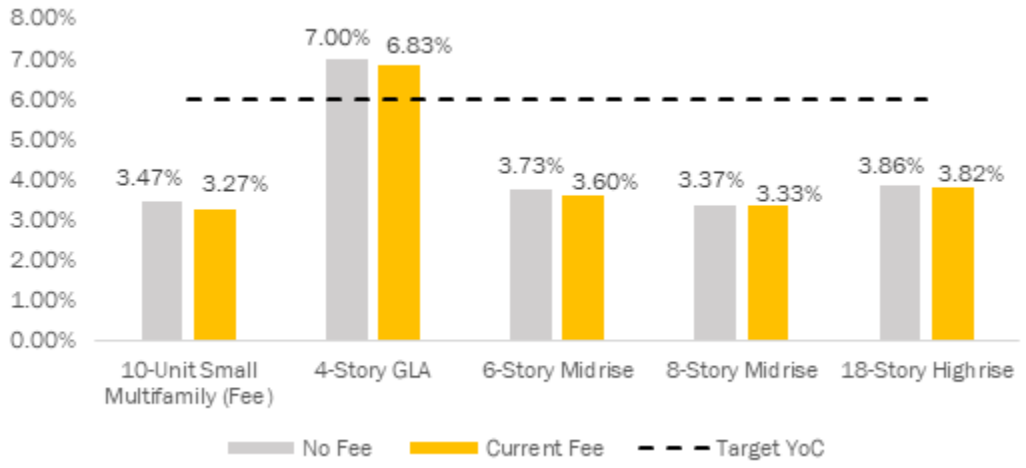
The Density Bonus provides significant incentives (e.g., development capacity, waivers, concessions) for larger development projects in Berkeley to provide on-site BMR units. Most mid-rise and high-rise developments will opt to provide on-site BMR units and a pro-rated In-Lieu fee, regardless of the In-Lieu level, in order to leverage the Density Bonus incentives.

Market Conditions and Context

The financial feasibility results indicate that most development prototypes (except the four-story Group Living Accommodation) cannot support the current cost of development in today's market. This is being driven by increased construction and financing costs that are outpacing projected rental revenue relative to the required rate of return developers must provide to finance a project.

The City's In-Lieu fee increases overall costs and limits a project's potential return. However, this is not the driving factor in determining a project's financial feasibility. The poor financial performance of the development prototypes is primarily attributable to the broader feasibility challenges, noted above, rather than the current in-lieu fee level. For example, the in-lieu fee only results in a negative percent change in project return of between one and six percent for the rental prototypes, as shown in Figure 2.

Figure 2. Impact of In-Lieu Fee on Financial Feasibility of Applicable Prototypes



Source: Strategic Economics, 2024.

This analysis provides a snapshot in time of current market conditions. Sensitivity analysis demonstrates that feasibility shifts as development costs, achievable rents and sales prices, and thresholds for financial return change. In 2023, the City received 25 applications for 2,224 new units and entitled 2,093 units. This pipeline demonstrates that the static models are intended as a guiding barometer of potential market activity rather than a concrete expectation. These factors should be considered when determining an appropriate fee amount.

Trade-Offs
Raising the fee may limit a potential project moving forward. Alternatively, rescinding or lowering the fee does not guarantee a project will be feasible. The myriad factors influencing the market (i.e., construction, financing, rates of return) are dynamic and shift over time.

Setting a high fee may encourage developers to include on-site BMR units, expanding the community's affordable housing stock in mixed-income developments. It also heightens development feasibility challenges and project completion delays. Setting a low fee can better support development feasibility, but would reduce the number of HTF units the City can subsidize when the In-Lieu fee is paid; and setting the fee too low also risks missing out on potential affordable housing funding during favorable development conditions. Limiting In-Lieu fee revenue restricts the City's ability to support and leverage external funding for more deeply affordable housing in 100 percent affordable projects.

The Council should consider these trade-offs when determining an In-Lieu fee amount.

Methodology

Development Prototypes
The study used seven development prototypes to evaluate the financial feasibility impacts of the examined policies and identify development barriers. The prototypes were determined by reviewing Berkeley's recent development trends. Mid-rise (4- to 8-stories) prototypes and the high-rise prototype (18 stories) were modeled on recent projects entitled and completed in Berkeley. Middle Housing prototypes were based on a mix of recent examples in Berkeley and outside examples, given the rarity of these projects in Berkeley. Middle Housing prototypes included the Small-Lot Single Family, Fourplex/Townhomes, and 10-unit Small Multifamily prototypes. These prototypes may not be attainable under potential zoning amendments. Figure 3 provides an overview of the development prototypes.

The mid-rise and high-rise prototypes (four stories and above) incorporate the Density Bonus.

Figure 3. Development Prototypes Summary

Prototype	Description
Small-Lot Single Family*	Multiple single-family homes on a standard single-family lot size.
Fourplex/Townhomes*	Stacked townhomes on a standard single-family lot size.
10-Unit Small Multifamily*	3-story multiplex with surface parking.

Prototype	Description
4-Story Group Living Accommodation (GLA)	Micro-studio units with shared common spaces. Assumed to use Density Bonus.
6-Story Mid-Rise	Podium style mid-rise. Assumed to use Density Bonus.
8-Story Mid-Rise	Podium style mid-rise. Assumed to use Density Bonus.
18-Story High-Rise	Type 1 high-rise. Assumed to use Density Bonus.

* Prototype is designed to represent a Middle Housing type.
Source: Strategic Economics, 2024.

Proforma Analysis

A pro forma model tested the financial feasibility of each prototype against the 1) range of In-Lieu fee options (as identified below) and 2) HARD HATS, Bird Safe, and prevailing wage requirements. The pro forma inputs reflected today's market conditions including prices/rents, construction costs, and financing costs. Cost and revenue assumptions were informed by a review of existing reports, recent development activity, market data, and 13 interviews with developers, general contractors, and architects with experience working in Berkeley and the broader Bay Area. Detailed information about the development prototypes and proforma analysis is provided in Attachment 1.

Feasibility Threshold

Financial feasibility was assessed by considering current market thresholds for financial return requirements, which are shaped by broader market conditions and encompass the range of investment options available to developers and investors. This evaluation employed two metrics: "yield on cost" for rental prototypes and "return on cost" for ownership prototypes. Yield on cost was calculated by dividing the expected net annual operating income at full lease-up by total development costs, while return on cost was determined by dividing the expected net sales revenue by total development costs.
To establish reasonable thresholds for developer returns in Berkeley, Strategic Economics conducted interviews with local developers, reviewed comparable financial analyses in the Bay Area, and examined publications on the local and regional real estate market. As a result, rental projects were deemed feasible at a yield on cost of at least six percent, while ownership projects were considered viable at a return on cost of at least eight percent.

Sensitivity Analysis

Strategic Economics conducted a sensitivity analysis to provide context for the factors influencing the financial performance of the prototypes (e.g., construction costs, labor, rents) and how changing conditions influence the performance of the prototypes.

Development costs, revenues, and required return on investment change over time, and each change influences development feasibility outcomes. Development does not occur

in a vacuum. Every housing project is subject to its own unique development and market conditions that cannot be completely accounted for by static prototype modeling. The findings and recommendations account for these considerations.

Fee Calculations

The analysis used three approaches to determine justifiable fee ranges.

- **Affordability Gap**: This method calculates the maximum In-Lieu fee by comparing the revenues generated from market-rate and affordable rents for a typical new housing unit. The justifiable fee is set at the equivalent revenue loss incurred by providing an on-site BMR unit in a market-rate project, reflecting the perspective of for-profit developers.

- **Production Cost Gap**: This method determines the maximum in-lieu fee by considering the difference between affordable rents and the cost to produce an income-restricted housing unit. It represents the difference between the value of a BMR unit (i.e., rental or sale revenue) and its construction cost, indicating the total cost gap to produce affordable housing.

- **Average Local Contribution to Affordable Housing:** This method calculates an equivalent in-lieu fee based on the average financial contribution from local sources to 100 percent affordable developments. Staff surveyed recent contributions by the City's Housing Trust Fund program to affordable housing projects. This establishes the average minimum fee revenue required for the City to provide its typical contribution toward an affordable housing unit in 100% affordable projects.

These approaches generated a range of potential maximum justifiable In-Lieu fee levels. These fees were then compared against neighboring communities' fees and against the ability of market-rate housing development to support payment of the fees based on current development conditions.

A detailed description of methodology, assumptions, and calculations is included in Attachment 1.

BACKGROUND

On February 14, 2023, the City Council updated the City's inclusionary housing requirements in response to Council referrals and State laws. Assembly Bill 1505 in 2017 influenced these changes, consolidating affordable housing requirements for rental and ownership properties. The ordinance shifted the fee structure from Affordable Housing Mitigation to inclusionary housing In-Lieu fees, now based on Residential Unit Floor Area. An exemption for projects under 5,000 square feet was introduced temporarily to assess impacts on Middle Housing.

The current In-Lieu fee amount, determined by Street Level Advisors analysis from February 2022, transitioned the 2020 AHMF to a per-square-foot basis in line with the IHO. The Council chose this fee over the adjusted AHMF from July 2022 to enable a thorough analysis of COVID-19 and inflation impacts on the housing market. The previous AHMF was adopted on July 19, 2016 and biennially adjusted with the CCCI.

The inclusionary housing program has provided 575 BMR units across 54 properties (15% of the total units built). Since 2016, the affordable housing mitigation fee/in-lieu fee has generated over $51,000,000 for local affordable housing via the HTF program.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS
Infill affordable housing near transit, jobs, and amenities can reduce greenhouse gas emissions. The proposed plan supports infill development with on-site BMR units and in-lieu fees for the Housing Trust Fund, supporting affordable housing developers.

POSSIBLE FUTURE ACTION
Staff will bring revisions to the Inclusionary Housing Ordinance (Berkeley Municipal Code Chapter 23.328) and a resolution for an inclusionary housing In-Lieu fee to the Housing Advisory Commission, Planning Commission, and City Council later this year.

FISCAL IMPACTS OF POSSIBLE FUTURE ACTION
An In-Lieu fee of $56.25 per square foot would apply to new residential projects not providing on-site BMR units per IHO requirements. The proposed 5,000 square-foot exemption for projects paying the full fee aims to reduce the fee and stimulate development for Middle Housing projects that currently are not feasible due to a variety of market constraints. Staff do not anticipate this exemption will apply to larger projects, which typically provide on-site BMR units to leverage Density Bonus benefits.

In-Lieu fees are deposited in the City's HTF program. Bond measures, such as Measure O, provide a significant but one-time source for affordable housing. The In-Lieu fee is Berkeley's primary dedicated funding source to support 100% affordable housing and leverage County, State, and federal funding.

Future affordable housing fee revenue trends are driven by variables outside the City's control (e.g., how projects choose to comply with the IHO, changes in state law, and broader housing market trends). However, Staff anticipate consistent revenue generation for affordable housing over the next Housing Element cycle if overall housing development and affordable housing compliance trends continue.

CONTACT PERSON
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Attachments:
1: Berkeley In-Lieu Fee and Housing Policies Economic Feasibility Analysis. Prepared by Strategic Economics, April 12, 2024.

BERKELEY IN-LIEU FEE AND HOUSING POLICIES ECONOMIC FEASIBILITY ANALYSIS

ASSESSMENTS OF THE IN-LIEU FEE AND HARD HATS, BIRD SAFE BUILDING, AND PREVAILING WAGE REQUIREMENTS

Prepared for:

City of Berkeley
April 12, 2024

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EXECUTIVE SUMMARY

Strategic Economics and Street Level Advisors were retained by the City of Berkeley to analyze the current residential development market context and provide recommendations regarding changes to the City's affordable housing "in-lieu" fee amount and application. As part of this study, Strategic Economics analyzed three new City construction requirements to assess their impacts on the financial feasibility of new market rate housing development.

These analyses supplemented and built upon changes made by the City of Berkeley to its affordable housing requirements in 2023. The 2023 changes included applying the in-lieu fee based on square feet of residential unit floor area (instead of a fee per housing unit), applying progressively lower fee amounts for projects below 12,000 square feet, and exempting projects with fewer than 5,000 square feet of housing unit floor area from the fee.

Those updates did not involve changing the equivalent in-lieu fee amount for a typical housing unit, nor did they include a deeper study of barriers to the development of small projects. Instead, the City of Berkeley sought the current study to examine the in-lieu fee level and its application under current market conditions. The resulting recommendations of this study propose further refinements that can help the City of Berkeley meet its housing production goals and encourage the development of small residential developments that diversify the housing stock.

Issues and Policies Studied

In-Lieu Fee Amounts and Policy:

- The purpose of this study was to analyze and recommend revised in-lieu fee amounts; in-lieu fees are an option for fulfilling the requirements applied to market rate housing development projects under the City's Inclusionary Housing Ordinance (IHO).[1] The IHO requires that developers of new housing with 5,000 or greater square feet of residential unit floor area (RUFA)[2] must either provide 20 percent of housing units as Below Market Rate (BMR) deed-restricted affordable housing, pay an in-lieu fee, provide a mix of BMR units and a pro-rated in-lieu fee payment, or pursue specified alternative options.

- A second goal of the in-lieu fee policy analysis was to ensure the policy does not discourage production of Missing Middle housing. As used in this report, the term "Missing Middle" refers to housing development projects with two to 19 housing units at sites equivalent in size to approximately one or two typical single-family lots.[3] Examples include small-lot single family homes (built on a single typically sized residential lot), duplexes, fourplexes, and modest multifamily buildings. The City of Berkeley is considering zoning changes to encourage Missing

[1] Berkeley Municipal Code Chapter 23.328.
[2] RUFA refers to the floor area of the Residential Unit(s) of a Housing Development Project, as measured from the interior walls of each unit.
[3] For purposes of this report, "Missing Middle" refers only to building design, and does *not* refer to any form of deed-restricted affordable or moderate-income BMR housing.

Middle housing; under the City's existing zoning rules, Missing Middle housing is generally not permitted in the City's low-density residential zoning districts.

Impacts of Construction Requirements on Housing Development Feasibility:

- The Helping Achieve Responsible Development with Healthcare and Apprenticeship Training Standards ("HARD HATS") Ordinance, effective January 1, 2024, applies to development projects of 50,000 gross square feet and above and requires that contractors and subcontractors demonstrate that they provide apprenticeship programs and health care coverage for workers.[4]

- The Bird Safe Building Ordinance, effective July 27, 2023, requires the use of materials known to reduce the incidence of bird collisions for development projects above 10,000 gross square feet and 35 feet in height.[5]

- The prevailing wage requirements analyzed in this report would apply to construction projects of 50,000 gross square feet and above, comparable to the policy recently approved by the City Council as part of the Southside Plan Area zoning revisions[6] (but not in effect elsewhere).

Development Prototypes

This study used seven "development prototypes" to assess the financial feasibility impacts of the studied policies and understand barriers to development. Development prototypes are general models that typify recent or potential development projects in the City of Berkeley. The midrise and high-rise prototypes (4 stories and above) were developed to model the use of the State Density Bonus Law (SDBL), which allows for an increase in project size in exchange for the provision of on-site Below Market Rate (BMR) units. Nearly all midrise and high-rise housing development projects in Berkeley now use SDBL to access bonus building area and concessions and waivers from local requirements.

The first three prototypes shown in Figure 1 represent Missing Middle housing products. The 10-Unit Small Multifamily prototype was based on outside examples rather than local projects since this Missing Middle product is rarely built in Berkeley.

[4] Berkeley Municipal Code Chapter 13.107.

[5] Berkeley Municipal Code Section 23.304.150.

[6] Approved January 30, 2024 as Ordinance 7,89-N.S. to amend the Berkeley Municipal Code by adding Chapter 13.108.

FIGURE 1. DEVELOPMENT PROTOTYPES SUMMARY

Prototype	Description
Small-Lot Single Family*	Multiple single-family homes on a standard single family lot size.
Fourplex/Townhomes*	Stacked townhomes on a standard single family lot size.
10-Unit Small Multifamily*	3-story multiplex with surface parking.
4-Story Group Living Accommodation (GLA)	Micro-studio units with shared common spaces. Assumed to use SDBL.
6-Story Midrise	Podium style midrise. Assumed to use State Density Bonus
8-Story Midrise	Podium style midrise. Assumed to use State Density Bonus.
18-Story High-rise	Type 1 high-rise. Assumed to use State Density Bonus.

* Prototype is designed to represent a Missing Middle housing type.
Source: Strategic Economics, 2024.

Financial Feasibility Overview and Impacts of HARD HATS, Bird Safe Building, and Prevailing Wage Requirements

The financial feasibility analysis found that few prototypes are currently feasible even without the additional cost impacts of HARD HATS, Bird Safe Building, and prevailing wage requirements; of the rental prototypes, only the 4-Story GLA was feasible, while the Small-Lot Single Family and Fourplex/Townhomes were the only feasible ownership prototypes. These results are driven by relatively high current construction costs for labor and materials, high financing costs, and comparatively limited rent appreciation in recent years. The residential development types that are currently feasible in Berkeley tend to have relatively lower costs for materials and labor while also commanding high rents per square foot or high overall sales prices.

Although most typical market rate residential development projects are currently financially infeasible, developers may still propose projects or construct projects in anticipation of improved development conditions or due to project-specific factors. The results of the financial feasibility analysis represent outcomes for a developer initiating a typical market rate project under today's typical cost, revenue, and thresholds for return on investment. Multiple factors explain why developers continue to propose or construct housing projects in Berkeley. Developers submitted several project applications in 2023 to potentially avoid being subject to HARD HATS, which took effect in January 2024. Other developers are optimistic and believe that development conditions will change soon—such as increasing achievable rents (driven partly by strong student demand), slowing increases in construction costs, or reduced project financing costs. Individual development projects can also have unique beneficial characteristics that reduce development costs, such as lower land acquisition costs, innovative construction techniques (such as modular construction), or access to unique financing arrangements.

HARD HATS requirements increase development costs at a level comparable to switching from largely non-union labor to union labor for a development project, increasing hard costs (labor and materials) by approximately 18 to 25 percent. The ordinance currently requires contractors to show proof of health insurance contributions for workers six months prior to the start of any construction job. In practice, the HARD HATS requirement largely limits the pool of compliant contractors to those using union labor because health care is included in workers' membership.

A potential prevailing wage requirement would have similar cost implications as HARD HATS requirements, although *not in addition to HARD HATS' cost implications* if a development project is

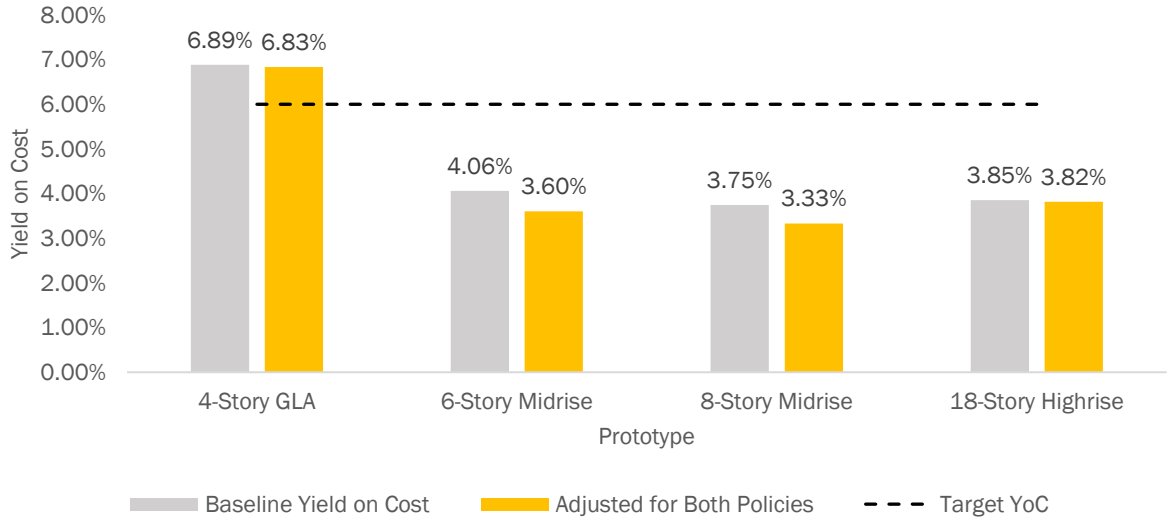
subject to both requirements. This is because prevailing wages incorporate costs corresponding to most of the benefits provided by union membership, such as apprenticeships, retirement contributions, and healthcare.

The Bird Safe Building requirements add an additional 1.5 percent to the hard costs of residential development. This cost impact varies based on the amount of glass in the building's design.

As development conditions improve and more housing types become feasible to build again, the new and proposed labor and construction policies will most significantly increase costs for and weaken the feasibility of midrise residential development in Berkeley. Figure 2 shows the cost impact of HARD HATS and the Bird Safe Building requirements on the financial feasibility of the applicable prototypes. Only the 6-Story and 8-Story midrise prototypes are subject to the full cost impacts of both policies. As shown, the percent change in yield on cost—a measure of return on investment used here to assess financial performance—is negative 11 percent for the 6-Story and 8-Story Midrise prototypes when incorporating HARD HATS and Bird Safe Building requirements, versus less than one percent for the 18-Story Highrise prototype.

HARD HATS and prevailing wage policies drive greater cost increases for midrise projects because a relatively larger percentage of their construction labor costs would shift from non-union to union labor. Smaller midrise projects are more likely to use a higher percentage of non-union trades for their development. Specific trades tend to often use union labor, such as those associated with concrete work. However, for trades such as mechanical, electrical, and plumbing (MEP), smaller projects often do not use union labor. In contrast, cost impacts will be relatively limited for high-rise construction projects since a larger share of trades for these projects typically use union labor.

FIGURE 2. FINANCIAL FEASIBILITY IMPACTS OF HARD HATS AND BIRD SAFE BUILDING REQUIREMENTS



Note: Prototypes are feasible when the yield on cost exceeds six percent.
Source: Strategic Economics, 2024.

Development conditions are dynamic, with constant changes over time in achievable rents/prices, components of development costs, and required rates of return on investment. Figure 3 illustrates this principle by showing the impact on project return (expressed as yield on cost) given hypothetical changes in rent and total development costs for one unit of housing from the 6-Story Midrise prototype.

The project return would need to increase from 3.60 percent to 4.06 percent to achieve the same financial performance while absorbing the additional cost impacts of HARD HATS, etc., as shown above in Figure 2. This could be achieved if, for example, rents increased 10 to 15 percent, or if rents increased five to 10 percent and development costs declined five percent.

FIGURE 3. IMPACTS OF CHANGES IN RENT AND DEVELOPMENT COSTS ON THE YIELD ON COST OF ONE RENTAL UNIT

Change in Development Costs	Change in Rent					
	-10%	-5%	0%	5%	10%	15%
-10%	3.60%	3.80%	4.00%	4.20%	4.40%	4.61%
-5%	3.41%	3.60%	3.79%	3.98%	4.17%	4.36%
0%	3.24%	3.42%	3.60%	3.78%	3.96%	4.14%
5%	3.09%	3.26%	3.43%	3.60%	3.78%	3.95%
10%	2.95%	3.11%	3.28%	3.44%	3.60%	3.77%

Source: Strategic Economics, 2024.
Note: Feasible yield on cost in this analysis is six percent. While the development becomes slightly more feasible as rents increase and development costs decrease, the project is still infeasible in all scenarios displayed above.

The additional development costs associated with the HARD HATS, prevailing wage, and Bird Safe Glass requirements are not likely to pose an insurmountable barrier to future market rate residential development in Berkeley when development conditions improve, but the requirements will constrain the likelihood and pace of future housing production. The magnitude of changes in rents, development costs, and other development conditions required to cover the impacts of HARD HATS and the other requirements is likely achievable over time as market conditions shift. Overall demand for housing is strong in Berkeley, especially given the number of students seeking housing. However, the development cost increases associated with HARD HATS, prevailing wage, and Bird Safe building requirements are significant enough to delay or constrain housing production since the policies increase the required changes in rents/prices, development costs, and market return thresholds necessary before housing development becomes feasible.

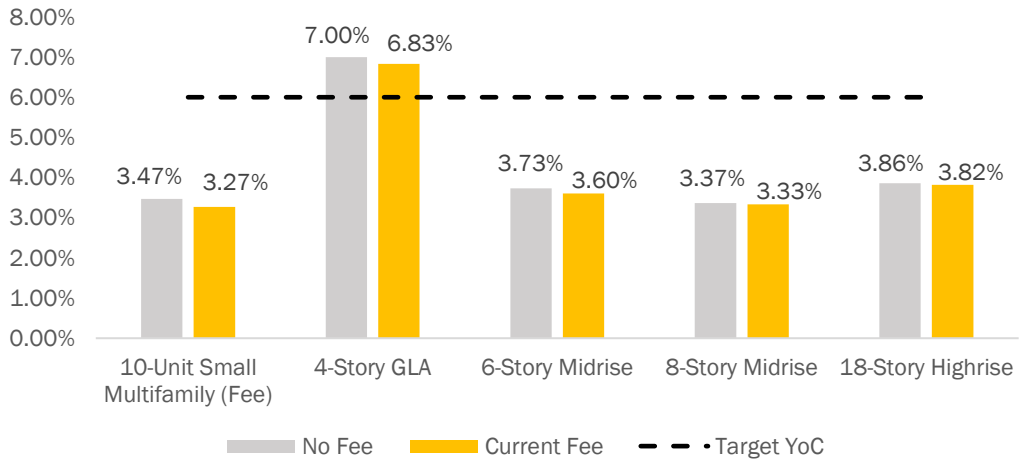
In-lieu Fee Analysis and Recommendations

Strategic Economics examined the in-lieu fee revision from multiple perspectives, including consideration of comparability with the costs of providing on-site Below Market Rate (BMR) units, the cost to produce off-site affordable units via fee revenue, financial feasibility conditions, comparability with fees in other nearby communities, and consideration of barriers and opportunities to support Missing Middle housing. The analyses found the following:

- Nearly all of the analyzed development prototypes are currently financially infeasible to build as a new project under today's development conditions and existing City requirements, except for the 4-Story GLA rental project, Small Lot Single Family ownership product, and Fourplex/Townhomes ownership product.

- The poor financial performance of the development prototypes is primarily attributable to the broader feasibility challenges, noted earlier, rather than the current in-lieu fee level. For example, the in-lieu fee only results in a negative percent change in project return of between one and six percent for the rental prototypes, as shown in Figure 4.

FIGURE 4. IMPACT OF IN LIEU FEE ON FINANCIAL FEASIBILITY OF APPLICABLE PROTOTYPES



Source: Strategic Economics, 2024.

- Smaller Missing Middle products—Small Lot Single Family and Fourplex/Townhomes—demonstrate some financial capacity to support an in-lieu fee under today's development conditions, but these products are rarely built due to challenges such as the lack of small-scale developers with capacity and interest in this type of development and the limited inventory of lower-cost underutilized sites available for sale in existing neighborhoods.

- A variety of tradeoffs must be considered when selecting an in-lieu fee. Setting a high fee can incentivize developers to provide on-site BMR units rather than pay the fee; this adds to the City's affordable housing stock and contributes to mixed-income developments, yet limits City resources to leverage outside funding to produce more deeply affordable housing in 100 percent affordable projects created through the Housing Trust Fund program. Setting a high fee increases development feasibility challenges and can delay when and whether housing projects are built. Setting a low fee can achieve the opposite outcomes—but setting the fee too low can also create a scenario in which the City may "miss the market" by failing to collect potential affordable housing funding when development conditions improve.

- Regardless of the fee level, larger development projects will continue to include and produce on-site BMR units to receive density bonuses; these projects typically also contribute prorated fee revenue. Given the value of SDBL incentives, most midrise and high-rise development projects in Berkeley are likely to be built with density bonuses.

- The current in-lieu fee level is similar to the City's typical contribution toward the cost of providing off-site affordable housing units in 100 percent affordable housing projects before accounting for additional administrative costs. The average funding contributed by the City of Berkeley to produce an equal number of affordable units in a 100 percent affordable housing project is generally equivalent to a per residential square foot in lieu fee of $58.59, or $67.38 after including a 15 percent increase for administrative costs. The City's current maximum in-lieu fee is $56.25 per square foot.

Based on these findings, Strategic Economics prepared recommendations seeking to support the following goals:

1. Produce affordable housing through on-site BMR inclusionary units or through in-lieu fees that the City can use to leverage outside funding to produce affordable units in 100 percent affordable housing developments.
2. Support the financial feasibility of market rate housing development so these projects can in turn generate on-site BMR units or in-lieu fee funding resources.
3. Promote the development of Missing Middle product types that add two- to 19-unit housing options in Berkeley's neighborhoods.

The following table summarizes the current in-lieu fee structure and recommended changes. The recommended changes are explained in the narrative following the table.

FIGURE 5: CURRENT IN-LIEU FEE POLICY AND RECOMMENDED CHANGES

	Current In-Lieu Fee Policy	Recommended Changes
In-Lieu Fee Amount	$0 per square foot for projects below 5,000 square feet (residential unit floor area) $38.75 for projects between 5,000 and 5,999 square feet, and then incrementally increases for each thousand square feet between 6,000 up to 11,999 square feet $56.25 for projects of 12,000 square feet or more	$56.25 per square foot for all projects
Application to Projects Opting to Pay the Full Fee and Provide No Qualifying On-Site Inclusionary Units	See above	The first 5,000 square feet would be exempt from the in-lieu fee for any project opting to pay the full fee instead of providing any on-site inclusionary units (State Density Bonus projects cannot qualify for the exemption since they include qualifying on-site inclusionary units)
Application to Projects Opting to Pay a Prorated Fee Through Mixed Compliance with the Inclusionary Requirements	Fee structure and level remains the same as above; for State Density Bonus projects a prorated fee would apply to the remaining obligation after accounting for on-site BMR units produced to attain density bonus status, and the fee only applies to the base project (i.e., City inclusionary requirements and in-lieu fee cannot apply to the bonus area of the development)	Projects opting to include any on-site inclusionary units (including State Density Bonus projects) would still be obligated to pay any remaining prorated fee obligation, if applicable, with no exemption; the fee itself would now be $56.25 per the first recommended change
Fee Level Adjustment Over Time	The in-lieu fee is adjusted every two years based on the California Construction Cost Index	No change

Recommendation 1: Eliminate the current in-lieu fee structure that exempts projects with less than 5,000 square feet of RUFA from the fee and progressively increases fee levels for projects between 5,000 and 12,000 square feet. Instead, apply the same in-lieu fee level to all housing development projects.

Currently there is an exemption to the affordable housing requirements for new residential development with less than 5,000 square feet of RUFA. Strategic Economics recommends removing this exemption as part of a package of recommendations designed to simplify the affordable housing requirements and support the development of Missing Middle housing in Berkeley. Adjusting the policy to apply to all residential developments, with no "phase in" based on project size, reduces the incentive for developers to pursue projects just under the applicable square footage to avoid triggering higher in-lieu fees. For example, currently a housing project with 4,999 square feet of RUFA would pay zero in-lieu fees, while a project with 5,001 square feet would pay over $193,000 in in-lieu fees.

Recommendation 2: For any project opting to pay the full fee instead of providing any on-site inclusionary units, exempt the first 5,000 square feet of RUFA from the in-lieu fee.

This exemption supports production of Missing Middle housing by ensuring these small developments pay a relatively low fee per square foot of project area, yet developers would no longer be incentivized to reduce the project size to avoid triggering a significantly higher total fee. At the same time, the full fee would still apply to nearly all larger midrise and high-rise housing projects since developers are likely to continue building these product types as SDBL projects that require on-site BMR units.

The policy change would modestly decrease the total in-lieu fee paid by a limited number of housing product types that are rarely built in Berkeley, such as the 10-unit Small Multifamily building tested in this analysis. However, the policy change would also slightly increase fee revenue from other projects, such as the 4-story Group Living Accommodation prototype tested in this analysis.

While the exemption slightly disincentivizes satisfying the affordable housing requirement by providing on-site BMR units—since the fee is lower than the equivalent affordability gap—developers of SDBL projects will continue to provide on-site BMR units to trigger access to the State Density Bonus law's valuable concessions, waivers, and additional development capacity. Since SDBL provides these significant benefits for projects, most larger projects will likely continue to provide on-site units and pay prorated in-lieu fees for the remaining obligation.

Recommendation 3: Maintain the existing $56.25 maximum in-lieu fee level as the universally applicable in-lieu fee.

While the in-lieu fee could justifiably be increased to become equivalent to the cost of producing an on-site BMR unit, Strategic Economics recommends maintaining the new universal in-lieu fee level at its current maximum of $56.25. This supports the production of new housing by not increasing the fee level at a time when project financing and construction materials and labor costs are making residential development particularly challenging. Maintaining the current in-lieu fee level also allows the City of Berkeley to maintain a fee that is approximately equivalent to the City's typical direct contributions to the cost of leveraging an off-site affordable housing unit. By maintaining the current in-lieu fee, the City will maintain its primary affordable housing funding source as development conditions improve, mitigating the risk of lost opportunity to secure funding when development conditions shift.

Recommendation 4: Continue to adjust the in-lieu fee regularly based on the California Construction Cost Index.

Regular adjustment of the fee increases the likelihood that the revenue collected will continue to support a comparable number of affordable units in future 100 percent affordable housing projects.

I. INTRODUCTION: KEY CONCEPTS, APPROACH, AND DEVELOPMENT PROTOTYPES

Purpose of Study

Strategic Economics and Street Level Advisors were retained by the City of Berkeley to analyze the current residential development market context and provide recommendations regarding changes to the City's affordable housing "in-lieu" fee amount and application. As part of this study, Strategic Economics analyzed three new City construction requirements to assess their impacts on the financial feasibility of new market rate housing development.

The analysis of the City of Berkeley's in-lieu fee policy examined maximum supportable fee levels and whether and how to adjust application of the fees. In-lieu fees are paid by market rate developers in lieu of providing on-site affordable housing units required under the City of Berkeley's Inclusionary Housing Ordinance (IHO).

These analyses supplemented and built upon changes made by the City of Berkeley to its affordable housing requirements in 2023. The 2023 changes included applying the in-lieu fee based on square feet of residential unit floor area (instead of a fee per housing unit), applying progressively lower fee amounts for projects below 12,000 square feet, and exempting projects with fewer than 5,000 square feet of housing unit floor area from the fee.

Those updates did not involve changing the equivalent in-lieu fee amount for a typical housing unit, nor did they include a deeper study of barriers to the development of small projects. Instead, the City of Berkeley sought the current study to examine the in-lieu fee level and its application under current market conditions. The resulting recommendations of this study propose further refinements that can help the City of Berkeley meet its housing production goals and encourage the development of small residential developments that diversify the housing stock.

Two new City requirements analyzed by Strategic Economics consisted of those enacted by the Helping Achieve Responsible Development with Healthcare and Apprenticeship Training Standards ("HARD HATS") ordinance and the Bird Safe Building requirements ("Bird Safe Building") ordinance. Strategic Economics also studied the impact of an expanded prevailing wage requirement on certain residential developments; this requirement is currently only in place in the Southside Plan area. Each of these requirements is discussed in detail below.

The study was guided by five key policy questions:

1. How should the in-lieu fee and its application be updated to support the City's policy goals of encouraging new affordable and market rate housing development?
2. What are key barriers to developing small "Missing Middle" infill housing products?
3. How can the in-lieu fee be adjusted to support the development of small missing middle infill housing products?
4. How do recent policy changes, including Bird Safe Building and HARD HATS, impact the financial feasibility of residential development?
5. How does the potential prevailing wage requirement impact the financial feasibility of residential development?

OVERVIEW OF IN-LIEU FEE POLICY AND MISSING MIDDLE HOUSING GOALS

The purpose of this study was to study and recommend revised in-lieu fee amounts based on an analysis of current market conditions for residential development. The in lieu fee is a way in which developers can fulfill the requirements applied to market rate housing development projects under the City's Inclusionary Housing Ordinance (IHO).[7] The IHO requires that developers of new housing with over 5,000 square feet of residential unit floor area (RUFA)[8] must either provide 20 percent of housing units as Below Market Rate (BMR) deed-restricted affordable housing, pay an in-lieu fee, provide a mix of BMR units and pro-rated in-lieu fee payment, or pursue specified alternative options.

The City's current in-lieu fee is tiered based on the total square footage of the development project, with fee levels starting at $38.75 per square foot of RUFA for a 5,000 square foot project. The fee then increases every 1,000 square feet until reaching the maximum current fee of $56.25 per square foot for projects of 12,000 square feet and larger. The fee is automatically adjusted every two years, based on changes to the California Construction Cost Index.

The in-lieu fee analyses and recommendations in this report focus on ensuring that new market rate development projects can and will generate affordable housing units. These units could be generated either through provision of on-site BMR units or through in-lieu fee funding resources. Those resources enable the City to leverage additional outside funding and produce affordable housing units in 100 percent affordable housing projects.

A second goal of the in-lieu fee policy analysis was to ensure the policy does not discourage production of Missing Middle housing. As used in this report, the term "Missing Middle" refers to housing development projects with two to 19 housing units at sites equivalent in size to approximately one or two typical single-family lots.[9] Examples include small-lot single family homes, duplexes, fourplexes, and modest multifamily buildings. This type of housing provides an intermediate density that can increase the number of homes in existing neighborhoods.

The City of Berkeley has pursued multiple efforts to encourage Missing Middle housing, which is not commonly built in the city today. These efforts include City Council referrals to study the issue and to remove exclusionary zoning, Housing Element policies, and preparation of Middle Housing zoning amendments and objective design standards. This study explores the key barriers to developing Missing Middle housing and recommends in-lieu fee policy adjustments intended to support future development of this housing type while simplifying the current in-lieu fee structure.

OVERVIEW OF THE HARD HATS, BIRD SAFE BUILDING, AND PREVAILING WAGE POLICIES

This study analyzed the impact of construction policies on the financial feasibility of residential development to understand the current market conditions that might influence the future direction of the in-lieu fee. The City of Berkeley's HARD HATS Ordinance, effective January 1, 2024, applies to development projects of 50,000 gross square feet and above, which is the equivalent of approximately 50 housing units in a multifamily development project.[10] HARD HATS requires contractor and subcontractor prequalification to demonstrate that these employers provide apprenticeship programs

[7] Berkeley Municipal Code Chapter 23.328.
[8] RUFA refers to the floor area of the Residential Unit(s) of a Housing Development Project, as measured from the interior walls of each unit.
[9] For purposes of this report, "Missing Middle" refers only to building design, and does *not* refer to any form of deed-restricted affordable or moderate-income BMR housing.
[10] Berkeley Municipal Code Chapter 13.107.

and health care coverage for workers. The Bird Safe Building Ordinance, effective July 27, 2023, requires the use of materials known to reduce the incidence of bird collisions for development projects above 10,000 gross square feet and 35 feet in height.[11] The City also sought an analysis of the financial feasibility impacts associated with applying prevailing wage requirements to construction projects of 50,000 gross square feet and above—comparable to those recently approved by the City Council as part of the Southside Plan Area zoning revisions.[12]

Report Structure

This report consists of the following content:

- The remainder of this report introduction describes the approach used to complete the feasibility analyses conducted as part of the study.

- Section II describes analysis findings, conclusions, and policy recommendations for adjustments to the in-lieu fee and policy (page 24).

- Section III describes the findings and conclusions of the financial feasibility analysis. This includes analysis of the impacts of the HARD HATS, Bird Safe Building, and proposed prevailing wage requirements on the current market conditions for residential development (page 35).

- Appendix provides detailed tables describing the key assumptions, inputs, calculations, and outputs of the analyses (page 47).

Financial Feasibility Analysis Concepts

The following content introduces important concepts related to the financial feasibility analysis components of the study. At the most basic level, "financial feasibility" simply refers to whether a development project generates sufficient revenues to justify the costs and risks of building the project.

Because inclusionary housing and in-lieu requirements like Berkeley's seek to leverage the activities of the private market to produce affordable housing, the requirements rely on the financial feasibility of market rate housing projects. This means inclusionary and in-lieu fee policies are reliant on some factors outside of the City's control. Cities can control what types of housing are allowed on each parcel using land use regulation, and whether project proposals are approved. However, a city cannot control whether developers propose projects within those regulations, nor the exact composition of proposed projects. Developers will only propose projects that they assess as being feasible to construct.

Requirements to provide inclusionary affordable units or pay a certain level of additional fees influence development feasibility for market rate housing developers by reducing revenues or increasing costs. Thus, for an inclusionary policy to contribute to affordable housing production, its requirements must be high enough that they result in the production of new on-site affordable units or fee revenues, but not be so high that they prevent market rate housing projects from being feasible. This makes it

[11] Berkeley Municipal Code Section 23.304.150.

[12] Approved January 30, 2024 as Ordinance 7,89-N.S. to amend the Berkeley Municipal Code by adding Chapter 13.108.

important to identify how different in-lieu fee levels relate to the total revenue and expenses of a project.

On the other hand, requiring on-site BMR units or in-lieu fee contributions can help Berkeley meet its affordable housing development goals through multiple means of affordable housing production. Thus, the content of this section explains why financial feasibility of housing development matters for setting inclusionary policies; how "affordable" housing is defined and affects financial feasibility considerations; and how inclusionary policies fit within the context of overall affordable housing production in a community.

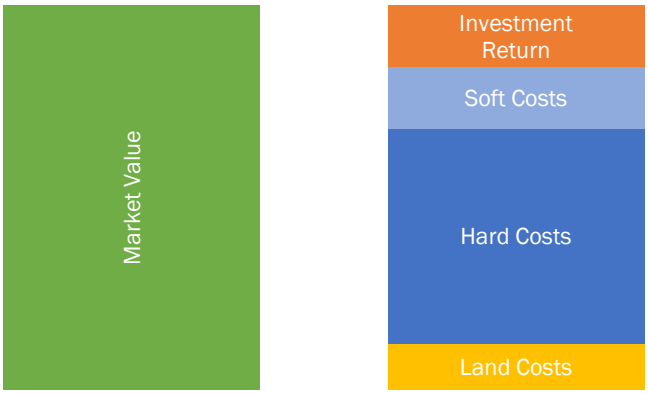
From a market rate housing developer's perspective, development projects are only financially feasible when the market value of the project (based on total net operating income) exceeds project costs and investment return. As shown in Figure 6, this is determined by the following factors.

- Total project revenue is determined by the market value of the project.
    - For for-sale projects, the market value consists of the sales prices the units can obtain.
    - For rental projects, the market value of the project depends on the annual revenue it will generate and the current capitalization rate, which reflects overall project investment risk relative to alternative investments (see the box on Page 13 for more information on investment return metrics).

- Total project costs include hard costs, soft costs, investment return, and land costs.
    - Hard costs include materials and labor associated with physical construction of the building.
    - Soft costs include indirect expenses such as architecture and engineering, taxes, insurance, financing costs, and municipal fees.
    - Investment return consists of the required financial return on investment that a project must achieve to attract developer and lender investment.
    - Land costs refer to the price the developer pays to acquire the land.

Each of these factors is very dynamic; project costs and revenues can fluctuate significantly, and many factors, such as the market rate price of housing, are beyond the City's direct influence. Instead, the market rate price or rental rate for housing is primarily set by local market demand; the price and rent may rise and fall according to the availability of housing supply, presence of amenities, or other factors in the market area.

FIGURE 6. COMPONENTS OF FINANCIAL FEASIBILITY: PROJECT VALUE AND PROJECT COST COMPONENTS



Source: Strategic Economics, 2023.

KEY DEVELOPMENT TERMS AND DEFINITIONS

Net Operating Income (NOI): The total revenue remaining after accounting for all expenses and vacancies.

Capitalization Rate: A ratio of annual net operating income of an asset to its market value. This rate, which accounts for current market conditions, is used for purposes of analysis to translate the revenue from the income-producing rental prototypes into the equivalent sales value of the projects. This study used a capitalization rate of five percent to determine the "capitalized value" of each prototype.

Yield on Cost: The project's potential return on investment as a proportion of total development costs. It is calculated by dividing a property's net operating income by the total cost to develop the property. Yield on cost is typically the metric used for capturing the potential return of rental properties. This study used a yield on cost threshold of six percent to determine financial feasibility.

Return on Cost: The project's potential return on investment as a proportion of total development costs. It is calculated by subtracting total development costs from total revenue, and dividing the remainder by the total cost to develop the property. Return on cost is typically used for capturing the return of ownership properties. This study used a return on cost threshold of eight percent to determine financial feasibility.

An in-lieu fee provides an option for a developer to pay a fixed sum rather than provide on-site units to satisfy the City's affordable housing requirements. The fee can be set in a variety of ways to encourage development in line with the City's priorities for affordable housing production. For example, if a fee is significantly less than the cost of providing additional on-site units, it can disincentivize on-site production of BMR units. However, if the City aims to collect funds for affordable housing, fee payments can be a desirable outcome.

Ultimately, in-lieu fees, HARD HATS, Bird Safe Building, and prevailing wage requirements create costs for development projects while the market value of the project remains the same. These policies create tradeoffs between maximizing the potential pace of housing production versus ensuring housing development contributes to other important City goals.

Approach to the Financial Feasibility Analysis

Strategic Economics performed a financial feasibility analysis to test the impacts of HARD HATS, Bird Safe Building, and prevailing wage requirements on new housing development projects, and to examine the extent to which different market rate housing products in Berkeley can support in-lieu fee contributions.

Strategic Economics first worked with City staff and analyzed information about recent projects to create development "prototypes." Then Strategic Economics built a pro forma model to test the financial feasibility of each prototype under different requirements and fees. Detailed information about the development prototypes is provided in the following section of the report.

Strategic Economics measured the financial feasibility of each prototype and scenario using a static pro forma model that solves for the financial "return on investment" supported by the project. A pro forma model is a tool used to estimate the financial performance of a development project. The base static model reflected today's market conditions such as prices/rents, construction costs, and financing costs. Cost and revenue assumptions were informed by review of existing reports, recent development activity, market data, and 13 interviews with developers, general contractors, and architects with experience working in Berkeley and the broader Bay Area. This report's appendix shows detailed cost and revenue assumptions, other inputs and calculations, and a set of basic pro forma statements.

A project was considered financially feasible when the investment return met current market thresholds. These thresholds are driven by broader market conditions, recognizing that developers and investors have a range of investment options beyond a given development project.

Financial feasibility was assessed using "yield on cost" for rental prototypes and "return on cost" for ownership prototypes. Yield on cost was calculated by dividing the expected net annual operating income at full lease-up by total development costs. Return on cost was calculated by dividing the expected net sales revenue by total development costs.

To establish a reasonable threshold for a developer's rate of return on new development projects in Berkeley, Strategic Economics interviewed local developers, reviewed other similar financial analyses in the Bay Area, and reviewed publications on the local and regional real estate market. Based on this research, the analysis assumed that rental projects were feasible at a yield on cost of at least six percent and ownership projects at a return on cost of at least eight percent.

Development Prototypes Used in the Feasibility Analysis

Strategic Economics created seven development prototypes that represent typical residential developments recently completed or proposed in Berkeley. The prototypes were then used to test the financial feasibility of new and proposed labor and construction policies, as well as potential updates to the in-lieu fee. The creation of the prototypes was completed in collaboration with the City of

Berkeley. The prototypes represent a range of tenures, locations within the city, residential densities, building heights, parking formats, and use of the State Density Bonus Law (see the pullout on the law).

STATE DENSITY BONUS LAW: BACKGROUND, APPLICATION, AND LOCAL CONTEXT

The State Density Bonus Law (SDBL) was originally enacted in 1979 to encourage affordable housing development. The law allows developers to build beyond the maximum allowed density in a jurisdictions' land use plan in exchange for providing a certain number of new deed-restricted affordable dwelling units on site. It also grants developers access to certain incentives that allow for cost reductions as well as waivers to development standards that would otherwise physically preclude the project from being built on the chosen site.

Developers submit applications for SDBL projects that are based on a base project that conforms to the development standards of the site. This base project then has a density bonus applied to it based on the number of on-site affordable units provided and their level of affordability. These elements directly correspond to the increase in density allowed to the project. They also influence the number of incentives and waivers granted to the project. Developments with more below-market rate units and deeper affordability levels (i.e., very low and low income) qualify for larger density bonuses and up to four incentives and waivers. In 2021, the law was modified to allow up to a 50% bonus with the corresponding provision of on-site affordable units. In 2023, AB 1287 was passed, allowing for an additional density bonus with the provision of moderate income units. This study only models projects that use very low and low income units to gain access to a density bonus.

SDBL projects are subject to the inclusionary housing ordinance of the jurisdiction in which they are built. However, the on-site units provided to gain access to the density bonus can be used to satisfy all or part of the local affordable housing requirements, which typically require either the provision of on-site units, the payment of an in-lieu fee, or some combination of both. Inclusionary and in-lieu fees are only applied to the base project version of the SDBL development, which means that the fee is applied based on the square footage of a smaller project than what is eventually built. Since SDBL projects must provide some on-site units to qualify for the density bonus, if they choose to pay a fee to satisfy the remainder of the affordable housing requirements then the fee is prorated. Thus, SDBL projects tend to pay a much smaller in lieu fee than a similarly sized project that does not take a density bonus.

Several of the prototypes used for this study utilize the SDBL. This decision reflects patterns seen in the recent development activity in the City of Berkeley. The City's building permit log from 2022 and 2023 demonstrates the increased use of SDBL for midrise and high-rise development; over half of the permitted midrise projects and all the permitted high-rise projects use the law. Local developers interviewed for this study provided further verification of the importance of SDBL for making residential development projects pencil, as the increased unit count and incentives and waivers provide additional revenue while reducing development costs.

The prototypes were also developed to respond to specific policy questions around underrepresented development types, including Missing Middle housing, which is between two and 19 units. Thus, the Missing Middle prototypes draw from real projects in Berkeley and from outside sources, such as Opticos Design's guidelines for Missing Middle Housing.[13]

The development prototype characteristics are described below and summarized in Figure 7.

Missing Middle Prototypes:

- *Small Lot Single Family:* This prototype was designed to fit three single-family homes on the standard size lot for one single family home in Berkeley, which is approximately 0.1 acres. Each of the three single family homes included in the prototype is three stories, 1,500 gross square feet, and has one garage parking space.
- *Fourplex/Townhomes:* This prototype consists of four townhomes built around a four-car garage. This prototype is also designed on a standard size lot for one single family home (0.1 acres) and is three stories at its highest point. Each townhome is 1,200 square feet.
- *10-Unit Small Multifamily:* This prototype includes ten units split evenly between 1- and 2-bedroom apartments. The one-bedroom units are 750 square feet, and the two-bedroom units are 1,100 square feet.

These prototypes were developed based on existing and proposed developments in Berkeley. However, there are few existing examples of this type of housing in the city, especially for the 10-Unit Small Multifamily prototype. As a result, that prototype draws from Opticos Design's guidelines for a "multiplex" housing type.

Group Living Accommodation (GLA), Midrise, and High-rise Prototypes:

- *4-Story GLA:* This prototype was designed according to the City of Berkeley's definition of a GLA, requires separate sleeping rooms with large common spaces. GLA buildings are typically marketed to students. The prototype fits on a 0.2 acre lot and has 36 units. One unit is a one-bedroom, designed for a resident manager, while the other 35 are micro-studios. The prototype does not include parking.
- *6-Story Midrise:* This prototype was designed on a 0.5 acre lot, with 75 units. It reflects newer developments that have been proposed or built near the Ashby BART station and along the San Pablo corridor.
- *8-Story Midrise:* This prototype was designed on a 0.5 acre lot, with 120 units. It reflects newer developments that have been proposed or built near the Ashby BART station and along the San Pablo corridor.
- *18-Story High-rise:* This prototype is designed on a 0.5 acre lot, with 240 units. This type of development is currently only allowed in the area covered by the Downtown Berkeley Area Plan.

Additional Prototype Characteristics

- **Tenure:** The Small Lot Single Family, Fourplex/Townhome, and 10-unit Small Multifamily prototypes were tested as ownership and rental products. The other prototypes were only tested as rental products since current development conditions greatly disfavor larger condominium development projects—as indicated by minimal development activity of midrise

[13] Opticos Design,"Missing Middle Housing," https://missingmiddlehousing.com/types.

and high-rise condominium projects in and near Berkeley over the past decade. This is largely due to condo construction liability under California state law, which can make insurance costs prohibitively expensive.

- **Project Density:** The prototypes represent various lot sizes and densities found across Berkeley, with denser projects typically located closer to Downtown and the UC Berkeley campus.

- **Common Location:** "Common Location" in Figure 7 notes where the prototype would most likely be developed, based on past development activity.

- **Parking Format:**
    - The Small Lot Single Family and Fourplex/Townhome prototypes have a parking ratio of one space per unit.
    - All other prototypes have lower parking ratios, with those located closest to the UC Berkeley campus and most likely to be targeted to students including zero automobile parking spaces. This reflects real-world development trends since the City removed its minimum parking requirements in 2022.

- **State Density Bonus Law:**
    - Prototypes from the 4-story GLA and larger were all assumed to use the State Density Bonus Law to achieve their unit counts. The prototypes were therefore derived from an assumed base project that has a certain percent of density added, based on the number of inclusionary BMR units provided on site (see Figure 7 for the percentage of on-site BMR units provided per prototype).

FIGURE 7. DEVELOPMENT PROTOTYPE DEFINITIONS AND CHARACTERISTICS

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Description	Multiple single family homes on a standard single family lot size	Stacked townhomes on a standard single family lot size	3-story multiplex with surface parking	Micro-studio units with shared common spaces	Podium style midrise	Podium style midrise	Type 1 high-rise
Common Location	West Berkeley	West Berkeley	West Berkeley	Southside & Downtown	South & Southwest Berkeley	South & Southwest Berkeley	Downtown
Site Size (acres)	0.1	0.1	0.2	0.2	0.5	0.5	0.5
Floors	3	3	3	4	6	8	18
Gross Square Feet	4,500	4,800	11,587	14,520	61,930	89,984	208,727
Residential Square Feet	4,500	4,800	9,250	9,400	49,460	71,320	165,780
Housing Units	3	4	10	36	75	120	240
Density (units/acre)	30	40	50	180	150	240	480
Parking Ratio (spaces/unit)	1	1	0.5	0	0.5	0.125	0
Tenure	Rental & Owner	Rental & Owner	Rental & Owner	Rental	Rental	Rental	Rental
Uses SDBL*	No	No	No	Yes	Yes	Yes	Yes

Note:
* SDBL = State Density Bonus Law.
Source: Strategic Economics, 2024.

II. IN-LIEU FEE ANALYSIS AND RECOMMENDATIONS

This section of the report describes relevant findings and concluding recommendations for updating the City of Berkeley inclusionary housing policy's in-lieu fee amount and application. The findings examine the in-lieu fee revision from multiple perspectives, including consideration of comparability with the costs of providing on-site BMR units, the cost to produce an off-site affordable housing unit via fee revenue, financial feasibility conditions, comparability with fees in other nearby communities, and consideration of barriers and opportunities to support Missing Middle housing (as defined in the introduction to this report).

The City of Berkeley's current in-lieu fees vary depending on the size of the projects. As shown in Figure 8, below, projects with 12,000 square feet or greater pay the full $56.25 fee per square foot of RUFA. Smaller projects pay lower specified fees on the entirety of their square feet of RUFA, and projects below 5,000 square feet do not pay an in-lieu fee and are exempt from inclusionary housing requirements.

FIGURE 8: CURRENT CITY OF BERKELEY IN-LIEU FEES

RESIDENTIAL UNIT FLOOR AREA SQUARE FEET (SQ. FT.)	FEE PER SQUARE FOOT (APRIL 1, 2023 – JUNE 30, 2025)
12,000 sq. ft. or more	$56.25
11,000-11,999 sq. ft.	$53.75
10,000-10,999 sq. ft.	$51.25
9,000-9,999 sq. ft.	$48.75
8,000-8,999 sq. ft.	$46.25
7,000-7,999 sq. ft.	$43.75
6,000-6,999 sq. ft.	$41.25
More than 5,000-5,999 sq. ft.	$38.75

Source: City of Berkeley, 2024.

Approach to Calculating Potential In-Lieu Fee Levels

This study used two methods to calculate a maximum reasonable in-lieu fee: the affordability gap and the production cost affordability gap (production cost). These gaps were then translated into an equivalent fee per square foot of RUFA. These methods establish the maximum fee equivalent to the cost of providing on-site BMR units or a comparable off-site BMR unit. These fees represent the maximum fee that would be justifiable under the City's current Inclusionary Housing Ordinance, which sets out a certain percentage of housing units in new development that must be affordable.

The study then used another approach to calculate the average cost for the City of Berkeley to produce an off-site affordable unit as part of a 100 percent affordable housing project—one of the primary uses of in-lieu fee revenue. This cost was then translated into an equivalent fee per square foot of RUFA.

This equivalent fee represents the fee level at which the City is likely to produce a comparable number of affordable housing units (often at deeper affordability levels) by leveraging in-lieu fee revenue.

These three approaches provide a range of possible fees that were then compared against those of peer cities to contextualize the regional landscape of affordable housing impact fees. Each approach is described in greater detail below:

- Affordability Gap: The affordability gap method of calculating a maximum in-lieu fee is based on the difference in revenues between market rate and affordable rents for a typical new housing unit. The maximum fee is equivalent to the reduced revenue associated with providing a BMR unit on site at a new market rate development project. As a result, this method demonstrates the for-profit developer's perspective by capturing the equivalent loss of revenue to provide an on-site BMR unit.

- Production Cost Affordability Gap: The production cost affordability gap ("production cost") method of calculating a maximum in-lieu fee is based on the difference between affordable rents and the cost to produce a unit of income-restricted housing. The maximum fee is the difference between the value of the BMR unit (based on its restricted rental rates or sales price) and the cost to construct it. This method demonstrates the total cost gap to produce an affordable housing unit.

- Average Local Contribution: The average local contribution method of calculating an equivalent in-lieu fee is based on the average dollar contribution from local sources to 100 percent affordable developments. This method involves a survey of recent affordable housing projects in the jurisdiction to determine the average contribution from the City's Housing Trust Fund program. This method establishes the average minimum in-lieu fee revenue that must be generated for the City of Berkeley to provide its typical contribution toward an affordable housing unit in a 100 percent affordable development project.

These approaches generated a potential range of in-lieu fee levels. These fees were then compared against neighboring communities' fees and against the current ability of market rate housing development to support payment of the fees based on current development conditions. A more detailed description of methodology, assumptions, and calculations is included in this report's Appendix.

The conclusion of Section II describes Strategic Economics' policy recommendations based on the analyses and policy priorities expressed by the City of Berkeley.

Justifiable Maximum In-Lieu Fee Levels

This section describes the results of the approaches to calculating the maximum justifiable in-lieu fee and the result of the average local contribution analysis. The justifiable in lieu fee level is based on an analysis that determines the per square foot fee equivalent to providing an on-site unit. The maximum justifiable in-lieu fee was calculated using the affordability gap and production cost methods. This established the high end of potential in-lieu fees to consider in this study, as these methods directly translate the City's affordable housing requirements into equivalent costs per square foot of building area. The average local contribution analysis provided an in-lieu fee amount that is equivalent to the

average amount of City revenue needed to leverage outside funds to produce an equivalent number of off-site affordable housing units in a 100 percent affordable project.

Using the affordability gap method, the maximum justifiable in-lieu fee for the rental prototypes is $117.69 per square foot (see Figure 9). This method calculates the justifiable cost as the revenue difference between renting or selling new units at market rate and at the affordability levels required by the City's inclusionary housing policy.

Using the production cost method, the maximum justifiable in-lieu fee for the rental prototypes is $103.77 per square foot (see Figure 9). This method calculates the justifiable cost as the difference between the revenue from renting or selling a BMR unit and the cost to produce the unit.

The average local contribution towards 100 percent affordable multifamily rental developments in the city is $58.59 per square foot—similar to today's maximum fee level of $56.25 (see Figure 9). While not the maximum justifiable fee, this average provides an equivalent fee level that supports the City of Berkeley's typical contribution to affordable units in 100 percent affordable housing projects.

The average local contribution fee per square foot does not include the overhead costs for the city to administer its Housing Trust Fund program. Based on City input, these administrative costs add a premium of 15 percent to the per square foot cost of the fee, bringing it to $67.38.

FIGURE 9: IN-LIEU FEE RESULTS BY APPROACH

	Affordability Gap	Production Cost	Local Contribution
Average per BMR Unit	$388,374	$342,432	$193,348
Average per Square Foot of Market Rate Project RUFA	$117.69	$103.77	$58.59

Source: Strategic Economics, 2024.

Supportable In-Lieu Fees from a Development Feasibility Perspective

The following findings describe the results of a sensitivity analysis that examined the financial feasibility of the rental and ownership development prototypes after incorporating the range of fee levels calculated in the preceding section of this report. This analysis provides context for how different in-lieu fees impact the financial feasibility of the development prototypes based on characteristics such as the prototypes' size, density, number of on-site units provided, and use of the SDBL. As described in this report's Introduction, in-lieu fees only apply to a small share of the total square feet in a SDBL project; in those projects, a portion of the inclusionary requirement is satisfied by on-site BMR units, and the prorated remaining in-lieu fee obligation only applies to the "base" project and not the project's "bonus" square feet.

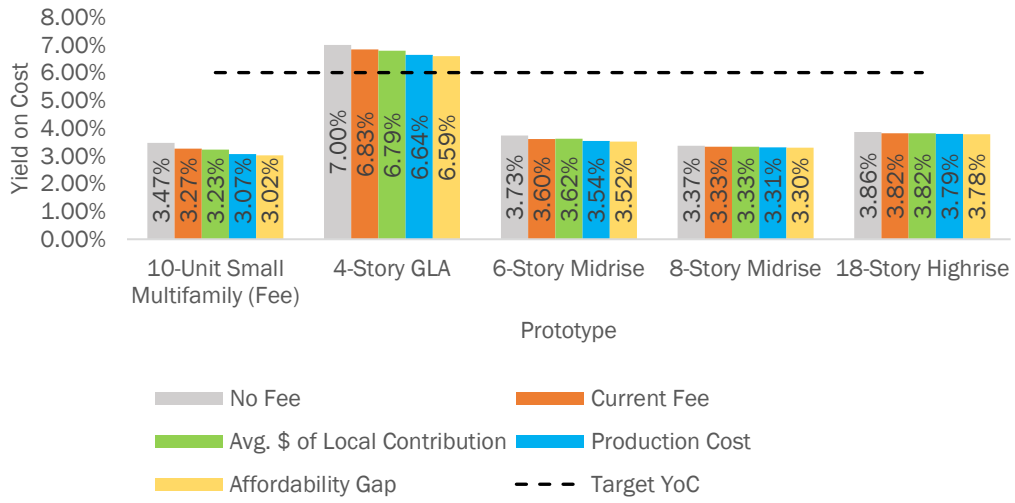
Unlike the "Baseline" analysis presented in the following section of this report, the following feasibility analyses do incorporate the cost impacts of the HARD HATS and Bird Safe Buildings requirements since these requirements are already in effect.

Since all the rental development prototypes are currently infeasible except the GLA, only the GLA is currently capable of supporting any in-lieu fee. Figure 10 shows the impacts of the different

approaches to calculating an in-lieu fee on the financial feasibility of the applicable prototypes. As shown, the negative feasibility impacts of the in-lieu fee are relatively modest for the larger midrise and high-rise prototypes. The fee applies to only a small portion of the overall square feet of these projects since they are assumed to use significant density bonuses. The fee also represents a relatively small share of overall construction costs for these projects due to their size. However, none of these projects are currently financially feasible to build, as they do not achieve a six percent yield on cost return.

The poor financial performance of the development prototypes is primarily attributable to broader development feasibility challenges rather than the current in-lieu fee level. Figure 10 shows the impact of the current fee on the financial feasibility of the applicable prototypes. For the smallest project, the percent change in the yield on cost is a reduction of 5.8 percent, while the largest project sees a much smaller one percent decline. However, both prototypes are currently infeasible, with or without the fee. Developments that are currently being proposed and built in the city likely have unique attributes that have enabled them to progress to this stage or are relying on market conditions improving in the future.

FIGURE 10. IN-LIEU FEE SENSITIVITY ANALYSIS FOR RENTAL PROTOTYPES

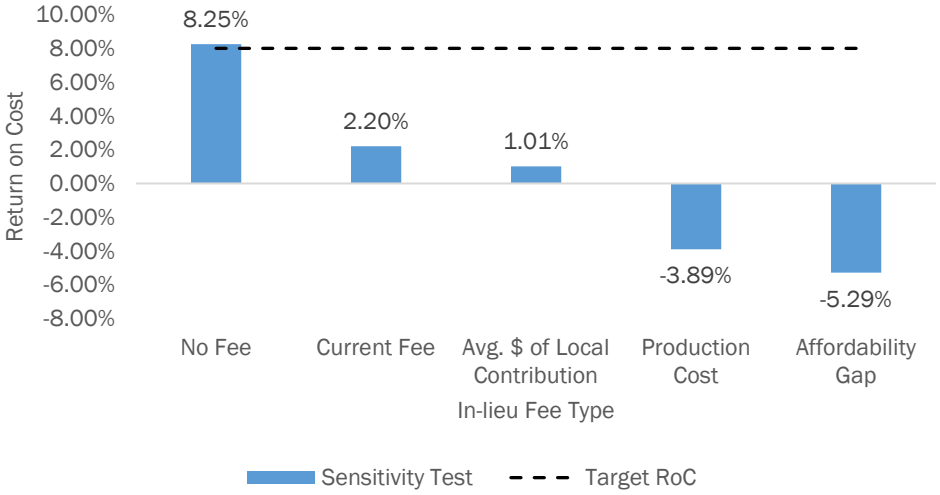


Note: These results incorporate the cost impacts of the Bird Safe Building and HARD HATS ordinances.
Source: Strategic Economics, 2024.

The small 10-Unit multifamily ownership (condo) prototype is infeasible with application of an in-lieu fee. (see Figure 11). The feasibility of this prototype is more sensitive to the size of the in-lieu fee due to the prototype's status as a non SDBL project (which therefore means the fee applies to the entire residential area) and the prototype's lower construction costs per square foot of building area; both factors result in the fee constituting a larger proportion of the total development costs compared to the midrise and high-rise prototypes. However, reducing or removing the fee burden allows this type of development to perform better financially, as the sensitivity analysis without a fee results in a return on cost of 8.25 percent, which is above the target return on cost of eight percent.

As noted earlier, the smaller Missing Middle prototypes are feasible as ownership products under current development conditions. However, they are not currently subject to the affordable housing requirements.

FIGURE 11. IN-LIEU FEE SENSITIVITY ANALYSIS FOR THE 10-UNIT SMALL MULTIFAMILY PROTOTYPE OWNERSHIP



Source: Strategic Economics, 2024.

Consideration of "Peer City" In-Lieu Fee Levels

Housing production in Berkeley does not occur in a vacuum; developers often construct housing in many different areas within a region, and differences in inclusionary requirements can have an impact on where developers choose to pursue projects. Therefore, the analysis compared Berkeley's current inclusionary housing requirements with those of nearby communities. This comparison provides context for potential changes to Berkeley's in-lieu fee level and takes into consideration the market factors that are unique to the city.

The City of Berkeley's current in-lieu fee (and inclusionary requirement) is higher than most peer cities. In-lieu fees in the cities listed in Figure 12 range from $19.37 per square foot on the lowest end to approximately $100 per square foot on the highest. Several cities levy fees on a per housing unit basis; assuming an average unit size of 1,000 square feet, these fees translate to between $12 and $45 per square foot. Berkeley's current in-lieu fee is $56.25 per square foot. Note, however, that cities apply their fees in a variety of ways, including different exemptions, differences depending on locations, and application on either a building area basis or a housing unit basis.

However, the Berkeley housing market differs from that of the peer cities due to Berkeley's strong ongoing demand for housing that is influenced by the large population of students residing in the city. The student population creates consistent and reliable housing demand in the city, particularly in areas close to the UC Berkeley campus such as Downtown and Southside. As a result, Berkeley tends to command relatively high rents and sales prices compared to many peer communities, which can potentially translate to long-term market support for relatively higher City fees. The student market also drives demand for types of housing projects not built elsewhere, such as the group living accommodation prototype tested in this analysis.

FIGURE 12. PEER CITIES' AFFORDABLE HOUSING REQUIREMENTS

City	% On Site Affordable Units Required	In-lieu Fee*	Year Enacted
Alameda	15% for all multifamily projects	$20,342 per unit	2023
Emeryville	20% for all multifamily projects	$31,032 per unit	2023
Fremont	12.9% for rental projects	$27.00 per residential square foot	2022
Hayward	6% for rental, 10% for ownership projects	$19.37 per residential square foot	2017
Livermore	10% for projects downtown, 15% for projects everywhere else	$29.23 per residential square foot	2023
Oakland	10% of project if providing low- or moderate-income units, or 5% if providing very low-income units	For multifamily projects: $22,000 per unit in Zone 1 $17,750 per unit in Zone 2 $12,000 per unit in Zone 3	2023
Pleasanton	15% for all multifamily projects	$45,083 per unit	2023
San Francisco	All requirements below temporarily reduced by 50%: 20% for small projects, 25% for large rental projects, 33% for large ownership projects	50% of $199.50 per gross square foot	2019
San Jose	15% for all multifamily projects	Moderate Market Areas: $18.26 per net residential square foot Strong Market Areas: $43 per net residential square foot	2022/2023

*Note that the exact application of these fees varies from city to city. Examples of potential differences include application based on building area versus unit area, various exemptions, and potential differences within subareas of the cities.
Source: Strategic Economics, 2024.

Key Conclusions of the In-Lieu Fee Analyses

As noted earlier, the financial feasibility results indicate that most development prototypes cannot feasibly support the current in-lieu fee level. This is especially true for the rental prototypes, as only the student-oriented GLA prototype is currently feasible. In general, high construction costs and interest rates are the main factors rendering development infeasible today, while rents have failed to keep pace with these challenges. The GLA performs well due to its relatively low construction costs as a relatively inexpensive to build 4-story wood frame building, its lack of costly parking, and the high achievable rents in the student-oriented submarkets of the city.

Smaller Missing Middle products—Small Lot Single Family and Fourplex/Townhomes—demonstrate some financial capacity to support an in-lieu fee, but these products are rarely built due to other challenges. The financial feasibility analysis cannot capture the qualitative factors preventing the development of these housing types. The survey of development activity shows that these types of small infill projects are not often built in Berkeley, despite their strong financial performance as a high-end ownership product. The mismatch between financial performance and actual outcomes is attributable to factors including the lack of small-scale developers with capacity and interest in this type of development and the limited inventory of lower-cost underutilized sites available for sale in existing neighborhoods.

The multifamily 10-unit Missing Middle prototype is not feasible under current conditions as a rental or ownership product. It is also the worst performing of the rental prototypes when it provides a full fee and no on-site units. This matches trends in recent development activity in Berkeley, which includes no examples of this product being built in the city. The product type does appear marginally feasible as an *ownership* product if no in-lieu fees or inclusionary requirements applied, but this prototype is also subject to the same development challenges as the other Missing Middle prototypes.

It is likely that the fee should not be adopted at the maximum justifiable level determined by the affordability gap or production cost methods; tradeoffs exist when selecting a fee level. A variety of tradeoffs must be considered when selecting an in-lieu fee. For example:

- Setting a high fee can incentivize developers to provide on-site BMR units rather than pay the fee; this adds to the City's affordable housing stock and contributes to mixed-income developments, yet limits City resources to leverage outside funding to produce more deeply affordable housing in 100 percent affordable projects. Setting a high fee worsens development feasibility challenges and can delay when and whether housing projects are built.

- Setting a low fee can achieve the opposite outcomes—but setting the fee too low can also create a scenario in which the City may "miss the market" by failing to collect potential affordable housing funding when development conditions improve.

Regardless of the fee level, larger development projects will continue to include and produce on-site BMR units to receive density bonuses; these projects typically also contribute prorated fee revenue. Given the value of SDBL incentives, most midrise and high-rise development projects in Berkeley are likely to be built with density bonuses. These projects inherently contribute to the City's deed-restricted affordable housing inventory via SDBL's on-site BMR unit requirements, albeit at a lower level than the City's inclusionary requirements.

The current in-lieu fee level is similar to the City's typical contribution toward the cost of providing an equal number of off-site affordable housing units in 100 percent affordable housing projects before accounting for additional administrative costs. The funding contributed by the City of Berkeley to produce an equal number of affordable units in a 100 percent affordable housing project is the equivalent of a $58.59 per residential square foot in-lieu fee level, or $67.38 after including a 15 percent increase for administrative costs. The City's current maximum in-lieu fee is $56.25 per square foot.

A larger in-lieu fee results in a greater relative impact on the financial feasibility of smaller developments—especially Missing Middle products. As a percentage of total project cost, the size of the in-lieu fee plays a greater role in the feasibility of smaller projects, both because of the lower cost per square foot to build these projects and because these projects do not typically make use of SDBL. In addition, since larger SDBL midrise and high-rise projects are more likely to pay a prorated in-lieu fee that applies to a small portion of the total square feet, these projects are less impacted by changes in the fee level.

In-Lieu Fee Policy Recommendations

Strategic Economics prepared the following recommendations for adjusting the City of Berkeley's in-lieu fee amount and application of the fee to different sizes and types of projects. The

recommendations incorporate consideration of the results of the preceding analyses to support the following goals:

1. Continue to produce affordable housing through on-site BMR inclusionary units or through production of in-lieu fee resources that the City can use to leverage outside funding to produce affordable units in 100 percent affordable housing developments.

2. Continue to support the financial feasibility of market rate housing development so these projects can in turn generate on-site BMR units or in-lieu fee funding resources and achieve the City's housing production goals.

3. Promote the development of Missing Middle product types that add two to 19 unit housing options in Berkeley's neighborhoods.

Recommendation 1: Eliminate the current in-lieu fee structure that currently exempts projects with less than 5,000 square feet of RUFA from the fee and increases fee levels for projects between 5,000 and 12,000 square feet. Instead, apply the same in-lieu fee level to all housing development projects.

Currently there is an exemption to the affordable housing requirements for new residential development with less than 5,000 square feet of RUFA. This exemption is set to expire in April 2025. Strategic Economics recommends removing this exemption as part of a package of recommendations designed to simplify the affordable housing requirements and support the development of Missing Middle housing in Berkeley.

Adjusting the policy to apply to all residential developments, with no "phase in" based on project size, reduces the incentive for developers to pursue projects just under the applicable square footage to avoid triggering higher in-lieu fees. For example, currently a housing project with 4,999 square feet of RUFA would pay zero in-lieu fees, while a project with 5,001 square feet would pay over $193,000 in in-lieu fees.

Recommendation 2: For any project opting to pay the full fee instead of providing any on-site inclusionary units, exempt the first 5,000 square feet of RUFA from the in-lieu fee.

This exemption for projects that pay the full fee (rather than a prorated fee that typically occurs for SDBL projects) supports production of Missing Middle housing by ensuring these small developments pay a relatively low fee per square foot of project area. It also removes the incentive to reduce project size to avoid triggering a significantly higher total fee. At the same time, the full fee would still apply to nearly all larger midrise and high-rise housing projects since developers are likely to continue building these product types as SDBL projects that must include some on-site BMR units. For example, Figure 13 shows that the midrise and high-rise prototypes would continue to pay the same fee amount as under the current policy, assuming the fee is maintained at the same maximum level.

The 10-Unit Small Multifamily prototype serves as an illustrative example of the positive feasibility impacts of the exemption for this Missing Middle product type. As shown in Figure 13, the exemption reduces in-lieu fee costs for the rental version of the prototype such that its yield on cost increases by 0.09 percentage points—moving the prototype closer to becoming financially feasible to build. Similarly, the exemption supports the development of higher density Missing Middle ownership housing types. As shown in Figure 14, the 10-Unit Small Multifamily prototype experiences an increase in its return on cost of 2.74 percent with the exemption.

The policy change would modestly decrease the total in-lieu fee revenue paid by a limited number of housing product types. The 10-Unit Small Multifamily prototype in Figure 13 and Figure 14 is an example of a project that would pay reduced fee revenue, with the exemption reducing fee payment by an amount equivalent to the funds needed to leverage 1.1 off-site BMR units. However, these kinds of small but relatively higher-density product types are likely to constitute a very small share of total housing development in Berkeley due to the feasibility and general development challenges noted in this report.

However, the policy change would also slightly *increase* fee revenue from other projects. By removing the phase in, some projects pay a slightly higher amount for the in-lieu fee. An illustrative example is the 4-Story GLA prototype. As shown in Figure 13, the policy change would slightly decrease the prototype's feasibility (yield on cost) and increase its fee payment at a level equivalent to approximately one-quarter of the funds needed to leverage an additional unit.

While the exemption slightly disincentivizes satisfying the affordable housing requirement by providing on-site units—since the fee is lower than the equivalent affordability gap—SDBL projects will continue to provide on-site units. In order to satisfy the state's requirement to be granted valuable additional density, waivers, and concessions, developers of SDBL projects must provide a certain percentage of on-site deed restricted affordable units. Since there are significant advantages for projects qualifying for use of the SDBL, the City of Berkeley will continue to see developments that satisfy the affordable housing requirements through mixed compliance.

Recommendation 3: Maintain the existing $56.25 maximum in-lieu fee level as the universally applicable in-lieu fee.

While the in-lieu fee could justifiably be increased to become equivalent to the cost of producing an on-site BMR unit, Strategic Economics recommends maintaining the new universal in-lieu fee level at its current maximum of $56.25. This supports the production of new housing by not increasing the fee level at a time when project financing and construction materials and labor costs are making residential development particularly challenging. Maintaining the current in-lieu fee level also allows the City of Berkeley to maintain a fee that is approximately equivalent to the City's typical direct contributions to the cost of leveraging an off-site affordable housing unit. By maintaining the current in-lieu fee, the City will maintain its primary affordable housing funding source as development conditions improve, mitigating the risk of lost opportunity to secure funding when development conditions shift.

Recommendation 4: Continue to adjust the in-lieu fee regularly based on the California Construction Cost Index.

Regular adjustment of the fee increases the likelihood that the revenue collected will continue to support a comparable number of affordable units in future 100 percent affordable housing projects.

FIGURE 13. IMPACTS OF THE 5,000 SQUARE FOOT EXEMPTION ON THE RENTAL PROTOTYPES

	Small Lot Single Family [a]	Fourplex/ Townhomes [a]	10-Unit Small Multifamily [b]	4-Story GLA [c]	6-Story Midrise	8-Story Midrise	18-Story High-rise
Yield on Cost: Current Fee Policy	4.03%	3.69%	3.27%	6.83%	3.60%	3.33%	3.82%
Yield on Cost: Recommended Exemption Policy	4.03%	3.69%	3.36%	6.80%	3.60%	3.33%	3.82%
YoC Difference	0.00%	0.00%	0.09%	-0.03%	0.00%	0.00%	0.00%
In-lieu Fee Revenue: Current Fee Policy	$0	$0	$450,938	$202,737	$1,255,416	$723,642	$1,580,453
In-lieu Fee Revenue: Recommended Exemption Policy	$0	$0	$239,063	$246,572	$1,255,416	$723,642	$1,580,453
Difference in Number of Off-site Units Leveraged	0	0	-1.10	0.23	0	0	0

[a] These prototypes are less than 5,000 square feet and are therefore exempt from the in-lieu fee under the existing and recommended in-lieu fee policies.
[b] Based on this prototype's size, the project would be required to pay $48.75 per square foot of its 9,250 square feet of RUFA under the existing policy. As a project that provides no on-site BMR units, the prototype would qualify for the first 5,000 square feet of RUFA to be exempt from the in-lieu fee under the recommended policy, which means the prototype would be required to pay $56.25 for only 4,250 square feet of RUFA.
[c] As an SDBL project with 9,400 square feet of RUFA, this project is currently required to pay $48.75 per square foot for its prorated in-lieu fee obligation on the base version of the bonus project after accounting for on-site affordable units that partially satisfy the City's inclusionary housing requirements. Under the recommended policy, this project would not qualify for any exemption from payment of the in-lieu fee because it provides BMR units to achieve the SDBL status and therefore must use mixed compliance to pay a prorated fee; the project would therefore pay $56.25 per square foot for its remaining prorated in-lieu fee obligation on the base version of the project.
Source: Strategic Economics, 2024.

FIGURE 14. IMPACTS OF 5,000 SQUARE FOOT EXEMPTION ON THE OWNERSHIP PROTOTYPES

	Small Lot Single Family [a]	Fourplex/ Townhomes [a]	10-Unit Small Multifamily [b]
Return on Cost: Current Fee Policy	28.44%	29.16%	2.20%
Return on Cost: Recommended Exemption Policy	28.44%	29.16%	4.94%
Difference	0.00%	0.00%	2.74%
In-lieu Fee Revenue: Current Fee Policy	$0	$0	$450,938
In-lieu Fee Revenue: Recommended Exemption Policy	$0	$0	$239,063
Difference in Number of Off-site Units Leveraged	0.00	0.00	-1.10

[a] These prototypes are less than 5,000 square feet and are therefore exempt from the in-lieu fee under the existing and recommended in-lieu fee policies.
[b] Based on this prototype's size, the project would be required to pay $48.75 per square foot of its 9,250 square feet of RUFA under the existing policy. As a project that provides no on-site BMR units, the prototype would qualify for the first 5,000 square feet of RUFA to be exempt from the in-lieu fee under the recommended policy, which means the prototype would be required to pay $56.25 for only 4,250 square feet of RUFA.
Source: Strategic Economics, 2024.

III. FINANCIAL FEASIBILITY IMPACTS OF HARD HATS, BIRD SAFE BUILDING, AND PREVAILING WAGE REQUIREMENTS

This section of the report describes findings and conclusions of the research and analyses used to assess:

1. The "Baseline" financial feasibility of the development prototypes under current market conditions, inclusionary requirements, and in-lieu fees—but *without* incorporation of the Bird Safe Building, HARD Hats, and prevailing wage policies;
2. How the Bird Safe Building, HARD HATS, and prevailing wage policies impact development costs;
3. Impacts of the three policies on development feasibility outcomes.

Essentially, the Baseline analysis describes development feasibility outcomes under today's conditions as if the Bird Safe Building and HARD HATS policies were not in effect. This provides a point of comparison to understand changes created by those requirements. As noted earlier, the Bird Safe Building policy went into effect July 27, 2023 and the HARD HATS policy on January 1, 2024, while a prevailing wage requirement was recently adopted for the Southside Area Plan only.

Figure 15 displays each of the prototypes and scenarios modeled as part of the analyses. The table describes how different policies apply to each residential development prototype, as summarized below:

- Current Affordable Housing Requirements Applied to the Baseline Analysis:
    - **Inclusionary Requirements for Rental Projects:** Applies to new residential developments above 5,000 gross square feet. 20 percent of units must be provided as Below Market Rate (BMR), with half of the units affordable to Very Low Income households (defined as those making 50 percent of the Area Median Income) and half of the units affordable to Low Income households (defined as those making 80 percent of the Area Median Income). These requirements can be satisfied through a combination of providing units and paying a prorated fee.

    - **Inclusionary Requirements for Ownership Projects:** Applies to new residential developments above 5,000 gross square feet. 20 percent of units must be provided as Below Market Rate (BMR) at levels affordable to Low Income households. These requirements can be satisfied through a combination of providing units and paying a prorated fee.

- **Bird Safe Building:** Applies to new residential development above 10,000 gross square feet and with an average height above 35 feet.

- **HARD HATS:** Applies to new residential development above 50,000 gross square feet.

- **Prevailing Wage:** Applies to new residential development above 50,000 gross square feet within the Southside Plan Area and is under consideration for citywide applicability.

For the 10-Unit Small Multifamily prototype, two scenarios were tested (as shown in Figure 15): one in which the project meets inclusionary requirements by providing 20 percent of housing units as BMR units, and another in which the project pays an in-lieu fee. Note that the smaller Missing Middle prototypes are exempt from the City's current affordable housing requirements because they are under 5,000 gross square feet.

Also shown in Figure 15, the SDBL prototypes satisfy affordable housing requirements by providing the State-required number of BMR units on-site and paying an in-lieu fee to satisfy the remainder of the City of Berkeley's inclusionary requirement. The analysis followed current City policy to apply the in-lieu fee only to the remainder of the *base* project.

FIGURE 15. APPLICATION OF AFFORDABILITY REQUIREMENTS AND TESTED POLICIES TO DEVELOPMENT PROTOTYPES

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily (On-Site BMR Version)	10-Unit Small Multifamily (In-Lieu Fee Version)	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Baseline Analysis: Affordable Housing Requirements Applicable to the Rental Prototypes								
Affordable Housing Requirements Applicable to Rental Prototypes	Not applicable (under 5,000 gsf)	Not applicable (under 5,000 gsf)	On site BMR units	Full in-lieu fee	On site units to satisfy SDBL*; prorated fee	On site units to satisfy SDBL*; prorated fee	On site units to satisfy SDBL*; prorated fee	On site units to satisfy SDBL*; prorated fee
BMR % of Units	N/A	N/A	20%	0%	10%	10%	15%	15%
Affordability Level	N/A	N/A	Half VLI, half LI**	N/A	All VLI**	All VLI**	All VLI**	All VLI**
Baseline: Affordable Housing Requirements Applicable to the Ownership Prototypes								
Affordable Housing Requirements Applicable to Ownership Prototypes	Not applicable (under 5,000 gsf)	Not applicable (under 5,000 gsf)	On site BMR units	Full in-lieu fee	N/A (Not tested as an ownership product)	N/A (Not tested as an ownership product)	N/A (Not tested as an ownership product)	N/A (Not tested as an ownership product)
BMR % of Units	N/A	N/A	20%	0%	N/A	N/A	N/A	N/A
Affordability Level	N/A	N/A	All LI**	N/A	N/A	N/A	N/A	N/A
Bird Safe Building Requirements Applied to Prototypes (regardless of tenure)								
Bird Safe Building Requirements Applicability	Not applicable (under 10,000 gsf)	Not applicable (under 10,000 gsf)	Not applicable (over 10,000 gsf but less than 35 feet high)	Not applicable (over 10,000 gsf but less than 35 feet high)	Applicable	Applicable	Applicable	Applicable
HARD HATS and Prevailing Wage Requirements Applied to Prototypes (regardless of tenure)								
HARD HATS / Prevailing Wage Applicability	Not applicable (under 50,000 gsf)	Not applicable (under 50,000 gsf)	Not applicable (under 50,000 gsf)	Not applicable (under 50,000 gsf)	Not applicable (under 50,000 gsf)	Applicable	Applicable	Applicable

Note:
* SDBL = State Density Bonus Law.
** VLI = Very Low Income; LI = Low Income.
Source: Strategic Economics, 2024

Baseline Financial Feasibility Analysis

The following findings describe the results of the Baseline financial feasibility analysis. The findings describe the performance of the development prototypes under existing City of Berkeley inclusionary and in-lieu fee requirements without the Bird Safe Building, HARD HATS, and prevailing wage requirements. Since the results show that all but two of the development prototypes are currently infeasible, the basic description of the results is followed by findings of a sensitivity analysis. The sensitivity analysis provides context for factors influencing the financial performance of the prototypes and how changing conditions could eventually improve the performance of the prototypes.

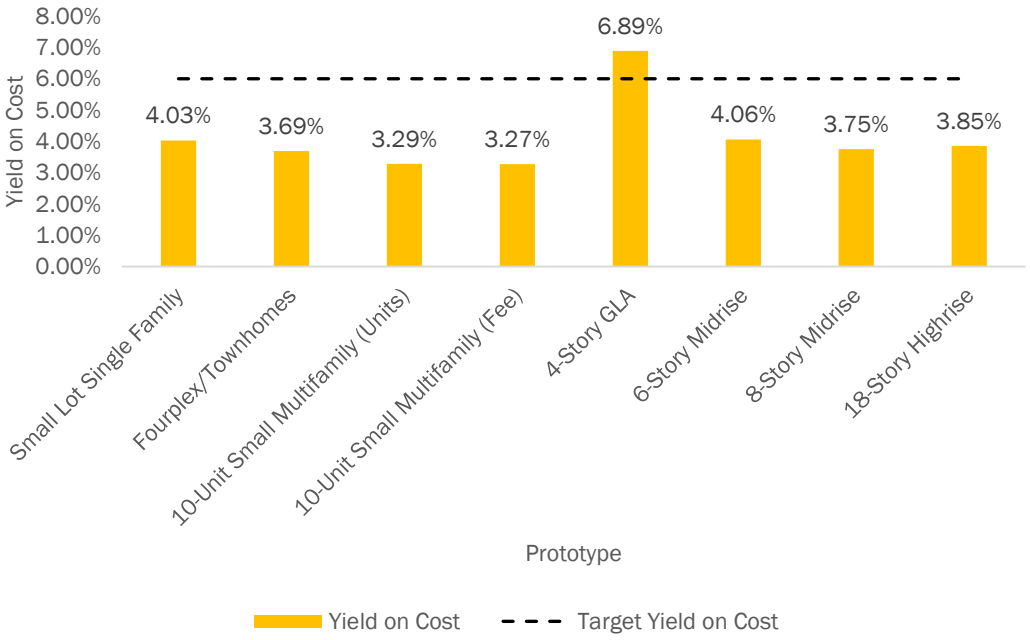
The baseline feasibility analysis is followed by analysis of the feasibility impacts of construction policies to illustrate the current conditions for residential development.

BASELINE FEASIBILITY RESULTS FOR THE RENTAL PROTOTYPES

Under current conditions, the only rental prototype that is financially feasible in Berkeley is the 4-Story GLA. Figure 16 shows results for all tested rental prototypes. As shown, only the 4-Story GLA project achieves the minimum yield on cost threshold of six percent, with all other prototypes achieving a yield on cost of between 3.27 and 4.06 percent.

None of the Missing Middle prototypes are feasible as rental products under current conditions. The 10-Unit Small Multifamily prototype paying the full fee performs the worst of all the prototypes (achieving a yield on cost of 3.27 percent). The other two Missing Middle prototypes, the Small Lot Single Family and Fourplex/Townhomes, which are not currently subject to the City's inclusionary policy, perform slightly better. These prototypes achieve yields of 4.03 percent and 3.69 percent, respectively—still short of the required six percent target yield.

FIGURE 16. BASELINE RENTAL PROTOTYPE FEASIBILITY RESULTS



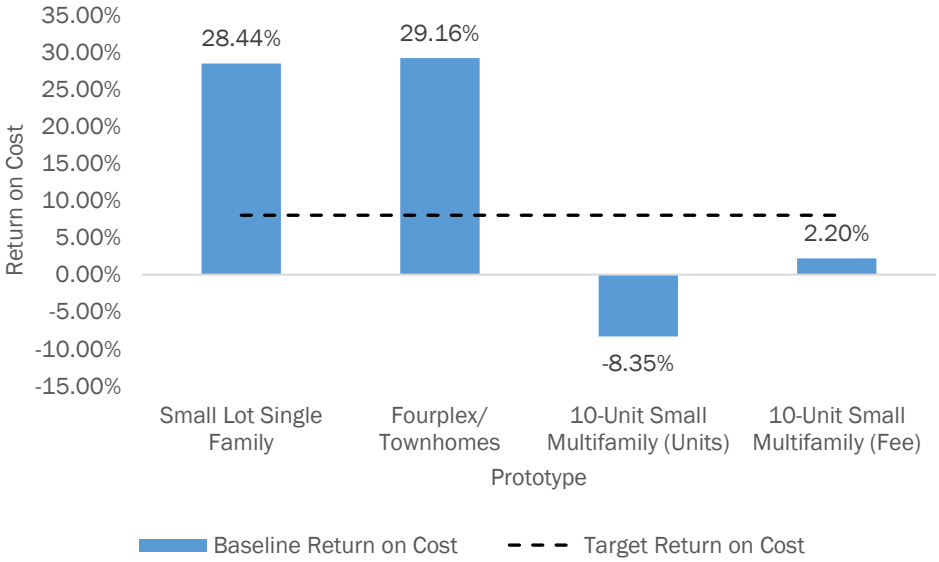
Source: Strategic Economics, 2024.

BASELINE FEASIBILITY RESULTS FOR THE OWNERSHIP PROTOTOYPES

The Small Lot Single Family and Fourplex/Townhomes prototypes are feasible as ownership products (see Figure 17). The target return on cost for the ownership products is eight percent. The Small Lot Single Family and Fourplex/Townhome prototype exceed this with returns of 28.44 percent and 29.16 percent, respectively.

The 10-Unit Small Multifamily prototype is infeasible as an ownership product, both when providing on-site BMR units and when paying a full in-lieu fee (see Figure 17). The multifamily Missing Middle prototype is infeasible under both affordability requirement scenarios. The prototype does, however, perform significantly better when paying the in-lieu fee (return on cost of 2.2 percent) instead of providing on-site units (return on cost of -8.35 percent).

FIGURE 17. BASELINE OWNERSHIP PROTOTYPE FEASIBILITY RESULTS



Source: Strategic Economics, 2024.

COMBINED SUMMARY OF BASELINE FEASIBILITY RESULTS FOR ALL DEVELOPMENT PROTOTYPES

Under current development conditions, very few of the residential prototypes are financially feasible. Only the 4-Story GLA rental, Small Lot Single Family ownership, and Fourplex/Townhomes ownership prototypes are feasible. Figure 18 summarizes the baseline feasibility results for all of the scenarios tested.

Although most typical market rate residential development projects are currently financially infeasible, developers may still propose projects or construct projects in anticipation of improved development conditions or due to project-specific factors. The results of the financial feasibility analysis represent outcomes for a developer initiating a typical market rate project under today's typical cost, revenue, and thresholds for return on investment. Multiple factors explain why developers continue to propose or construct housing projects in Berkeley. Developers submitted several project applications in 2023 to potentially avoid being subject to HARD HATS, which took effect in January 2024. Other developers are optimistic and believe that development conditions will change soon—such as increasing achievable rents (driven partly by strong student demand), slowing increases in construction costs, or

reduced project financing costs. Individual development projects can also have unique beneficial characteristics that reduce development costs, such as lower land acquisition costs, innovative construction techniques (such as modular construction), or access to unique financing arrangements.

FIGURE 18. SUMMARY OF BASELINE FINANCIAL FEASIBILITY RESULTS

Prototype	Yield or Return on Cost	Target	Feasible (Y/N)
Rental Prototypes			
Small Lot Single Family	4.03%	6.00%	N
Fourplex/Townhomes	3.69%	6.00%	N
10-Unit Small Multifamily (Units)	3.29%	6.00%	N
10-Unit Small Multifamily (Fee)	3.27%	6.00%	N
4-Story GLA	6.89%	6.00%	Y
6-Story Midrise	4.06%	6.00%	N
8-Story Midrise	3.75%	6.00%	N
18-Story High-rise	3.85%	6.00%	N
Ownership Prototypes			
Small Lot Single Family	28.44%	8.00%	Y
Fourplex/Townhomes	29.16%	8.00%	Y
10-Unit Small Multifamily (Units)	-8.35%	8.00%	N
10-Unit Small Multifamily (Fee)	2.20%	8.00%	N

Source: Strategic Economics, 2024.

SENSITIVITY ANALYSIS AND CONTEXT FOR THE BASELINE FEASIBILITY RESULTS

Given that all but two of the development prototypes are currently infeasible, Strategic Economics conducted a sensitivity analysis to provide context for the factors influencing the financial performance of the prototypes and how changing conditions could eventually improve the performance of the prototypes.

Development costs, revenues, and required return on investment change over time, and each change influences development feasibility outcomes. The financial feasibility of development is driven by the relationships between the total cost to build a development project, the expected revenue generated by the project, and the current required return on investment. Rents or sales prices determine the expected revenue generated by a development project, while development costs can include a variety of factors, such as construction materials and labor, land, and municipal fees.

The following tables illustrate how changes in development costs and revenues can impact feasibility outcomes. Figure 19 and Figure 20 demonstrate the impact of changes to revenue and development costs on the financial feasibility of one rental housing unit and one ownership housing unit, respectively. The figures represent one rental unit from the 6-Story Midrise prototype and one ownership unit from the Fourplex/Townhomes prototype. The axes show the change in revenue and costs. The cell showing “0 percent” and “0 percent” change shows the estimated feasibility outcome for projects currently, expressed as either yield on cost or return on costs. The “-10 percent,” “10 percent” cell in the top left represents the feasibility outcome for projects if revenues decrease 10 percent and development costs increase 10 percent. Green cells indicate feasibility, while red cells indicate infeasibility.

With current rents and development costs, rental projects are not feasible, with an estimated yield on cost of 3.60 percent. Even with an increase in rents and a decrease in costs, the rental prototype remains unfeasible. The ownership prototype demonstrates how the reduction in sales value and an increase in development costs can make a project infeasible.

As shown, development projects can be highly sensitive to shifting cost and revenue conditions; in reality, the required return on investment would also shift over time, adding additional complexity to when and whether a given development project becomes feasible to build.

FIGURE 19. COST AND REVENUE CHANGE IMPACTS ON THE YIELD ON COST OF ONE RENTAL UNIT

Change in Development Costs	Change in Rent: -10%	-5%	0%	5%	10%	15%
-10%	3.60%	3.80%	4.00%	4.20%	4.40%	4.61%
-5%	3.41%	3.60%	3.79%	3.98%	4.17%	4.36%
0%	3.24%	3.42%	3.60%	3.78%	3.96%	4.14%
5%	3.09%	3.26%	3.43%	3.60%	3.78%	3.95%
10%	2.95%	3.11%	3.28%	3.44%	3.60%	3.77%

Note: Feasible yield on cost is considered 6 percent. Darker red yield on cost outcomes indicate a weaker return on cost, while lighter outcomes indicate a stronger return. However, none of the outcomes presented is financially feasible, even with increased revenue and decreased costs.
Source: Strategic Economics, 2024.

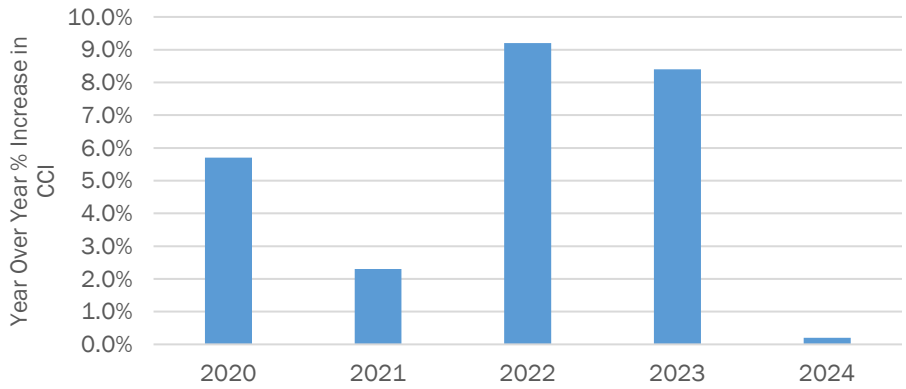
FIGURE 20. COST AND REVENUE CHANGE IMPACTS ON THE RETURN ON COST OF ONE OWNERSHIP UNIT

Change in Development Costs	Change in Sales Value: -10%	-5%	0%	5%	10%
-10%	29.16%	36.33%	43.51%	50.69%	57.86%
-5%	22.36%	29.16%	35.96%	42.76%	49.55%
0%	16.24%	22.70%	29.16%	35.62%	42.08%
5%	10.71%	16.86%	23.01%	29.16%	35.31%
10%	5.68%	11.55%	17.42%	23.29%	29.16%
15%	1.08%	6.70%	12.31%	17.93%	23.54%

Note: Feasible return on cost is considered 8 percent. Return on cost outcomes labelled in green indicate a financially feasible project, while numbers in red indicate an infeasible project. Darker green indicates stronger returns.
Source: Strategic Economics, 2024.

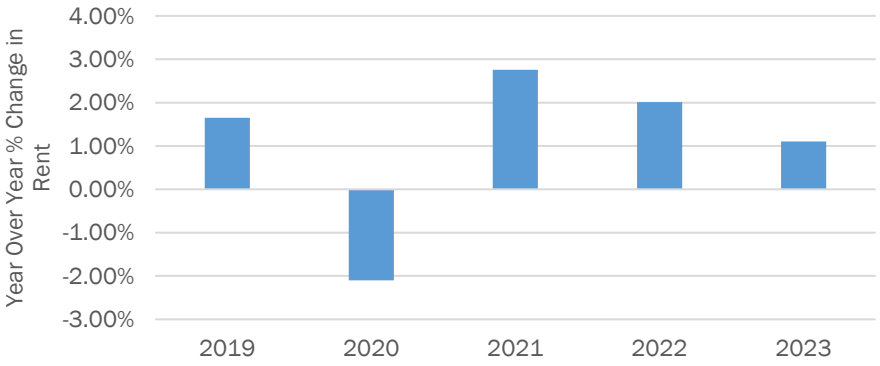
Development costs, revenues, and required return on investment do not often change at the same rate over time. Changes to each factor occur largely independently and at an uneven pace. For example, Figure 21 shows the year over year change in the Construction Cost Index (CCI) tracked by Engineering News Record for San Francisco over the past five years. The chart shows a spike in cost increases in 2022 and 2023 due to supply chain challenges, which are beginning to moderate in 2024. Similarly, rents decreased in Berkeley during the COVID-19 pandemic and have gradually started to increase since 2020—although the increases in rents have been significantly lower than the increases in construction costs since 2020 (see Figure 22).

FIGURE 21. YEAR OVER YEAR CHANGE IN THE CONSTRUCTION COST INDEX FOR SAN FRANCISCO



Source: Engineering News Report, 2024; Strategic Economics, 2024.

FIGURE 22. YEAR OVER YEAR CHANGE IN AVERAGE RENT IN BERKELEY



Source: CoStar, 2024; Strategic Economics, 2024.

Bird Safe Building Ordinance Impacts on Financial Feasibility

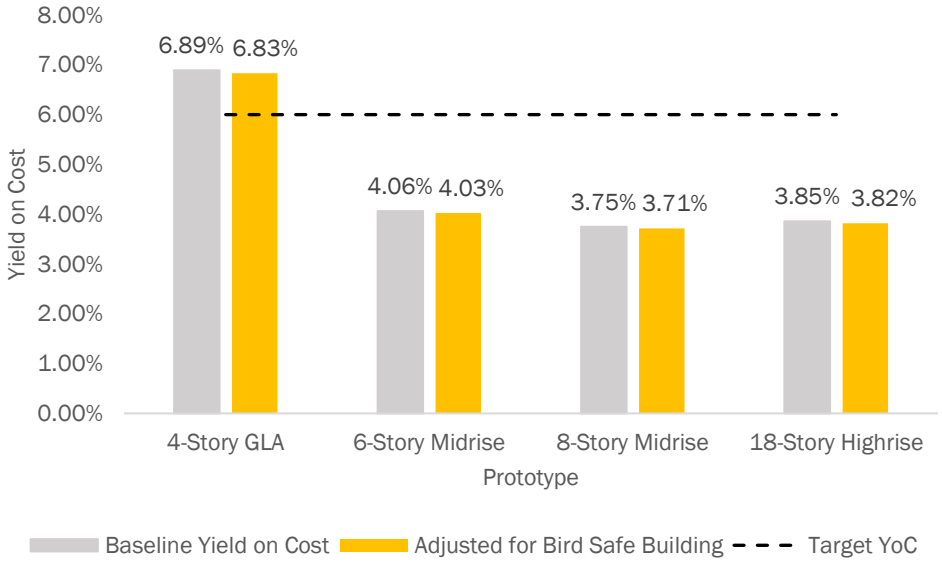
Strategic Economics conducted interviews and research to examine the cost impacts of the Bird Safe Building policy, and then examined the policies' impacts on the financial feasibility of the development prototypes. As noted earlier, the Bird Safe Building requirements took effect in 2023.

The Bird Safe Building requirements increase hard costs of development (i.e., materials and labor) by approximately one percent to 1.5 percent. This range was based on input from general contractors and developers interviewed for this study. The Bird Safe Building Ordinance required that new developments of a certain size use a form of glass or other treatments that reduce the risk of bird collisions and fatalities. This policy change applied to the mid- and high-rise prototypes in this study. The need for and cost of compliance would vary depending on a specific project's design—especially depending on whether the requirement is triggered based on the building's ratio of windows to façade, and the total amount of window area requiring compliance.

The Bird Safe Building requirement marginally negatively impacts the feasibility of the mid- and high-rise prototypes. Figure 23 demonstrates the impact of this increase on the yield on cost of the relevant

prototypes. However, interviews with stakeholders indicated that the cost premium for qualifying glass types might decrease as policies such as this become more common across cities.

FIGURE 23. BIRD SAFE BUILDING REQUIREMENTS IMPACTS ON FINANCIAL FEASIBILITY



Source: Strategic Economics, 2024.

HARD HATS and Prevailing Wage Impacts on Financial Feasibility

Strategic Economics conducted interviews and research to examine the cost impacts of the HARD HATS and prevailing wage policies, and then examined the policies' impacts on the financial feasibility of the development prototypes. As noted earlier, HARD HATS was adopted in 2023 and came into effect in January of 2024. The ordinance requires that contractors provide apprenticeship programs and healthcare to workers on all new construction projects above 50,000 gross square feet. In addition, the City of Berkeley is considering expanding a prevailing wage requirement on new construction projects above 50,000 gross square feet from the Southside Plan Area to the entire city. See Figure 15 for the applicability to the prototypes in this study.

The healthcare requirements of the HARD HATS ordinance, as currently written, effectively require contractors to use union labor on projects above 50,000 gross square feet. The ordinance currently requires contractors to show proof of health insurance contributions for workers six months prior to the start of any construction job and does not contain exemptions for workers who have declined coverage. In practice, the HARD HATS requirement largely limits the pool of compliant contractors to those using union labor because healthcare is included in workers' membership. Local developers and contractors interviewed for this study noted that the healthcare reporting requirements are a major factor that limits the pool of contractors to those using union labor.

A potential prevailing wage requirement would have similar cost implications as HARD HATS requirements, although *not in addition to HARD HATS' cost implications* if a development project is subject to both requirements. The cost differential between non prevailing wage and prevailing wage

is approximately equivalent to the shift from non-union to union labor—the same as the HARD HATS requirement. This is because prevailing wages incorporate costs corresponding to most of the benefits provided by union membership, such as apprenticeships, retirement contributions, and healthcare.

The cost differential between union and non-union labor ranges between an 18 percent to 25 percent increase in total hard costs for a development project. This percentage is influenced by the number of trades that are shifting from non-union to union labor.

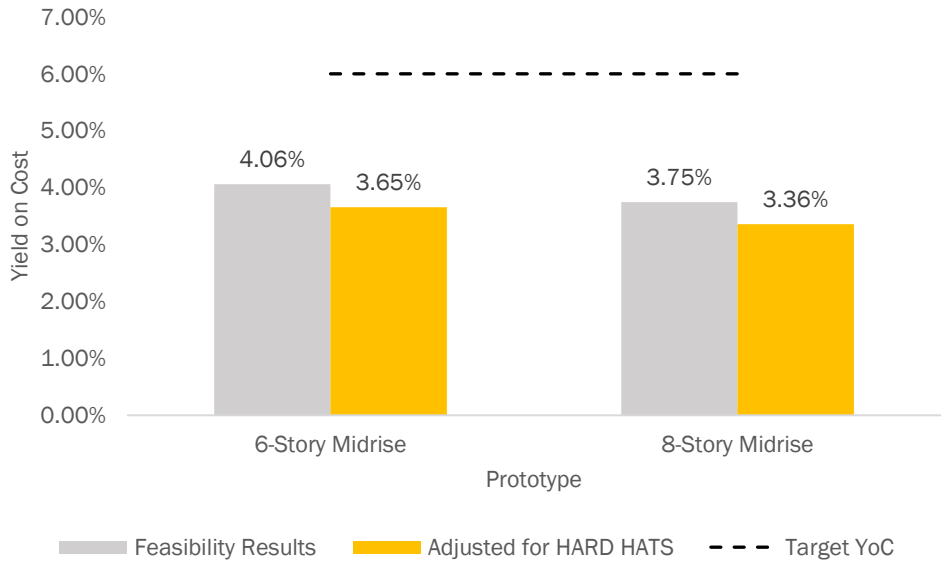
However, this cost differential varies based on project size and design, with smaller projects being more likely to experience an increased cost burden from switching to union labor. This is because smaller midrise projects are more likely to use a higher percentage of non-union trades for their development. Specific trades tend to often use union labor, such as those associated with concrete work. However, for trades such as mechanical, electrical, and plumbing (MEP), smaller projects often do not use union labor.

Larger projects, such as high-rises, are much more likely to use union contractors and subcontractors, making the impact of HARD HATS and a potential prevailing wage requirement less burdensome. Findings from interviews suggest that even if a general contractor on a high-rise project is non-union, they will use about 80 percent of union trades to complete the project. Otherwise, contractors on high-rise projects tend to use union labor, and thus do not experience the cost increase from HARD HATS or the potential prevailing wage requirement.

For this study, HARD HATS and the potential prevailing wage requirement were assumed to have the same impact on project costs—one that represents the shift to costs comparable to a project using entirely union labor. The midrise prototypes were assumed to experience a 20 percent increase in total hard costs and the high-rise was assumed to not experience a change in costs. The 20 percent cost increase represents implementation of one or both requirements, since both essentially increase hard costs to a level comparable with a union labor project. This analysis provides an illustrative example to understand how residential development might be impacted by the recent and proposed policy changes. The midrise prototypes were assumed to experience similar cost increases because they are relatively similar in size. In contrast, the high-rise was assumed to already incorporate union labor costs in the hard cost assumptions for the prototype's pro forma analysis. However, the actual circumstances might vary based on the composition of union and non-union trades used by a specific project.

Based on the 20 percent increase in hard costs, both labor requirements have significant negative impacts on the financial feasibility of the 6- and 8-Story prototypes (see Figure 24). While neither prototype is currently feasible, these requirements significantly increase development costs without changing expected revenues. As a result, a larger magnitude of positive change in rents, return on investment thresholds, or other costs would need to occur before development of these prototypes could move forward in Berkeley, relative to a condition without the requirements.

FIGURE 24. HARD HATS IMPACT ON FINANCIAL FEASIBILITY



Source: Strategic Economics, 2024.

Key Conclusions

Currently, residential development is infeasible for most of the prototypes tested in this study. The exceptions are the 4-Story GLA rental, and the Small Lot Single Family and Townhomes/Fourplex ownership products. While these results can and likely will change as development conditions improve, this baseline was used to gauge current feasibility of different housing prototypes and to test the impacts of the recently adopted and proposed labor and construction policies.

The overall cost impact of the Bird Safe Building requirements is relatively limited, but the requirements do create additional development costs and negatively impact project feasibility. The Bird Safe Building requirement adds development costs, but on its own the costs associated with the policy likely won't determine whether a project is built.

The cost impacts of HARD HATS are significant for midrise development projects, but are limited for high-rise development. While the applicable prototypes are not feasible in current development conditions, the additional costs driven by HARD HATS could become a significant factor for determining when or whether a midrise project is built as conditions improve.

HARD HATS reduces the pool of compliant contractors and their workers available for development projects in Berkeley. As noted, few non-union contractors are likely to meet the requirements of HARD HATS. Over time, however, broad adoption of similar policies by other communities could potentially expand the availability of compliant contractors and workers by creating an incentive for achieving compliance to compete for project bids.

The cost impact of a prevailing wage requirement would be significant for midrise development. A prevailing wage requirement would increase hard costs for development projects at a level comparable to (but not in addition to) the costs associated with the HARD HATS requirement.

The additional development costs associated with the HARD HATS, prevailing wage, and Bird Safe Glass requirements are not likely to pose an insurmountable barrier to future market rate residential development in Berkeley when development conditions improve, but the requirements will constrain the likelihood and pace of future housing production. The magnitude of changes in rents, development costs, and other development conditions required to cover the impacts of HARD HATS, etc. are likely achievable over time as market conditions shift. Overall demand for housing is strong in Berkeley, especially given the number of students seeking housing. However, the development cost increases associated with HARD HATS and other tested policies are significant enough to delay or constrain housing production since the policies increase the required changes in rents/prices, development costs, and market return thresholds necessary before housing development becomes feasible.

APPENDIX

Pro Forma Assumptions

Strategic Economics used a static pro forma to evaluate the financial feasibility impacts of the affordable housing requirements, HARD HATS, Bird Safe Building requirements, and a prevailing wage requirement. This approach involved collecting data on revenue and cost inputs for the pro forma model. Data was collected through interviews with local stakeholders, including developers, general contractors, and architects, as well as through review of existing studies and analysis of data from CoStar and Redfin.

ESTIMATING REVENUES

Revenue inputs were primarily informed by CoStar and Redfin data on recent market rents and sales prices. However, since several of the prototypes have on-site affordable rental or ownership units, revenue inputs were also informed by the California Department of Housing and Community Development county income limits, as well as guidance from the City of Berkeley.

Figure 25 provides a breakdown of unit sizes, types, and affordability levels across the ownership and rental prototypes used in this study.

FIGURE 25. SQUARE FEET PER UNIT AND SHARE OF UNITS BY BEDROOM SIZE AND AFFORDABILITY LEVEL

	Small Lot Single Family (a)	Fourplex/ Townhomes (a)	10-Unit Small Multifamily (Units)	10-Unit Small Multifamily (Fee)	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise	10-Unit Small Multifamily (Units) (b)
Market Rate Units									
Unit Count									
Studio	-	-	-	-	32	23	78	16	-
One Bedroom	-	-	4	5	1	35	20	41	4
Two Bedroom	-	4	4	5	-	11	10	16	4
Three Bedroom	3	-	-	-	-	-	-	21	-
Units Above 8 Stories (c)									
Studio	-	-	-	-	-	-	-	27	-
One Bedroom	-	-	-	-	-	-	-	45	-
Two Bedroom	-	-	-	-	-	-	-	28	-
Three Bedroom	-	-	-	-	-	-	-	22	-
Total	3	4	8	10	33	69	108	216	8
Unit Size									
Studio	-	-	-	-	250	500	510	400	-
One Bedroom	-	-	750	750	650	660	750	580	750
Two Bedroom	-	1,200	1,100	1,100	-	990	950	800	1,100
Three Bedroom	1,500	-	-	-	-	-	-	1,100	-
Average Unit Size	1,500	1,200	925	925	262	659	595	693	925
BMR Units									
Unit Count - VLI									
Studio	-	-	-	-	3	2	9	5	-
One Bedroom	-	-	1	-	-	3	2	10	-
Two Bedroom	-	-	-	-	-	1	1	5	-
Three Bedroom	-	-	-	-	-	-	-	4	-
Unit Count - LI									
Studio	-	-	-	-	-	-	-	-	-
One Bedroom	-	-	-	-	-	-	-	-	1
Two Bedroom	-	-	1	-	-	-	-	-	1
Three Bedroom	-	-	-	-	-	-	-	-	-
Total	0	0	2	0	3	6	12	24	2
Unit Size									
Studio	-	-	-	-	250	500	510	400	-
One Bedroom	-	-	750	750	-	660	750	580	750
Two Bedroom	-	-	1,100	1,100	-	990	950	800	1,100
Three Bedroom	-	-	-	-	-	-	-	1,100	-
Average Unit Size	N/A	N/A	925	N/A	250	662	587	675	925

Note:
(a) These prototypes have the same unit composition and unit sizes in their rental and ownership forms.
(b) This prototype represents the ownership version, which has different affordability levels for its below-market rate units.
(c) Units above 8 stories were given a premium of $0.75 per square foot for the market rate units. This premium is not applicable to the below-market rate units above 8 stories.
Source: Strategic Economics, 2024.

Market Rate Rents

Market rate rent assumptions were established by using CoStar data from the last year. Submarkets data was used to approximate average rents for the relevant geographic areas of the city. A new construction premium of 10 percent was applied to the rents. The submarket rents were applied to each prototype based on their proposed location in the city, as shown in Figure 26.

Figure 26. Market Rate Rental Assumptions per Month (dollars per month)

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Unit Rent							
Studio	-	-	-	2,400	2,800	2,850	3,300
One Bedroom	-	-	3,000	3,500	3,250	3,500	3,750
Two Bedroom	-	4,000	4,100	-	4,500	4,300	4,700
Three Bedroom	5,500	-	-	-	-	-	6,000
Unit Rent - Above 8 Floors							
Studio	-	-	-	-	-	-	3,630
One Bedroom	-	-	-	-	-	-	4,125
Two Bedroom	-	-	-	-	-	-	5,170
Three Bedroom	-	-	-	-	-	-	6,600

Source: Strategic Economics, 2024.

Below Market Rate Rents

The BMR rents used in the pro forma analysis were adopted from the City of Berkely's guidance on gross rent maximums for 2023, shown in Figure 27. Utility costs were then subtracted from the rent from each unit type to determine the net rent maximum.[14] The net rent (see Figure 28) was used in the analysis across all of the rental prototypes. Figure 29 shows the operating cost, vacancy rate, and cap rate used across the market and BMR units.

Figure 27. City of Berkeley Gross Rent Maximums for Very Low- and Low-Income Households

	Studio	1 BR	2BR	3BR	4BR	5BR
50% AMI	$1,295	$1,480	$1,665	$1,849	$1,998	$2,293
80% AMI	$1,964	$2,244	$2,524	$2,804	$3,029	$3,478

Source: City of Berkeley, 2023; Strategic Economics, 2024.

Figure 28. City of Berkeley Net Rent Maximums for Very Low- and Low-Income Households

	Studio	1 BR	2BR	3BR
50% AMI	$1,195	$1,332	$1,473	$1,614
80% AMI	$1,864	$2,096	$2,332	$2,569

Source: City of Berkeley, 2023; Strategic Economics, 2024.

Figure 29. Retail and Rent Assumptions

	Units	Apartments - Market Rate	Apartments - BMR	Retail
Operating Expenses	% of GSI	30.0%	30.0%	0.0%
Vacancy Rate - Market Rate	% of GSI	5.0%	2.5%	10.0%
Cap Rate	NOI / Project Value	5.0%	5.0%	5.0%

Source: Strategic Economics, 2024.

[14] Utilities were calculated using the City's Utility Allowance Schedule for BMR units, available here: https://berkeleyca.gov/sites/default/files/documents/2023%20COB%20BMR%20Utility%20Allowance%20Schedule.pdf.

Market Rate Sales Prices

Market rate sales prices for townhomes, condos, and single-family dwelling units were established using Redfin data for recently built and sold units for similar size developments to those in the for-sale prototypes for this study. Figure 30 provides a summary of the sales prices for each prototype by unit type.

Figure 30. Market Rate Sales Prices by Prototype

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily
Studio	-	-	-
One Bedroom	-	-	$800,000
Two Bedroom	-	$1,200,000	$1,100,000
Three Bedroom	$1,500,000	-	-

Source: Redfin, 2023; Strategic Economics, 2024.

Below Market Rate Sales Prices

Affordable housing prices were identified based on resources from California HCD, which sets income levels and maximum housing costs for federal and state-funded affordable housing programs. The City of Berkeley then provided a specific approach for calculating affordable sales prices. Background research, as well as City requirements, informed the assumptions that were used to calculate affordable sales prices (see Figure 31).

Figure 31. Below Market Rate Homeownership Assumptions

	Assumption	Basis	Source
Loan Type	Conventional	-	-
Down Payment	5%	Sales Price	*City of Berkeley, 2023*
Loan-To-Value (LTV) Ratio	95%	Sales Price	*City of Berkeley, 2023*
Interest Rate	6.76%	Annual	*FreddieMac 52-Week Average for 30-Year FRM, 2023*
Term of Loan	30	Years	*City of Berkeley, 2023*
Monthly HOA Dues	$0.32	Square Foot	*Zillow, 2023*
Property Tax Rate (Annual)	1.25%	Sales Price	*Bekins AMS Relocation, 2023*
Private Mortgage Insurance Premium Rate (Annual)	0.98%	Mortgage Amount	*Urban Institute Housing Finance Policy Center, 2023*
Homeowner's Insurance	0.35%	Sales Price	*QuoteWizard 2023*

Source: Strategic Economics, 2024.

Based on HCD guidelines, the affordable rent was calculated as 30 percent of a household's gross monthly income, minus a deduction for utilities[15]. The maximum monthly housing cost used to calculate the affordable sales price for condos in this study was 30 percent of a household's gross income, minus the cost of utilities. See Figure 32 for the affordable sales price calculation.

[15] Utilities were calculated using the City's Utility Allowance Schedule for BMR units, available here: https://berkeleyca.gov/sites/default/files/documents/2023%20C0B%20BMR%20Utility%20Allowance%20Schedule.pdf.

FIGURE 32. BELOW-MARKET RATE CONDO SALES PRICE CALCULATION BY UNIT TYPE

	1 Bedroom	2 Bedroom
Household Size (Persons per HH)	2	3
Annual Household Income at 80% AMI	$89,750	$100,950
Maximum Monthly Housing Cost	$2,244	$2,524
Monthly Deductions		
Utilities	$229	$283
HOA Dues	$237	$348
Property Taxes	$224	$238
Private Mortgage Insurance	$167	$177
Homeowner's Insurance	$63	$67
Monthly Income Available for Mortgage Payment	$1,325	$1,410
Maximum Mortgage Amount	$204,008	$217,239
Down Payment	$10,737	$11,434
Maximum Affordable Sales Price	**$214,745**	**$228,672**

Source: Strategic Economics, 2024.

ESTIMATING DEVELOPMENT COSTS

Development costs were estimated for each of the development prototypes. Development costs include land costs, direct or "hard" construction costs, indirect or "soft" costs, as well as financing costs, a developer fee, and a contingency for overruns.

Assumptions for development costs were informed by interviews and data analysis. This was supplemented by Strategic Economics' general experience with the economics of real estate development projects in the Bay Area.

The development cost assumptions for rental and ownership prototypes are shown below in Figure 34 and Figure 35, respectively. The remainder of this section explains the cost assumptions in more detail.

LAND COST

Land costs typically vary widely, depending on factors such as location, zoning, and the amount of site work required to prepare the land for development. Because the price of land is so strongly tied to what can be built upon it, land costs are characterized in this study as the cost per dwelling unit of development.

Land costs were estimated based on CoStar land sales data from the past five years. When available, the size and unit count of the proposed redevelopment was used to inform the assumption of land cost per unit and per square foot for each of the prototypes in this study. Assumptions were also informed by the general market trend that larger developments command higher land costs per square foot of land, but lower per unit costs.

HARD COSTS

Hard costs refer to both horizontal site costs and vertical construction costs, including the residential area construction and parking construction.

The construction costs also include horizontal/site costs that include demolition, grading, utility connection installation, paving, and landscaping. For the purposes of this analysis, it was assumed that the hypothetical sites are relatively flat, with horizontal costs between $20 to $35 per land square

foot. The 10-Unit Small Multifamily was assumed to have higher horizontal costs because it includes surface parking.

The vertical costs include parking structures and building materials. The construction costs were based on assumptions for the materials used to construct each prototype. Type V construction is the least expensive and is used for wood frame structures. The Missing Middle prototypes and the GLA are constructed entirely with Type V building materials. The midrise prototypes utilize a mix of Type V and Type III building materials. Type III construction is used for developments over five stories, above the Type I podium used for a parking structure. The high-rise prototype utilizes Type I building materials, which is typically reinforced concrete and steel, with high fire safety standards. Total building costs were based on the amount of Type V, III, and I materials corresponding to the prototype design. The costs result in the per unit and per square foot costs as seen in Figure 33.

FIGURE 33. BUILDING AREA HARD COST PER UNIT AND PER SQUARE FOOT

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Cost per Unit	$600,000	$480,000	$463,480	$141,167	$304,567	$344,360	$479,999
Cost per Square Foot	$400	$400	$400	$350	$360	$449	$547

Source: Strategic Economics, 2024.

Parking costs were assumed to be $100 per square foot for garage spaces, and $200 per square foot for podium spaces. Each space was assumed to be 300 square feet.

The construction costs for the ownership prototypes were slightly higher than the rental costs per square foot. This is because the ownership prototypes were assumed to be of slightly higher building quality.

SOFT COSTS

Soft costs refer to necessary costs of development that are not directly related to the physical construction of the building. They include architecture, engineering costs and other professional services fees, as well as other costs associated with doing business, such as insurance and taxes. Finally, soft costs include city permits and fees, and other miscellaneous costs. It is estimated that soft costs are 13 percent of hard costs for the Missing Middle prototypes, and 18 percent for the GLA, midrise, and high-rise prototypes. This was reflected in interviews with local and outside developers. The developer's contingency and overhead also account for an additional five and four percent of hard costs, respectively, though there are no overhead fees for the Missing Middle prototypes.

FINANCING COSTS

Based on input from developers, 55 percent of the project cost would be financed with debt, with interest rates currently in the 7 percent to 9.25 percent range. For the purpose of this study, an interest rate in the middle of this range was selected (8 percent). Financing assumptions are consistent for the for-rent and for-sale prototypes because the hypothetical projects would have similar loan terms and construction timelines. The development period for the Small Lot Single Family and Townhome prototypes was assumed to be 12 months. It was assumed to be 18 months for the 10- Unit Small Multifamily and GLA prototypes, 24 months for the midrise prototypes, and 36 months for the high-

rise. All prototypes incorporate a 1.0 percent construction loan fee, which is a standard industry assumption. See Figure 36 for a summary of financing assumptions.

FEES

City fees were added to the pro forma. These fees include, but are not limited to, the affordable housing in lieu fee. A full breakdown of the fees for each prototype is provided in Figure 37.

FIGURE 34. HARD AND SOFT COST ASSUMPTIONS BY RENTAL PROTOTYPE

	Unit of measure	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Land Costs	per square foot	$150	$150	$175	$200	$325	$500	$850
Hard Costs								
Demolition and Site Work	per sf land	$20	$20	$35	$20	$25	$25	$25
Residential - Type V	per gross sf	$400	$400	$400	$350	$350	-	-
Residential - Type III	per gross sf	-	-	-	-	-	$400	-
Residential - Type I	per gross sf	-	-	-	-	$550	$550	$550
Retail - Type I	per gross sf	$100	$100	-	-	$200	$200	$200
Parking Garage	per space	$30,000	$30,000	$0	$0	$0	$0	$0
Parking Podium	per space	$0	$0	$0	$0	$60,000	$60,000	$0
Tenant Improvement Allowance	per net sf	$0	$0	$0	$0	$100	$100	$100
Soft Costs								
Arch, Eng & Consulting	% of hard costs	5%	5%	5%	8%	8%	8%	8%
Taxes, Insurance, Legal & Accounting	% of hard costs	5%	5%	5%	8%	8%	8%	8%
Other Soft Costs	% of hard costs	3%	3%	3%	3%	3%	3%	3%
Total Soft Costs (Excluding Fees)	% of hard costs	13%	13%	13%	18%	18%	18%	18%
Contingency	% of hard + soft costs	5%	5%	5%	5%	5%	5%	5%

Source: Strategic Economics, 2024.

FIGURE 35. HARD AND SOFT COST ASSUMPTIONS BY OWNERSHIP PROTOTYPE

	Unit of measure	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily
Land Costs	per square foot	$150	$150	$175
Hard Costs				
Demolition and Site Work	per sf land	$20	$20	$35
Residential - Type V	per gross sf	$425	$425	$425
Parking Garage	per space	$30,000	$30,000	$0
Tenant Improvement Allowance	per net sf	$0	$0	$0
Soft Costs				
Arch, Eng & Consulting	% of hard costs	5%	5%	5%
Taxes, Insurance, Legal & Accounting	% of hard costs	5%	5%	5%
Other Soft Costs	% of hard costs	3%	3%	3%
Total Soft Costs (Excluding Fees)	% of hard costs	13%	13%	13%
Contingency	% of hard + soft costs	5%	5%	5%

Source: Strategic Economics, 2024.

FIGURE 36. FINANCING COST ASSUMPTIONS

	Units	Small Lot Single Family	Fourplex/ Townhomes	3-Story Missing Middle (Units)	3-Story Missing Middle (Fee)	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Total Development Cost (Excl. Financing)	Millions of $	$2.90	$3.10	$7.30	$7.80	$8.90	$41.80	$67.70	$170.97
Amount Financed	% of hard + soft costs	55%	55%	55%	55%	55%	55%	55%	55%
Average Outstanding Balance	% of amount financed	55%	55%	55%	55%	55%	55%	55%	55%
Construction Loan Fee	% of amount financed	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Construction Interest (annual)	% of amount financed	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Term	Months	12	12	18	18	18	24	24	36
Total Cost of Financing	Millions of $	$0.09	$0.09	$0.31	$0.33	$0.37	$2.25	$3.65	$13.35
Financing as Share of TDC	% of total costs	2.8%	2.8%	3.9%	3.9%	3.8%	4.4%	4.4%	6.9%

Source: Strategic Economics, 2024.

FIGURE 37. CITY FEES BY PROTOTYPE (WHEN TESTED UNDER EXISTING IN-LIEU FEE POLICY)

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily (Units)	10-Unit Small Multifamily (Fee)	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Affordable Housing In-Lieu Fee	$0	$0	$0	$450,938	$202,737	$1,255,416	$723,642	$1,580,453
BUSD Developer Fee	$15,660	$16,704	$40,323	$40,323	$50,530	$215,516	$313,144	$726,370
Building Permit Fees*	$31,850	$33,896	$83,218	$83,218	$115,672	$557,448	$936,523	$2,550,810
Plan Check Fees*	$20,702	$22,032	$54,091	$54,091	$75,187	$362,341	$608,740	$1,658,027
Other Permit Fees (Fire Plan, etc)*	$15,238	$16,216	$39,779	$39,779	$55,283	$266,330	$447,425	$1,218,614
SOSIP (Residential) Fee	$0	$0	$0	$0	$0	$0	$0	$369,689
SOSIP (Commercial) Fee	$0	$0	$0	$0	$0	$0	$0	$3,360
Sewer Connection*	$10,608	$14,144	$36,000	$36,000	$129,600	$270,000	$432,000	$864,000
1% Arts Fee	$0	$0	$3,952	$4,205	$4,205	$20,510	$34,374	$92,755
POPOS	$0	$0	$0	$0	$0	$0	$0	$0

Note:
* Calculated using the City of Berkeley's online fee calculator.
** Assumes $3,600 per unit for multifamily based on similar projects.
Source: Strategic Economics, 2024.

Pro Forma Results

This appendix provides the full pro forma results for the rental and ownership scenarios in Figure 38 and Figure 39. The rental results demonstrate the impacts of HARD HATS/prevailing wage and Bird Safe Building requirements. The section also provides the full pro forma results for the rental and ownership scenarios after the recommended in-lieu fee exemption for the first 5,000 square feet of development is applied in Figure 40 and Figure 41.

FIGURE 38. FULL RENTAL PRO FORMA RESULTS (WITH CURRENT IN-LIEU FEE, BIRD SAFE BUILDING, AND HARD HATS REQUIREMENTS)

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily (Units)	10-Unit Small Multifamily (Fee)	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Revenues								
Market Rate Units								
Gross Scheduled Income	$198,000	$192,000	$340,800	$426,000	$963,600	$2,731,800	$4,023,600	$11,776,140
Less Vacancy	-$9,900	-$9,600	-$17,040	-$21,300	-$48,180	-$136,590	-$201,180	-$588,807
Less Operating Expenses	-$59,400	-$57,600	-$102,240	-$127,800	-$289,080	-$819,540	-$1,207,080	-$4,121,649
Below Market Rate Units								
Gross Scheduled Income	$0	$0	$43,968	$0	$43,020	$94,308	$178,704	$397,392
Less Vacancy	$0	$0	-$1,099	$0	-$1,076	-$2,358	-$4,468	-$9,935
Less Operating Expenses	$0	$0	-$2,130	$0	-$2,190	-$5,939	-$11,177	-$38,163
Retail Area	$0	$0	$0	$0	$0	$6,075	$8,100	$8,100
Total Net Operating Income	**$128,700**	**$124,800**	**$262,259**	**$276,900**	**$666,095**	**$1,867,757**	**$2,786,500**	**$7,423,078**
Total Capitalized Value	**$2,574,000**	**$2,496,000**	**$5,245,176**	**$5,538,000**	**$13,321,890**	**$37,355,132**	**$55,729,995**	**$148,461,556**
Development Costs								
Land Costs	$653,400	$653,400	$1,524,600	$1,524,600	$1,742,400	$7,078,500	$10,890,000	$18,513,000
Direct Costs								
Demolition and Site Work	$87,120	$87,120	$304,920	$304,920	$174,240	$544,500	$544,500	$544,500
Building Area	$1,800,000	$1,920,000	$4,634,800	$4,634,800	$5,082,000	$22,842,500	$41,323,200	$115,199,850
Parking	$90,000	$120,000	$0	$0	$0	$2,100,000	$900,000	$0
Tenant Improvements	$0	$0	$0	$0	$0	$150,000	$200,000	$200,000
City Initiatives								
Bird Safe Building	$0	$0	$0	$0	$78,844	$384,555	$644,516	$1,739,165
Hard Hats	$0	$0	$0	$0	$0	$5,127,400	$8,593,540	$0
Indirect Costs								
Soft Costs	$257,026	$276,526	$642,164	$642,164	$946,123	$4,614,660	$7,734,186	$20,869,983
Municipal Fees	$94,058	$102,992	$257,363	$708,553	$633,213	$2,947,561	$3,495,849	$9,064,078
Developer Overhead	$0	$0	$0	$0	$343,119	$1,611,109	$2,603,509	$6,575,656
Financing	$88,554	$93,853	$307,809	$326,669	$372,902	$2,254,902	$3,648,558	$13,352,528
Contingency	$120,838	$130,025	$307,353	$330,855	$377,580	$1,868,262	$3,022,490	$8,290,330
Total Development Costs	**$3,190,995**	**$3,383,915**	**$7,979,008**	**$8,472,561**	**$9,750,421**	**$51,823,948**	**$83,600,348**	**$194,349,091**
Feasibility Summary								
Yield-on-cost	4.03%	3.69%	3.29%	3.27%	6.83%	3.60%	3.33%	3.82%
Target yield-on-cost	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Difference	**-1.97%**	**-2.31%**	**-2.71%**	**-2.73%**	**0.83%**	**-2.37%**	**-2.67%**	**-2.18%**

Source: Strategic Economics, 2024.

FIGURE 39. FULL OWNERSHIP PRO FORMA RESULTS (WITH CURRENT IN-LIEU FEE, BIRD SAFE BUILDING, AND HARD HATS REQUIREMENTS)

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily (Units)	10-Unit Small Multifamily (Fee)
Revenues				
Market Rate Units				
Gross Revenue	$4,500,000	$4,800,000	$7,600,000	$9,500,000
Less Marketing Expenses	-$225,000	-$240,000	-$380,000	-$475,000
Below Market Rate Units				
Gross Revenue	$0	$0	$443,417	$0
Less Marketing Expenses	$0	$0	-$22,171	$0
Total Proceeds	**$4,275,000**	**$4,560,000**	**$7,641,246**	**$9,025,000**
Development Costs				
Land Costs	$653,400	$653,400	$1,524,600	$1,524,600
Direct Costs				
Demolition and Site Work	$87,120	$87,120	$304,920	$304,920
Building Area	$1,912,500	$2,040,000	$4,924,475	$4,924,475
Parking	$90,000	$120,000	$0	$0
Tenant Improvements	$0	$0	$0	$0
Indirect Costs				
Soft Costs	$271,651	$292,126	$679,821	$679,821
Municipal Fees	$94,058	$102,992	$258,521	$708,532
Developer Overhead	$0	$0	$0	$0
Financing	$92,329	$97,880	$321,540	$340,350
Contingency	$127,383	$137,006	$324,464	$347,905
Total Development Costs	**$3,328,441**	**$3,530,524**	**$8,338,341**	**$8,830,603**
Feasibility Summary				
Total Revenue	$4,275,000	$4,560,000	$7,641,246	$9,025,000
Total Development Cost	$3,328,441	$3,530,524	$8,338,341	$8,830,603
Net Revenue	**$946,559**	**$1,029,476**	**-$697,095**	**$194,397**
Return-on-Cost	28%	29%	-8%	2%
Target Return on Cost	8%	8%	8%	8%
Difference	**20%**	**21%**	**-16%**	**-6%**

Source: Strategic Economics, 2024.

FIGURE 40. FULL RENTAL PRO FORMA RESULTS WITH RECOMMENDED IN-LIEU FEE EXEMPTION (INCLUDES BIRD SAFE BUILDING AND HARD HATS REQUIREMENTS)

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily (Units)	10-Unit Small Multifamily (Fee)	4-Story GLA	6-Story Midrise	8-Story Midrise	18-Story High-rise
Revenues								
Market Rate Units								
Gross Scheduled Income	$198,000	$192,000	$340,800	$426,000	$963,600	$2,731,800	$4,023,600	$11,776,140
Less Vacancy	-$9,900	-$9,600	-$17,040	-$21,300	-$48,180	-$136,590	-$201,180	-$588,807
Less Operating Expenses	-$59,400	-$57,600	-$102,240	-$127,800	-$289,080	-$819,540	-$1,207,080	-$4,121,649
Below Market Rate Units								
Gross Scheduled Income	$0	$0	$43,968	$0	$43,020	$94,308	$178,704	$397,392
Less Vacancy	$0	$0	-$1,099	$0	-$1,076	-$2,358	-$4,468	-$9,935
Less Operating Expenses	$0	$0	-$2,130	$0	-$2,190	-$5,939	-$11,177	-$38,163
Retail Area	$0	$0	$0	$0	$0	$6,075	$8,100	$8,100
Total Net Operating Income	**$128,700**	**$124,800**	**$262,259**	**$276,900**	**$666,095**	**$1,867,757**	**$2,786,500**	**$7,423,078**
Total Capitalized Value	**$2,574,000**	**$2,496,000**	**$5,245,176**	**$5,538,000**	**$13,321,890**	**$37,355,132**	**$55,729,995**	**$148,461,556**
Development Costs								
Land Costs	$653,400	$653,400	$1,524,600	$1,524,600	$1,742,400	$7,078,500	$10,890,000	$18,513,000
Direct Costs								
Demolition and Site Work	$87,120	$87,120	$304,920	$304,920	$174,240	$544,500	$544,500	$544,500
Building Area	$1,800,000	$1,920,000	$4,634,800	$4,634,800	$5,082,000	$22,842,500	$41,323,200	$115,199,850
Parking	$90,000	$120,000	$0	$0	$0	$2,100,000	$900,000	$0
Tenant Improvements	$0	$0	$0	$0	$0	$150,000	$200,000	$200,000
City Initiatives								
Bird Safe Glass	$0	$0	$0	$0	$78,844	$384,555	$644,516	$1,739,165
Hard Hats	$0	$0	$0	$0	$0	$5,127,400	$8,593,540	$0
Indirect Costs								
Soft Costs	$257,026	$276,526	$642,164	$642,164	$946,123	$4,614,660	$7,734,186	$20,869,983
Municipal Fees	$94,058	$102,992	$256,436	$496,678	$677,048	$2,947,561	$3,495,849	$9,064,078
Developer Overhead	$0	$0	$0	$0	$344,872	$1,611,109	$2,603,509	$6,575,656
Financing	$88,554	$93,853	$307,770	$317,812	$374,807	$2,254,902	$3,648,558	$13,352,528
Contingency	$120,838	$130,025	$307,304	$319,819	$379,955	$1,868,262	$3,022,490	$8,290,330
Total Development Costs	**$3,190,995**	**$3,383,915**	**$7,977,994**	**$8,240,793**	**$9,800,290**	**$51,823,948**	**$83,600,348**	**$194,349,091**
Feasibility Summary								
Yield-on-cost	4.03%	3.69%	3.29%	3.36%	6.83%	3.60%	3.33%	3.82%
Target yield-on-cost	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Difference	**-1.97%**	**-2.31%**	**-2.71%**	**-2.64%**	**0.83%**	**-2.37%**	**-2.67%**	**-2.18%**

Source: Strategic Economics, 2024.

FIGURE 41. FULL OWNERSHIP PRO FORMA RESULTS WITH RECOMMENDED IN-LIEU FEE EXEMPTION (INCLUDES BIRD SAFE BUILDING AND HARD HATS REQUIREMENTS)

	Small Lot Single Family	Fourplex/ Townhomes	10-Unit Small Multifamily (Units)	10-Unit Small Multifamily (Fee)
Revenues				
Market Rate Units				
Gross Revenue	$4,500,000	$4,800,000	$7,600,000	$9,500,000
Less Marketing Expenses	-$225,000	-$240,000	-$380,000	-$475,000
Below Market Rate Units				
Gross Revenue	$0	$0	$443,417	$0
Less Marketing Expenses	$0	$0	-$22,171	$0
Total Proceeds	**$4,275,000**	**$4,560,000**	**$7,641,246**	**$9,025,000**
Development Costs				
Land Costs	$653,400	$653,400	$1,524,600	$1,524,600
Direct Costs				
Demolition and Site Work	$87,120	$87,120	$304,920	$304,920
Building Area	$1,912,500	$2,040,000	$4,924,475	$4,924,475
Parking	$90,000	$120,000	$0	$0
Tenant Improvements	$0	$0	$0	$0
Indirect Costs				
Soft Costs	$271,651	$292,126	$679,821	$679,821
Municipal Fees	$94,058	$102,992	$258,521	$497,584
Developer Overhead	$0	$0	$0	$0
Financing	$92,329	$97,880	$321,540	$331,533
Contingency	$127,383	$137,006	$324,464	$336,917
Total Development Costs	**$3,328,441**	**$3,530,524**	**$8,338,341**	**$8,599,849**
Feasibility Summary				
Total Revenue	$4,275,000	$4,560,000	$7,641,246	$9,025,000
Total Development Cost	$3,328,441	$3,530,524	$8,338,341	$8,599,849
Net Revenue	**$946,559**	**$1,029,476**	**-$697,095**	**$425,151**
Return-on-Cost	28%	29%	-8%	5%
Target Return on Cost	8%	8%	8%	8%
Difference	**20%**	**21%**	**-16%**	**-3%**

Source: Strategic Economics, 2024.

Maximum Justifiable In-Lieu Fee Calculation

METHODOLOGY

The following steps illustrate the methodology for calculating the production cost affordability gap:

1. Estimate affordable rents and housing prices for households in target groups (see pages 36 and 37 for a description, and Figure 28 and Figure 32 for affordable rents and sales prices used in this study);
2. Estimate development costs of building new housing units, based on current cost and market data from the pro forma analysis;
3. Calculate the difference between what renters and homeowners can afford to pay for housing, and the cost of developing those rental and for-sale units (see Figure 42).

The following steps illustrate the methodology for calculating the affordability gap:

1. Estimate affordable rents and housing prices for households in target groups (see pages 36 and 37 for a description, and Figure 28 and Figure 32 for affordable rents and sales prices used in this study);
2. Subtract the difference in annual revenue between a market rate and below market rate unit (see Figure 26 for the market rate rents used in this study);
3. Divide the difference by the cap rate to determine the difference in revenue between producing a market rate and BMR unit.

The following steps illustrate the methodology to translate the gap per unit to a gap per square foot for both the production cost and the affordability gap methodologies:

1. Average the gap per unit across the income groups tested to determine the average gap per unit;
2. Multiply the average gap per unit by the required number of BMR units of a test prototype that satisfies the jurisdiction's inclusionary requirement via on-site units;[16]
3. Divide the total gap of the development project by the project's net square feet (see Figure 44).

[16] The test prototype used for this study has 100 units, of which 20 were below market rate. This satisfies the city's 20% inclusionary requirement.

FIGURE 42. PRODUCTION COST AFFORDABILITY GAP CALCULATION BY INCOME LEVEL

Unit Type	Unit Sq Ft	Units	Maximum Monthly Rent	Annual Revenue	Net Operating Income (a)	Available for Debt Service (b)	Supportable Debt (c)	Development Costs	Affordability Gap (d)
Very Low Income (50% AMI)									
Studio	500	33	$1,195	$14,340	$5,222	$4,540	$57,728	$351,000	$293,272
1 Bedroom	660	51	$1,332	$15,984	$6,824	$5,934	$75,449	$463,320	$387,871
2 Bedroom	990	16	$1,473	$17,676	$8,474	$7,369	$93,688	$694,980	$601,292
Average Affordability Gap									**$390,801**
Low Income (80% AMI)									
Studio	500	33	$1,864	$22,368	$13,049	$11,347	$144,265	$351,000	$206,735
1 Bedroom	660	51	$2,096	$25,152	$15,763	$13,707	$174,275	$463,320	$289,045
2 Bedroom	990	16	$2,332	$27,984	$18,524	$16,108	$204,802	$694,980	$490,178
Average Affordability Gap									**$294,064**

Note:
(a) Assumes 2.5% vacancy and $730/month operations cost per unit.
(b) Assumes 1.15 debt coverage ratio.
(c) Assumes 6.76% interest rate and 30 year loan.
(d) Calculated as the difference between development costs and the supportable debt.
Source: Strategic Economics, 2024.

FIGURE 43. AFFORDABILITY GAP CALCULATION BY INCOME LEVEL

Unit Type	Unit Sq Ft	Units	Maximum Monthly Rent	Annual Revenue	Market Rate Rent*	Annual Market Rate Revenue	Annual Difference	Difference/Cap Rate**	Affordability Gap Per Unit
Very Low Income (50% AMI)									
Studio	500	33	$1,195	$14,340	$2,800	$33,600	$19,260	$385,200	$385,200
1 Bedroom	660	51	$1,332	$15,984	$3,250	$39,000	$23,016	$460,320	$460,320
2 Bedroom	990	16	$1,473	$17,676	$4,500	$54,000	$36,324	$726,480	$726,480
Average Affordability Gap									**$478,116**
Low Income (80% AMI)									
Studio	500	33	$1,864	$22,368	$2,800	$33,600	$11,232	$224,640	$224,640
1 Bedroom	660	51	$2,096	$25,152	$3,250	$39,000	$13,848	$276,960	$276,960
2 Bedroom	990	16	$2,332	$27,984	$4,500	$54,000	$26,016	$520,320	$520,320
Average Affordability Gap									**$298,632**

Note:
* Market rate rents are assumed in the pro forma analysis and are based on the rent of the 6-Story Midrise prototype.
** The cap rate is assumed to be 5.0%.
Source: Strategic Economics, 202

FIGURE 44. MAXIMUM JUSTIFIABLE IN-LIEU FEE PER SQUARE FOOT

	Production Cost	Affordability Gap
Prototype		
Units	100	100
Required BMR units	20	20
Weighted Average Unit Sq. Ft.	660	660
Affordability Gap per Unit		
Very Low Income (50% AMI)	$390,801	$478,116
Low Income (80% AMI)	$294,064	$298,632
Average Affordability Gap per Unit	**$342,432**	**$388,374**
Affordability Gap Fee per Sq. Ft.	**$103.77**	**$117.69**

Source: Strategic Economics, 2024.

LOCAL CONTRIBUTION EQUIVALENT IN-LIEU FEE

In order to determine the equivalent local contribution needed to leverage funding for one off-site affordable unit, Strategic Economics reviewed recent data from the City of Berkeley on its financial support for 100 percent affordable tax credit projects (Figure 45).

The steps to calculate the local contribution fee include:

1. Calculate the average per unit contribution of local funding towards 100 percent affordable projects;
2. Multiply the average gap per unit by the required number of BMR units of a test prototype that satisfies the jurisdiction's inclusionary requirement via on-site units;[17]
3. Divide the total gap of the development project by its net square feet (see Figure 46).

FIGURE 45: CITY OF BERKELEY'S LOCAL CONTRIBUTION PER UNIT TO TAX CREDIT PROJECTS

	Ephesian	St Paul Terrace	Supportive Housing in People's Park	BUSD Workforce Housing	1740 San Pablo	Maudelle	Blake Apartments	Hope Center PSH + BRIDGE Affordable*
$ per unit	$228,958	$250,000	$121,691	$224,771	$150,000	$197,674	$193,548	$180,142

Note:
* Hope Center PSH and BRIDGE Affordable were combined because they are part of the same development project.
Source: City of Berkeley, 2023; Strategic Economics, 2024.

FIGURE 46. LOCAL CONTRIBUTION EQUIVALENT IN-LIEU FEE PER SQUARE FOOT

	Local Contribution
Prototype	
Units	100
Required BMR units	20
Weighted Average Unit Sq. Ft.	660
Average Contribution per Unit	**$193,348**
Local Contribution per Sq. Ft.	**$58.59**

Source: Strategic Economics, 2023.

[17] The test prototype used for this study has 100 units, of which 20 were below market rate. This satisfies the city's 20% inclusionary requirement.