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ECONOMIC FEASIBILITY STUDY FOR OAKLAND IMPACT FEE PROGRAM

Prepared for

CITY OF OAKLAND

This Report Prepared by

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EXECUTIVE SUMMARY

PURPOSE AND STUDY OBJECTIVE

This report presents the economic feasibility study undertaken to provide economic analysis to guide adoption of a city-wide development impact fee program in Oakland. The objective of the study is to describe the economic feasibility context for development in Oakland and then to assess the potential impacts of new impact fees on the feasibility of development. Analysis of economic feasibility is important so that the impact fee program can address the need to accommodate development impacts without creating a disincentive for real estate investment in Oakland.

ECONOMIC MARKET AND FEASIBILITY CONTEXT FOR DEVELOPMENT

"Base case" real estate feasibility models of new development are used to assess the current economic feasibility of different land uses and building types in different parts of Oakland. The analysis defined representative development prototypes for Oakland and developed associated real estate market revenue and cost data.

Increasing Potential But Limited Development Thus Far

There is growing demand for housing, commercial, and industrial/warehouse space in Oakland and increasing potentials for future development if the regional economy stays strong. Following the Great Recession, recovery lagged in Oakland and the East Bay relative to San Francisco, the Peninsula, and the South Bay. More recently, Oakland's real estate markets have seen increased occupancies of existing buildings, rapidly increasing rents and prices, and spill-over of demand from San Francisco and the Peninsula. Developer interest in Oakland is increasing, and there is a large pipeline of potential future projects.

Higher-Density, Multi-Family Housing and Office Developments Require Market Rents to Increase Relative to Costs

There has been limited market-rate, multi-family housing development and no office development in Oakland since the Great Recession because costs are high for these higher-density structures relative to market rents. There is also substantial risk associated with developing large projects. The base case analysis of economic feasibility indicates that multi-family housing developments are marginally feasible and office building developments are not feasible based on 2015 rents/prices and without the additional cost of new impact fees.

Furthermore, in Oakland, there are no existing "comparables" for recently successful higher-density projects. Successes "on the ground" prove the feasibility of higher-density developments and provide more certainty to developers, investors, and lenders often located outside the Bay Area who have historically perceived Oakland as being a high-risk location for development.

- ***Multi-family rental housing developments*** are marginally feasible based on 2015 rents and without new impact fees. Development feasibility could be much improved with increasing rents over the next two to four years. Projects being planned now and beginning to apply for building permits are based on higher future rents. Apartment rents in 2015 need to increase at least seven percent over and above increases in development costs to establish project feasibility.

- ***For-sale multi-family condominium development*** is not yet feasible. The costs and risks for condo development are higher than for rental housing. Sales prices in 2015 have to increase over and above development costs by at least nine percent for mid-rise development and at least 20 percent for high-rise development.

- ***Office building development*** is not yet feasible, despite growing demand for office space downtown. Office rents are increasing, and Uber's recent commitment to locating in downtown Oakland enhances potential for attracting other major tenants accustomed to paying higher rents in San Francisco and elsewhere. For feasible projects, developers need tenant commitments at high rents for major portions of new buildings. Rents for new office space in mid-2015 need to increase at least 30 percent over and above increases in costs to establish project feasibility downtown.

Lower-Density Development is Feasible in Oakland

There is single-family residential development underway, and there are recent retail and industrial/warehouse developments.

- Developments of ***single-family detached homes and townhouses*** are feasible today in most parts of Oakland. The prices, sizes, and quality of construction vary widely in different parts of the city. Single-family homes and townhomes can be developed incrementally, in phases, and are much less risky than the larger, more costly building types required for multi-family housing development.

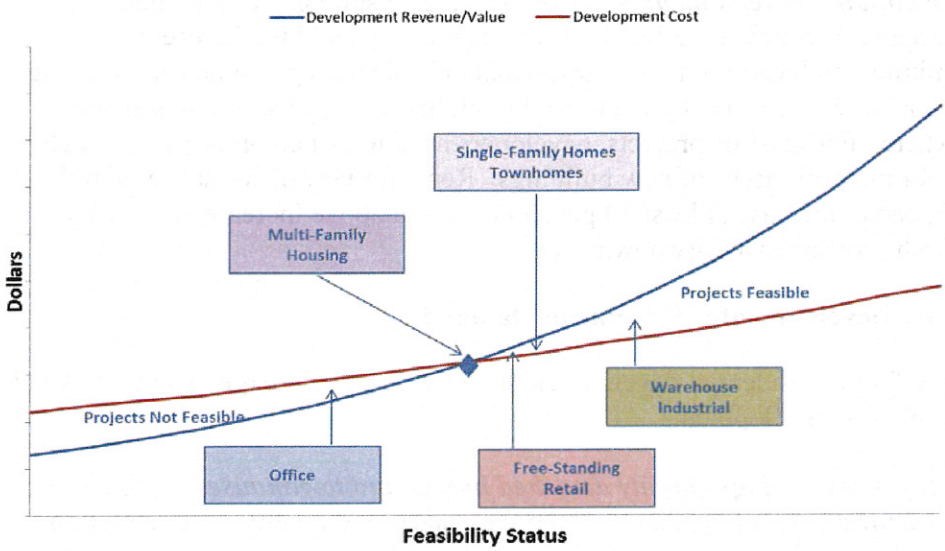
- Freestanding ***retail development***, including grocery stores and other larger stores, can be feasibly developed in various locations in Oakland, although such development can be sensitive to costs. Beyond grocery stores and convenience stores, however, Oakland has had trouble attracting retail development offering comparison goods shopping opportunities (clothing/accessories, home furnishings/appliances, specialty goods, electronics, and department/general merchandise stores).

- ***Warehouse development*** is feasible in Oakland, and future development is dependent on the availability of sites as there is demand for new warehouse facilities. ***Industrial development*** for custom manufacturing and light industrial uses including artisans appears to be feasible although tenants are sensitive to space costs.

Summary of Feasibility Related to New Impact Fees

The simplified diagram below summarizes the results of the base case feasibility analysis by placing major development types on the economic feasibility graph. Projects to the right of the break-even point at the center, where the lines for development cost and revenue cross, are feasible, with increasing ability to pay new impact fees the more revenues exceed development costs as shown by moving further to the right side of the graph. Projects on the left side of the breakeven point are not yet feasible, and those near the center are marginally feasible. Neither could pay new impact fees currently.

Relationship between Development Cost and Revenue:
Feasibility of Development in 2015



Implications of Current Project Feasibility for Impact Fee Program

The results of the base case feasibility analysis have implications for adopting an impact fee program.

- **Adoption of New Impact Fees Can Make a Difference in the Feasibility and Timing of Development**

  Real estate feasibility is at a pivotal point right now, and adopting new impact fees (adding to development costs) can make a difference in the feasibility and timing of development, and could affect the momentum that has been building. This is particularly the case for multi-family residential development and office development which together represent the large majority of development anticipated in Oakland.

- **The Timeframe Over Which New Impact Fees Are Phased-In Is Important**

  Phasing-in new impact fees consistent with improving development feasibility both enhances potentials for new development and increases ability to pay impact fees. Phasing also allows time for the market to adjust to higher impact fees, for developers to plan future developments with knowledge of the magnitude of new impact fees, and for land owners to adjust over time to lower land values in the future as a result of the new impact fees.

- **Differences in Feasibility Support Impact Fee Zones for Residential Development**

  There are significant differences among parts of Oakland in the rents and prices of existing housing, in the extent and types of new housing being built and proposed, and in the feasibility of market-rate development in the near future. The economic feasibility assessment provides the basis for differentiating impact fees for residential development among areas of Oakland consistent with development feasibility and ability to pay new impact fees.

- **Feasible Impact Fees Are Below the Maximum Legal Fees Identified**

  The results of the impact fee nexus analyses identify the maximum legal impact fees that could be charged on new development in Oakland. Legally, the City Council can adopt impact fees at or below the maximum legal amounts identified. The findings of the economic feasibility analysis show that the levels of impact fees that could be absorbed by new development in the near future are substantially below the maximum legal impact fees identified. Similar results occur in most communities. Typically impact fee programs seek to balance the need for impact fee revenues with the ability of development to pay the impact fees without affecting the pace and amount of development.

POTENTIAL ECONOMIC IMPACTS OF NEW IMPACT FEES IN OAKLAND AND FINDINGS RELEVANT TO PROGRAM ADOPTION

The new impact fees were integrated into the base case real estate feasibility models to test potential impacts on project feasibility and consider implications for development in Oakland. There are three new impact fees identified by zone for residential development (affordable housing, transportation, and capital improvements impact fees), and two new impact fees for non-residential development (transportation and capital improvements impact fees). (The City already imposes a jobs/housing impact fee on office and warehouse development to provide affordable housing funding.)

Impact Assessment of New Impact Fees on Residential Development

The new impact fees are aggressive for development that is just at the threshold of feasibility in Oakland, particularly multi-family residential development whose feasibility is described above.

Attaining feasibility and paying the new impact fees depends on continuing real increases in new housing rents and prices over and above increases in development costs.

Key Implications of Analysis for the Current Impact Fee Program

With continuing real growth of new housing rents and prices and the phasing-in of new impact fees, the analysis finds that the new impact fees are likely to be absorbed in most cases without adversely affecting residential development. Thus, in most cases development would still proceed.

Although it is reasonable to anticipate that rents and prices will continue to increase if the regional economy stays strong, there is risk in adopting new impact fees based on anticipated future conditions. There is the chance that those conditions may not occur. There also is risk in imposing new impact fees prior to completion of larger, multi-family housing projects that provide "successes on the ground" that establish the ability to capture higher rents in Oakland and offer more certainty to investors and lenders considering new projects.

The new impact fees for residential development are at about the maximum level possible without having adverse effects on the pace and amount of development. The feasibility analysis indicates two areas of particular concern.

- There remains risk that the impact fees could get ahead of the market and slow the pace of development. Scenarios evaluated in this analysis indicate that the new impact fees are ahead of the necessary revenue increases to support them, particularly for multi-family housing development and for projects in impact fee zones 1 and 2 where the target impact fee amounts are reached in less than two years.

- There also is risk that land sales could slow for a period of time and affect the supply of land for new projects if landowners with expectations of increasing land values are slow to accept lower prices. The feasibility analysis indicates that the new impact fees are high relative to land values, thereby limiting the ability of landowners to capture higher land prices and a share of increasing project revenues as rents and prices increase.

The finding that new impact fees are at their maximum levels from an economic feasibility perspective indicates that there could be some projects where new impact fees could delay development until other changes in revenues or costs occur. These could include developments of the more costly high-rise building types that can be difficult to finance and require high rents and prices to achieve feasibility before the additional costs of new impact fees. Imposing new impact fees also could affect development in locations with lower rents and prices and limited or no market-rate development, where feasibility is particularly sensitive to costs including the costs of new impact fees. The establishment of an impact fee zone where fees are lower and phase-in periods longer reduces the potential for adverse impacts in these situations.

Market Adjustments Anticipated to Accommodate New Impact Fees

Developers and landowners will incorporate the additional costs for new impact fees into the real estate development feasibility equation over time through a number of types of adjustments.

- In the near term, higher rents and prices are required to offset the costs of new impact fees and enhance project feasibility.

- Some developers may choose to undertake development at lower returns in the early years to cover the new impact fees, anticipating higher returns in the future as rents and prices continue to increase. This depends on the ability to secure the needed financing.

- In the near term, some recent land sales may have to be re-negotiated, particularly those contingent on no impact fees or lower impact fees than adopted. Some land transactions may not occur, and projects could be delayed until landowner expectations re-set.

- The large pipeline of housing projects in Oakland implies that a number of developers have already purchased land, in which case more projects can proceed with less effect on development than would otherwise be the case.

- Over time, land values will need to adjust, through lower increases in land prices than would otherwise occur without the new impact fees. There could be a period of time when land sales slow as owners hold out for higher land prices and as housing rents and prices continue to increase.

Impact Assessment of New Impact Fees for Non-Residential Development

The new impact fees for non-residential development are generally consistent with the market and feasibility contexts for these land uses.

New Impact Fees on Office Development

New impact fees for office development are proposed to reach target levels in year five (5), recognizing the need for large increases in office rents to make projects feasible and uncertainty about the timing for attaining feasibility. The new impact fees represent relatively small additional costs for already costly office development. Once new office projects become feasible, they are likely to be able to pay the new impact fees.

New Impact Fees on Retail, Hotel/Motel, and Industrial/Warehouse Developments

The new impact fees for retail, hotel/motel, and industrial/warehouse development are generally consistent with the market and feasibility contexts for these uses. There are feasible developments of these types in Oakland, although relatively few projects due to market difficulties attracting retail development and limited locations for cost-sensitive, industrial and warehouse development. The new impact fees for retail, hotel/motel, and industrial/warehouse

developments are set at relatively low levels based on market and feasibility considerations and City economic development objectives to encourage more of these activities in Oakland for the benefits they provide (more local shopping opportunities, growth of visitors and tourism, greater sales tax and transient occupancy tax revenues, and increased business opportunities and job opportunities for residents). Feasibility testing of the new impact fees indicates that impact fees for these developments could be absorbed and are unlikely to affect development in most cases.

New Impact Fees on Development of Institutional Land Uses

The impact fees for institutional development reflect the nature of these uses as generators of considerable activity in Oakland. Examples include hospitals and medical facilities, private/religious schools, colleges and universities, and major recreation/entertainment/arts/cultural facilities. As these are not real estate-driven developments, the costs of new impact fees will add to the funding needed for such projects.

Impact Fee Program Also Provides Benefits for Development

The impact fee program is also anticipated to provide benefits for development. Two types of benefits can be important.

- ***Greater certainty*** up front as to the impact fee amounts and any other requirements can be of substantial benefit to a developer in saving time and costs as opposed to the situation with little clarity and ad hoc negotiations.

- ***A mechanism for paying a development's fair share of costs*** can be of benefit to a developer compared to the situation where the largest project or the first project in an area has to pay the full cost of improvements serving the larger surrounding area while subsequent projects pay less. An example is transportation impact fees to fund improvements required to mitigate cumulative traffic impacts.

IMPACT FEE REVENUE

The total revenue to be generated over the first 10 years of the new impact fee program is estimated at $87 million (2015 dollars) based on the impact fees proposed as of March 10, 2016 (impact fees will start on September 1, 2016). Of the total, $66 million (76 percent) would be generated by the Affordable Housing Impact Fee, $9 million (10 percent) by the Capital Improvements Impact Fee, and $12 million (14 percent) by the Transportation Impact Fee. The actual amount of revenue could vary substantially depending on the level of development activity that takes place and is subject to the new impact fees.

Example uses of impact fee revenues of the magnitudes estimated include the following:

- ***Affordable Housing Impact Fee Revenue*** of $66 million could fund:
  - Approximately 600 affordable units, most very low and low income units with some moderate income units,
  - OR a mix of very low, low, and moderate income units, with some built on-site.

- ***Capital Improvement Impact Fee Revenue*** of $8.7 million could fund:
  - 6.2 acres of park improvements,
  - OR 11,400 square feet of additional civic building space (library, recreation center, etc.),
  - OR a combination of these or other items.
- ***Transportation Impact Fee Revenue*** of $11.9 million could fund:
  - Complete improvements for 21 intersections,
  - OR 2.3 miles of sidewalk based on guidelines for collector streets (10 ft. width including planting strip) provided by the City's 2002 Pedestrian Master Plan,
  - OR a combination of these or other items.

IMPACT FEE COMPARISONS AMONG CITIES

The background analysis included a comparative review of impact fees in selected cities. The focus was on impact fees assessed on multi-family housing development and on affordable housing impact fees in particular. While impact fees in other cities are not necessarily indicative of the level of impact fees feasible and appropriate in Oakland, the evaluation offers insight into relevant market and feasibility considerations.

Comparative review of the housing market contexts and impact fees in Oakland and the nearby cities of Berkeley and Emeryville reveals important differences and factors that explain why the impact fees in Berkeley and Emeryville are not directly comparable to those in Oakland and why they are not indicative of the level of feasible impact fees for multi-family housing development in Oakland.

- **Higher Rents Provide Greater Ability to Pay Impact Fees in Berkeley than in Oakland**

  Berkeley has substantially higher housing rents than Oakland. Because construction costs are similar for comparable building types in both cities, higher rents provide greater economic feasibility for new housing development and more ability to pay impact fees.

- **New Developments Are Not Paying the Affordable Housing Impact Fees in Berkeley and Emeryville**

  Instead of paying the new impact fees, new developments are choosing less costly options. New housing developments in Berkeley are electing to provide affordable housing onsite in exchange for substantial additional floor area over that allowable "by right," as well as additional cost offsets (reduced parking, modified setbacks). The higher density and other offsets are able to cover most or all of the cost of the affordable housing, making payment of the impact fee a more

costly alternative. The rents in Berkeley are also high enough to justify the higher construction cost of a taller building.

By comparison, most development proposals in Oakland include the highest density economically feasible and most are not constrained by land use policies as they are in Berkeley. In addition, rents for development in most Oakland locations are not high enough to justify the higher construction costs for taller buildings. However, there are a few locations in Oakland where the State density bonus program might be a viable, on-site option.

In Emeryville, an affordable housing impact fee was adopted in July 2014, replacing earlier inclusionary zoning for rental housing. Due to many unrelated factors, no development projects have proceeded since the affordable housing impact fee adoption, thus no impact fees have been collected (as of November 2015). In October 2015, Emeryville voted to increase the impact fee in conjunction with downzoning and other land use regulation changes intended to provide incentives to encourage on-site affordable housing development at costs below the cost of paying the impact fee.

- **Higher Impact Fee Burden in Oakland**

  If developers in Berkeley and Emeryville continue to opt for providing affordable units on-site in exchange for density bonuses and at lower costs than paying the impact fee, the cost to satisfy affordable housing requirements for multi-family housing development in Oakland at the target impact fee levels could be higher than the costs to meet affordable housing requirements in Berkeley and Emeryville.

- **Other Factors and Differences Between Oakland and Nearby Cities**

  Berkeley and Emeryville had inclusionary housing programs prior to adopting housing impact fees. These cities also had other impact fees that have been implemented at different times over the years. Thus, there has been time for markets to adjust to the impact fees in those cities. By comparison, Oakland is currently proposing a city-wide impact fee program with multiple impact fees to be implemented concurrently in the near future.

  Development in Oakland is still perceived to be riskier than development in Berkeley and Emeryville. As a result, developers, lenders, and investors may require higher returns or set higher financial terms for Oakland development compared to the neighboring cities. Such differences reduce the ability of Oakland development to pay impact fees compared to development in neighboring cities.

In addition to Berkeley and Emeryville, ***San Jose*** recently adopted an affordable housing impact fee on new rental housing development. The impact fee replaced the city's former inclusionary

housing program, and the impact fee amount equals the in-lieu fee amount under the inclusionary program. The new impact fee is being phased-in to support the development of market-rate housing. The impact fee was adopted in November 2014 and goes into effect for some development on July 1, 2016. Compared to Oakland's program, San Jose's program provides more exemptions and a longer time period before all development would pay the new impact fee.

I. INTRODUCTION

PURPOSE

This report presents the economic feasibility study undertaken to provide economic analysis for consideration in the adoption of a citywide development impact fee program in Oakland. Rigorous analysis of economic feasibility is important so that the impact fee program can address the need to accommodate development impacts without creating a disincentive for real estate investment in Oakland. Other, related efforts include the impact fee nexus analyses that identify the maximum legal impact fees that can be charged in Oakland. The objective of this study is to provide the economic feasibility context as input for adopting an impact fee program that is legally defensible and that can be implemented without adversely affecting development in Oakland.

The economic feasibility analysis is important because there has been limited market-rate development in Oakland since the Great Recession. Markets are improving, particularly for housing and office development, and the outlook for the future is good. However, real estate feasibility in Oakland is at a pivotal point right now and adoption of new impact fees can make a difference in the feasibility and timing of development. As a result, adoption of a new impact fee program requires balancing the needs for impact fee expenditures to accommodate future growth with the need to maintain adequate development incentives in Oakland so that anticipated growth can occur. This requires careful assessment of the current market and economic feasibility context in Oakland. It also requires analysis of whether and how new impact fees could be absorbed without slowing the momentum for development in the near future.

APPROACH AND SCOPE

The economic feasibility study has two major components. First, the current market and feasibility context for development in Oakland is analyzed as a basis for evaluating impact fee program options. The analysis defines representative development prototypes for Oakland, identifies associated real estate market revenue and cost data, and develops project pro formas to model current development feasibility. The feasibility models are used to assess current economic feasibility for development of different land uses and building types in different parts of the city. These variables have implications for the City's ability to collect new impact fees and the likelihood of impacts on development as a result.

Under the second major component of the work, the development feasibility models are used to test and evaluate impact fee program options to identify potential impacts on economic feasibility and possible implications for new development in Oakland. The analysis considers the real estate market adjustments required to absorb new impact fees, and the likelihood that they could occur without affecting the pace and amount of new development.

The economic feasibility study also includes two related tasks. First, order-of-magnitude estimates of potential impact fee revenue are prepared based on a likely development scenario for Oakland over the next 10 years and the level of impact fees to be adopted. Second, a

comparative review of impact fees in other nearby jurisdictions is presented to provide context for considering new impact fees in Oakland.

REPORT ORGANIZATION

This report presents and summarizes the findings of the economic feasibility study. It is organized as follows, according to the different components of analysis.

Chapter II. Economic Market and Feasibility Context for New Impact Fee Program presents and describes the current base case feasibility context for development in Oakland before new impact fees.

Chapter III. Implications of Base Case Feasibility Analysis for Impact Fee Program identifies implications related to the level of new impact fees, the timeframe for phasing in new impact fees, and differences in ability to pay new impact fees among areas of Oakland.

Chapter IV. Economic Impacts of New Impact Fees in Oakland addresses the likely impacts of new impact fees on different types of development and in different parts of the city. The analysis considers impacts within the current market and feasibility context and in the near future with anticipated increases in rents and prices that enhance the feasibility of development.

Chapter V. Impact Fee Revenue Estimates presents order-of-magnitude revenue estimates and identifies example uses of impact fee revenue.

Chapter VI. Impact Fee Comparisons Among Cities provides a comparative review of impact fees in Oakland and nearby cities that are both comparable to and different from Oakland, depending on the criteria and land use.

In addition, there are four appendices that provide additional information, data, and documentation. They are referenced in the appropriate chapters.

II. ECONOMIC MARKET AND FEASIBILITY CONTEXT FOR NEW IMPACT FEE PROGRAM

The current economic market and feasibility context for development in Oakland was analyzed as a basis for evaluating whether impact fee program options could be implemented without adversely affecting Oakland's ability to attract new development. The analysis defined representative development prototypes for Oakland and developed associated real estate market revenue and cost data. Economic feasibility models were used to assess the current economic feasibility of different land uses and building types in different parts of the city.

The analysis finds that while rents and prices for new development continue to increase along with interest in developing in Oakland, project feasibility for the higher-density building types, including multi-family housing development and office building development, remains sensitive to costs and is marginal or not economically feasible based on the base case 2015 analyses. Lower-density building types including single-family homes, townhomes, retail, and warehouse/industrial development are generally feasible today in most parts of Oakland.

Within this context, the adoption of new impact fees (adding development costs) can make a difference in the feasibility and timing of development. This is particularly the case for multi-family residential development and office building development which together represent the large majority of future development anticipated in Oakland. Thus, the amount of new impact fees and the timeframe over which they are phased-in are important.

This chapter summarizes the Oakland *market context* for considering a new impact fee program, the current *economic feasibility context* for adopting new impact fees, and the importance of phasing in new impact fees so as to enhance project feasibility and increase developers' ability to pay the new impact fees.

OAKLAND MARKET CONTEXT FOR CONSIDERING AN IMPACT FEE PROGRAM

Growing Demand on the Heels of the Recession

There is growing demand for housing, commercial, and industrial space in Oakland and strong potentials for future development if the regional economy stays strong. The current market context follows the major downturn of the regional economy with the Great Recession (2009-2011) which halted new construction and resulted in substantial declines in real estate prices and rents. Between 2011 and 2013, as the regional economy began to recover and grow in San Francisco, the Peninsula, and the South Bay, mostly fueled by the technology sectors, recovery lagged in the East Bay. Increased interest in Oakland and the East Bay followed thereafter (2013-present), and there has been increasing spillover of demand from San Francisco to Oakland given its central location, urban character and assets, transit accessibility, and relative affordability.

Oakland: Increased Potential for New Development, But Only Limited Development Thus Far

As demand grows for locations in Oakland, recent changes (2013-2016) in the real estate market context have been substantial, and include the following:

- Occupancies of existing buildings have increased resulting in low vacancy rates today.
- Oakland rents and prices have increased substantially. Recent percentage increases in Oakland's apartment rents have been among the highest in the country. Rents for downtown office space have also increased substantially.
- There has been increasing investment in existing buildings, such as in older commercial buildings in the downtown area, including the recent sale and current upgrading of the former Sears building as a new location for Uber.
- Potentials for new development have been increasing, as has developer interest in Oakland. There is a large pipeline of potential development projects.
- While the potentials for development are increasing, there has been very limited new market-rate housing development and no office development in Oakland since the Recession.
    - Only 332 units in larger, market-rate, multi-family development projects (5+ units) were built over the five years from 2010 through 2014.
    - No new office buildings have been built since 2000.
- Some smaller residential projects and single-family detached and townhouse developments have occurred. Additionally, building permit activity for these types of projects has recently increased in 2014 and 2015.
- Larger residential projects have begun to apply for building permits in late 2015 and are anticipated to continue applying through 2017 based on future anticipated higher rents and prices which would enhance new project feasibility.
- The timing for office building development is uncertain and depends on major tenant commitments which are difficult to predict.

Increasing rents and prices indicate growing potential for future development in Oakland if the regional and national economies remain strong.

Growth forecasts for Oakland over the next 15 to 25 years indicate the most potential for growth of multi-family residential development and for office development. From the perspective of a new impact fee program in Oakland, multi-family residential development and office development hold the most potential for generating future impact fee revenue.

CURRENT ECONOMIC FEASIBILITY CONTEXT FOR ADOPTING NEW IMPACT FEE PROGRAM

The limited amount of recent new development in Oakland, along with growing demand, exemplify the finding that in 2015 and early 2016 Oakland's increasing rents are still below those needed for feasible development of the more costly building types:

- multi-family housing development and
- office building development.

The feasibility of these higher-density developments depends on further increases in rents over and above increases in development costs. Projects being planned today anticipate higher future rents by the time new projects are completed and ready for occupancy. Developing projects based on anticipated future rents adds risk and affects a developer's ability to attract financing and investment. As there are few existing "comparables" for successful, recent projects, there is the need for more successes "on the ground" in Oakland to prove the feasibility of developments and provide more certainty to developers, investors, and lenders often located outside the Bay Area who have historically perceived Oakland as being a high-risk location for development..

Adoption of New Impact Fees Can Make a Difference in the Feasibility and Timing of Development

Rents and prices continue to increase along with interest in developing in Oakland. However, while project feasibility is improving, it remains sensitive to costs and is still marginal in many cases. Within this context, the adoption of new impact fees can make a difference in the feasibility and timing of development in Oakland. Thus, *the amount of new impact fees and the timeframe over which they are phased-in are very important*. The more aggressive the impact fee program in terms of the amount and timing of new fees, the higher the risk of getting ahead of the market with additional costs and adversely affecting development.

Phasing-In New Impact Fees

Impact Fee Phase-In to Allow For Improved Development Feasibility

Market potentials and trends are anticipated to continue to support increasing rents for new development in Oakland, thereby enhancing project feasibility and increasing the ability to pay impact fees. As a result, the phasing in of new impact fees consistent with improving development feasibility both enhances potentials for new development and increases ability to pay higher fees. The imposition of significant impact fees without phase-in could render projects infeasible.

Impact Fee Phase-In To Allow Time for Market to Adjust

Phasing-in also would allow time for the market to adjust to higher impact fees and for developers to plan future developments with knowledge of the magnitude of new impact fees. Developers with projects in the pipeline who may have already bought land and made other commitments prior to knowing the magnitude of new impact fees would benefit from the phasing

in of impact fees to allow their projects to proceed and avoid slowing the development. Over time, a number of adjustments are likely, whereby new impact fees could affect developer returns initially and land costs/values over time. Allowing little or no time for those adjustments could adversely affect project feasibility. Some projects could be delayed and others may not go forward. (See Chapter IV for more descriptions of the types of market adjustments involved.)

Impact Fee Program Can Also Provide Benefits for Development

There also can be benefits from an impact fee program that could offset some of the costs of paying the fee. Two types of benefits can be important. ***Greater certainty*** up front as to the impact fee amounts and any other requirements can be of substantial benefit to a developer in time and costs as opposed to a situation with little clarity and ad hoc negotiations. In addition, an impact fee program that provides a ***mechanism for paying a development's fair share of costs*** would be beneficial compared to a situation where the largest project or the first development in an area would have to pay the full cost of improvements serving the larger, surrounding area while subsequent projects pay less.

SUMMARY OF BASE CASE ECONOMIC FEASIBILITY ANALYSIS

Approach and Methodology

Data collection and market analysis were done to establish the types of market-rate developments that are likely to be built in Oakland and subject of new impact fees. Market analysis identified the prices/rents for the different types of development to be built in different parts of the city. Analysis was then done to assess economic feasibility of each type of development and ability to pay impact fees. The methodology is summarized as follows.

- **Projects in the Pipeline and Recent Developments as Basis for Development Prototypes.**

  Plans submitted to the City for projects in the pipeline, information on actual projects of similar types and locations, market data, and developer interviews were used to identify development prototypes representative of the types and characteristics of market-rate development being built and proposed in Oakland and the locations where developments of each type are being proposed and built.

  Nine housing development prototypes were identified. The multi-family housing prototypes include developments of different building types, at different densities, and in different parts of Oakland, representing lower/mid-rise, mid-rise, and high-rise developments. All three multi-family prototypes are considered as rental apartment developments, and the mid-rise and high-rise prototypes are also considered as for-sale condo developments. There also are two prototypes for single-family detached homes and two prototypes for townhome/row house developments. In each case, the two prototypes are differentiated by price range, quality of construction, location, and household sub-markets served.

  Nine non-residential development prototypes were identified, with three prototypes each for office, retail, and industrial (which includes warehouse)

developments. As appropriate for each land use, the non-residential prototypes include developments of different building types, at different densities, with different assumptions about parking, and located in different parts of Oakland.

- **Market Research to Identify Rents and Prices for New Developments**

  Extensive market research focused on identifying market rents and prices for recently built development in Oakland that are comparable to the types, characteristics, and locations of proposed new development. Data were gathered from multiple sources, including real estate agents and brokers, multiple listings, real estate company reports, property managers, recent sales data from the County Assessor, and other sources. In addition, work done by The Concord Group for another aspect of this project, provided additional data, and confirmed the rents identified for new multi-family housing developments in Greater Downtown and West Oakland/North Oakland.

- **Economic Feasibility of Development and Ability to Pay Impact Fees**

  Project pro forma analyses were developed to test the feasibility of the different prototype developments based on current rents and prices and cost estimates for construction, financing, land, and other costs, based on construction company cost estimates, developer interviews, input from other projects, and other sources. The objective is to develop an understanding of the economics of development by establishing a 2015 base case for each prototype, without new impact fees. The results identify differences in feasibility among types of development and locations in Oakland that affect ability to pay impact fees.

Summary of Current Economic Feasibility By Type of Development

The following sections summarize the current feasibility context for the types of Oakland development for which feasibility analysis was undertaken for the purposes of this study. The base case 2015 economic feasibility analyses are presented in tables in Appendix A. For each land use, there are tables in Appendix A that describe the development prototypes analyzed followed by tables with the financial pro forma analyses that assess base case feasibility in 2015 without new impact fees.

Feasibility Overview: Multi-Family Housing Development

Multi-family rental housing projects in Oakland are marginally feasible or not yet feasible based on 2015 rents and without new impact fees. Multi-family housing development in Oakland assumes higher density development (100-200-400 units per net acre) in lower-/mid-rise (3-4 floors) and mid-rise (5-6 floors) structures built on a podium or in high-rise buildings, with most projects including 100 to 400 units (referred to as "large" projects). The higher-density building types are costly to develop and large projects carry substantial risk. No large, market-rate multi-family housing projects have yet been developed in Oakland since the Great Recession. However, recent high rates of increase in apartment rents in Oakland have attracted substantial developer interest, and there is a large pipeline of potential future projects. Development feasibility and ability to pay new impact fees could be much improved with increasing rents over

the next two to four years, if trends continue and the regional economy stays strong. Projects being planned now are based on higher future rents. The potential for new impact fees would be greatest if the fees are phased in consistent with improving development feasibility over time.

The feasibility analysis of multi-family housing development in Oakland is highlighted in Figure 1. Appendix A describes the multi-family housing prototypes and presents the pro forma analyses for the base case as of mid-2015 without new impact fees. Appendix C provides background on sources and assumptions for the feasibility analysis of residential development.

Figure 1

Multi-Family Housing Development

Prototypes	Feasibility 2015	New Construction?
H-3 **Lower/Mid-Rise Apts.** West Oakland / parts of North Oakland / East Oakland (in future)	Marginally feasible or not yet feasible with today's rents; building types are costly	Limited; no large market rate projects completed since Great Recession
H-4 **Mid-Rise Apts.** Downtown/Jack London/Broadway Valdez / parts of North Oakland	Very sensitive to assumptions Recent high rates of increase in rents	Projects to be proceeding based on anticipated higher, future rents
H-5 **High-Rise Apts.** Prime Sites: Downtown/Jack London/Broadway Valdez / parts of Estuary Waterfront	Feasibility much improved with higher rents as trends continue; could take 2-4 years For-sale condos are not feasible today	Large pipeline of projects

Note: The items in the Feasibility and New Construction columns apply to all three prototypes except where a prototype is specifically referenced.

The base case feasibility analysis of prototypical multi-family housing developments indicates that, overall, new apartment rents in mid-2015 need to increase at least seven (7) percent over and above increases in development costs to establish project feasibility. Rent increases to cover increases in development costs would be in addition. Feasibility is measured in terms of revenues to cover costs and provide a competitive return for development. The base case calculations are before any new impact fees. The findings regarding increases in rents required to establish project feasibility are summarized in Table 1.

The feasibility analysis also found that sales prices for condominiums would have to increase over and above development costs, by at least nine (9) percent for mid-rise development and at least 21 percent for high-rise development. Price increases to cover increases in development costs would be in addition. These findings are also summarized in Table 1.

Table 1
Increase in Rents/Prices Required for Feasible Multi-Family Housing Development in Oakland
(Base Case Mid-2015 Without New Impact Fees)

	Prototype H-3 Lower/Mid-Rise Dev. West Oak/East Oak/ parts of North Oak /a/	**Prototype H-4 Mid-Rise Dev.** Downtown/JL/BV/ parts of North Oak	**Prototype H-5 High-Rise Dev.** Prime Sites: Downtown/ JL/BV/parts of Estuary
Rental Apartment Development			
Market rents, mid-2015			
per unit per month	$2,530	$3,080	$3,870
per sq. ft. in unit	$3.33	$3.73	$4.58
average unit size (sq. ft.)	760	825	845
Threshold rents for feasible projects, 2015 $			
per unit per month	$2,700	$3,300	$4,100
per sq. ft. in unit	$3.55	$4.00	$4.85
Required real increase in rent, 2015 $ /b/	**+6.7%**	**+7.2%**	**+6.0%**
Percent increase in future dollars /c/ assuming 5-6% increase in costs and 1 year timeframe	~13%	~13%	~12%
For-Sale Condo Development			
Market prices, mid-2015			
per unit	NA	$574,000	$632,000
per sq. ft. in unit		$617.20	$672.34
average unit size (sq. ft.)		930	940
Threshold prices for feasible projects, 2015 $			
per unit	NA	$625,000	$765,000
per sq. ft. in unit		$672	$814
Required percent real increase in prices, 2015 $ /b/	**NA**	**+8.9%**	**+21%**
Percent increase in future dollars /c/ assuming 5-6% annual increase in costs and 2-3 year timeframe.		~19-24%	~31-36%

Note: Market rents and sales prices are for newly developed units.

/a/ Appropriate for East Oakland in the future.

/b/ Real increases in rents or sales prices (2015 dollars) over and above increases in development costs that are needed to attain project feasibility assuming 2015 costs.

/c/ Rent increases in future dollars need to include both increases to enhance project feasibility and increases to cover higher development costs in future years.

Source: Hausrath Economics Group based on feasibility pro forma analyses in Appendix A.

Feasibility Overview: Single-Family and Townhome Housing Development

Developments of single-family detached homes and townhouses are feasible today in most parts of Oakland. The prices, sizes, and quality of construction vary widely in different parts of the city. Single-family homes and townhome projects can be developed incrementally, in phases, and are much less risky than the larger, more costly building types required for multi-family housing development. Single-family detached homes and townhome developments have been occurring in the Oakland Hills, and townhome development is underway in West Oakland with more units planned. Infill, single-family homes have been developed in East Oakland, where the new development is particularly sensitive to costs so as to keep prices as low as possible. New impact fees could be phased in on single-family and townhome developments, consistent with the different markets served in different parts of the city.

The feasibility analysis of single-family and townhome development in Oakland is highlighted in Figure 2. Appendix A describes the single-family housing prototypes and presents the pro forma analyses for the base case as of mid-2015 without new impact fees. Appendix C provides background on sources and assumptions for the feasibility analysis.

Figure 2

Single-Family and Townhome Housing Development

Prototypes	Feasibility 2015	New Construction?
H-1A **Single-family Homes** Urban Infill/East Oakland Primarily	Feasible today	Has been proceeding incrementally and in phases
H-1B **Single-family Homes** North/South/Lower Hills, Rockridge	Wide variation in prices, size, and quality of construction of single-family homes	SFD and Townhome development occurring in Hill areas
H-2A **Townhomes/Row Houses** Urban Infill/West Oakland and parts of North Oakland	Single-family homes built in East Oakland very sensitive to costs	Townhome development underway in West Oakland with more planned
H-2B **Townhomes/Row Houses** North Hills/South Hills	Can be developed incrementally, in phases	Ongoing infill of individual custom homes
	Less risky than larger, multi-family development	

Note: The items in the Feasibility and New Construction columns apply to all four prototypes, except where a prototype is specifically referenced.

Feasibility Overview: Office Building Development

There has been growing demand for office space in downtown Oakland where rents have been increasing, vacancies are low, and there has been investment in upgrading existing office buildings. While rents have increased substantially, they are not yet sufficient for new office building development to be economically feasible. Uber's recent commitment to locating in downtown Oakland enhances the potential for attracting other major tenants who are accustomed to paying higher rents in San Francisco or elsewhere. For feasible projects, developers need tenant commitments at high rents for major portions of new buildings. The timing for reaching feasibility depends on tenant commitments and is difficult to predict. Office projects need to attain feasibility before new impact fees can be paid.

Key aspects of the feasibility analysis of office development in Oakland are highlighted in Figure 3. Appendix A describes the office development prototypes and presents the pro forma analyses for the base case as of mid-2015 without new impact fees.

Figure 3

Office Development

Prototypes	Feasibility 2015	New Construction?
O-1 **High-rise Office** Downtown	Rents increasing	No new office buildings since around 2000
	Vacancies low	
O-2 **Mid-rise Office** Downtown	Investment in existing buildings	Developers need tenant commitments at higher rents for Oakland
	New construction not yet feasible	
O-3 **Lower/mid-rise Office** Coliseum Area / West Oakland	Uber commitment enhances potentials	Substantial pre-leasing needed to secure financing
	Spillover increasing from San Francisco	

Note: The items in the Feasibility and New Construction columns apply to all three prototypes.

The base case feasibility analysis of high-rise (20+ floors and 400,000 to 600,000 sq. ft.) and mid-rise (4-8 floors and 150,000 to 350,000 sq. ft.) office developments in downtown Oakland indicates that rents for new office space in 2015 need to increase by about 30 to 33 percent to establish project feasibility, before new impact fees can be paid. The feasibility of lower/mid-rise office development outside the downtown (3-5 floors and 80,000 to 200,000 sq. ft.) requires larger increases in rents. The increases in rents shown in Table 2 are "real" increases in rents (in 2015 dollars) over and above increases in development costs. Rent increases to cover increases in development costs would be in addition.

Table 2
Increase in Rents Required for Feasible Office Building Development in Oakland: Base Case Mid-2015 Without New Impact Fees

	Prototype O-1 High-Rise Office Downtown	**Prototype O-2 Mid-Rise Office** Downtown	**Prototype O-3 Lower/Mid-Rise Office** Coliseum Area/ West Oakland
Market rents, mid-2015 per leasable sq. ft.			
monthly	$3.75	$3.40	$2.50
annual	$45.00	$40.80	$30.00
Rents for feasible projects, 2015 $ per leasable sq. ft.			
monthly	$5.00	$4.45	$3.80
annual	$60.00	$53.40	$45.60
Percent real increase in rent, 2015 $ /a/	**+33%**	**+31%**	**+52%**

Note: Rents are for space in newly constructed buildings.

/a/ Real increases in rents (2015 dollars), over and above increases in development costs, that are needed to attain project feasibility assuming 2015 costs. Rent increases to cover increases in development costs in the future would be in addition.

Source: Hausrath Economics Group based on pro forma feasibility analysis in Appendix A.

Feasibility Overview: Retail Development

Freestanding retail development, including grocery stores and other larger stores, can be feasibly developed in various locations in Oakland, although such development can be sensitive to costs. Recent new retail developments primarily include new grocery stores, some with small shops as part of the development: the new Safeway at College and Claremont, the Whole Foods in Adams Point, the new Lucky store on East 18th, the new FoodsCo at Foothill Square, the new Sprouts and other shops on Broadway, and the new Safeway under construction at 51st and Broadway. Beyond grocery stores and other convenience shopping, however, Oakland has had trouble attracting retail development offering comparison goods shopping opportunities (clothing/shoes/accessories, home furnishings/appliances, specialty goods, electronics, and department/general merchandise stores). A large share of Oakland residents' spending for comparison goods continues to be made outside the city (sales leakage). New impact fees for retail development could be considered within the context of policy goals for attracting more retailing for both the shopping opportunities and the sales tax base these developments can provide.

The feasibility of developing ground floor retail space in new residential and office building projects is typically supported by the feasibility of the residential and office developments. Ground floor retail is often seen as an amenity for these projects and does not typically cover development costs or at best will break even.

The feasibility analysis of retail development in Oakland is highlighted in Figure 4. Appendix A describes the retail development prototypes and presents the pro forma analyses for the base case as of mid-2015 without new impact fees.

Figure 4
Retail Development

Prototypes	Feasibility 2015	New Construction?
Ground floor Retail in New Residential and Office Buildings	Typically supported by major use; at best will break even	
R-1 **Freestanding Larger Store** Commercial Corridors / Districts	Feasible potentially	No recent construction
R-2/R-3 **Grocery store,** possibly with small shops	Feasible in many locations Freestanding retail development is sensitive to costs	New Developments: Safeway, Sprouts, Whole Foods, Lucky on East 18th, FoodsCo at Foothill Square

Feasibility Overview: Warehouse and Industrial Development

Warehouse development is feasible in Oakland. Projects have been built recently, and future development is dependent on the availability of sites for new warehouse development as there is demand for new warehouse facilities. Development for custom manufacturing and light industrial uses including industrial arts appears to be feasible although its tenants are sensitive to costs. The industrial uses are desired in parts of the West Oakland, Central Estuary, and Coliseum Specific Plan Areas for the business and job opportunities they can provide. Both warehouse and industrial developments need sites with lower land costs at industrial levels, which can be difficult to locate in Oakland. Additional impact fees could likely be collected from some industrial development recognizing the sensitivity of these uses to higher costs. Additional impact fees for warehouse development could raise concerns about the broader competitive context as Oakland already has the highest impact fees for warehouse development among other East Bay cities, due largely to the higher jobs/housing impact fee charges on warehouse development in Oakland.

The feasibility analysis of industrial development in Oakland is highlighted in Figure 5. Appendix A describes the industrial development prototypes and presents the pro forma analyses for the base case as of mid-2015 without new impact fees.

Figure 5
Warehouse and Industrial Development

Prototypes	Feasibility 2015	New Construction
I-1 **Warehouse** East Oakland Industrial / Coliseum Plan Area	Feasible	I-1: Recent development: Airport/Hegenberger Area, Army Base; some on infill sites
I-2 **Custom Manufacturing./ Light Industrial**	Feasible; could be build-to-suit; tenants are cost-sensitive	I-2 and I-3: Desired in Specific Plan areas: West Oakland, Central Estuary, Coliseum Areas; not built recently
I-3 **Low-rise Light Industrial/ R&D / Office Flex**	Probably feasible	I-1, I-2, and I-3: Availability of sites for warehouse and industrial development is limited in Oakland

Summarizing Feasibility Related to New Impact Fees

As described, the ability to pay new impact fees requires that project revenues cover development costs, provide a competitive return to attract developers and investors, and are high enough to also pay new impact fees. The simplified diagram in Figure 6 shows the relationships involved. Projects to the right of the break-even point where the lines cross at the center of the graph are feasible and have increasing ability to pay new impact fees the more revenues exceed development costs, as shown by moving further to the right side of the graph. Projects to the left of the break-even point are not yet feasible and those near the center are marginally feasible. Neither could pay new impact fees currently.

The next diagram in Figure 7 summarizes the results of the base case feasibility analysis by the placement of the major development types on the economic feasibility graph. The graph shows that despite growing demand and increasing rents, developments of the more costly, higher-density building types are not yet feasible in the case of large office buildings or are marginally feasible in the case of multi-family housing development, based on today's rents (2015). For both office and multi-family housing development, the ability to pay new impact fees requires higher rents and prices and improved feasibility over time.

Figure 6
Ability to Pay New Impact Fees Based on
Relationship between Development Cost and Revenue

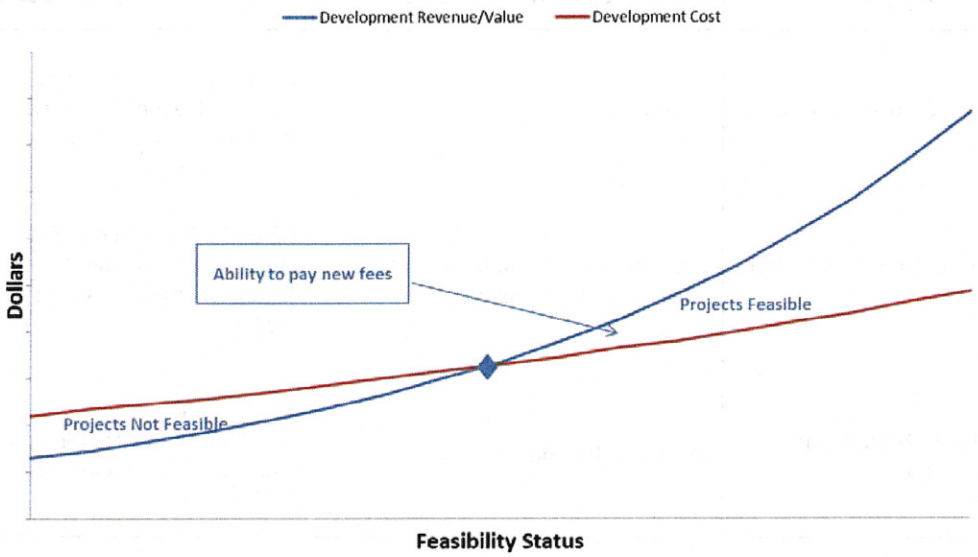
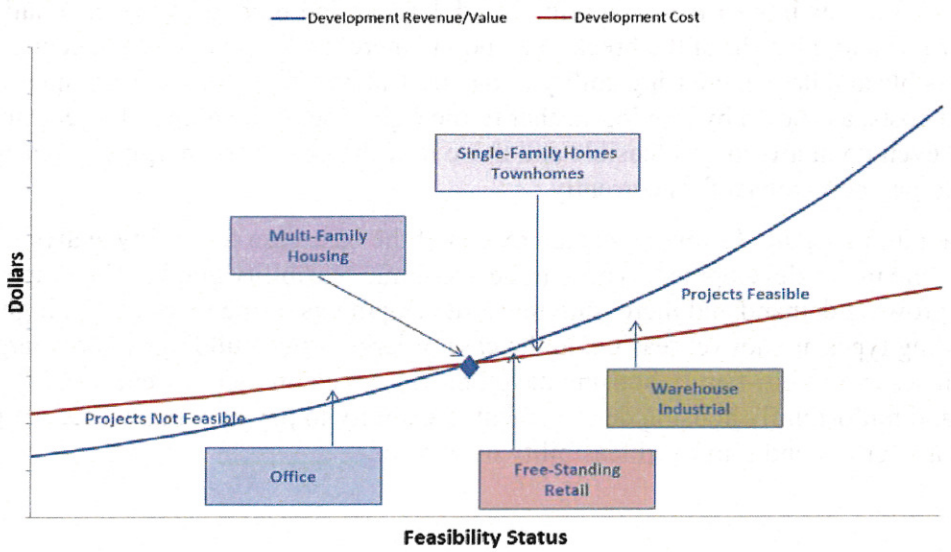
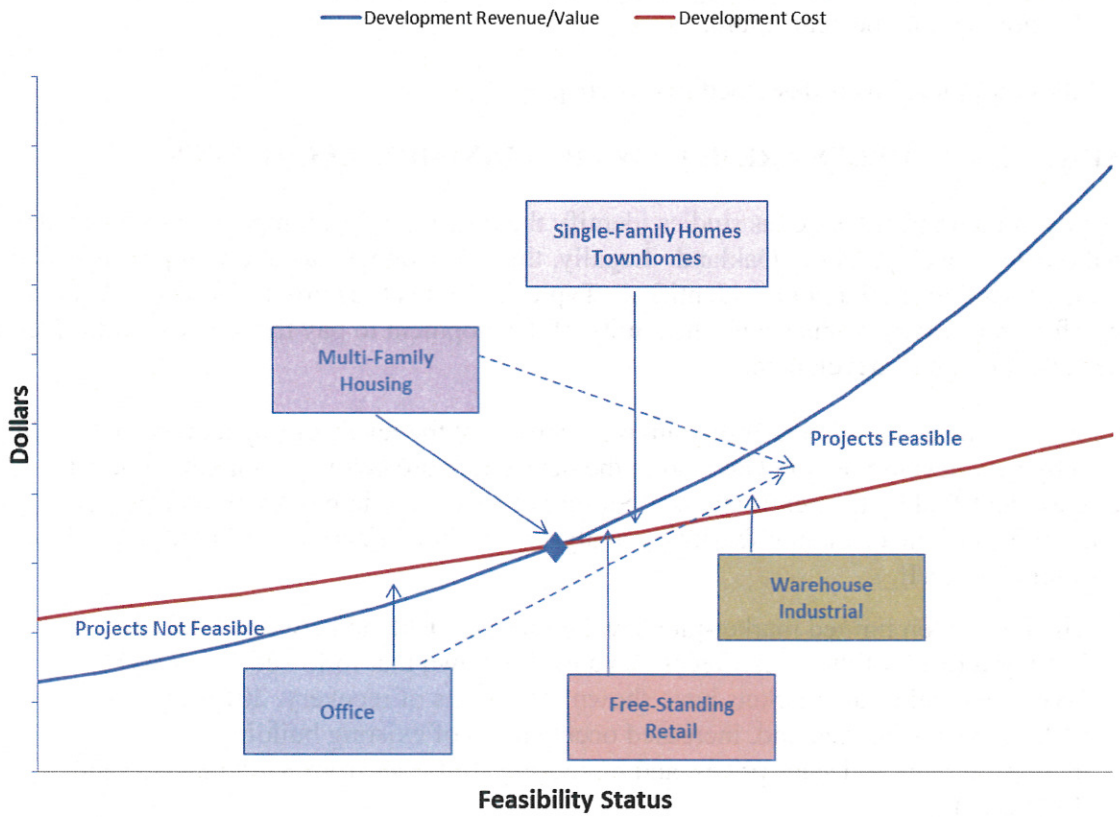


Figure 7
Relationship between Development Cost and Revenue:
Feasibility of Development in 2015



The graph in Figure 8 identifies the effects of improved feasibility on ability to pay impact fees as trends continue in the future. The dotted lines show the effect of improved feasibility of office and multi-family housing development as rents increase relative to development costs, moving those developments from the not feasible to the feasible side of the graph. Within this context, the amount of new impact fees and the timeframe over which they are phased-in can affect the timing for gaining feasibility and eventual development (i.e. the timing for shifting from the left side to the right side of the graph). The more aggressive the impact fee program in terms of the amount and timing of new fees, the higher the risk of getting ahead of the market with additional costs and adversely affecting feasibility and the timing of new development.

Figure 8
Relationship between Development Cost and Revenue:
Feasibility of Development in 2015 and Improved Feasibility as Trends Continue



Note: The dotted lines show the effect of improved feasibility of office and multi-family housing development as rents increase relative to development costs, moving those developments from the not feasibile to the feasible side of the graph.

III. IMPLICATIONS OF BASE CASE FEASIBILITY ANALYSIS FOR IMPACT FEE PROGRAM

The results of the base case economic feasibility analysis summarized in Chapter II have implications for adopting an impact fee program. This chapter identifies three such implications that include the following.

- The magnitudes of impact fees that can be absorbed by Oakland development in the near future are below the maximum legal fees identified by the impact fee nexus analyses.
- The timeframe over which new impact fees are phased-in is very important to the ability of development to absorb new fees.
- Impact fee zones are identified for collecting impact fees from residential projects based on differences among parts of the city in rents and prices of housing, in the extent and types of new housing being built and proposed, and in the feasibility of development in the near future.

Each of these implications is described in this chapter.

FEASIBLE IMPACT FEES ARE BELOW THE MAXIMUM LEGAL FEES

The results of the impact fee nexus studies identify the maximum legal impact fees that can be charged on new development in Oakland. Legally, the City Council can adopt impact fees at or below the maximum legal amounts identified. Typically, impact fee programs seek to balance the need for impact fee revenues with the ability of development to pay the fees without affecting the pace and amount of development.

The findings of the economic feasibility analysis show that the levels of impact fees that could be absorbed by new development in Oakland in the near future are below the maximum legal impact fees identified by the nexus studies. Similar results occur in most communities. The relevant findings of the economic feasibility analysis are summarized below based on analyses discussed in Chapter II.

- There has been limited market-rate development in Oakland between 2009 and 2014 as a result of the Great Recession and slowdown that followed. However, Oakland's real estate markets have shown clear signs of recovery, 2013-2016, including growing demand, increased occupancies of existing buildings, increasing rents and sales prices, and increasing spill-over from San Francisco and the West Bay.
- However, the base case analysis of economic feasibility indicates that multi-family housing and office building developments are marginally feasible or not yet feasible based on 2015 rents/prices and without new impact fees. These higher-density building types are more costly to develop, and larger projects carry

substantial risk. No large market-rate, multi-family housing projects or office buildings have yet been completed in Oakland since the Recession.[1]

- Recent high rates of increase in rents and prices in Oakland have attracted substantial developer interest, and there is a large pipeline of potential future projects. Development feasibility and ability to pay new impact fees could be much improved with increasing rents and prices over the next two to four years if trends continue and the regional economy stays strong.
- The current economic feasibility of development in Oakland and feasibility testing of impact fee options both show that the levels of impact fees that could be absorbed by new development in the near future are substantially below the maximum legal fees identified by the nexus analyses. This conclusion applies for all land uses and development types. Further, while development feasibility is improving in Oakland, it remains sensitive to costs. Thus, the level of new impact fees adopted can make a difference in the feasibility and timing of development and could affect the momentum for development that has been building.

THE TIMEFRAME OVER WHICH NEW IMPACT FEES ARE PHASED-IN IS VERY IMPORTANT

The potential for development in Oakland to absorb new impact fees would be greatly improved if the fees are phased in consistent with improving development feasibility over time. The phasing-in of new impact fees in sync with the market could both enhance potentials for new development and increase ability to pay impact fees. Phasing-in new impact fees also would allow time for the market to adjust to higher impact fees, for developers to plan future developments with knowledge of the magnitude of new impact fees, and for land owners to adjust over time to lower land values in the future. (Also see discussion of phasing-in new impact fees in Chapter II.)

IMPACT FEE ZONES MAKE SENSE FOR IMPACT FEES ON RESIDENTIAL DEVELOPMENT

There are significant differences among parts of Oakland in the rents and prices of existing housing, in the extent and types of new housing being built and proposed, and in the feasibility of market-rate development in the near future. The data collection and analysis done to assess economic feasibility of different types of development in different parts of the city provide the basis for differentiating impact fees among areas of Oakland consistent with development feasibility and ability to pay new impact fees in the near future. Thus, as an output of the economic analysis, three residential impact fee zones are identified. The new residential impact fees and their phase-in schedules are differentiated by impact fee zone as well as by type of housing development. The impact fee zones are described below.

[1] Multi-family housing development in Oakland assumes higher density development (100-200-400 units per net acre) in lower-/mid-rise (3-4 floors) and mid-rise (5-6 floors) structures built on a podium or in high-rise buildings, with most projects including 100 to 400 units (referred to as "large" projects). Office building development downtown assumes high-rise buildings (20+ floors and 400,000 to 600,000 sq. ft.) and mid-rise buildings (4-8 floors and 150,000 to 350,000 sq. ft.).

- **Impact Fee Zone 1: Greater Downtown, much of North Oakland, and the Oakland Hills**

  Impact Fee Zone 1 includes areas that capture the highest prices and rents for new residential development in Oakland, including single-family and townhome development in the Hills and Rockridge, and mid-rise and high-rise multi-family development in Greater Downtown and parts of North Oakland. With the phase-in of new impact fees to allow for enhanced feasibility consistent with market trends, higher prices and rents in this zone are anticipated to support feasible development with the ability to pay impact fees in most cases. There is a large pipeline of projects proposed for development in zone 1, and the large majority of residential development over the next 10 years is anticipated to be built in zone 1 (over 75 percent).

- **Impact Fee Zone 2: West Oakland and nearby parts of North Oakland**

  Rents and prices in impact fee zone 2 are now supporting "mid-level" development of townhomes/row houses and lower/mid-rise apartment development. Rents/prices in zone 2 are below those in zone 1, and support development that is less costly to build than that in zone 1. With the phase-in of new impact fees, prices and rents in this zone are anticipated to support feasible development with ability to pay impact fees that are somewhat lower than those for zone 1. There is development underway in zone 2 and projects proposed in the pipeline.

- **Impact Fee Zone 3: East Oakland**

  Rents and prices for housing in impact fee zone 3 are lower than in the other zones, and there has been very little market-rate housing development built or proposed in zone 3 thus far. There has been single-family home development on infill lots in the lower price/cost ranges. As housing demand increases in Oakland, prices and rents of existing housing have been going up in East Oakland, although they are still below levels needed for most new market-rate development. There are development proposals for zone 3, although most are affordable housing projects or projects including market-rate and affordable housing (such as the Coliseum and Fruitvale Transit Village projects). There is a small number of market-rate projects recently proposed in zone 3, including a project in the Jingletown/Fruitvale area, and one on International Boulevard near the Oakland/San Leandro border. The feasibility of residential development in zone 3 should improve over time with investments and improvements in the area and increasing rents and prices. The lowest impact fees are suggested for zone 3 to allow for improved feasibility of development before impact fees would be increased to higher levels.

Table 3 summarizes the characteristics of market-rate housing development in each of the residential impact fee zones. More background on the impact fee zones and housing development prototypes is presented in Appendix B.

Table 3
Characteristics of Market-Rate Development in Residential Impact Fee Zones Defined by Economic Analysis

New Housing Types by Zone	Ave. Unit Size (sq. ft.)	Ave. Mo. Rent/ Sales Price (mid-2015)	Ave. Mo. Rent/Price per SF	Feasibility 2015
IMPACT FEE ZONE 1				**Multi-Family Development**
H-4: **Mid-Rise Apartment Development**	825	$3,080	$3.73	– Marginal feasibility with 2015 rents; much improved with higher rents/prices as trends continue
H-5: **High-Rise Apartment Development**	845	$3,870	$4.58	
H-4:. **Mid-Rise Condo Development**	930	$574,000	$617	– Large pipeline of projects beginning to proceed
H-5: **High-Rise Condo Development**	940	$632,000	$672	**Single-Family/Townhome Development**
H-1B: **Single-Family Detached Homes**	3,000	$1,240,000	$413	– Feasible today / Infill and phased development
H-2B: **Townhomes / Row Houses**	2,085	$777,000	$373	
IMPACT FEE ZONE 2				**Multi-Family Development**
H-3: **Lower- and Mid-Rise Apartments**	760	$2,530	$3.33	– Smaller projects proceeding
H-2A: **Townhomes / Row Houses**	1,340	$518,000	$387	– Feasibility improves for larger projects with increasing rents as trends continue
H-1: **Single-Family Detached Homes**	1,700	$625,000	$368	**Townhome Development**
H-3: **Lower-and-Mid-Rise Condo Development /a/** Smaller projects; some lofts	1,300 – 1,700	$500,000 – 600,000	$350 - 380	– Feasible / Proceeding in phases
IMPACT FEE ZONE 3				**Multi-Family Development**
H-3: **Lower-and-Mid-Rise Apartments /b/** Potential in the future	NA	NA	NA	– Not yet feasible
H-1A: **Single-Family Detached Homes**	1,600	$405,000	$253	– Recent proposals for selected locations, potential with increasing rents
				– Feasibility to improve over time
				Single-Family Development
				– Feasible / Development sensitive to costs

Note: The data above are for recent, actual developments in each part of Oakland (projects built 2005 through 2015). The data identify market rents and prices in mid-2015. Appendix B provides additional information on existing rents and prices for housing in different parts of Oakland. See Figure 9 for map, see text for clarification of zone boundaries used in this report,

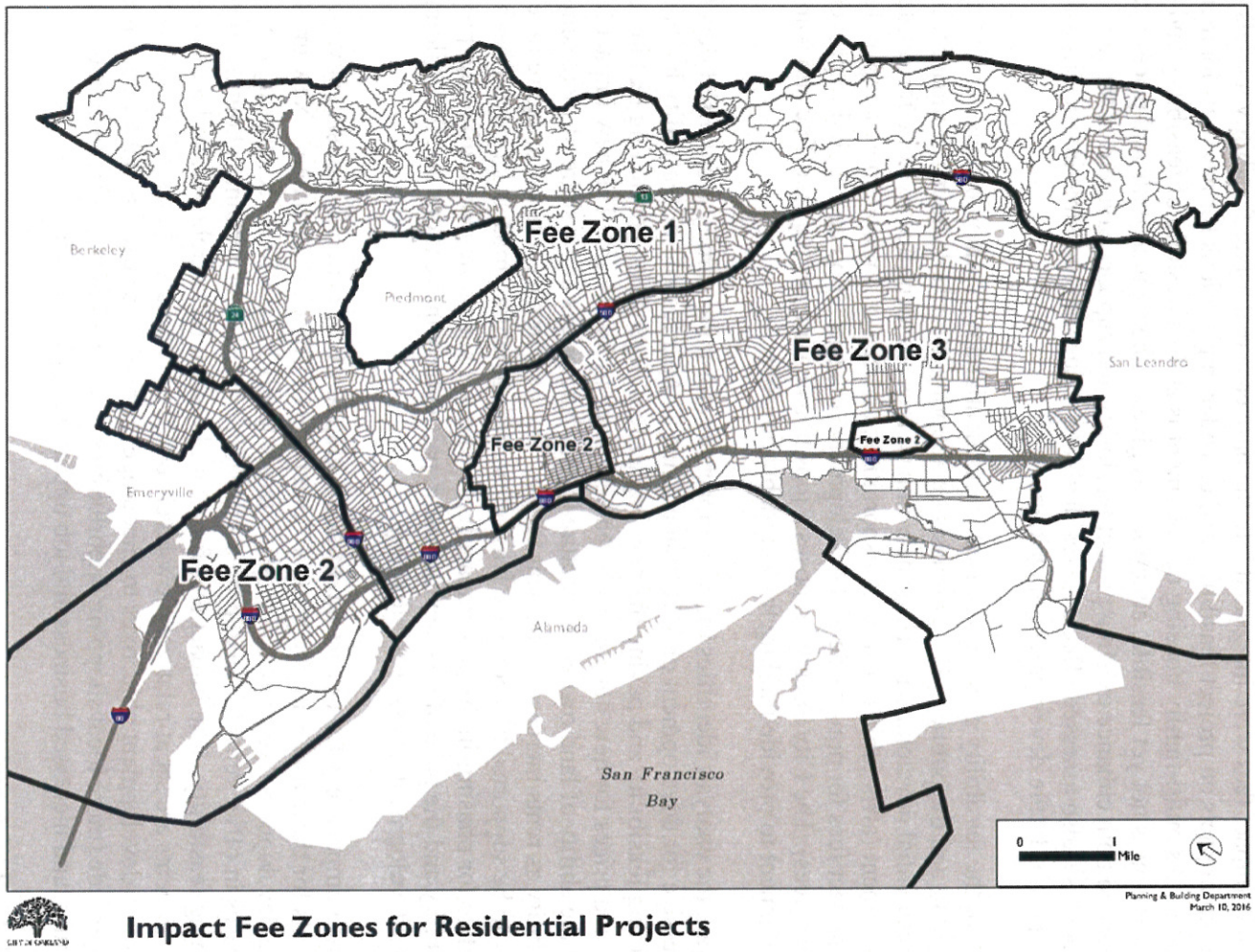
/a/ In West Oakland, there are smaller, individual projects of two to eight units and some lofts. Prices vary and are not easily generalizable. They are similar to the prices for row houses and single-family homes depending on the project.

/b/ There has been no recent construction of multi-family housing in East Oakland and current rents are below those needed for new construction. However, there are recent proposals and the potential for development in the future. When feasible, the rents for future projects are likely to be similar to or slightly below those for prototype H-3 in West Oakland.

Source: Hausrath Economics Group

A map of the impact fee zones for residential projects is presented in Figure 9. The map shows the impact fee zones identified by the City Council. There are differences in the zone boundaries in East Oakland between the economic analysis described above and the zone map in Figure 9. The economic analysis defines zone 3 as including all of the area east of the Lake including the two East Oakland areas now shown as impact fee zone 2 on the current map.

Figure 9
Impact Fee Zones for Residential Projects



IV. ECONOMIC IMPACTS OF NEW IMPACT FEES IN OAKLAND

The new impact fees were integrated into the base case real estate feasibility models to test potential impacts on project feasibility and consider implications for new development in Oakland. As multi-family housing development is at the threshold of feasibility and office development is not yet feasible, attention was given to how much rents and prices would have to increase to both enhance existing project feasibility and support payment of the new impact fees. The analysis also assessed effects on residual land values and possible implications for land sales in support of future development in Oakland.

Much of the feasibility analysis focused on residential development because of its marginal feasibility and the public policy emphasis on adopting affordable housing impact fees on market-rate residential development. Three new impact fees are identified by zone for residential development (affordable housing, transportation, and capital improvements impact fees) and two new impact fees for non-residential development (transportation and capital improvements impacts fees). The City already imposes a jobs/housing impact fee on office and warehouse development to provide funding for affordable housing.

Overall, the analysis identifies that the impact fees for multi-family **residential development** are aggressive for development projects that are just at the threshold of feasibility in Oakland. Attaining feasibility and paying the new impact fees depends on continuing real increases in rents and prices for new housing over the next three to five years. The new impact fees also will limit the ability of land owners to capture higher land prices and a share of increasing project feasibility as rents increase in the near future. The new impact fees are as aggressive as are likely to be supported by economic feasibility, with potential impacts largely offset by the schedule for phasing-in the new impact fees. There is still some risk of affecting project feasibility and the pace of new development, particularly in locations and for building types where development is less feasible today.

The new impact fees for **non-residential development** are generally consistent with the market contexts for these uses with the possible exception of office development. New impact fees for office development are proposed to reach target levels in year five, recognizing the need for large increases in office rents to make projects feasible as well as uncertainty about the timing for attaining feasibility. The impact fees for retail, hotel/motel, warehouse, and industrial developments are set at relatively low levels based on market and feasibility considerations and economic development objectives to encourage more of these uses in Oakland for the benefits they provide (more local shopping opportunities, greater sales tax and transient occupancy tax revenues, and increased business and job opportunities for residents).

NEW IMPACT FEES

The new impact fees for residential development are identified in Table 4. The table shows the target impact fee amounts and the schedule for phasing in the new impact fees, beginning September 1, 2016. The new impact fees for non-residential development are identified in Table 10 shown later in this chapter.

Table 4
Oakland Residential Impact Fees
(proposed March 10, 2016)

Impact Fee is Per Unit. Date is When Applicant Applies for Building Permit.

Zone 1

Housing Type	Impact Fee Category	9/1/16 - 6/30/17	7/1/17 - 6/30/18	7/1/18 Target Impact Fee
Multi-Family	Affordable Housing	$5,500	$11,500	$22,000
	Capital Improvements	$750	$750	$1,250
	Transportation	$750	$750	$750
	Total	**$7,000**	**$13,000**	**$24,000**
Townhome	Affordable Housing	$6,500	$12,000	$20,000
	Capital Improvements	$1,000	$1,000	$3,000
	Transportation	$1,000	$1,000	$1,000
	Total	**$8,500**	**$14,000**	**$24,000**
Single-Family	Affordable Housing	$6,000	$12,500	$23,000
	Capital Improvements	$1,500	$2,000	$4,000
	Transportation	$1,000	$1,000	$1,000
	Total	**$8,500**	**$15,500**	**$28,000**

Zone 2

Housing Type	Impact Fee Category	9/1/16 - 6/30/17	7/1/17 - 6/30/18	7/1/18 Target Impact Fee
Multi-Family	Affordable Housing	$4,550	$9,250	$17,750
	Capital Improvements	$250	$500	$750
	Transportation	$750	$750	$750
	Total	**$5,550**	**$10,500**	**$19,250**
Townhome	Affordable Housing	$2,600	$7,200	$14,250
	Capital Improvements	$1,000	$1,000	$2,000
	Transportation	$1,000	$1,000	$1,000
	Total	**$4,600**	**$9,200**	**$17,250**
Single-Family	Affordable Housing	$3,750	$9,000	$16,500
	Capital Improvements	$1,000	$1,500	$3,000
	Transportation	$1,000	$1,000	$1,000
	Total	**$5,750**	**$11,500**	**$20,500**

Zone 3

Housing Type	Impact Fee Category	9/1/16 - 6/30/17	7/1/17 - 6/30/18	7/1/18 - 6/30/19	7/1/19 - 6/30/20	7/1/20 Target Impact Fee
Multi-Family	Affordable Housing	$0	$0	$3,000	$6,000	$12,000
	Capital Improvements	$0	$0	$0	$0	$250
	Transportation	$710	$710	$750	$750	$750
	Total	**$710**	**$710**	**$3,750**	**$6,750**	**$13,000**
Townhome	Affordable Housing	$0	$0	$1,000	$4,000	$8,000
	Capital Improvements	$0	$0	$1,000	$1,000	$1,000
	Transportation	$1,000	$1,000	$1,000	$1,000	$1,000
	Total	**$1,000**	**$1,000**	**$3,000**	**$6,000**	**$10,000**
Single-Family	Affordable Housing	$0	$0	$1,000	$4,000	$8,000
	Capital Improvements	$0	$0	$1,000	$1,000	$1,000
	Transportation	$1,000	$1,000	$1,000	$1,000	$1,000
	Total	**$1,000**	**$1,000**	**$3,000**	**$6,000**	**$10,000**

IMPACT ASSESSMENT OF NEW IMPACT FEES ON RESIDENTIAL DEVELOPMENT

Impact Assessment Under Current Market and Feasibility Conditions

Typically in studies like this one, new impact fees are evaluated in comparison to the current, base case feasibility models for prototype new developments. Such comparisons are shown in Table 5 and reflect the following.

- The target impact fees would increase development costs over 2015 levels by approximately 2.5 to 6 percent depending on the housing prototype, with the highest percentage increases in costs for the impact fees on multi-family housing development.
- When the new impact fees are included in the pro forma analyses for development under the base case (2015), they affect project feasibility. Multi-family housing development would go from marginally feasible to not feasible, and development returns for most townhome and single-family home developments would drop below competitive returns for feasible projects (see lower part of Table 5). The analysis shows that most housing developments in Oakland are not yet profitable enough to absorb the new impact fees and still provide an acceptable/competitive return for development.
- In addition, the new impact fees are high compared to land values supported by development in the base case, with the impact fees representing from 15 to 70 percent of 2015 land values, depending on the development prototype. The new impact fees for multi-family housing development represent the largest percentages of land value. Such high percentages indicate that lower land values are unlikely to fully offset the new impact fees in the near future, as landowners will likely hold off selling property until project revenues increase to support higher land values in the future.
- For new multi-family housing development under the base case (2015) scenario, there also could be impacts from the initial and mid-level impact fee amounts during the phase-in period. Projects could remain marginally feasible or become not feasible as a result of the additional costs from the early phase impact fee amounts.

The analysis shows that housing revenues need to increase above base case 2015 levels if the new impact fees are to be successfully implemented without detrimental impacts on project feasibility and the production of new housing in Oakland. Further analysis was done to consider recent trends in market rents for multi-family housing in Oakland and whether they could be expected to continue to increase so as to both enhance existing project feasibility and support payment of new impact fees under the phase-in schedules.

Table 5
Summary of Feasibility Testing of Residential Impact Fees:
Base Case 2015

	Multi-Family Development		Townhome Development		Single-Family Development	
	H-4 Zone 1	H-3 Zone 2	H-2B Zone 1	H2-A Zone 2	H-1B Zone 1	H-1A Zone 3
Target Impact Fees Per Unit	$24,000	$19,250	$24,000	$17,250	$28,000	$10,000
Development Cost Per Unit (2015) /a/	$419,785	$351,502	$684,980	$445,650	$1,089,290	$362,530
New Impact Fees as a Percentage	5.7%	5.5%	3.5%	3.9%	2.6%	2.8%
Land Cost Per Unit (2015)	$32,700	$32,670	$65,340	$65,340	$220,000	$73,000
New Impact Fees as a Percentage	73%	59%	37%	26%	13%	14%
Return:						
ROC Feasibility Threshold /b/ (net value as % of development costs)	15-19%	13-16%	7.5-9.5%	7-9%	8-10%	6-8%
Base Case ROC 2015, No Fees	11%	9%	**9.5%**	**12%**	**10%**	**8%**
Base Case ROC 2015, Target Fees	5%	3%	5.5%	**8%**	7%	5%

Note: Bold indicates return (ROC) at or above threshold for feasibility. Return on cost (ROC) is calculated as net value at stabilized occupancy divided by development costs.
/a/ Excluding developer fee and return on capital.
/b/ Return on cost (ROC) feasibility thresholds reflect ROCs equivalent to 12% - 15% internal rates of return (IRR).

Source: Hausrath Economics Group

Recent and Near-Term Trends: Increases in Rents and Prices for New Housing in Oakland

Potential Trends Scenario

Based on recent trends, it is reasonable to expect that housing rents and prices will continue to increase in Oakland. A scenario of potential future rents and prices for new development over the next three to five years was prepared and provides a "future base case" for use in evaluating the effects of the new impact fees on development feasibility, assuming increasing rents and prices. It is important to note that, although it is reasonable to expect that housing rents and prices will continue to increase, there is risk that conditions may not occur as anticipated.[2]

Throughout this analysis, the housing rents and prices identified and discussed are market rents and prices at the time that housing is newly rented or sold. The rents are not average rents for all rental housing in Oakland. Citywide average rents for all housing are lower than market rents for new housing. Citywide average rents include the large majority of existing units that were rented at an earlier time and rents for units in older buildings covered by rent control rules affecting increases in rents over time.

As described earlier, market rents for apartments in Oakland have been increasing substantially, and recent percentage increases have been among the highest in the country. Over the past five years, 2010 to 2015, market rents for apartments in larger buildings (with 50 or more units) in Oakland increased at an average rate of 13.5 percent per year. Market rents nearly doubled from a low point in 2010 due to the Recession to 2015. However, some of the increase in rents made up for earlier declines in rents from 2007 to 2010.

Looking ahead five years, 2016 to 2020, Oakland rents are anticipated to continue to increase. A potential scenario shows market rents for new multi-family apartment development increasing at an average rate of 7.6 percent per year over the next five years. At this rate, market rents in 2020 would be about 44 percent higher than rents in 2015. Factors and assumptions supporting and explaining this scenario are the following:

- The regional economy stays strong.
- The rate of increase in rents slows over time as rents get higher.
- The highest rates and amounts of increase in rent are anticipated over the next three years, with lower rates of growth thereafter.
- Nearer-term rent increases reflect continuing "catch-up" with rents in San Francisco, as demand from San Francisco continues to spill-over into Oakland, due partly to lower rents in Oakland compared to San Francisco.

[2] Impact assessments of new impact fees are not typically done based on potential future revenues for development as there is uncertainty about whether the future will actually occur as anticipated. In this case, there is anticipation that recent trends in housing rents and prices will continue, and City decision-makers want to have new fees in place as feasibility improves and development occurs. However, there is risk that conditions may not occur as anticipated. This is discussed further in the next section.

- Job growth also continues to spill-over from San Francisco to Oakland, particularly into downtown Oakland.

The data in Table 6 show the annual percentage changes in market rents over the past five years. The table also shows a potential trends scenario of market rents for new apartments in lower/mid-rise and mid-rise multi-family developments in Oakland over the next five years. As described above, the percentage rates of increase slow over time as the rents get higher.

Under the trends scenario anticipated for new multi-family apartment development in Oakland, average rents for new mid-rise apartment development in the Greater Downtown, a large part of North Oakland, and other parts of impact fee zone 1 would increase from $3,080 per month in 2015 ($3.73 per month per square foot) to $4,450 per month in 2020 ($5.40 per month per square foot). Similarly, rents for new lower-/mid-rise apartment development in other areas of Oakland (West Oakland and adjacent parts of North Oakland) would increase from $2,530 per month in 2015 ($3.33 per month per square foot) to $3,680 per month in 2020 ($4.84 per square foot). Those are significant increases. This scenario can be characterized as an optimistic, potential scenario based on recent trends and information available at the time of this analysis.

Housing prices for single-family homes and townhomes also have been increasing in Oakland and are anticipated to experience further increases over the next three to five years at somewhat lower rates than apartment rents.

Real Increases in Rents Over and Above Increases in Development Costs

For this analysis, it is important to understand that to improve the feasibility of development, increases in housing rents and prices must be "real" increases over and above increases in development costs. This is important as construction costs continue to increase over time, particularly for higher-cost, multi-family housing development in the inner Bay Area. The housing construction companies consulted for this effort anticipate a five to six (5-6) percent increase in costs from 2015 to 2016 and five (5) percent per year increases for the next two to three years (2018-2019), potentially declining to four (4) percent per year thereafter. With cost increases in this range, the 44 percent increase in rents in future year (nominal) dollars over the next five years (described above and in Table 6) would generate about 16 percent real increase in rents over the next five years, averaging about three (3) percent per year in real increases in rents over and above increases in costs (see shaded part of Table 6 for real rent increases in constant 2015 dollars). It is the "real" increase in rents that will improve development feasibility and provide the ability to pay new impact fees.

Table 6
Rent Increases for Multi-Family Apartment Development in Oakland, Actual (2010-2015) and Potential Trend (2015-2020)

Increase in Monthly Rents: Trend for the Last Five Years, 2010-2015

Rents in large apartment buildings with 50+ units
Source: RealFacts LLC as reported by Paragon

	Monthly Rent	Percent Change
2010	$1,490	
2011	$1,626	+9.1%
2012	$1,854	+14.0%
2013	$2,057	+10.9%
2014	$2,388	+16.1%
2015	$2,807	+17.5%
2010-2015	+ $1,317	+88%

Potential Trend Scenario for Market Rents for New Development Next Five Years: Estimated Increase in Monthly Rents for Prototypes, 2015-2020

Rents in new multi-family apartment development prototypes
Source: Hausrath Economics Group

Mid-Rise Apartments	Lower-/Mid-Rise Apartments
Prototype H-4 Zone 1: Downtown, Jack London, Broadway Valdez, most North Oakland average unit size 825 square feet	Prototype H-3 Zone 2: West Oakland, parts of North Oakland average unit size: 760 square feet

Scenario of Monthly Rents in Future Year (nominal) Dollars

	Monthly Rent	Percent Change	Monthly Rent	Percent Change
2015	$3,080		$2,530	
2016	$3,430	+11.5%	$2,920	+11.5%
2017	$3,755	+9.5%	$3,090	+9.5%
2018	$4,020	+7.5%	$3,320	+7.5%
2019	$4,240	+5.5%	$3,500	+5.5%
2020	$4,450	+5.0%	$3,680	+5.0%
2015-2020	+$1,370	+44%	+$1,150	+45%

Scenario of Monthly Rents in Constant 2015 Dollars/a/
(real increases in rent over and above increases in development cost)

	Monthly Rent	Percent Change	Monthly Rent	Percent Change
2015	$3,080		$2,530	
2016	$3,250	+5.5%	$2,670	+5.5%
2017	$3,400	+4.5%	$2,790	+4.5%
2018	$3,485	+2.5%	$2,860	+2.5%
2019	$3,540	+1.5%	$2,900	+1.5%
2020	$3,575	+1%	$2,930	+1.0%
2015-2020	**+$495**	**+16%**	**+$400**	**+16%**

/a/ This section of the table (shaded) shows real increases in rents over and above increases in development costs.
Source: Hausrath Economics Group based on sources identified above. More explanation provided in the text.

Impact Assessment Under Future Base Case Assuming Increasing Rents/Prices and the Phasing-In of New Impact Fees

The effects of new impact fees are now evaluated using the future base case feasibility models for prototype developments that assume increasing rents and prices in the near future and account for the phasing in of new impact fees. Impact analysis was undertaken from two perspectives:

- Effects on project feasibility; and
- Effects on residual land values.

Analysis was done from each perspective separately, to provide insight into the types and magnitudes of market adjustments that could be required to incorporate the cost of new impact fees. Then, consideration is given to how such effects and market adjustments are likely to occur in combination, and to overall implications for housing development in Oakland.

The results of the impact analyses from each perspective (feasibility and land value) are summarized in the text below, followed by consideration of the overall implications. The results of the feasibility testing are summarized in Tables 7 and 8, focusing on development of the multi-family housing prototypes. Each table is laid out to evaluate project feasibility year-by-year as rents increase under the trends scenario described above. The analysis is done in constant 2015 dollars, incorporating real growth of rents over costs over time (second columns on the left). For each year, the analysis shows the results under four impact fee alternatives: no new impact fee, the initial impact fee amount, the increased impact fee amount, and the target impact fee amount. For each year and impact fee assumption, the analysis identifies the return from development, with the feasible outcomes shown with the return in **BOLD**.[3] Situations where development would be feasible after paying the new impact fees are shown with the fee amount in **BOLD** and highlighted in yellow. In these cases, a prior year is shown for paying the impact fee at time of building permit based on feasibility once the project is ready for occupancy (around one year later or longer). The table also shows the amount of residual land value from development and the effect of impact fees on that value, as discussed later in this chapter.[4,5] Lastly, the table columns on the right, show the increases in rent in future year dollars, consistent with the earlier Table 6.

[3] The target return for feasibility is assumed to be a 15 percent internal rate of return (IRR) at time of stabilized occupancy.
[4] The residual land values are calculated by removing land as a cost of development and assuming a 15 percent development return (for the developer and investors) as a cost item. All earnings over costs above the assumed return go to "residual land value."
[5] Testing the effects of new impact fees on development return and on land residual are separate calculations of the impact of new fees from each perspective. In reality, there will likely be some effects from each perspective, affecting both developers and landowners in the near term, and eventually reducing land values over the long term as described later in this chapter.

Table 7
Testing Feasibility of New Impact Fees for Mid-Rise Multi-Family Housing Development

Oakland Prototype H-4 Development: Mid-Rise, Rental Apartments

Type III construction on Type I podium

5-6 floors over podium; 1 parking space/du

Average Unit Size: 825 sf Density: 200 units/acre

Downtown/Jack London/Broadway Valdez/parts of North Oakland (fee zone 1)

Total Development Costs without Land (2015): $467,000 per unit Land Costs (2015): $32,700 per unit

Year	Rent Assumption (2015 $)			Impact Fee	Return/a/		Land/b/		Rent in Future $		
Mid-Year	Real Growth	Monthly per unit	Monthly per unit sf	Potential Fee per unit	Return: IRR Target: 15%	Prior Yr Bldg. Permit	Land Residual per unit	% Land Cost 2015	Annual Increase	Monthly Per Unit	Monthly per unit sf
2015	Base Case	$3,080	$3.73	0	9.4%		$6,075	19%	–	$3,080	$3.73
2016	+5.5%	$3,250	$3.94	0	13.8%		$26,160	80%	+11.5%	$3,430	$4.16
				$7,000	12.4%		$19,440	59%			
				$13,000	11.2%		$13,530	41%			
				$24,000	9.0%		$3,000	9%			
2017	+4.5%	$3,400	$4.09	0	**17.4%**		$43,900	134%	+9.5%	$3,755	$4.55
				$7,000	**16.0%**	*2016*	$37,180	114%			
				$13,000	14.9%		$31,350	96%			
				$24,000	12.8%		$20,820	64%			
2018	+2.5%	$3,485	$4.22	0	**19.3%**		$54,030	162%	+7.5%	$4,020	$4.87
				$7,000	**18.0%**	*2017*	$47,300	145%			
				$13,000	**16.8%**	*2017*	$41,470	127%			
				$24,000	14.8%		$30,940	95%			
2019	+1.5%	$3,540	$4.29	0	**20.5%**		$60,510	185%	+5.5%	$4,240	$5.14
				$7,000	**19.2%**	*2018*	$53,780	164%			
				$13,000	**18.1%**	*2018*	$47,950	147%			
				$24,000	**16.0%**	*2018*	$37,420	114%			
2020	+1%	$3,575	$4.33	0	**21.3%**		$64,640	198%	+5%	$4,450	$5.40
				$7,000	**20.0%**	*2019*	$58,000	177%			
				$13,000	**18.8%**	*2019*	$52,080	159%			
				$24,000	**16.8%**	*2019*	$41,550	127%			
5 years out	+16.1% real growth								+44% nominal $ growth		

NOTE: Bold font indicates projects are feasible because returns are over the feasbility threshold. Yellow shading indicates development would be feasible after paying the new impact fee.

/a/ Results identify (a) increases in return as rents increase over and above costs including land and assuming costs at levels for the Base Case 2015, and (b) decreases in return at a given rent as new fees increase.

/b/ Land residuals calculated assuming target return at 15% IRR and removing land as a cost of development.

Source: Hausrath Economics Group

Table 8
Testing Feasibility of New Impact Fees for Lower-Rise / Mid-Rise Multi-Family Housing Development

Oakland Prototype H-3 Development: Lower-/Mid-Rise Rental Apartments

Type V construction on Type I podium
3-4 floors over podium; 1 parking space/du
Average Unit Size: 760 sf Density: 100 units/acre
West Oakland/East Oakland/parts of North Oakland (fee zone 2)
Total Development Costs without Land (2015): $375,070 per unit Land Costs (2015): $32,670 per unit

Year	Rent Assumption (2015 $)			Fee	Return/a/		Land/b/		Rent in Future $		
Mid-Year	Real Growth	Monthly per unit	Monthly per unit sf	Potential Fee per unit	Return: IRR Target: 15%	Prior Yr Bldg. Permit	Land Residual per unit	% Land Cost 2015	Annual Increase	Monthly Per Unit	Monthly per unit sf
2015	Base Case	$2,530	$3.33	0	8.9%		$12,100	37%	–	$2,530	$3.33
2016	+5.5%	$2,670	$3.51	0	14.1%		$29,480	90%	+11.5%	$2,820	$3.71
				$5,550	12.6%		$24,020	73%			
				$10,500	11.2%		$19,240	59%			
				$19,250	8.8%		$10,750	33%			
2017	+4.5%	$2,790	$3.67	0	**18.3%**		$44,350	136%	+9.5%	$3,090	$4.06
				$5,550	**16.8%**	*2016*	$38,890	119%			
				$10,500	**15.5%**	*2016*	$34,100	104%			
				$19,250	13.1%		$25,620	78%			
2018	+2.5%	$2,860	$3.76	0	**20.6%**		$52,840	162%	+7.5%	$3,320	$4.37
				$5,550	**19.1%**	*2017*	$47,380	145%			
				$10,500	**17.7%**	*2017*	$42,670	130%			
				$19,250	**15.4%**	*2017*	$34,100	104%			
2019	+1.5%	$2,900	$3.82	0	**21.8%**		$57,790	177%	+5.5%	$3,500	$4.60
				$5,550	**20.3%**	*2018*	$52,330	160%			
				$10,500	**19.0%**	*2018*	$47,630	146%			
				$19,250	**16.7%**	*2018*	$39,060	119%			
2020	+1%	$2,930	$3.86	0	**22.8%**		$61,490	188%	+5%	$3,680	$4.84
				$5,550	**21.3%**	*2019*	$56,110	172%			
				$10,500	**20.0%**	*2019*	$51,320	157%			
				$19,250	**17.7%**	*2019*	$42,840	131%			
5 years out	+15.8% real growth								+45% nominal $ growth		

NOTE: Bold font indicates projects are feasible because returns are over the feasbility threshold. Yellow shading indicates development would be feasible after paying the new impact fee.

/a/ Results identify (a) increases in return as rents increase over and above costs including land and assuming costs at levels for the Base Case 2015, and (b) decreases in return at a given rent as new fees increase.

/b/ Land residuals calculated assuming target return at 15% IRR and removing land as a cost of development.

Source: Hausrath Economics Group

Effects on Housing Project Feasibility (Developer Perspective)

Future Base Case Without New Impact Fees

Development feasibility is improved under the future case assuming increasing rents and prices under recent trends. Multi-family housing development which is not feasible or marginally feasible in the 2015 base case becomes feasible in 2017 (see Tables 7 and 8). This is consistent with Oakland projects beginning to draw building permits in 2016 based on initial feasibility in 2017 with rent growth continuing for a few years thereafter. As time goes on, the return from development increases above threshold levels.

Future Base Case With New Impact Fees Phased In

When the new impact fees take effect, they will add costs and reduce the net revenue from development (assuming land costs as recently purchased or at similar levels). Under the future base case scenario, analysis indicates that returns from development would be large enough in most cases to cover the new impact fees and maintain project feasibility, although at a lower rate of return even though projects remain above feasibility thresholds. (See results in Tables 7 and 8). Thus, in most cases, development would still proceed. The combination of increasing rents/prices and phasing-in the new impact fees makes a significant difference from the earlier assessment assuming 2015 base year revenues (see Table 5 and related text).

Overall, from the perspective of economic feasibility, the new impact fees and their phase-in schedules can be characterized as workable but also aggressive, with risk of affecting feasibility for some development. The risks come from the uncertainties involved in depending on future revenues, and the aggressive characterization reflects the finding that the impact fees and phase-in schedules are at maximum levels in the early years in relation to multi-family housing project feasibility. The following provide further explanation.

- Real rent increases consistent with the future base case scenario are required to achieve and retain project feasibility when new impact fees are implemented, particularly for multi-family housing development. There is some risk associated with the uncertainty as to the increases in rents that will actually occur. If lower than estimated, there could be effects on feasibility.
- The analysis shows that under the current phase-in schedules, impact fee amounts are about one year ahead of having project revenues that are high enough to cover those impact fees and retain feasibility. In other words, the impact fees are "consistent" with revenues from occupancy about one-year after building permits. That could work in most cases, but does not allow for much uncertainty or variation. It indicates that, for multi-family housing development, the new impact fees and phase-in schedules are at about their maximum levels from a project feasibility perspective.

The finding that the new impact fees and phase-in schedules for multi-family housing are at their maximum levels from a feasibility perspective indicates that there could be some projects with marginal feasibility where the new impact fees could delay development until other changes in

revenues or costs are possible. These could include development of the more costly high-rise building types. It also is possible that the introduction of new impact fees could affect development in areas where there has been very little or no market-rate housing development yet such as in parts of impact fee zone 3 in East Oakland. The feasibility of development in these cases is sensitive to increases in costs, including the costs of the new impact fees.

The development of most single-family homes and townhomes would be able to pay the new impact fees as phased-in and retain project feasibility. As these housing prototypes are feasible in the 2015 base case, increasing housing prices will help to retain feasibility with the new impact fees. The combination of increasing prices and the phasing in of new impact fees makes a significant difference from the earlier assessment assuming 2015 base year revenues (see Table 5 and related text).

Possible Effects on Land Values and Land Prices (Land Owner Perspective)

Economists calculate residual land value as the income that can be earned from use of the land, after all other development costs are covered (including developer/investor return). From this perspective, additional costs for new impact fees reduce residual land values, assuming all other costs and revenues remain unchanged and including a competitive return for developers/investors. While land prices may adjust over time to reflect lower land values as a result of the new impact fees, land price adjustments may not be large enough or timely enough in the near future, to offset the costs of new impact fees and maintain project feasibility. Whether and when lower land values (because of new impact fees) become lower land prices in the marketplace depends on a number of other factors as well.

Land Owner Expectations are High in Oakland

Recent residential land prices in Oakland are higher than justified by land residuals calculated based on the current feasibility of development. Land prices indicate that owners are anticipating increased land values as housing rents and prices continue to increase. There have been recent land sales at high prices that have further raised expectations. In addition to increasing land residuals, recent land prices often include speculative value, particularly for desirable locations, by buyers who anticipate increased feasibility of development in the future and buyers who are interested in buying and selling the land and not developing it. In addition, land prices in Oakland also reflect sellers' objectives, such as land held by long-term owners who may hold out until they can sell at their desired price.

New Impact Fees Limit Ability of Land Owners to Share in Increasing Housing Rents and Prices in the Near Term

The pro forma testing of multi-family housing development shows how land residuals increase as housing rents and prices increase over and above development costs (see Tables 7 and 8). As an example, without new impact fees and assuming future real increases in rents for mid-rise multi-family housing development in impact fee zone 1, a low land residual in 2015 because of marginal feasibility increases to $44,000 per unit with project feasibility in 2017, to $53,000 per unit, $60,500 per unit, and then $65,000 in 2020 (see Table 7). Land cost in 2015 was around $33,000 per unit (mid-rise project at 200 units per acre) indicating the ability for land owners to

charge higher prices and share in higher revenues as a result of real increases in rents in the future. There have been recent land prices up to $60,000 per unit and higher, indicating the anticipation of higher rents in the future.

However, when the new impact fees are included in the calculations, the increases in land residuals are reduced substantially. For example, the land residual of $60,500 per unit in 2019 becomes $37,500 to cover the target impact fee amount in that year (see Table 7). With the new impact fees, the ability of land owners to charge higher land prices and share in the higher revenues from increasing rents is reduced substantially in the near term.

The pro forma analyses exemplified by the multi-family housing development cases summarized above and in Table 9 identify the following:

- The new impact fees are high relative to land values, particularly for multi-family housing development in Oakland.
- With the new impact fees, much of the increase in revenues as a result of higher rents in the near term will go to cover the new fees, limiting the growth of land values and reducing the amount that developers are willing to pay for land.
- Land owners with high expectations of increasing values, may be slow to accept lower land prices, so that land sales could slow for a period of time as owners hold out for higher prices and await further rent growth.
- The large pipeline of housing projects could mean that many developers have already purchased land, in which case more projects can proceed with less effect on development in the nearer term.
- Recent land sales could be renegotiated, particularly those contingent on no or lower impact fees than enacted. Some transactions may not occur, and projects could be delayed until landowner expectations re-set.
- Overall, land price adjustments because of the new impact fees are likely to occur over time, particularly for multi-family housing development.

The new impact fees would also have effects on land values for single-family and townhome development. The new impact fees would reduce land values and the landowner's share of increasing housing prices. The impact fees would represent a lower percentage of land values for these lower-density developments, indicating less potential for effects that could slow land sales. However, the impact fee amounts are large enough to suggest that land price adjustments will take time to occur. Effects of new impact fees on land residuals for these types of housing developments are also summarized in Table 9 (see lower rows).

Table 9
Feasibility Testing of Residential Impact Fees:
Future Case in 2018

	Multi-Family Development		Townhome Development		Single-Family Development	
	H-4 Zone 1	H-3 Zone 2	H-2B Zone 1	H2-A Zone 2	H-1B Zone 1	H-1A Zone 3
New Housing Rents/Prices 2018 in 2015 dollars	$3,485 Monthly Rent	$2,860 Monthly Rent	$849,050 Sales Price	$574,300 Sales Price	$1,354,980 Sales Price	$436,140 Sales Price
Real Growth of Rents/Prices annual rate 2015-2018	4.2%	4.2%	3%	3.5%	3%	2.5%
New Impact Fees Per Unit	$24,000	$19,750	$24,000	$17,500	$28,000	$3,000
Return – assuming developer pays impact fees and gets rest of real growth of revenue /a/						
ROC Feasibility Threshold /b/ (net value as % of development costs)	15-19%	13-16%	7.5-9.5%	7-9%	8-10%	6-8%
ROC 2018, No Impact Fees	**26%**	**23%**	**20%**	**24%**	**20%**	**16%**
ROC 2018, New Impact Fees	**19%**	**17%**	**15%**	**20%**	**17%**	**15%**
Land Residual (2018 in 2015 dollars) – assuming impact fees reduce land values and landowner gets rest of real growth of revenue /c/						
Land Residual – No Impact Fees	$54,030	$52,840	$125,700	$125,490	$313,470	$98,900
Land Residual – New Impact Fees	$30,940	$34,100	$101,900	$108,380	$285,750	$95,956
Change in Land Residual Due to Impact Fees	-43%	-35%	-19%	-14%	-9%	-3%

Note: Bold indicates return (ROC) at or above threshold for feasibility. Return on cost (ROC) is calculated as net value at stabilized occupancy divided by development costs. Future case in 2018 includes real growth of rents and prices over and above increases in development costs, reflecting 2018 in 2015 dollars.
/a/ Assumes land cost in base year increases at same rate as other development costs.
/b/ Return on cost (ROC) feasibility thresholds reflect ROCs equivalent to 12% - 15% internal rates of return (IRR).
/c/ Assumes developer return at upper end of feasibility threshold.

Source: Hausrath Economics Group

Summary of Likely Effects and Implications for Housing Development

Likely Effects and Market Adjustments

Taken together, the analyses above indicate that the new impact fees are high relative to returns from residential development that is just at the threshold of feasibility in Oakland, particularly multi-family residential development. Residential development is not so profitable that it can readily absorb the additional costs of the new impact fees.

Attaining feasibility and paying the new impact fees depends on continuing real increases in new housing rents and prices over and above increases in development costs. Based on recent trends, it is reasonable to anticipate that rents and prices will continue to increase over the next three to five years, if the regional economy stays strong. However, there is risk in adopting new impact fees based on anticipated future conditions. There is the chance that those conditions may not occur as anticipated.

With continuing real growth of new housing rents and prices and the phasing-in of impact fees, the analysis finds that the new impact fees are likely to be absorbed in most cases without adversely affecting residential development. Thus, in most cases, development would still proceed. However, the new impact fees and their phase-in are at about the maximum level possible without having adverse effects on the pace and amount of development. The feasibility analysis indicates two areas of particular concern.

- There remains risk that the impact fees could get ahead of the market and slow the pace of development. Scenarios evaluated in this analysis indicate that the new impact fees are about one year ahead of the revenue to support them during the first three to four years. This is particularly the case for multi-family housing development and for projects in impact fee zones 1 and 2 where the target impact fee amounts are reached in less than two years.
- There also is risk that land sales could slow for a period of time and affect the supply of land for new projects if landowners with expectations of increasing land values are slow to accept lower prices. The new impact fees are high relative to land values, thereby limiting the ability of landowners to capture higher land prices and a share of increasing project revenues as rents and prices increase.

Overall, developers and landowners will incorporate the additional costs for new impact fees into the real estate development feasibility equation over time through a number of types of adjustments. These are summarized as follows.

- In the near term, higher rents and prices are required to offset the costs of new impact fees and enhance project feasibility.
- Some developers may choose to undertake development at lower returns in the early years to cover the new impact fees, anticipating higher returns in the future as rents and prices continue to increase. This depends on the ability to secure the needed financing.

- In the near term, some recent land sales may have to be re-negotiated, particularly those contingent on no impact fees or lower impact fees than adopted. Some land transactions may not occur, and projects could be delayed until landowner expectations re-set.
- The large pipeline of housing projects in Oakland implies that a number of developers have already purchased land, in which case more projects can proceed with less effect on development than would otherwise be the case.
- Over time, land values will need to adjust, through lower increases in land prices than would otherwise occur without the new impact fees. There could be a period of time when land sales slow as owners hold out for higher land prices and as housing rents and prices continue to increase.

Potential to Affect Some Development

The finding that new impact fees are at their maximum levels from an economic feasibility perspective indicates that there could be some projects where the new impact fees could delay development until other changes in revenues or costs occur. The potential is greater for building types and locations where development is less feasible today. These include the following:

- Development in locations with lower rents and prices and with limited or no market-rate development thus far. In these areas, there are larger differences between obtainable rents and prices and those needed for feasible new development, and feasibility is particularly sensitive to costs including the costs of new impact fees. The establishment of impact fee zones with lower impact fees and longer phase-in periods reduces the potential for adverse impacts in these situations.
- Development of the more costly high-rise building types that can be difficult to finance and require high rents and prices to achieve feasibility before the additional costs of new impact fees. Higher costs for new impact fees could affect feasibility and slow the pace of development of these projects.

IMPACT ASSESSMENT OF NEW IMPACT FEES ON NON-RESIDENTIAL DEVELOPMENT

The new impact fees for non-residential development are shown in Table 10. The table shows the target impact fee amounts and the schedule for phasing in the new impact fees beginning September 1, 2016.

The new impact fees for non-residential development are generally consistent with the market and feasibility contexts for retail, hotel/motel, and warehouse/industrial development. New impact fees for office building development are proposed to phase-in slowly reaching target levels in year five, in recognition of the need for large increase in office rents before projects become feasible.

Table 10
Oakland Nonresidential Impact Fees

(proposed March 10, 2015)

Impact Fee is Per Square Foot. Date is When Applicant Applies for Building Permit.

Use Type	Impact Fee Category	9/1/16 – 6/30/17	7/1/17 – 6/30/18	7/1/18 – 6/30/19	7/1/19 – 6/30/20	7/1/20 Target Impact Fee
Office*	Capital Improvements	$0.00	$0.00	$1.00	$1.00	$2.00
	Transportation	$0.85	$0.85	$1.00	$1.00	$2.00
	Total	**$0.85**	**$0.85**	**$2.00**	**$2.00**	**$4.00**
Retail, Freestanding	Capital Improvements	$0.00	$0.15	$0.25	$0.25	$0.50
	Transportation	$0.75	$0.75	$0.75	$0.75	$0.75
	Total	**$0.75**	**$0.90**	**$1.00**	**$1.00**	**$1.25**
Retail, Ground Floor	Capital Improvements	$0.00	$0.00	$0.00	$0.00	$0.00
	Transportation	$0.75	$0.75	$0.75	$0.75	$0.75
	Total	**$0.75**	**$0.75**	**$0.75**	**$0.75**	**$0.75**
Industrial	Capital Improvements	$0.40	$0.40	$0.75	$0.75	$1.00
	Transportation	$0.55	$0.55	$0.55	$0.55	$0.55
	Total	**$0.95**	**$0.95**	**$1.30**	**$1.30**	**$1.55**
Warehouse*	Capital Improvements	$0.65	$0.90	$1.00	$1.00	$1.00
	Transportation	$0.35	$0.35	$0.35	$0.35	$0.35
	Total	**$1.00**	**$1.25**	**$1.35**	**$1.35**	**$1.35**
Hotel/Motel	Capital Improvements	$0.10	$0.20	$0.35	$0.35	$0.60
	Transportation	$0.65	$0.65	$0.65	$0.65	$0.65
	Total	**$0.75**	**$0.90**	**$1.00**	**$1.00**	**$1.25**
Institutional	Capital Improvements	$2.50	$2.50	$2.50	$2.50	$3.00
	Transportation	$1.20	$1.20	$2.00	$2.00	$3.00
	Total	**$3.70**	**$3.70**	**$4.50**	**$4.50**	**$6.00**

*Existing Jobs/Housing Impact Fee for affordable housing = $5.44 per square foot for July 1, 2015 – June 30, 2016.

Impact Assessment of New Impact Fees on Office Development

The base case analysis identifies that higher rents for new office space are needed to establish development feasibility before new impact fees can be paid (see earlier Figure 3, Table 2, and related text in Chapter II). Substantially higher rents are required for costly, new high-rise office development downtown, and higher rents for mid-rise office development (see Table 11). Feasibility could be reached sooner or later; the timing is difficult to predict and depends on tenant commitments at higher rent levels. Recognizing the uncertainty, the new impact fees are phased in over four years reaching the target impact fee level in year five.

Table 11
Summary of Feasibility Testing of New Impact Fees for Office Building Development

	Base Case 2015			Future with Feasible Rents /a/		
	0-1 High Rise Office Downtown	0-2 Mid-Rise Office Downtown	0-3 Lower/Mid-Rise Office Coliseum Area/ West Oakland	0-1 High Rise Office Downtown	0-2 Mid-Rise Office Downtown	0-3 Lower/Mid-Rise Office Coliseum Area/ West Oakland
Annual Rents Per Square Foot	$45.00	$40.80	$30.00	$60.00	$53.40	$45.60
Percent Real Growth in Rent, 2015 $	--	--	--	+33%	+31%	+52%
Return – assuming developer pays impact fees and gets rest of real growth of revenue						
ROC Feasibility Threshold /b/ (net value as % of development costs)	18-25%	14-18%	12-16%	18-25%	14-18%	12-16%
ROC, No Impact Fees	-18%	-24%	-44%	**28%**	**19%**	**16%**
ROC, Fees $2.00 per sq. ft.	--	--	--	**27%**	**19%**	**15%**
ROC, Target Fees $4.00 per sq. ft.	--	--	--	**27%**	**18%**	**14%**
Land Residual per sq. ft. bldg. – assumes impact fees reduce land value and land-owner gets rest of real growth of revenue /c/						
Land Residual – No Impact Fees	-$156	-$123	-$179	$31	$31	$31
Land Residual – New Impact Fees	--	--	--	$26	$27	$27
Charge in Land Residual Due to Impact Fees	--	--	--	-16%	-13%	-13%

Note: Bold indicates return (ROC) at or above threshold for feasibility. Return on cost (ROC) is calculated as net value at stabilized occupancy divided by development costs.
/a/ Future case includes real growth of rents over and above increases in development costs, in constant 2015 dollars.
/b/ Return on cost (ROC) feasibility thresholds reflect ROCs equivalent to 12% - 15% internal rates of return (IRR).
/c/ Assumes developer return at upper end of feasibility threshold.

Source: Hausrath Economics Group

The new impact fees for office development represent relatively small additional costs for already costly development (around one to two percent).[6] Once new office projects become feasible, they are likely to be able to pay the new impact fees in most cases.

From the developer perspective, once office rents reach feasible levels, the new impact fees would add cost and reduce net revenue from development. With the level of future rents required for feasibility, the return from development would likely be large enough to cover the new impact fees and maintain project feasibility in most cases. However, the level of new target impact fees is at the upper end of the amount that could be absorbed with the feasible rents tested in this analysis.

From the land owner perspective, the target impact fees would reduce land values by around 10 percent. That amount is noticeable, but could be workable, resulting in lower land prices over time.

The feasibility testing of new impact fees for office development is summarized in Table 11. The table highlights the overwhelming importance of obtaining higher rents to establish office project feasibility before new impact fees can be paid (see results for the base case on the left side of the table). Once feasibility is achieved, projects are likely to be able to pay the impact fees in most cases (see results for the future case on the right side of the table).

It is difficult to evaluate the timing and phase-in schedule for the new impact fees because of uncertainty about the timing for achieving office building feasibility.

Impact Assessment of New Impact Fees on Retail, Hotel/Motel, Warehouse, and Industrial Development

The new impact fees for retail, hotel/motel, and warehouse/industrial development are generally consistent with the market and feasibility contexts for these uses. There are feasible developments of these types in Oakland, although relatively few projects due to market difficulties attracting retail development and limited locations for cost-sensitive, industrial development. The new impact fees for these developments are set at relatively low levels based on market and feasibility considerations and City economic development objectives to encourage more of these activities in Oakland.

Retail and Hotel/Motel Development

Freestanding retail development, including grocery stores and other larger stores can be feasibly developed in various locations in Oakland, although such development can be sensitive to costs, particularly in some parts of the city. In addition, beyond grocery stores and drugstores, Oakland has had trouble attracting retail development that offers a broad range of comparison shopping opportunities (such as clothing, home furnishing, specialty goods, electronics, and department/general merchandise stores). The new impact fees for retail development are set at

[6] Office development also pays the existing Jobs/Housing Impact Fee, which is already included in the feasibility calculations. That fee is $5.44 per square foot for July 1, 2015 - June 30, 2016.

relatively low levels to further policy goals for attracting more retailing to Oakland for both the local shopping opportunities and the sales tax revenue that new retail development can provide. Feasibility testing of the new impact fees for retail development indicates that the fees could be absorbed and are unlikely to affect development in most cases (see Table 12). Concern about new impact fees for retail development in areas that have not yet been able to attract retailing because of market reasons could be addressed on a case-by-case basis.

Consideration of new impact fees for hotel/motel development in Oakland is similar to that of retail development. New impact fees are set at levels that balance the needs for impact fee revenues with economic development goals to attract more hotel/motel development to support growth of visitors, business travel, and tourism in Oakland, along with the additional spending and tax revenue they generate.

Warehouse and Industrial Development

Warehouse development is feasible in Oakland with future development dependent on the availability of larger sites for warehouse development which are limited in Oakland. Development of custom manufacturing and light industrial uses including artisan business activities appear to be feasible, although these businesses are sensitive to costs and need locations where they can operate without land use conflicts.

The new impact fees for warehouse and industrial uses are set at relatively low levels consistent with development feasibility and with economic development objectives. From a policy perspective, industrial activities provide business opportunities and good-paying job opportunities for residents, and support other business activities and port operations in Oakland. Feasibility testing of the warehouse and industrial impact fees indicates that they could be absorbed and are unlikely to affect development in most cases (see Table 12).

Warehouse development in Oakland already pays higher impact fees than warehouse development in other cities along the I-80/880 corridor, and the new impact fees add to that total.[7] Thus, from a competitive perspective, the new impact fees increase the total impact fees for warehouse development to a relatively high level.

New Impact Fees on Development of Institutional Land Uses

The impact fees for institutional development reflect the nature of these uses as generators of considerable activity in Oakland. Examples include hospitals and medical facilities, private and religious schools, colleges and universities, major recreation/entertainment/arts/cultural facilities, and other institutional facilities and land uses. Unlike the other types of development, these are not real estate market-driven land uses. Their revenues and/or funding sources rely on government, non-profit entities, foundations and other donors, fund-raising, user fees and charges, and combinations of these and other sources. The costs of new impact fees in Oakland

[7] The main difference in fees among East Bay cities occurs because warehouse development in Oakland pays the existing Jobs/Housing Impact Fee which is currently $5.44 per square foot for July 1, 2015 - June 30, 2016. A comparative review of impact fees in nearby cities is provided later in this report in Chapter VI. Impact Fee Comparisons Among Cities, and Appendix D.

Table 12
Summary of Feasibility Testing of Impact Fees for Retail, Warehouse, and Industrial Development: Base Case 2015

	Retail Development			Warehouse and Industrial Development		
	R-1 Freestanding Larger Store(s)	R-2 Grocery + Shops Roof Pkg.	R-3 Grocery + Shops Surface Pkg.	I-1 Warehouse	I-2 Custom Mfg/ Lt. Ind'l	I-3 Lt. Ind'l/R&D/ Office Flex
Target Impact Fees Per Sq. Ft.	$1.25	$1.25	$1.25	$1.35	$1.55	$1.55
Return:						
Yield on Cost (Net operating income as % of costs)						
Yield Feasibility Threshold	6.5%	6.5%	6.5%	5.5%	6.0%	6.5%
Yield 2015, No Impact Fees	**6.6%**	**7.3%**	**6.9%**	**6.0%**	**6.8%**	**6.7%**
Yield 2015, Impact Fees	**6.6%**	**7.3%**	**6.9%**	**5.9%**	**6.8%**	**6.6%**
ROC Feasibility (Net value as % of costs)						
ROC Feasibility Threshold	9-11%	9-11%	10-12%	9-11%	9-11%	10-12%
Base Case ROC 2015, No Impact Fees	**14%**	**27%**	**19%**	**27%**	**30%**	**16%**
Base Case ROC 2015, Impact Fees	**14%**	**26%**	**19%**	**25%**	**25%**	**15%**

NOTE: Bold indicates Yield on Cost (Yield) or Return on Cost (ROC) at or above threshold for feasibility.

Source: Hausrath Economics Group

will add to the funding needed for new institutional developments. The impact fees will contribute to funding improvements for accommodating the additional activities that these uses will bring.

IMPACT FEE PROGRAM ALSO PROVIDES BENEFITS FOR DEVELOPMENT

The impact fee program is also anticipated to provide benefits for development. Two types of benefits can be important.

- ***Greater certainty*** up front as to the impact fee amounts and any other requirements can be of substantial benefit to a developer in saving time and costs as opposed to the situation with little clarity and ad hoc negotiations.
- The impact fee program provides ***a mechanism for paying a development's fair share of costs*** which is beneficial compared to the situation where the largest project or the first project in an area has to pay the full cost of improvements serving the larger surrounding area while subsequent projects pay less. An example is transportation impact fees to fund improvements required to mitigate cumulative traffic impacts.

Even with these benefits, the central question still remains one of economic feasibility of development and ability to absorb the new impact fees. Once feasibility exists, however, the benefits described above support somewhat higher impact fees than would otherwise be the case. In other words, the savings of time and costs can help support payment of the new impact fees.

V. IMPACT FEE REVENUE ESTIMATES

The revenue to be generated by the new impact fees depends on the impact fee amounts and the level of development activity that takes place and is subject to the new impact fees. The total revenue to be generated over the first 10 years of the program is estimated at $87 million (2015 dollars), based on the impact fees proposed as of March 10, 2016 (see Tables 4 and 10 in Chapter IV). The actual amount of revenue could vary substantially depending on the pace of development. The revenue estimate, example uses of impact fee revenue, and assumptions for development activity are described in this chapter.

ESTIMATED REVENUE FROM NEW IMPACT FEES

Revenue Estimates by Type of Impact Fee

Of total estimated impact fee revenue of $86.6 million for the first 10 years, $66 Million (76 percent) would be generated by the Affordable Housing Impact Fee, $8.7 million (10 percent) by the Capital Improvements Impact Fee, and $11.9 million (14 percent) by the Transportation Impact Fee. The chart in Figure 10 highlights the magnitudes of the different impact fee revenues that are summarized in Table 13 on the next page. The proportion of revenue for affordable housing reflects both the amount of housing development anticipated and the higher impact fees charged per unit for affordable housing in comparison to the other impact fees.

Figure 10
Estimated 10-Year Impact Fee Revenue

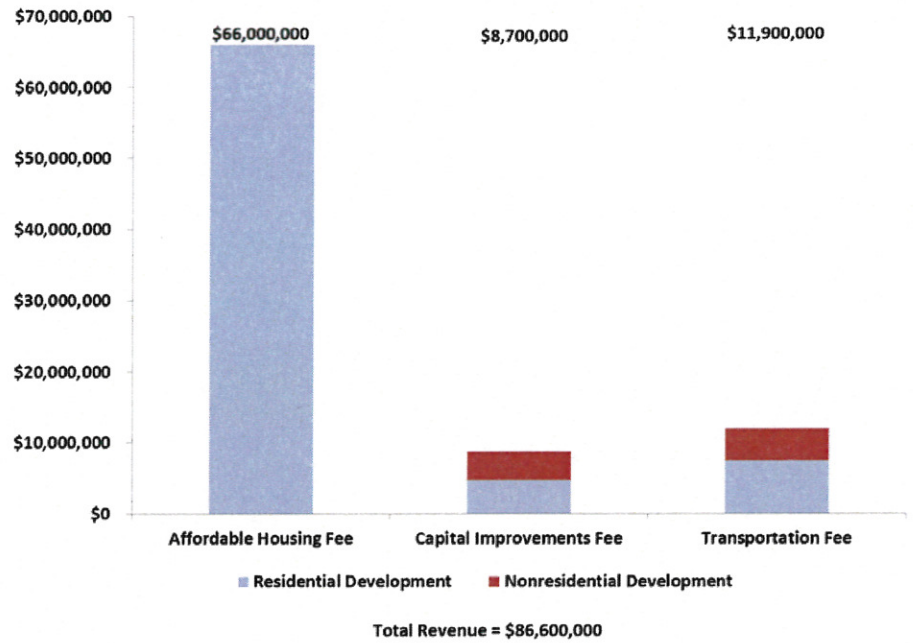


Table 13
Order-of-Magnitude Estimates of 10-Year Revenue from New Impact Fees

	Impact Fee Revenues ($ million) /a/				
	Affordable Housing /b/	**Capital Improvements**	**Transportation**	**Total**	Percentages
Residential Development					
Zone 1	$51.8	$4.0	$5.7	$61.5	
Zone 2	$9.0	$0.6	$0.8	$10.4	
Zone 3	$5.2	$0.1	$0.9	$6.2	
Subtotal	*$66.0*	*$4.7*	*$7.4*	*$78.1*	*90%*
Non-Residential Development /c/					
	–	$4.0	$4.5	$8.5	10%
10-Year Total	**$66.0**	**$8.7**	**$11.9**	**$86.6**	100%
Percentages	76%	10%	14%	100%	

Note: The impact fee revenues above represent order-of-magnitude estimates. The amounts could vary substantially depending on the pace of development and the extent of exemptions during the first 10 years of the program.

/a/ The revenue estimates are in 2015 dollars and do not include inflationary increases in impact fee amounts after the target impact fees are reached. They also do not reflect any impact fee increases or decreases that could occur as part of the review of impact fees after the first five years.

/b/ Revenue for the affordable housing impact fee is calculated based on all housing developments paying the impact fee, although developers have the option of providing affordable housing on-site, in which case the impact fee revenue would be lower than the estimate shown above.

/c/ Oakland already collects a Jobs/Housing Impact Fee for affordable housing that applies to non-residential development of office and warehouse. Assuming the same 10-year development scenario, the existing fee could generate an estimated $12.6 million of funding for affordable housing in addition to the funding from the new impact fees shown in this table. Also see the discussion in the text.

Sources: City of Oakland; Hausrath Economics Group; Urban Economics

Example Uses of Impact Fee Revenues

Example uses of impact fee revenues of the magnitudes estimated for the first 10 years are provided below for each impact fee.

- ***Affordable Housing Impact Fee Revenues*** of $66 million could fund:
  - Approximately 600 affordable units, most very low and low income units with some moderate income units[8],
  - OR a mix of very low, low, and moderate income units, with some built on-site.

  The impact fee revenue estimate for affordable housing is calculated based on all housing developments paying the impact fee. However, developers have the option of providing affordable housing on-site instead of paying the impact fee. To the extent that affordable units are built on-site, the impact fee revenue to the City's Affordable Housing Trust Fund would be lower than the estimate here.
- ***Capital Improvement Impact Fee Revenues*** of $8.7 million could fund:
  - 6.2 acres of park improvements,
  - OR 11,400 square feet of additional civic building space (library, recreation center, etc.),
  - OR a combination of these or other items.
- ***Transportation Impact Fee Revenue*** of $11.9 million could fund:
  - Complete improvements for 21 intersections,
  - OR 2.3 miles of sidewalk based on guidelines for collector streets (10 ft. width including planting strip) provided by the City's 2002 Pedestrian Master Plan,
  - OR a combination of these or other items.

Revenue from Existing Jobs/Housing Impact Fee is In Addition

The new affordable housing impact fee applies to residential development. Oakland already collects a Jobs/Housing Impact Fee for affordable housing that applies to non-residential development of office and warehouse. In addition to the impact fee revenue from new housing development described above, the existing Jobs/Housing Impact Fee would generate an estimated amount of $12.6 million from non-residential development under the same 10-year development scenario. Thus, impact fee revenue for affordable housing could total an estimated amount of $78.6 million over the next ten years based on revenues from both the new affordable housing impact fee and the existing Jobs/Housing Impact Fee.

[8] The estimate of potential affordable housing units assumes that: (a) fee revenues are deposited in the City's Affordable Housing Trust Fund; (b) fee revenues for very low and low income units can be leveraged by a factor of 3:1; and (c) the funding gaps or subsidies per affordable unit are those identified for affordable housing in the Oakland Affordable Housing Impact Fee Nexus Analysis (March 2016).

ASSUMPTIONS FOR DEVELOPMENT SCENARIO

Impact fee revenues are estimated based on a 10-year development scenario for Oakland. The scenario assumes 10,000 new housing units built and 3.6 million square feet of commercial and industrial space.

The estimates of impact fee revenue take into account development that could be exempt from paying the new impact fees. For the initial 10 years, it is estimated that approximately 6,000 housing units would not pay the new impact fees because of development agreements, vested rights, or other agreements. Of the 6,000 units, about 4,000 units are in projects with agreements that require some types of mitigations and/or community benefits, some of which are affordable housing units. In addition, it is estimated that approximately 200,000 square feet of commercial/industrial space would not pay the new impact fees because of development agreements that require some types of mitigations and/or community benefits.

The development scenario for estimating impact fee revenue is summarized in Table 14.

Table 14
Oakland 10-Year Development Scenario For Estimating Impact Fee Revenue

Residential Development

- 10,000 new units built
  - 6,000 units exempt from new impact fees
    - 4,000 units in projects with agreements that require some types of community benefits (development agreements disposition and development agreements, PUDs, transit villages)
    - 2,000 units in projects with vested rights

Non-Residential Development

- 3,600,000 square feet of new commercial and industrial space /a/
  - 200,000 square feet exempt from new impact fees, based on development agreements /a/

Note: This 10-year development scenario is for the period beginning in 2016. The scenario does not include affordable housing that could be built with impact fee funds during this time period. The estimate of development that could be exempt from new impact fees is approximate based on available information at the time of the analysis.

/a/ Excludes logistics, warehouse, and terminal development underway in the former Oakland Army Base that would not pay the new impact fees and is providing community benefits under the Development Agreements. Also does not include development on the Coliseum /JPA property which will be separately negotiated by development agreement.

Source: City of Oakland; Hausrath Economics Group

VI. IMPACT FEE COMPARISONS AMONG CITIES

An impact fee survey was completed and provides background information for relevant, selected cities including Oakland, the nearby East Bay cities of Berkeley and Emeryville, and the City of San Jose. Impact fees in other cities are not necessarily indicative of the level of impact fees feasible and appropriate in Oakland because of many factors, including differences in market context, in the types and densities of development occurring, and in the timeframes over which impact fees have been established. The cities considered here are both comparable and different depending on the criteria and land use.

The comparative review of impact fees focuses on the impact fees for multi-family housing development and on affordable housing impact fees in particular, in Oakland and the nearby cities of Berkeley and Emeryville. In addition, there are comparisons of impact fees on development of office buildings and development of other non-residential land uses.

IMPACT FEES FOR MULTI-FAMILY HOUSING DEVELOPMENT

Oakland, Berkeley, and Emeryville

Impact fees for multi-family housing development in Oakland, Berkeley, and Emeryville are summarized in Table 15 and supported by more detailed information in Appendix D, Impact Fee Survey. The impact fees shown include those charged by cities, school districts, and other special districts. For Oakland, the numbers include both existing impact fees ($15,300 per unit) and the new impact fees ($24,000 per unit target impact fees in zone 1).

Comparative review of the housing market contexts and impact fees in all three cities identify important differences and factors that explain why the impact fees in Berkeley and Emeryville are not directly comparable to those in Oakland and why they are not indicative of the level of feasible impact fees for multi-family housing development in Oakland. The differences are summarized below.

Higher Rents Provide Greater Ability to Pay Impact Fees in Berkeley than in Oakland

Berkeley has substantially higher housing rents than Oakland. Those higher rents provide greater economic feasibility for new housing development and more ability to pay impact fees. Construction costs are similar for comparable building types in both cities.

Berkeley rents for new mid-rise apartment development average $4.80 to $5.00 per square foot per month in Central Berkeley (downtown and campus areas) compared to $3.75 in downtown Oakland/Jack London/Broadway Valdez and North Oakland (impact fee zone 1). Rents for new mid-rise development in West Berkeley (south of Sacramento Street) average $4.10 to $4.20 per square foot compared to $3.30 to $3.35 per square foot in West Oakland and nearby parts of North Oakland (impact fee zone 2). The strength of demand associated with U.C. Berkeley is an important differentiating factor.

Table 15
Impact Fees for Multi-Family Residential Development in Selected Cities

Development Impact Fees and Comparable Charges,
as of September 25, 2015, with New Target Impact Fees for Oakland

	Fee Per Unit			
	Oakland	**Berkeley**	**Emeryville**	**San Jose**
	(zone 1)			
Development Impact Fee Categories				
Transportation Impact Fee	$750	-	$1,555	-
Capital Facilities Impact Fee	$12,640	$17,156	$16,236	$7,004 - $30,904
Construction Taxes	-	-	-	$9,394
Affordable Housing Impact Fee	$22,000	$20,000	$20,000	$17,000
Public Art In-Lieu	$710	-	$710	-
School Impact Fee	$3,200	-	$2,970	$3,360
Total Per Unit	**$39,300**	**$37,156**	**$41,471**	**$36,758 - $60,658**

See Table D-1 in Appendix D for more detailed information. Affordable housing impact fee for Oakland is for impact fee zone 1.

Source: Hausrath Economics Group

Rents for mid-rise apartment development in Emeryville are lower than in Berkeley and are most similar to those in Downtown Oakland (zone 1). Emeryville rents are higher than rents in adjacent parts of Oakland (West Oakland and parts of North Oakland in zone 2).

Comparable rents for multi-family housing development for all three cities are summarized in Table 16.[9]

Higher rents provide greater ability to cover construction costs, provide a competitive return for development, pay for land, and pay impact fees. The current feasibility of mid-rise apartment development in Oakland is marginal as current rents are high enough to cover development costs and current permits and existing fees, but not high enough to also provide a competitive return and cover recent land costs. Higher rents, like those in Berkeley, would support competitive returns, higher land values, and greater ability to pay new impact fees.

[9] Market analysis done for Oakland by Hausrath Economics Group was supplemented by data and analysis from The Concord Group for Berkeley and Emeryville. Additional information on rents is included in Appendix D (see Table D-1, and Figures D-1 and D-2).

Table 16
2015 Rents for New Multi-Family Housing Development in Oakland, Berkeley, and Emeryville

Mid-Rise Rental Apartments	Average Size	Average Rent per month	Rent per Sq. Ft per month
OAKLAND /a/			
– Downtown/Jack London/ Broadway Valdez/parts of North Oakland (zone 1)	825 sf	$3,080	$3.73
– West Oakland/parts of North Oakland (zone 2)	760 sf	$2,530	$3.33
BERKELEY /b/			
– Central Berkeley: Downtown and Campus Area (areas east of Sacramento St.)	760 - 825 sf	$3,720 - 3,980	$4.80 - 4.90
– West Berkeley: West of Sacramento St.	760 - 825 sf	$3,200 - 3,390	$4.10 - 4.20
EMERYVILLE /b/			
– Emeryville	760 - 825 sf	$2,740 - 2,890	$3.50 - 3.60

Note: Rents are identified for comparable mid-rise rental housing development in three Inner East Bay cities. The development prototypes are those identified for the economic feasibility analysis for Oakland's Impact Fee Study.

/a/ Hausrath Economics Group; rents in mid-2015 for mid-rise, residential development prototypes H-3 and H-4. Also see Table D-2 in Appendix D.

/b/ The Concord Group, October 2015; rents in Berkeley and Emeryville for comparable development to Oakland prototypes. See Figured D-1 and D-2 in Appendix D.

The analysis summarized in Table 17 shows how significantly higher the "residuals" (of revenues/values minus development costs, exclusive of land) become with higher rents. For example, rent at $5.00 per square foot in Central Berkeley supports a residual of nearly $130,000 per unit, much higher than the residual of $6,075 per unit with rent at $3.75 per square foot in downtown Oakland. Rents in-between those levels, at $4.50 per square foot, support a residual of $81,000.

The ability to pay impact fees increases as residuals increase. The ability to pay new impact fees is more likely when the impact fees represent less than 20 percent of the residuals. The right columns in Table 17 identify example impact fees as a percentage of the residuals at different rent levels. The large differences in residuals with higher rents occur because, once basic development costs are covered, most of the benefit from higher rents flows to higher land value and greater ability to pay new impact fees, with some share likely to enhance development return as well.

Table 17
Effect of Rent Levels on Ability to Pay New Impact Fees

Oakland Prototype H-4 Development: Mid-Rise, Rental Apartments

Type III construction on Type I podium
5-6 floors over podium; 1 pkg. space/du
Average Unit Size: 825 sf Density: 200 units/acre
Location: Downtown/Jack London/Broadway Valdez/parts of North Oakland (zone 1)

Total Development Costs without Land (2015): $467,000 per unit /a/
Land Costs (2015): $32,700 per unit

Monthly Rent (2015)			Residual to Cover both Land Value and New Impact Fees /b/	Example Impact Fee Levels as Percent of Residual /c/	
Per Unit	Per sf		Per Unit	$10,000 fee per unit	$20,000 fee per unit
		Emeryville			
$3,080	$3.73	*Oakland/zone 1*	$6,075	165%	329%
$3,300	$4.00		$32,080	31%	62%
$3,506	$4.25		$56,540	**18%**	35%
$3,713	$4.50		$81,000	**12%**	25%
$3,919	$4.75		$105,460	**10%**	**20%**
$4,125	$5.00	*Central Berkeley*	$129,760	**8%**	**15%**
$4,331	$5.25		$154,060	**7%**	**13%**
$4,538	$5.50		$178,520	**6%**	**11%**
$4,744	$5.75		$202,990	**5%**	**10%**

/a/ Total development cost in 2015 dollars, excluding land. Includes hard construction cost, existing government permits and fees, construction period financing, other soft costs, and a competitive return (19% return on cost assuming a 5% cap rate, to provide a development fee and return on capital, equivalent to 15% IRR).

/b/ Base Case pro forma analysis identifies a small residual of market value over all costs except land, based on mid-2015 rents of $3.73 per square foot per month. The residual ($6,075) is below Base Case land values of $32,700 per unit ($150 per sq. ft. land), indicating land value based on anticipated higher rents in the near future. Recent activity in Oakland's land market indicates that all or most of the residual would go to land in the near future leaving little for new impact fees until higher rents can be achieved.

/c/ Ability to pay new impact fees is more likely when the impact fees represent less than 20 percent of the residual.

Source: Hausrath Economics Group

New Developments Are Not Paying the Affordable Housing Impact Fees in Berkeley and Emeryville.

Instead of paying the new impact fees, new developments are choosing less costly options. New housing developments in Berkeley are electing to provide affordable housing onsite in exchange for substantial additional floor area over that allowable "by right," as well as additional cost

offsets (reduced parking, modified setbacks).[10] The increased density as well as other offsets are able to cover most or all of the cost of the affordable housing, making payment of the impact fee a more costly alternative. The rents in Berkeley are also high enough to justify the higher construction cost of a taller building.

By comparison, most development proposals in Oakland include the highest density economically feasible and most are not constrained by land use policies as they are in Berkeley. In addition, rents for mid-rise development are not high enough to justify construction costs for taller buildings in most Oakland locations. However, there are a few locations in Oakland where the State density bonus program might be a viable, on-site option.

In Emeryville, the impact fee of $20,000 per unit was adopted in July 2014, replacing earlier inclusionary zoning for rental housing. Due to many unrelated factors, no development projects have proceeded since the July 2014 affordable housing impact fee adoption, thus no impact fees have been collected (as of November 2015). In October 2015, Emeryville voted to increase the impact fee to $28,000 per unit in conjunction with downzoning and other land use regulation changes intended to provide incentives to encourage on-site affordable housing development at costs to the development that are below the cost of paying the impact fees.

Higher Impact Fee Burden in Oakland

If developers in Berkeley and Emeryville continue to opt for providing affordable units on-site in exchange for density bonuses and at lower costs than paying the impact fee[11], the cost to satisfy affordable housing requirements for multi-family housing development in Oakland at the target impact fee levels could be higher than the costs paid for affordable housing requirements in Berkeley and Emeryville.

Other Factors and Differences Between Oakland and Nearby Cities

Berkeley and Emeryville had inclusionary housing programs prior to adopting housing impact fees. These cities also had other impact fees that have been implemented at different times over the years. Thus, there has been time for markets to adjust to the impact fees in those cities. By comparison, Oakland is currently proposing a citywide impact fee program with multiple impact fees to be implemented concurrently in the near future. Thus phasing-in of new impact fees is important in Oakland, to allow time for market adjustments and to avoid impacts on the timing and feasibility of development as well as on the positive momentum that has been building for development in Oakland.

Development in Oakland is still perceived to be riskier than development in Berkeley and Emeryville. As a result, developers, lenders, and investors may require higher returns (higher cap rates) or set higher financial terms for Oakland development compared to the neighboring

[10] Under the California Density Bonus Program, Berkeley developers can provide affordable housing on-site (10 percent of units to very low income households) in exchange for 35 percent of additional floor area, substantially increasing the amount of development allowed. Additional cost offsets also are provided as required under the State program.

[11] Communication with Berkeley developers confirm that the provision of affordable housing on-site in exchange for a significant density bonus provides a considerably less costly option than payment of the affordable housing impact fee at current and proposed levels.

cities. Such differences reduce the ability of Oakland development to pay impact fees compared to development in neighboring cities.

San Jose

San Jose recently adopted an affordable housing impact fee on new rental housing development. The impact fee replaced the City's former inclusionary housing program, and the impact fee amount equals the in-lieu fee amount under the inclusionary program. The new impact fee is being phased-in to support the development of market-rate housing. The following summarizes San Jose's impact fee and phase-in program:

- Affordable housing impact fee adopted November 2014.
- Projects of three or more units pay the impact fee beginning 7-1-2016 (20 months after adoption). Projects are exempt if pull all building permits by 6-30-2016.
- Pipeline exemption for projects with planning permit approval by 6-30-2016 (and permit not expired) and certificate of occupancy by 1-31-2020 (three (3) years seven (7) months beyond 6-30-2016).
- No impact fees on high-rise development of at least 150 feet tall located in the Downtown Core Area that obtains a certificate of occupancy by 6-30-2021 (five (5) years beyond 6-30-2016).

Comparatively, the new affordable housing impact fee in San Jose is somewhat lower than the target affordable housing impact fee in Oakland for development in Zone 1, similar to the target affordable housing impact fee in Zone 2, and higher than the target affordable housing impact fee for Zone 3 ($17,000 per unit in San Jose compared to $22,000 per unit in Zone 1, $17,750 in Zone 2, and $12,000 in Zone 3). In terms of implementation and phase-in of the impact fee, San Jose's program provides more exemptions and a longer time period before all development would pay the new impact fee compared to Oakland's program. San Jose exempts projects in the pipeline with planning permit approvals for about 3.5 years and exempts high-rise development in the Downtown Core Area for five years.

IMPACT FEES FOR OFFICE DEVELOPMENT

Impact fees for office development in Oakland, Berkeley, Emeryville, and San Jose are summarized in Table 18 and supported by more detailed information in Appendix D. The fees include fees charged by cities, school districts, and other special districts. For Oakland the numbers include both existing impact fees ($8.98 per square foot) and the new target impact fees ($4.00 per square foot target impact fee).

Oakland, Berkeley, and Emeryville have relatively large fee amounts for the jobs/housing impact fee for affordable housing. Oakland and Emeryville also have fees on office development for transportation, capital improvements, school impacts, and public art, while Berkeley only charges a capital facilities fee in addition to the jobs/housing impact fee. San Jose takes a different approach and collects development/construction taxes to fund a variety of city

operations and facilities. Office development in San Jose does not pay a jobs/housing fee for affordable housing. Comparatively, Oakland impact fees on office development are higher than those in Berkeley and San Jose and below those in Emeryville.

Table 18
Impact Fees for Office Development in Selected Cities

Development Impact Fees and Comparable Charges,
as of September 25, 2015, with New Target Impact Fees for Oakland

	Fee Per Building Square Feet			
	Oakland	**Berkeley**	**Emeryville**	**San Jose**
Development Impact Fee Categories				
Transportation Impact Fee	$2.00	-	$3.74	-
Capital Facilities Impact Fee	$3.12	$4.71	$5.01	$0.10
Construction Taxes	-	-	-	$9.74
Jobs/Housing Linkage Fee	$5.44	$4.50	$4.00	-
Public Art In-Lieu	$1.91	-	$1.91	-
School Impact Fee	$0.51	-	$0.47	$0.54
Total Per Square Foot	**$12.98**	**$9.21**	**$15.13**	**$10.38**

See Tables D-3 and D-4 in Appendix D for more detailed information.
Source: Hausrath Economics Group

IMPACT FEES FOR OTHER NON-RESIDENTIAL DEVELOPMENT

Impact fees for other non-residential development are summarized in Table 19 (retail development), Table 20 (hotel/motel development), Table 21 (warehouse development), and Table 22 (industrial development). More detailed tables are included in Appendix D. These tables include impact fees for Oakland, Berkeley, Emeryville, San Jose, and other cities as relevant to each type of development.[12]

The following identify summary points about the impact fee surveys for these non-residential developments.

- Impact fees for ***retail development*** vary among cities. The retail impact fees in Oakland are at the low end, reflecting the difficulties Oakland has in attracting

[12] In the tables, the new impact fees in Oakland are added to the existing impact fees to provide an indication of how the total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

retail development, and the city's economic development goals of capturing more retail activities in the future.

- Total impact fees for ***hotel/motel development*** in Oakland, Berkeley, and Emeryville are relatively high due primarily to EBMUD water system capacity changes that apply in these cities. The City of Oakland's new impact fees for hotel/motel development are relatively low so that Oakland's total impact fees are below those in Berkeley and Emeryville. That is in line with economic development efforts to encourage more hotel/motel development in Oakland.

- Impact fees for ***warehouse development*** in selected cities are highest in Oakland, followed by the impact fees in Berkeley and San Jose. A notable difference among the fees in selected cities is the higher jobs/housing impact fee charged on warehouse development in Oakland.

- Among selected cities, impact fees for ***industrial development*** are lowest in San Leandro and highest in Emeryville. Impact fees for industrial development in Oakland fall in the middle among the selected cities surveyed.

Table 19
Impact Fees for Retail Development in Selected Cities

Development Impact Fees and Comparable Charges,
as of September 25, 2015, with New Target Impact Fees for Oakland

	Fee Per Building Square Feet					
	Oakland	**Berkeley**	**Emeryville**	**Alameda**	**San Leandro**	**San Jose**
Development Impact Fee Categories						
Transportation Impact Fee	$0.75	-	$4.68	$3.79	$4.15	-
Capital Facilities Impact Fee	$2.00	$5.26	$3.81	$2.44	$0.96	$0.05
Construction Taxes	-	-	-	-	-	$7.08
Jobs/Housing Linkage Fee	-	$4.50	$4.00	$2.30	-	-
Public Art In-Lieu	$1.52	-	$1.52	$1.52	-	-
School Impact Fee	$0.51	-	$0.47	$0.51	$0.54	$0.54
Total Per Square Foot	**$4.78**	**$9.76**	**$14.48**	**$10.56**	**$5.65**	**$7.67**

See Table D-5 in Appendix D for more detailed information.
Source: Hausrath Economics Group

Table 20
Impact Fees for Hotel/Motel Development in Selected Cities

Development Impact Fees and Comparable Charges,
as of September 25, 2015, with New Target Impact Fees for Oakland

	Fee Per Building Square Feet					
	Oakland	**Berkeley**	**Emeryville**	**San Leandro**	**Hayward**	**San Jose**
Development Impact Fee Categories						
Transportation Impact Fee	$0.65	-	$2.11	$2.26	-	-
Capital Facilities Impact Fee	$13.85	$20.56	$15.72	$4.80	$9.00	$1.13
Construction Taxes	-	-	-	-	-	$10.79
Jobs/Housing Linkage Fee	-	$4.50	$4.00	-	-	-
Public Art In-Lieu	$1.91	-	$1.91	-	-	-
School Impact Fee	$0.51	-	$0.47	$0.54	$0.47	$0.54
Total Per Square Foot	**$16.92**	**$25.06**	**$22.29**	**$7.61**	**$9.47**	**$12.46**

See Table D-6 in Appendix D for more detailed information.

Source: Hausrath Economics Group

Table 21
Impact Fees for Warehouse Development in Selected Cities

Development Impact Fees and Comparable Charges,
as of September 25, 2015, with New Target Impact Fees for Oakland

	Fee Per Building Square Feet						
	Oakland	**Berkeley**	**Emeryville**	**Richmond**	**San Leandro**	**Hayward**	**San Jose**
Development Impact Fee Categories							
Transportation Impact Fee	$0.35	-	-	$1.33	1.19	-	-
Capital Facilities Impact Fee	$2.56	$3.83	$2.14	$2.03	$1.92	$3.60	$0.05
Construction Taxes	-	-	-	-	-	-	$5.11
Jobs/Housing Linkage Fee	$5.44	$2.25	-	-	-	-	-
Public Art In-Lieu	$1.12	-	$1.12	-	-	-	-
School Impact Fee	$0.51	-	-	$0.54	$0.54	$0.47	$0.54
Total Per Square Foot	**$9.98**	**$6.08**	**$3.26**	**$3.90**	**$3.65**	**$4.07**	**$5.70**

See Table D-7 in Appendix D for more detailed information.

Source: Hausrath Economics Group

Table 22
Impact Fees for Industrial/Manufacturing Development in Selected Cities

Development Impact Fees and Comparable Charges,
as of September 25, 2015, with New Target Impact Fees for Oakland

	Fee Per Building Square Feet						
	Oakland	**Berkeley**	**Emeryville**	**Richmond**	**San Leandro**	**Hayward**	**San Jose**
Development Impact Fee Categories							
Transportation Impact Fee	$0.55	-	$1.83	$1.33	$1.19	-	-
Capital Facilities Impact Fee	$2.57	$3.97	$3.16	$2.14	$1.92	$3.60	$0.05
Construction Taxes	-	-	-	-	-	-	$5.11
Jobs/Housing Linkage Fee	-	$2.25	$4.00	-	-	-	-
Public Art In-Lieu	$1.26	-	$1.26	-	-	-	-
School Impact Fee	$0.51	-	$0.47	$0.54	$0.54	$0.47	$0.54
Total Per Square Foot	**$4.89**	**$6.22**	**$10.72**	**$4.01**	**$3.65**	**$4.07**	**$5.70**

See Table D-8 in Appendix D for more detailed information.

Source: Hausrath Economics Group

APPENDIX A

OAKLAND DEVELOPMENT PROTOTYPES AND BASE CASE ECONOMIC FEASIBILITY ANALYSIS

The tables in Appendix A are organized by land use type. For each land use, there is a table that describes the representative development prototypes for market-rate development being built and proposed in Oakland. Then, project financial pro forma analyses are provided for each prototype, assessing base case feasibility in 2015 without new impact fees.

Table A-1
Oakland Housing Development Prototypes

	Prototype H-1 Single Family Detached		Prototype H-2 Townhomes / Row Houses		Prototype H-3 Lower / Mid-Rise Multi-Family Apts.
Construction Type	Type V		Type V		Type V; typically over Type I podium
Height	2-story typically		3-story THs including garage		3-4 floors over podium; under 65 feet
Parking Location	attached garage		garage in unit		Podium above grade and possibly some surface pkg.
Locations in City	***A. East Oakland***	***B. No.Hills/Rockridge/ So. Hills/Lower Hills***	***A. West Oakland***	***B. North Hills/South Hills***	***West Oakland/North Oakland/ East Oakland***
Tenure	For Sale	For Sale	*For Sale*	*For Sale*	Rental
Average Unit Size	1,600 sf	3,000 sf	1,340 sf	2,085 sf	760 sf per unit
Bedroom Mix	3 BR	4 BR	90% 2BR; 10% 3 BR	10% 2BR; 75% 3 BR; 15% 4 BR	15% ST; 45% 1BR; 32% 2BR; 8% 3BR
Parking	2 cars	2-3 cars	1-2 cars	2 cars	1 space per unit
Density	avg. 15 units / acre	avg. 6 units / acre	20-40 units / acre	15-40 units / acre	60-130 units/acre
Prototype:	Individual Homes Infill Locations	Individual Homes Infill/300-unit dev. over time	150 units/ 30 per phase; 30 DU/acre	150 units/ 30 per phase; 30 DU/acre	120 units, 4 over 1, 100 DU/acre
Examples Built	Individual Homes - Infill Arcadia Park / Pulte Homes (168 homes)	Individual Homes - Infill Bellevue (Leona Quarry) (under construction)	Zephyr Gate - WO (130 THs) Magnolia Row - WO (36 THs) Louise Row - WO (12 THs)	Jade Townhomes / Monte Vista Villas (Leona Quarry) (320 units)	Temescal Place - NO Allegro - JLD 901 Jefferson - DT Uptown - DT
Approved / Proposed:	Infill - individual lots	Infill - individual lots Oak Knoll (~388 SFD homes) Sienna Hills (22 homes) Felton Acres (25 SF lots)	Wood St. - Area 4 (174 THs)	Oak Knoll (~433 THs)	3250 Hollis - WO (120 units rental) Oak Knolls - Hills (134 apts) 4700 Telegraph - NO (48 units) 4801 Shattuck - NO (44 units) 5227 Claremont - NO (33 units) 2315 Valdez - BV (234 units - rental & condo map) 459 8th - DT (50 units)

Source: Hausrath Economics Group, based on housing developments occurring and proposed in Oakland.

Table A-1
Oakland Housing Development Prototypes (continued)

	Prototype H-4 Mid-Rise Multi-Family Development		Prototype H-5 High-Rise Multi-Family Development	
Construction Type	Type III over Type I podium		Type I	
Height	5-6 floors over podium; up to 85 feet		20-28 floors	
Parking Location	podium; typically 2 levels above grade		Most above grade; some below grade possible	
Locations in City	***Downtown/Jack London/ Broadway Valdez/North Oakland***		***Downtown/Jack London/ Broadway Valdez***	
Tenure	***A. Rental Apartments***	***B. For Sale Condos***	***A. Rental Apartments***	***B. For Sale Condos***
Average Unit Size	825 sf per unit	930 sf per unit	845 sf per unit	940 sf per unit
Bedroom Mix	17% ST; 50% 1BR; 30% 2BR; 3% 2+BR	10% ST; 35% 1BR; 15% 1+BR;32% 2BR; 8% 2+/3BR	24% ST; 50% 1BR; 25% 2BR; 1% 3BR/PH	15% ST; 45% 1BR; 35% 2 BR; 5% 3 BR/PH
Parking	1 space per unit	1 space per unit	1 space per unit	1 space per unit
Density	90-200 units/acre	90-200 units/acre	350-485 units/acre	350-485 units/acre
Prototype:	180 units, 5-6 over 1+, 200 DU/acre	180 units, 5-6 over 1+, 200 DU/acre	220 units, 22 firs, 400 DU/acre	220 units, 22 firs, 400 DU/acre
Examples Built	Domain by Alta - DT (rental)	Broadway Grand - DT (115 units) 311 2nd St. - The Bond - JLD (101 units) 288 Third St - JLD (91 units) 200 Second St. - JLD (101 units) Uptown Place - DT (88 units)	100 Grand - DT (243 units, 22 floors)	The Essex - DT (270 units, 20 floors) The Ellington - JLD (134 units, 16 floors)
Approved / Proposed:	51st & Broadway - NO (126 units - rental) 3093 Broadway - BV (423 units - rental) 200 4th St. - JLD (330 units - rental)	51st & Telegraph - NO (185 units) 23rd & Valdez - BV (198 units - rental & condo map) 2315 Valdez - BV (234 units - rental & condo map) 459 23rd - DT (65 units)	1700 Webster - DT (206 Units, 22 floors) 2270 Broadway - BV (223 units, 24 floors)	1331 Harrison - DT (166 units, 27 floors) 1900 Broadway - DT (345 units, 33 floors) 1640 Broadway - DT (247 units, 38 floors)

Source: Hausrath Economics Group, based on housing developments occurring and proposed in Oakland.

Table A-2
Pro Forma Analysis of Rental Housing Development Prototypes – Base Case Mid 2015

	Rental Apartments Prototype H-3		Rental Apartments Prototype H-4		Rental Apartments Prototype H-5	
Development Characteristics						
Construction Type	**Type V on Type I podium**		**Type III on Type I podium**		**Type I**	
Height	3-4 floors over podium		5-6 floors over podium		20 - 28 floors	
Parking Location	podium; above grade		podium; above grade		largely above grade	
Parking Ratio	1 space/du		1 space/du		1 space/du	
Average Unit Size	760 sf		825 sf		845 sf	
Density	60-130 units/acre		90-200 units/acre		350 - 485 units/acre	
Location in City	West Oak, North Oak, East Oak		Downtown / JL / BV / No.Oak		Downtown / JL / BV: prime sites	
Prototype	**120 units, 4 over 1, 100 DU/acre**		**180 units, 5-6 over 1+, 200 DU/acre**		**220 units, 22 flrs, 400 DU/acre**	
Development Costs	Per SF Unit	Per Unit	Per SF Unit	Per Unit	Per SF Unit	Per Unit
Land	$42.99 75/sf	$32,670	$39.64 150/sf	$32,700	$32.25 250/sf	$27,250
Hard Construction	$328.13	$249,380	$359.36	$296,470	$417.16	$352,500
Government Permits and Fees	$34.76	$26,420	$33.67	$27,780	$36.37	$30,730
Other Soft Costs	$42.67	$32,432	$57.50	$47,435	$75.09	$63,450
Construction Financing	$13.95	$10,600	$18.67	$15,400	$29.70	$25,100
Total Development Costs (excl. devel. fee & return on capital)	**$462.50**	**$351,502**	**$508.84**	**$419,785**	**$590.57**	**$499,030**
Revenue						
Monthly Rent	$3.33	$2,530	$3.73	$3,080	$4.58	$3,870
Gross Potential Rev. (100% Occ.)	$39.95	$30,360	$44.80	$36,960	$54.96	$46,440
Annual Rental Revenue (5% Vac.)	$37.95	$28,840	$42.56	$35,110	$52.21	$44,120
(Less) Operating Expenses (30%)	($11.38)	($8,650)	($12.76)	($10,530)	($15.67)	($13,240)
Net Operating Income (NOI)	**$26.57**	**$20,190**	**$29.79**	**$24,580**	**$36.54**	**$30,880**
Measures of Return						
Yield on Cost (NOI % of costs)	**5.7%**		**5.9%**		**6.2%**	
Target Yield	≈ 6%		6 - 6.5%		≈ 6.5%	
Capitalization Rate	*5%*		*5%*		*5%*	
Estimated Market Value	$531.32	$403,800	$595.88	$491,600	$730.89	$617,600
(Less) Dev. Costs & Sales Exp.	($489.07)	($371,692)	($538.62)	($444,365)	($627.11)	($529,910)
Net Value After Costs	**$42.25**	**$32,108**	**$57.26**	**$47,235**	**$103.78**	**$87,690**
As % of Development Costs	**9%**		**11%**		**18%**	
Required % of Cost	13-16%		15-19%		19-25%	
Equivalent IRR for ROC	12-15%		12-15%		12-15%	

Source: Hausrath Economics Group

Table A-3
Pro Forma Analysis of Rental Housing Development Prototypes – Base Case with Rents for Feasible Projects (2015 $)

	Rental Apartments Prototype H-3		Rental Apartments Prototype H-4		Rental Apartments Prototype H-5	
Development Characteristics						
Construction Type	Type V on Type I podium		Type III on Type I podium		Type I	
Height	3-4 floors over podium		5-6 floors over podium		20 - 28 floors	
Parking Location	podium; above grade		podium; above grade		largely above grade	
Parking Ratio	1 space/du		1 space/du		1 space/du	
Average Unit Size	760 sf		825 sf		845 sf	
Density	60-130 units/acre		90-200 units/acre		350 - 485 units/acre	
Location in City	West Oak, North Oak, East Oak		Downtown / JL / BV / No.Oak		Downtown / JL / BV: prime sites	
Prototype	**120 units, 4 over 1, 100 DU/acre**		**180 units, 5-6 over 1+, 200 DU/acre**		**220 units, 22 flrs, 400 DU/acre**	
Development Costs	Per SF Unit	Per Unit	Per SF Unit	Per Unit	Per SF Unit	Per Unit
Land	$42.99 75/sf	$32,670	$39.64 150/sf	$32,700	$32.25 250/sf	$27,250
Hard Construction	$328.13	$249,380	$359.36	$296,470	$417.16	$352,500
Government Permits and Fees	$34.76	$26,420	$33.67	$27,780	$36.37	$30,730
Other Soft Costs	$42.67	$32,432	$57.50	$47,435	$75.09	$63,450
Construction Financing	$13.95	$10,600	$18.67	$15,400	$29.70	$25,100
Total Development Costs (excl. devel. fee & return on capital)	**$462.50**	**$351,502**	**$508.84**	**$419,785**	**$590.57**	**$499,030**
Revenue						
Monthly Rent	**$3.55**	**$2,700**	**$4.00**	**$3,300**	**$4.85**	**$4,100**
Gross Potential Rev. (100% Occ.)	$42.63	$32,400	$48.00	$39,600	$58.22	$49,200
Annual Rental Revenue (5% Vac.)	$40.50	$30,780	$45.60	$37,620	$55.31	$46,740
(Less) Operating Expenses (30%)	($12.14)	($9,230)	($13.68)	($11,290)	($16.59)	($14,020)
Net Operating Income (NOI)	**$28.36**	**$21,550**	**$31.92**	**$26,330**	**$38.72**	**$32,720**
Measures of Return						
Yield on Cost (NOI % of costs)	**6.1%**		**6.3%**		**6.6%**	
Target Yield	≈ 6%		6 - 6.5%		≈ 6.5%	
Capitalization Rate	*5%*		*5%*		*5%*	
Estimated Market Value	$567.11	$431,000	$638.30	$526,600	$774.44	$654,400
(Less) Dev. Costs & Sales Exp.	($490.86)	($373,052)	($540.75)	($446,115)	($629.29)	($531,750)
Net Value After Costs	**$76.25**	**$57,948**	**$97.55**	**$80,485**	**$145.15**	**$122,650**
As % of Development Costs	**16%**		**19%**		**25%**	
Required % of Cost	13-16%		15-19%		19-25%	
Equivalent IRR for ROC	12-15%		12-15%		12-15%	

Source: Hausrath Economics Group

Table A-4
Pro Forma Analysis of For-Sale Multi-Family Housing Development Prototypes – Base Case Mid-2015

	Prototype H-4 Mid-rise Condos			Prototype H-5 High-rise Condos		
Development Characteristics						
Construction Type	**Type III on Type I podium**			**Type I**		
Height	5-6 floors over parking			20-28 floors		
Parking Location	podium; above grade			largely above grade		
Parking Ratio	1 space/du			1 space/du		
Average Unit Size	930 sf			940 sf		
Density	90-200 units/acre			350-485 units/acre		
Location in City	Downtown / JL / BV / NO			Downtown / JL / BV		
Prototype	**180 units, 5-6 over 1+, 200 DU/acre**			**220 units, 22 flrs., 400 DU/acre**		
Development Costs	Per SF		Per Unit	Per SF		Per Unit
Land	$35.16	150/sf	$32,700	$28.99	250/sf	$27,250
Hard Construction	$375.00		$348,750	$433.40		$407,400
Government Permits and Fees	$32.05		$29,810	$34.95		$32,850
Other Soft Costs	$67.50		$62,775	$86.68		$81,480
Construction Financing	$21.51		$20,000	$29.89		$28,100
Total Development Costs (excl. devel. fee & return on capital)	**$531.22**		**$494,035**	**$613.91**		**$577,080**
Revenue						
Residential Sales Price	$617.20		$574,000	$672.34		$632,000
(Less) Sales Expenses	($21.60)		($20,090)	($23.53)		($22,120)
Sales Net of Sales Expenses	**$595.60**		**$553,910**	**$648.81**		**$609,880**
(Less) Development Costs	($531.22)		($494,035)	($613.91)		($577,080)
Net Revenue (for devel. fee & return on capital)	**$64.38**		**$59,875**	**$34.90**		**$32,800**
Measures of Return						
Net Revenue:						
As % of Devel. Costs (ROC)	**12.1%**			**5.7%**		
Required % of Costs (ROC)	17-22%			21-28%		
Equivalent IRR	12-15%			12-15%		
Prices for Feasible Projects	**$672.04**		**$625,000**	**$813.83**		**$765,000**

Source: Hausrath Economics Group

Table A-5
Pro Forma Analysis of For-Sale Single-Family Housing Development Prototypes – Base Case Mid-2015

	Prototype H-1A Single Family Detached Home		Prototype H-1B Single Family Detached Home		Prototype H-2A Townhomes/Row Houses		Prototype H-2B Townhomes/Row Houses	
Development Characteristics								
Construction Type	Type V		Type V		Type V - THs		Type V - THs	
Height	2 story typically		2 story typically		3 floors including garage		3 floors incuding garage	
Parking Location	attached garage		attached garage		garage in unit		garage in unit	
Parking Ratio	2 cars		2-3 cars		most 2 spaces/du - 1.7 sp. ave.		2 spaces/du	
Average Unit Size	1,600 sf		3,000 sf		1,340 sf		2,085 sf	
Density	avg. 15 units/acre		avg. 6 units/acre		20-40 units/acre		15-40 units/acre	
Location in City	East Oakland		No./So./Lower Hills & Rockridge		West Oakland		North Hills/ South Hills	
Prototype	**Infill Locations**		**Infill / 300-unit dev. over time**		**150 units/30 per phase; 30 DU/acre**		**150 units/30 per phase; 30 DU/acre**	
Development Costs	Per SF	Per Unit	Per SF	Per Unit	Per SF	Per Unit	Per SF	Per Unit
Land	$45.63 25/sf	$73,000	$73.33 30/sf	$220,000	$48.76 45/sf	$65,340	$31.34 45/sf	$65,340
Hard Construction	$130.00	$208,000	$220.00	$660,000	$220.00	$294,800	$232.00	$483,720
Government Permits and Fees	$30.33	$48,530	$33.40	$100,190	$24.51	$32,840	$23.55	$49,110
Other Soft Costs	$15.63	$25,000	$26.40	$79,200	$30.80	$41,270	$32.48	$67,720
Construction Financing	$5.00	$8,000	$9.97	$29,900	$8.51	$11,400	$9.16	$19,100
Total Development Costs (excl. devel. fee & return on capital)	**$226.59**	**$362,530**	**$363.10**	**$1,089,290**	**$332.58**	**$445,650**	**$328.53**	**$684,990**
Revenue								
Residential Sales Price	$253.13	$405,000	$413.33	$1,240,000	$386.57	$518,000	$372.66	$777,000
(Less) Sales Expenses	($8.86)	($14,175)	($14.47)	($43,400)	($13.53)	($18,130)	($13.04)	($27,195)
Sales Net of Sales Expenses	**$244.27**	**$390,825**	**$398.86**	**$1,196,600**	**$373.04**	**$499,870**	**$359.62**	**$749,805**
(Less) Development Costs	($226.59)	($362,530)	($363.10)	($1,089,290)	($332.58)	($445,650)	($328.53)	($684,990)
Net Revenue (for devel. fee & return on capital)	**$17.68**	**$28,295**	**$35.76**	**$107,310**	**$40.46**	**$54,220**	**$31.09**	**$64,815**
Measures of Return								
Net Revenue:								
As % of Devel. Costs (ROC)	**7.8%**		**9.9%**		**12.2%**		**9.5%**	
Required % of Costs (ROC)	6-8%		8-10%		7-9%		7.5-9.5%	
Equivalent IRR	12-15%		12-15%		12-15%		12-15%	

Source: Hausrath Economics Group

Table A-6
Oakland Office Development Prototypes

	Prototype O-1 High-rise Office Downtown	Prototype O-2 Mid-Rise Office Downtown	Prototype O-3 Lower / Mid-Rise Office Coliseum Area / West Oakland
Construction Type	Type I - steel/concrete	Type I - II	Type I or II
Height	20 + floors	4-8 floors	3-5 floors
Description	Class A space Views High quality improvements	Flexible, larger floor plates; Higher ceilings; Open floorplans Large windows / light Possible roof amenities	Flexible, larger floor plates; Higher ceilings; Open floorplans Large windows / light Possible roof amenities
Parking	1-2 levels below grade parking, or offsite garage nearby	Some parking in basement, or no on-site parking	On-site parking in garage or podium below office Could be some surface parking too
FAR	8 - 12+	3.2 - 7.0	1.0 - 2.0
Location in City	Downtown	Downtown	Coliseum Area, West Oakland
Project Sizes	300,000 - 600,000 sf	150,000 - 350,000 sf	80,000 - 200,000 sf
Examples Built	555 City Center (457,500 sf)	55 Harrison - Jack London Square (156,352 sf)	Zhone - 66th Ave & Oakport (~200,000 sf)
	Center 21 - DT (233,000 sf connected to existing bldg.)	Thomas Berkeley Square (114,000 sf)	
Approved / Proposed	City Center T 12 (600,000 sf)	City Center 5/6 Site B Option (205,800 sf)	–
	1100 Broadway (320,000 sf)		
	Kaiser Center (780,000 sf) and (587,000 sf)	Examples: South of Market / SF	Examples: Emeryville

Source: Hausrath Economics Group, based on office developments with potential for Oakland.

Table A-7
Pro Forma Analysis of Office Development Prototypes – Base Case Mid-2015

	Highrise Office Prototype O-1			Mid Rise Office Prototype O-2			Lower/Mid Rise Office Prototype O-3			Mid Rise Office/No Parking Prototype O-2 Option		
Development Characteristics												
Construction Type	Type I - steel/concrete			Type I - II			Type I or II			Type I-II		
Height	20+ floors			4 - 8 floors			3 - 5 floors			4-8 floors		
Description	Class A space			Flexible, larger floor plates			Flexible, larger floor plates			Flexible/Larger floor plates		
Parking	2 levels below grade			1 level below grade			On-site in garage or podium			No on-site parking		
Project Size	300,000 - 600,000 sf			150,000 - 350,000 sf			80,000 - 200,000 sf			150,000 - 350,000 sf		
FAR	8.0 - 10.0+			3.5 - 7.0			1.0 - 2.0			3.5 - 7.0		
Location in City	Downtown			Downtown / Urban Model			Coliseum Area, West Oakland			Downtown / Urban Model		
Prototype	**450,000 sf; 24 flrs;10 FAR;+2 flrs pkg.**			**210,000 sf; 6 flrs.;5.25 FAR; +1 flr pkg**			**140,000 sf; 4 flrs; 1.8 FAR**			**210,000 sf: 6 flrs; 5.25 FAR**		
		450,000			210,000			140,000			210,000	
Development Costs	Per GSF		Per LSF	Per GSF		Per LSF	Per GSF		Per LSF	Per GSF		Per LSF
Land	$15	180/sf	$18	$23	120/sf	$28	$28	50/sf	$31	$23	120/sf	$24
Hard Construction	$220		$259	$190		$232	$170		$189	$190		$200
Tenant Improvements	$55		$65	$45		$55	$45		$50	$52		$55
Parking	$39		$46	$32		$39	$50		$56	$0		$0
Government Permits and Fees	$20		$24	$20		$24	$15		$17	$20		$21
Other Soft Costs	$54		$64	$47		$57	$45		$50	$42		$44
Construction Financing	$23		$28	$15		$18	$13		$15	$12		$13
Total Development Costs (excl. devel. fee & return on capital)	**$426**		**$502**	**$372**		**$453**	**$366**		**$407**	**$339**		**$357**
Revenue												
Office Monthly Rent	$3.19		$3.75	$2.79		$3.40	$2.25		$2.50	$3.23		$3.40
Gross Potential Rev. (100% Occ.)	$38.25		$45.00	$33.46		$40.80	$27.00		$30.00	$38.76		$40.80
Annual Rental Revenue (10% Vac.)	$34.43		$40.50	$30.11		$36.72	$24.30		$27.00	$34.88		$36.72
(Less) Operating Expenses	($15.00)		($17.65)	($14.40)		($17.56)	($13.80)		($15.33)	($14.40)		($15.16)
Parking Net Revenue	$0.72		$0.84	$0.64		$0.78	$1.40		$1.56	$0.00		$0.00
Net Operating Income (NOI)	**$20.14**		**$23.70**	**$16.35**		**$19.94**	**$11.90**		**$13.23**	**$20.48**		**$21.56**
Measures of Return												
Yield on Cost (NOI % of costs)		**4.7%**			**4.4%**			**3.2%**			**6.0%**	
Target Yield		≈ 7.5%			6.8 - 7 %			6.5 - 6.7 %			6.5 - 6.6 %	
Capitalization Rate		*5.5%*			*5.5%*			*5.5%*			*5.5%*	
Estimated Market Value	$366		$431	$297		$363	$216		$240	$372		$392
(Less) Dev. Costs & Sales Exp.	($445)		($523)	($387)		($471)	($377)		($419)	($358)		($377)
Net Value After Costs	**($79)**		**($92)**	**($89)**		**($109)**	**($161)**		**($179)**	**$15**		**$16**
As % of Development Costs		**-18%**			**-24%**			**-44%**			**4%**	
Required % of Cost		18-25%			14-18%			12-16%			7-11%	

Source: Hausrath Economics Group

Table A-8

Pro Forma Analysis of Office Development Prototypes – Base Case with Rents for Feasible Projects (2015 $)

	Highrise Office Prototype O-1			Mid Rise Office Prototype O-2			Lower/Mid Rise Office Prototype O-3			Mid Rise Office/No Parking Prototype O-2 Option		
Development Characteristics												
Construction Type	Type I - steel/concrete			Type I - II			Type I or II			Type I-II		
Height	20+ floors			4 - 8 floors			3 - 5 floors			4-8 floors		
Description	Class A space			Flexible, larger floor plates			Flexible, larger floor plates			FlexiblelLarger floor plates		
Parking	2 levels below grade			1 level below grade			On-site in garage or podium			No on-site parking		
Project Size	300,000 - 600,000 sf			150,000 - 350,000 sf			80,000 - 200,000 sf			150,000 - 350,000 sf		
FAR	8.0 - 10.0+			3.5 - 7.0			1.0 - 2.0			3.5 - 7.0		
Location in City	Downtown			Downtown / Urban Model			Coliseum Area, West Oakland			Downtown / Urban Model		
Prototype	**450,000 sf; 24 flrs;10 FAR;+2 flrs pkg.**			**210,000 sf; 6 flrs.;5.25 FAR; +1 flr pkg**			**140,000 sf; 4 flrs; 1.8 FAR**			**210,000 sf: 6 flrs; 5.25 FAR**		
Development Costs	Per GSF		Per LSF	Per GSF		Per LSF	Per GSF		Per LSF	Per GSF		Per LSF
Land	$15	180/sf	$18	$23	120/sf	$28	$28	50/sf	$31	$23	120/sf	$24
Hard Construction	$220		$259	$190		$232	$170		$189	$190		$200
Tenant Improvements	$55		$65	$45		$55	$45		$50	$52		$55
Parking	$39		$46	$32		$39	$50		$56	$0		$0
Government Permits and Fees	$20		$24	$20		$24	$15		$17	$20		$21
Other Soft Costs	$54		$64	$47		$57	$45		$50	$42		$44
Construction Financing	$23		$28	$15		$18	$13		$15	$12		$13
Total Development Costs (excl. devel. fee & return on capital)	**$426**		**$502**	**$372**		**$453**	**$366**		**$407**	**$339**		**$357**
Revenue												
Office Monthly Rent	**$4.25**		**$5.00**	**$3.65**		**$4.45**	**$3.42**		**$3.80**	**$3.42**		**$3.60**
Gross Potential Rev. (100% Occ.)	$51.00		$60.00	$43.79		$53.40	$41.04		$45.60	$41.04		$43.20
Annual Rental Revenue (10% Vac.)	$45.90		$54.00	$39.41		$48.06	$36.94		$41.04	$36.94		$38.88
(Less) Operating Expenses	($15.00)		($17.65)	($14.40)		($17.56)	($13.80)		($15.33)	($14.40)		($15.16)
Parking Net Revenue	$0.72		$0.84	$0.64		$0.78	$1.40		$1.56	$0.00		$0.00
Net Operating Income (NOI)	**$31.62**		**$37.20**	**$25.65**		**$31.28**	**$24.54**		**$27.27**	**$22.54**		**$23.72**
Measures of Return												
Yield on Cost (NOI % of costs)		**7.4%**			**6.9%**			**6.7%**			**6.6%**	
Target Yield		≈ 7.5%			6.8 - 7 %			6.5 - 6.7 %			6.5 - 6.6 %	
Capitalization Rate		*5.5%*			*5.5%*			*5.5%*			*5.5%*	
Estimated Market Value	$575		$676	$466		$569	$446		$496	$410		$431
(Less) Dev. Costs & Sales Exp.	($455)		($536)	($395)		($482)	($389)		($432)	($360)		($378)
Net Value After Costs	**$120**		**$141**	**$71**		**$87**	**$58**		**$64**	**$50**		**$53**
As % of Development Costs		**28%**			**19%**			**16%**			**15%**	
Required % of Cost		18-25%			14-18%			12-16%			7-11%	

Source: Hausrath Economics Group

Table A-9
Oakland Retail Development Prototypes

	Prototype R-1 Freestanding larger store(s); surface parking	**Prototype R-2 Grocery Store; some small shops possibly roof parking**	**Prototype R-3 Grocery Store; some small shops possibly surface parking**
Construction Type	Type V or III	Type II or I	Type V or III
Height	1 level; 18 ft. height	1 level; 18 ft. height	1 level; 18 ft. height
Description	Freestanding larger store; some small shops possible in addition	Freestanding grocery store; some small shops possible in addition	Freestanding grocery store; some small shops possible in addition
Parking	surface/on-site parking; 3-4 per 1,000 sf	roof parking; 3-4 per 1,000 sf	surface/on-site parking; 3-4 per 1,000 sf
FAR	0.3 - 0.4	0.4 - 0.8	0.3 - 0.4
Location in City	Commercial Corridors / Districts	Commercial Corridors / Districts; Downtown; North Oak; Hills	Commercial Corridors / Districts
Project Sizes	30,000 - 60,000 sf	35,000 - 65,000 sf	35,000 - 65,000 sf
Examples Built	Best Buy (45,000 sf)	Whole Foods (56,000 sf)	
	Lexus Dealership (22,000 sf building with outdoor auto sales and lower FAR of ~0.15)	Safeway - College Avenue (45,000 sf grocery + 9,500 sf sm. shops)	
Approved/Proposed/ Under Construction		Shops at Broadway (Sprouts + smaller stores, 36,000 sf)	
		Safeway - Redwood Road (48,874 sf new grocery)	

Note: The focus of the retail prototypes is on freestanding larger stores or smaller shopping centers. The feasibility of other types of retail either depends on the feasibility of the other uses in a larger housing or office project, or would need to be addressed on a case-by-case basis, as noted below:

1. Overall project feasibility for office and residential developments with ground floor retail is determined by the office and residential space. Typically, the ground floor retail is neutral or adds more costs than revenues. Often, it is seen as an amenity that can enhance the attractiveness of the larger project.

2. The feasibility of larger retail district or shopping center development with a mix of larger and smaller stores cannot be generalized into a prototype and needs to be assessed on a case-by-case basis for the district or center overall. In urban areas like Oakland, public sector participation is often required to help launch and support larger-scale destination retail development. Land prices are high, site control can be difficult, structured parking is costly, significant new development is required to create a critical mass of retailing, and area-wide plazas and streetscape improvements are desired.

Source: Hausrath Economics Group, based on retail developments occurring in Oakland.

Table A-10
Pro Forma Analysis of Retail Development Prototypes – Base Case Mid-2015

	Prototype R-1 Freestanding Larger Store/Surface Pkg			Prototype R-2 Grocery Store, Sm.Shops / Roof Parking			Prototype R-3 Grocery Store, Sm. Shops / Surface Pkg		
Development Characteristics									
Construction Type	Type V or III			Type II or I			Type V or III		
Height	1 level; 18 ft. height			1 level; 18 ft. height			1 level; 18 ft. height		
Description	Freestanding larger store; some small shops possible in addition			Freestanding grocery store; some small shops possible in addition			Freestanding grocery store; some small shops possible in addition		
Parking	Surface/on-site; 3-4 sp per 1k sf			Roof Parking; 3-4 sp per 1k sf			Surface/on-site; 3-4 sp per 1k sf		
Project Sizes	30,000 - 60,000 sf			35,000 - 65,000 sf			35,000 - 65,000 sf		
FAR	0.3 - 0.4			0.4 - 0.8			0.3 - 0.4		
Location in City	Commercial Corridors/Districts			Commercial Corridors/Districts; Downtown, North Oakland, Hills			Commercial Corridors/Districts		
Prototype	**45,000 sf; pkg 4 sp/1k sf; 0.35 FAR**			**55,000 sf; pkg 3.3 sp/1k sf; 0.60 FAR**			**45,000 sf; pkg 4 sp/1k sf; 0.32 FAR**		
Development Costs	Per GSF		Per LSF	Per GSF		Per LSF	Per GSF		Per LSF
Land	$100.00	35/sf	$100.00	$133.00	80/sf	$138.54	$139.00	45sf	$144.79
Hard Construction (shell)	$100.00		$100.00	$160.00		$166.67	$100.00		$104.17
Tenant Improvements	$40.00		$40.00	$65.00		$67.71	$59.00		$61.46
Parking /loading /paving/on-sites/off-sites	$85.00		$85.00	$110.00		$114.58	$90.00		$93.75
Government Permits and Fees	$12.00		$12.00	$16.50		$17.19	$13.00		$13.54
Other Soft Costs	$43.00		$43.00	$60.00		$62.50	$47.00		$48.96
Construction Financing	$8.60		$8.60	$14.61		$15.22	$12.02		$12.52
Total Development Costs (excl. devel. fee & return on capital)	**$388.60**		**$388.60**	**$559.11**		**$582.40**	**$460.02**		**$479.19**
Revenue									
Monthly Rent (NNN)	$2.25		$2.25	$3.60		$3.75	$2.78		$2.90
Gross Potential Rev. (100% Occ.)	$27.00		$27.00	$43.20		$45.00	$33.41		$34.80
Annual Rental Revenue (0% Vac.)	$27.00		$27.00	$43.20		$45.00	$33.41		$34.80
(Less) Replacement Reserve/Exp. (5%)	($1.35)		($1.35)	($2.16)		($2.25)	($1.67)		($1.74)
Net Operating Income (NOI)	**$25.65**		**$25.65**	**$41.04**		**$42.75**	**$31.74**		**$33.06**
Measures of Return									
Yield on Cost (NOI % of costs)		**6.6%**			**7.3%**			**6.9%**	
Target Yield		≈ 6.5%			≈ 6.5%			≈ 6.5%	
Capitalization Rate		*5.5%*			*5.5%*			*5.5%*	
Estimated Market Value	$466		$466	$746		$777	$577		$601
(Less) Dev. Costs & Sales Exp.	($412)		($412)	($596)		($621)	($489)		($509)
Net Value After Costs	**$54**		**$54**	**$150**		**$156**	**$88**		**$92**
As % of Development Costs		**14%**			**27%**			**19%**	
Required % of Cost		8- 10%			8 - 10%			8 - 10%	

Source: Hausrath Economics Group

Table A-11
Oakland Industrial Development Prototypes

	Prototype I-1 Warehouse / Logistics & Distribution	Prototype I-2 Custom Light Industrial / Manufacturing	Prototype I-3 Low-rise Light Ind'l / R & D / Office Flex
Construction Type	tilt-up	tilt-up	tilt-up or pre-fab
Height	1 story	1-2 stories / 1 story + mezzanine	1-2 stories
Description	Large floorplate Clear height minimums of 18 ft On-site loading area Dock and/or graded door Minimal build-out	May require clear heights May require storage / staging on site May include some office space May require on-site loading area and dock or graded doors	Space adaptable for production, studios, office, and/or R&D Limited build-out May require storage/staging on-site May require loading areas
Parking	Surface; on-site parking	Surface; on-site parking	Surface; on-site parking
FAR	0.4 - 0.5	0.45 - 0.6	0.4 - 0.8
Location in City	East Oakland Ind'l / Coliseum Plan Area D	Parts of Coliseum / West Oakland / Central Estuary Plan areas	Parts of Coliseum / West Oakland / Central Estuary Plan areas
Project Sizes	150,000 - 375,000 sf	20,000 - 200,000 sf smaller and larger facilities	10,000 - 125,000 sf
Examples Built	Goodman Logistics Center 8350 Pardee Dr. (377,725 sf) Horizon Beverages Hdqtrs & Distribution Center Pardee Dr. (155,000 sf)	Rainin Instruments manufacturing and office facility 7500 Edgewater (~200,000 sf)	–
Approved/Proposed	–	–	–

Source: Hausrath Economics Group, based on industrial developments occurring in Oakland and/or considered for the future

Table A-12
Pro Forma Analysis of Industrial Development Prototypes – Base Case Mid-2015

	Prototype I-1 Warehouse			Prototype I-2 Custom Light Industrial/ Mfg.			Prototype I-3 Low-rise Light Ind'l/R&D/Office flex		
Development Characteristics									
Construction Type	Tilt-up			Tilt-up			Tilt-up or Pre-fab		
Height	1 level			1 level + mezzanine			1 - 2 levels		
Description	30' clear hts.; on-site loading; large floor plate			Possible clear hts. and on-site loading; some internal office space; likely bld.-to-suit			Flexible for production, studios, office, &/or R&D; possible on-site loading		
Parking	Surface: on-site parking			Surface; on-site parking			Surface; on-site parking		
Project Sizes	150,000 - 375,000 sf			20,000 - 200,000 sf			10,000 - 125,000 sf		
FAR	0.4 - 0.5			0.45 - 0.6			0.4 - 0.8		
Location in City	East Oak Industrial / Coliseum Plan Area			Parts of Coliseum/West Oak/Central Estuary Plan areas; East Oak Industrial			Parts of Coliseum / West Oak/ Central Estuary Plan areas		
Prototype	**375,000 sf; 0.46 FAR**			**200,000 sf; 0.57 FAR**			**65,000 sf; 2 levels; 0.74 FAR**		
Development Costs	Per GSF		Per LSF	Per GSF		Per LSF	Per GSF		Per LSF
Land	$41.00	19/sf	$41.00	$43.56	25/sf	$43.56	$47.38	35/sf	$49.35
Hard Construction	$40.00		$40.00	$60.00		$60.00	$80.00		$83.33
Tenant Improvements	$5.00		$5.00	$12.00		$12.00	$20.00		$20.83
Parking / loading area /paving (incl. above)	$0.00		$0.00	$0.00		$0.00	$0.00		$0.00
Government Permits and Fees	$14.00		$14.00	$7.00		$7.00	$7.25		$7.55
Other Soft Costs	$11.00		$11.00	$15.30		$15.30	$17.37		$18.09
Construction Financing	$2.98		$2.98	$3.70		$3.70	$4.16		$4.34
Total Development Costs (excl. devel. fee & return on capital)	**$113.98**		**$113.98**	**$141.56**		**$141.56**	**$176.16**		**$183.50**
Revenue									
Monthly Rent (NNN)	$0.60		$0.60	$0.85		$0.85	$1.15		$1.20
Gross Potential Rev. (100% Occ.)	$7.20		$7.20	$10.20		$10.20	$13.82		$14.40
Annual Rental Revenue (0/0/5% Vac.)	$7.20		$7.20	$10.20		$10.20	$13.13		$13.68
(Less) Replacement Reserve/Exp. (5/5/10%)	($0.36)		($0.36)	($0.51)		($0.51)	($1.31)		($1.37)
Net Operating Income (NOI)	**$6.84**		**$6.84**	**$9.69**		**$9.69**	**$11.82**		**$12.31**
Measures of Return									
Yield on Cost (NOI % of costs)		**6.0%**			**6.8%**			**6.7%**	
Target Yield		5.5%			6%			6.5%	
Capitalization Rate		*4.5%*			*5.0%*			*5.5%*	
Estimated Market Value	$152		$152	$194		$194	$215		$224
(Less) Dev. Costs & Sales Exp.	($122)		($122)	($151)		($151)	($187)		($195)
Net Value After Costs	**$30**		**$30**	**$43**		**$43**	**$28**		**$29**
As % of Development Costs		**27%**			**30%**			**16%**	
Required % of Cost		9 - 11%			9 - 11%			10 - 12%	

Source: Hausrath Economics Group

APPENDIX B

BACKGROUND ON HOUSING DEVELOPMENT PROTOTYPES AND IMPACT FEE ZONES

This appendix describes the approach and methodology for establishing the types of market-rate housing developments that are likely to be built in Oakland. It identifies and describes the housing development prototypes in terms of types of units, densities, locations in Oakland, and rents and sales prices. Then, the impact fee zones for residential development are described including differences among them in the types of development occurring or anticipated there and in rents and prices for existing and new housing.

Approach and Methodology

Data collection and market analysis were done to establish the types of market-rate housing developments that are likely to be built in Oakland and subject to new impact fees. Market analysis identified the prices/rents for the different types of development to be built in different parts of the city. Analysis was then done to assess economic feasibility of each type of development and ability to pay impact fees. The work was done by Hausrath Economics Group working with City staff. The methodology is summarized as follows.

- **Development Pipeline as Basis for Housing Development Prototypes.**

  Plans submitted to the City for projects in the pipeline and information on projects receiving recent building permits were used to identify housing development prototypes representative of the types and characteristics of market-rate housing being built and proposed in Oakland and the locations where new housing of each type are being proposed.

- **Market Research to Identify Rents and Prices for Housing Developments**

  Extensive market research focused on identifying market rents and prices for housing in recently built development in Oakland that are comparable to the types, characteristics, and locations of proposed new housing. Data was gathered from multiple sources including property managers, real estate agents and brokers, multiple listings, real estate company reports, recent sales data from the County Assessor, and other sources. In addition, work done by The Concord Group for another aspect of this project, provided additional data, and confirmed the rents identified for new multi-family housing developments in Greater Downtown and West Oakland/North Oakland.

- **Economic Feasibility of Development and Ability to Pay Impact Fees**

  Project pro forma analyses were developed to test the feasibility of the different housing prototype developments, based on current rents and prices and cost estimates for construction, financing, land, and other costs, based on developer interviews, construction company cost estimates, input from other projects, and

other sources. The results identify differences in feasibility among types of development and locations in Oakland, that affect ability to pay impact fees.

- **Impact Fee Zones Reflect Results of the Above Work**

  The proposed impact fee zones for residential development were identified based on the results of all of the data gathering and analyses described above. They identify areas of Oakland with differing abilities to pay new impact fees, based on the types of new housing to be built there, the rents and prices that can be obtained, and the feasibility of development in the foreseeable future.[13]

Housing Prototypes that Characterize New Development in Oakland

Based on recent and proposed development, market data, and developer interviews, nine housing development prototypes were identified. The multi-family housing prototypes include developments of different building types, at different densities, and in different parts of Oakland, representing lower/mid-rise, mid-rise, and high-rise developments. All three multi-family prototypes are considered as rental apartment developments, and the md-rise and high-rise prototypes are also considered as for-sale condo developments. There also are two prototypes for single-family detached homes and two prototypes for townhome/row house developments. In each case, the two prototypes are differentiated by price range, quality of construction, location, and household sub-markets served. The single-family and townhome development are for-sale housing prototypes. Tables B-1 and B-2 that follow identify and describe the housing prototypes in terms of types of units, densities, locations in Oakland, and rents and sales prices.

Multi-Family Development

The multi-family development prototypes vary by building type, density of development, and location, as shown in Table B-1.

[13] As impact fees are to be reviewed every five years, there will be opportunities to modify and update the zones as market conditions change.

Table B-1
Multi-Family Housing Prototypes: Characteristics and Rents/Sales Prices

Housing Type and Location	Percentage by Unit Type/Size	Bedrooms/ Bathrooms	Unit Size (sq. ft.)	Monthly Rent/Price (mid-2015)	Ave. Rent/Price per SF
RENTAL APARTMENTS					
H-3: Lower- and Mid-Rise Apartments	15%	Studio	400	$1,500	
(3-4 floors over podium)	45%	1 BR/1 BA	700	$2,350	
West Oakland/ parts of North Oakland/	32%	2 BR/2 BA	900	$2,900	
East Oakland (in the future) /a/	8%	3 BR/2 BA	1,200	$4,000	
	100%	*weighted average:*	**760**	**$2,530**	**$3.33**
H-4: Mid-Rise Apartment Development	17%	Studio	550	$2,350	
(5-6 floors over podium)	50%	1 BR/1 BA	740	$2,750	
Downtown/Jack London/ Broadway Valdez/	30%	2 BR/2 BA	1,080	$3,900	
parts of North Oakland/a/	3%	2+ BR/2 BA	1,200	$4,400	
	100%	*weighted average:*	**825**	**$3,080**	**$3.73**
H-5: High-Rise Apartment Development	24%	Studio	550	$2,700	
(Prime Sites; 20-28 floors)	50%	1 BR/1 BA	840	$3,700	
Downtown/Jack London/Broadway Valdez/	25%	2 BR/2 BA	1,100	$5,200	
parts of Estuary Waterfront	1%	3 BR Penthouse	1,800	$7,200	
	100%	*weighted average:*	**845**	**$3,870**	**$4.58**
FOR SALE CONDOMINIUMS					
H-4: Mid-Rise Condo Development	10%	Studio	600	$435,000	
(5-6 floors over podium)	35%	1 BR/1 BA	760	$485,000	
Downtown/Jack London/Broadway	15%	1+ BR/2 BA	950	$585,000	
Valdez/parts of North Oakland	32%	2 BR/2 BA	1,100	$665,000	
	8%	2+ or 3 BR/2 BA	1,400	$750,000	
	100%	*weighted average:*	**930**	**$574,000**	**$617**
H-5: High-Rise Condo Development	15%	Studio	600	$460,000	
(Prime Sites; 20-28 floors)	45%	1 BR/1 BA	840	$565,000	
Downtown/Jack London/Broadway	35%	2 BR/2 BA	1,100	$710,000	
Valdez/Parts of Estuary Waterfront	5%	3 BR Penthouse	1,800	$1,200,000	
	100%	*weighted average:*	**940**	**$632,000**	**$672**

Note: Additional description of the residential development prototypes, including examples of recent and proposed projects, will be provided in the Impact Fee Study Report presenting the Economic Feasibility Analysis.

/a/ North Oakland includes several different areas which serve different sub-markets. H-3 developments are occurring in the westerly parts of North Oakland near Emeryville and West Oakland. The H-4 developments are being planned in Rockridge and at 51st and Broadway, oriented for a higher-rent consumer.

Source: Hausrath Economics Group

- The ***lower/mid-rise apartment developments*** (three to four floors over podium) primarily occur and are proposed in West Oakland, and nearby parts of North Oakland. Apartment rents are generally lower for this prototype than for the higher density multi-family apartment developments. Projects of their prototype are typically smaller projects than the higher density developments. Future multi-family developments in East Oakland are anticipated to be of this prototype.
- ***Mid-rise apartment developments*** (typically five to six floors over podium) primarily occur and are being proposed in the Greater Downtown (Downtown, Jack London, and Broadway Valdez) and in parts of North Oakland and the Estuary Waterfront. This development prototype typically obtains higher rents than the lower/mid-rise prototype described above.
- ***High-rise developments*** in prime locations that can capture premium rents. They are primarily located around Lake Merritt, in Jack London and areas along the Estuary, and on Broadway in Downtown and Broadway Valdez.

Single-Family Homes and Townhome Development

The single-family detached and townhome development prototypes are described in Table B-2.

- For the ***single-family detached*** developments, one prototype reflects in-fill homes in the lower price ranges, primarily built in East Oakland. A second prototype consists of larger, more expensive homes built in the Oakland Hills and in Rockridge.
- For the ***townhome*** developments, one prototype represents new townhome developments in the lower/mid-level price ranges, primarily being built in West Oakland and nearby parts of North Oakland. The second prototype includes more expensive townhomes built in the North and South Hills.

Table B-2
Single-Family and Townhome Prototypes: Characteristics and Sales Prices

Housing Type and Location	Percentage by Unit Type / Size	Bedrooms/ Bathrooms	Unit Size (sq. ft.)	Sales Prices (mid-2015)	Ave. Price Per SF
H-1A: Single-Family Detached Homes	100%	3 BR/3 BA	1,600	$405,000	$253
(Modest construction)					
Urban Infill/East Oakland primarily					
H-1B: Single-Family Detached Homes	100%	4 BR/3 BA	3,000	$1,240,000	$413
(High quality construction and features)					
North/South/Lower Hills, Rockridge					
H-2A: Townhomes / Row Houses	25%	2 BR/2 BA	1,185	$490,000	
(Mid-level prices and construction)	65%	2 BR/2.5 BA	1,370	$520,000	
Urban Infill/West Oakland and parts of North Oakland	10%	3 BR/3 BA	1,550	$575,000	
	100%	*weighted average:*	1,340	$518,000	$387
H-2B: Townhomes / Row Houses	10%	2 BR/2.5 BA	1,500	$630,000	
(Larger, higher priced units)	10%	3 BR/3 BA	1,750	$740,000	
North Hills, South Hills	30%	3 BR/3 BA	2,050	$775,000	
	35%	3+ BR/3 BA	2,200	$800,000	
	15%	4 BR/3 BA	2,500	$850,000	
	100%	*weighted average:*	2,085	$777,000	$373

Note: Additional description of the residential development prototypes, including examples of recent and proposed projects, will be provided in the Impact Fee Study Report presenting the Economic Feasibility Analysis.

Source: Hausrath Economics Group

Zones for Impact Fees on Residential Development

Three Impact Fee Zones

The impact fee zones for residential development reflect differing abilities to pay impact fees based on the types of new housing being built and proposed there, the rents and prices for existing and new housing, and the feasibility of development in the foreseeable future.

- **Impact Fee Zone 1: Greater Downtown, Much of North Oakland, and the Oakland Hills**

  Impact Fee Zone 1 includes areas that capture the highest prices and rents for new development in Oakland, including single-family and townhome development in the Hills and Rockridge, and mid-rise and high-rise multi-family development in

Greater Downtown and parts of North Oakland. With the phase-in of new impact fees, to allow for enhanced feasibility consistent with market trends, higher prices and rents in this zone are anticipated to support feasible development with the ability to pay the target impact fees that are proposed. There is a large pipeline of projects proposed for development in zone 1, and the large majority of residential development over the next 10 years is anticipated to be built in zone 1 (over 75 percent).

- **Impact Fee Zone 2: West Oakland and Nearby Parts of North Oakland**

  Rents and prices in zone 2 are now supporting "mid-level" development of townhomes/row houses and lower/mid-rise apartment development. Rents/prices in zone 2 are below those in zone 1, and support development that is less costly to build than that in zone 1. With the proposed phase-in of new impact fees, prices and rents in this zone are anticipated to support feasible development with ability to pay the proposed target impact fees. As proposed, the impact fees for zone 2 are somewhat lower than those for zone 1, reflecting differences in the types and cost of development and in obtainable rents/prices. There is development underway in zone 2 and projects proposed in the pipeline.

- **Impact Fee Zone 3: East Oakland**

  Rents and prices for housing in impact fee zone 3 are lower than in the other zones, and there has been very little market-rate housing development built or proposed in zone 3 thus far. There has been single-family home development on infill lots in the lower price/cost ranges. As housing demand increases in Oakland, prices and rents of existing housing have been going up in East Oakland, although they are still below levels needed for most new market-rate development. There are development proposals for zone 3, although most are affordable housing projects or projects including both market-rate and affordable housing (such as the Coliseum and Fruitvale Transit Village projects). There are a small number of market-rate projects recently proposed in zone 3, including a project in the Jingletown/Fruitvale area, and one on International Boulevard near the Oakland/San Leandro border. The feasibility of residential development in zone 3 should improve over time with investments and improvements in the area and increasing rents and prices. The lowest impact fees are identified for zone 3 to allow for improved feasibility of development before impact fees would be increased to higher levels.

Table B-3 summarizes the characteristics of market-rate development in each of the residential impact fee zones.

Table B-3
Characteristics of Market-Rate Development in Residential Impact Fee Zones Defined by Economic Analysis

New Housing Types by Zone	Ave. Unit Size (sq. ft.)	Ave. Mo. Rent/ Sales Price (mid-2015)	Ave. Mo. Rent/Price per SF	Feasibility 2015
IMPACT FEE ZONE 1				**Multi-Family Development**
H-4: **Mid-Rise Apartment Development**	825	$3,080	$3.73	– Marginal feasibility with 2015 rents; much improved with higher rents/prices as trends continue
H-5: **High-Rise Apartment Development**	845	$3,870	$4.58	
H-4: **Mid-Rise Condo Development**	930	$574,000	$617	– Large pipeline of projects beginning to proceed
H-5: **High-Rise Condo Development**	940	$632,000	$672	**Single-Family/Townhome Development**
H-1B: **Single-Family Detached Homes**	3,000	$1,240,000	$413	– Feasible today / Infill and phased development
H-2B: **Townhomes / Row Houses**	2,085	$777,000	$373	
IMPACT FEE ZONE 2				**Multi-Family Development**
H-3: **Lower- and Mid-Rise Apartments**	760	$2,530	$3.33	– Smaller projects proceeding
H-2A: **Townhomes / Row Houses**	1,340	$518,000	$387	– Feasibility improves for larger projects with increasing rents as trends continue
H-1: **Single-Family Detached Homes**	1,700	$625,000	$368	
H-3: **Lower-and-Mid-Rise Condo Development /a/** Smaller projects; some lofts	1,300 – 1,700	$500,000 – 600,000	$350 - 380	**Townhome Development** – Feasible / Proceeding in phases
IMPACT FEE ZONE 3				**Multi-Family Development**
H-3: **Lower-and-Mid-Rise Apartments /b/** Potential in the future	NA	NA	NA	– Not yet feasible
H-1A: **Single-Family Detached Homes**	1,600	$405,000	$253	– Recent proposals for selected locations, potential with increasing rents
				– Feasibility to improve over time
				Single-Family Development
				– Feasible / Development sensitive to costs

Note: The data above are for recent, actual developments in each part of Oakland (projects built 2005 through 2015). The data identify market rents and prices in mid-2015. Appendix B provides additional information on existing rents and prices for housing in different parts of Oakland. See Figure B-2 for map, see text for clarification of zone boundaries used in this report.

/a/ In West Oakland, there are smaller, individual projects of two to eight units and some lofts. Prices vary and are not easily generalizable. They are similar to the prices for row houses and single-family homes depending on the project.

/b/ There has been no recent construction of multi-family housing in East Oakland and current rents are below those needed for new construction. However, there are recent proposals and the potential for development in the future. When feasible, the rents for future projects are likely to be similar to or slightly below those for prototype H-3 in West Oakland.

Source: Hausrath Economics Group

Recent Data on Existing Housing Rents and Sales Prices in Oakland

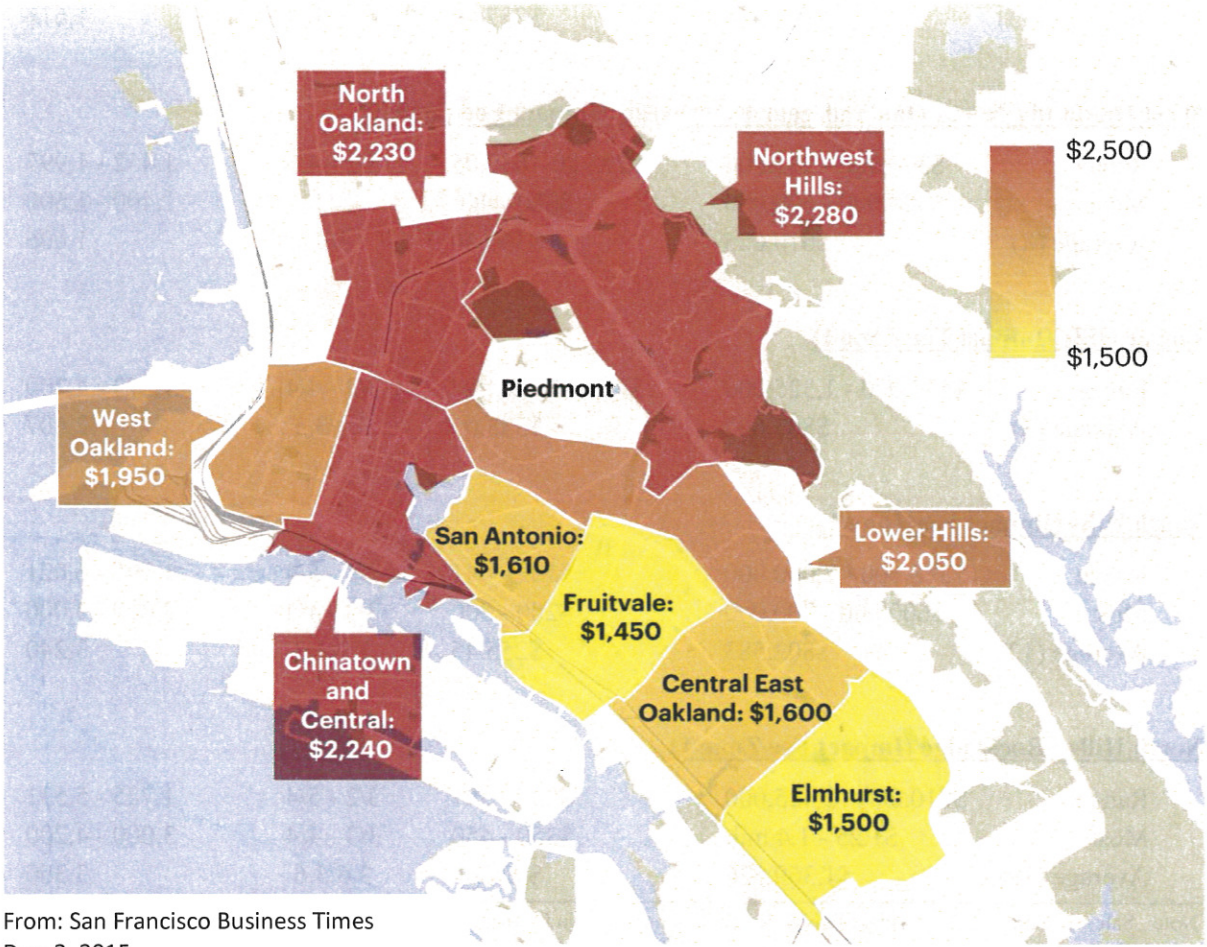
Figure B-1 on the next page provides an overview of average rents for one-bedroom apartments in different parts of Oakland. The mapping of rent data shows average rents for planning areas identified in the Oakland General Plan. The differences in rents among areas of the city are consistent with the rent data and impact fee zones identified as a part of this study.

Data for recent sales prices of recently built single-family homes in Oakland are summarized by area of the city in Table B-4. The data provides further evidence of the differences in the price of new housing among different parts of Oakland.

Map of Impact Fee Zones for Residential Development

The map of the impact fee zones for residential projects is presented in Figure B-2 on the last page of Appendix B. The map shows the impact fee zones identified by the City Council. There are differences in the zone boundaries in East Oakland between the economic analysis described in this appendix and the zone map in Figure B-2. The economic analysis defines impact fee zone 3 as including all of the area east of the Lake including the two East Oakland areas now shown as zone 2 on the map.

Figure B-1
Rents in Parts of Oakland
Average Rents for One-Bedroom Apartments



From: San Francisco Business Times
Dec. 3, 2015

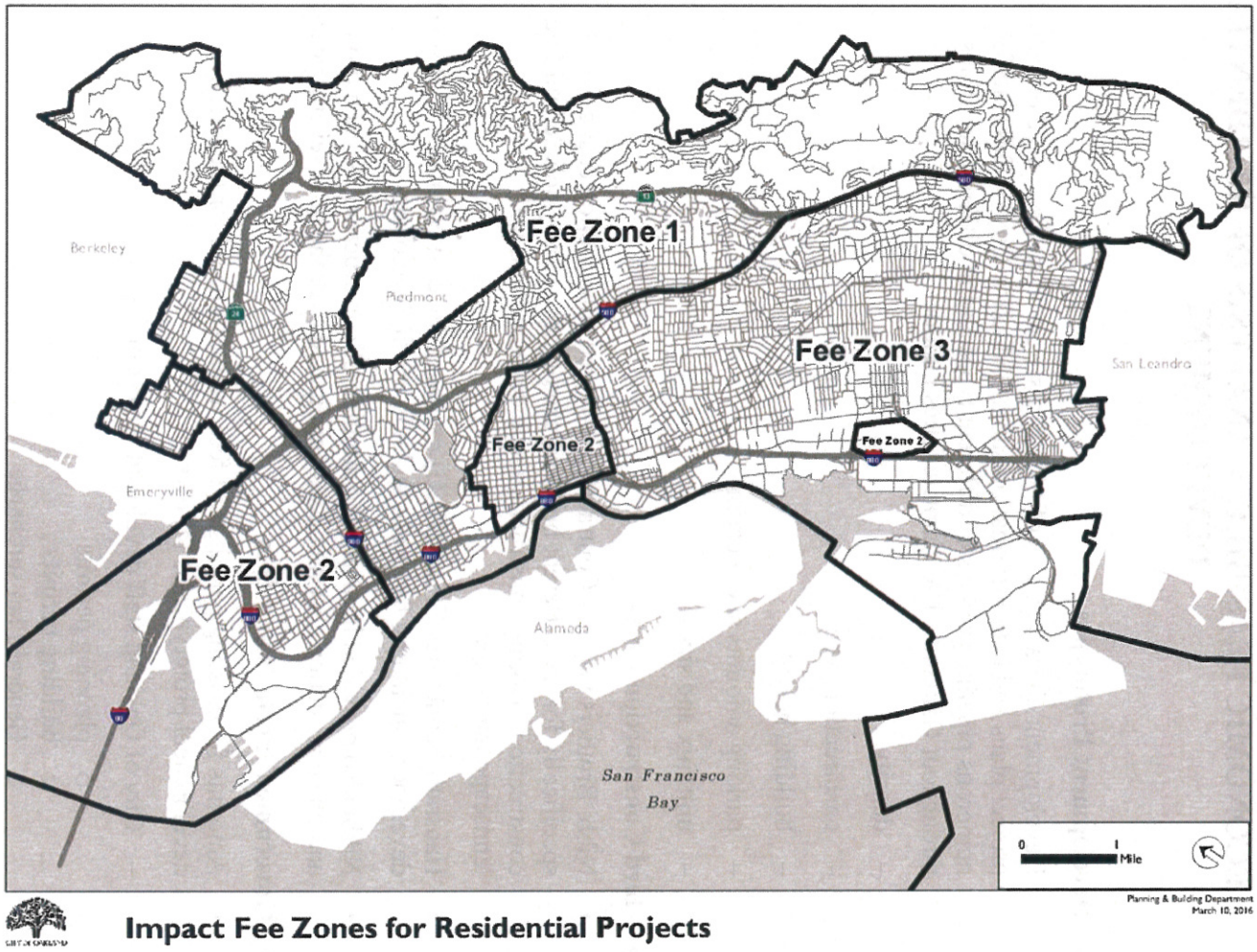
Table B-4
Sales Prices - Recently Built Single-Family Detached Homes in Oakland by Subarea
Homes Sold in 2014 and 2015

	Sales Price	Price Per SF	Number BR / BA	Space (SF)
East Oakland (Impact Fee Zone 3)				
Range	$117,000 - 850,000	$69.15 - 478.60	3/2 - 4/4	927 - 1,884
Most	$300,000 - 420,000	$192 - 250	3/3	1,400 - 1,600
Average (23)	$377,570	$237.09	3/3	1,616
West Oakland / North Oakland near Emeryville (Impact Fee Zone 2)				
Range	$300,000 - 925,000	$205.20 - 637.05	3/2 - 4/3	1,452 - 1,997
Most	$400,000 - 600,000	$260 - 460	3/3	1,400 - 1,600
Average (8)	$610,625	$390.40	3/3	1,606
Lower Hills (Impact Fee Zone 1)				
Range	$525,000 - 1,325,000	$315.48 - 364.92	3/3 - 4/4	1,573 - 4,200
Average (3)	$865,667	$338.05	3.3/3.3	2,607
South Hills (Impact Fee Zone 1)				
Range	$378,500 - 2,000,000	$103 - 441	3/3 - 5/4	1,795 - 6,021
Most	$600,000 - 700,000	$200 - 300	3/3 - 4/4	2,000 - 3,000
Average (12)	$802,583	$255.45	3.9/4.3	3,240
North Hills / Rockridge (Impact Fee Zone 1)				
Range	$810,000 - 2,425,000	$235 - 591	3/2 - 5/4	1,725 - 5,531
Most	$1.25 - 1.4 mil.	$350 - 450	3/3 - 4/4	3,000 - 4,200
Average (19)	$1,369,526	$427.66	3.6/3.6	3,360

Note: Sales data are for newer single-family detached homes built in Oakland from 2005 through 2015 that were sold in 2014 and 2015. The summaries for impact fee zones are approximate based on property locations by zip code. See Figure B-2 for map, see text for clarification of zone boundaries used in this report.

Source: Alameda County Assessor data as available from DataQuick; Hausrath Economics Group; Vernazza Wolfe Associates, Inc.

Figure B-2
Impact Fee Zones for Residential Projects



APPENDIX C

BACKGROUND ON SOURCES AND ASSUMPTIONS FOR THE ECONOMIC FEASIBILITY ANALYSIS OF RESIDENTIAL DEVELOPMENT

- **Development Prototypes**
  - Development characteristics of prototypes were identified based on actual project plans and data/information submitted to the City of Oakland for numerous pipeline projects of different types and in different locations throughout Oakland. The characteristics include:
    - density
    - construction type
    - building height
    - parking amounts and location
    - unit mix and sizes
- **Hard Construction Costs**
  - Nibbi Brothers General Contractors provided construction cost estimates specifically for the different building prototypes. Costs include building construction, parking construction, site development, and landscape/hardscape.
  - Hausrath Economics Group (HEG) reviewed the cost estimates with several developers, including for-profit and non-profit developers.
  - Nibbi also provided input for the duration of construction for each prototype, and on construction cost increases anticipated over the next several years.
- **Government Permits and Fees**
  - Amounts for existing permits and fees were estimated for the specific development prototypes as follows
    - City of Oakland staff developed fee estimates for:
      - planning permits
      - building permits
      - General Plan surcharge
      - fire permit fees
      - bedroom tax
      - jobs/housing impact fee (for office and warehouse)
    - City staff and HEG developed fee estimates for:

  - school impact fees
  - City fee for public art
  - EBMUD fees (water system capacity and wastewater treatment capacity charges)

- **Other Soft Costs**
  - Estimated by HEG based on a number of sources including developer interviews and other pro forma analyses. Other soft costs include:
    - architecture and engineering
    - property tax
    - legal, title, insurance costs
    - project management and overhead
    - entitlement process
    - contingency
- **Construction Financing Costs**
  - Estimated by HEG based on the following assumptions:
    - borrow 65% of project costs
    - interest rate = 5.5%
    - loan fee = 1% loan amount
    - period of loan: varies depending on development prototype, and typically around 50% borrowed over construction and absorption periods.
- **Land**
  - Estimated by HEG based on a number of sources including developers, real estate brokers, recent appraisals, and County Assessor. Note that the pro forma analyses were also run to determine the land residuals, without including land as a cost.
- **Revenue (Rents and Prices)**
  - HEG conducted in-depth market research on current (mid-2015) rents and prices for recently built (since 2005) housing of different types and in different parts of Oakland. Sources included property managers and agents, recent listings, internet sources (Zillow, project websites, real estate company websites, Craigslist), real estate company reports, Alameda County Assessors data (DataQuick reports), and developer interviews.
  - Tables showing the more detailed assumptions for residential rents and prices by prototype as included in the earlier Appendix B.
  - HEG also worked with The Concord Group to identify rents for the lower-/mid-rise and mid-rise, multi-family housing prototypes (H-3 and H-4). From

their database, The Concord Group verified the rents identified by HEG and collaborated with HEG to consider trends in rents over time.

- **Operating Expenses for Rental Housing**
  - Estimated by HEG at 30 percent of gross rental revenue after adjusting for vacancy. This assumption is based on other HEG analyses and communications with developers, real estate agents, and property managers.
- **Measures of Return**
  - As set up, development costs do not include a development fee or return for development/investment. The measures of return are to cover both of those aspects.
  - *Yield on Cost* for rental prototypes identifies net operating income (NOI) as a percent of total costs (without development fee). The target yields reflect input from developers and brokers for projects of each type. Note that the yields are slightly higher than those calculated with development fees included as a cost.
  - *Return on Cost (ROC)* compares the market value of the new development (net of expenses) to development costs to identify the net value or return on cost.
    - For rental housing, the market value is based on the capitalized value at stabilized occupancy. (See later item referring to cap rates.)
    - For for-sale housing, the value is based on sales price.

  The target Return on Cost (ROC) for project feasibility depends on the development prototype, as shown on the pro forma analyses.
    - Higher returns (ROCs) are required for larger projects developed and absorbed over longer time periods because of the larger risk involved and the longer time period over which capital is tied up. Lower returns are required for smaller projects developed and absorbed over shorter time periods.

  The target returns were developed to be equivalent to internal rates of return (IRR) for each prototype. Based on input from several developers and experience from other analyses, IRRs in the range of 12% to 15% are used as the thresholds for feasible projects.
- **Cap Rates**
  - Estimated by HEG based on numerous sources including developers, real estate brokers, real estate company reports, Urban Land Institute (ULI) and other publications, and recent economic feasibility studies done for impact fees in other cities (San Francisco, Berkeley, San Jose).

- Residential development pro forma analyses included calculations for two cap rates: 5.5% and 5%. Typically, HEG uses the 5% cap rate in the analyses and summaries of feasibility.

APPENDIX D

IMPACT FEE SURVEY TABLES

OAKLAND AND SELECTED CITIES

Table D-1
Multi-Family Residential Rental Development
Development Impact Fees and Comparable Charges for Oakland, Berkeley, Emeryville, and San Jose as of September 25, 2015, with New Target Impact Fees for Oakland (shaded)

	Fee Per Unit			
FEE CATEGORY	**Oakland (zone 1)**	**Berkeley**	**Emeryville**	**San Jose**
Development Impact Fees				
Transportation[a]	**$750**	**$0**	**$1,555**	**$0**
Other Capital Facilities				
Capital Facilities[b]	1,250	2,230	-	-
Sewer[c/d/e]	-	3,536	1,244	204
Sewer Treatment (EBMUD)[f]	1,860	1,860	1,860	-
Water (EBMUD)[g]	9,530	9,530	9,530	-
Fire	-	-	-	-
Police	-	-	-	-
Park and/or Park In-Lieu[h]	-	-	3,602	$6,800 - $30,700
Library	-	-	-	-
Childcare	-	-	-	-
Subtotal Capital Facilities Fees	***$12,640***	***$17,156***	***$16,236***	***$7,004 - $30,904***
Subtotal DIF (Transp. + Cap. Fac.)	*$13,390*	*$17,156*	*$17,791*	*$7,004 - $30,904*
Affordable Housing Impact Fee[i/j/k]	**$22,000**	**$20,000**	**$20,000**	**$17,000**
Non-Fees Similarly Applied				
Construction Taxes[l]				$9,394
Public Art In-Lieu[m]	$710	-	$710	$0
School Impact Fees	$3,200	$0	$2,970	$3,360
TOTAL PER UNIT	**$39,300**	**$37,156**	**$41,471**	**$36,758 - $60,658**

(continued on next page)

NOTES:

The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/ In Emeryville, a lower fee applies in the Transit Hub Overlay Zone. San Jose traffic impact fees only apply in North San Jose and Evergreen East/Hills. The fees are not estimated here.

/b/ In Berkeley, applicable only to Downtown Streets and Open Space Improvement Plan Area; primarily transportation and open space/street medians.

/c/ Covers impacts to local sewer lines owned by the City of Berkeley. The sewer connection fee is $3,536 per Equivalent Single-Family Dwelling Unit (last amended May 18, 2004, "Establish Sewer Connection Fees for Fiscal Years 2005-2009").

/d/ Covers impacts to local sewer lines owned by the City of Emeryville. The sewer connection fee is assessed per Single-Family Dwelling Equivalent. Applies to all multi-family dwellings except units that contain two rooms or less or one bedroom or less. For this table, all units are assumed to have more than one bedroom and more than two rooms total.

/e/ The San Jose sewer connection fee for residential multifamily development is $1,991 per acre plus $194 per unit over 7 dwelling units per acre. The fee amount was calculated using the characteristics of a stacked flat prototype of 157 units at a density of 65 units per acre.

/f/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. The fee for a single-family residence is $1,860 per unit and for multi-family residences of 2-4 units, the fee is $1,860 times the number of units. Larger multi-family residences are treated as non-residential uses. This analysis assumes the single-family unit charge for all residential units.

/g/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For multi-family premises the capacity charge is assessed per unit.

/h/ The City of San Jose park fees vary across 15 zones. The fees for multifamily housing of 5 or more units range from $6,800 per unit up to $30,700 per unit.

/i/ In Berkeley, applies to projects of 5 units or more. The fee was originally adopted in 2012 at $28,000 per unit (or $28 per sq. ft. assuming 1,000 sq. ft. units). The fee option was reduced to $20,000 per unit in February 2013 to offer an incentive for payment of the fee. Developers had been opting to provide 10 percent of the units as affordable to very low income tenants instead of paying the fee to the Housing Trust Fund. (City of Berkeley Municipal Code Section 22.20.065) In July 2015, the City Council considered an updated *Affordable Housing Nexus Study* (draft March 25, 2015) and is reviewing a range of options for a revised Affordable Housing Mitigation Fee Program.

/j/ The current $20,000 fee was adopted in July 2014. No development projects have proceeded since the adoption. On October 20, 2015, the City of Emeryville voted to increase the Affordable Housing Impact Fee on rental residential projects to $28,000 in conjunction with a number of changes to regulations and development bonuses for multi-unit residential uses.

/k/ Implemented by the City of San Jose in November 2014. Applies citywide to market rate rental projects of 3 or more units, except in Downtown Highrise Incentive Area where projects that obtain certificates of occupancy prior to June 30, 2021 are exempt. There are also Pipeline Exemptions for projects that have pulled permits prior to June 30, 2016 and receive certificates of occupancy prior to January 31, 2020.

/l/ The City of San Jose collects the following "development taxes" (excise taxes) to fund specific City operations set forth in the Municipal Code: Commercial, Residential, Mobile Home Park Construction Tax (percent of building valuation), Building and Structure Construction Tax (percent of building valuation), Residential Construction Tax (per unit), and Construction Tax (per unit) Construction taxes based on building valuations calculated using RSMeans Square Foot Costs, 36th Annual Edition, 2015 with San Jose, CA location factors applied.

/m/ Cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. In Emeryville and Oakland, the in-lieu fee for housing is 0.5% of building cost for residential development. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee. In San Jose, the public art program is associated with municipal projects and redevelopment projects only, per municipal code.

Source: Hausrath Economics Group

Table D-2
Assumptions For Unit Mix and Rents
For Lower/Mid-Rise and Mid-Rise Multi-Family Housing Development Prototypes

Development Prototype	Percent	BR/BA	Avg. SF	Avg. Price/Rent (mid-2015)		Avg. Price/Rent per SF	
PROTOTYPE H-3							
Lower/Mid-Rise Multi-Family Development							
Rental Apartments							
West Oakland/North Oakland/East Oakland (in future)	15%	Studio	400	$1,500	per mo.	$3.75	per mo.
	45%	1 BR / 1 BA	700	$2,350	per mo.	$3.36	per mo.
	32%	2 BR / 2 BA	900	$2,900	per mo.	$3.22	per mo.
	8%	3 BR / 2 BA	1,200	$4,000	per mo.	$3.33	per mo.
	100%	*weighted avg.*	759	$2,531	per mo.	$3.33	per mo.
Rounded			**760**	**$2,530**		**$3.33**	**per mo.**
PROTOTYPE H-4							
Mid-Rise Multi-Family Development							
Rental Apartments							
Downtown/Jack London/ Broadway Valdez / North Oakland	17%	Studio	550	$2,350	per mo.	$4.27	per mo.
	50%	1 BR / 1 BA	740	$2,750	per mo.	$3.72	per mo.
	30%	2 BR / 2 BA	1,080	$3,900	per mo.	$3.61	per mo.
	3%	2+ BR / 2 BA	1,200	$4,400	per mo.	$3.67	per mo.
	100%	*weighted avg.*	824	$3,077	per mo.	$3.74	per mo.
Rounded			**825**	**$3,080**		**$3.73**	**per mo.**

Source: Hausrath Economics Group

Figure D-1
Rent Comparisons for Mid-Rise Housing Prototype H-4 (as of October 2015)
(Source: The Concord Group)

Prototype H-4

Type	Mix	Unit Size	Dt. Oak. & Jack London		North/West/East Oak.		Emeryville		Central Berkeley		West Berkeley	
			Avg. Price	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF
Studio	17%	550	$2,444	$4.44	$2,054	$3.73	$2,262	$4.11	$3,224	$5.86	$2,704	$4.92
1 BR / 1 BA	50%	740	$2,834	$3.83	$2,444	$3.30	$2,652	$3.58	$3,744	$5.06	$3,172	$4.29
2 BR / 2 BA	30%	1,080	$3,770	$3.49	$3,224	$2.99	$3,536	$3.27	$4,680	$4.33	$4,056	$3.76
2+ BR / 2 BA	3%	1,200	$4,108	$3.42	$3,484	$2.90	$3,874	$3.23	$5,018	$4.18	$4,368	$3.64
Total/Weighted Average:	***100%***	***824***	***$3,087***	**$3.75**	***$2,643***	**$3.21**	***$2,888***	**$3.51**	***$3,975***	**$4.83**	***$3,394***	**$4.12**

Prototype H-4 (Taller Buildings)

Type	Mix	Unit Size	Dt. Oak. & Jack London		North/West/East Oak.		Emeryville		Central Berkeley		West Berkeley	
			Avg. Price	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF
Studio	17%	550	$2,491	$4.53	$2,094	$3.81	$2,306	$4.19	$3,286	$5.97	$2,756	$5.01
1 BR / 1 BA	50%	740	$2,889	$3.90	$2,491	$3.37	$2,703	$3.65	$3,816	$5.16	$3,233	$4.37
2 BR / 2 BA	30%	1,080	$3,843	$3.56	$3,286	$3.04	$3,604	$3.34	$4,770	$4.42	$4,134	$3.83
2+ BR / 2 BA	3%	1,200	$4,187	$3.49	$3,551	$2.96	$3,949	$3.29	$5,115	$4.26	$4,452	$3.71
Total/Weighted Average:	***100%***	***824***	***$3,146***	**$3.82**	***$2,694***	**$3.27**	***$2,943***	**$3.57**	***$4,051***	**$4.92**	***$3,459***	**$4.20**

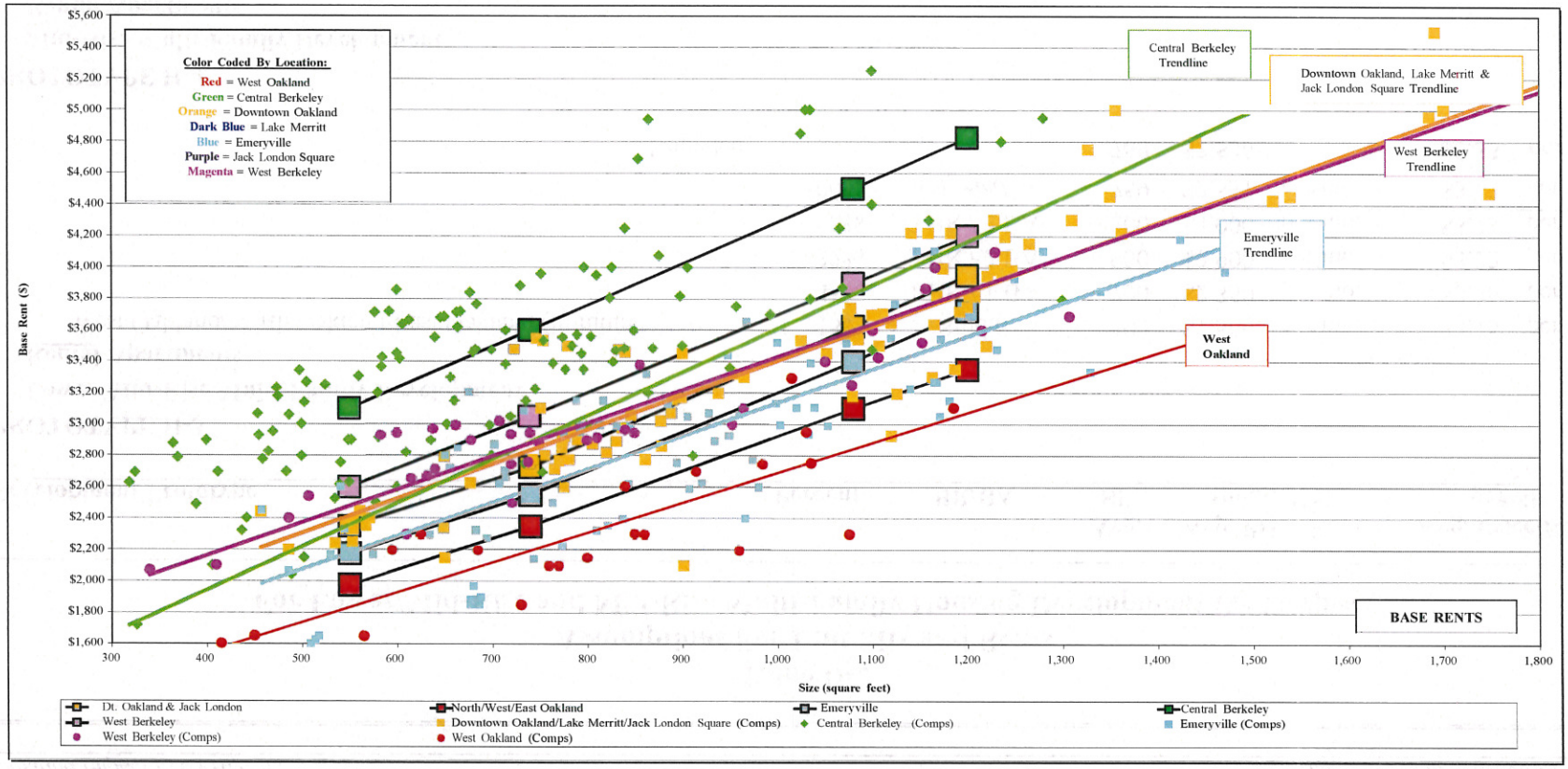


Figure D-2
Rent Comparisons for Mid-Rise Housing Prototype H-3 (as of October 2015)
(Source: The Concord Group)

Prototype H-3

Type	Mix	Unit Size	Dt. Oak. & Jack London		North/West/East Oak.		Emeryville		Central Berkeley		West Berkeley	
			Avg. Price	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF
Studio	15%	400	$2,080	$5.20	$1,768	$4.42	$1,924	$4.81	$2,730	$6.83	$2,366	$5.92
1 BR / 1 BA	45%	700	$2,730	$3.90	$2,340	$3.34	$2,600	$3.71	$3,536	$5.05	$3,016	$4.31
2 BR / 2 BA	32%	900	$3,172	$3.52	$2,808	$3.12	$3,016	$3.35	$4,108	$4.56	$3,536	$3.93
3 BR / 2 BA	8%	1,200	$4,134	$3.45	$3,588	$2.99	$3,900	$3.25	$5,044	$4.20	$4,472	$3.73
Total/Weighted Average:	***100%***	***760***	***$2,886***	**$3.80**	***$2,504***	**$3.29**	***$2,736***	**$3.60**	***$3,719***	**$4.89**	***$3,201***	**$4.21**

Prototype H-3 (Taller Buildings)

Type	Mix	Unit Size	Dt. Oak. & Jack London		North/West/East Oak.		Emeryville		Central Berkeley		West Berkeley	
			Avg. Price	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF	*Avg. Price*	PSF
Studio	15%	400	$2,120	$5.30	$1,802	$4.51	$1,961	$4.90	$2,783	$6.96	$2,412	$6.03
1 BR / 1 BA	45%	700	$2,783	$3.98	$2,385	$3.41	$2,650	$3.79	$3,604	$5.15	$3,074	$4.39
2 BR / 2 BA	32%	900	$3,233	$3.59	$2,862	$3.18	$3,074	$3.42	$4,187	$4.65	$3,604	$4.00
3 BR / 2 BA	8%	1,200	$4,214	$3.51	$3,657	$3.05	$3,975	$3.31	$5,141	$4.28	$4,558	$3.80
Total/Weighted Average:	***100%***	***760***	***$2,942***	**$3.87**	***$2,552***	**$3.36**	***$2,788***	**$3.67**	***$3,790***	**$4.99**	***$3,263***	**$4.29**

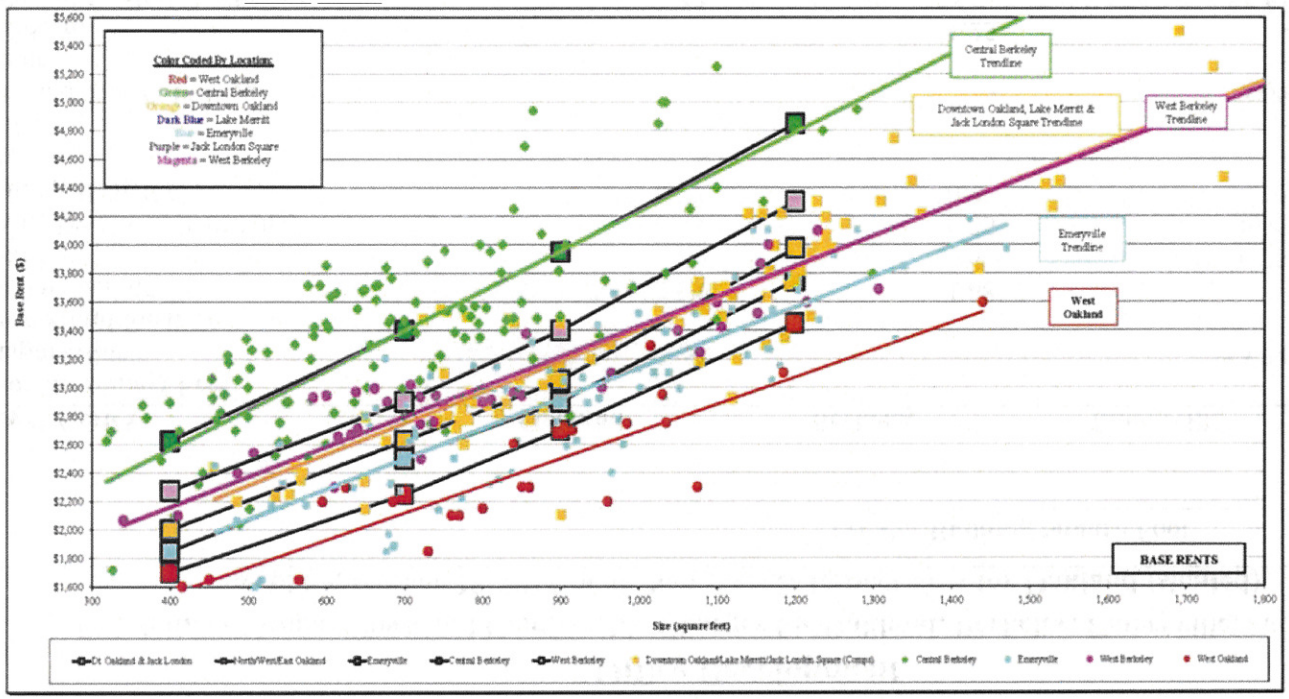


Table D-3
Office Development
Development Impact Fees and Comparable Charges for Oakland, Berkeley, Emeryville, and San Jose as of September 25, 2015, with New Target Impact Fees for Oakland (shaded)

	Fee Per Building Square Foot			
FEE CATEGORY	**Oakland**	**Berkeley**	**Emeryville**	**San Jose**
Development Impact Fees				
Transportation[a]	**$2.00**	-	**$3.74**	-
Other Capital Facilities				
Capital Facilities[b]	2.00	1.68	-	-
Sewer[c/d/e]	-	0.66	0.23	0.10
Sewer Treatment (EBMUD)[f]	0.35	0.35	0.35	-
Water (EBMUD)[g]	0.77	0.77	0.77	-
Fire	-	-	-	-
Police	-	-	-	-
Park and/or Park In-Lieu	-	-	3.66	-
Library	-	-	-	-
Childcare	-	1.25	-	-
Subtotal Capital Facilities Fees	***$3.12***	***$4.71***	***$5.01***	***$0.10***
Subtotal DIF (Transp. + Cap. Fac.)	*$5.12*	*$4.71*	*$8.75*	*$0.10*
Jobs/Housing Impact (Linkage) Fee	**$5.44**	**$4.50**	**$4.00**	-
Non-Fees Similarly Applied				
Construction Taxes[h]				$9.74
Public Art In-Lieu[i]	$1.91	$0.00	$1.91	$0.00
School Impact Fees	$0.51	$0.00	$0.47	$0.54
TOTAL PER SQUARE FOOT	**$12.98**	**$9.21**	**$15.13**	**$10.38**

(continued on next page)

NOTES:

The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/ In Emeryville, a lower fee applies in the Transit Hub Overlay Zone. San Jose traffic impact fees only apply in North San Jose and Evergreen East/Hills. The fees are not estimated here.

/b/ In Berkeley, applicable only to area covered by the Downtown Streets and Open Space Improvement Plan; primarily transportation and open space/street medians.

/c/ Covers impacts to local sewer lines owned by the City of Berkeley. The sewer connection fee is $3,536 per Equivalent Single-Family Dwelling Unit (last amended May 18, 2004, "Establish Sewer Connection Fees for Fiscal Years 2005-2009").

/d/ Covers impacts to local sewer lines owned by the City of Emeryville. The sewer connection fee is assessed per Single-Family Dwelling Equivalent. Applies to all multi-family dwellings except units that contain two rooms or less or one bedroom or less. For this table, all units are assumed to have more than one bedroom and more than two rooms total.

/e/ The San Jose sewer connection fee for non-residential development is $1,991 per acre for the first 10 acres plus $861 per acre for each acre over 10 acres plus $194 for each "living unit equivalent" over 7 units per acre. For office, a living unit equivalent is 2,000 square feet of building space. The fee amounts were calculated using the characteristics of a mid-rise (210,000 sq. ft.), lower/mid-rise (140,000 sq. ft.), and high-rise (450,000 sq. ft.) office prototypes.

/f/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. The fee for a single-family residence is $1,860 per unit and for multi-family residences of 2-4 units, the fee is $1,860 times the number of units. Larger multi-family residences are treated as non-residential uses. This analysis assumes the single-family unit charge for all residential units.

/g/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For multi-family premises the capacity charge is assessed per unit.

/h/ The City of San Jose collects the following "development taxes" (excise taxes) to fund specific City operations set forth in the Municipal Code: Commercial, Residential, Mobile Home Park Construction Tax (percent of building valuation), Building and Structure Construction Tax (percent of building valuation), Residential Construction Tax (per unit), and Construction Tax (per unit) Construction taxes based on building valuations calculated using RSMeans Square Foot Costs, 36th Annual Edition, 2015 with San Jose, CA location factors applied.

/i/ Cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. In Emeryville and Oakland, the in-lieu fee for housing is 0.5% of building cost for residential development. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee. In San Jose, the public art program is associated with municipal projects and redevelopment projects only, per municipal code.

Source: Hausrath Economics Group

Table D-4
Office Development
Development Impact Fees and Comparable Charges, Selected Jurisdictions as of September 25, 2015 with New Target Impact Fees for Oakland (shaded)

	Per Building Square Foot										
FEE CATEGORY	**Oakland**	**Alameda**	**Berkeley**	**Emeryville**	**Fremont**	**Hayward**	**Richmond**	**San Francisco**	**San Jose**	**San Leandro**	**Walnut Creek**
Development Impact Fees											
Transportation	2.00	**3.73**	-	**3.74**	**5.00**	-	**3.65**	**18.04**	-	**3.71**	**4.44**
Other Capital Facilities											
Capital Facilities	2.00	0.50	1.68	-	0.92	-	-	4.13	-	-	-
Sewer[a]	-	0.19	0.66	0.23	2.64	1.44	1.96	0.32	0.10	0.77	1.77
Sewer Treatment (EBMUD)[b]	0.35	0.35	0.35	0.35	-	-	-	-	-	-	-
Storm Drainage	-	-	-	-	-	-	0.63	-	Per acre fee	-	-
Water (EBMUD where shown)[c]	0.77	0.77	0.77	0.77	-	-	-	-	-	-	-
Fire	-	-	-	-	0.31	-	0.22	-	-	-	-
Police	-	-	-	-	-	-	0.26	-	-	-	-
Combined Public Safety	-	0.78	-	-	-	-	-	-	-	-	-
Park and/or Park In-Lieu	-	-	-	3.66	-	-	-	-	-	-	-
Library	-	-	-	-	-	-	0.35	-	-	-	
Childcare	-	-	1.25	-	-	-	-	1.21	-	-	-
Mitigation Admin. Fee (3%)							0.21				
Subtotal Capital Facilities Fees	*$3.12*	*$2.59*	*$4.71*	*$5.01*	*$3.86*	*$1.44*	*$3.63*	*$5.66*	*$0.10*	*$0.77*	*$1.77*
Subtotal DIF (Transp. + Cap. Fac.)	*$5.12*	*$6.32*	*$4.71*	*$8.75*	*$8.86*	*$1.44*	*$7.27*	*$23.70*	*$0.10*	*$4.48*	*$6.21*
Housing Fees											
Affordable Housing Impact Fee	-	-	-	-	-	-	-	-	-	-	-
Inclusionary Housing In-Lieu Fee	-	-	-	-	-	-	-	-	-	-	-
Comm'l Dev. Impact (Linkage) Fee	5.44	4.52	4.50	4.00	-	-	-	24.03	-	-	5.00
Subtotal Housing Fees	**$5.44**	**$4.52**	**$4.50**	**$4.00**	**$0.00**	**$0.00**	**$0.00**	**$24.03**	**$0.00**	**$0.00**	**$5.00**
Non-Fees Similarly Applied											
Construction Taxes	-	-	-	-	-	-	-	-	9.74	-	-
Subtotal Non-Fees	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$9.74	$0.00	$0.00
Public Art In-Lieu[d]	$1.91	$1.91	-	$1.91	$0.51	-	-	$1.91	-	-	$1.91
School Impact Fees	$0.51	$0.51	$0.00	$0.47	$0.94	$0.47	$0.54	$0.39	$0.54	$0.54	$0.53
TOTAL PER SQUARE FOOT	**$12.98**	**$13.26**	**$9.21**	**$15.13**	**$10.31**	**$1.91**	**$7.81**	**$50.02**	**$10.38**	**$5.02**	**$13.65**

(continued on next page)

NOTES:

The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/The San Jose sewer connection fee for non-residential development is $1,991 per acre for the first 10 acres plus $861 per acre for each acre over 10 acres plus $194 for each "living unit equivalent" over 7 units per acre. For office, a living unit equivalent is 2,000 square feet of building space. The fee amounts were calculated using the characteristics of a mid-rise (210,000 sq. ft.), lower/mid-rise (140,000 sq. ft.), and high-rise (450,000 sq. ft.) office prototypes.

/b/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Alameda, Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. For the purposes of this table, the non-residential fee is estimated by converting the fee per ESFDU to a fee per square foot for non-residential uses based on square feet per EDU factors by use prepared by BKF for the City of Oakland Development Impact Fee Study, (Memorandum to Robert Spencer, May 1, 2015, Table 7).

/c/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For non-residential uses, the charge is based on meter size. The amounts shown here are based on the Oakland prototypes and assume similar buildings developed in the other cities served by EBMUD.

/d/ Except in Fremont, cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee.

Source: Hausrath Economics Group

Table D-5
Retail Development
Development Impact Fees and Comparable Charges, Selected Jurisdictions as of September 25, 2015 with New Target Impact Fees for Oakland (shaded)

Per Building Square Foot

FEE CATEGORY	Oakland	Alameda	Berkeley	Emeryville	Fremont	Hayward	Richmond	San Francisco	San Jose	San Leandro	Walnut Creek
Development Impact Fees											
Transportation	**0.75**	**3.79**	**-**	**4.68**	**6.84**	**-**	**4.13**	**18.04**	**-**	**4.15**	**5.36**
Other Capital Facilities											
Capital Facilities	0.50	0.28	1.68	-	0.55	-	-	4.13	-	-	-
Sewer[a]	-	0.24	0.83	0.29	2.64	1.80	2.79	0.39	0.05	0.96	1.56
Sewer Treatment (EBMUD)[b]	0.43	0.43	0.43	0.43	-	-	-	-	-	-	-
Storm Drainage	-	-	-	-	-	-	0.84	-	Per acre fee	-	-
Water (EBMUD where shown)[c]	1.07	1.07	1.07	1.07	-	-	-	-	-	-	-
Fire	-	-	-	-	0.18	-	0.22	-	-	-	-
Police	-	-	-	-	-	-	0.26	-	-	-	-
Combined Public Safety	-	0.43	-	-	-	-	-	-	-	-	-
Park and/or Park In-Lieu	-	-	-	2.01	-	-	-	-	-	-	-
Library	-	-	-	-	-	-	0.21	-	-	-	-
Childcare	-	-	1.25	-	-	-	-	-	-	-	-
Mitigation Admin. Fee (3%)							0.25				
Subtotal Capital Facilities Fees	***$2.00***	***$2.44***	***$5.26***	***$3.81***	***$3.37***	***$1.80***	***$4.57***	***$4.52***	***$0.05***	***$0.96***	***$1.56***
Subtotal DIF (Transp. + Cap. Fac.)	*$2.75*	*$6.23*	*$5.26*	*$8.49*	*$10.21*	*$1.80*	*$8.70*	*$22.56*	*$0.05*	*$5.11*	*$6.92*
Housing Fees											
Affordable Housing Impact Fee	-	-	-	-	-	-	-	-	-	-	-
Inclusionary Housing In-Lieu Fee	-	-	-	-	-	-	-	-	-	-	-
Comm'l Dev. Impact (Linkage) Fee	-	2.30	4.50	4.00	-	-	-	22.42	-	-	5.00
Subtotal Housing Fees	**$0.00**	**$2.30**	**$4.50**	**$4.00**	**$0.00**	**$0.00**	**$0.00**	**$22.42**	**$0.00**	**$0.00**	**$5.00**
Non-Fees Similarly Applied											
Construction Taxes		-	-	-	-	-	-	-	7.08	-	-
Subtotal Non-Fees	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$7.08	$0.00	$0.00
Public Art In-Lieu[d]	$1.52	$1.52	-	$1.52	$0.51	-	-	$1.52	-	-	$1.52
School Impact Fees	$0.51	$0.51	$0.00	$0.47	$0.94	$0.47	$0.54	$0.24	$0.54	$0.54	$0.53
TOTAL PER SQUARE FOOT	**$4.78**	**$10.56**	**$9.76**	**$14.48**	**$11.66**	**$2.27**	**$9.24**	**$46.75**	**$7.67**	**$5.65**	**$13.97**

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NOTES:

The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/ The San Jose sewer connection fee for non-residential development is $1,991 per acre for the first 10 acres plus $861 per acre for each acre over 10 acres plus $194 for each "living unit equivalent" over 7 units per acre. At 2,000 square feet of building space for the office living unit equivalent, the first 0.32 acres of development density is not subject to the $194 per-living-unit-equivalent component of the fee. For this estimate, we assume retail development does not exceed a floor-area-ratio of 0.32 : 1. Therefore, the fee is based only on $1,991 per acre of development.

/b/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Alameda, Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. For the purposes of this table, the non-residential fee is estimated by converting the fee per ESFDU to a fee per square foot for non-residential uses based on square feet per EDU factors by use prepared by BKF for the City of Oakland Development Impact Fee Study, (Memorandum to Robert Spencer, May 1, 2015, Table 7).

/c/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For non-residential uses, the charge is based on meter size. The amounts shown here are based on the Oakland prototypes and assume similar buildings developed in the other cities served by EBMUD.

/d/ Except in Fremont, cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee.

Source: Hausrath Economics Group

Table D-6
Hotel/Motel Development
Development Impact Fees and Comparable Charges, Selected Jurisdictions as of September 25, 2015 with New Target Impact Fees for Oakland (shaded)

	Per Building Square Foot										
FEE CATEGORY	**Oakland**	**Alameda**	**Berkeley**	**Emeryville**	**Fremont**	**Hayward**	**Richmond**	**San Francisco**	**San Jose**	**San Leandro**	**Walnut Creek**
Development Impact Fees											
Transportation	0.65	3.73	-	2.11	5.12	-	4.13	18.04	-	2.26	-
Other Capital Facilities											
Capital Facilities	0.60	0.50	1.68	-	0.44	-	-	4.13	-	-	-
Sewer[a]	-	1.18	4.13	1.45	2.64	9.00	2.79	1.97	1.13	4.80	11.57
Sewer Treatment (EBMUD)[b]	2.17	2.17	2.17	2.17	-	-	-	-	-	-	-
Storm Drainage	-	-	-	-	-	-	0.84	-	Per acre fee	-	-
Water (EBMUD where shown)[c]	11.08	11.08	11.08	11.08	-	-	-	-	-	-	-
Fire	-	-	-	-	0.15	-	0.22	-	-	-	-
Police	-	-	-	-	-	-	0.26	-	-	-	-
Combined Public Safety	-	0.78	-	-	-	-	-	-	-	-	-
Park and/or Park In-Lieu	-	-	-	1.01	-	-	-	-	-	-	-
Library	-	-	-	-	-	-	0.21	-	-	-	-
Childcare	-	-	1.50	-	-	-	-	1.21	-	-	-
Mitigation Admin. Fee (3%)							0.25				
Subtotal Capital Facilities Fees	*$13.85*	*$15.72*	*$20.56*	*$15.72*	*$3.22*	*$9.00*	*$4.57*	*$7.31*	*$1.13*	*$4.80*	*$11.57*
Subtotal DIF (Transp. + Cap. Fac.)	*$14.50*	*$19.45*	*$20.56*	*$17.82*	*$8.34*	*$9.00*	*$8.70*	*$25.35*	*$1.13*	*$7.07*	*$11.57*
Housing Fees											
Affordable Housing Impact Fee	-	-	-	-	-	-	-	-	-	-	-
Inclusionary Housing In-Lieu Fee	-	-	-	-	-	-	-	-	-	-	-
Comm'l Dev. Impact (Linkage) Fee	-	2.22	4.50	4.00	-	-	-	17.99	-	-	5.00
Subtotal Housing Fees	**$0.00**	**$2.22**	**$4.50**	**$4.00**	**$0.00**	**$0.00**	**$0.00**	**$17.99**	**$0.00**	**$0.00**	**$5.00**
Non-Fees Similarly Applied											
Construction Taxes	-	-	-	-	-	-	-	-	10.79	-	-
Subtotal Non-Fees	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$10.79	$0.00	$0.00
Public Art In-Lieu[d]	1.91	$1.91	-	$1.91	$0.51	-	-	$1.91	-	-	$1.91
School Impact Fees	$0.51	$0.51	$0.00	$0.47	$0.94	$0.47	$0.54	$0.12	$0.54	$0.54	$0.53
TOTAL PER SQUARE FOOT	**$16.92**	**$22.18**	**$25.06**	**$22.29**	**$9.79**	**$9.47**	**$9.24**	**$43.46**	**$12.46**	**$7.61**	**$17.10**

(continued on next page)

NOTES:
The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/ The San Jose sewer connection fee for non-residential development is $1,991 per acre for the first 10 acres plus $861 per acre for each acre over 10 acres plus $194 for each "living unit equivalent" over 7 units per acre. For hotel and motel, a living unit equivalent is one guest room. The fee amount per square foot was calculated assuming a hotel of 250 rooms.

/b/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Alameda, Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. For the purposes of this table, the non-residential fee is estimated by converting the fee per ESFDU to a fee per square foot for non-residential uses based on square feet per EDU factors by use prepared by BKF for the City of Oakland Development Impact Fee Study, (Memorandum to Robert Spencer, May 1, 2015, Table 7).

/c/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For non-residential uses, the charge is based on meter size. The amounts shown here are based on the Oakland prototypes and assume similar buildings developed in the other cities served by EBMUD.

/d/ Except in Fremont, cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee.

Source: Hausrath Economics Group

Table D-7
Warehouse Development
Development Impact Fees and Comparable Charges, Selected Jurisdictions as of September 25, 2015 with New Target Impact Fees for Oakland (shaded)

	Per Building Square Foot										
FEE CATEGORY	**Oakland**	**Alameda**	**Berkeley**	**Emeryville**	**Fremont**	**Hayward**	**Richmond**	**San Francisco**	**San Jose**	**San Leandro**	**Walnut Creek**
Development Impact Fees											
Transportation	0.35	**3.14**	-	-	**1.51**	-	**1.33**	-	-	**1.19**	-
Other Capital Facilities											
Capital Facilities	1.00	0.19	-	-	0.39	-	-	-	-	-	-
Sewer[a]	-	0.47	1.65	0.58	1.02	3.60	0.97	0.79	0.05	1.92	0.82
Sewer Treatment (EBMUD)[b]	0.87	0.87	0.87	0.87	-	-	-	-	-	-	-
Storm Drainage	-	-	-	-	-	-	0.67	-	Per acre fee	-	-
Water (EBMUD where shown)[c]	0.69	0.69	0.69	0.69	-	-	-	-	-	-	-
Fire	-	-	-	-	0.13	-	0.16	-	-	-	-
Police	-	-	-	-	-	-	0.10	-	-	-	-
Combined Public Safety	-	0.29	-	-	-	-	-	-	-	-	-
Park and/or Park In-Lieu	-	-	-	-	-	-	-	-	-	-	-
Library	-	-	-	-	-	-	0.05	-	-	-	-
Childcare	-	-	0.62	-	-	-	-	-	-	-	-
Mitigation Admin. Fee (3%)							0.10				
Subtotal Capital Facilities Fees	*$2.56*	*$2.51*	*$3.83*	*$2.14*	*$1.54*	*$3.60*	*$2.03*	*$0.79*	*$0.05*	*$1.92*	*$0.82*
Subtotal DIF (Transp. + Cap. Fac.)	*$2.91*	*$5.65*	*$3.83*	*$2.14*	*$3.05*	*$3.60*	*$3.36*	*$0.79*	*$0.05*	*$3.11*	*$0.82*
Housing Fees											
Affordable Housing Impact Fee	-	-	-	-	-	-	-	-	-	-	-
Inclusionary Housing In-Lieu Fee	-	-	-	-	-	-	-	-	-	-	-
Comm'l Dev. Impact (Linkage) Fee	5.44	0.78	2.25	-	-	-	-	-	-	-	5.00
Subtotal Housing Fees	**$5.44**	**$0.78**	**$2.25**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$5.00**
Non-Fees Similarly Applied											
Construction Taxes	-	-	-	-	-	-	-	-	5.11	-	-
Subtotal Non-Fees	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$5.11**	**$0.00**	**$0.00**
Public Art In-Lieu[d]	1.12	$1.12	-	$1.12	$0.51	-	-	$1.12	-	-	$1.12
School Impact Fees	$0.51	$0.51	-	-	$0.94	$0.47	$0.54	$0.30	$0.54	$0.54	$0.53
TOTAL PER SQUARE FOOT	**$9.98**	**$8.06**	**$6.08**	**$3.26**	**$4.50**	**$4.07**	**$3.90**	**$1.09**	**$5.70**	**$3.65**	**$7.47**

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NOTES:

The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/ The San Jose sewer connection fee for non-residential development is $1,991 per acre for the first 10 acres plus $861 per acre for each acre over 10 acres plus $194 for each "living unit equivalent" over 7 units per acre. At 2,000 square feet of building space for the office living unit equivalent, the first 0.32 acres of development density is not subject to the $194 per-living-unit-equivalent component of the fee. For this estimate, we assume warehouse development does not exceed a floor-area-ratio of 0.32 : 1. Therefore, the fee is based only on $1,991 per acre of development.

/b/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Alameda, Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. For the purposes of this table, the non-residential fee is estimated by converting the fee per ESFDU to a fee per square foot for non-residential uses based on square feet per EDU factors by use prepared by BKF for the City of Oakland Development Impact Fee Study, (Memorandum to Robert Spencer, May 1, 2015, Table 7).

/c/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For non-residential uses, the charge is based on meter size. The amounts shown here are based on the Oakland prototypes and assume similar buildings developed in the other cities served by EBMUD.

/d/ Except in Fremont, cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee.

Source: Hausrath Economics Group

Table D-8
Industrial / Manufacturing Development
Development Impact Fees and Comparable Charges, Selected Jurisdictions
as of September 25, 2015 with New Target Impact Fees for Oakland (shaded)

	Per Building Square Foot										
FEE CATEGORY	**Oakland**	**Alameda**	**Berkeley**	**Emeryville**	**Fremont**	**Hayward**	**Richmond**	**San Francisco**	**San Jose**	**San Leandro**	**Walnut Creek**
Development Impact Fees											
Transportation	**0.55**	**3.14**	-	**1.83**	**2.52**	-	**1.33**	-	-	**1.19**	**4.44**
Other Capital Facilities											
Capital Facilities	1.00	0.19	-	-	0.56	-	-	-	-	-	-
Sewer[a]	-	0.47	1.65	0.58	2.64	3.60	0.97	0.79	0.05	1.92	-
Sewer Treatment (EBMUD)[b]	0.87	0.87	0.87	0.87	-	-	-	-	-	-	-
Storm Drainage	-	-	-	-	-	-	0.67	-	Per acre fee	-	-
Water (EBMUD where shown)[c]	0.70	0.70	0.70	0.70	-	-	-	-	-	-	-
Fire	-	-	-	-	0.19	-	0.16	-	-	-	-
Police	-	-	-	-	-	-	0.10	-	-	-	-
Combined Public Safety	-	0.29	-	-	-	-	-	-	-	-	-
Park and/or Park In-Lieu	-	-	-	1.01	-	-	-	-	-	-	-
Library	-	-	-	-	-	-	0.15	-	-	-	
Childcare	-	-	0.75	-	-	-	-	-	-	-	-
Mitigation Admin. Fee (3%)							0.10				
Subtotal Capital Facilities Fees	*$2.57*	*$2.52*	*$3.97*	*$3.16*	*$3.38*	*$3.60*	*$2.14*	*$0.79*	*$0.05*	*$1.92*	*$0.00*
Subtotal DIF (Transp. + Cap. Fac.)	*$3.12*	*$5.66*	*$3.97*	*$4.99*	*$5.90*	*$3.60*	*$3.47*	*$0.79*	*$0.05*	*$3.11*	*$4.44*
Housing Fees											
Affordable Housing Impact Fee	-	-	-	-	-	-	-	-	-	-	-
Inclusionary Housing In-Lieu Fee	-	-	-	-	-	-	-	-	-	-	-
Comm'l Dev. Impact (Linkage) Fee	-	0.78	2.25	4.00	-	-	-	-	-	-	5.00
Subtotal Housing Fees	**$0.00**	**$0.78**	**$2.25**	**$4.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$5.00**
Non-Fees Similarly Applied											
Construction Taxes	-	-	-	-	-	-	-	-	5.11		-
Subtotal Non-Fees	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$5.11**	**$0.00**	**$0.00**
Public Art In-Lieu[d]	$1.26	$1.26	-	$1.26	$0.51	-	-	$1.26	-		$1.26
School Impact Fees	$0.51	$0.51	-	$0.47	$0.94	$0.47	$0.54	$0.30	$0.54	$0.54	$0.53
TOTAL PER SQUARE FOOT	**$4.89**	**$8.21**	**$6.22**	**$10.72**	**$7.35**	**$4.07**	**$4.01**	**$2.35**	**$5.70**	**$3.65**	**$11.23**

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NOTES:

The new impact fees in Oakland are added to the existing impact fees to provide an indication of how total impact fees for Oakland compare with impact fees in nearby cities. Oakland's new impact fees are included at the target amounts after they are phased in. At that time, existing impact fees in Oakland and other cities would be somewhat higher than the current amounts shown, often increasing with inflation.

/a/ The San Jose sewer connection fee for non-residential development is $1,991 per acre for the first 10 acres plus $861 per acre for each acre over 10 acres plus $194 for each "living unit equivalent" over 7 units per acre. At 2,000 square feet of building space for the office living unit equivalent, the first 0.32 acres of development density is not subject to the $194 per-living-unit-equivalent component of the fee. For this estimate, we assume industrial development does not exceed a floor-area-ratio of 0.32 : 1. Therefore, the fee is based only on $1,991 per acre of development.

/b/ East Bay Municipal Utility District (EBMUD) provides wastewater treatment services for several East Bay cities, including Alameda, Berkeley, Emeryville, and Oakland. EBMUD charges a one-time wastewater capacity fee for each new customer. For the purposes of this table, the non-residential fee is estimated by converting the fee per ESFDU to a fee per square foot for non-residential uses based on square feet per EDU factors by use prepared by BKF for the City of Oakland Development Impact Fee Study, (Memorandum to Robert Spencer, May 1, 2015, Table 7).

/c/ EBMUD assesses a System Capacity Charge for new water system connections in its service area to cover the cost of system-wide facilities buy-in, regional facilities buy-in, and future water supply. For non-residential uses, the charge is based on meter size. The amounts shown here are based on the Oakland prototypes and assume similar buildings developed in the other cities served by EBMUD.

/d/ Except in Fremont, cities assessing a public art in-lieu fee assess the fee as a percentage of building value or cost, generally 1%. The amounts shown here are based on building cost estimates for Oakland prototypes and assume development of similar buildings in the other cities imposing the public art in-lieu fee.

Source: Hausrath Economics Group

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

CALIFORNIA TAX CREDIT ALLOCATION COMMITTEE

CalHFA

CALIFORNIA DEBT LIMIT ALLOCATION COMMITTEE

Release of the 2014 California Affordable Housing Cost Study

October 2014

The California Department of Housing and Community Development ("HCD"), the California Tax Credit Allocation Committee ("TCAC"), the California Housing Finance Agency ("CalHFA"), and the California Debt Limit Allocation Committee ("CDLAC") are pleased to present a large scale housing development cost study intended to measure the factors that influence the cost of building affordable rental housing in California. This study is the first such analysis completed for California since 1996.

Data was collected and analyzed from hundreds of multi-family projects completed in California from 2001-2011. The affordable housing developments analyzed represent a very diverse set of projects that span the state and provide housing to varied types of residents, including single individuals, large families, people with special needs, and seniors. The study analysis employed widely accepted statistical techniques to identify several factors that are correlated with raising or lowering the costs of developing affordable housing in California.

In addition to the empirical analysis of multi-family housing development costs in California, this study also examined the social and economic impact of affordable housing to better understand the indirect benefits from the investment in subsidized affordable housing.

The state housing agencies would like to thank the members of our Advisory Committee, who devoted significant time to the development of the study, its survey instrument, and data analysis. In addition, the state housing agencies would like to thank the members of the housing community that responded to our surveys and questions about their projects.

The high cost of constructing housing in California is an important public policy issue impacting our state's economic growth, its environment, and the health of its citizens. Policies that can help reduce the costs for the development of affordable housing can result in increased supply, fostering sustainable growth for our great state in the coming decades.

Affordable Housing Cost Study

Analysis of the Factors that Influence the Cost of Building Multi-Family Affordable Housing in California

Contents

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The report was prepared by the four state of California agencies with responsibility for affordable housing - the California tax credit allocation committee (TCAC), the California debt limit allocation committee (CDLAC), the department of housing and community development (HCD), and the California housing finance agency (CALHFA) - based on analysis conducted by Matthew Newman, Shawn Blosser, and Susan Woodward of the blue sky consulting group. An advisory group consisting of affordable housing developers, advocates and other experts guided the efforts of the study team. A list of Advisory Group members is provided in Appendix 6.

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In addition, we are grateful to the staff of the state's housing agencies, who provided access to state data, answered questions, helped identify missing or incomplete information and otherwise helped to make sure that this project could succeed.

EXECUTIVE SUMMARY

California's housing costs are among the highest in the nation. For low-income households, high housing costs can lead to problems such as frequent moves that interfere with children's school performance or families forced to live in unhealthy substandard housing.

To reduce the problems associated with high housing costs, federal, state and local governments have created an array of public programs intended to expand the supply of rental housing affordable to low-income California households. By increasing the supply of affordable housing, research suggests that these policies have helped to improve the educational attainment and health of residents while increasing economic activity and reducing social services costs.

These benefits notwithstanding, costs for developing affordable housing have been a subject of interest among policy makers and the public alike. In order to better understand the forces that drive the costs of developing affordable multi-family rental housing in California, the state's four housing agencies - the California Tax Credit Allocation Committee (TCAC), the California Debt Limit Allocation Committee (CDLAC), the Department of Housing and Community Development (HCD), and the California Housing Finance Agency (CalHFA) – joined together to commission a study of this important topic.

Working over the course of a year, the study team collected and analyzed data from hundreds of multi-family projects completed in California during the past decade, resulting in the largest and most comprehensive data set of its kind ever assembled for the state. The efforts of the study team were guided by the leaders of the state's housing agencies as well as by an Advisory Committee, comprised of affordable housing developers, advocates, and other subject matter experts. The affordable housing developments analyzed represent a very diverse set of projects that span the state and provide housing to varied types of residents, including single individuals, large families, and seniors. This diversity notwithstanding, the analysis employed widely accepted statistical techniques to identify several factors that are correlated with raising or lowering the costs of developing affordable housing in California.

The following are the key findings from this analysis:

- Local factors have an impact on costs. Specifically, projects with more community opposition, significant changes imposed by local design-review requirements, or that received funding from a redevelopment agency cost more, adding 5 percent, 7 percent, and 7 percent, respectively, to the cost per unit, on average.
- Certain types of parking can add significantly to development costs. Specifically, projects with podium or subterranean parking cost 6 percent more, on average, relative to other developments without this type of parking.

- Choices made by developers matter. Some developers are able to build less expensive projects than others. Larger developers and developers that employ general contractors have all built projects less expensively relative to comparable developers that don't share these characteristics. However, several factors cause us to question the reliability of this finding. Building quality and durability add to costs. Buildings that are more durable, are more energy efficient, or are built to a high standard of quality cost more to develop. Specifically, for each 10% increase in our quality measure (e.g., from "low" to "medium") costs increased by about 15 percent, on average.
- Affordable housing is characterized by economies of scale, with larger projects costing less per unit than smaller projects. According to our results, for each 10 percent increase in the number of units, the cost per unit declines by 1.7 percent
- Different types of units have different development costs. While it may be obvious, larger units, such as those with 3 or more bedrooms, clearly cost more per unit to develop. Smaller units, such as single room occupancy or "SRO" units, cost less per unit but more per square foot to develop. Specifically, our regression analysis suggests that SROs were approximately 31 percent less expensive per unit to construct relative to large family units, while units for seniors were about 18 percent less expensive per unit relative to large family units.
- Land costs influence the cost of developing affordable housing even when the land costs themselves are excluded from the development cost measure itself. This is true primarily because they indirectly affect the type of project that is built, as developers are more likely to build taller structures that include underground or podium parking on land that is more expensive to purchase.

From these empirical findings some conclusions can be drawn. First, the factors influencing costs are multifaceted, with no single factor explaining all or even most of the cost of developing affordable housing. Therefore, any approach to lowering costs must look across multiple factors, rather than focusing on a single issue. Next, each of the actors in the development process -- local communities, developers, state and federal agencies -- plays a role in influencing how much a project will cost to develop.

Taken as a whole, however, this analysis suggests that development costs could be lower for affordable housing in California, and that carefully structured incentives in the tax credit award process or other funding processes could lower average costs per unit. There are tradeoffs, however, to simply lowering development costs. For example, the data suggest that building projects to a lower quality or durability standard would cost less. The analysis also suggests that some changes could lower costs without reducing project durability or quality, such as encouraging larger projects that historically have cost less per unit to develop relative to smaller projects. Similarly, our results suggest that some developers built projects less expensively than others even after controlling for building type, quality, and location. If the techniques used

by these developers could be identified, encouraged and even replicated by all developers of affordable housing (perhaps by creating stronger incentives for cost efficiency), costs per unit could be lowered while still providing safe, clean and attractive affordable housing to California's most vulnerable populations.

INTRODUCTION

In California, high housing costs are an important economic and public policy issue. Whether the subject is homeowners struggling to make mortgage payments on a single-family home or renters facing the prospect of paying a large portion of their income for rent, high housing costs add stress to tight family budgets and shape decisions about where to live and work. For low-income residents of the state, however, high housing costs may cause bigger problems, pushing some families into unhealthy substandard housing or causing frequent moves which can undermine children's school performance. In response, private builders and public officials alike have sought to develop means of sheltering the state's low-income residents at a reasonable cost. In spite of these efforts, the high cost of developing housing remains an important concern.

To better understand the forces that drive the costs of developing multi-family rental housing in California, the state's four housing agencies - the California Tax Credit Allocation Committee (TCAC), the California Debt Limit Allocation Committee (CDLAC), the Department of Housing and Community Development (HCD), and the California Housing Finance Agency (CalHFA) – joined forces to commission a study of this important topic.

Working over the course of a year, the study team collected and analyzed data from more than four hundred affordable multi-family projects completed in California during the past decade. These projects span the entire state, and include a variety of building types, from large family units with three or more bedrooms to SROs (single room occupancy) consisting of a single room. Data for these projects were collected from the TCAC's records, surveys of developers, and publicly available information from private research institutions, state and federal governmental agencies.

In addition to the empirical analysis of multi-family housing development costs in California, this study also examined the social and economic impact of affordable housing to better understand the indirect benefits from the investment in subsidized affordable housing.

The study team's efforts were guided by the leaders of the state's housing agencies as well as by an Advisory Committee, comprised of affordable housing developers, funders, consultants, and other subject matter experts. Our data analysis was informed by the insights from this group, as well as by a thorough review of the literature on affordable housing. This report presents the results of this year-long research effort.

The Need for Affordable Housing

According to the national Center for Housing Policy, more than a quarter of working renters nationally spend half or more of their income on housing expenses.[1] In California, 34 percent of working renters spent half or more of their income on housing, according to the most recent report from the Center for Housing Policy. Among all 50 states, California has the highest fraction of working renters who spend half or more of their income on housing. The Center for Housing Policy reports that this housing burden worsened during the "great recession" as incomes fell even as housing expenses increased.[2]

In addition to the financial stress that high housing costs can place on households, research suggests that extreme housing burdens undermine educational attainment and are associated with poorer health outcomes and other social pathologies.[3]

In response to these (and other) concerns, federal, state and local governments have developed programs to provide affordable housing for low-income renters. The federal government's approach has generally focused on two avenues: (1) providing vouchers that low-income renters can use help make rental payments to private landlords and (2) providing funding (primarily in the form of tax credits) to increase production of affordable housing.[4]

What is Affordable Housing?

In this report, the term "affordable housing" refers to housing units developed in whole or in part with public subsidies and reserved for low-income residents. For purposes of assessing the social and economic effects of affordable housing, the term is also used to describe housing obtained with vouchers that offer rental assistance to low-income households.

SOCIAL AND ECONOMIC EFFECTS OF AFFORDABLE HOUSING

Each year the state and local communities in California invest substantial resources to help residents find affordable housing.[5] But what does the state get in return for this investment?

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[1] Vivelros, Janet and Maya Brennan, "Housing Landscape 2013." Center for Housing Policy.
[2] As measured by the Center for Housing Policy for the period 2008 to 2011.
[3] See "Social and Economic Effects of Affordable Housing" later in this report for a more compete explanation of these effects.
[4] Federal funding for other programs such as the HOME and CDBG programs has been declining in recent years.
[5] These investments come in the form of foregone tax revenues from tax credit financed projects and tax exempt bonds as well as direct expenditures from local property taxes and other sources.

The potential benefits of affordable housing are very broad, and extend from better school performance to improved health and well-being to increased economic activity. Research also suggests that some specialized types of developments, such as supportive housing that provides social services as well as affordable housing, can provide additional benefits in terms of reduced homelessness and lower costs for medical care and social service programs. Additionally, affordable housing built near transit ("transit oriented development" or TOD projects) can also help to reduce emissions of greenhouse gasses. A significant body of research describes the potential benefits of affordable housing.[6] In this section of the report, we review the published work on the social and economic effects of affordable housing and present the conclusions from this work.

Researchers have documented a wide variety of social and economic effects of affordable housing beyond the cost savings to residents from lower rents. Affordable housing impacts can be divided into three broad categories: education, health, and economic activity. By reducing involuntary resident mobility, whether due to eviction, inability to make rent payments, or a desire to avoid unhealthy or undesirable living conditions, access to affordable housing can produce important benefits for residents in the form of improved school performance and improved health. In addition, affordable housing construction can boost local economic activity through expenditures on construction labor, materials, and services in the local economy.

Education

Research suggests that access to affordable housing may improve educational outcomes among residents to the extent that it reduces involuntary mobility of low-income households. Involuntary mobility can result from a desire to avoid unhealthy or unpleasant living conditions (e.g., from living in substandard housing), eviction, or inability to make unaffordable rent payments.

Social science researchers have suggested a number of ways in which frequent family mobility translates into poor academic performance. Frequent mobility disrupts the social connections among children, parents, and teachers that have been linked to educational success.[7] Changing schools also subjects children to discontinuity in academic and social expectations, requiring an adjustment period during which academic outcomes may deteriorate.[8] In addition, living in substandard housing may

[6] See for example, Brennan, Maya, "Impacts of Affordable Housing on Education: A Research Summary." Center for Affordable Housing (2011).
[7] Swanson 56-57, Burkam (2009), Reynolds, Gruman.
[8] Burkam (2009), Reynolds.

increase exposure to environmental hazards that can worsen health, undermine learning or increase school absenteeism. Finally, homelessness is also associated with poor school performance.

These theories have been tested in numerous studies. Although methodological choices and data sources differ, a substantial body of research has shown a negative relationship between family mobility and educational outcomes. These poor outcomes span grade levels and racial backgrounds, and research suggests they worsen as the frequency of moves increases.[9, 10]

Because family mobility is strongly associated with socio-economic risk factors, such as poverty, parental education, and family structure, recent studies have attempted to establish the causality between family mobility and educational outcomes by looking at longitudinal data and assessing educational outcomes both before and after moving.[11] These studies suggest that family mobility is associated with poorer educational performance among students as measured by overall achievement, likelihood of repeating a grade, and/or likelihood of dropping out.

A 1994 study by the General Accounting Office provides the foundation for many of the subsequent studies on mobility and educational outcomes. This study examined education data for 15,000 third graders across 235 elementary schools. It found that more frequent moves were associated with lower achievement levels in math and reading. Additional moves were also associated with a higher likelihood of repeating a grade. Just 8 percent of third graders who never moved repeated a grade, but 20 percent of those who moved three or more times had to repeat a grade. The study also provided evidence that the likelihood of poor achievement in math and reading goes up with each additional move for all income levels, with the lowest income and most mobile families showing the worst achievement test results.

The GAO study findings are confirmed by a large body of other published work. One such study examined a sample of ninety children who had moved at least once during their first three years of school (kindergarten to second grade).[12] In every grade studied, increased family mobility was associated with lower scores on math and reading tests. A third study looked at the mobility and achievement in a sample of low-income children in Chicago.[13] Using a longitudinal study following children from kindergarten through the seventh grade, the researchers controlled for academic

[9] Burkham (2009), GAO (1994), and Mantzicopoulos (2000) examined elementary school outcomes. Rumberger (1998) and Swanson (1999) examined high school outcomes.
[10] Temple (1999).
[11] See, for example, Burkam and Reynolds, op. cit.
[12] Mantzicopoulos et al.
[13] Temple & Reynolds (1999)

achievement prior to a family's move as well as socio-economic factors. On average, reading and math scores were found to decrease with each successive move, with the worst outcomes for the most frequent movers.

Several other studies examined the performance of students over time to assess the impact of family mobility on achievement. Swanson and Schneider examined longitudinal survey data for a cohort of 25,000 nationally representative eighth graders. The researchers controlled for individual demographic characteristics and examined mobility from a number of perspectives: whether a child moves early or late in high school and whether the move involved a change of school, change of residence, or both. The results suggest that students who moved late in high school performed worse in math, while students who moved early in high school were more likely to drop out.

Burkam *et al.* used longitudinal data to study a cohort of over thirty thousand school children during the period from kindergarten through third grade. The study found that children who moved more than once during the first two years of school performed poorly in school, as did children who moved during kindergarten.

A meta-analysis conducted by Reynolds, Chen, and Herbers in 2009 confirmed the current understanding of the relationship between mobility and educational outcomes. The authors examined sixteen studies looking at the link between family mobility and education success as measured by achievement scores. The studies' combined examination period covers kindergarten through grade twelve. The authors reported that, out of the twelve studies that looked at achievement, ten found increased family mobility is associated with poor outcomes in math and reading scores. They further reported that family mobility at any time in a child's education was associated with decreased school performance.

Impact on dropping out

A number of other studies point to the link between high family mobility and high school completion. Similar to Swanson and Schneider, Rumberger and Larson use National Education Longitudinal Survey (NELS) data to track a cohort of over 11,600 students from eighth grade through two years after scheduled high school completion. Even after taking account of family background and parents' education, they found that children who moved twice or more were more likely to drop out of high school than children who had never moved. Also using NELS data, Teachman *et al.* assessed the likelihood of early drop-out (i.e., before the tenth grade). The researchers found that each change in school is associated with an increased probability of early drop-out, even when controlling for other factors that may influence the drop-out rate.

Impact on Homeless Children

Research suggests that homeless children face numerous obstacles to performing well in school. Specifically, homeless children are more likely to be absent from school, repeat a grade, drop out and perform poorly on standardized achievement tests.[14] To the extent that access to affordable housing reduces homelessness, it has the potential to improve school performance for these children.

Effects of Substandard Housing on Educational Performance

Exposure to environmental hazards such as lead can directly affect children's development while exposure to other hazards such as mold may increase the incidence or severity of asthma, which can increase absenteeism.[15] In both cases, school performance can suffer. To the extent that affordable housing provides access to living environments that reduce or eliminate exposure to these environmental hazards, it can contribute to improved school performance among residents.

Health

Research suggests that access to affordable housing can have an impact on the health outcomes of occupants by reducing exposure to environmental toxins and other hazards and/or by freeing up financial resources to pay for health care services or purchase more nutritious food.

Limiting Exposure to Environmental Hazards

Without a sufficient supply of affordable housing, families may be more likely to live in poor quality housing that presents hazards to their health. Joshua Sharfstein and his co-authors surveyed families qualified for but still waiting to receive Section 8 housing assistance.[16] The results of their research suggest that these families were exposed to higher levels of environmental hazards or other factors that increase the likelihood of injury or otherwise impair health relative to a comparison group. The authors reported that, relative to a comparison group, those awaiting affordable housing were more likely to have encountered rats (35.1% vs. 22.1% in the comparison group), gone without heat (31.0% vs. 18.7%), experienced the absence of running water (24.3% vs. 6.1%), lived with broken toilets (18.9% vs. 5.4%), and seen peeling paint (17.6 vs. 10.8). A comprehensive review of the impact of affordable housing on health by the Center for Housing Policy reports that "well-constructed and managed

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[14] Ernst, Greg and Foscarinis, Maria, "Education of Homeless Children: Barriers, Remedies, and Litigation Strategies." *Clearinghouse Review*: pp 754-759 November-December 1995.
[15] Moonie, Sheniz, et. al., "The Relationship Between School Absence, Academic Performance, and Asthma Status." *Journal of School Health* 78(3): pp. 140-148 (2008).
[16] Sharfstein, Joshua, et. al., "Is Child Health at Risk While Families Wait for Housing Vouchers?" *Am J Public Health*. 2001 August; 91(8): 1191–1192.

affordable housing developments can reduce health problems associated with poor quality housing by limiting exposure to allergens, neurotoxins, and other dangers."[17]

Access to Affordable Housing Can Improve Health Outcomes

A review of recent literature by Acevedo-Garcia *et al.* found that affordable housing policies "may potentially contribute to improving the health of both adults and children."[18] Two of the studies reviewed stand out: one (Katz, Kling) measured a range of physical and mental health outcomes and a second (Leventhal) assessed the mental health of mothers and children. Both studies examined the effects of the Moving to Opportunity (MTO) program, a Housing and Urban Development Department (HUD) experiment in which participants were randomly offered a) the treatment group - a Section 8 voucher valid only in a low-poverty area and housing counseling, b) a Section 8 voucher without geographic restriction, or c) no voucher (though voucher eligibility persisted). In both studies the treatment groups had statistically significant improvements in health outcomes, including fewer accidents, fewer behavioral problems, and greater incidences of feeling calm and peaceful. A similar finding was reported by Harkness and Newman, who examined a sample of 44,000 households in thirteen states and found that poor families that lived in areas with more affordable housing rated their children as having better health than poor families living in areas with less affordable housing.

Access to Affordable Housing Can Free-up Financial Resources

In addition to reducing the threats to physical and mental wellbeing, access to affordable housing can improve health by freeing up financial resources to pay for health care services. Using longitudinal data from the Consumer Expenditure Survey, Levy and DeLeire assessed the spending habits of the uninsured versus the insured, controlling for demographic traits, income, and location. They concluded that the uninsured spend a larger share of income on housing, food, and education than the insured population, suggesting the poor households shift their spending away from buying health insurance to cover expenses for basic necessities. A recent study by the Center for Housing Policy had similar findings, reporting that households that spend more than half their income on housing spend only 4.2 percent of their income on healthcare and insurance compared with the 9 percent allocated by households that spend less than thirty percent of their income on housing. Even after controlling for traits such as family structure, education, location, and race, working families that spend more than half their income on housing spend an average of $683 less annually on healthcare when compared

[17] Cohen, Rebecca, "The Impacts of Affordable Housing on Health: A Research Summary" Center for Housing Policy 2011.
[18] Acevedo-Garcia, Dolores, et. al., "Does Housing Mobility Improve Health?" *Housing Policy Debate*, Volume 15 Issue 1 (2004).

with families that spend less than thirty percent of their income on housing.[19] The authors also report that families that spend more than half their income on housing are less likely to have enough money for food and are less likely to have health insurance compared with families that spend less of their income on housing but are otherwise similarly situated.

Other researchers have observed that poor households must often choose between paying for housing and paying for food. Reviewing data for almost 12,000 children surveyed by the Children's Sentinel Nutrition Assessment Program (C-SNAP), researchers stratified the data by households' food security status to assess the impact of receiving a rent subsidy on birth weight.[20] After controlling for demographic characteristics and participation in other transfer payment programs, the authors found children receiving rent subsidies had higher birth weights compared to similar children in households without rent help. Children without rent subsidies were further found to have a clinically significant lower average birth weight. This suggests that by easing the strain on family budgets imposed by high housing costs, affordable housing enhances poor households' ability to meet the basic nutritional needs of pregnant mothers and their children.

Finally, the impact of family mobility is not just limited to educational achievement scores. Simpson and Fowler used longitudinal data from the National Health Interview Survey to examine the impact of family mobility within a sample of over 10,000 children in grades one through twelve. Even when controlling for demographic characteristics, the researchers found children who moved three or more times had almost double the chances of having emotional or behavioral problems relative to those that never moved, including depression, hyperactivity, peer conflict, and antisocial behavior.

Economics

The principal economic argument in support of affordable housing suggests that investments in affordable housing development increase economic activity, thereby benefiting the state's economy and generating additional tax revenue for the state and local governments.

Impact on the Economy of Construction Expenditures

Housing development generates economic activity directly from construction expenditures as well as from follow-on expenditures by construction workers and firms in the local economy. A number of studies have been conducted that measure the local economic impact stemming from development of affordable housing. These studies suggest that development of affordable housing can generate both

[19] Lipman 2005.
[20] Meyers *et al.* Food security status defined as regular access to an adequate amount of food.

temporary construction related employment and ongoing consumer purchase driven jobs in the local economy. For example, a study by the National Association of Home Builders estimated that construction of a 100 unit LIHTC affordable housing development leads to the creation of 122 jobs related to the construction activity and 30 ongoing jobs related to the purchases made by residents in the local economy.[21] This local economic activity can, in turn, create fiscal benefits for the state and local governments as a result of sales taxes collected on construction materials, income taxes paid by construction and other workers, and corporation or income taxes on profits earned by builders, developers, and other affected firms.

Because much of the direct cost of developing affordable housing is paid for in the form of federal tax credits, a substantial fraction of this economic activity represents additional or new economic activity in California that would not occur in the absence of the affordable housing development. That is, because the development is financed by tax credits, in the absence of such development at least some fraction of these financial resources likely would be paid to the federal government as taxes instead of invested in California's economy. We were not able to identify any studies that directly measured the fraction of spending that represents new economic activity. Nevertheless, given the amount of resources spent each year on development of affordable housing, the effect is likely substantial.

Impact on Regional Competitiveness

Research also suggests that affordable housing can lead to improvements in a local economy to the extent that lower housing costs are viewed as a comparative advantage by employers and workers. According to a report by the Center for Housing Policy, a lack of "affordable housing can affect an employer's ability to attract and retain employees and can thus have implications for regional economic competitiveness."[22] This report goes on to note that access to "affordable housing programs may contribute to employee retention." Therefore, while subsidized affordable housing comprises just one element of an overall housing market, to the extent that it lowers housing costs for local workers it may contribute to improved regional competitiveness.

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[21] These estimates reflect the overall extent of economic activity in a local region and do not necessarily reflect new economic activity, since some portion of the resources devoted to development of affordable housing are shifted from other regions where economic activity would decrease. In addition, the increased local expenditures from residents of affordable housing reflect, at least in part, a transfer from taxpayers who subsidize affordable housing development through higher taxes. See National Association of Home Builders, "The Local Impact of Typical Housing Tax Credit Developments," 2010.

[22] Center for Housing Policy, "The Role of Affordable Housing in Creating Jobs and Stimulating Local Economic Development," 2011.

Impact on Property Values

A common objection to affordable housing projects is that they threaten property values of nearby homes. Although this perception is firmly rooted, it is not firmly supported by empirical studies. In a review of seventeen studies examining the issue, Mai Thi Nguyen finds that current research does not support a definitive conclusion about the relationship between affordable housing and property values.[23] Instead, the impact depends on a range of factors, including the management of the project, the neighborhood in which it is located, and the concentration of affordable developments within a confined geographic area. The study's author notes, for example, that "not only can a well-maintained affordable housing development not detrimentally affect property values, it is conceivable that it can raise property values in neighborhoods, such as those that contain abandoned homes and neglected or physically deteriorating properties." The author further notes that, "when negative effects exist, they are small."

Other Benefits of Affordable Housing

Impact on Social Service Costs

In addition to the impact on jobs and the economy, research suggests that certain types of affordable housing may help to save taxpayer money by reducing the utilization of public services by chronically homeless individuals. Specifically, affordable housing that combines housing with targeted health and social services (known as supportive housing) has the potential both to reduce homelessness and to lower costs for social services programs. According to a 2010 report by Dennis Culhane of the University of Pennsylvania, for example, "there are compelling principles underpinning the concept of permanent supported housing as well as significant evidence of it being both an effective and fiscally sound strategy for reducing chronic homelessness."[24] Examining administrative data from New York City, researchers compared the use of shelters, psychiatric, medical, and veteran hospitals, Medicaid, jails, and prisons by persons with severe mental illness who were housed in affordable housing against the service use of those who were not.[25] With the exception of Medicaid use, the researchers found that use of all other categories of service decreased, with a net reduction of $12,146 of total annual service use per person in affordable housing. These service cost savings covered 95 percent of the

[23] Nguyen, Mai Thi, "Does Affordable Housing Detrimentally Affect Property Values? A Review of the Literature." Journal of Planning Literature, Vol. 20, Number 1 (2005).
[24] Culhane, Dennis, "Ending Chronic Homelessness: Cost-Effective Opportunities for Interagency Collaboration," Selected Works of Dennis Culhane, 2010.
[25] Culhane *et al.* "Public Service Reductions Associated with Placement of Homeless Persons with Severe Mental Illness in Supportive Housing." University of Pennsylvania ScholarlyCommons (2002).

housing program cost. Similar results were found in a study of supportive housing for chronically homeless alcoholics in Seattle, WA that compared the service use of residents against the service use of those on the waiting list.[26] The researchers of the Seattle study concluded that after just six months in the program, individuals who were placed in housing decreased their alcohol use as well as their use of hospitals and jails.

The reduction in public service use is also found in California. Project 50, a pilot project to house the chronically homeless in Los Angeles, released its cost effectiveness assessment in June 2012. Like the New York and Seattle programs, Project 50 targets the high-risk, chronically homeless and places them into affordable housing paired with social services. One year into the program, the county reported that residents in Project 50 had significantly lower costs for incarceration and medical services, with a $1.2 million decline in total service use. The second year is projected to result in an estimated $2.08 million decline in service use. With these cost savings the county calculates that Project 50 generated a surplus of $4,774 per program participant. The results of these studies suggest that affordable housing for the chronically homeless can serve the interests of residents and taxpayers more generally.

Environmental Impacts

Affordable housing also has the potential to facilitate the accomplishment of other state policy goals, including the reduction in greenhouse gas (GHG) emissions. By constructing housing near transit, transit oriented developments (TOD) can help to reduce GHG emissions by allowing residents to use transit instead of personal vehicles for many of their transportation needs. According to a study by the federal Transportation Research Board, "TODs can contribute toward creating a more sustainable built form, functioning as a counter-magnet to auto induced sprawl."[27] Specifically, the report notes that "research shows living and working near transit stations correlates with higher ridership" and cites a study of TODs in Santa Clara County (among many others) that found "TOD residents patronized transit as their predominant commute mode more than five times as often as residents countywide." According to a study by the Texas Department of Transportation, "moving into TOD decreases VMT [vehicle miles traveled] by an average of 15 percent, or about 3,500 miles per year."[28] These effects may be especially pronounced among the low income residents of affordable housing. According to a report by the California Housing Partnership, "while living in TOD homes increases transit ridership among people of all incomes, low-income people demonstrate the highest transit ridership in TOD

[26] Lorimer 2009
[27] Transportation Research Board of the National Academies, "Transit-Oriented Development and Joint Development in the United States: A Literature Review," *Research Results Digest*, October 2002 Number 52.
[28] Texas Department of Transportation, "Evaluating the Impact of Transit-Oriented Development," 2011.

neighborhoods."[29] Therefore, in addition to the other effects discussed previously, constructing affordable housing as part of TODs has the potential to reduce GHG emissions as a result of increased transit ridership and decreased use of individual passenger cars.

Other policies, such as those that encourage use of environmentally sustainable or energy efficient building materials can also act to help the state achieve important policy goals.[30]

In Sum

In sum, the body of existing social and economic research suggests that access to affordable housing can produce important benefits for California. This research suggests that access to affordable housing can improve educational outcomes, increase health and wellbeing, boost economic activity, and can lower social services costs for state and local governments, among other benefits.

STUDY METHODOLOGY

The principal goals of our empirical analysis were twofold: First, we sought to analyze the factors that influence the cost of building subsidized affordable multi-family housing in California. Second, we sought to compare the costs of building affordable housing to the costs of building comparable market rate multi-family rental housing.[31]

Each of these analyses is characterized by the complex and interactive nature of the underlying factors that can influence costs. For example, projects built in densely populated urban areas may be more expensive than projects built in rural areas. Similarly, larger projects may be less expensive on a per unit basis to construct than smaller projects due to economies of scale. Since larger projects also tend to be built in urban areas, isolating the relationship of economies of scale to cost when looking across diverse geographic regions can be particularly challenging. One approach might be to look only at projects in urban areas. However, this requires sufficient, similar urban projects with which to make comparisons. And, if some of these urban projects confronted other unique challenges, such as significant community opposition, it can become difficult to determine whether it is the extent of community

[29] California Housing Partnership and TransForm, "Why Cap and Trade Auction Proceeds Should Fund Affordable Homes Near Transit," 2013.
[30] A full life cycle analysis of the impact of energy efficiency and environmentally sustainable building materials and approaches was beyond the scope of this study.
[31] Because of the high degree of variability in costs associated with rehabilitation projects, this study focused on the costs for newly constructed housing units.

opposition or economies of scale that drive a cost differential. When the analysis is broadened to include multiple potential cost factors, the analysis becomes that much more complex.

In order to simultaneously analyze all of the factors that can influence costs, we used the statistical technique known as regression analysis. Regression analysis is commonly used by economists and others when seeking to measure the relationship between one factor (e.g., project size) on another factor (e.g., cost of building affordable housing). One of the important benefits of regression is that it allows the investigator to isolate the relationship between two variables in an environment in which multiple factors are at work. In this way, using regression analysis allows the researcher to measure the impact of project size on the cost of building affordable housing without needing to directly compare otherwise identical projects.

When economists discuss regression analysis results, they typically talk in terms of "controlling" for other factors. "Controlling" could be written as "taking account of." For example, regression analysis can measure the relationship between economies of project size and unit cost while "controlling" for (taking account of) the extent of community opposition, project location, and various other factors. As such, regression analysis can be used to investigate the relationship between project size and project development cost independent of (or while controlling for, or taking account of) other factors that may also be related to cost such as community opposition or project location.

Fine Print

While it has many advantages, regression analysis is also subject to some important limitations. First, while regression analysis can indicate that one factor (e.g., project size) is correlated with an outcome (e.g., lower costs per unit), it generally does not allow for definitive statements about causality. Instead, it simply offers a measure of the relationship between two variables (e.g., larger projects are associated with lower costs per unit), but generally cannot say for certain that one thing causes the other.

Second, a regression analysis result is not a certainty, but instead a statement about likelihood. For example, when a result is said to be "statistically significant," this means that the result is very unlikely to be due to random chance or variations across different samples that may be drawn from an underlying population. And, while regressions can provide point estimates of the extent of the correlation of one variable with another, there is a margin of error around these estimates. Conversely, when a result is described as "not statistically significant," this does not necessarily mean that there is no relationship between the two variables. Instead, it means that, given the limitations of available data and the details of the regression model used, we cannot say with confidence whether the two variables are positively correlated, negatively correlated, or not correlated at all.

Finally, in spite of efforts to collect data on as many relevant factors as possible, a regression analysis may nevertheless fail to capture one or more important factors (e.g., factors that influence

development costs may still be excluded from the analysis). To the extent that one or more missing variables is correlated with one of the included variables, it is possible that the coefficient on the included variable is biased (i.e., is not an accurate reflection of the relationship between the included variable and cost, for example). This phenomenon (called "omitted variable bias") is a pitfall to which any regression analysis potentially would be subject and simply means that the point estimate from the regression analysis may be too high or too low relative to the "actual" value. Nevertheless, we have no reason to believe that omitted variables are biasing the findings; indeed, the results we present reflect findings that are robust across multiple versions of the regression models that we developed.

Data Sources

In order to analyze the factors associated with the cost of developing affordable multi-family housing we relied upon data from three main sources: (1) TCAC data (from the database of project applications as well as the project paper files), (2) data collected from surveys of the project developers, and (3) data from various public sources. Each data source is described in more detail below.

TCAC Data

Applications submitted to the California Tax Credit Allocation Committee represent the primary source of project-specific data.[32] Every developer seeking to use federal housing tax credits to finance a project must submit an application to TCAC. These applications contain important information about a project, such as type and size of the project, project location, developer type and experience, number and type of additional financing sources, and a host of additional project and developer characteristics.

Much of the application information submitted to TCAC is stored electronically in a searchable database. This database constituted the starting point for our analysis. Data were collected for projects approved by TCAC during the period 2001 – 2011. In addition, we limited our analysis to projects that had been completed, or "placed in service," as of 2012. Examining only projects that were placed in service allowed us to analyze actual construction and other development costs, as opposed to cost estimates or projections. Because of the dramatic changes in the housing market that took place during the "Great Recession" that started in 2008, we sought to analyze projects completed prior to 2008, during what many have described as a housing boom, as well as during and following the Great Recession in order to gain a picture of how costs have changed over time.

[32] Based on interviews with affordable housing experts and consultation with the project sponsors and Advisory Committee members, we determined that the overwhelming majority of affordable rental housing units constructed in the state over the past decade utilized TCAC tax credit financing, among other sources (i.e., very few projects would escape our analysis if we relied on TCAC data as the starting point).

Because the TCAC database contains only portions of submitted application data, we supplemented the TCAC electronic data with information from paper project files. These files contain all of the information originally submitted as part of the application process as well as the final cost certification reports provided by the developer once a project is completed. These final cost certification worksheets contain financial information about each project and are required to be reviewed by an independent auditor. As such, these reports contain the best and most accurate information available about actual final project costs and characteristics.

Developer Surveys

While the TCAC electronic and paper files contain a wealth of information about the individual projects, some information that is relevant to the analysis nevertheless was not included among these sources. Specifically, we sought information about local requirements for design/review, the number of community meetings held to discuss the project, the level of California Environmental Quality Act (CEQA) review required for the project, and the nature of the land purchase (i.e., whether the purchase was an arm's length transaction). We also sought information about the relative quality and durability of the construction materials and techniques employed, as well as the energy efficiency characteristics of the project so that we could accurately compare projects that may vary considerably across quality and durability characteristics. Finally, we collected information about the developers who built these projects, such as the developer's size and experience, the types of on-staff employees, and the strategies used to address cost increases.

Information about these factors (among others) was collected via a survey of affordable housing developers conducted in the fall of 2012.[33] Specifically, a survey request was sent to each developer identified in the TCAC applications approved between 2001 and 2011 (the "Developer Survey"). A second survey was sent to developers of market rate multi-family projects in an attempt to collect information for comparable market rate developments (the "Market Rate Survey"), which was conducted during the winter and spring of 2013.

Public Sources

Finally, project and developer information from the TCAC records and the two surveys was supplemented with publicly available information. This public information included data on construction wage rates from RAND California, income and population density from the Bureau of the

[33] A copy of the survey instrument along with a description of the survey methodology is included in Appendix 3: Developer Survey Instrument.

Census, interest rate data from the Federal Reserve Board, and unemployment rates for each location from the Employment Development Department.

A complete list of public data sources and description for the variables used in the analysis can be found in Appendix 1: Data Descriptions and Summary Statistics.

The Final Data Set

The final data set used for our analysis consisted of 400 multi-family affordable projects that received either 9 percent or 4 percent tax credit awards and had a usable response from the Developer Survey. The final data set also was limited to those projects that involved new construction, excluding any projects that involved the rehabilitation of existing buildings.[34] Figure 14: Compiling the Final Analysis Data Set on page 57 presents additional details on the total number of projects, and the number that were excluded as a result of missing or incomplete survey responses, paper files or other data elements.

Cost Measures

In order to analyze the factors that influence the cost of developing multi-family affordable housing in California, we first needed to determine how the report would express "cost." While this may seem a straightforward matter, the choice of cost measure can have an important impact on the results of any analysis. For example, comparing projects on a cost per square foot basis (without controlling for other factors that influence costs) would likely find that larger units are less expensive to construct relative to smaller units. Thus, a comparison of costs per square foot in one community that had a need for large family housing to the costs in another that had a need for single room occupancy units would presumably find that the costs of developing housing in the first community were lower than in the second. Examining costs on a per unit basis would likely lead to the opposite conclusion. That is, large family units are generally more expensive on a per unit basis than smaller SRO units.

In order to address this issue, we examined costs on a per unit basis while taking account of the number of units and the size of the units in square feet. This approach allows us to measure the impact

[34] Five projects were excluded because they were determined to be extreme outliers in terms of one or more of the cost measures utilized, defined as being more than three standard deviations from the mean for one or more measures of cost (cost/unit, cost/sq ft, etc.).

of the cost factor of interest (e.g., economies of scale) on the cost per unit independent of difference across projects in terms of project or unit sizes.[35, 36]

To determine the cost per unit, we relied upon the certified cost worksheets submitted by TCAC applicants once a project is placed in service. The cost measure we utilized was total development cost net of costs for land acquisition. We excluded land costs because these costs can vary widely and are highly dependent on geography. Land costs were examined separately.[37]

RESULTS

This section discusses the results of our analysis of the affordable housing developments and the factors that are correlated with higher or lower development costs. We first provide an overview from the data, examining the main factors that appear to influence costs and providing some summary statistics on the projects and their associated characteristics. We then present the results of our regression analysis, which suggest that there are indeed a wide range of factors that can influence the costs of developing affordable housing in California. Finally, we look at the range of land acquisition costs associated with affordable housing developments and compare the actual costs for constructing affordable housing to estimated construction costs for comparable apartment buildings in California.

Components of Development Cost

Development costs for affordable housing projects come from a variety of sources. Figure 1 presents data on the various cost components as a percentage of total development cost (net of land). Construction costs are by far the largest category, accounting for 69 percent of total development costs. Demolition/Site Prep and developer fees were the next largest categories, accounting for 8 and 7 percent of total costs, respectively. Local permits and development impact fees comprised 6 percent of total development costs, and costs for architects, engineering and surveys represented 4 percent. Acquisition costs and offsite

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[35] The cost measure used in the regression analysis was defined as the natural logarithm of cost per unit, as discussed in

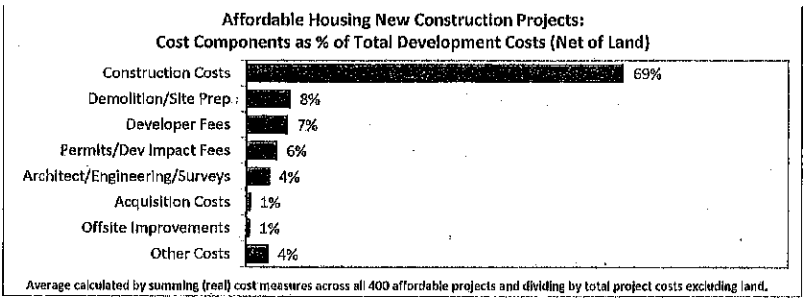
Appendix 4: Detailed Regression Results

[36] To confirm our results, we also examined costs on a per square foot basis and on a per bedroom basis, although results from our regression analysis were generally similar given that we controlled for project square footage and number of bedrooms in our regression models.

[37] Note that, in addition to the regression models discussed below which are based on total development cost per unit net of land cost, we also analyzed total construction cost per unit. This measure excludes land costs as well as site preparation, developer fees, and several other cost categories. Results for the construction cost regression analyses were similar to those results reported for total development cost net of land.

improvements were just one percent of costs, with other costs accounting for the remaining 4 percent of development costs (acquisition cost amounts are as reported on the final cost certifications for included projects. These amounts exclude land costs, which are reported separately on the cost certifications).

FIGURE 1: SOURCES OF DEVELOPMENT COST

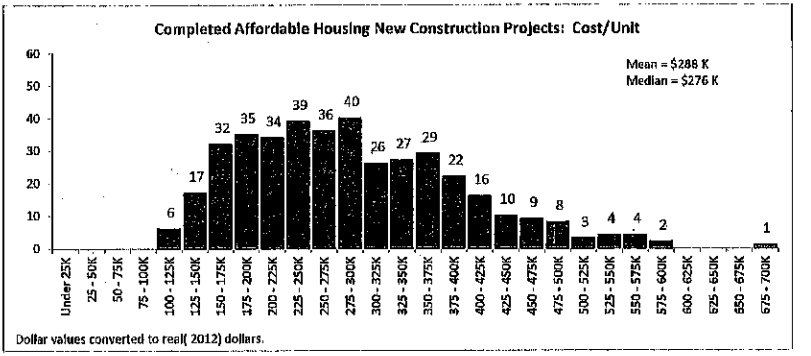


Overview of the Affordable Project Data

The 400 projects included in our analysis represent a very diverse set of housing options. The projects range in size from large, high-rise projects with more than 600 units to single story projects with just a dozen units. More than one-third of the projects reviewed were built with a majority of the units having three or more bedrooms, while other projects were small, single room occupancy developments comprised entirely of studios. In terms of location, these projects span the entire state, including highly developed urban centers as well as rural counties.

Reflecting this diversity, the cost of developing these projects varied widely as well, from about $4 million at the low end to more than $250 million at the high end, when converted to 2012 dollars. Even when viewed on a cost per unit basis, there was a considerable amount of variation in the data, with the least expensive projects costing around $100,000 per unit while the most expensive were $500,000 or more per unit. Figure 2 presents the distribution of projects on a cost per unit basis.

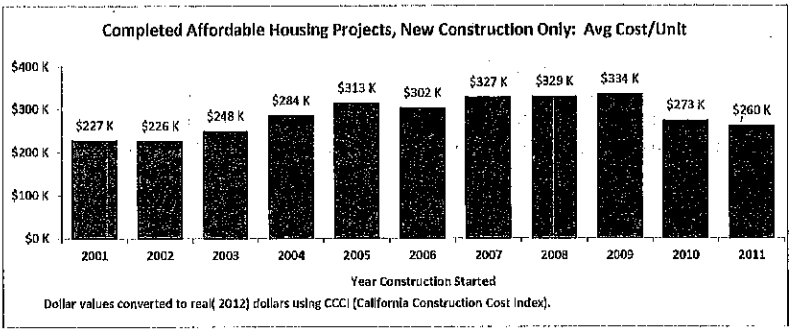
FIGURE 2: COST PER UNIT OF TCAC FINANCED PROJECTS



Costs Have Changed Over Time

The projects in our data set were constructed over a period of eleven years, from 2001 through 2011. During this period, the state's economy experienced significant changes, and the costs of developing affordable housing changed as well. Figure 3 shows the average cost per unit by year for the projects included in the analysis.

FIGURE 3: AVERAGE COST PER UNIT FOR COMPLETED PROJECTS, 2001 – 2011



As the data in Figure 3 indicate, the average cost per unit rose between 2001 and 2009, with a slight dip in 2006. After 2009, however, the average cost per unit for completed projects fell in both 2010 and 2011. Even with the cost declines in recent years, however, the average cost per unit for projects coristructed in 2011 was about $33,000 higher in real terms relative to the projects from the beginning of the period, representing an increase of about 15 percent.[38]

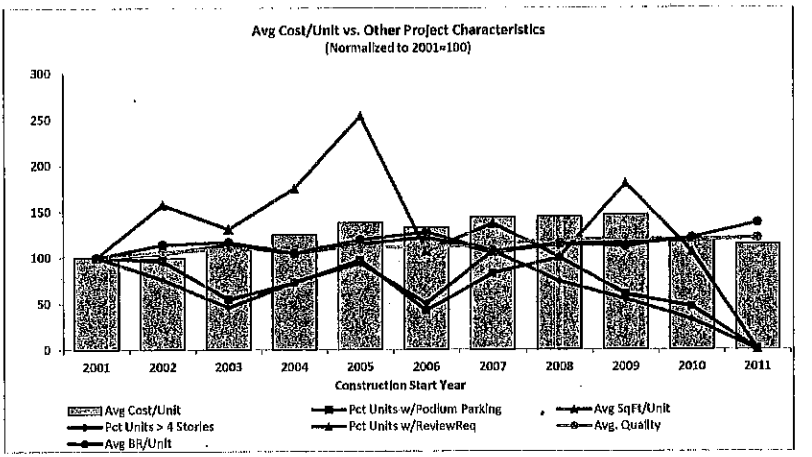
In addition to economic changes, the type of units that received tax credit awards also changed during the study period, although no single factor appears to be responsible for the pattern of cost changes observed. Instead, a combination of multiple factors working in unison acted to influence development costs over the period. For example, the number of bedrooms per unit increased fairly consistently through 2006, which would have acted to increase costs per unit over this period. However, after a brief decline in 2007, the number of bedrooms per unit once again increased during the period 2008 through 2011 even as costs per unit declined. As one might expect, the square footage per unit follows a very similar pattern, increasing through the 2001 – 2006 period, dipping briefly, and then increasing.

The percent of units that were built in projects that were 4 or more stories exhibited a somewhat different pattern, moving up and down through the period 2001 to 2007, where it reached a peak of 46 percent of completed projects. Then, the fraction of projects of 4 or more stories began a decline throughout the remainder of the study period, decreasing as costs were falling. Similarly, the fraction of projects that included podium parking moved up and down during the 2001 to 2008 period, but then began a steady decline, which tracked a decline in cost per unit. Other factors, such as the fraction of projects requiring significant changes as a result of local design review processes also moved in a pattern that loosely tracked cost changes, although the pattern suggests that this factor alone is not responsible for changes in costs over time.

The graph in Figure 4 shows these project characteristics compared to the average cost per unit, with all series normalized to equal 100 in 2001. While these trends may hint at the reasons for changes in costs over time, simply looking at the type of units that were approved cannot fully answer the question of how these changes may have interacted to influence overall project costs or what additional factors are at work to influence costs.

[38] Because these cost figures are net of land costs, and have been adjusted for changes in construction materials and wage costs, they reflect real changes in the average cost per unit over time.

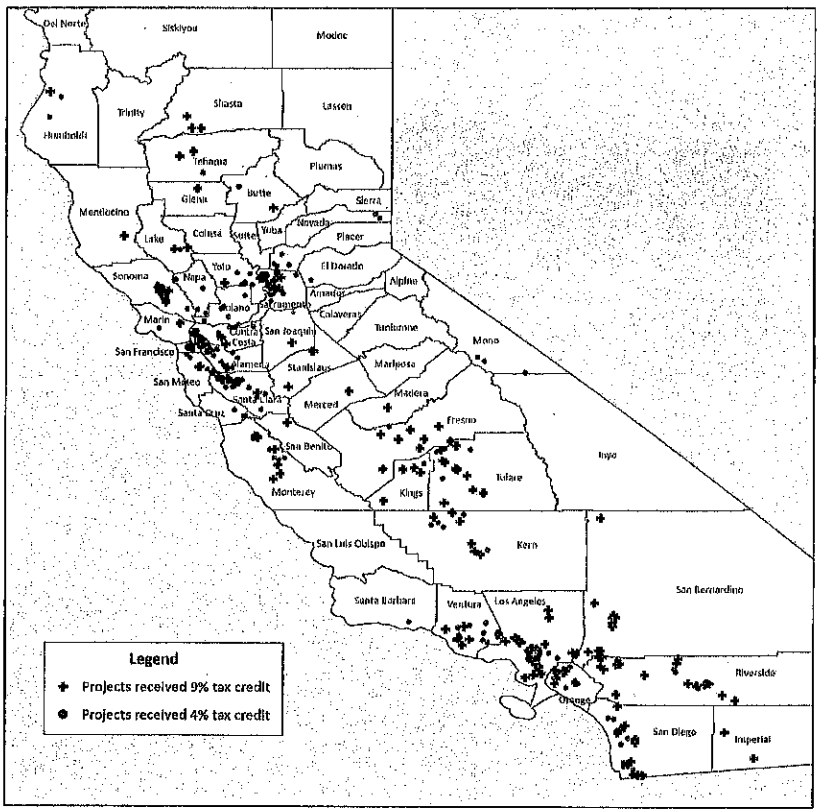
FIGURE 4: PROJECT CHARACTERISTICS BY CONSTRUCTION START YEAR



Location, Location, Location

Figure 5 presents the location of each project included in the study.

FIGURE 5: AFFORDABLE PROJECTS INCLUDED IN STUDY



The California Tax Credit Allocation Committee (TCAC) has divided the state into distinct geographic regions.[39] For the purpose of our analysis we have also used these regions to examine geographic differences in project characteristics and costs. The regions are defined in Figure 6 below.

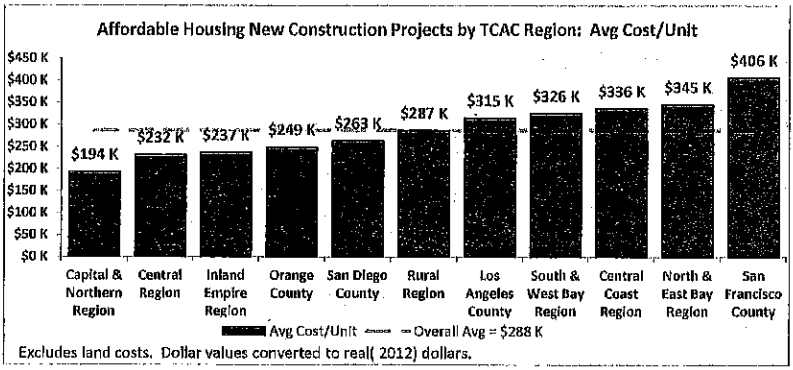
FIGURE 6: TCAC GEOGRAPHIC REGIONS

TCAC Geographic Region	Counties
Rural Region	Alpine, Amador, Calaveras, Colusa, Del Norte, Glenn, Humboldt, Inyo, Lake, Lassen, Mariposa, Mendocino, Modoc, Mono, Nevada, Plumas, San Benito, Sierra, Siskiyou, Tehama, Trinity, Tuolumne
Capital and Northern Region	Butte, El Dorado, Placer, Sacramento, Shasta, Sutter, Yolo, Yuba
North and East Bay Region	Alameda, Contra Costa, Marin, Napa, Solano, Sonoma
San Francisco County	San Francisco
South and West Bay Region	San Mateo, Santa Clara
Central Region	Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare
Central Coast Region	Monterey, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura
Los Angeles County	Los Angeles
Orange County	Orange
Inland Empire Region	Imperial, Riverside, San Bernardino
San Diego County	San Diego

Looking at projects across the state reveals considerable variation in per unit costs depending on where a project is built. Figure 7 presents the average cost per unit by TCAC region for the projects in our sample.[40] As these cost figures demonstrate, the average unit in the most expensive region, San Francisco, was more than twice as expensive to develop as the average unit in the least expensive region, the Capital and Northern Region. While these cost differences in part reflect the type of project, the quality of materials and finishes, and other non-location specific factors, there nevertheless is a considerable degree of variation in costs across locations.

[39] See "California Tax Credit Allocation Committee Regulations Implementing the Federal and State Low Income Housing Tax Credit Laws, California Code of Regulations, Title 4, Division17, Chapter 1" dated May 15, 2013. (http://www.treasurer.ca.gov/ctcac/programreg/20130515/clean.pdf). Note that the apportionment limits additionally divide Los Angeles County into two regions, the City of Los Angeles and the balance of Los Angeles County.
[40] Figures include only projects for which both TCAC and Developer Survey data were available.

FIGURE 7: AVERAGE COST PER UNIT BY TCAC REGION



For example, the regions differed in terms of the type of units that were constructed. Figure 8 provides a summary of selected characteristics broken out by TCAC region. In San Francisco, for example, 100 percent of the units constructed were in projects with 4 or more stories while in the Capital and Northern Region, just 3 percent of units were 4 or more stories. However, the San Francisco unit sizes are quite small relative to other projects, with an average unit having only 1.49 bedrooms, the fewest of any region, and 911 square feet, ranking second only to Orange County in terms of the smallest units constructed.

FIGURE 8: CHARACTERISTICS OF PROJECTS BY TCAC REGION

Region	Avg BR/Unit	Avg SqFt/Unit	Pct Units > 4 Stories
Central Coast Region	2.25	1,147	23%
Rural Region	2.42	1,074	0%
Central Region	2.50	1,070	0%
Inland Empire Region	2.29	1,016	2%
North and East Bay Region	1.92	1,005	38%
Los Angeles County	1.88	981	59%
South and West Bay Region	1.68	931	51%
San Diego County	2.05	924	40%
Capital and Northern Region	1.86	923	4%
San Francisco County	1.49	911	100%
Orange County	1.71	820	15%

Projects also varied in terms of the extent to which they included podium parking (from zero projects in the Rural Region to 82 percent in the South and West Bay Region), provided housing for large families (from 38 percent in San Francisco to 88 percent in the Rural Region), and received redevelopment funding (8 percent in the Central Region to 50 percent in Orange County), among other factors.

As these comparisons demonstrate, a host of factors could potentially influence development costs through time and across regions. A simple review of project characteristics may provide some insight as to what is driving cost differences, but it cannot provide a complete understanding of the extent to which these factors are associated with higher or lower development costs. Instead, we must employ a more robust statistical approach: the regression analysis presented in the following section.

Sorting It All Out: A Statistical Analysis of the Factors that Drive Development Costs

Given the diversity of the types of projects developed over the past decade, talking about the typical or average affordable housing project is of limited use. Each project represents the unique circumstances of the occupants it was intended to house, the time period and location in which it was developed, and the characteristics of and choices made by the developer who built it, among other factors. Nevertheless, careful examination of the data can reveal some insights into the factors that are associated with higher (or lower) costs of developing affordable housing.

In the following sections we discuss the results of our regression analysis, which allow us to measure the cost differentials associated with specific project and developer characteristics while taking account of other cost factors. In interpreting these results, it is important to note that, like the results of any statistical analysis, the coefficients reported are not exact values and are subject to uncertainty.[41] Nevertheless, the results presented below provide a general indication of the direction and extent of the relationship between the factors analyzed and the cost of developing affordable housing. A full description of the regression analysis and the results is provided in

[41] In order to determine if our results were robust, we tested many different versions of our regression model. In a small number of these alternatives, the significance level or size of some of the explanatory variables (e.g., prevailing wages or developer type) decreased. The results presented here, however, were generally robust across many different versions of the regression models we tested, although the exact value of estimates varied across models. Additional details about these alternative regression models is provided in the Appendix.

Appendix 4: Detailed Regression Results.

Project Type and Unit Size

Looking at the size of projects and the type of residents for which they were designed can help to explain a significant portion of the cost variation. The study included project type characteristics in its analysis not only to take account of cost differences due entirely to these factors, but also to indicate the cost differences associated with choices about the type of units and structures built.

Projects built to house large families were the most expensive to build on a per unit basis and the least expensive on a per square foot basis. SROs, on the other hand, were the least expensive per unit, but the most expensive per square foot. Specifically, the regression analysis we present here suggests that SROs were approximately 31 percent less expensive per unit to construct relative to large family units, while units for seniors were about 18 percent less expensive per unit relative to large family units. Thus, for an average project that cost approximately $288,000 per unit, these results suggest that large family units cost approximately $89,000 more to develop relative to an SRO unit and approximately $52,000 more than a senior unit.[42]

The number of stories was also an important cost driver. Specifically, our analysis suggests that, when controlling for other factors, housing units in buildings that were four stories or taller were about 10 percent more expensive to build. For an average project, that translates into an additional $28,000 per unit when compared to projects that were 1 to 3 stories tall.

Building sufficient resident parking is another important determinant of project costs. The type of parking required (either by economic factors, the constraints of a particular project site, or local requirements) matters as well. According to our analysis, projects with underground or podium parking were, on average, more than 6 percent more expensive per unit relative to projects without this type of parking. For the average project, these results suggest that including podium parking added approximately $18,000 to the cost of each unit relative to projects without this type of parking.

Local Factors

The local community in which a project is built can also influence costs. Our analysis sought to examine three potential cost drivers influenced by local circumstances.

[42] Large family units of three or more bedrooms typically have an additional bathroom as well as additional facilities for children.

First, requirements imposed by local governments can cause a project to be altered, both in terms of appearance and in terms of physical size and other characteristics. Our analysis suggests that changes required by local design and review requirements can add to total development costs (excluding land). Specifically, developers reported that for 33 percent of the projects in our sample, local design review added at least 5 percent to total costs. Our statistical analysis of these projects confirmed that, even when controlling for other factors that influence costs, these projects were on average about 7 percent more expensive to develop relative to projects that did not undergo such extensive locally-required changes.

In addition to requirements imposed by local governments, local community opposition to a development project can also act to delay the project, or even to increase costs to the extent that developers make changes to projects to mollify community opposition. Directly measuring the extent of community support or opposition for a particular project was not feasible. However, we did measure the number of community meetings a developer held, which can serve as a proxy measure for the extent of community opposition. Our analysis indicates that projects with 4 or more community meetings were on average about 5 percent more expensive to complete relative to projects with fewer than 4 meetings. Again, as with all of the findings discussed here, this result held even after accounting for project size, developer type, project location, and other factors that we controlled for in our analysis.

Finally, some of the projects in our sample also received funding from local redevelopment agencies. Our analysis suggests that projects that received this type of funding were about 7 percent more expensive to complete relative to projects without local redevelopment funding. For our typical project, this equals about $19,000 per unit. While receipt of this type of funding would not, in and of itself, cause costs to rise, it is likely that receipt of this funding either (a) allowed developers to add project amenities or otherwise alter a project in ways that increased costs, (b) included its own set of locally-imposed requirements that added to costs, or (c) allowed developers to build projects with higher costs for relocation, demolition, site preparation or environmental mitigation.

Developer Characteristics

The characteristics of the developer can also have an important influence on costs. According to our analysis, projects built by larger developers (those with more employees) were less expensive to develop relative to projects built by smaller developers. Specifically, each 10 percent increase in the number of people employed by the developer is associated with a reduction in costs per unit of 2.5 percent. An examination of the developer data reveals a wide range of company sizes, from developers with just two employees to developers with more than 400 employees. The median developer size in the data was 50 employees.

The organizational structure of the developer also appears to affect costs. Specifically, the regression model presented in this report suggests that for-profit developers were able to build projects less expensively relative to projects developed by governments or non-profits. However, several factors cause us to question the reliability of this finding.[43] First, the size of the effect varied across different versions of the regression model we tested. Second, comments we received from developers suggest that non-profit developers may build projects to a higher quality or durability standard relative to for-profit developers or may choose to take on more difficult and expensive to develop projects. Although we sought to measure quality and durability, it is nevertheless possible that factors which we were not able to measure (omitted variables) are driving the observed cost differential between developer types. As a result, we believe that the finding with respect to different developer types is inconclusive. Additional information is needed to be able to determine which factors related to organizational structure are impacting cost versus other factors such as the type of projects different organizations choose to work on based on an organization's mission.

Further examination of the characteristics of for- and non-profit developers revealed that one difference relates to the type of employees a developer has on staff. Specifically, projects built by developers that employed a general contractor were, on average, less expensive relative to projects built by developers that did not employ a general contractor. While our data do not specifically indicate whether developers used these general contractors to actually construct the projects (i.e., were vertically integrated), to manage design and construction phases of development, or for some other purpose, these results nevertheless suggest that developers that employ general contractors (for whatever purpose) are associated with lower project costs. And, for- profit developers are much more likely to employ general contractors. Some 73 percent of the projects built by for-profit developers in our sample were built by developers who employed a general contractor, compared with just 24 percent employing a general contractor among the projects built by non-profit developers.

Economies of Scale

Because fixed costs can be spread over all of the units constructed, building a larger project can often be less expensive on a per-unit basis. For example, adding an additional story to a project will add units without increasing costs for the roof. The result is that the cost per unit will be lower. Our analysis confirms this effect. According to our results, for each 10 percent increase in the number of units, the cost per unit declines by 1.7 percent. For a typical project, for example, if the number of units increased

[43] We note that most other variables included in the regression results presented here were stable across many different versions of the regression models tested, and therefore are considered to be reliable.

by 10 percent, from 70 to 77 units, our results suggest that the cost per unit would fall by about $5,000, from $288,000 to $283,000.

Our analysis also indicated that economies of scale are present throughout the range of project sizes covered by our data, although they are slightly more pronounced for smaller projects, with the economy of scale effect declining somewhat as project size increases.

Building Quality and Durability

The quality and durability of a building can also have an impact on the costs of construction. All federal, state, and local affordable housing programs require a very long time frame for receiving public funds, usually between 30 to 55 years. Therefore, developers of affordable housing projects focus on building quality and durability to meet regulatory requirements and to reduce long term maintenance and operations costs. In order to measure building quality and durability, we asked developers to evaluate the quality and durability of their projects across six measures:

1. Roofing quality/warranty period.
2. Quality and durability of exterior finishes.
3. Quality and durability of windows.
4. Quality and durability of floor finishes.
5. Bathtub material.
6. Kitchen counter tops.
7. Energy efficiency/energy use.

For each measure, developers were asked to rate the quality according to a three point scale: 1 (low), 2 (medium), and 3 (high). For example, with respect to the quality and durability of floor finishes, respondents were asked to rate the materials used according to the following scale: (1) low = vinyl tile, (2) medium = sheet linoleum, or (3), high = ceramic tile. For each project, a composite score was calculated based on the average score across all reported quality measures. This composite measure was included in our regression analysis. For a complete listing of the survey questions and responses, please see the section "Affordable Housing Developer Survey Summary of Usable Responses" on page 64.

Our results suggest that building quality and durability can a have a large impact on costs. Specifically, for every 10% increase in our building quality score (e.g., from low to medium), the cost per unit increased by 15 percent. For a typical project, this translates to approximately $43,000 per unit.

Many quality and durability improvements included at the time of initial construction can lower ongoing maintenance and repair costs. And, improvements designed to increase energy efficiency can reduce energy consumption and utility bills in future years. A full lifecycle analysis of the overall impact

of these factors was beyond the scope of this study. It could, therefore, be the case that these up-front investments more than pay for themselves in lower operation and maintenance costs over time. Nevertheless, increasing building quality and durability also adds to initial development costs, as indicated by the results of our regression analysis.

Determining Impact of Construction Wages on Affordable Housing Costs

The impact of construction wages on the cost of building affordable housing has proven difficult to measure due to a confluence of factors. For public works projects, a classification which applies to some but not all Affordable Housing Projects, California's prevailing wage laws mandate that all bidders use the same legally-established wage rates when bidding. This is intended to ensure that a bidder cannot out-bid competitors simply by paying lower wage rates.[44] In some cases, federal rules require the payment of federal prevailing wages, known as Davis-Bacon prevailing wages. Our data did not allow us to distinguish between whether a project paid one or the other or both of these types of prevailing wages, which is one factor confounding the results surrounding prevailing wages.

The actual cost impact of construction wages varies. Job classifications overlap, and each contractor may use differing combinations of carpenters, concrete workers, sanitation and other skilled workers.

There are also regional differences in wages, in addition to differences due to types of projects and the sources from which they are funded. Most importantly, however, in testing a version of the regression model in which the state was divided into two regions in order to examine the impact of regional variations, we found that the size of the prevailing wage effect varied very widely. As a result the finding with respect to prevailing wages was inconclusive in that the size of the effect varied widely across different versions of the model, suggesting the factors mentioned above or missing variables may be artificially influencing this effect, although further research would be needed to determine the extent and causes of this variation.[45, 46]

TCAC and CDLAC Policies

In addition to the project location, time period, quality and durability, building characteristics and other factors mentioned above, we also investigated whether the state's tax credit allocation system had an

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[44] We determined if projects paid prevailing wages by surveying developers. Specifically, developers were asked if either state or federal laws required paying of prevailing wages. Therefore, this result reflects the impact of either federal Davis Bacon or state required prevailing wages

[45] For further discussion of the variations in results, see peer review comments appended to this report.

[46] We note that most other variables included in the regression results presented here were stable across many different versions of the regression models tested, and therefore are considered to be reliable.

impact on per unit costs (net of land). One way to investigate the impact of the tax credit award process is to compare affordable rental housing developments that received tax credits to market rate developments that did not. As discussed later in the "Comparison to Market Rate Projects" section of this report, however, only limited data are available with which to make such a comparison.

An alternative approach is to compare the costs for projects that received 9 percent tax credits to those that received 4 percent tax credits. The 9 percent tax credit process is very competitive, and successful applications must not only meet the minimum qualifications, but also receive the maximum number of available points in each application category. As a result, some applications requesting 9 percent tax credits that achieved a maximum score might still lose in the tie-breaker analysis and not receive an allocation. In contrast, the 4 percent tax credit program has been less competitive, and it has generally been the case that an applicant that achieved an above-average score (but not necessarily a maximum) would qualify to receive 4 percent tax credits. If differences in the application process and scoring system between the 9 percent and 4 percent tax credit programs result in differences in project characteristics beyond those specifically measured in our regression analysis, one would expect to see a difference in development costs among these two types of projects.

The regression analysis, however, indicated no statistically significant difference in per unit costs among 4 and 9 percent tax credit projects, even after taking account of other factors that influence costs. Without controlling for these factors, there are important differences among projects. For example, 9 percent projects are more likely to be built by for-profit developers and are less likely to pay prevailing wages, engage in 4 or more community meetings, have undergone extensive locally imposed design review changes, or include subterranean or podium parking. All of these factors are associated with lower costs – that is, by avoiding the requirement to pay prevailing wages, or construct underground parking, the 9 percent projects on average have cost less per unit than they otherwise would have. On the other hand, 9 percent projects are also more likely to be higher quality, be more energy efficient, and to have larger units, all of which are associated with higher project costs. However, these factors (along with the other factors our regression measures, such as project location and construction year) explain much of the differences in per unit costs. Any remaining differences in the application process or scoring system do not appear to have a significant impact on costs.

It is important to note that this finding applies only to *differences* among the 4 percent and 9 percent application processes. There are many threshold requirements and scoring criteria applied to both the 4 percent and 9 percent awards, and the impact of any such requirement or criteria common to both processes may in fact add to (or diminish) costs, but cannot be tested by this method. For example, to the extent that both processes require or encourage developers to include community rooms or other common area space in their projects, a comparison of 4 and 9 percent projects would not be able to determine the cost impact of such a policy. Similarly, to the extent that both processes encourage

developers to construct more energy efficient or more durable structures (since the up-front cost of these investments is partially paid for by tax credits whereas the long term savings accrue to tenants and developers), the impact of the additional costs associated with these investments would not show up as a difference in cost between 4 and 9 percent projects.[47]

Finally, the application process for awarding 9 percent tax credits underwent a number of substantive changes beginning in 2009, including changes to the tie breaker rules which determine tax credit awards in the event of a tie and limitations on the maximum allowable cost per unit. Because the projects in our sample were placed in service prior to early 2012, most of the project applications available for analysis were approved prior to 2009. In fact, of the 400 projects in our final data set, only two 4 percent projects were awarded tax credits during the period 2009 through 2011 (and placed in service by 2012). Thus, our analysis cannot currently provide a basis for evaluating changes to the TCAC sustainability requirements, tie-breaker scoring system, or maximum cost provisions that were implemented during the period 2009 - 2011.

In addition, many of the application criteria refer to location characteristics and amenities, such as the proximity of the housing to health care facilities or public transit routes, or the provision of services such as childcare or job training classes. Because our results consider only development costs net of land, and therefore do not apply either to land cost differences or to costs associated with provision of ongoing services, we cannot quantify the impact of these requirements on development costs. A comparative review of local market land prices could reveal whether limitations placed on siting within a particular market influence development costs. However, such an analysis would need a much larger pool of projects in order to effectively evaluate the relative impact of the large variety of potential cost factors.

Other Factors that May Influence Costs

In addition to the cost drivers discussed previously, we examined several other factors that potentially could be correlated with higher (or lower) cost. However, according to the results of our regression

[47] Previous research has indicated that, by subsidizing construction costs, low income housing tax credits may encourage developers to increase construction costs as a means of decreasing ongoing maintenance expenditures. See Eriksen, Michael D., "The market price of Low-Income Housing Tax Credits," Journal of Urban Economics 66 (2009) pp. 141-149.

analysis, the factors discussed in this section were not in fact found to be associated with changes in per unit costs on a statistically significant basis.[48]

- Winter start date (start during a winter month). We tested whether a winter start was associated with higher costs in order to evaluate whether developers were rushing to start construction in order to meet state requirements, even if this resulted in higher costs. Our results suggest that a winter start is not associated with higher costs (in fact a winter start may be associated with slightly lower costs, perhaps due to lower costs for labor or materials during the low-demand winter months).

- Project duration (time from construction start to placed-in-service date). Although larger, more expensive projects can take longer to build, this difference was not statistically significant once we controlled for other factors such as number of stories or number of square feet.

- Type of California Environmental Quality Act (CEQA) review. The type of CEQA review that a project must undergo can have an important impact on the time it takes to develop a project. Indeed, our review of the data do suggest that projects that required an EIR took longer to complete relative to other projects. However, when controlling for other factors that influenced cost, the level of CEQA review (i.e., exemption, negative declaration, mitigated negative declaration, EIR, or no review) was not associated with higher project costs.

- Number and type of funding sources. With the exception of redevelopment funding, as noted previously, the number and type of financing sources (including state sources from HCD and CalHFA) that a project utilized was not associated with higher (or lower) costs. However, it should be noted the data collected did not include a detailed breakdown of costs that are specifically associated with particular financing sources. For example, costs associated with the legal and administrative review and execution of financing contracts were not broken out from direct costs for securing financing sources. Construction delays and operational costs associated with securing multiple sources of funding were not analyzed.

- Previous developer experience (number of previous projects). While developer size was associated with project costs, the extent of a developer's experience was not a statistically significant predictor of project costs.[49]

[48] Note that this does not necessarily mean that these factors have no impact on cost. Instead, our results suggest that, when controlling for the factors we were able to control for and using the data available to us, we were not able to detect a relationship between these factors and project costs.

- Local government density requirements (density bonuses, density reductions, density maximums). These factors were not associated with higher or lower project costs when controlling for other factors such as local design review requirements and number of community meetings.
- Local hiring requirements. The requirement to hire local construction workers was not associated with higher or lower costs when controlling for other factors that may influence costs, such as prevailing wage requirements or local wage rates.
- Certain location characteristics, such as population density and household income of the census tract where the project was built. In addition to the characteristics of the TCAC region where a project was built, we tested whether the characteristics of the census tract were also important predictors of project cost. These factors were not statistically significant.

Land Costs

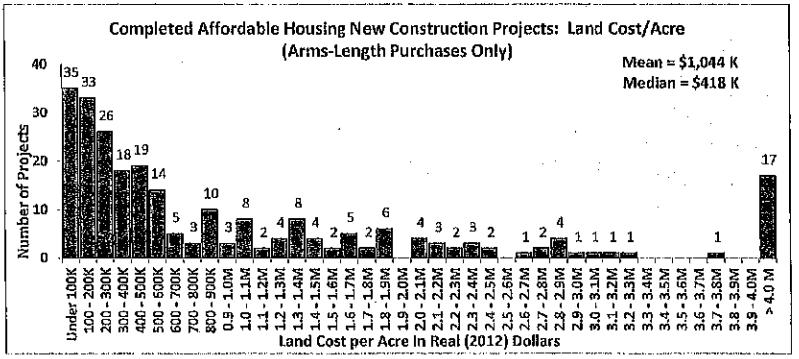
Land costs comprise an important part of the total cost to develop affordable housing. Land costs vary widely across the state as well as within individual jurisdictions as a function of many factors, including parcel size and shape, extent of required site remediation or preparation, proximity to amenities, and a host of other factors. Often the land used for an affordable housing development may be provided at a deep discount, or even for free, by the local jurisdiction, whereas in other cases developers must purchase land in an "arm's length" transaction and pay the full market price. Because of this, we have limited our discussion in this section to only those projects with market rate land values where the developer confirmed that the land was acquired via an arm's-length transaction.

Based on an analysis of the 251 projects included in our sample with confirmed arm's-length land purchases, land accounted on average for slightly less than 8 percent of total project costs. These costs varied considerably across projects when measured on a cost per acre basis, as shown in Figure 9 (next page). Perhaps most telling is the difference between the average value and the median value. The *median* land cost in 2012 dollars for these projects was approximately $400,000 per acre, which means that half of the projects paid more than $400,000 and half paid less than $400,000. The *average* value, however, was just over $1 million per acre, indicating that there were a relatively small number of very expensive land purchases. The graph confirms this, showing that many projects had land costs below $100,000 per acre, with a long "tail" extending to the right of the histogram showing fewer and fewer

[49] It is important to note that our measure of developer experience was gathered for each developer as of 2012, and therefore does not reflect a contemporaneous measure of developer experience at the time a project was completed.

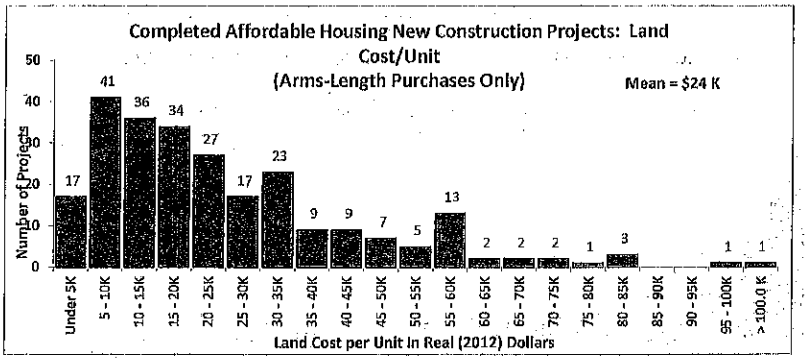
land purchases at the most expensive end of the spectrum. At the highest end of the distribution, there were some 17 projects that paid more than $4 million per acre for land (in 2012 dollars).

FIGURE 9: ARMS-LENGTH LAND COSTS FOR TAX CREDIT FINANCED PROJECTS 2001 - 2011



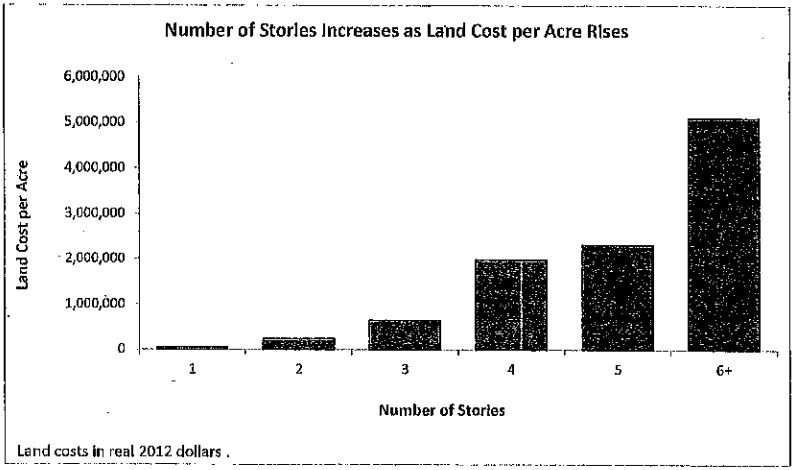
An analysis of the land cost per unit reveals a similar pattern, although the differential between the average and median values is not as pronounced. The average cost per unit was about $24,000 while the median value was just over $18,000, also suggesting that a relatively small number of projects with high land costs are pulling up the average cost per unit reflected in the data. Figure 10 shows the land cost per unit for those projects in our sample with an arm's-length land purchase transaction. As the data indicate, there were a handful of projects with land cost per unit of $60,000 or more. However, the overwhelming majority of projects had land costs below this level, with the most common cost in the $5,000 to $10,000 range.

FIGURE 10: ARMS-LENGTH LAND COST PER UNIT 2001 - 2011



Looking at land cost per unit tells only part of the story of the impact of land cost on development cost, however. While land costs account for just 8 percent of total project costs on average, the true impact of land costs on project costs may be in the ways that it influences choices about what type of physical housing is built. In addition, limitations placed on the choice of land location may influence building type and amenities, as well as contribute to changes in overall project costs. For example, as discussed previously, many state and local housing programs encourage proximity to transit and specified services and amenities. Because our analysis was limited to development costs exclusive of land, we were unable to ascertain whether or to what extent these locational requirements influenced the overall cost of project development. In regions where land costs are higher, for example, developers respond by building taller projects, resulting in denser housing than in areas with lower land costs. Figure 11 shows that, as the land cost per acre rises, so too does the number of stories.

FIGURE 11: NUMBER OF STORIES AS A FUNCTION OF LAND COST PER ACRE



Other building characteristics, such as the presence of podium parking, are also correlated with land costs. For example, just 26 percent of projects with fewer than four stories have podium parking whereas 84 percent of projects with 4 or more stories have podium parking.

As indicated earlier in our regression analysis results, these factors can act to significantly increase costs. Projects with 4 or more stories were, on average, 10 percent more expensive per unit, and projects with podium parking cost 6 percent more to build, all other things equal. Since many projects have both of these characteristics, the total impact on costs per unit of developing a project with high land costs could be very substantial.

Because of both the large variation in land costs and the limited information available about each parcel, we were not able to determine if certain parcel characteristics, such as the presence of certain site amenities, are associated with higher or lower land costs. In addition, because only limited information was available for market rate project land costs, we were not able to determine if affordable developments paid more or less per acre or per unit for land relative to market rate projects.

COMPARISON TO MARKET RATE PROJECTS

In addition to examining the factors that may cause one affordable project to be less expensive relative to another, we also sought to examine whether there are differences in development costs between subsidized affordable projects and market rate rental projects. Unlike the affordable projects financed with tax credits, where a significant amount of data are available in the tax credit applications, only limited data were available for market rate projects.

In order to collect information on development costs for market rate projects, we collaborated with the Urban Land Institute's San Francisco and Los Angeles chapters and directly contacted more than 80 market rate developers. In spite of an outreach effort spanning more than six months designed to increase the survey response rate, just ten developers responded to our survey with usable cost information for some 22 projects. Of these, 9 projects lacked information about building quality or other characteristics, which prevented us from using the responses in a regression analysis. This left just 13 projects with complete information; too few to use in a regression analysis from which reliable results could be obtained.

Nevertheless, we prepared summary statistics from the 22 projects with cost data. An examination of these data suggest that the market rate projects for which we have data are larger (both taller and contain more units) and are more likely to be built in one of the higher-cost TCAC regions. In terms of cost, these market rate projects are slightly more expensive per unit ($300,750 per unit as compared with $287,932 for affordable projects) but slightly less expensive per square foot ($281 compared with $288 per foot for affordable projects).

FIGURE 12: COMPARISON OF MARKET RATE AND AFFORDABLE PROJECTS

	Market Rate	Affordable
Cost per Unit	$300,750	$287,932
Cost per Sq Ft	$281	$288
Percent > 4 Stories	45.2%	7.5%
Percent in 6 Highest-Cost Regions*	71.0%	58.0%
Percent > 100 Units	77.4%	27.0%

*San Francisco County, North & East Bay Region, Central Coast Region, South & West Bay Region, Los Angeles County, and the Rural Region.

Given the very small number of projects for which we have data, any conclusions about cost differences between affordable and market rate projects would be anecdotal at best.

CONCLUSION

During the past decade, tax credits have been used to help finance thousands of affordable housing units. Research indicates that access to safe, healthy and stable housing improves the performance of low-income children in school and the health of residents, while reducing impacts on community services and stimulating the state's economy.

The affordable housing developments we analyzed represent a very diverse set of projects, both in terms of geography and in terms of the types of residents they serve. This diversity notwithstanding, our analysis suggests that there are several factors associated with the costs of developing these essential housing units, including the building characteristics, developer traits, and the local community in which the housing is built.

Key Findings

The following are key findings from our analysis:

- Local factors have an impact on costs. Specifically, projects with more community opposition, significant changes imposed by local design-review requirements, or that received funding from a redevelopment agency cost more, adding 5 percent, 7 percent, and 7 percent, respectively, to the cost per unit, on average.
- Certain types of parking can add significantly to development costs. Specifically, projects with podium or subterranean parking cost 6 percent more, on average, relative to other developments without this type of parking.
- Choices made by developers matter. Some developers are able to build less expensive projects than others. Larger developers and developers that employ general contractors have all built projects less expensively relative to comparable developers that don't share these characteristics.
- Building quality and durability add to costs. Buildings that are more durable, are more energy efficient, or are built to a high standard of quality cost more to develop. Specifically, for each 10% increase in our quality measure (e.g., from "low" to "medium") costs increased by about 15 percent, on average.
- Affordable housing is characterized by economies of scale, with larger projects costing less per unit than smaller projects. According to our results, for each 10 percent increase in the number of units, the cost per unit declines by 1.7 percent.
- Different types of units have different development costs. While it may be obvious, larger units, such as those with 3 or more bedrooms, clearly cost more per unit to develop. Smaller units, such as single room occupancy or "SRO" units, cost less per unit but more per square foot to develop. Specifically, our regression analysis suggests that SROs were approximately 31 percent less expensive per unit to construct relative to large family units, while units for seniors were about 18 percent less expensive per unit relative to large family units.
- Land costs influence the cost of developing affordable housing even when the land costs themselves are excluded from the development cost measure itself. This is true primarily because they indirectly affect the type of project that is built, as developers are more likely to

build taller structures that include underground or podium parking on land that is more expensive to purchase. Further analysis would be necessary to determine whether choice of land location influences overall costs.

From these empirical findings some conclusions can be drawn. First, the factors influencing costs are multifaceted, with no single factor explaining all or most of the cost of developing affordable housing. Therefore, any approach to lowering costs must consider multiple factors, rather than focusing on a single issue. Next, each of the actors in the development process – local communities, developers, state agencies – plays a role in influencing how much a project will cost to develop. Local factors, such as the extent of community opposition or support for a project and the actions and requirements of local governments can have an important influence on costs. Choices made by developers about staffing, management, and other factors can also have an important impact on costs, as evidenced by the fact that some developers are able to build projects less expensively than others, even when controlling for project quality and other factors. And, finally, state policies may also influence costs by favoring or encouraging certain types of projects, such as those that are built in certain locations or that obtain large amounts of additional outside funding from entities that may have their own requirements that can add to costs (as was shown for redevelopment agencies).

Taken as a whole, these results suggest that there are opportunities to lower costs. Some of these opportunities have inherent tradeoffs. For example, our results suggest that building projects to a lower quality or durability standard could lower costs, although such a change could also result in higher on-going costs for maintenance and repairs.[50] In other cases, however, our results suggest that cost could be lowered without a clear reduction in project durability or quality. Our results suggest, for example, that economies of scale exist such that building larger projects lowers the cost per unit. And, since some developers are more efficient than others, to the extent that the methods and techniques used by these more cost efficient developers could be encouraged and replicated, overall development costs could be reduced.

To take advantage of these opportunities to lower the cost of developing multi-family affordable housing in California, additional incentives for producing more units at a lower cost could be incorporated into existing state policies. Therefore, to the extent that lowering costs is one of the goals of the state's affordable housing development policy, a greater emphasis placed on cost containment or cost efficiency in the tax credit application, scoring, and award processes has the potential to lower overall development costs.

[50] Note that a lifecycle analysis of quality and durability measures was beyond the scope of this study.

In addition, many decisions made by developers and local officials can also act to increase costs. While the state has only limited ability to influence these decisions, a greater emphasis on cost efficiency has the potential to encourage both local officials and developers to pursue projects that cost less to develop. Any change in incentives can result in unintended consequences, however. Therefore, any such changes should be carefully designed and implemented, and the projects that emerge from any such new process should be carefully evaluated to ensure that the resulting affordable units meet the needs of the state's low-income residents.

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APPENDIX 1: DATA DESCRIPTIONS AND SUMMARY STATISTICS

The table presented in Figure 13 below provides descriptions of the data collected for our analyses, as well as summary statistics for the projects included in the data set as described on page 23 of the report. As discussed in the report, most of the data items were provided by the TCAC project file (those variables do not have a source cited in the descriptions). Data derived from survey responses are noted as such, as are those data items that were collected from other public sources. The public sources used were as follows:

- Census Data: Data from the 2000 US Census were used to provide the household income and population density for the affordable projects. For household income, the median household income for each census tract was merged with the project data by census tract and stored in the variable "HHIncome". Population density was defined as the census tract total population divided by the land area of the census tract in miles, again merged in by census tract, and stored in the variable "Density." The Census data were downloaded from the Census website at http://www.census.gov/main/www/access.html.

- Construction Wage Rates: RAND California Occupational Wage Statistics. According to RAND, the source for these data is the Bureau of Labor Statistics. The total wages for "Residential building construction" were divided by the corresponding total number of workers to get the county-specific annual wage rates, deflated to 2012 wage rates, and were merged into the project data using county and construction start year. These values are provided in the "WageRates" variable. See http://ca.rand.org/stats/statlist.html Summary for originating data source.

- Unemployment Rate: The State of California's Employment Development Department (EDD) provides annual unemployment rates by county. These data were downloaded from the EDD website and merged with the project data by county and construction start year in the variable "UnempRate." See http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=131.

- Interest rates: The series "Market yield on U.S. Treasury securities at 10-year constant maturity, quoted on investment basis" was used to provide a measure of interest rates at the time each project was initiated. Annual rates were merged to the project data by construction start year, providing the value for the variable "Int10Yr" for each project. These data were downloaded from the Federal Reserve's website (http://www.federalreserve.gov/releases/h15/data.htm).

- Consumer Price Index: The annual CPI figures were downloaded from the California Department of Industrial Relations (DIR) website, http://www.dir.ca.gov/OPRL/capriceindex.htm. According to the DIR documentation, the data are initially compiled by the U.S. Department of Labor, Bureau of Labor Statistics . The CPI series "CCPI-U = California Consumer Price Index - All Urban Consumers" was merged into the project data by construction start year and was used to deflate land costs into constant

(2012) dollars by dividing the corresponding annual CPI value by the 2012 CPI value, and multiplying that deflator by the nominal land cost.

- Construction Cost Index: The annual California Construction Cost Index (CCCI) was used to convert nominal costs into real dollars. The index was downloaded from the California Department of General Services (DGS) website at http://www.documents.dgs.ca.gov/resd/pmb/cccl/cccltable.pdf. According to the documentation, "The California Construction Cost Index is developed based upon Building Cost Index (BCI) cost indices for San Francisco and Los Angeles produced by Engineering News Record (ENR) and reported in the second issue each month for the previous month. The ENR BCI reports cost trends for specific construction trade labor and materials in the California marketplace." The index reports annual percent change based on December-over-December values. The December index values were merged with the project data by construction start year and were used to deflate all development costs except for land into constant (2012) dollars by dividing the corresponding annual CCCI value by the 2012 CCCI value, and multiplying that deflator by the nominal cost value.

FIGURE 13: SUMMARY STATISTICS FOR FINAL DATA SET

Variable	Description	Num Non-Missing	Min	Max	Mean	StDev
Pct4	Dummy = 1 if project is a 4% tax credit project	400	0.00	1.00	0.50	0.50
Pct9	Dummy = 1 if project is a 9% tax credit project	400	0.00	1.00	0.51	0.50
CostReal_Tot	Total project cost (excluding land) in real (2012) dollars	400	3,962,024.36	251,170,499.00	22,178,105.55	17,934,317.91
CostReal_Const	Total new construction cost in real (2012) dollars	400	2,511,551.71	180,518,189.50	15,402,645.38	13,358,796.10
CostRealTot_BR	Total project cost (excluding land) per bedroom in real (2012) dollars	400	45,686.69	465,057.26	152,887.46	71,169.62
CostRealTot_SqFt	Total project cost (excluding land) per square foot in real (2012) dollars	399	98.94	621.68	287.85	96.57
CostRealTot_Units	Total project cost (excluding land) per unit in real (2012) dollars	400	101,497.42	689,177.04	287,931.79	103,792.48
Num_Stories	Number of stories for project (if multiple bldgs, max number of stories)	390	1.00	23.00	2.99	1.63
Stories_4Plus	Dummy = 1 if Reg_Num_Stories >= 4	390	0.00	1.00	0.24	0.43
SqFt_Total	Total square footage of project (including parking)	400	11,700.00	772,521.00	91,436.71	66,611.16
SqFt_NetParking	Total square footage of project EXCLUDING parking	399	11,700.00	592,194.00	81,303.71	54,766.66
SiteAcres	Site size in acres	398	0.19	20.19	3.72	2.95
Units_Tot	Total number of units for project	400	12.00	665.00	82.77	58.17

Variable	Description	Num Non-Missing	Min	Max	Mean	StDev
Bedrooms	Total number of bedrooms for project (studios counted as 1BR, 4+ counted as 4BR)	400	20.00	938.00	163.34	109.75
SubParking	Dummy = 1 if project had subterranean or podium parking	399	0.00	1.00	0.38	0.49
Elevator	Dummy = 1 if project included at least one elevator	400	0.00	1.00	0.44	0.50
Density	Density for census tract per 2000 census	367	16.42	96,847.87	7,589.44	10,899.68
HHIncome	average household income for census tract per 2000 census	365	10,959.00	108,365.00	40,733.47	19,075.53
Int10Yr	Rate of Federal Annual 10-Year Constant Maturity for year construction started	400	2.78	5.02	4.22	0.53
UnempRate	CA EDD unemployment rate for county for year construction started	400	3.40	22.40	7.07	3.14
WageRates	RAND average annual real wages for "Residential building construction" industry, for county and year construction started	398	26,668.56	74,455.37	51,297.40	9,158.67
DDA_QCT	Dummy = 1 if project located in DDA (Difficult Development Area) or QCT (Qualified Census Tract)	400	0.00	1.00	0.70	0.46
Duration	Duration of construction for project in months (earlier of construction start or June of earliest application year, until placed-in-service date)	399	6.00	50.00	22.79	6.47
HT_AtRisk	Dummy = 1 if housing type is specified as "At Risk"	398	0.00	0.00	0.00	0.00
HT_LgFamily	Dummy = 1 if housing type is specified as "Large Family"	398	0.00	1.00	0.69	0.46
HT_NonTarget	Dummy = 1 if housing type is specified as "Non-targeted"	398	0.00	1.00	0.03	0.16
HT_SRO	Dummy = 1 if housing type is specified as "SRO" (single room occupancy)	398	0.00	1.00	0.02	0.14
HT_Senior	Dummy = 1 if housing type is specified as "Senior"	398	0.00	1.00	0.21	0.40
HT_SpecialNeeds	Dummy = 1 if housing type is specified as "Special Needs"	398	0.00	1.00	0.06	0.24
Type_2Plus_Elev	Dummy = 1 if building type is 2-plus stories with elevator	400	0.00	1.00	0.44	0.50
Type_2Plus_NoElev	Dummy = 1 if building type is 2-plus stories without elevator	400	0.00	1.00	0.37	0.48
Type_Condo	Dummy = 1 if building type is Condominium	400	0.00	1.00	0.00	0.05
Type_Coop	Dummy = 1 if building type is Coop	400	0.00	0.00	0.00	0.00
Type_Detached	Dummy = 1 if building type is detached	400	0.00	1.00	0.02	0.13
Type_Garden	Dummy = 1 if building type is garden apartment	400	0.00	1.00	0.31	0.46

Variable	Description	Num Non-Missing	Min	Max	Mean	StDev
Type_SFH	Dummy = 1 if building type is single family home	400	0.00	1.00	0.01	0.09
Type_Townhouse	Dummy = 1 if building type is townhouse	400	0.00	1.00	0.08	0.27
Funding_Redev	Dummy = 1 if project received Redevelopment Agency Funds (set-aside)	400	0.00	1.00	0.34	0.48
Lenders_NumTot	Number of lenders for project - construction loans and permanent financing	399	1.00	22.00	4.12	2.50
DevType_ForProfit	Dummy = 1 if developer is for-profit (from survey)	398	0.00	1.00	0.46	0.50
DevType_Govt	Dummy = 1 if developer is government agency (from survey)	398	0.00	1.00	0.03	0.18
DevType_NonProfit	Dummy = 1 if developer is non-profit (from survey)	398	0.00	1.00	0.48	0.50
DevType_Other	Dummy = 1 if developer is some other type (joint venture, etc.) (from survey)	398	0.00	1.00	0.02	0.14
DevType_OtherG	Dummy = 1 if developer is either government agency or "other" (from survey)	398	0.00	1.00	0.05	0.22
DensityMax	Dummy = 1 if project built at local government imposed density maximum (from survey)	316	0.00	1.00	0.57	0.50
DensityReduced	Dummy = 1 if project density reduced due to local government restrictions according to developer (from survey)	333	0.00	1.00	0.07	0.25
DensityBonus	Dummy = 1 if project received a density bonus beyond the zoned maximum (from survey)	312	0.00	1.00	0.28	0.45
PW	Dummy = 1 if project paid prevailing wages (from survey, supplemented by application data)	354	0.00	1.00	0.63	0.48
HiringReq	Dummy = 1 if local hiring requirements/goals influenced hiring decisions for project (from survey)	335	0.00	1.00	0.34	0.47
ReviewReq	Dummy = 1 if developer believed local review requirements added more than 5% to construction costs relative to original design (from survey)	348	0.00	1.00	0.32	0.47
Meetings_None	Dummy = 1 if number of community/neighborhood meetings for project = "none" (from survey)	361	0.00	1.00	0.15	0.36
Meetings_1to3	Dummy = 1 if number of community/neighborhood meetings for project = "1 - 3" (from survey)	361	0.00	1.00	0.50	0.50

Variable	Description	Num Non-Missing	Min	Max	Mean	StDev
Meetings_4Plus	Dummy = 1 if number of community/neighborhood meetings for project = "more than 3" (from survey)	361	0.00	1.00	0.35	0.48
CEQA_None	Dummy = 1 if CEQA review for project = "None" (from survey)	330	0.00	1.00	0.02	0.15
CEQA_EIR	Dummy = 1 if CEQA review for project = "EIR" (from survey)	330	0.00	1.00	0.09	0.29
CEQA_Exempt	Dummy = 1 if CEQA review for project = "Exemption" (from survey)	330	0.00	1.00	0.13	0.34
CEQA_MND	Dummy = 1 if CEQA review for project = "Mitigated Negative Declaration" (from survey)	330	0.00	1.00	0.51	0.50
CEQA_NegDec	Dummy = 1 if CEQA review for project = "Negative declaration" (from survey)	330	0.00	1.00	0.24	0.43
SiteMitigation	Dummy = 1 if project site required mitigation for soil or ground water contamination (from survey)	342	0.00	1.00	0.21	0.41
Artifacts	Dummy = 1 if project site contained historic artifacts or structures that needed to be preserved (from survey)	360	0.00	1.00	0.04	0.19
Qlty_Average	Average value of seven quality measures listed below (bathtub, countertops, energyeff, exterior, floor, roofing, and windows)	371	1.20	3.00	1.99	0.24
Qlty_Bathtub	Quality measure for bathtub (1=low (fiberglass), 2=medium (enameled steel), 3=high (enameled cast iron) (from survey)	368	1.00	3.00	1.08	0.31
Qlty_CounterTops	Quality measure for kitchen counter tops (1=low (laminate), 2=medium (cast synthetic or tile), 3=high (stone, granite) (from survey)	358	1.00	3.00	1.49	0.79
Qlty_EnergyEff	Quality measure for energy efficiency (1=low (met 24 standards), 2=medium (exceeded standards up to 25%), 3=high (exceeded standards by 25%+) (from survey)	356	1.00	3.00	1.79	0.61
Qlty_Exterior	Quality measure for exterior finishes (1=low (stained plywood), 2=medium (prefinished fiber cement), 3=high (cement plaster/stucco) (from survey)	370	2.00	3.00	2.80	0.40
Qlty_Floor	Quality measure for floor finishes (1=low (vinyl tile), 2=medium (sheet linoleum), 3=high (ceramic tile) (from survey)	355	1.00	3.00	1.84	0.49

Variable	Description	Num Non-Missing	Min	Max	Mean	StDev
Qlty_Roofing	Quality measure for roofing (1=low (10-yr warranty), 2=medium (15-yr warranty), 3=high (20-yr warranty) (from survey)	356	1.00	3.00	2.91	0.32
Qlty_Windows	Quality measure for windows (1=low (basic aluminum sliders), 2=medium (vinyl or PVC sliders/casement), 3=high (composite wood clad) (from survey)	358	1.00	3.00	1.96	0.30
ConstYr_2001	Dummy = 1 if construction started in 2001	400	0.00	1.00	0.05	0.21
ConstYr_2002	Dummy = 1 if construction started in 2002	400	0.00	1.00	0.11	0.31
ConstYr_2003	Dummy = 1 if construction started in 2003	400	0.00	1.00	0.10	0.30
ConstYr_2004	Dummy = 1 if construction started in 2004	400	0.00	1.00	0.16	0.37
ConstYr_2005	Dummy = 1 if construction started in 2005	400	0.00	1.00	0.13	0.33
ConstYr_2006	Dummy = 1 if construction started in 2006	400	0.00	1.00	0.12	0.32
ConstYr_2007	Dummy = 1 if construction started in 2007	400	0.00	1.00	0.12	0.32
ConstYr_2008	Dummy = 1 if construction started in 2008	400	0.00	1.00	0.09	0.29
ConstYr_2009	Dummy = 1 if construction started in 2009	400	0.00	1.00	0.05	0.21
ConstYr_2010	Dummy = 1 if construction started in 2010	400	0.00	1.00	0.08	0.28
ConstYr_2011	Dummy = 1 if construction started in 2011	400	0.00	1.00	0.01	0.07
TCAC_Rgn_Rural	Dummy = 1 if county in TCAC "Rural" region	400	0.00	1.00	0.04	0.20
TCAC_Rgn_CapNorth	Dummy = 1 if county in TCAC "Capital and North" region	400	0.00	1.00	0.12	0.32
TCAC_Rgn_NEBay	Dummy = 1 if county in TCAC "North and East Bay" region	400	0.00	1.00	0.17	0.37
TCAC_Rgn_SWBay	Dummy = 1 if county in TCAC "South and West Bay" region	400	0.00	1.00	0.08	0.28
TCAC_Rgn_SF	Dummy = 1 if county in TCAC "San Francisco" region	400	0.00	1.00	0.03	0.18
TCAC_Rgn_Central	Dummy = 1 if county in TCAC "Central" region	400	0.00	1.00	0.12	0.33
TCAC_Rgn_CenCoast	Dummy = 1 if county in TCAC "Central Coast" region	400	0.00	1.00	0.09	0.28
TCAC_Rgn_InlandEmp	Dummy = 1 if county in TCAC "Inland Empire" region	400	0.00	1.00	0.09	0.28
TCAC_Rgn_LA	Dummy = 1 if county in TCAC "Los Angeles County" region	400	0.00	1.00	0.17	0.38
TCAC_Rgn_OC	Dummy = 1 if county in TCAC "Orange County" region	400	0.00	1.00	0.04	0.18

Figure 14 below provides a summary of how the final data set was compiled based on the availability of data from the various sources.

FIGURE 14: COMPILING THE FINAL ANALYSIS DATA SET

Projects	Description
995	New construction projects awarded tax credits and placed in service between 2001-2011.
430	565 projects were excluded because they did not receive any survey response from the Developer Survey.
400	30 projects were excluded from analysis data set due to missing or incomplete TCAC files or other data issues.
400	**Final analysis data set contained 400 projects.**

APPENDIX 2: COMPARISON OF SAMPLE TO POPULATION

For the purposes of conducting our analyses we were limited to including only those 400 projects that had complete project files and for which we received the additional required information from the Developer Survey. These 400 projects are not the entire universe of completed projects that were awarded tax credits and did not involve the rehabilitation of existing structures – indeed, there are in fact a total of 995 such projects that meet the same criteria. To examine whether or not the projects that were available for our analyses were indeed representative, we compared those used to the larger full population for those dimensions that could be compared using the electronic TCAC data available for all project, such as the type of project, the type of tax credit and year it was awarded, and its location. Figure 15 below provides a summary of this comparison.

FIGURE 15: COMPARISON OF ALL PROJECTS TO PROJECTS INCLUDED IN ANALYSIS

	2001-2011 Awarded, Placed in Svc, New Construction (995 Projects)	Included in Analysis (400 Projects)		2001-2011 Awarded, Placed in Svc, New Construction (995 Projects)	Included in Analysis (400 Projects)
Housing Type			***Tax Credit Awarded***		
Large Family	63.5%	68.3%	4%	50.3%	49.5%
Special Needs	4.4%	5.8%	9%	49.7%	50.5%
Senior	23.9%	20.5%			
SRO	2.7%	2.0%	***Tax Credit Award Year***		
Non-Target	5.0%	2.8%	2001	10.7%	9.0%
At Risk	0.0%	0.0%	2002	13.9%	11.8%
Other/NA	0.4%	0.8%	2003	15.4%	14.0%
			2004	11.7%	11.5%
TCAC Geographic Regions			2005	12.3%	13.0%
Capital & Northern Region	8.8%	11.8%	2006	11.7%	12.3%
North & East Bay Region	13.8%	16.5%	2007	9.6%	9.0%
San Francisco County	3.2%	3.3%	2008	6.6%	8.8%
South & West Bay Region	7.4%	8.3%	2009	7.1%	9.8%
Central Coast Region	7.5%	8.5%	2010	1.1%	1.0%
Central Region	14.4%	12.3%	2011	0.0%	0.0%
Los Angeles County	19.4%	17.3%			
Orange County	4.2%	3.5%			
Inland Empire Region	10.1%	8.8%			
San Diego County	7.9%	5.8%			
Rural Region	3.2%	4.3%			

As the table above suggests, the sample of projects used in our analyses is very similar to the larger universe in almost all respects. The distribution by type of housing provided is very comparable, with both showing

approximately 2/3 of the projects being housing for large families projects, 20-25% constructed specifically for seniors, etc. The split between projects receiving 4% tax credits and those receiving 9% tax credits is also almost identical. The same is true for the regions in which the projects where built, as well as the year in which the TCAC credit was awarded.

In spite of the similarity among the groups of projects, it is important to note that our data do not represent a truly random sample of projects from the potential universe of projects completed. Instead, it reflects the projects for which complete data (including survey responses from developers) were available. It is therefore possible that there is some systematic bias in the data. This possibility notwithstanding, the comparison of our data to the larger universe of projects suggests that the sample used in our analyses is in fact representative and unlikely to exhibit these types of biases. Because of this, we are confident that the results presented here apply not only to the projects examined but also to the entire universe of affordable projects awarded tax credits during the 2001 to 2011 time period.

APPENDIX 3: DEVELOPER SURVEY INSTRUMENT AND RESPONSES

Affordable Housing Developer Survey Instrument

Affordable Housing Developer Survey

The California Housing Finance Agency ("CalHFA") along with the California Department of Housing and Community Development ("HCD"), the California Tax Credit Allocation Committee ("TCAC"), and the California Debt Limit Allocation Committee ("CDLAC") are undertaking a large scale, affordable housing development cost study designed measure the factors that influence the cost of building affordable housing in California.

This survey seeks to collect some information about the organizations that develop affordable housing in California and also asks for some information about the projects you have built in the state over the past decade. We have attempted to make the survey as short as possible by only asking for information that cannot be obtained from any other source.

This project is very important not only to the State of California, but to the entire affordable housing community and the populations we all serve. Additional information about the project can be found at the project website.

For questions about this survey, please contact Maziar Movassaghi, HCD Assistant Deputy Director, at (916) 327-3822 or via email at mmovassaghi@hcd.ca.gov or Matthew Newman, Principal at Blue Sky Consulting Group, at 510.654.6100 x202 or via email at mnewman@emailbluesky.com.

Contact Information:

Below, we have entered your contact information as it appeared on your organization's most recent TCAC application. Please update this information if it is out of date or if you (the person filling out this survey) are not the contact person listed on the TCAC application.

Your name: _____ Your e-mail address: _____

Please tell us about your organization:

1a.	Which of the following best describes your organization?	• For profit company • Non profit entity • Government entity If other, please specify: _____

1b.	How many people are employed by your organization?	1
1c.	How many affordable multi-family housing projects has your organization developed over the past 10 years?	2
1d.	How many market rate multi-family housing projects has your organization developed over the past 10 years?	3
1e.	Which of the following does your organization employ in house to assist with the development process? (please check all that apply)	☐ Architects ☐ Engineers ☐ Property Managers ☐ Real Estate Acquisition professionals ☐ General Contractors ☐ None of the above
1f.	In general, if project costs increase or available funding decreases at any point during the development process, which of the following strategies does your organization typically employ to address the issue? (select all that apply):	☐ Reduce the number of units in the project ☐ Increase the amount of rent per unit (or otherwise reduce affordability) ☐ Eliminate project amenities such as day care centers or community rooms ☐ Obtain additional equity ☐ Reduce developer profit/developer fees ☐ Value engineering ☐ Reduce or eliminate landscaping, furnishings, or other "optional" project features ☐ Utilize Contingency ☐ Other, please specify: _____

Project Name: _____ **Project City:** _____ **TCAC Application Year:** _____

3a.	In what year and month did or will construction start?	Year: _____ Month: _____
3b.	Was or will the project be built at local government imposed density maximum?	○ Yes ○ No ○ I don't know
3c.	Was the project density reduced due to local government restrictions?	○ Yes ○ No ○ I don't know
3d.	Did the project receive a density bonus beyond the zoned maximum?	○ Yes ○ No ○ I don't know
3e.	Did or will the contractor who built this project pay prevailing wages?	○ Yes ○ No ○ I don't know

3f.	Did or will a local hiring requirement or goal influence hiring decisions for this project?	○ Yes ○ No ○ I don't know
3g.	Did or do you expect locally imposed requirements for design/review or requirements imposed to mitigate community opposition to the project add more than 5% to construction costs relative to the architect's original design?	○ Yes ○ No ○ I don't know
3h.	How many community or neighborhood meetings were held or do you expect to hold regarding the project?	• None • 1 –3 • More than 3
3i.	What type of CEQA review did or will the project undergo?	• Exemption • Mitigated negative declaration • Negative declaration • EIR
3j.	Did or will the project site require mitigation for soil or ground water contamination?	○ Yes ○ No ○ I don't know
3k.	Does the project site contain historic artifacts or structures that need or needed to be preserved?	○ Yes ○ No ○ I don't know
3l.	Was the project site acquired (or do you expect it to be acquired) through an "arm's length" transaction (i.e. the purchase price reflected the market value of the site)?	○ Yes – the project site was or will be acquired through an "arm's length" transaction ○ No – the project site was or will be donated, partially paid for by others, or otherwise not acquired via an "arm's length" transaction ○ I don't know
3m.	Which building code construction type applies to this project?	• Type I (fire resistive) • Type II (non-combustible) • Type III (ordinary) • Type IV (heavy timber) • Type V (wood frame) • Other

The questions in the section below are designed to measure the quality and durability of the construction techniques and materials used (or to be used) to build each project. For each project characteristic listed in the table below, please choose the option that most closely matches the construction characteristics of the listed project. If the precise construction method or material for a project is not listed, please choose the option that most closely matches that actual method or material used.

4a.	Roofing quality/warranty period.	(low – 10 years, medium – 15 years, high – 20 years)
4b.	Quality and durability of exterior finishes.	(low – stained plywood or similar, medium – prefinished fiber cement siding or similar, high – cement plaster (stucco) or similar)
4c.	Quality and durability of windows.	(low – basic aluminum sliders, medium – vinyl or PVC sliders or casement windows, high – composite wood clad casement)

4d.	Quality and durability of floor finishes.	(low – vinyl tile, medium – sheet linoleum, high – ceramic tile)
4e.	Bath tub material.	(low – fiberglass, medium – enameled steel, high – enameled cast iron)
4f.	Kitchen counter tops.	(low – plastic laminate, medium – cast synthetic or ceramic time, high – stone (e.g. granite)
4g.	Energy efficiency/ energy use.	(low - met title 24 energy efficiency standards in place at time of construction, medium - exceeded standards by up to 25%, high - exceeded standards by more than 25%)
4h.	Did or will the project include gas lines to each unit for appliances or heating?	○ Yes ○ No ○ I don't know

Affordable Housing Developer Survey Summary of Usable Responses

SURVEY QUESTION	SUMMARY OF RESPONSES	Developers	Projects
1a. Which of the following best describes your organization?	For profit company	24	184
	Non profit entity	37	193
	Government entity	6	13
	Other	2	8
	(No Response)	1	2
1b. How many people are employed by your organization?	Up to 5	9	21
	6 - 10	9	32
	11 - 25	11	63
	26 - 50	14	81
	51 - 100	9	75
	> 100	14	112
	(No Response)	4	16
1c. How many affordable multi-family housing projects has your organization developed over the past 10 years?	Up to 5	13	23
	6 - 10	13	35
	11 - 25	23	133
	26 - 50	13	128
	51 - 100	3	55
	> 100	2	11
	(No Response)	3	15
1d. How many market rate multi-family housing projects has your organization developed over the past 10 years?	None	53	275
	1 - 3	9	82
	4 - 6	1	19
	7 - 10	2	6
	> 10	1	2
	(No Response)	3	7
1e. Which of the following does your organization employ in house to assist with the development process? (please check all that apply)	Architects	13	87
	Engineers	9	27
	Property Managers	38	206
	Real Estate Acquisition professionals	34	243
	General Contractors	27	169
	None of the above	16	59
1f. In general, if project costs increase or available funding decreases at any point during the development process, which of the following strategies does your organization typically employ to address the issue? (select all that apply):	Reduce the number of units in the project	19	135
	Increase the amount of rent per unit (or otherwise reduce affordability)	16	82
	Eliminate project amenities such as day care centers or community rooms	22	83
	Obtain additional equity	42	236
	Reduce developer profit/developer fees	60	375
	Value engineering	63	357
	Reduce or eliminate landscaping, furnishings, or other "optional" project features	39	192
	Utilize Contingency	59	335
	Other	12	75

SURVEY QUESTION		RESPONSE SUMMARY	Projects
3a.	In what year and month did or will construction start?	(see summary at end of appendix)	
3b.	Was or will the project be built at local government imposed density maximum?	Yes	179
		No	137
		I don't know / No Response	84
3c.	Was the project density reduced due to local government restrictions?	Yes	22
		No	311
		I don't know / No Response	67
3d.	Did the project receive a density bonus beyond the zoned maximum?	Yes	88
		No	224
		I don't know / No Response	88
3e.	Did or will the contractor who built this project pay prevailing wages?	Yes	222
		No	132
		I don't know / No Response	46
3f.	Did or will a local hiring requirement or goal influence hiring decisions for this project?	Yes	114
		No	221
		I don't know / No Response	65
3g.	Did or do you expect locally imposed requirements for design/review or requirements imposed to mitigate community opposition to the project add more than 5% to construction costs relative to the architect's original design?	Yes	112
		No	236
		I don't know / No Response	52
3h.	How many community or neighborhood meetings were held or do you expect to hold regarding the project?	None	55
		1 – 3	179
		More than 3	127
		No Response	39
3i.	What type of CEQA review did or will the project undergo?	Exemption	44
		Mitigated negative declaration	169
		Negative declaration	78
		EIR	31
		NA / None	8
		No Response	70
3j.	Did or will the project site require mitigation for soil or ground water contamination?	Yes	71
		No	271
		I don't know / No Response	58
3k.	Does the project site contain historic artifacts or structures that need or needed to be preserved?	Yes	14
		No	346
		I don't know / No Response	40
3l.	Was the project site acquired (or do you expect it to be acquired) through an "arm's length" transaction (i.e. the purchase price reflected the market value of the site)?	Yes	291
		No	86
		I don't know / No Response	23

SURVEY QUESTION		RESPONSE SUMMARY	Projects
3m.	Which building code construction type applies to this project?	Type I (fire resistive)	7
		Type II (non-combustible)	3
		Type III (ordinary)	16
		Type IV (heavy timber)	3
		Type V (wood frame)	308
		Other	20
		No Response	43
4a.	Roofing quality/warranty period. low = 10 years medium = 15 years high = 20 years	low	4
		medium	24
		high	328
		No Response	44
4b.	Quality and durability of exterior finishes. low = stained plywood or similar medium = prefinished fiber cement siding or similar high = cement plaster (stucco) or similar)	low	0
		medium	73
		high	297
		No Response	30
4c.	Quality and durability of windows. low = basic aluminum sliders medium = vinyl or PVC sliders or casement windows high = composite wood clad casement)	low	24
		medium	326
		high	8
		No Response	42
4d.	Quality and durability of floor finishes. low = vinyl tile medium = sheet linoleum high = ceramic tile	low	77
		medium	259
		high	19
		No Response	45
4e.	Bath tub material. low = fiberglass medium = enameled steel high = enameled cast iron	low	340
		medium	25
		high	3
		No Response	32
4f.	Kitchen counter tops. low = plastic laminate medium = cast synthetic or ceramic tile high = stone (e.g. granite)	low	251
		medium	40
		high	67
		No Response	42
4g.	Energy efficiency/ energy use. low = met title 24 energy efficiency standards in place at time of construction medium = exceeded standards by up to 25% high = exceeded standards by more than 25%	low	111
		medium	207
		high	38
		No Response	44
4h.	Did or will the project include gas lines to each unit for appliances or heating?	Yes	241
		No	101
		I don't know / No Response	58

Response Summary for Question 3a: In what year and month did or will construction start?												
Month	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	TOTAL
Jan	1	5	-	5	2	4	4	-	1	2	1	25
Feb	-	6	7	5	3	4	7	6	3	9	1	51
Mar	-	2	3	3	6	3	2	1	2	2	-	24
Apr	-	1	2	5	2	6	5	3	5	3	-	32
May	-	3	4	1	2	2	5	1	-	3	-	21
Jun	-	2	2	3	3	3	3	4	1	4	-	25
Jul	-	-	2	3	3	-	4	1	1	3	-	17
Aug	3	2	-	1	1	3	2	5	4	3	-	24
Sep	2	2	4	8	4	4	2	-	-	-	-	26
Oct	2	5	3	5	5	6	7	5	-	3	-	41
Nov	5	1	2	6	10	6	1	8	2	1	1	43
Dec	4	3	2	6	1	2	3	1	-	-	-	22
Month N/A	1	2	5	7	3	1	-	1	-	-	-	20
Total	18	34	36	58	45	44	45	36	19	33	3	371
No Response*	1	7	4	7	5	2	2	-	1	-	-	29

*Projects with no reponse are listed by the year of the approved TCAC Application.

APPENDIX 4: DETAILED REGRESSION RESULTS

The results of the regression model we discuss in the text are presented in Figure 16 below. For a detailed description of the variables see Appendix 1: Data Descriptions and Summary Statistics.

FIGURE 16: REGRESSION RESULTS - BASIC REGRESSION

Dependent Variable:		log_CostRealTot_Units					
Number of Observations		284		R-Squared	0.8042		
Dependent Mean Value		12.4801		Adjusted R-Squared	0.7729		
Explanatory Variable	Coefficient	T-Statistic		Explanatory Variable	Coefficient	T-Statistic	
Intercept	9.9006	7.9427	**				
Stories_4Plus	0.0955	2.4284	**	Year construction started (excluded = 2001)			
log_SqFt_NetParking	0.2579	3.9217	**	ConstYr_2002	(0.0832)	(1.3292)	
log_Units_Tot	(0.4153)	(6.3258)	**	ConstYr_2003	(0.0452)	(0.6119)	
PW	0.1113	3.9734	**	ConstYr_2004	(0.0042)	(0.0643)	
SubParking	0.0630	1.9104	*	ConstYr_2005	(0.0052)	(0.0766)	
Int10Yr	(0.0492)	(0.7263)		ConstYr_2006	0.1322	2.0105	**
UnempRate	(0.0024)	(0.2629)		ConstYr_2007	0.1941	3.0065	**
Log_WageRates	0.1048	1.0414		ConstYr_2008	0.0858	0.9693	
Log_Dev_Employees	(0.0251)	(2.6982)	**	ConstYr_2009	0.1211	1.1218	
Funding_Redev	0.0666	2.6358	**	ConstYr_2010	0.0333	0.3098	
Qlty_Average	0.1489	2.7719	**				
ReviewReq	0.0663	2.2900	**	TCAC Region (excluded = Central Region)			
Pct9	(0.0402)	(1.5956)		TCAC_Rgn_Rural	0.1604	2.5704	**
Meetings_4Plus	0.0485	1.9371	*	TCAC_Rgn_CapNorth	0.0442	0.7855	
				TCAC_Rgn_NEBay	0.3241	4.8579	**
Developer Type (excluded = "For Profit")				TCAC_Rgn_SWBay	0.3016	4.1627	**
DevType_NonProfit	0.0939	3.5660	**	TCAC_Rgn_SF	0.4855	4.3591	**
DevType_OtherG	0.1272	2.4565	**	TCAC_Rgn_CenCoast	0.1944	3.4458	**
				TCAC_Rgn_InlandEmp	0.1077	2.0526	**
Housing Type (excluded = "Large Family")				TCAC_Rgn_LA	0.1774	2.9427	**
HT_NonTarget	0.0215	0.3179		TCAC_Rgn_OC	0.1331	1.2566	
HT_SRO	(0.3120)	(3.0711)	**	TCAC_Rgn_SanDiego	0.1975	2.5722	**
HT_Senior	(0.1775)	(4.9702)	**				
HT_SpecialNeeds	(0.0930)	(1.6814)	*				

** indicates statistical significance at the 95% confidence level.

* indicates statistical significance at the 90% confidence level.

The dependent variable for the regression is the natural log of the real cost per unit for each project.[51] Values of continuous explanatory variables were also logged. This transformation enables the coefficients on the explanatory variables to be interpreted as the percent change in the cost measure.

In addition to the results presented above, we also tested a number of additional specifications designed to measure the impact of potential cost drivers identified by the state's housing agencies or the project advisory group (see regression results above for more information). None of these additional factors added to the explanatory power of the base model, met the threshold for statistical significance, or was found to be sufficiently robust across different specifications. Therefore these additional variables were not included in the final model presented above. Among the specifications we tested were models including a range of interaction terms including the interaction of prevailing wages and project duration, non-profit developers and duration, non-profit developers and prevailing wages, and non-profit developers and 4 or more community meetings. None of these interaction terms was statistically significant in our models. However, in a small number of these specifications, including an interactive term (though not significant) decreased the significance level of the prevailing wage or the non-profit developer variable. This can occur when two variables are correlated, but also could be an indication of omitted variables. For example, anecdotal evidence suggests that non-profit developers may build projects to a higher level of quality or durability relative to their for-profit peers. Although we sought to measure quality and durability via a developer survey, it is nevertheless possible that unmeasured quality or durability differences exist. It is also possible, for example, that non-profit developers take on projects with more community opposition or projects that are more complex or expensive to develop relative to their for-profit peers. Again, we sought to measure the extent of community opposition and other project characteristics; however, imprecision in these measures may limit the ability of our data to fully capture their effects. Therefore, additional research into the underlying reasons for the potential cost differences between for-profit and non-profit developers may be warranted.

Finally, we tested the impact of different developer characteristics and economies of scale by (a) including interaction terms for developer type and "employs a general contractor" and (b) removing the control for project square feet, respectively. Other aspects of the base model remained the same.

[51] In addition to the log of cost per unit, we also examined costs on a per square foot, per bedroom and overall basis, and obtained largely similar results in each case.

APPENDIX 5: COMPARISON TO CONSTRUCTION COST ESTIMATES

Although a direct comparison between actual affordable and market rate projects would provide the most useful basis for analysis, lack of available data prevents such a comparison. In order to at least shed some light on the relative cost of building affordable housing, we developed a comparison between actual and estimated construction costs. Specifically, we compared the actual construction cost information for affordable projects to an estimate of construction costs based on information from the construction cost estimation service RS Means.

RS Means is a national cost estimation firm that provides printed and software resources for use in estimating construction costs. Using the RS Means "QuickCost Estimator" we developed construction cost estimates for a sample of 150 affordable projects and compared the results to actual costs from the cost certification worksheets submitted by developers to TCAC. The QuickCost Estimator uses a limited set of inputs to prepare a cost estimate for a given project. Specifically, for each project, information can be entered about the type of project (e.g., 1 – 3 story apartment, 4 – 7 story apartment, or 8+ story apartment), size of project (measured in square feet) and project location (based on zip code). In addition, we adjusted the results to reflect whether union or open shop labor was used for each project.[52] The output of the QuickCost Estimator shows a low, medium, and high estimated cost (corresponding to the 25th, 50th, and 75th percentile of estimated project construction costs).

The results of a comparison of actual affordable projects with the RS Means "QuickCost Estimator" indicate that the cost per unit of the actual affordable projects of all sizes included in the analysis fall between the 50th and 75th percentile of estimated project construction costs .

[52] In order to adjust the QuickCost Estimator results for union vs. open shop labor, we calculated the average union cost differential based on (the more detailed) RS Means per square foot cost estimator and applied the result to the QuickCost Estimator results, which use union labor as the default assumption.

APPENDIX 6: PROJECT ADVISORY COMMITTEE MEMBERS

The following individuals participated in the project Advisory Committee and guided the efforts of the study team.

1. Alice Carr - Chase, Community Development Real Estate Group
2. Arjun Nagarkatti - AMCAL Multi-Housing, Inc.
3. Dora Leong-Gallo - A Community of Friends (ACOF)
4. Doug Pingel - Self-Help Enterprises
5. Doug Shoemaker - Mercy Housing
6. Douglas Guthrie - Housing Authority, City of Los Angeles
7. Dr. Carol Zabin, PhD - University of California Berkeley Labor Center
8. Jack Gardner - The John Stewart Company
9. Jeanne Peterson - The Reznick Group
10. Jim Silverwood - Affirmed Housing Group
11. Joel Rubenzahl - Community Economics, Inc.
12. Lauar Archuleta - Jamboree Housing
13. Matthew Franklin - Mid-Pen Housing
14. Michael Lane - Non-Profit Housing Association of Northern California (NPH)
15. Pat Sabelhaus - Law Offices of Patrick R. Sabelhaus
16. Paul Beesemyer - California Housing Partnership Corp.
17. Shamus Roller - Housing California
18. Stacie Altmann - RBC Capital Markets
19. Susan Friedland – Satellte Affordable Housing Associates
20. Todd Fabian - National Equity Fund, Inc.
21. William Leach - Palm Communities
22. William Witte - Related California

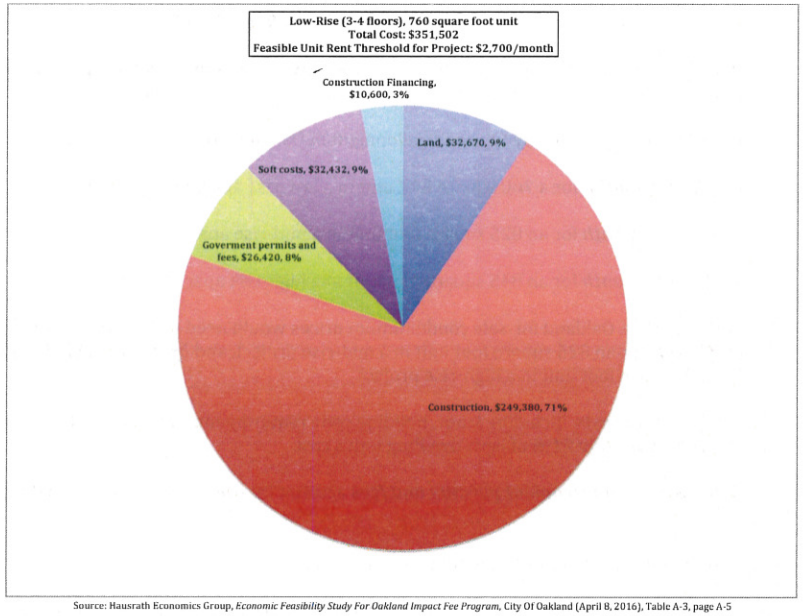
APPENDIX 7: ABOUT THE BLUE SKY CONSULTING GROUP

This report was prepared by the four State of California agencies with responsibility for affordable housing: the California Tax Credit Allocation Committee (TCAC), the California Debt Limit Allocation Committee (CDLAC), the Department of Housing and Community Development (HCD), and the California Housing Finance Agency (CalHFA) based on analysis conducted by Matthew Newman, Shawn Blosser, and Susan Woodward of the Blue Sky Consulting Group. Paul Waszink provided expert advice on cost estimation and construction cost drivers generally. Tim Gage provided strategic guidance for the project.

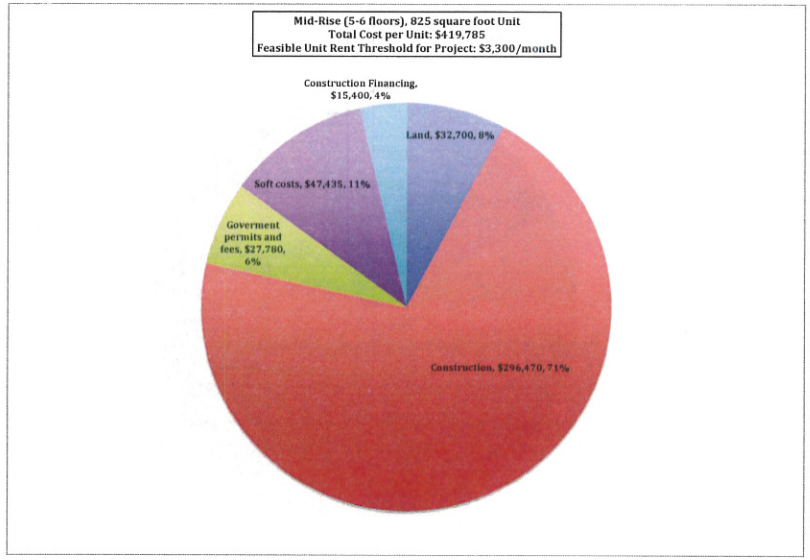
The Blue Sky Consulting Group is a public policy and economics consulting firm specializing in strategic and analytical services for public, not-for-profit, and private sector clients. Blue Sky's team of subject matter experts and staff come from the highest levels of government, academia and the private sector to assist clients with strategic or analytical challenges across a broad range of practice areas. The firm offers a range of strategic and analytical services to clients; at the core of these services lies an ability to provide non-partisan and rigorous analysis to help clients address complex challenges.

The firm was founded in 2005 by Tim Gage and Matthew Newman. Tim Gage is a highly-regarded public servant, having spent over 24 years as a fiscal advisor with both houses of the California Legislature and as the Director of the California Department of Finance. Mr. Gage received a Bachelor of Arts degree in Philosophy with honors from Harvard College and a Master of Public Policy degree from the Goldman School of Public Policy at the University of California at Berkeley. Matthew Newman was the founding Executive Director of the California Institute for County Government, a nonpartisan public policy research institute. Previously, Mr. Newman worked as a Senior Consultant for LECG, an international economics and public policy consulting firm, and as a Policy Analyst for California's Legislative Analyst's Office. Mr. Newman is a Phi Beta Kappa, magna cum laude graduate of the College Honors program at the University of California at Los Angeles and holds a Master of Public Policy degree from Harvard University's Kennedy School of Government.

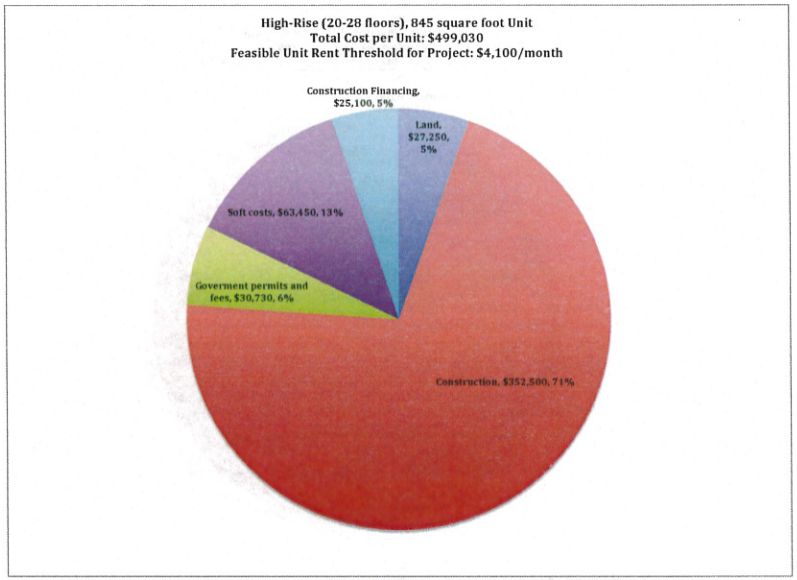
Financial resources to support this project were provided by the State of California.



Source: Hausrath Economics Group, *Economic Feasibility Study For Oakland Impact Fee Program*, City Of Oakland (April 8, 2016), Table A-3, page A-5



Source: Hausrath Economics Group, *Economic Feasibility Study For Oakland Impact Fee Program*, City Of Oakland (April 8, 2016), Table A-3, page A-5



Source: Hausrath Economics Group, *Economic Feasibility Study For Oakland Impact Fee Program*, City Of Oakland (April 8, 2016), Table A-3, page A-5

Summary of Multifamily Rental Construction Feasibility
in the
Economic Feasibility Study For Oakland Impact Fee Program
by the Hausrath Economics Group
City Of Oakland, April 8, 2016

Key Findings

1. Even with currently high (base case=2015) rents and low vacancy rates, low-rise, mid-rise and high-rise multifamily development is ***marginally feasible*** in Oakland.

2. Overall, new apartment rents would need to ***increase by at least seven (7) percent*** from base case (2015) levels to support multifamily rental project feasibility.

3. ***Feasible average rents*** by type of development in Oakland are estimated to be:

   - ***$2,700/month*** for a 760 square foot unit in a low-rise apartment project.
   - ***$3,300/month*** for an 825 square foot unit in a mid-rise apartment project.
   - ***$4,100/month*** for an 845 square foot unit in a high-rise apartment project.

4. To be feasible, Oakland for-sale condominium prices would need to ***increase by 9% (to $625,000)*** for an 825 square foot unit in a mid-rise project, and ***by 21% to ($765,000)*** for an 825 square foot unit in a high-rise project.

5. ***Construction costs***, including labor, building code requirements, and materials, account for ***approximately 71%*** of each dwelling unit's cost.

6. ***Soft costs*** and ***government permits and fees*** account for ***about 17-19%*** of each dwelling unit's cost.

7. ***Land Costs*** are ***less than 9%*** of total per-unit costs.

8. Larger, denser multifamily projects ***are most expensive*** and require ***higher per-unit rents or sales prices*** to be economically feasible.