DEVELOPMENT IMPACT FEES AND MULTI-FAMILY HOUSING:

A FEASIBILITY STUDY

A Thesis

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Andrea Howard

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Department of Public Policy Administration

Abstract

of

DEVELOPMENT IMPACT FEES AND MULTI-FAMILY HOUSING:

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In 2004, the Sacramento Area Council of Governments (SACOG) adopted a "Preferred Growth Scenario" to guide land use decisions and shape the region's growth in a manner consistent with seven key principles. One of the principles was housing choice and diversity, which focused on providing an assortment of housing types, such as multi-family rental homes, attached condominiums and townhouses, and small single-family detached homes for a variety of household types, income levels, and ages. Using a residual land value calculation, my research tested whether development impact fees and other infrastructure charges imposed on new development discourage the construction of multi-family condominiums (for sale) and apartments (for rent) in El Dorado Hills, Rancho Cordova, and Roseville, California. When landowners bear the incidence of the development impact fees and infrastructure charges, both multi-family scenarios produced non-positive or inadequate land values in my three study jurisdictions. Shifting the incidence of the development impact fees and infrastructure charges forward to the consumer in the form of higher housing prices and rental rates produced positive and acceptable land values under the condominium scenario, but the apartment scenario remained non-positive in

each of my study areas. My research has revealed that jurisdictions charging impact fees on a flat fee basis by housing category may discourage the production of multi-family housing. To expand the supply of multi-family dwellings and other types of affordable housing, proportional-share or variable impact fees eliminate the regressive nature of a one-size-fits-all-approach by accounting for variations in product type, unit size, density, and number of bedrooms.

_____, Committee Chair
Robert W. Wassmer, Ph.D.

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Date

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To my parents, Gary and Cheryl, thank you for instilling a work ethic in me that I will have for the rest of my life and to which I credit all of my successes in life. You never pressured me to go to college, but you gave me the independence to make my own decisions about my future. I am grateful for your confidence in my ability to guide myself down the responsible path in life.

I am fortunate to work side-by-side with one of the most respected visionaries in the development community. Throughout my twenty-year tenure, Bill Parker has provided a corporate culture and opportunity for professional advancement that transformed a shy and quiet receptionist into a practicing land use planner who is not afraid to enter a crowded hearing room. I am grateful for your mentorship, flexibility in my professional schedule to focus on my studies, and for your patience when my stress levels ran high.

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Finally, to my loving and incredibly supportive husband, Tom, you never doubted my ability to achieve this degree, even when, at times, I doubted myself. Your persistent

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INTRODUCTION

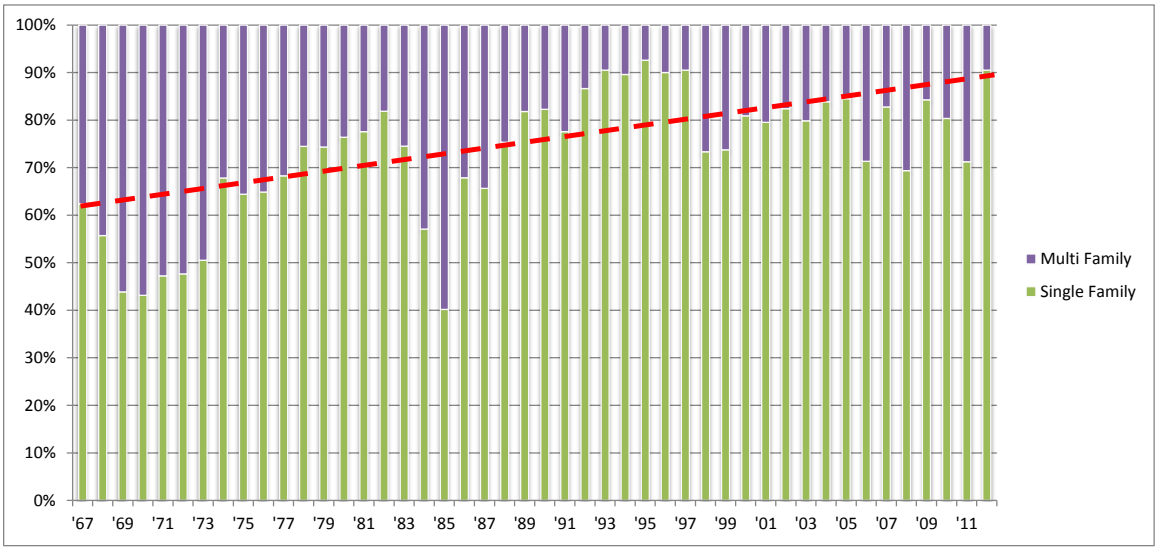
Sacramento's Blueprint: Housing Diversity

In 2004, the Sacramento Area Council of Governments (SACOG) adopted a "Preferred Growth Scenario" to guide land use decisions and shape the region's growth in a manner consistent with seven key principles. One of the principles was housing choice and diversity, which focused on providing an assortment of housing types, such as multi-family rental homes, attached condominiums and townhouses, and small single-family detached homes for a variety of household types, income levels, and ages (Sacramento Area Council of Governments, 2013a). However, judging by the rate of housing permits issued during the past forty years, Sacramento's housing stock has become less diverse. In 1967, multi-family building permits accounted for 40 percent of the new housing stock, yet in 2011, this figure dropped to just 10 percent (refer to Figure 1.1). Contrary to SACOG's vision, multi-family construction starts have consistently declined and single-family construction has dominated the marketplace.

Achieving a diversified housing stock of single-family and multi-family options provides benefits that cities and counties should consider. One benefit is that it enhances a community's economic appeal. Employers considering a relocation decision often evaluate the cost of housing for their employees and a community with an assortment of housing options is very desirable. Another benefit of a diversified housing stock is its ability to support the local workforce so that employees can live close to their jobs and spend less time commuting. Reducing vehicle miles traveled reduces negative externalities, such as traffic congestion and carbon emissions, and helps California achieve its greenhouse gas reductions targets required by the Global Warming Solutions Action (Assembly Bill 32).

Notwithstanding the benefits, developers, builders, and lenders produce housing supply in response to two key motivators: market demands and financial projections. When evaluating the practicality of any development alternative, whether single-family or multi-family, the development community frequently relies on a feasibility analysis that considers the expected sales price or unit value, and the expenses needed to produce that unit, including land acquisition and construction costs. If expected revenues fall short of expenses, a housing proposal is infeasible. Assuming that the Sacramento region will diversify its housing as envisioned by SACOG, the purpose of this thesis is to determine whether the infeasibility of development plays a role in discouraging the supply of multi-family housing in the Sacramento Area.

Figure 1.1
Sacramento Housing Permits: 1967-2011



Source: North State Building Industry Association (2013)

Remaining Sections

In the sections that follow, I discuss the purpose for my study, including my specific thesis question, my intended audience, components of a feasibility analysis, and results of a 2010 El Dorado County study that provided the motivation for this study. I follow with an overview of two aspects of California's regulatory framework – housing element law and inclusionary housing programs – that influence housing production. I then highlight changing demographic trends and concerns about housing affordability to demonstrate the need for housing diversity. I conclude this chapter by describing the format of this thesis.

Purpose for Study

My research compares development feasibilities for single-family and multi-family housing scenarios through the eyes of the development community, paying particular attention to the levels of development impact fees[1] charged by jurisdictions. Using a residual land value calculation, I will determine whether multi-family housing scenarios in various Sacramento jurisdictions produce a positive land value. If multi-family land values are not positive or less profitable than single-family alternatives, builders will continue to negotiate sales with landowners for single-family product, contrary to SACOG's objective for housing diversity.

Research Question

How do differing levels of impact fees in the greater Sacramento area affect the development feasibility of single-family and multi-family housing types? Do the results encourage the supply of certain housing types and discourage others?

[1] Development impact fees are a form of monetary development exaction exercised through a municipalities' police power to fund capital improvement projects to serve new development.

Intended Audience

Planners and policy makers prepare, analyze, and adopt impact fee ordinances as a funding mechanism to ensure that new development pays for critical infrastructure needed to support a growing community. Yet, in most cases, developers, builders, and lenders will only undertake a development project if land values remain positive and housing prices can sustain all or some portion of the required impact fees. This thesis provides insight for planners and policy makers about how the development community determines the feasibility of alternative development scenarios and the practical implications of impact fees on the supply of housing.

Feasibility Analysis and Implications on Housing Supply

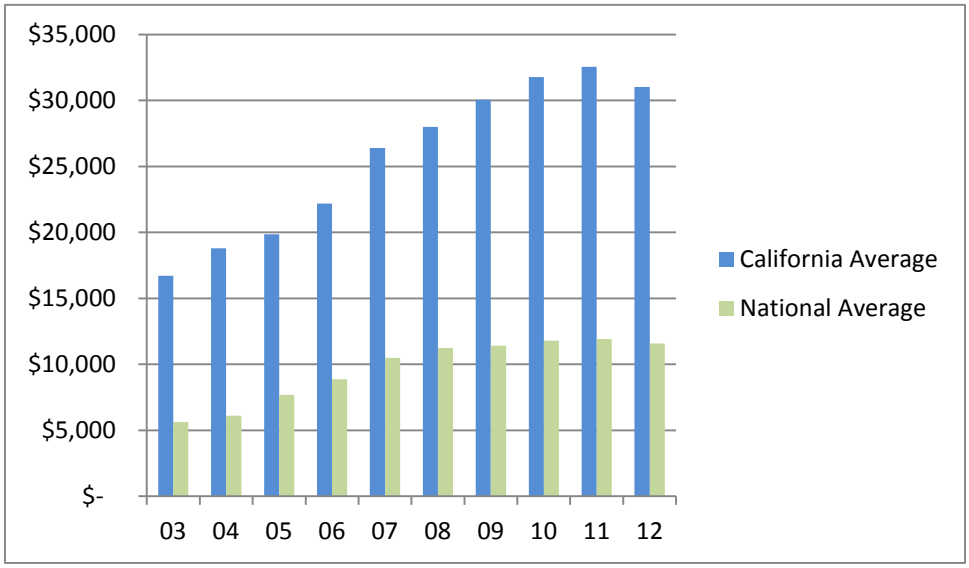
Forces within the private market, combined with local planning and zoning designations, set the range of prices, and the quantities of single-family and multi-family housing construction, both for sale and for rent. Because housing prices are a function of market demand and supply (National Housing Conference, 2004), and constrained by lot size, home size, and construction materials mandated by state and local laws, developers, lenders, and investors commonly evaluate development feasibility using a residual land value calculation. The calculation estimates the value of a development alternative based on its sales price, unit value, or income potential, and subtracts the infrastructure costs, hard and soft construction expenses, development impact fees, and builder profit to yield the underlying value of the land. A development use that generates a non-positive land value is financially infeasible (National Housing Conference, 2004, citing Rosen, 2004) and forces many landowners to forego development until market conditions yield a positive land value. Landowners and builders may reject a proposed development alternative even if the calculation produces a marginally positive land value, as there may be insufficient reserves to compensate a landowner or builder for entitlement and development risks associated

with acquiring the land, obtaining a city's or county's approval of a land use plan, carrying costs, unexpected market fluctuations, and environmental mitigation. More importantly, when comparing residual land values for a range of potential development scenarios and assuming each scenario produces a positive figure, landowners will select the alternative that produces the highest land value and builders will select the one producing the highest profit.

In arriving at the residual land value, this thesis pays particular attention to the various levels of development impact fees, which serve as revenue sources for municipalities to finance new growth (Singell & Lillydahl, 1990), but simultaneously add costs to new development and raise concerns about the affordability of housing (Been, 2005). Figure 1.2 shows that impact fees for a single-family dwelling in California are the highest in the nation, at two and a half to three times the national average. In 2003, the average fee per unit was about $16,000 and rose to $31,000 in 2012. Multi-family fees in California are also about three times the national average, ranging between $10,000 in 2003 to $19,000 in 2012 (Mullen, 2012).

Impact fees in California are higher than national levels largely because of Proposition 13, a 1978 ballot measure approved by voters that established a 1 percent property tax cap. California is not the only state with a property tax cap; New York and New Jersey enacted similar laws in the late 2000s and at least 20 states have authorized property tax limitations (Palmeri, 2011). The fundamental outcome of Proposition 13 is that it essentially cut city and county property tax revenues by 50 percent or more (Chapman, 1998), leaving cities and counties unable to fund construction of improvements. Consequently, development impact fees have served as an alternative and essential funding source for new development in California for the past thirty years.

Figure 1.2
Single-Family Impact Fees: California and National Averages
2003-2012



Source: Mullen (2012)

Motivation for This Study

Using a residual land value calculation, Gomes and Martin (2010) tested multi-family development feasibilities in the communities of El Dorado Hills, Cameron Park, and Diamond Springs using 2010 infrastructure costs (including development impact fees and other backbone costs) and unit expenses (hard and soft construction costs for subdivision improvements and vertical construction). Housing prototypes included three 1,100 square foot, for rent and for sale units ranging between 11.5 and 20.0 dwelling units per acre.

Given the depressed state of the economy and the collapsed housing prices in 2010, it would be no surprise if the residual land calculations revealed non-positive land values. To account for this, Gomes and Martin (2010) used average home prices during normalized market

conditions between 2002 and 2003, rather 2004-2006 peak conditions or 2009-2010 depressed conditions. However, the authors fail to mention whether they adjusted the 2002-2003 home prices for inflation, meaning that the study may not account for a reduction in purchasing power occurring between 2002 and 2010. Adjusting for inflation will not be an issue with my research, because I will base my investigation on current-day information for sales prices and unit values, development impact fees, and construction costs.

The authors' feasibility analysis assumed that the builder paid the impact fees upon issuance of a building permit, however, the landowner assumed the burden of those fees in the form of a lower negotiated land price. In the Gomes and Martin (2010) study, Table 1.1 shows that impact and agency fees, including utility connection charges and plan check fees, range between $59,000 and $72,000 per multi-family unit. The results of the residual land analysis show the Cameron Park prototype produced a marginally positive land value (1%), a marginally non-positive land value in Diamond Springs (-4%), and a complete failure in El Dorado Hills (-51%).

The results of the El Dorado County feasibility analysis indicate that multi-family housing types were financially infeasible under the authors' assumptions. To achieve a positive land value, a singular event or combination of events must occur. One option is to raise the assumed sale price or unit value, which makes the unit less affordable. Other options include lowering construction expenses and quality (provided the reductions do not violate local zoning and building codes), land acquisition costs, and development impact fees.

The results from Gomes and Martin (2010) provide the motivation for this study to test whether 2013 home prices and rental values yield positive land values for multi-family housing in El Dorado County. Moreover, my research aims to compare development feasibilities in other

Sacramento jurisdictions to see if feasibility outcomes are unique to El Dorado County or prevalent throughout the region.

Table 1.1
El Dorado County Multi-Family Feasibility Analysis

	Cameron Park For Sale *1,100 sf / 11.5*		Diamond Springs For Sale *1,122 sf / 11.5*		El Dorado Hills For Rent *1,100 sf / 20.0*	
	Multi-Family	**% of Selling Price**	**Multi-Family**	**% of Selling Price**	**Multi-Family**	**% of Selling Price**
Assumed Price/Value	$ 240,000	100%	$ 210,000	100%	$ 151,000	100%
Infrastructure Costs						
Impact & Agency Fees	$ 72,000	30%	$ 59,000	28%	$ 60,000	40%
Other Backbone Costs	$ -	0%	$ -	0%	$ 8,487	6%
Subtotal	$ 72,000	30%	$ 59,000	28%	$ 68,487	45%
Unit Development						
Vertical Construction	$ 82,500	34%	$ 79,662	38%	$ 93,500	62%
Common Area Amenities	$ -	0%	$ -	0%	$ 8,056	5%
Subdivision Infrastructure	$ 35,000	15%	$ 35,993	17%	$ 20,162	13%
Soft Cost and Builder Profit	$ 47,500	20%	$ 44,131	21%	$ 37,832	25%
Subtotal	$ 165,000	69%	$ 159,786	76%	$ 159,550	106%
Total Cost of Unit	$ 237,000	99%	$ 218,786	104%	$ 228,037	151%
Residual Land Value	**$ 3,000**	**1%**	**$ (8,786)**	**-4%**	**$ (77,037)**	**-51%**
		Marginal		***Negative***		***Negative***

Source: Gomes and Martin (2010)

In the following sections, I review the regulatory framework in California that influences housing supply, and I provide insight on changing demographic trends and housing affordability concerns that demonstrate the need for a more diversified housing stock.

California's Housing Supply: The Regulatory Framework

Housing Element Law

A housing element is one of seven mandated elements of a general plan, a long-range planning document that serves as a local government's "constitution" for future development. Enacted in 1969, California's housing element law requires cities and counties to engage in a planning process to make "adequate provision for the existing and projected housing needs of all economic segments of the community" (California Department of Housing and Community Development, 2013a, and Government Code §65583).

The planning process, known as the regional housing needs allocation (RHNA), begins with the California Housing and Community Development Department's (HCD) determination of a region's overall housing need for an eight-year period[2]. HCD categorizes existing and future housing needs into very low[3], low[4], moderate[5], and above moderate[6] income categories, and distributes the housing forecasts to Councils of Government (COG)[7]. For the 2013-2021 RHNA cycle, Table 1.2 shows that the region's total housing allocation is almost 105,000 housing units, of which 39 percent, or almost 42,000, are for low- and very-low income earners.

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[2] HCD bases the RHNA on statewide population projections from the Department of Finance and regional population forecasts used by metropolitan planning organizations in drafting regional transportation plans (California Affordable Housing Law Project, 2009).
[3] Household income of no more than 50 percent of median income (Health & Safety Code §5010)
[4] Household income of 50 to 80 percent of median income (Health and Safety Code §5079.5)
[5] Household income of 80 to 120 percent of median income (Health and Safety Code §50093)
[6] Household income over 120 percent of median income (Health and Safety Code §50093)
[7] A Council of Government is a regional association of cities and counties charged to address large-scale issues that expand beyond jurisdiction lines, such as the distribution of affordable housing, funding for long-range transportation and transit improvements, and regional air quality conformance (Sacramento Area Council of Governments, 2013c).

Table 1.2
Sacramento Area Council of Governments 2013-2021
RHNA Allocation by Income Group

Income Group		
Very Low	24,560	23%
Low	17,220	16%
Moderate	19,520	19%
Above Moderate	43,670	42%
Total	**104,970**	**100%**
Low and Very Low	*41,780*	*39%*

Source: Sacramento Area Council of Governments (2013b)

COGs then allocate appropriate housing shares to each city or county to incorporate the projections into their housing elements. The premise behind California's housing element law is the state's direction for cities and counties to adopt land use plans and regulatory programs that do not constrain, but rather provide *opportunities* for, the private sector to construct housing for all income groups (State of California, Governor's Office of Planning and Research, 2003). In doing so, municipalities demonstrate that they have the resources available to accept their "fair share" of the regions' housing needs[8].

Furthermore, local governments cannot ignore their duty to adopt a housing element and if non-compliant with the law, invite legal challenge from affordable housing advocates. For example, Legal Services of Northern California filed a lawsuit against the City of Folsom in 2002 for its ten-year failure to adopt a housing element consistent with the state's regulatory

[8] To demonstrate consistency with the regulatory framework, a housing element must include an inventory of housing needs and resources, including any constraints in meeting those needs (§65583(a)) and a list of goals, objectives, and policies to improve and develop housing (§65583(b)). The housing element must also include a five-year implementation program to achieve the goals and objectives (§65583(c)), and a review and assessment of achieving the stated goals and objectives (§65588(a)).

framework (Sacramento Housing Alliance, 2013). The Sacramento County Superior Court agreed and ordered the City to develop a housing element.

Inclusionary Housing Programs

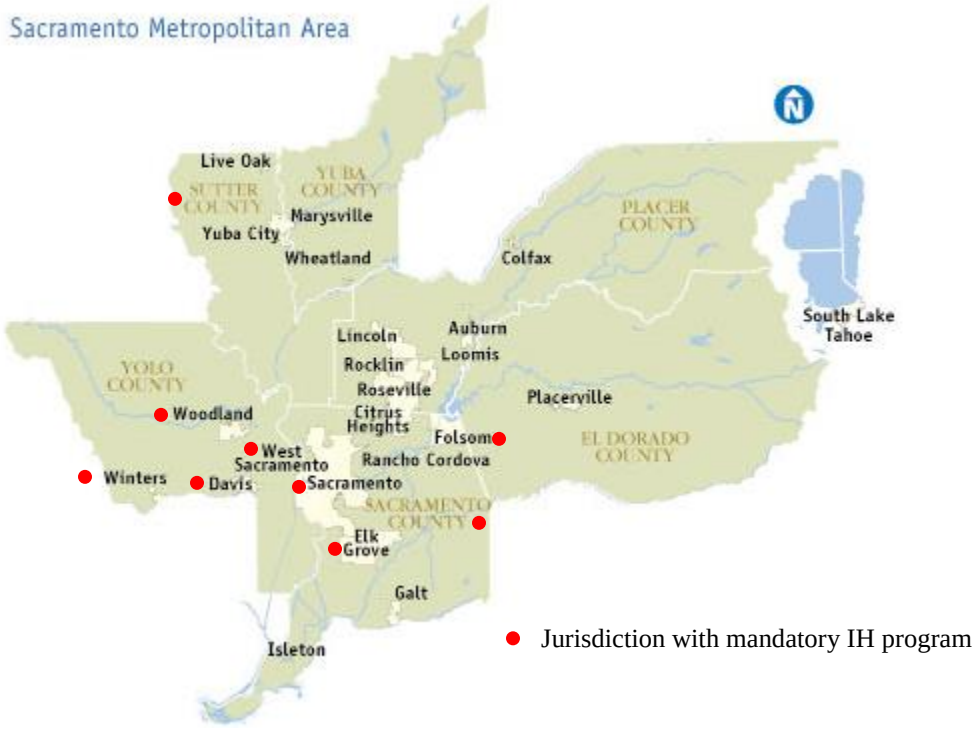
Some local governments take an added step to adopt mandatory or voluntary inclusionary housing (IH) programs that require developers to construct a percentage of all residential development affordable to lower income groups (Calavita and Grimes, 1998; Lerman, 2006). IH policies and programs seek to increase the supply of affordable housing without major public financial commitment (Lerman, 2006) by deed restricting the amount of rent or sales price a builder or developer can charge lower income groups. Not surprisingly, a chief criticism is that IH policies increase the price of market-rate housing (those that do not fall under the affordable housing criterion) because builders and developers typically shift the affordable subsidy to market-rate units.

California has no mandate for inclusionary housing, meaning that localities are free to adopt IH policies depending on political and economic circumstances (National Housing Conference, 2004). This leads to an ad hoc and decentralized system of housing (Calavita and Grimes, 1998, citing Ramsay, 1996). To illustrate, Figure 1.3 shows that in the Sacramento region, about one-third of the 28 member counties and municipalities in SACOG have adopted mandatory IH programs (California Coalition for Rural Housing, 2013). Sacramento and Sutter counties are two such examples, but their IH programs only apply to unincorporated areas unless specific jurisdictions within the counties have also adopted IH programs.

Even when local governments include IH policies and programs in their housing elements, policy makers cannot arbitrarily elect to eliminate them without amending their housing element. In 2011, for example, the City of Folsom repealed its IH program because of difficulties

with the depressed housing market (Chaddock, 2011, April 19), but the Sacramento Housing Alliance filed a legal challenge to the City's action, arguing that the City failed to amend its housing element to provide for alternative affordable housing strategies. In 2013, the City settled the lawsuit, agreeing to retain its IH program, but reducing the required percentages of low- and very low-income units and allowing the payment of an in-lieu fee (Sacramento Housing Alliance, 2013). Other jurisdictions such as Placer and El Dorado counties have avoided legal challenge because they have adopted legally adequate housing elements and comply with California's statutory requirements.

Figure 1.3
SACOG Jurisdictions with Mandatory Inclusionary Housing Programs



Source:
Sacramento Area Council of Governments (2013c) and California Coalition for Rural Housing (2013)

Notwithstanding the good intentions of IH programs, IH policies throughout California have produced relatively little. Builders have constructed an average of 2,000 units per year since 1999 (California Coalition of Rural Housing, 2007), and an average of 3,000 units per year between 2003 and 2013 (Atkins, 2013).

Why is Housing Diversity Important?

Housing diversity is important if California is to provide an assortment of rental and owner housing types to accommodate wide ranges in expected income levels and life stages (California Department of Housing and Community Development, 2012). However, residents in affluent suburban communities, such as El Dorado Hills, tend to oppose the inclusion of rental homes and higher-density housing into their neighborhoods, claiming that such housing lowers existing property values. The truth is, studies to date do not support that assertion and property values are a function of market supply and demand, proximity to urban centers, availability of amenities, and any negative factors, such as environmental contamination or constrained infrastructure and services (California Department of Housing and Community Development, n.d.).

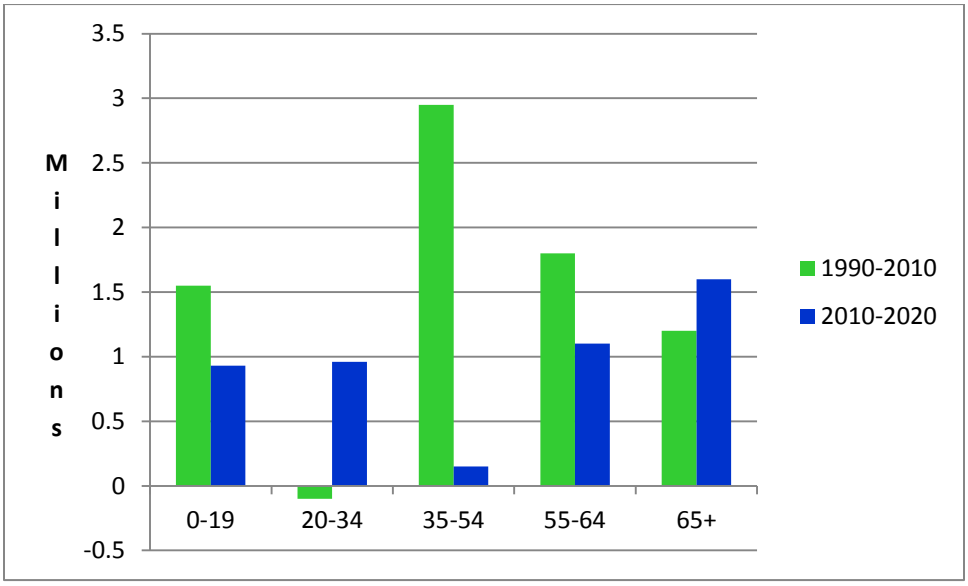
In the sections that follow, I highlight two concerns that underscore the importance of housing diversity. One aspect examines changing demographic trends and the other illustrates concerns about housing affordability.

Demographics

Figure 1.4 shows noticeable changes in the demand for housing during the past twenty years and the expected demand in the coming decade. In the 1990s and 2000s, the single largest driver of housing demand came from those aged 35 to 54, which is the age group most likely to

have children (toddlers or teenagers). Subsequently, homes to accommodate families drove much of the demand for large, suburban, single-family detached dwellings.

Figure 1.4
1990-2020 Changing Housing Demand



Source: California Department of Housing and Community Development (2012, citing S. Levy, California's Demography: Implications for Housing Presentation, May 2011, USC)

Looking forward, housing demand for the 35 to 54 year-old age group drops from just under 3 million households to approximately 200,000 households. At the same time, households with occupants 55 and older will account for approximately 2.5 million households, and those age 34 and under will make up another 2 million households (California Department of Housing and Community Development, 2012). Eighty-five percent of the demand for new housing will come from households without children (Nelson, 2006), meaning that future renters and buyers may need less dwelling space. The shift to childless households suggests a growing need for multi-family housing alternatives.

Furthermore, Nelson (2006) predicts a noticeable increase in the number of single-occupant households that will drive the demand for smaller housing types. In the 1950s, 10 percent of American households had a single occupant, but Nelson (2006) predicts that figure will grow to 25 percent in 2030. If Nelson (2006) is correct and in circumstances where a single occupant cannot afford housing on their own, they have no choice but to live with a friend, relative, or roommate. Situations of "doubled-up housing" are a cause for concern because they can be a precursor to homelessness (Wright et al, 1998).

Moreover, there is a mismatch between the existing housing stock, and the demand for housing by type and location for three segments of the market. First, much of the current housing stock is within suburban neighborhoods, yet young adults struggling to enter a weak job market want homes in urban centers, close to employment opportunities, services, and transit (California Department of Housing and Community Development, 2012). Second, the suburban housing stock presents a challenge for the older segment of the population looking to downsize from their large lot or two-story single-family residences to smaller multi-family dwellings (California Department of Housing and Community Development, 2012). Finally, the newer suburban housing stock may be entirely out of reach for lower income groups whose only affordable option is to find single-family housing in less desirable neighborhoods. For example, a family may wish to live in a new 4-bedroom, 3-bath home selling for $400,000 in Roseville, an outer ring suburb with good public schools and shopping opportunities. However, the family can only afford a 3-bedroom, 1-bath home selling for $160,000 in the Oak Park neighborhood of Sacramento, an inner-ring neighborhood characterized by crime and poor public schools.

Housing Affordability

Industry standards measure housing cost as a ratio to household income. A cost burden exists when a household spends more than 30 percent of its income on housing (California Department of Housing and Community Development, 2013b), meaning that the affordable ratio of housing expense to income is approximately 3:1.

Table 1.3 shows the ratio of statewide median home price to statewide median household income in 1969 was consistent with the 3:1 ratio. During the height of the housing boom between 2005 and 2007, the statewide ratio was as much as 10:1, but it is important to note that cost ratios vary according to regions. For example, the 2007 Sacramento ratio was lower than the statewide ratio at 8.2 (The Whitney Group, 2013 and U.S. Census Bureau, 2007). Generally speaking, the statewide ratio has remained at roughly 5:1 or 6:1, about twice the recommended ratio.

For many families, following the recommended ratio is important. It provides households with larger shares of discretionary income to build their savings, make investments, pay for unforeseen expenses without relying on credit, and purchasing more goods and services to support a region's economy. However, not all households follow the recommended guideline. Higher-income households have the discretion to spend larger shares of their income on housing and other income groups simply choose to buy more house than they can afford. Regardless, housing is a basic human necessity. For lower-income earners, the limited supply of smaller, more affordable housing types, forces them to overburden themselves with housing expenses because they have no other option.

Table 1.3
Ratio of California Median Single-Family Home Price to Median Household Income

Pre 1990s Decade-by-Decade Comparisons	
1969	2.6
1979	4.6
1989	5.9
1999	5.0
2000s Housing Boom and Great Recession	
2001	5.6
2003	7.5
2005	10.1
2007	10.1
2009	4.9
2011	5.4

Source: California Association of Realtors (2013) and U.S. Census Bureau (2007 and 2013)

Experts point to several factors that attribute California home prices rising faster than incomes. The California Department of Housing and Community Development (HCD) (2012) blames decades of undersupply, which Calavita and Grimes (1998, citing Porter, 1986 and Levy, 1991) and the National Housing Conference (NHC) (2004) say began in the 1970s. During this period, the demand for housing increased but the housing industry was unable to keep up with the demand, which placed upward pressure on prices. According to Calavita and Grimes (1998, citing Lillydahl and Singell, 1987) and Bento et al (2009, citing Pendall, Puente, and Martin, 2006), local governments in California have adopted more growth management controls than any other state in the nation, which is not surprising why Glaeser and Gyourko (2002) attribute the undersupply to zoning and other land use regulations. Other factors that constrain housing supply are neighborhood opposition to higher-density developments (NHC, 2004, citing Fulton, 1999,

and Myers and Park, 2002), and growth limitations, such as urban growth boundaries and development impact fees (Schuetz et al, 2011).

Rising home prices that outpace the growth in median household income make it impossible for some families to live in California and create affordability challenges for others. Lower income earners face a particular hardship because the cost burden is disproportionate to their overall income, meaning a greater share of their income is devoted to housing as compared to higher income groups (California Department of Housing and Community Development, 2013b). In such cases, a severe burden exists when households spend over 50 percent of their income on housing (California Department of Housing and Community Development, 2012) and 34 percent of the working households[9] in California in 2010 were overburdened (Williams, 2012). This figure actually grew by 1 percent from 2009 (Williams, 2012), showing that the 45 percent drop in home prices from the Great Recession still creates affordability challenges for many income groups. Moreover, affluent communities such as El Dorado Hills and Roseville rely upon members of the service sector for many daily needs, such as restaurant servers, grocery clerks, retail workers, and housekeepers. However, higher housing prices in these communities make it impossible for the service workers to live in the communities they work. As a result, service workers live in outlying areas and commute farther distances to reach their places of employment, causing negative externalities such as added road congestion and air pollution, and raising concerns about social equality.

The outlook for renters is disappointing, too. As the Great Recession halted single-family construction and record foreclosure rates forced many buyers out of their homes into rental properties, rental rates increased from 2006 to 2011 and vacancies remained low at 6%

[9] A working household works an average of 20 hours per week or more, with household income no more than 120 percent of the median income (Williams, 2012).

(California Department of Housing and Community Development, 2012). According to the HCD (2012, citing the National Low Income Housing Coalition), affordability of rental housing worsened in California during the Great Recession. A minimum wage renter had to work 120 hours per week to afford a two-bedroom apartment in 2007. In 2010, the number of hours increased to 128, and reached 131 in 2011. HCD (2013b, citing the National Low Income Housing Coalition) further reports that a two-bedroom unit rented for $1,189 in 2006, yet low-income households in California could afford monthly rents no more than $827.

Housing cost burdens that exceed the recommended 3:1 ratio means that some income groups must spend more of their income on housing expenses and sacrifice discretionary income, or live outside California. This thesis does not advocate for "affordable" housing throughout California for all who choose to live here. Rather, it recognizes that introducing market-rate multi-family housing options into the largely suburban housing stock, particularly in the greater Sacramento area, is a step towards addressing affordability concerns for certain income groups, and anticipating the shift for smaller dwellings to appeal to Generation Y and the aging Baby Boomers.

Thesis Format

The format of this thesis includes four remaining chapters. Chapter 2 summarizes the literature on development impact fees, beginning with an overview of the purpose and use of development impact fees, why agencies impose them, and how agencies arrive at the fee amounts. I also explore the legal considerations by summarizing landmark judicial decisions that define the validity and legality of impact fees, and the statutory requirements of California. I end Chapter 2 with theoretical and empirical discussions about the effects of impact fees on the housing market, including who bears the economic burden of fees, how they affect home prices

and land values, and effects on the rate of construction and housing size. Chapter 3 provides the residual land methodology I will use to test single-family and multi-family development feasibilities in three Sacramento jurisdictions projected by SACOG to receive a large share of the region's growth in the next twenty years (El Dorado County, City of Rancho Cordova, and City of Roseville). I provide an overview of how I selected the jurisdictions for case study, a description of my housing prototypes, and the assumptions and data I used to develop the residual land values. I then compare development feasibilities and present my findings in Chapter 4, and I conclude this thesis in Chapter 5with a menu of policy strategies to increase the supply of multi-family housing.

Chapter 2

LITERATURE REVIEW

Introduction

Reviewing the body of literature regarding development impact fees sets the stage for this thesis. As a foundation, it is important to understand their purpose, significance, and in some cases, limitations to developing property in California.

I divide this literature review into three categories. I begin with an overview that defines the objectives of development impact fees, their role in funding public infrastructure and services, and why they have gained such prominence throughout California. As is common with any land use regulation or exercise of police power by a city or county, development impact fees face strict legal scrutiny, and must fit within the boundaries of case law and enabling legislation. I outline the legal considerations of impact fees by reviewing three significant court rulings – two from the U.S. Supreme Court and one from the California Supreme Court – that guide an agency's adoption of impact fee programs and in which the courts measure the validity of those programs. Finally, I end with a review of the theoretical and empirical evidence concerning the effects on housing markets, exploring who bears the burden of the fees, their effects on housing prices and land values, and influence on the rate of development.

Overview of Development Impact Fees

What are Development Impact Fees?

Development impact fees are a form of monetary development exaction exercised through a municipality's police power to fund capital improvement projects to serve new development. Impact fees are a one-time cash payment, which differ from on-going traditional property taxes or special assessments (Brown and Lyons, 2003, Ihlanfeldt and Shaughnessy,

2004). Cities and counties usually collect impact fees upon the issuance of a building permit for a development project and allocate the funds for specific facilities (Stroud, 1988). Facilities eligible under impact fee ordinances vary by state, but in California, impact fees provide the capital costs for local roads and highway improvements; water, sewer, and storm drain systems; fire stations; police, library, and solid waste services; and schools, parks, and other recreation facilities (Mullen, 2012). Carrión and Libby (2000) stress that local governments cannot use impact fees to fund operation, maintenance, repair, alteration, or replacement of capital facilities, and Nicholas and Nelson (1988) point out that impact fees cannot be used to remedy existing infrastructure deficiencies within a community. These restrictions come from California's enabling legislation known as the Mitigation Fee Act, which defines the parameters by which cities and counties may enact impact fee programs.

The Impetus for Impact Fees

In California, the use of impact fee programs gained popularity in the early 1970s as local governments devised alternative funding sources for new development in response to two pressures (Barneby et al, 1988). First, jurisdictions such as San Jose, California, embraced growth in the 1950s and 1960s, and it was common for localities to fund new development through property taxes or voter-approved infrastructure bonds. However, as the growth accelerated, facility capacity decreased. It created resentment among existing residents who were continuing to fund new development, yet coping with infrastructure deficiencies, such as overcrowded schools and congested roadways (Barneby et al, 1988). Second, the passage of Proposition 13 by voters in 1978 restricted property taxes to 1 percent of the assessed value, and heavily strained city and county general funds.

Proposition 13 changed the way local governments conducted their business by restructuring sources of revenues and limiting control over local expenditures (Chapman, 1998). Prior to Proposition 13, cities and counties exercised greater control over property tax assessments, adjusting rates to meet service needs. In 1978, 33 percent of county revenues and 16 percent of city revenues came from property taxes. Proposition 13's 1 percent limitation on tax rates eliminated local governments' ability to set their own rates and the share of property tax revenues as a percentage of overall revenues fell. By 1996, property taxes provided just 12 percent of county revenues and 8 percent of city revenues (Chapman, 1998). The decrease in property tax revenues meant that local governments could no longer afford to fund infrastructure improvements for new development. Voter resistance to higher property taxes (Carrión and Libby, 2000, and Evans-Cowley, Forgey, and Rutherford, 2005) prompted agencies to find alternative sources of funding new development and has led to the universal use of impact fee ordinances throughout California (Barneby et al, 1988). Simply stated, impact fees are a means to shift the cost of new on-site and off-site infrastructure to the private sector without substantially taxing existing residents (Connerly, 1988, Evans-Cowley, Forgey, and Rutherford, 2005).

Impact Fee Calculation

There are two methodologies for calculating impact fees. One such approach is the average cost method (National Association of Home Builders, n.d., Carrión and Libby, 2000, and Delaney and Smith, 1988). The average cost method uses the *historical* cost data of providing new facilities, divided by the population the facility serves, to arrive at a per capita cost and total per household. For example, assume a community park costs $6 million to construct and serves a population of 8,000 people. The per capita cost equals $750. If average household size is 2.3

people per household, the total impact fee for the household is $1,725. The second approach is a marginal cost "case study" (National Association of Home Builders, n.d., and Delaney and Smith, 1988). Contrary to the average cost method, the marginal cost approach bases the calculations on the *future* cost of specific facilities and the projected population served by the new facility. The National Association of Home Builders (n.d.) cautions that this method is more time consuming and expensive, but it is a more accurate and fair method.

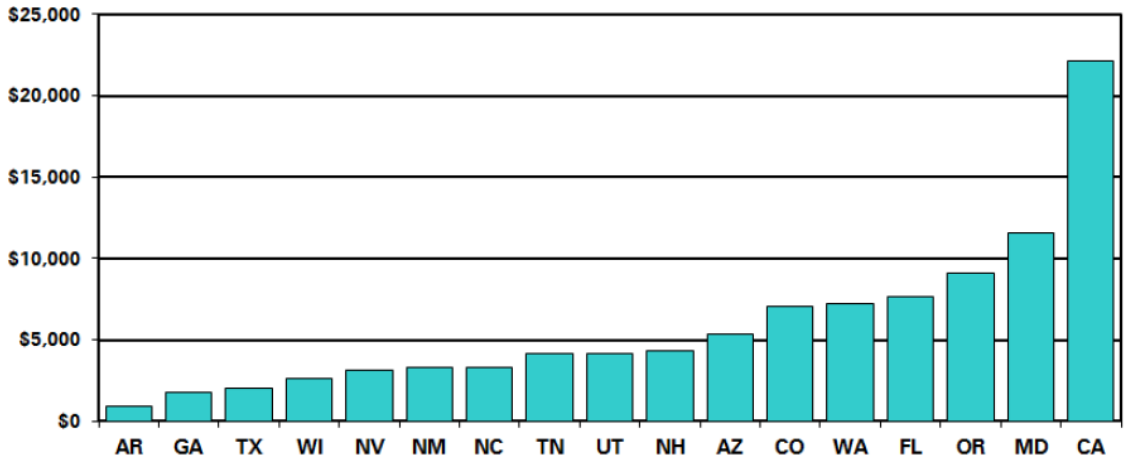
Localities impose impact fees in a number of ways. Some municipalities assess fees on an "equivalent dwelling unit" (EDU) per land use activity on the household or users that benefit from the facility (Barneby et al, 1988). Jurisdictions base road impact fees on average trip length, daily trip generation rate, roadway capacity per lane mile, or average cost of new roadway construction per lane per mile (Barneby et al, 1988). Improvements for solid waste facilities impose fees per pound of waste generated by various uses (Barneby et al, 1988). In residential applications, flat fees, fees per square footage of space, or numbers of bedrooms are acceptable methods, although few municipalities charge by unit size because of the difficulty in calculating the fee (Mullen, 2003). Charging a flat fee is simply easier to calculate and the most common approach in California (Mullen, 2003).

Additionally, localities can assign impact fees by service areas (National Association of Home Builders, n.d.). This does not mean that residents outside of the service area are restricted from using the public facility, but rather, the service area provides for an intended geographic area (National Association of Home Builders, n.d.). For example, the County of El Dorado collects a traffic impact fee based on eight geographical fee zones. A fee for a single-family home in El Dorado Hills is $28,140, whereas the same fee for a home in Shingle Springs is $35,740. El Dorado County is one of the few jurisdictions in California to fund improvements to

U.S. Highway 50, and given the sparse employment opportunities in Shingle Springs, most residents commute westward to Sacramento, thereby consuming more highway space than their counterparts in El Dorado Hills. As such, they pay a larger fee to mitigate for greater highway congestion impacts.

Cities and counties have increasingly relied on the collection of impact fees from builders and developers. Of the seventeen states in the nation with four or more local jurisdictions adopting impact fee programs, Figure 2.1 shows that the average impact fee for a single-family home in California is about $22,000 in 2012, slightly down from the 2003-2012 average of $31,000 reported in Figure 1.2, but still twice the amount of Maryland (Mullen, 2012). While impact fees have become a valuable and necessary source of funding to provide for infrastructure and services, multiple layers of fees or too many exactions can render some development projects infeasible (National Association of Home Builders, n.d.). For example, affordable housing advocates are concerned that low- and moderate-income earners will absorb the economic burden of the impact fees through higher home prices and rents, which pushes many residents out of the local housing market. This illustrates the importance for policy makers to understand the economic effects of impact fees in achieving development objectives, such as increasing the supply of housing units that are affordable to many income groups or promoting economic development (National Association of Home Builders, n.d.).

Figure 2.1
Average Single-Family Fees by State, 2012



Source: Mullen (2012)

If localities are not careful about how they calculate and impose fees, they can suffer unintended consequences by unfairly burdening multi-family housing types and suppressing the rate of construction. Nelson (2008) demonstrates this with his study on localities charging flat fees for single-family and multi-family units in Volusia County, Florida. Officials there enacted a flat impact fee of $1,927 to fund fire, park, and school improvements without regard for unit type or size, assuming an average of 2.02 people per household. However, 2000 Census figures showed single-family households contained 2.39 people, whereas 1.17 people in multi-family units. Using these figures, Nelson (2008) calculated a single-family fee of $2,277 and a multi-family fee of $1,115. Charges for single-family units were $350 less than they should have been and $812 more for multi-family units.

As an alternative and sometimes in addition to impact fees, some developers choose to create Mello Roos[10] districts as a financing mechanism for public improvements. Mello Roos districts function similarly to impact fee programs, in that the municipalities collecting the funds dedicate them to specific infrastructure projects, such as schools, parks, and roadways. The primary distinction between the two funding mechanisms is that Mello Roos districts serve as a special tax on real property, in addition to the 1 percent tax authorized by Proposition 13. Mello Roos districts can typically add $1,000 to $2,000 to a homeowner's annual property tax bill, generating millions of dollars for public facilities (Fulton and Shigley, 2012), and passing much of the cost responsibility on to the consumer.

Legal Considerations

Cities and counties' adoption of impact fee ordinances and development exactions have been, and will continue to be, controversial among policy makers, the development community, and special interest groups, such as affordable housing advocates (Burge, 2008). To withstand scrutiny and maintain legal validity, impact fees must meet several judicial and statutory requirements. In this section, I review judicial decisions from two landmark U.S. Supreme Court rulings and supplemental guidance offered by the California Supreme Court, along with the statutory requirements of California Assembly Bill 1600 (the "Mitigation Fee Act").

Judicial Decisions

Three significant judicial decisions in the late 1980s and early 1990s have set the standards by which the courts review cases and arguments over the validity of development

[10] A law known as the Community Facilities Act, a law enacted by the California legislature in 1982, and nicknamed after co-authors Senator Henry Mello (D-Watsonville) and Assemblyman Mike Roos (D-Los Angeles).

exactions. Two decisions come from the U.S. Supreme Court as the *Nollan* and *Dolan* decisions, and one comes from the California Supreme Court in the *Ehrlich* decision.

The *Nollan* Decision: Essential Nexus

The first landmark U.S. Supreme Court case to address land dedication requirements (Stroud, 1988) was *Nollan v. California Coastal Commission, 483 U.S. 825 (1987)*. The Nollans applied to the Coastal Commission (Commission) to construct a two-story residence in the development footprint of their existing single-story beachfront home near Ventura, California. The Commission conditioned the Nollans to provide a beach access easement over their property for public use, but the Nollans argued that the addition of the second story did not bear a reasonable relationship to the Commission's condition to provide the public access easement. The U.S. Supreme Court agreed and the ruling established the "essential nexus" test for lawful exactions (Brown and Lyons, 2003; Fulton and Shigley, 2012). There must be a "nexus" or direct link between the exaction and an agency's interest advanced by that exaction (State of California, Governor's Office of Planning and Research, 1997), meaning that new development paying the fee must substantially benefit from the new facility (Barneby et al, 1988; Nicholas and Nelson, 1988).

The *Dolan* Decision: Rough Proportionality

The U.S. Supreme Court decided a second landmark case in *Dolan v. City of Tigard, 512 U.S. 319 (1994)*. Dolan owned a hardware store in a flood plain area, and in exchange for seeking construction permits to expand her store, the City of Tigard conditioned Dolan to dedicate 10 percent of her property for a bike path and public greenway to improve the public's bicycle facilities and reduce vehicular traffic (Brown and Lyons, 2003). In its decision, the U.S. Supreme Court upheld the "essential nexus" test in *Nollan,* but expanded the lawfulness of

development exactions to bear a "rough proportionality" to the impact caused by the development (Fulton and Shigley, 2012). Not only must local governments demonstrate that new development causes the need for the additional facilities, the exaction must be supported by a Capital Improvement Program or Nexus Study that supports the anticipated costs (Nicholas and Nelson, 1988) and calculates new developments' proportional share of the new facility based on the impacts or benefits caused by new development (Stroud, 1988).

The *Ehrlich* Decision: Land Exactions versus Fee Exactions

The California Supreme Court, in *Ehrlich v. City of Culver City, 12 Cal.App.4th (1996)*, expanded the test of lawfulness of development conditions to not only apply to land exactions, but payment of fees as well. Ehrlich sought to redevelop a failed tennis facility on a 2.4-acre property into thirty townhomes. As part of the rezone and general plan amendment applications, the city conditioned Ehrlich to pay a $280,000 recreation facilities mitigation fee to offset the loss of the tennis facility and a $33,200 public art fee. The city imposed the recreation fee in an ad hoc way that was unique to Ehrlich's property and not uniformly applied to other developers, whereas the public art fee applied broadly to all development plans (Brown and Lyons, 2003, and Fulton and Shigley, 2012).

The California Supreme Court expanded the legal test for exactions in two significant ways (Brown and Lyons, 2003). First, it held that the same legal standard set by the *Nollan* and *Dolan* decisions applies to all exactions, whether for dedications of land, payment of fees, or construction of public improvements. Second, exactions imposed in an ad hoc manner for specific development projects that do not apply uniformly to other developers is subject to the scrutiny of the *Nollan/Dolan* "essential nexus" and "rough proportionality" tests. This contrasts with legislative exactions included in policy documents or general plans that apply uniformly to

all developers as an extension of localities' police power, such as traditional land use regulations and the "public art fee" in *Ehrlich*, which must only bear a "reasonable relationship" to withstand legal scrutiny (Brown and Lyons, 2003; Fulton and Shigley, 2012).

Statutory Requirements in California

Just as the U.S. Supreme Court was deciding the *Nollan* case in 1987, California's Legislature adopted AB 1600, the "Mitigation Fee Act", and Government Code Section 66000 to provide the legal requirements and governance over municipalities' enactment of development impact fee programs (Brown and Lyons, 2003). AB 1600 applies to development impact fees charged by local agencies, such as cities, counties, special districts, and school districts, to finance the cost of public facilities. AB 1600 does not apply to taxes or special assessments, but establishes the statutory framework for municipalities imposing development impact fees to include four key findings (State of California, Governor's Office of Planning and Research, 1997, California Department of Housing and Community Development, 2013c):

- Clearly state the purpose of the fee,
- Establish a reasonable relationship between the fee and the purpose for which it is collected,
- Identify the sources and amounts of funding anticipated to finance the planned improvements, and
- Anticipate the dates when the agency expects to receive the funding in the appropriate account.

Effects on the Housing Market

Standard economic theory relating to the supply and demand for housing provides the background for many arguments in the literature about the effects of impact fees. Using a simple

model, the early literature focuses on the imposition of an impact fee as an excise tax on new development (Delaney and Smith, 1988; Huffman et al, 1988, Singell and Lillydahl, 1990; and Burge, 2008). The amount of the tax raises the supply curve upward by the amount of the tax, resulting in reduced output and higher prices (Carrión and Libby, 2000, and Ihlanfeldt and Shaughnessy, 2004).

However, the extent of the literature illustrates the complexities in analyzing the many variables of a supply and demand model, making it difficult to answer four key questions:

- Among landowners, builders, developers, and homebuyers, who bears the burden of impact fees?
- How do impact fees affect home prices and by how much?
- How do impact fees affect land values and by how much?
- Do impact fees alter the rate of construction and housing size?

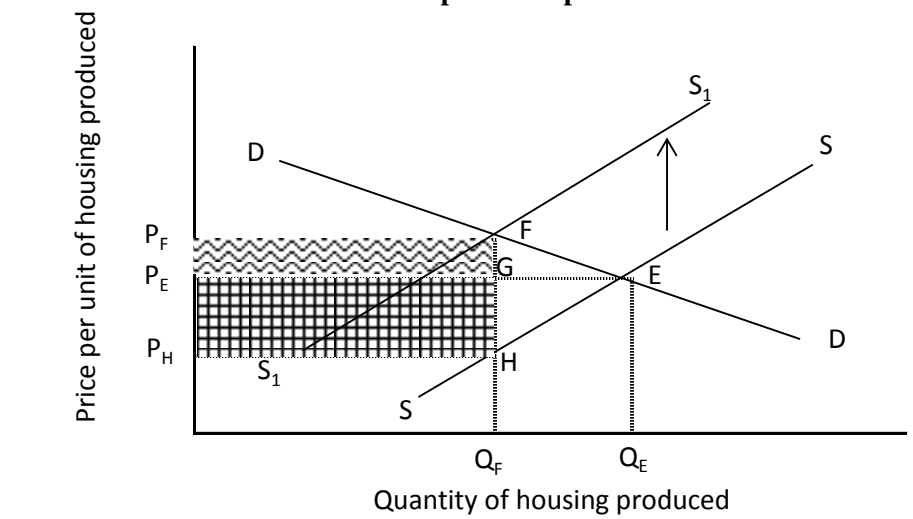
Who Bears the Burden of Impact Fees?

The single largest criticism of impact fees is determining who bears the burden of the fee. Even though a developer or builder actually pays the impact fee, the amount of the fee fully or partially shifts forward to the consumer in the form of higher home prices, backwards to the landowner in the form of lower land values, or shared between landowner, builder, and consumer (Connerly, 1988; Delaney and Smith, 1988; Ihlanfeldt and Shaughnessy, 2004; and Yinger, 1998).

Sharing of the burden depends on the elasticity of the supply and demand factors in the market (Burge, 2008, Delaney and Smith, 1988) as shown in Figure 2.2. Carrión and Libby (2000) indicate that consumers pay a greater proportion of the fee when demand is inelastic, and

Connerly (1988) suggests that ad hoc imposition of fees by jurisdictions makes it easier for builders to pass on the costs to consumers in communities where demand is high. Yinger (1998) adds to the literature by indicating that impact fees do not negatively burden developers as long as

Figure 2.2
Who Bears Development Impact Fees?



Note : The share between consumer and supplier depends on the elasticity of supply and demand in the market.

Source: Huffman et al (1988)

the housing market remains competitive. However, Huffman et al (1988) offer a more thorough analysis. When consumers are insensitive to price changes and builders are free to enter the market (such as highly desirable, yet isolated locations such as Colorado Springs), builders pass all or a majority of the fee on to consumers. A local example is the community of El Dorado Hills, California, which experienced rapid growth in the 1990s and 2000s as residents relocated

from the Bay Area and southern California. When consumers are insensitive to price changes and builders face barriers to the market (such as highly desirable locations in metropolitan areas of California), builders modify their business models to pass along all or a majority of the fee to buyers of higher-income households. Finally, when consumers are sensitive to price changes and there are no barriers to entry (the most common situation), builders and consumers share the fee burden in the short term, unless the builder elects to reduce quality, amenities, profit, density, or land cost. In the long term, a builder may choose to forego development until demand increases to a level where the builder can shift the fee entirely forward to the consumer.

Of particular interest in the literature is an argument by Yinger (1998), highlighted by Ihlanfeldt and Shaughnessy (2004), and Burge (2008), that transforms the traditional view of impact fees as a "burden" into a contemporary argument that they are actually a benefit. Prior to the late 1990s, the traditional view focused on impact fees as a short-run excise tax on developers shifting the supply of new housing up by the amount of the fee, raising the price on homebuyers, lowering developer profits, and reducing the number of homes built (Burge, 2008). Beginning in the late 1990s, the traditional view began to recognize that impact fees fund infrastructure that consumers value, and is a less expensive alternative to funding infrastructure than property taxes and assessment districts (Been, 2005). Yinger's position is consistent with Tiebout's (1956) theory that buyers, particularly the affluent, select communities according to the services and prices that match their personal preferences. As residents make locational choices to maximum their housing utility, they willingly absorb the economic burden of impact fees.

How do Impact Fees Affect Home Prices?

There is general agreement in the theoretical literature that the imposition of an impact fee increases home prices. In cases of developed property, the developer's or builder's payment

of the impact fee capitalizes into the value of the developed property and the value reflects this fee (Evans-Cowley, Forgey, and Rutherford, 2005). Been (2005), and Bryant and Eves (2012) report that home prices increase in the short term during strong markets and in the long term in weak markets. Furthermore, increases in home prices are not limited to new homes. With respect to new homes, the imposition of an impact fee increases the cost of producing the new housing, thus raising the supply curve upward. This increases the price and reduces the quantity of homes built. As the price of new homes rise compared to existing homes, consumers' demand shifts to older homes, which in the long run increases the demand and price of existing homes (Singell and Lillydahl, 1990).

Bryant and Eves (2012) theorize that builders and developers "overshift" the amount of the impact fee, meaning that a $1 infrastructure charge equates to a more than $1 increase in home price. They attribute this to a developer's or builder's need to compensate themselves for the risk in accepting the impact fee and earn a return on the cost (Burge and Ihlanfeldt, 2006a, Ihlanfeldt and Shaughnessy, 2004, Bryant and Eves, 2012). Lacking from the theoretical literature is the possibility that large-scale, public builders constructing homes simultaneously in multiple markets are more likely to "overshift" the costs in affluent market areas to offset subsidies in lower-income markets.

Several empirical investigations support the theoretical arguments, but produce varying magnitudes. As one example, Delaney and Smith (1988) studied 5,839 new home sales in four cities in Pinellas County, Florida between 1971 and 1982. Of the four cities, the City of Dunedin had recently adopted a $1,150 impact fee on all new single-family construction. The authors employed a regression model to measure the effects of home prices in Dunedin compared with the other three cities without impact fees. After controlling for price, lot size, dwelling size, and

land cost, the authors found prices in Dunedin were $3,300 to $4,000 higher, indicating that the price of the home increased three or four times the amount of the impact fee. However, only two of the coefficients for the non-impact fee cities were significant at the 5 percent level, and R-squared values for all three non-impact fee cities were relatively low, ranging between .14 and .48. The low R-square values indicate low explanatory power of their model and suggests there were other factors present in the market that contributed to the differential in home prices. Potential flaws in their analysis include omitted variables to control for differences in neighborhood characteristics and structural quality, and time factors associated with the eleven-year span of their observations.

Dresch and Sheffrin (1997) employed an econometric analysis of single-family housing prices in Contra Costa County, California between 1992 and 1996. They controlled for the physical attributes of housing qualities, community characteristics, and fluctuations in the real estate market. They divided their sample into the East County (the less desirable communities of Clayton, Bay Point, Antioch, Oakley, and Brentwood) and West County (the more favorable and affluent communities of Danville and San Ramon). Impact fees averaged approximately $16,000 in East County (12 to 19 percent of sales price) and $24,000 (6 to 7 percent) in West County. Their findings are mixed. In East County, a $1 increase in fees raised home prices by $0.25, indicating that landowners or builders absorbed the majority of the fees. In West County, a $1 increase in fees escalated homes prices by $1.88. Their findings were statistically significant at the 5 percent level and samples sizes were large (between 2,000 and 6,200 observations) with very strong R-square values (.90 for East County and .84 for West County). They attribute the price differential to unequal market conditions, noting that their study occurred during a declining housing market with significantly more distressed properties in the East County. Other than

confirming that impact fees do indeed increase home prices, they also conclude that builders will absorb fees to sell their properties. As mentioned earlier in this thesis, what the authors fail to acknowledge is that large public homebuilders construct hundreds of single-family homes simultaneously in various submarkets. This circumstance potentially understates the magnitude to which builders truly absorb fees. The same builder may absorb $0.75 of every fee dollar in one submarket, yet over-shift fees to consumers by $1.88 in another submarket, yielding an overall profit.

Ihlanfeldt and Shaughnessy (2004) examined the effects on new home and existing home sales in Dade County, Florida between 1990 and 2000. After controlling for sales price, location, structural characteristics, and time, they found $1 in impact fees raises new home prices by $1.64, statistically significant at the 1 percent level and an R-squared value of .67. They arrived at similar results for existing homes, whereby a $1 impact fee raises the price of existing homes by $1.68, statistically significant at the 5 percent level and an R-squared value of .57. While the researchers' model has moderate explanatory power, their sample size is small with just 178 observations, meaning that the findings rely on limited observed differences and can produce unreliable results.

Burge and Ihlanfeldt (2006a) quantified the effect on the price of single-family homes by size and type of impact fee using 401 observations of home sales between 1993 and 2003 in forty-one counties in Florida. They categorized home size by small (600-1,500 square feet), medium (1,501-2,200 square feet), and large (2,201-5,000 square feet). Their regression model controlled for the number of home completions, home price, impact fees for water and sewer services, non-water and sewer services such as schools and roads, population, per capita income, construction cost, and land cost. A $1.00 increase in non-sewer/water fees increased the price of

small homes by $0.39, medium homes $0.82, and large homes $1.27, respectively, all of which were statistically significant at the 5 percent or 1 percent levels, and R-squared values ranging between .44 and .59. Results for the sewer/water impact fees were statistically insignificant. Despite the moderate R-squared values, the results of their work highlight two points. First, homebuyers find more value in, and are more willing to pay for, observable facilities such as schools and roads in the form of higher home prices than they are for non-observable facilities, like sewer and water services. Second, buyers of large homes accept a larger "overshifting" of the fee, presumably because household income is higher and the share of the housing cost burden is lower when compared to buyers of smaller homes.

How do Impact Fees Affect Land Values?

One theoretical argument implies that impact fees have no effect on an existing landowner's undeveloped land values because the developer or builder pays the impact fee in the future at the time of development (Skidmore and Peddle, 1998). However, this assumes the builder is confident that future home prices will be sufficient to pass forward the full cost of the impact fees to the consumer. In the reality of a competitive building industry, builders are reluctant to undertake projects that reduce expected returns (Dresch and Sheffrin, 1997) and in light of the Great Recession, builders have become more risk averse, seeking to insulate themselves from potential losses by subtracting the amount of impact fees from the value of the land. However, in highly desirable areas such as El Dorado Hills and Roseville, landowners understand that consumers are more willing to absorb impact fees and, therefore, demand higher land costs from builders. Skidmore and Peddle's (1998) argument seems to ignore situations where the level of development exactions and impact fees are too high to pass forward to low-income consumers, producing a non-positive residual land value and causing a landowner or

developer to forego development until market conditions improve. Under this example, a landowner suffers from a prolonged holding period and added expenses, such as property taxes and mortgage payments, and opportunity costs associated with other, more profitable investment alternatives.

Other theoretical views focus on the negative effects of impact fees on undeveloped land. Imposition of the fee increases the cost of building a home (Carrión and Libby, 2000) and the developer or builder will pay less money to the seller to offset the future fee (Evans-Cowley, Forgey, and Rutherford, 2005). Impact fees act as a deterrent to development, which also drives land values down (Carrión and Libby, 2000). The empirical literature attempts to support the negative effect on land values, but as Burge (2008) points out, the empirical investigations suffer from methodological weaknesses and data constraints.

Evans-Cowley, Forgey, and Rutherford (2005) examined the price effects of impact fees across 43 cities in Texas in the late 1990s. Their regression model controlled for developed[11] and undeveloped[12] lot characteristics, location, and price. They found that each $1,000 in impact fees reduced *undeveloped* land values by $114, statistically significant at the 10 percent level. Conversely, they found that the value of vacant *developed* lots actually *increased* by $311 for every $1,000 in impact fees. They indicate the results are statistically significant, but fail to report at what level. The explanatory power of their model is relatively low with R-squared values of .17 and .27, suggesting the authors excluded key variables that could affect land values, such as existing land supplies, zoning constraints, and availability of existing infrastructure. Despite these shortcomings, the positive effect of the impact fees on *developed* land values is

[11] Defined as lots 3 acres in size or less, within the city limits, and excluding structures.
[12] Defined as lots more than 3 acres in size, within the city limits, and excluding structures.

consistent with the theoretical arguments that impact fees create perceived values among consumers and capitalize into future prices.

Ihlanfeldt and Shaughnessy (2004) observed the price effect of impact fees on the value of undeveloped land in Dade County Florida in the 1990s. The conclusions of their research show that the price of undeveloped land drops $1 for every $1 in impact fees, statistically significant at the 5 percent level. As I mentioned previously, their model suffers from data imperfections due to small sample size (128 observations).

Do Impact Fees Alter the Rate of Construction and Housing Size?

The theoretical literature presents countering arguments on the rate of construction. Skidmore and Peddle (1998) theorize that impact fees reduce the rate of development until such time when the post-development value of vacant land is larger than the amount of the fee. At the same time, they also theorize that because the fees finance local infrastructure, they increase the development potential and value of the land, thereby expediting the rate of agricultural land conversion. In the absence of impact fees, localities could not fund the infrastructure needed by new growth, which means impact fees actually increase the demand for housing (Singell and Lillydahl, 1990), and increase the rate of development and supply of land (Nelson and Moody, 2003).

Burge and Ihlanfeldt (2006b) highlight the concern about the effect of impact fees on the production of homes of varying sizes. Developers and homebuilders argue that impact fees hurt the viability of constructing smaller homes for lower-income earners because it is difficult to pass along the cost to the consumer. Mullen (2003) echoes this sentiment by saying municipalities should exercise caution in creating an impact fee system that uses a “one-size fits all approach”

that creates a larger burden on smaller units, particularly if they have a housing objective to encourage smaller units that are affordable to families with lower incomes.

The empirical investigations of Skidmore and Peddle (1998) support the theory that impact fees reduce the rate of residential construction. They studied the effects on the overall housing stock, consisting of new single-family and multi-family units constructed during a 15-year period in Dupage County, Illinois, between 1977 and 1992. Their investigation included municipalities with and without adopted impact fee programs, and their regression model controlled for municipal attributes such as tax revenues, assessed values and impact fees, time, and cost of construction. The researchers found that a newly adopted impact fee reduces the rate of residential development by 30 percent, statistically significant at the 10 percent level. The results imply that when given the choice between building in a locality with and without impact fees, builders forego development in areas with impact fees and presumably shift construction projects to areas without impact fees. Because impact fees are the norm in California, rather than the exception, builders do not have the flexibility to avoid building in certain jurisdictions and therefore, the magnitude on the type of construction in California is unclear. Regardless, their research suggests that builders and developers may exercise caution when building in jurisdictions with particularly high levels of impact fees.

Burge and Ihlanfeldt (2006b) quantified fee effects by metropolitan area and the type of fee. They estimated the effects of different types of impact fees on multi-family housing construction in 33 counties in Florida from 1996 to 2003. Their model controlled for the annual change in multi-family housing construction within the central city, inner suburbs, and outer suburbs; the amount of water/sewer fees and non-water/sewer fees; land price; multi-family housing price; and construction costs. They found that impact fees for sewer and water services

reduce the supply of multi-family housing construction. For each $1 of additional water/sewer impact fees, multi-family construction declined by 1,202 square feet in central cities, 3,770 square feet in inner suburbs, and 1,317 square feet in outer suburbs. The results were statistically significant at the 5 and 10 percent levels, however their model used just 118 observations and R-squared values of .474 or less, meaning that the model did not capture the effects of other attributes, such as growth controls or market conditions that constrain the rate of construction.

Chapter Summary

The literature is rich in information about impact fees as a valuable funding source for new infrastructure, particularly in light of the restrictions from Proposition 13 that hamper a local government's ability to fund new development. It is important, too, to remember the legal parameters of impact fee programs because localities must meet the "essential nexus" and "rough proportionality" tests. What are not so clear are the measurable effects of impact fees on the housing market and its participants. Review of the theoretical and empirical literature proves that impact fees have complex effects on the housing market (Nelson and Moody, 2003), and seems ambiguous at times by demonstrating the shifting of fees both backward to landowners and forward to consumers. In some cases, the burden partially rests with the homebuilder. Looking beyond the controversies, cities and counties could not fund new development without California's impact fee structures, and the "new view" of impact fees reinforces the value and perceived quality consumers receive from new public facilities, replacing the simplistic "old view" of the excise tax on developers.

Table 2.1 summarizes the empirical evidence on the effects of impact fees on housing prices, land values, and rate and size of construction. Given the widespread use of impact fees throughout California, it is surprising that that the empirical evidence is not as abundant in

quantifying the true economic burdens on the market participants, and in many cases, the methodologies suffer from poor model structure. This suggests difficulty in assembling reliable data sets that could very well depend on accessing confidential information from landowners and sellers regarding their details of negotiated sales contracts.

While arguments persist about who pays the fees and how much, and the extent to which land values drop because of impact fees, the research lacks an analysis of comparative land values and development feasibilities between single-family and multi-family housing units through the eyes of a landowner and builder negotiating a land purchase. As the Gomes and Martin (2010) analysis suggested, the negative land value for multi-family housing can be a constraint to delivering units affordable to lower income groups and may adversely affect regional housing supplies. None of the research to date has focused on the greater Sacramento area and this thesis intends to fill the void in the literature by comparing development feasibilities in Sacramento. The purpose of this thesis is to raise awareness about the private market's ability to deliver a range of for sale and for rent housing types, helping policy makers judge the effectiveness of their impact fee programs and identifying barriers to achieving diversified housing objectives.

Table 2.1
Summary of Empirical Evidence

Year and Author(s)	Methodology	Location	Findings	Statistical Significance	Implications
Effects on Home Prices					
1988 Delaney and Smith	Regression analysis of 5,839 new home sales between 1971 and 1982	Florida (City of Dunedin)	$1,150 impact fee raises new home price by $3,300 to $4,000	Statistically significant, 5% level	Consumer bears more than the full cost
1997 Dresch and Sheffrin	Regression analysis of 2,059 and 6,236 home sales between 1988 and 1996	California (Contra Costa County)	East County: $1 increase in fees raises home prices by $.25	Statistically significant, 5% level	In less desirable areas, the builder or landowner bears a majority of the cost.
			West County: $1 increase in fees raises home prices by $1.88	Statistically significant, 5% level	In highly desirable areas, the consumer bears more than the full cost
2004 Ihlanfeldt and Shaughnessy	Regression analysis of 178 repeat sales of new and existing homes during the 1990s	Florida (Dade County)	$1 in impact fees raises new home prices $1.64	Statistically significant, 1% level	Consumer bears more than the full cost
			$1 in impact fees raises existing home prices by $1.68	Statistically significant, 5% level	Consumer bears more than the full cost

Table 2.1 continued
Summary of Empirical Evidence

Year and Author(s)	Methodology	Location	Findings	Statistical Significance	Implications
2006 Burge and Ihlanfeldt	Regression analysis of 401 home sales between 1993-2003	Florida (41 counties)	$1 increase in non sewer/water fees increases price of small homes $0.39, medium homes $0.82, and large homes $1.27	Statistically significant, 1% and 5% levels	For small homes, builder or landowner absorbs majority of the cost For medium homes, the consumer bears the majority of cost. For large homes, the consumer bears more than the full cost.
Effects on Land Values					
2005 Evans-Cowley, Forgey, and Rutherford	Regression analysis of 54,230 land parcels between 1997 and 1999	Texas (43 cities)	Undeveloped lots: $1,000 in impact fees reduces values by $114	Statistically significant, 10% level	Builder or consumer absorb majority of cost
			Developed lots: $1,000 in impact fees raises values by $311	Statistically significant (level not reported)	Builder or landowner absorb majority of cost
2004 Ihlanfeldt and Shaughnessy	Regression analysis of 128 land values during the 1990s	Florida (Dade County)	Undeveloped land values decrease $1 for every $1 in impact fees	Statistically significant, 5% level	Landowner absorbs full cost

Table 2.1 continued
Summary of Empirical Evidence

Year and Author(s)	Methodology	Location	Findings	Statistical Significance	Implications
Effects on Rate of Construction and Housing Size					
1998 Skidmore and Peddle	Regression analysis of 409 observations of development projects before and after impact fee adoptions between 1977 and 1992	Illinois (Dupage County)	Newly adopted impact fee reduces rate of development by 30%	Statistically significant, 10% level	Impact fees reduce rate of construction
2006 Burge and Ihlanfeldt	Regression analysis of 118 multi-family construction projects between 1996 and 2003	Florida (33 counties)	$1 of sewer/water impact fees reduces multi-family construction by 1,202 square feet (sf) in central cities, 3,770 sf in inner suburbs, and 1,317 sf in outer suburbs	Statistically significant, 5% and 10% levels	Sewer and water impact fees reduce multi-family construction and size

Chapter 3

METHODOLOGY

Introduction

This chapter summarizes the methodology I will use to prepare a comparative analysis of development impact fees and development feasibilities for varying housing prototypes and densities, both for sale and for rent, in several jurisdictions in the greater Sacramento area. Building on the methodology by Gomes and Martin (2010), I calculate residual land values to determine the potential landowner profitability of alternative development scenarios. The residual land method is useful in determining the underlying value of the land, minus the costs associated with developing the property. As presented in Table 3.1, the calculation begins with an assumed sales price or rental value and subtracts the total unit cost, categorized by infrastructure costs (city and agency fees, and other backbone infrastructure costs) and unit development (lot development, vertical construction, soft costs, and builder profit) to arrive at the residual land value.

The sections that follow summarize how I selected the jurisdictions of study and how I identified my assumed housing prototypes – two single-family detached units and two multi-family attached units – for a range of users and income groups. I end this chapter with a discussion of each component of my residual land model, which consists of three primary categories: 1) market values for new home construction and rental units based on current market conditions; 2) infrastructure costs, including city and county agency fees, impact fees, and other backbone infrastructure expenses such as Mello Roos assessments or site-specific fees; and 3) unit development costs, including hard costs for lot development and vertical construction, soft costs, and builder profit.

Table 3.1
Residual Land Value Method

Assumed Home Price or Rental Value
(Less) Infrastructure Costs
City & County Agency Fees
Other Backbone Infrastructure Cost
Subtotal Infrastructure Costs
(Less) Unit Development
Lot Development Cost (in-tract)
Vertical Construction Cost
Soft Cost (20% of lot development and unit costs)
Builder Profit (10% of assumed price or rental value)
Subtotal Unit Development
Subtotal: Total Unit Cost
Equals: Residual Land Value

Jurisdictions for Case Study

SACOG's adopted Metropolitan Transportation Plan and Sustainable Communities Strategy includes regional growth forecasts and land use patterns within the Sacramento region capable of accommodating forecasted population. Of the jurisdictions that have not adopted mandatory IH programs, SACOG projects that five jurisdictions – El Dorado County, Placer County, City of Lincoln, City of Rancho Cordova, and City of Roseville – will each add over 10,000 new dwelling units to the region's housing stock by 2035 (refer to Table 3.2). Combined, SACOG predicts these jurisdictions will accommodate over 84,000 new housing units,

representing a visible share of the region's housing needs. (Refer to Figure 3.1 for a SACOG Vicinity Map)

Table 3.2
SACOG Member Jurisdictions
Inclusionary Housing Summary and 2035 Housing Growth Projections

	Inclusionary Housing Summary				SACOG MTP/SCS 2035 Housing Growth	Thesis Study Area
	Year Adopted	**Policy / Compliance Type**	**In-lieu Fee Structure**	**Construction Alternatives**		
COUNTIES						
El Dorado	-	-	-	-	**11,715**	✓
Placer	-	-	-	-	**17,799**	
Sacramento	2004	Ordinance/ Mandatory	Fixed per-unit fee	Credit transfer, in-lieu fee, and land dedication	51,181	
Sutter	-	-	-	-	4,157	
Yolo	Unknown	Ordinance/ Mandatory	Fixed per-unit fee	In-lieu fee, land dedication, and off-site construction	2,890	
Yuba	-	-	-	-	9,914	
CITIES						
Auburn	-	-	-	-	1,361	
Citrus Heights	-	-	-	-	3,760	
Colfax	-	-	-	-	1,480	
Davis	1987	Ordinance/ Mandatory	Formula	Conversion to affordable housing, in-lieu fee, and land dedication	3,646	
Elk Grove	Unknown	Ordinance/ Mandatory	Fixed per-unit fee	In-lieu fee	16,992	
Folsom	2002	Ordinance/ Mandatory	Formula	Conversion to affordable housing, credit transfer, land dedication, and off-site construction	10,247	

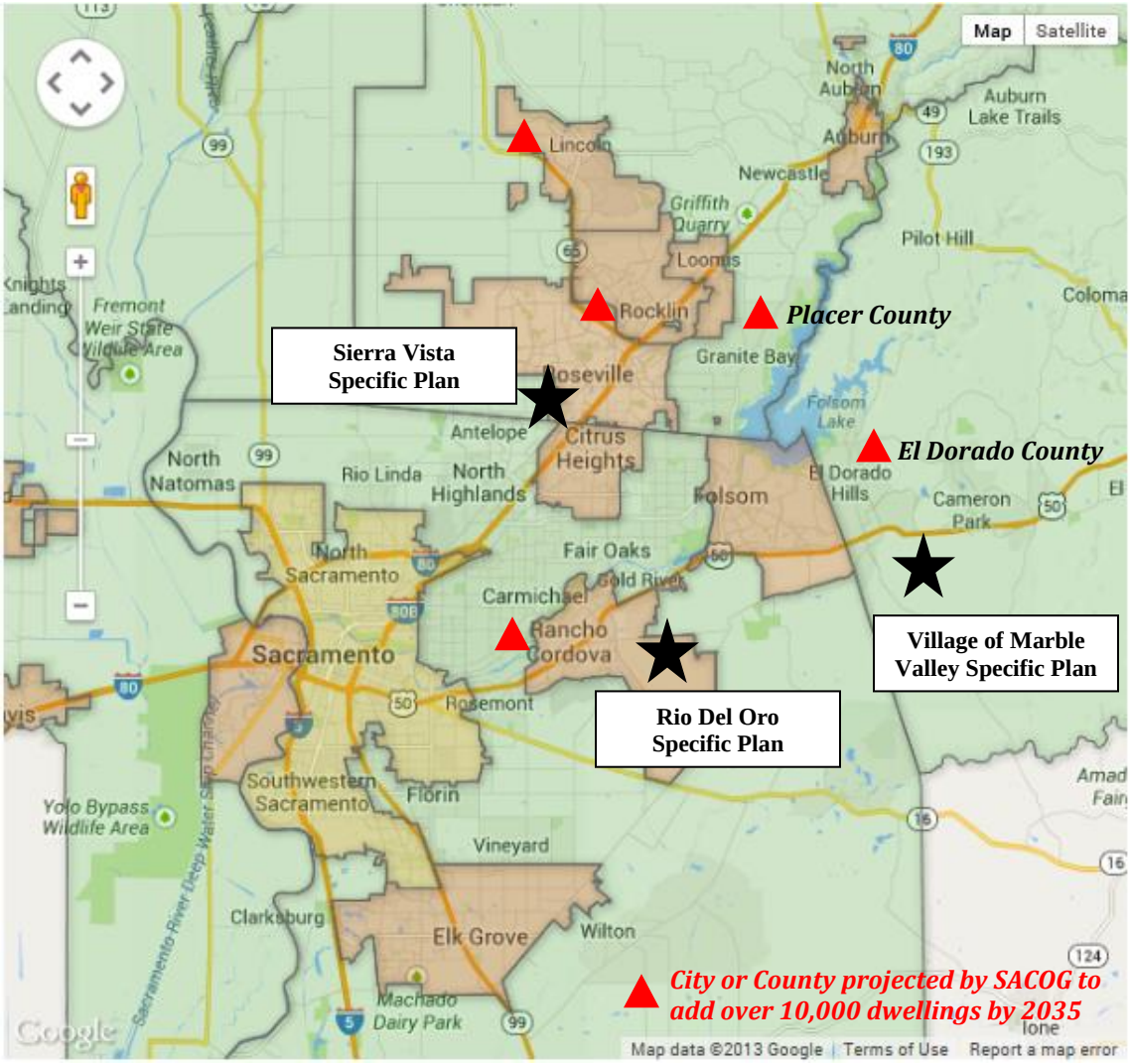
Table 3.2 continued:
SACOG Member Jurisdictions
Inclusionary Housing Summary and 2035 Housing Growth Projections

	Inclusionary Housing Summary				SACOG MTP/SCS 2035 Housing Growth	Thesis Study Area
	Year Adopted	**Policy / Compliance Type**	**In-lieu Fee Structure**	**Construction Alternatives**		
CITIES continued						
Galt	-	-	-	-	2,905	
Lincoln	**-**	**-**	**-**	**-**	**11,275**	
Live Oak	-	-	-	-	1,305	
Loomis	-	-	-	-	938	
Marysville	-	-	-	-	457	
Placerville	-	-	-	-	1,107	
Rancho Cordova	-	-	-	-	**25,354**	✓
Rocklin	-	-	-	-	6,358	
Roseville	**1998**	**Zoning/ Voluntary**	**None**	**Conversion to affordable housing**	**18,162**	✓
Sacramento	2000	Zoning/ Mandatory	None	Credit transfer, land dedication, and off-site construction	69,208	
South Lake Tahoe	-	-	-	-	*	
West Sacramento	1995	Zoning/ Mandatory	Formula	In-lieu fee, land dedication, and off-site construction	17,790	
Wheatland	-	-	-	-	1,165	
Winters	1994	Ordinance/ Mandatory	Formula	Conversion to affordable housing, in-lieu fee, and off-site construction	1,017	
Woodland	2004	Zoning/ Mandatory	Formula	In-lieu fee and land dedication	5,231	
Yuba City	-	-	-	-	6,816	

* Not reported

Source:
California Coalition for Rural Housing (2013) and Sacramento Area Council of Governments (2013d)

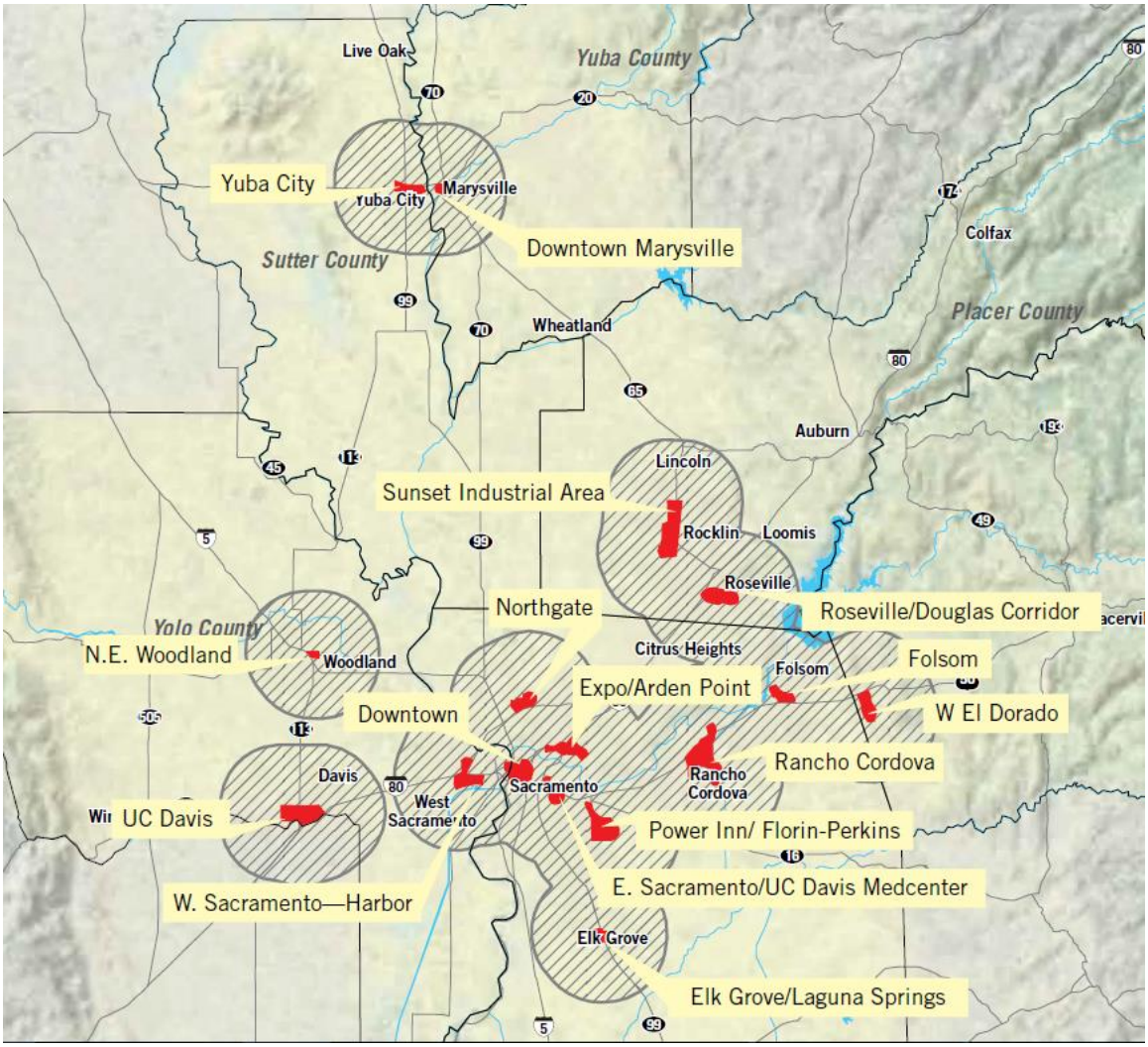
Figure 3.1
Sacramento Area Council of Governments Vicinity Map



Of the five jurisdictions, I selected three to study in this thesis, which SACOG projects will accommodate over 55,000 dwelling units. I selected El Dorado Hills in the unincorporated area of El Dorado County and the City of Rancho Cordova for their proximity to Highway 50,

and the major employment centers of West El Dorado and Ranch Cordova as shown in Figure 3.2. I chose the City of Roseville for its proximity to Interstate 80 and the Roseville/Douglas employment corridor.

Figure 3.2
Major Employment Centers



Source: Sacramento Area Council of Governments (2013d)

Because development impact fees vary by municipality, it is important to select a geographical area with a range of housing types to ensure an accurate comparison of fee levels. Within my three study jurisdictions, I identified a specific plan under review or already approved by a municipality that includes a range of residential densities to accommodate a mixture of housing types, such as single-family detached homes and attached patio homes, attached condominiums and townhouses, and multi-family apartments (refer to Figure 3.1 for a SACOG Vicinity Map). I review the specific plans in the following sections and provide land use summaries in Table 3.3.

County of El Dorado

Located on the western slope of El Dorado County in El Dorado Hills, The Village of Marble Valley Specific Plan includes 2,341 acres of land south of Highway 50 between the Bass Lake Road and Cambridge Road interchanges. The Specific Plan proposes 3,236 dwelling units (DUs) with residential densities up to 24 units per acre (gross density of 1.4 DUs/acre). The County of El Dorado has not approved the specific plan and is currently conducting the environmental analysis. The County expects to complete the environmental analysis in 2014.

City of Rancho Cordova

Leaders in the City of Rancho Cordova approved the Rio Del Oro Specific Plan in 2010. The plan area is east of Sunrise Boulevard and south of White Rock Road. The plan contains 3,828 acres and 11,601 dwelling units (gross density of 6.2 DUs/acre), with densities up to 40 DUs/acre.

City of Roseville

The Sierra Vista Specific Plan is located in southwestern Placer County in the City of Roseville's Sphere of Influence. The plan is adjacent to the Placer Vineyards Specific Plan north

of Base Line Road and east of Fiddyment Road. The City of Roseville approved the plan in 2010, and it includes 2,075 acres of land and 8,679 DUs (gross density of 4.2 DUs/acre). Densities range up to 30 DUs/acre.

Table 3.3
Specific Plan Land Use Summaries

Specific Plan:	**The Village of Marble Valley Specific Plan**		**Rio Del Oro Specific Plan**		**Sierra Vista Specific Plan**		**Total**	
Approved:	Pending		2010		2010			
Jurisdiction:	County of El Dorado		City of Rancho Cordova		City of Roseville			
Location:	El Dorado Hills, California		Rancho Cordova, California		Roseville, California			
Acres								
Residential	798	*34%*	1,872	*49%*	1,115	*54%*	3,785	*46%*
Commercial	57	*2%*	522	*14%*	259	*12%*	838	*10%*
Public/Quasi-Public	40	*2%*	160	*4%*	72	*3%*	272	*3%*
Parks/Open Space	1,383	*59%*	1,083	*28%*	463	*22%*	2,929	*36%*
Major Circulation	63	*3%*	192	*5%*	166	*8%*	421	*5%*
Total	**2,341**	***100%***	**3,828**	***100%***	**2,075**	***100%***	**8,244**	*100%*
Dwelling Units								
Low Density	1,963 [1]	*61%*	7,593 [4]	*65%*	3,236 [7]	*37%*	12,792	*54%*
Medium Density	708 [2]	*22%*	2,048 [5]	*18%*	2,849 [8]	*33%*	5,605	*24%*
High Density	501 [3]	*15%*	1,960 [6]	*17%*	2,339 [9]	*27%*	4,800	*20%*
Mixed Use	64	*2%*	-	*0%*	255	*3%*	319	*1%*
Total	**3,236**	***100%***	**11,601**	***100%***	**8,679**	***100%***	**23,516**	*100%*
Gross Density/ac.	**1.4**		**6.2**		**4.2**		**2.9**	

[1] 1-5 DU/ac
[2] 5-12 DU/ac
[3] 12-24 DU/ac
[4] 2-6 DU/ac
[5] 6-18 DU/ac
[6] 18-40 DU/ac
[7] 1-7 DU/ac
[8] 7-13 DU/ac
[9] 13-30 DU/ac

Source: County of El Dorado (2013), City of Rancho Cordova (2013a), and City of Roseville (2013a)

Housing Prototypes

For the basis of my research, I have identified four housing prototypes: single-family detached large lot (for sale), single-family detached small lot (for sale), multi-family attached (for sale), and multi-family attached (for rent). I review my assumptions in the following sections and summarize the details of each prototype in Table 3.4

Single-Family Detached – Large Lot, For Sale

The single-family detached large lot (for sale) represents a traditional suburban home for a large family, with a density of 2.5 DUs/acre and lot size of 12,000 square feet. Dwelling size ranges between 2,800 and 3,600 square feet, for an average size of 3,200 square feet.

Fairway Villas at Serrano
Parker Development Company, El Dorado Hills, CA

Single-Family Detached – Small Lot, For Sale

The single-family detached small lot (for sale) represents a downsized home for empty nesters or Baby Boomers, with a density of 5.0 DUs/acre and lot size of 6,000 square feet. Dwelling size ranges between 1,800 and 2,400 square feet, for an average size of 2,100 square feet.

Destinations at Serrano
Parker Development Company, El Dorado Hills, CA

Multi-Family Attached – Condominium/Townhouse, For Sale

The multi-family attached condominium/townhouse (for sale) provides for a single-occupant household or young Echo Boomers without children. Assumed density is 12.0 DUs/acre and dwelling sizes range between 900 and 1,500 square feet. Average dwelling size equals 1,200 square feet.

Esplanade Condominiums
John Laing Homes, Folsom, CA

Multi-Family Attached – Apartment, For Rent

The multi-family attached apartment (for rent) provides a starter home for members of Generation Y looking to move out of their parents' homes, but have yet to secure a high paying job to afford a mortgage. Assumed density is 20.0 DUs/acre, typical for a garden-style apartment complex. Unit sizes range between 700 and 1,100 square feet, for an average size of 900 square feet.

Willow Springs Apartments
Sentinel Corporation, Folsom, CA

Table 3.4
Housing Prototypes

Category	Single Family Detached	Single Family Detached	Multi-Family Attached	Multi-Family Attached
Building Type	Large Lot For Sale	Small Lot For Sale	Condo/Twnhse For Sale	Apartment For Rent
Assumptions				
Density	2.5 DU/acre	5.0 DU/acre	12.0 DU/acre	20.0 DU/acre
Lot Size	12,000	6,000	n/a	n/a
Unit Square Feet (Range)	2,800 - 3,600	1,800 - 2,400	900 - 1,500	700 - 1,100
Unit Square Feet (Average)	3,200	2,100	1,200	900

Median New Home Prices and Assumed Rental Values

Median New Home Prices

To determine median new home prices, I used information from The Gregory Group (2013), a leading real estate consulting and market research firm in the Sacramento area that maintains a database of new-home projects and monitors real estate market trends. I found thirteen builders that are constructing product in my three study jurisdictions and within my assumed dwelling sizes as shown in Table 3.5 (New Home Builders and Communities). Five builders have communities in El Dorado Hills, three in Rancho Cordova, and eight in Roseville. I compiled data for each builder to include the community in which they are building, the floor plan, numbers of bedrooms and bathrooms, dwelling size, and base sales price. For purposes of this thesis, which focuses on maintaining housing prices at an affordable level for lower income groups, utilizing the base sales price ensures the minimum necessary to purchase a dwelling. It

also provides a consistent analysis of the standard features of a home, without options or upgrades for finishes such as flooring, cabinets, and countertops that are difficult to anticipate buyer preferences and quantify added costs. I also included builder incentives to arrive at a net base price per square foot.

Table 3.5
New Home Builders and Communities

	El Dorado Hills	Rancho Cordova	Roseville
Builders with Communities in Thesis Study Areas			
Black Pine Communities			●
Del Webb			●
Elliott Homes		●	
JMC Homes			●
K. Hovnanian			●
KB Homes			●
Lennar Communities	●	●	●
Meritage Homes	●		●
Shea Homes	●		
Standard Pacific Homes	●		
Taylor Morrison Homes	●		
Tim Lewis Communities			●
Woodside Homes		●	
Builders with No Communities in Thesis Study Areas			
Beazer Homes	NA	NA	NA
Centex Homes	NA	NA	NA
Christopherson Homes	NA	NA	NA
D.R. Horton	NA	NA	NA
Greenbriar Homes	NA	NA	NA
New Home Company	NA	NA	NA
Pulte Homes	NA	NA	NA
Richmond American	NA	NA	NA
Ryland Communities	NA	NA	NA
Toll Brothers	NA	NA	NA

Source: The Gregory Group (2013)

It is important to establish the price per square foot according to dwelling size because smaller homes usually have a higher per square foot sales price than do larger homes. Therefore, I assembled the data and base prices, grouped them by the ranges of dwelling size according to my assumptions, and arrived at a median sales price per square foot that I applied to my respective prototypes.

Assumed Rental Values

To determine rental values, I used a capitalized value method to determine the present value of an income-producing property. Under this method, the property value is equal to net operating income, which is the gross revenue less expenditures (vacancy, operating expenses, and capital reserves), divided by a capitalization rate or expected rate of return.

I collected current revenue and expense data from industry experts and market reports. Revenues consist of gross annual rent per dwelling unit according to average rental rates by submarket area. For purposes of this thesis, I assumed other revenues for parking spaces, laundry services, vending machines, and late fees as 5 percent of the gross annual rents. Expenses included reported vacancy rates by submarket, operating expenses of 35 percent of total revenues, and a 5 percent set aside for capital reserves. I verified my percentage assumptions for other revenues, operating expenses, and capital reserves with two sources – a local apartment developer and an apartment manager for a national property management firm. I used market vacancy rates and capitalized the resultant Net Operating Income (NOI) at current capitalization rates (6 percent) according to industry market reports from Marcus and Millichap (2013), and Colliers International (2013) to arrive at the per unit rental value.

Infrastructure and Unit Development Costs

Infrastructure Costs

As discussed below, infrastructure costs include city and other agency fees due at the time of building permit issuance and significant backbone facilities needed to support new development. According to Gomes and Martin (2010), most projects should have a total infrastructure cost, measured as a percentage of the new home sales price or rental unit value, of no more than 15 to 20 percent.

City and County Agency Fees

City and county agency fees are the costs associated with obtaining a building permit, and this section of my analysis includes development impact fees. Using agency websites, I collected data on the array of impact fees due for traffic mitigation, emergency response, public safety, school construction, parks and recreation, habitat conservation, and other similar impact fee charges. This component of my residual land model also includes any necessary user fees for water and sewer connections, solid waste services, and seismic safety conditions. I also included miscellaneous processing fees such as plan check and inspection fees; electrical, plumbing, and mechanical fees; and green building charges.

Other Backbone Infrastructure Costs

Backbone infrastructure includes regional improvements and primary improvements. Regional backbone infrastructure refers to substantial improvements that benefit residents region wide, such as highway and interchange improvements, and off-site potable water, recycled water, and wastewater infrastructure transmission lines and treatment plants. Primary backbone infrastructure consists of the critical segments of on-site and off-site roads, potable water, recycled water, wastewater, storm water, and other utilities that must be constructed prior to, or

concurrently with, development. Other primary backbone infrastructure includes potable water and recycled water storage tanks and booster pumps, wastewater pump stations, and force mains.

Frequently, large-scale master developers identify the backbone infrastructure costs in a Public Facilities Financing Plan (PFFP) and agree to fund certain improvements through a Mello Roos district, special assessment district, or PFFP fees. Mello Roos and special assessment districts function similarly, in that consumers bear the economic cost of the infrastructure charges through a unique tax on their annual property tax bill. PFFP fees work a little differently. A builder usually pays the PFFP at the time of building permit issuance, and as discussed in Chapter 2, passes the cost backwards to the landowner through lower land values or forward to the consumer in the form of higher sales prices. Notwithstanding the financing mechanism, a city or county collects these unique taxes and fees, and allocates the funds for specific improvements identified in the Mello Roos formation documents or special assessment engineer's report. During the course of my research, I reviewed PFFPs to identify the unique infrastructure charges beyond those covered by development impact fees and have included them in my residual land value calculations. I also examined the tax rolls for each specific plan to identify whether a Mello Roos district or special assessment district provides additional funding for public facilities, but I did not find special tax burdens other than ad valorem property taxes.

Unit Development Costs

Unit development costs include in-tract lot development costs, meaning on-site subdivision improvements, vertical construction cost associated with structural improvements, soft costs, and builder profit as discussed in more detail below.

Lot Development Cost (In-Tract)

In-tract lot development costs, or on-site subdivision improvements, include hard costs for rough grading; retaining walls; underground sewer, water, and recycled water lines and facilities; dry utilities and joint trenching for gas, electric, cable, telephone, and street light services; surface improvements for asphalt roadways and concrete sidewalks; and erosion and sediment control best management practices. Using industry contacts, I collected hard costs for each of my assumed prototypes.

Vertical Construction Cost

Vertical construction cost refers to the interior, exterior, and structural components of a dwelling and frequently includes front yard landscaping for single-family homes, and common area landscaping and amenities for multi-family. This figure represents the hard cost of furnishing materials and labor. Again, using industry contacts, I collected the hard costs for each assumed prototype.

Soft Costs and Builder Profit

Soft costs are the non-labor and non-material charges associated with construction. They include corporate overhead, architectural services, civil engineering design, geotechnical and acoustic studies, survey and mapping expenses, home warranty expenses, financing costs, legal fees, bond premiums, marketing expenses, and selling costs. To maintain consistency between each prototype analysis and using the assumptions from the Gomes and Martin (2010) study, I assumed soft costs equal to 20 percent of lot development and unit construction costs, and 10 percent of sales price for builder profit. Using industry contacts, I verified that the percentage assumptions are consistent with industry standards.

Chapter Summary

This chapter provides an overview of my study jurisdictions of El Dorado County, the City of Rancho Cordova, and the City of Roseville, and my for sale and for rent housing prototypes for single-family and multi-family dwellings ranging between 900 and 3,200 square feet. I also summarized the components of my residual land value model. As presented in Table 3.1, it begins with an assumed sales price or rental value and subtracts the total unit cost, categorized by infrastructure costs (city and agency fees, and other backbone infrastructure costs) and unit development (lot development, vertical construction, soft costs, and builder profit) to arrive at the residual land value. To have sufficient reserves for the entitlement and development risks I mentioned in Chapter 1 (acquiring the land, obtaining a city's or county's approval of a land use plan, carrying costs, unexpected market fluctuations, and environmental mitigation), Gomes and Martin (2010) indicate that a project must achieve a minimum residual land value of 10 to 15 percent to be feasible. I present the results of my analysis in Chapter 4.

Chapter 4

FINDINGS

Introduction

As earlier described in Chapter 1, the purpose of my thesis is to compare development feasibilities for single-family and multi-family housing scenarios, with particular attention on the levels of development impact fees charged by jurisdictions. In this chapter, I summarize my data collection efforts and present my findings.

Using the residual land value methodology summarized in Table 4.1, I begin this chapter with a discussion of my data assumptions for new home sales prices and rental unit values. I then review my findings of the total infrastructures costs (city and county agency fees, development impact fees, and backbone infrastructure expenses) charged by the agencies in my study. Next, I quantify total unit development costs, which consist of the in-tract subdivision expenses, vertical construction costs, soft costs, and builder profit. Finally, I present the findings of my residual land value calculations in two methods, relating back to the incidence theory I discussed in Chapter 2 that showed landowners or consumers may bear some portion or all of the development impact fees. As a base case, my first calculation assumes the landowner bears the incidence of the impact fees and other infrastructure charges ("landowner incidence"). Based on my observations of local market conditions, particularly in outlying suburban areas like El Dorado Hills and Roseville, it is more common for consumers to bear the economic burden of impact fees. Therefore, my second calculation shows how much home prices and rental values must increase when the builder shifts the infrastructure charges and impact fees forward to the consumer ("consumer incidence").

Table 4.1
Summary of Residual Land Value Methodology

Assumed Home Price or Rental Value
(Less) Total Infrastructure Costs
(Less) Total Unit Development Costs
Equals: Residual Land Value

Assumed Home Prices and Rental Values

In this section of my thesis, I summarize my home price and rental value assumptions. Using sales information from The Gregory Group (2013)[13], I was able to determine the median new home price for the two single-family prototypes. However, I was not able to find similar data for the condominium/townhouse prototype because there are no new condominium and townhouse projects in the marketplace within my study areas. Therefore, I used resale data from the Multiple Listing Service (MLS) (2013) for units constructed in 2000 or later and closed escrow within the past 6 months. As I mentioned in Chapter 3, I used a capitalized value method to determine the present value of an income-producing property based on the average rental rates per square foot and vacancy rates reported in industry reports by Colliers International (2013), and Marcus and Millichap (2013) for each submarket. In addition to gross annual rents, my capitalized value method assumes other revenues of 5 percent of annual rents, net operating expenses of 35 percent of total revenues, a 5 percent set aside for capital reserves, and a 6 percent capitalization rate.

[13] The Gregory Group is a leading real estate consulting and market research firm in the Sacramento area that maintains a database of new-home projects and monitors real estate market trends.

Single-Family Prototypes

Based on current market conditions, base prices for new home sales, net of builder incentives, range between $132.48 per square foot and $191.29 per square foot. As discussed in more detail below and summarized in Table 4.2, assumed home prices range from a low of $304,700 in Rancho Cordova to a high of $535,000 in Roseville. In El Dorado Hills, median new home prices for the single-family prototypes are $157.96 per square foot for the large lot scenario, and $191.29 per square foot for the small lot scenario. For my study, this translates into assumed base home prices of $505,500 and $401,700, respectively. In Rancho Cordova, median new home prices for the single-family prototypes are $132.48 per square foot for the large lot scenario, and $145.11 per square foot for the small lot scenario. For my study, this translates into assumed base home prices of $423,900 and $304,700, respectively. Furthermore, in Roseville, median new home prices for the single-family prototypes are $167.17 per square foot for the large lot scenario, and $176.94 per square foot for the small lot scenario. For my study, this translates into assumed base home prices of $535,000 and $371,600, respectively. Upon my initial examination, I was surprised to see that single-family sales prices are higher in Roseville than in El Dorado Hills. Examining the market further, Roseville has a much larger supply of high-end production housing, whereas a majority of the production housing in El Dorado Hills is within the Blackstone community that lacks the strict architectural controls commonly found within the upscale Serrano community. If there were more sales data for production homes in Serrano, I would expect to see a higher per square foot sales price in El Dorado Hills.

Table 4.2
Assumed Single-Family New Home Prices

Building Type		Large Lot For Sale		Small Lot For Sale
Prototype Assumptions				
Density		2.5 DU/acre		5.0 DU/acre
Unit Square Feet (Average)		3,200		2,100
El Dorado Hills Assumptions				
Sales Price Per Square Foot	$	157.96 [1]	$	191.29 [1]
Assumed Home Price	$	505,475	$	401,702
Assumed Home Price (Rounded)	**$**	**505,500**	**$**	**401,700**
Rancho Cordova Assumptions				
Sales Price Per Square Foot	$	132.48 [1]	$	145.11 [1]
Assumed Home Price	$	423,936	$	304,738
Assumed Home Price (Rounded)	**$**	**423,900**	**$**	**304,700**
Roseville Assumptions				
Sales Price Per Square Foot	$	167.17 [1]	$	176.94 [1]
Assumed Home Price	$	534,950	$	371,564
Assumed Home Price (Rounded)	**$**	**535,000**	**$**	**371,600**

[1] Based on data from The Gregory Group (2013). See Appendix A (New Home Sales Prices) for additional detail.

Multi-Family Prototypes

El Dorado Hills has a very small inventory of condominiums, so I expanded my MLS search to include the Folsom submarket. As shown in Table 4.3, condominiums in El Dorado Hills and Folsom are selling for $190.23 per square foot, which means my study assumes a sales price of $228,300 for the condominium/townhouse prototype. The El Dorado Hills area does not have a large supply of apartment complexes, and those that do exist are 20 years old and of marginal construction quality. The existing product in the Folsom submarket is comparable in

Table 4.3
Assumed Multi-Family New Home Prices and Unit Values

Building Type	Condo/Twnhse For Sale	Apartment For Rent
Prototype Assumptions		
Density	12.0 DU/acre	20.0 DU/acre
Unit Square Feet (Average)	1,200	900
El Dorado Hills Assumptions		
Average Monthly Rent Per Sq. Ft.	-	$1.26
Average Occupancy Rate	-	95.1%
Sales Price/Value Per Square Foot	$ 190.23 [1]	$ 146 [2]
Assumed Home Price (Rounded)	**$ 228,300**	**$ 131,200**
Rancho Cordova Assumptions		
Average Monthly Rent Per Sq. Ft.	-	$1.01
Average Occupancy Rate	-	94.1%
Sales Price/Value Per Square Foot	$ 153.66 [1]	$ 115 [2]
Assumed Home Price (Rounded)	**$ 184,400**	**$ 103,300**
Roseville Assumptions		
Average Monthly Rent Per Sq. Ft.	-	$1.17
Average Occupancy Rate	-	95.9%
Sales Price/Value Per Square Foot	$ 152.07 [1]	$ 137 [2]
Assumed Home Price (Rounded)	**$ 182,500**	**$ 123,600**

[1] See Appendix B (Condominium Resales) for additional detail.

[2] Based on average monthly rents, vacancies, and capitalized value assumptions. See Appendix C (Multi-Family Unit Values) for additional detail.

construction quality and amenities of what I would expect to see in the Marble Valley Specific Plan, so using data from the Folsom submarket, my study assumes average apartment rents of $1.26 per square foot and a 95.1 percent occupancy. This translates into a capitalized rental value of $146 per square foot or $131,200 per unit.

Condominiums in Rancho Cordova are selling for $153.66 per square foot, which means my study assumes a sales price of $184,400 for the condominium/townhouse prototype. Apartment rental rates are $1.01 per square foot, and occupancy is 94.1 percent, translating into a capitalized rental value of $115 per square foot or $103,300 per unit. Condominiums in Roseville are selling for $152.07 per square foot, so my study assumes a sales price of $182,500 for the condominium/townhouse prototype. Apartment rental rates are $1.17 per square foot, and occupancy is 95.9 percent, translating into a capitalized rental value of $137 per square foot or $123,600 per unit.

Total Infrastructure Costs

In my study, I categorize total infrastructure costs into two components. The first component considers the various city and county agency fees imposed on new development, and consists of the following:

- *Processing fees* (plan check, and seismic and green building fees)
- *Utility connection charges* (sewer and water, and in the case of El Dorado Hills, recycled water)
- *Development impact fees* (including, but not limited to, drainage, fire, library, parks and recreation, species mitigation, solid waste, and traffic)

Development impact fees charged by various agencies can be a few hundred dollars or thousands of dollars, and a majority of the total impact fee burden mitigates traffic, school, and parks and recreation impacts. The highest impact fees in my study areas are El Dorado Hills traffic ($28,140 for single-family and $18,370 for multi-family), Rancho Cordova parks and recreation ($12,527 for single-family and condominiums, and $9,395 for apartment units), and Roseville schools ($18,385 for single-family and $7,175 for multi-family).

The second component is the regional and primary backbone infrastructure charges identified in the Public Facilities Financing Plans (PFFP) for each specific plan area. Because the cities of Rancho Cordova and Roseville have approved the Rio Del Oro and Sierra Vista Specific Plans, I was able to locate the approved PFFPs for my study. Consequently, I have used the PFFP charges shown in the approved plans. There is no approved PFFP for the Marble Valley Specific Plan because the County is still conducting its review of the proposed project, so I made an assumption for expected backbone charges consistent with the two approved PFFPs.

Table 4.4
Summary of Public Facilities Financing Plan Fees

	Single-Family (per unit)	Condo (per unit)	Apartment (per unit)
▪ Marble Valley Specific Plan *(assumed)*	$10,000	$7,500	$5,000
▪ Rio Del Oro Specific Plan *(approved)*	$8,500	$7,400	$5,400
▪ Sierra Vista Specific Plan *(approved)*	$14,400	$12,500	$7,700

Source: Economic and Planning Systems, Inc. (2006) and City of Roseville (2013a)

Single-Family Prototypes

Table 4.5 summarizes the total infrastructure burden for the single-family prototypes. Impact fees and infrastructure costs are highest in El Dorado Hills ($88,800 for a small lot and $94,500 for a large lot) primarily because of sewer and water capacity charges, which are about $10,000 to $15,000 more than Rancho Cordova and $8,000 to $13,000 more than Roseville. Of my study areas, Roseville has the lowest infrastructure burdens at $70,500 for a small lot and $71,800 for a large lot.

Table 4.5
Single-Family Infrastructure Summary

Building Type		Large Lot For Sale	Small Lot For Sale
Prototype Assumptions			
Density		2.5 DU/acre	5.0 DU/acre
Unit Square Feet (Average)		3,200	2,100
El Dorado Hills			
City and County Agency Fees [1]			
Processing Fees		$ 4,281	$ 2,996
Utility Connection Charges		$ 27,379	$ 27,379
Development Impact Fees		$ 52,849	$ 48,384
	subtotal	$ 84,509	$ 78,759
Backbone Infrastructure [2]		$ 10,000	$ 10,000
Total Infrastructure Costs (Rounded)		**$ 94,500**	**$ 88,800**
Rancho Cordova			
City and County Agency Fees [1]			
Processing Fees		$ 4,085	$ 3,227
Utility Connection Charges		$ 18,834	$ 16,000
Development Impact Fees		$ 56,282	$ 47,991
	subtotal	$ 79,201	$ 67,219
Backbone Infrastructure [2]		$ 8,500	$ 8,500
Total Infrastructure Costs (Rounded)		**$ 87,700**	**$ 75,700**
Roseville			
City and County Agency Fees [1]			
Processing Fees		$ 3,154	$ 2,362
Utility Connection Charges		$ 14,484	$ 14,484
Development Impact Fees		$ 39,753	$ 39,266
	subtotal	$ 57,391	$ 56,112
Backbone Infrastructure [2]		$ 14,400	$ 14,400
Total Infrastructure Costs (Rounded)		**$ 71,800**	**$ 70,500**

[1] Refer to Appendices D (El Dorado County Fee Breakdown), E (Rancho Cordova Fee Breakdown), and F (Roseville Fee Breakdown) for details.
[2] Per Table 4.4

Multi-Family Prototypes

I present my findings for the total infrastructure burden for the multi-family prototypes in Table 4.6. Generally speaking, the infrastructure burdens range between approximately $40,000 and $60,000.

Total Infrastructure Costs as a Percentage of Sales Price or Unit Value

As I mentioned in Chapter 3, feasible developments typically cannot bear more than a 15 to 20 percent infrastructure fee burden (Gomes and Martin, 2010). Given the assumed sales prices and rental values I provided earlier in this chapter, my research shows that a majority of the prototypes fail to rise to acceptable ranges. Only three have acceptable infrastructure burdens: (1) El Dorado Hills single-family large lot (19%), (2) Roseville single-family large lot (13%), and (3) Roseville single-family small lot (19%). All of the multi-family prototypes appear overburdened, at approximately 30 to 40 percent each. (Refer to Tale 4.7)

Unit Development Costs

In this section, I review my assumptions for the unit development costs for each prototype. Using industry contacts from various homebuilders, apartment developers, and civil engineers, I gathered lot development expenses, which include the hard construction costs for on-site subdivision improvements (rough grading, retaining walls, sewer, water, recycled water, dry utilities, surface improvements, and erosion control). Using similar contacts, I determined the vertical construction costs (structural components of a dwelling), which frequently include front yard landscaping for single-family homes, and common area landscaping and amenities (pool area, fitness center, etc.) for multi-family dwellings. Both the in-tract and vertical construction costs exclude soft costs (engineering and architectural fees, geotechnical services, mapping costs, surety expenses, financing costs, etc.), builder profit, and overhead. For purposes of my analysis,

Table 4.6
Multi-Family Infrastructure Summary

Building Type		Condo/Twnhse For Sale	Apartment For Rent
Prototype Assumptions			
Density		12.0 DU/acre	20.0 DU/acre
Unit Square Feet (Average)		1,200	900
El Dorado Hills			
City and County Agency Fees [1]			
Processing Fees		$ 1,446	$ 1,084
Utility Connection Charges		$ 20,534	$ 17,326
Development Impact Fees		$ 32,102	$ 30,821
	subtotal	$ 54,082	$ 49,231
Backbone Infrastructure [2]		$ 7,500	$ 5,000
Total Infrastructure Costs (Rounded)		**$ 61,600**	**$ 54,200**
Rancho Cordova			
City and County Agency Fees [1]			
Processing Fees		$ 2,266	$ 910
Utility Connection Charges		$ 14,347	$ 2,601
Development Impact Fees		$ 38,136	$ 29,962
	subtotal	$ 54,749	$ 33,436
Backbone Infrastructure [2]		$ 7,400	$ 5,400
Total Infrastructure Costs (Rounded)		**$ 62,100**	**$ 38,800**
Roseville			
City and County Agency Fees [1]			
Processing Fees		$ 1,501	$ 1,197
Utility Connection Charges		$ 14,484	$ 8,967
Development Impact Fees		$ 25,896	$ 21,272
	subtotal	$ 41,881	$ 31,436
Backbone Infrastructure [2]		$ 12,500	$ 7,700
Total Infrastructure Costs (Rounded)		**$ 54,400**	**$ 39,100**

[1] Refer to Appendices D (El Dorado County Fee Breakdown), E (Rancho Cordova Fee Breakdown), and F (Roseville Fee Breakdown) for details.
[2] Per Table 4.4

Table 4.7
Total Infrastructure Costs as Percentage of Sales Price or Unit Value

	Single-Family Large Lot	Single-Family Small Lot	Multi-Family Condo/Twhnse	Multi-Family Apartment
Assumed Price or Value				
El Dorado Hills	$ 505,500	$ 401,700	$ 228,300	$ 131,200
Rancho Cordova	$ 423,900	$ 304,700	$ 184,400	$ 103,300
Roseville	$ 535,000	$ 371,600	$ 182,500	$ 123,600
Total Infrastructure Cost				
El Dorado Hills	$ 94,500	$ 88,800	$ 61,600	$ 54,200
Rancho Cordova	$ 87,700	$ 75,700	$ 62,100	$ 38,800
Roseville	$ 71,800	$ 70,500	$ 54,400	$ 39,100
Total Infrastructure Cost as Percentage of Sales Price or Unit Value [1]				
El Dorado Hills	***Passes*** 19%	***Fails*** 22%	***Fails*** 27%	***Fails*** 41%
Rancho Cordova	***Fails*** 21%	***Fails*** 25%	***Fails*** 34%	***Fails*** 38%
Roseville	***Passes*** 13%	***Passes*** 19%	***Fails*** 30%	***Fails*** 32%

[1] Typically no more than 15 to 20 percent (Gomes and Martin, 2010)

I assumed soft costs of 20 percent of lot development and vertical construction costs, and profit/overhead of 10 percent of the sales price or unit value. In the sections that follow, I summarize the total unit development costs, which includes my soft cost and profit/overhead assumptions.

Single-Family Prototypes

I present the single-family unit development costs in Table 4.8. For the El Dorado Hills large lot scenario, I assumed lot development costs of $47,800 per unit and vertical construction cost of $72 per square foot, which produces a total unit cost of $384,400. For the small lot

scenario, I assumed lot development costs of $39,800 per unit and vertical construction cost of $75 per square foot, for a total unit cost of $276,900. Of my three study areas, El Dorado Hills has the highest lot development costs because of recycled water improvements and the foothill terrain, which requires more grading and retaining walls to create the development pads. My vertical construction costs are also generally higher than the Rancho Cordova and Roseville prototypes because construction in the El Dorado Hills scenario will be of higher quality to satisfy architectural control standards of a master owners' association.

For the Rancho Cordova large lot scenario, I assumed lot development costs of $43,600 per unit and vertical construction of $67 per square foot. This equates to a total unit cost of $352,000. For the small lot scenario, I assumed lot development costs of $37,200 per unit and vertical construction cost of $70 per square foot to arrive at a total unit cost of $251,500. As a general assumption, vertical construction costs in Rancho Cordova are the lowest in my study due to a lower level construction quality as compared to El Dorado Hills and Roseville.

In Roseville, lot development costs for the large lot scenario are $42,500 per unit and vertical construction cost is $70 per square foot, which produces a total unit cost of $373,300. For the small lot scenario, total unit cost is $269,800, which consists of $38,500 for lot development and $74 per square foot for vertical construction.

Multi-Family Prototypes

Table 4.9 shows the development cost for the multi-family prototypes. In Rancho Cordova and Roseville, I assumed the same condominium/townhouse lot development costs at $18,700 per unit and $75 per square foot for vertical construction because I do not expect much

Table 4.8
Single-Family Unit Development Costs

Building Type		Large Lot For Sale		Small Lot For Sale
Prototype Assumptions				
Density		2.5 DU/acre		5.0 DU/acre
Unit Square Feet (Average)		3,200		2,100
El Dorado Hills				
Assumed Vertical Construction (per sf)	$	72	$	75
Lot Development Cost (in-tract)	$	47,800	$	39,800
Vertical Construction Cost	$	230,400	$	157,500
Soft Cost (20% of lot dev. & unit cost)	$	55,640	$	39,460
Builder Profit (10% of sales price)	$	50,550	$	40,170
Total Unit Development (Rounded)	**$**	**384,400**	**$**	**276,900**
Rancho Cordova				
Assumed Vertical Construction (per sf)	$	67	$	70
Lot Development Cost (in-tract)	$	43,600	$	37,200
Vertical Construction Cost	$	214,400	$	147,000
Soft Cost (20% of lot dev. & unit cost)	$	51,600	$	36,840
Builder Profit (10% of sales price)	$	42,390	$	30,470
Total Unit Development (Rounded)	**$**	**352,000**	**$**	**251,500**
Roseville				
Assumed Vertical Construction (per sf)	$	70	$	74
Lot Development Cost (in-tract)	$	42,500	$	38,500
Vertical Construction Cost	$	224,000	$	155,400
Soft Cost (20% of lot dev. & unit cost)	$	53,300	$	38,780
Builder Profit (10% of sales price)	$	53,500	$	37,160
Total Unit Development (Rounded)	**$**	**373,300**	**$**	**269,800**

variation between the two study areas. This equates to a total unit cost of approximately $148,800. In El Dorado Hills, I increased lot development costs to $20,300 to account for the recycled water improvements, and additional grading and retaining walls mentioned in the previous section. I assumed vertical construction costs slightly higher at $80 per square foot to respond to the added architectural control requirements of a master owners' association. In El Dorado Hills, the total unit cost for a condo/townhouse is $162,400.

For the apartment scenario, I used $12,900 per unit for lot development in Roseville and Rancho Cordova. I assumed vertical construction costs of $95 per square foot in Roseville, which produces a total unit cost of $130,400. I used a slightly lower vertical construction cost of $92 per square foot in Rancho Cordova to reflect a lower level of amenities, equating to a total unit cost of $125,200. In El Dorado Hills, I expect a comparable vertical construction quality as Roseville ($95/sf), but I increased lot development slightly to $15,000 per unit for recycled water and additional grading constraints. Therefore, my anticipated unit cost in El Dorado Hills is $133,700, slightly higher than in Roseville.

Residual Land Value Results

Based on my research and assumptions, I calculate residual land values and summarize my findings in Tables 4.10 (single-family) and 4.11 (multi-family). As a reminder, it is important to note that at this point in my analysis I am assuming the landowner bears the incidence of the development impact fees and infrastructure charges as a base case to test whether residual land values achieve acceptable levels. As I mentioned in Chapter 3, Gomes and Martin (2010) indicate a minimum of 10 percent to 15 percent as a feasibility indicator.

Table 4.9
Multi-Family Unit Development Costs

Building Type	Condo/Twnhse For Sale	Apartment For Rent
Prototype Assumptions		
Density	12.0 DU/acre	20.0 DU/acre
Unit Square Feet (Average)	1,200	900
El Dorado Hills		
Assumed Vertical Construction (per sf)	$ 80	$ 95
Lot Development Cost (in-tract)	$ 20,300	$ 15,000
Vertical Construction Cost	$ 96,000	$ 85,500
Soft Cost (20% of lot dev. & unit cost)	$ 23,260	$ 20,100
Builder Profit (10% of sales price)	$ 22,830	$ 13,120
Total Unit Development (Rounded)	**$ 162,400**	**$ 133,700**
Rancho Cordova		
Assumed Vertical Construction (per sf)	$ 75	$ 92
Lot Development Cost (in-tract)	$ 18,700	$ 12,900
Vertical Construction Cost	$ 90,000	$ 82,800
Soft Cost (20% of lot dev. & unit cost)	$ 21,740	$ 19,140
Builder Profit (10% of sales price)	$ 18,440	$ 10,330
Total Unit Development (Rounded)	**$ 148,900**	**$ 125,200**
Roseville		
Assumed Vertical Construction (per sf)	$ 75	$ 95
Lot Development Cost (in-tract)	$ 18,700	$ 12,900
Vertical Construction Cost	$ 90,000	$ 85,500
Soft Cost (20% of lot dev. & unit cost)	$ 21,740	$ 19,680
Builder Profit (10% of sales price)	$ 18,250	$ 12,360
Total Unit Development (Rounded)	**$ 148,700**	**$ 130,400**

Landowner Incidence

Single-Family Prototypes

Under the landowner incidence provided as Table 4.10, the Roseville large lot prototype is the only scenario that yields a positive land value in an acceptable range (17 percent). The results for El Dorado Hills show that both prototypes produce positive land values, but fall short of acceptable ranges (5 percent and 9 percent), which, depending on a landowner's financial circumstance, may provide justification to forego development. Surprisingly, both prototypes in Rancho Cordova produce non-positive land values (-4 percent and -7 percent).

Multi-Family Prototypes

The results show that the multi-family development scenarios are infeasible. Table 4.11 shows that nearly all of the prototypes produce severely non-positive values between -11 percent and -59 percent. The El Dorado Hills condominium/townhouse scenario produces a marginally positive land value at 2 percent, but still short of the Gomes and Martin (2010) recommendation.

Consumer Incidence

Since nearly all of the prototypes failed to achieve minimum residual land values under the landowner incidence calculation, I was curious to see how much residual land values improved if I shifted the development impact fees and infrastructure costs forward to the consumer. In doing so, I had to increase the assumed sales prices and rental values by an amount equal to the total infrastructure costs. As I expected, all of the single-family prototypes rose to acceptable levels. The land values for the condominium scenario also rose to acceptable levels, however, the apartment (for rent) scenario remains unacceptable in all three study areas. I review my detailed findings in the following sections.

Table 4.10
Single-Family Residual Land Values
(Landowner Incidence)
Refer to Appendices G (El Dorado Hills), H (Rancho Cordova), and I (Roseville) for additional details.

	Large Lot			Small Lot	
	For Sale 3,200 sf			For Sale 2,100 sf	
El Dorado Hills					
Assumed Sales Price [1]	$ 505,500	100%	$	401,700	100%
Total Infrastructure Costs	$ (94,500)	19%	$	(88,800)	22%
Total Unit Development Costs	$ (384,390)	76%	$	(276,930)	69%
Residual Land Value [2]	**$ 26,610**	**5%**	**$**	**35,970**	**9%**
Rancho Cordova					
Assumed Sales Price [1]	$ 423,900	100%	$	304,700	100%
Infrastructure Costs	$ (87,700)	21%	$	(75,700)	25%
Unit Development	$ (351,990)	83%	$	(251,510)	83%
Residual Land Value [2]	**$ (15,790)**	**-4%**	**$**	**(22,510)**	**-7%**
Roseville					
Assumed Sales Price [1]	$ 535,000	100%	$	371,600	100%
Infrastructure Costs	$ (71,800)	13%	$	(70,500)	19%
Unit Development	$ (373,300)	70%	$	(269,840)	73%
Residual Land Value [2]	**$ 89,900**	**17%**	**$**	**31,260**	**8%**

[1] Per Table 4.2

[2] For a project to be feasible, residual land values must be at least 10 to 15 percent of the sales price to cover the costs of entitlement and development risks discussed in Chapter 3.

Table 4.11
Multi-Family Residual Land Values
(Landowner Incidence)
Refer to Appendices G (El Dorado Hills), H (Rancho Cordova), and I (Roseville) for additional details.

	Condo/ Townhouse			Apartment		
	For Sale 1,200 sf			For Rent 900 sf		
El Dorado Hills						
Assumed Sales Price [1] or Unit Value [2]	$	228,300	100%	$	131,200	100%
Total Infrastructure Costs	$	(61,600)	27%	$	(54,200)	41%
Total Unit Development Costs	$	(162,390)	71%	$	(133,720)	102%
Residual Land Value [3]	**$**	**4,310**	**2%**	**$**	**(56,720)**	**-43%**
Rancho Cordova						
Assumed Sales Price [1] or Unit Value [2]	$	184,400	100%	$	103,300	100%
Infrastructure Costs	$	(62,100)	34%	$	(38,800)	38%
Unit Development	$	(148,880)	81%	$	(125,170)	121%
Residual Land Value [3]	**$**	**(26,580)**	**-14%**	**$**	**(60,670)**	**-59%**
Roseville						
Assumed Sales Price [1] or Unit Value [2]	$	182,500	100%	$	123,600	100%
Infrastructure Costs	$	(54,400)	30%	$	(39,100)	32%
Unit Development	$	(148,690)	81%	$	(130,440)	106%
Residual Land Value [3]	**$**	**(20,590)**	**-11%**	**$**	**(45,940)**	**-37%**

[1] Per Table 4.2

[2] Per Table 4.3

[3] For a project to be feasible, residual land values must be 10 to 15 percent of the sales price/unit value to cover the costs of entitlement and development risks discussed in Chapter 3.

Single-Family Prototypes

Table 4.12 shows the land values calculated using the consumer incidence assumption. Using the El Dorado Hills large lot scenario as an example, my assumed home price under the landowner incidence was $505,500. I increased the sales price by $94,500, which represents the total infrastructure cost (city and county agency fees, utility connection charges, and development impact fees). Under the consumer incidence calculation, the revised sales price becomes $600,000, but note that builder profit also increases $9,450 (10 percent of the added sales price). Under this calculation, the residual land value rose to an acceptable range (19 percent of the sales price versus 5 percent under the landowner incidence calculation). All of the single-family prototypes within my three study areas produce acceptable land values between 12 percent and 25 percent.

Multi-Family Prototypes

Using the same methodology of shifting the infrastructure fees forward to the consumer that I described in the previous section, Table 4.13 shows that the residual land values for the condominium scenario rose to acceptable levels between 12 percent and 21 percent in all three study areas (compared to -14 percent and 2 percent in the landowner incidence). While the apartment scenario improves, the land value indicators remain negative. El Dorado Hills is -4 percent (compared to -43 percent), Rancho Cordova is -18 percent (compared to -59 percent), and Roseville is -7 percent (compared to -37 percent).

To arrive at a zero residual land value for the apartment scenario, consumers must bear more than a one-to-one shift in fee and infrastructure burdens, which is consistent with some of the empirical findings in Chapter 2. Holding vacancy rates and the other assumptions I used in

Table 4.12
Single-Family Residual Land Values
(Consumer Incidence)
Refer to Appendices J (El Dorado Hills), K (Rancho Cordova), and L (Roseville) for additional details.

		Large Lot		Small Lot	
		For Sale		For Sale	
		3,200 sf		2,100 sf	
	El Dorado Hills				
	Assumed Sales Price [1]	$ 505,500		$ 401,700	
	Total Infrastructure Costs [2]	$ 94,500		$ 88,800	
*	Revised Sales Price	$ 600,000	100%	$ 490,500	100%
	Total Infrastructure Costs	$ (94,500)	16%	$ (88,800)	18%
	Total Unit Development Costs	$ (384,390)	64%	$ (276,930)	56%
*	Additional Builder Profit [3]	$ (9,450)	2%	$ (8,880)	2%
	Residual Land Value [4]	**$ 111,660**	**19%**	**$ 115,890**	**24%**
	Rancho Cordova				
	Assumed Sales Price [1]	$ 423,900		$ 304,700	
	Total Infrastructure Costs [2]	$ 87,700		$ 75,700	
*	Revised Sales Price	$ 511,600	100%	$ 380,400	100%
	Total Infrastructure Costs	$ (87,700)	17%	$ (75,700)	20%
	Total Unit Development Costs	$ (351,990)	69%	$ (251,510)	66%
*	Additional Builder Profit [3]	$ (8,770)	2%	$ (7,570)	2%
	Residual Land Value [4]	**$ 63,140**	**12%**	**$ 45,620**	**12%**
	Roseville				
	Assumed Sales Price [1]	$ 535,000		$ 371,600	
	Total Infrastructure Costs [2]	$ 71,800		$ 70,500	
*	Revised Sales Price	$ 606,800	100%	$ 442,100	100%
	Total Infrastructure Costs	$ (71,800)	12%	$ (70,500)	16%
	Total Unit Development Costs	$ (373,300)	62%	$ (269,840)	61%
*	Additional Builder Profit [3]	$ (7,180)	1%	$ (7,050)	2%
	Residual Land Value [4]	**$ 154,520**	**25%**	**$ 94,710**	**21%**

* Change from Table 4.10
[1] Per Table 4.2
[2] Consumer bears economic incidence of total infrastructure costs.
[3] Equal to 10 percent of the additional sales price due to shifting the total infrastructure cost forward to the consumer.
[4] For a project to be feasible, residual land values must be 10 to 15 percent of the sales price to cover the costs of entitlement and development risks discussed in Chapter 3.

Table 4.13
Multi-Family Residual Land Values
(Consumer Incidence)
Refer to Appendices J (El Dorado Hills), K (Rancho Cordova), and L (Roseville) for additional details.

		Condo/ Townhouse		Apartment	
		For Sale 1,200 sf		For Rent 900 sf	
	El Dorado Hills				
	Assumed Sales Price [1]	$ 228,300		$ 131,200	
	Total Infrastructure Costs [2]	$ 61,600		$ 54,200	
*	Revised Sales Price	$ 289,900	100%	$ 185,400	100%
	Total Infrastructure Costs	$ (61,600)	21%	$ (54,200)	29%
	Total Unit Development Costs	$ (162,390)	56%	$ (133,720)	72%
*	Additional Builder Profit [3]	$ (6,160)	2%	$ (5,420)	3%
	Residual Land Value [4]	**$ 59,750**	**21%**	**$ (7,940)**	**-4%**
	Rancho Cordova				
	Assumed Sales Price [1]	$ 184,400		$ 103,300	
	Total Infrastructure Costs [2]	$ 62,100		$ 38,800	
*	Revised Sales Price	$ 246,500	100%	$ 142,100	100%
	Total Infrastructure Costs	$ (62,100)	25%	$ (38,800)	27%
	Total Unit Development Costs	$ (148,880)	60%	$ (125,170)	88%
*	Additional Builder Profit [3]	$ (6,210)	3%	$ (3,880)	3%
	Residual Land Value [4]	**$ 29,310**	**12%**	**$ (25,750)**	**-18%**
	Roseville				
	Assumed Sales Price [1]	$ 182,500		$ 123,600	
	Total Infrastructure Costs [2]	$ 54,400		$ 39,100	
*	Revised Sales Price	$ 236,900	100%	$ 162,700	100%
	Total Infrastructure Costs	$ (54,400)	23%	$ (39,100)	24%
	Total Unit Development Costs	$ (148,690)	63%	$ (130,440)	80%
*	Additional Builder Profit [3]	$ (5,440)	2%	$ (3,910)	2%
	Residual Land Value [4]	**$ 28,370**	**12%**	**$ (10,750)**	**-7%**

* Change from Table 4.11
[1] Per Table 4.2
[2] Consumer bears economic incidence of total infrastructure costs.
[3] Equal to 10 percent of the additional sales price due to shifting the total infrastructure cost forward to the consumer.
[4] For a project to be feasible, residual land values must be 10 to 15 percent of the sales price to cover the costs of entitlement and development risks discussed in Chapter 3.

my capitalized values steady, monthly rents would have to increase by an average of $500 per month. Current rents in my study areas average between $900 (Rancho Cordova) and $1,135 (El Dorado Hills) per month, and would have to increase by 56 percent to $1,400 and 44 percent to $1,635 per month, respectively, to achieve a zero land value. For a moderate-income family earning Rancho Cordova's median income of $53,900, a $1,400 monthly rent is 31 percent of their income. For a low-income family earning 70 percent of Rancho Cordova's median income, monthly rent is 45 percent of their income and creates a housing overburden. Even under this assumption of a zero land value, landowners have no financial motivation to sell their properties to a builder or developer, implying that rents would have to rise even higher to make a development scenario feasible and that apartment construction may only be possible in a healthy housing market or with more robust financial assumptions.

Chapter Summary

The findings show that development impact fees and other backbone infrastructure costs in my three study areas are approximately $70,000 to $95,000 per single-family unit, well above the 2012 California statewide average of $23,000 (as shown in Figure 2.1 - Average Single Family Fees by State, 2012). Multi-family fees and infrastructure expenses range between approximately $40,000 and $60,000 per unit.

Based on the sales prices and rental unit values in the landowner incidence calculation, only the Roseville single-family large lot prototype produces a residual land value in an acceptable range (17 percent). Under the consumer incidence calculation, all of the single-family and multi-family condominium prototypes achieve acceptable levels (between 12 percent and 25 percent); however, the apartment results remain negative between 4 percent and 18 percent.

The findings of my study are consistent with the Gomes and Martin (2010) study, which showed that multi-family apartment projects are financially infeasible in El Dorado County. However, my study highlights a much broader issue that multi-family apartment rentals are infeasible in several Sacramento-area jurisdictions and that fee levels have created a higher burden on smaller housing types. This helps explain why issued permits for multi-family dwellings have steadily declined since the late-1960s. My findings also highlight a policy dilemma for local governments: How does one establish an acceptable level of development impact fees to fund capital facilities, without discouraging multi-family housing supply and maintaining housing prices at levels that are affordable to lower income groups? In the next chapter, I offer policy strategies to help address this dilemma.

Chapter 5

CONCLUSION AND POLICY STRATEGIES

Introduction

In Chapter 4, I presented the results of my residual land value calculations for each jurisdiction, revealing that development impact fees and other infrastructure charges total as much as approximately $60,000 for multi-family dwellings, causing both of the multi-family options (condominiums and apartments) to produce insufficient residual land values under the landowner incidence calculation. Under the consumer incidence calculation, the condominium scenario is feasible, but rental apartments continue to produce non-positive land values and threaten the housing diversity objectives I argued for in Chapter 1. Based on my assumptions, this thesis highlights an interesting complexity. Is it possible to establish development impact fees that adequately fund needed infrastructure without deterring local and regional housing objectives?

There are two perspectives to this issue. On the one hand, shifting the current levels of development impact fees forward to the multi-family consumer only serves to raise the price of that housing and highlights concerns about housing affordability for moderate and below-moderate income earners. Based on the assumptions in this thesis, the levels of development impact fees can act as a regressive tax on smaller housing units, creating unique trade-offs between income groups. As housing expenses rise to cover the cost of the impact fees, above-moderate income earners can more easily absorb the fee. For example, the El Dorado Hills area lacks an adequate supply of multi-family housing options for the aging and affluent Baby Boomers to downsize from their large, single-family homes. Affordability is not the issue for these groups, but finding a smaller house within their existing community and with the interior

finishes they desire is a hurdle. For them, the trade-off is leaving their community to find smaller housing or continue to live in an over-sized house to remain close to their friends and family in the community. Moderate- and below-moderate income earners face a different trade-off. They either choose to live in new, suburban communities to be close to service jobs that support moderate and above-moderate income earners, but overburden themselves paying more than the recommended 30 percent housing-cost-to-income-ratio. Alternatively, they could live in low-income neighborhoods to keep their housing expenses closer to the 30 percent recommendation, but commute longer distances for employment. The combinations of these forces lead to less income-integrated neighborhoods and more segregated communities, which raise inequality concerns from activists.

On the other hand, the Tiebout Model (O'Sullivan, 2009) frames the issue in a different light, indicating that citizens choose to live in communities according to their demands for local public goods. In some respects, the housing market performs efficiently under this theory because consumers naturally sort themselves according to their perceived values of public goods and amenities, and have a willingness to pay for them. The concept of Tiebout-sorting eliminates the concerns often expressed by residents in affluent communities, like El Dorado Hills and Roseville, who have perceived fears about higher-density developments diminishing their property values or inviting criminal activity. Tiebout-sorting also eliminates the "free-rider" problem, defined as someone who benefits from a good or activity without paying all or a portion of the cost. As consumers of any size housing (small or large) pay the higher prices, they price out the less affluent and prevent the free-riding problem.

Regardless of the perspective, this thesis acknowledges that the SACOG Board of Directors adopted The Blueprint as a long-range vision to guide development in the Sacramento

area, and a key growth principle is housing choice and diversity. Therefore, this chapter provides a menu of strategies for policy makers to expand the supply of multi-family housing, which, in theory, should be the most affordable housing type for lower income groups as compared to single-family dwellings. I begin with a summary of five possible strategies for policy makers. To evaluate the attractiveness of each policy alternative, I will be using a Criteria Alternatives Matrix (CAM) analysis, which relies on evaluative criteria and a rating scale to highlight the trade-offs between the proposed strategies and reveal the optimum outcome. I provide in-depth discussions of each strategy, including an overview of the policy option, identifying other jurisdictions that are using the strategy, and my rationale for rating each policy against the evaluative criteria. I present the results of my CAM analysis and I end this thesis with some final thoughts about the Sacramento region's ability to meet its diversified housing objectives.

Overview of Strategies

Planning commissions, city councils, and boards of supervisors are the policy-making bodies of cities and counties charged with making land use decisions. They establish goals, objectives, and policies in their housing elements, ratify zoning and other land use regulations, and adopt development impact fee ordinances that ultimately shape the quantity, quality, and affordability of housing for their residents. Master owners' associations can also influence housing affordability by imposing specific architectural design elements and higher construction quality standards than local zoning codes require. However, the findings I provided in Chapter 4 illustrate a hurdle in achieving a fully diversified housing stock, which raises affordability concerns. The challenge now is to evaluate policy alternatives that will increase the construction of multi-family dwellings so that lower-income groups have greater access to less expensive

housing. I offer five strategies for policy makers' consideration, discussed in more detail in the sections that follow:

- Mandatory Inclusionary Housing
- In-Lieu Fees
- Broad-Based Tax or Fee
- Fee Waivers or Reductions
- Proportional-share or Variable Fees

Evaluating Policy Alternatives

I will use a method of policy analysis offered by Munger (2000) known as a Criteria Alternatives Matrix (CAM). A CAM analysis focuses on a series of policy alternatives evaluated against well-defined criteria to determine the most favorable outcome. When assessing multiple policy choices, it is rarely possible to achieve a condition where some affected by a policy decision become better off without causing others to be worse off. Policy decisions inevitably create winners and losers, and an essential component of the CAM analysis is recognizing the trade-offs associated with each alternative. Therefore, it is necessary to establish evaluative criteria to judge the expected outcomes of each suggested alternative, combined with a rating system or level of measurement to quantify the most desirable outcome. For purposes of my study, I have selected three criteria: effectiveness, equity, and political acceptability. I discuss each criterion in more detail below and identify the relative weights I have assigned them.

Evaluative Criterion

Criterion 1: Effectiveness

This first criterion focuses on a policy's effectiveness at creating multi-family and affordable or less expensive housing. I assign a favorable rating to an alternative that has the greatest potential to produce the most multi-family housing units. For example, a policy option that produces 100 units is better than a policy option that produces 10 units. For purposes of this thesis, effectiveness is the most important criterion and I assign it a relative weight of 0.50.

Criterion 2: Equity

Equity as a criterion examines the consequences of a policy action on a number of players. To increase the supply of multi-family housing for lower income groups, government policies often consider vertical equity, meaning that everyone affected by the policy pays the same proportion of their income – higher income groups pay more in taxes and lower income groups pay less. I give a favorable rating to an alternative that maintains proportionality among housing consumers. For example, a policy that costs both lower-income and higher-income groups 10 percent of their incomes is better than a policy that costs lower-income groups 5 percent and higher-income groups 20 percent. I assign equity a relative weight of 0.30.

Criterion 3: Political Acceptability (state or local)

The introduction of new governmental rules, regulations, and policies can spark controversy and resistance, particularly among those asked to bear the incidence of government action. Political acceptability refers to the ease in which politicians, citizens, and market players accept a proposed course of action and my CAM analysis views it in a generalized perspective that any community can consider. Political acceptability is the least important for my analysis, and I have assigned it a relative weight of 0.20. I rate a policy option as "unfavorable" if I expect

low political acceptability and "favorable" for high political acceptability. It is important to note that a municipality facing particular political pressures may need to adjust the acceptability rating in this CAM analysis to suit their local circumstances.

Rating Scale

Using a Likert scale to quantify relative attractiveness, I rate each alternative. The highest rating is 5 and indicates a "very favorable" outcome. A "somewhat favorable" outcome is 4; "moderate" is 3; "somewhat unfavorable "is 2; and "very unfavorable" is 1. The aggregate sum of each criterion's weight, multiplied by the rating, produces a total score.

Discussion of Policy Alternatives

Mandatory Inclusionary Housing

Most often, communities struggling to achieve a diversified housing stock or a range of housing types that are affordable to lower income groups are quick to adopt inclusionary housing ordinances. As I mentioned in Chapter 1, inclusionary housing requires builders or developers to construct a percentage of below-market housing in residential, market-rate developments. For units deemed affordable, builders reduce sales prices for lower income groups and shift the lost revenue to buyers of market-rate units in the form of higher prices to make up the short fall. In these cases, market-rate consumers subsidize the affordable units. While it may be a politically efficient means for a community to show they are addressing affordability issues, the success of inclusionary zoning depends on the market area. It may increase the supply of affordable homes in some markets and worsen the supply in others (National Association of Home Builders, 2011). To illustrate, Powell and Stringham (2004) studied the effects of inclusionary zoning in California from 2003 to 2007, and found that price controls make the majority of housing *less* affordable and *decreases* the supply of new housing. Prices in the Bay Area rose 8 percent after adoption of

inclusionary policies and supply dropped 30 percent in the first year of the policy. Prices in Los Angeles and Orange County rose 12 percent, and supply decreased 61 percent over 7 years. To make housing *more* affordable, economic theory tells us to *increase* the supply of housing rather than add regulations that raise the cost of market-rate housing (through higher land, vertical construction costs, impact fees, and other developer exactions).

One example of an inclusionary housing policy is the City of Sacramento's mixed-income housing ordinance. Adopted in 2000, city leaders designated North Natomas as a "new growth area", which requires builders to set aside 15 percent of all new housing for low-income residents. While inclusionary policies promote income-integrated neighborhoods, Powell (2013) criticizes the city's action as a failed policy attempt because it pushes affordable housing units into communities without public transit, employment centers, and other public services that can otherwise support lower income groups. Other examples include, the City of West Sacramento's requirement that developers of all new residential projects include at least 15 percent of their units as affordable to lower and moderate-income households, and the City of Davis requirement of 25 percent.

In my CAM analysis, I rate this option as "somewhat unfavorable" (2) in effectiveness for its likely potential to decrease the overall housing stock as presented by Powell and Stringham (2004). As I mentioned earlier, inclusionary housing policies in California have produced just 2,000 to 3,000 units per year (California Coalition of Rural Housing, 2007, and Atkins, 2013). I rate this policy option as "very unfavorable" (1) in equity because a chief criticism from the development community is that inclusionary obligations can unfairly shift the burden to market-rate consumers, meaning that the subsidized consumer does not pay their proportional share. Similar to effectiveness, I rank political acceptability as "somewhat unfavorable" (2), largely

because of Governor Brown's recent veto of Assembly Bill 1229 (Atkins, D-San Diego). AB 1229 sought to overturn a 2009 court ruling *[Palmer/Sixth Street Properties, L.P. v. City of Los Angeles, 2009, 175 Cal. App. 4th 1396]* that found that inclusionary housing requirements on rental properties violate the Costa-Hawkins Rental Act of 1995, ultimately violating cities and counties' inclusionary requirements. In vetoing the legislation, Governor Brown expressed concern to adopt any such legislation without further direction from the California Supreme Court, which is currently evaluating whether municipalities can require inclusionary housing in new developments (Siders, 2013, October 13).

In-Lieu Fees

In-lieu fees allow developers and builders to pay a fee in place of constructing affordable units. Often times, agencies collect in-lieu fees on a per-unit basis for each unit not built and they deposit the funds into a housing trust fund. Agencies then develop their own affordable housing projects (usually multi-family projects) with the assistance of affordable housing developers, such as Mercy Housing and St. Anton Partners. Establishing a fee amount varies widely between jurisdictions because there is no standardized calculation (Burnett, Khadduri, and Lindenmayer, 2008), but most times, the amount of the fee is far less than the cost of constructing the unit.

In-lieu fees are popular with California jurisdictions. Of the 143 jurisdictions with inclusionary housing ordinances, 124 ordinances (86 percent) include an in-lieu fee option (City of Folsom, 2013). The City of Sacramento is re-evaluating its mixed-income housing ordinance, considering in-lieu fees based on the size of projects instead of setting aside 15 percent of new housing for low-income residents, but will not vote on the issue until next year. Earlier this year, the City of Folsom established an in-lieu fee equal to 1 percent of the sales price of a market-rate home or 0.5 percent of the estimated sales price of the least expensive home in a subdivision

where developers sell only the lots. Assuming a median home price of $450,000, this equates to an in-lieu fee of $2,250 to $4,500, and is similar to Elk Grove's affordable housing fee of $4,543 per single-family unit and $2,264 per multi-family unit. However, in-lieu fees can run into the thousands of dollars. For example, the City of Pleasanton charges builders $10,713 for homes over 1,500 square feet of floor space. In addition, some agencies charge in-lieu fees for non-residential developments. The City of Pleasanton charges industrial and retail business $2.83 per square feet. The City of Rancho Cordova charges warehouse space $0.26 per square foot, commercial $0.77 per square foot, hotel $0.92 per square foot, and office $0.97 per square foot.

Since in-lieu fees are usually much less than the cost of constructing a dwelling unit, it takes a long time for an agency to accumulate a sufficient amount of fees to construct a project, and for this reason, I rate this option as "very unfavorable" (1) in effectiveness. I rate this option as "somewhat unfavorable" (2) in equity because of the potential for market-rate consumers to absorb the in-lieu fee with higher prices (albeit, to a lesser degree than the cost of constructing the unit) while lower income groups benefit from below-market prices, which does not achieve true proportionality. Similarly, I rate this option as "somewhat unfavorable" (2) in political acceptability for two reasons. First, even moderate increases in development costs will garner opposition from builders and developers. Second, it requires local governments to accumulate the fees and construct the units themselves, sometimes when they lack the staffing capacity or expertise, or otherwise find housing developers to construct the units for them.

Broad-Based Tax or Fee

If policy makers support programs to increase the supply of multi-family dwellings and view the need to provide less expensive housing options as a community-wide issue, then the community-wide solution is a broad-based parcel or sales tax (Howard, n.d.). The benefit of a

broad-based tax or fee is the ability to generate on-going revenue for the construction of such housing and more importantly, provides a solution through community investment rather than adding pressure on the local economy through increased fees, lower land values, and higher market-rate rents (Howard, n.d.).

One such measure offered at the state level is Senate Bill 391, the California Jobs and Home Act of 2013 by Mark DeSaulner (D-Concord), which seeks to impose a $75 recording fee on real property documents to fund affordable housing programs. Real property documents include grant deeds, quitclaim deeds, assignments of deeds of trusts, notices of default, easements, notices of completions, and mechanic's liens. Ten other states charge broad-based fees, ranging from $58 in Washington, $40 in Connecticut, and $3 in Missouri (Pasco, Foote, and Page, 2013, August 29). Analysts expect the California fee to generate between $300 million to $700 million annually, allowing the state to add an average of 10,500 new affordable apartments and single-family homes each year ("California should renew support", 2013), about three times the historical annual average. As another example, an affordable housing task force presented options to the Napa City Council earlier this year to collect funds for affordable housing projects through increased taxes and fees. Their recommendations included increasing property tax assessments for grape growers to fund farmworker housing (currently set at $10 per planted acre), increasing the transient occupancy tax on the hospitality industry (currently at 12%), and increasing the real estate transfer tax by .25 percent (Jensen, 2013).

Using the $75 recording fee as an example, I rate this option as "somewhat favorable" (4) in effectiveness for its ability to triple the number of affordable housing units typically constructed in California. However, when it comes to equity, it fails to maintain the proportionality objective. Given a situation where two parties must record a grant deed to add a

spouse to the title of a property, a $75 fee acts as regressive tax on a worker who makes $8 an hour compared to a worker who makes $30 an hour, and for this reason, I have assigned it a "very unfavorable" (1) equity rating. Finally, politically speaking, I expect low acceptability for three reasons. First, California has a history of taxpayer revolt, evidenced by voters' approval of Proposition 13 in 1978, illustrating that California residents are very sensitive to tax increases. Second, the real estate industry opposes the measure because they say it will hurt California's housing market recovery from the Great Recession. Finally, while the Senate approved the bill earlier this year, it has been unable to advance out of the Assembly because it requires a two-thirds vote and Democrats temporarily lack an Assembly supermajority (Walters, 2013, September 6). For these reasons, I rate political acceptability as "somewhat unfavorable" (2).

Fee Waivers and Reductions

One approach to mitigating the effect of impact fees on housing supply and prices is to waive or reduce fees to encourage specific projects or achieve long-range planning objectives. Waivers and reductions can be temporary or long-term measures, and because they reduce the cost of construction, can stimulate the construction of certain development projects, such as multi-family or affordable housing projects. However, the waiver or reduction may not necessarily equate to lower prices or rental rates for the consumer if the landowner absorbs the benefit through a higher land value. It is important to note that fee waivers and reductions can weaken the fund balances for which the agency intended the fee, leaving decision makers to find alternative sources of revenue to make up the shortfall or otherwise reduce the scope of the anticipated improvements to match expected revenue levels.

As an example, earlier this year, the City of Rancho Cordova's City Council voted to reduce transportation impact fees by 20 percent for 12 to 18 months to stimulate development in

new areas. In 2011, the City Council in Albuquerque, New Mexico, acted similarly to decrease residential impact fees by 50 percent for two years to encourage new development. The city also waives all impact fees if at least 25 percent of the housing units are affordable to low-income households (Burnett, Khadduri, and Lindenmayer, 2008). In Santa Fe, the program seems to be working. Of the 240 constructed housing units in five communities (Ridgeview, Vista Montañño, Vista del Prado, Carlos Rey del Sur, and Villa la Paz), 66 homes were affordable. Because this thesis shows that impact fees can reach tens of thousands of dollars in California, waiving or reducing fees can provide strong financial motivation for builders and developers to construct certain types of housing.

Following the Santa Fe example, fee waivers have been effective in producing units and I rate it as a "very favorable" (5) policy option. However, waiving or reducing fees for some housing types without similar waivers for other housing types does not pass the proportionality test, so I rate it as "somewhat unfavorable" (2) in equity. Furthermore, waivers and reductions undercut the basic purpose of impact fees, which is that new development pays its' proportional share to construct capital facilities. This frequently shifts the burden to local governments to find other sources of funding to make up the revenue shortfall in the impact fee account, which could prove difficult as local government coffers continue to suffer from the effects of the Great Recession. For this reason, I rate this option as "moderate" (3) for political acceptability.

Proportional-Share or Variable Fees

A proportional-share or variable impact fee structure accounts for variations in housing type, unit size, density, and other structural characteristics, such as number of bedrooms, and can eliminate the regressive nature of a one-size-fits-all approach that places greater burdens on smaller units (Mullen, 2003). For example, the El Dorado Hills Community Services District

charges a $9,806 parks and recreation impact fee for single-family units, and $8,103 for multi-family units, regardless of the square footage size or number of bedrooms. Under this fee structure, a hypothetical family of five living in a 4,000 square foot, 4-bedroom home pays a 20 percent higher impact fee than a couple living in a 900 square foot, 2-bedroom apartment. Under a proportional-share structure, the impact fee can vary by unit size. To illustrate, $10,000 per unit for dwellings over 3,000 square feet, $8,000 for dwellings between 1,800 and 2,999 square feet, $6,000 for dwellings between 1,000 and 1,799 square feet, and $4,000 for dwellings less than 1,000 square feet.

School and fire districts often use a proportional fee structure to calculate impact fees on new development. For example, the Buckeye Union Elementary School District in El Dorado County calculates residential impact fees at $3.11 per square foot and the Folsom-Cordova Unified School District charges $5.22 per square foot. The El Dorado Hills Fire Department adopted a similar structure, charging impact fees at $1.16 per square foot. This equates to a builder of a 900 square foot unit paying a fire impact fee of $1,044 and a builder of a 3,200 square foot unit paying $3,712 (excluding enclosed garages and covered porch areas). Jurisdictions can also assess proportional fees by a project's density. For example, the Sacramento Area Sewer District charges single-family and multi-family sewer impact fees of $14,171 per acre, so that a project with a density of 3 dwellings to the acre pays $4,723 per unit and a project with a density of 20 dwellings to the acre pays $708 per unit.

From a political acceptability perspective, I rate this option as "somewhat favorable" (4) because it produces savings for builders and consumers of smaller units, and unlike fee waivers, it does not require that local governments find other sources of funding to make up the revenue shortfall in the impact fee account. I rate it as "very favorable" (5) in equity because the variable

fee structure provides a stronger nexus in mitigating impacts proportional to the size of the dwelling. Assuming lower income groups occupy smaller units and higher income groups occupy larger units, this option passes the proportionality test. Under this structure, agencies eliminate the regressive nature of the flat fee approach on smaller units, making it financially easier for builders and developers to construct multi-family housing and encouraging a greater supply. For this reason, I rate this option as "somewhat favorable" (4) in effectiveness.

CAM Results

Based on my assessment of the five policy strategies I have presented, I find the proportional-share impact fee structure the most attractive option with a total score of 4.3 as shown in Table 5.1. The process of conducting a CAM analysis is not an exact science and relies heavily on subjective judgments in assigning criterion weights and ratings. To be as transparent as possible, I have explained my reasoning for assigning my weights and ratings. However, readers must be aware that even small adjustments in the rating values could yield different results and greatly alter a course of action. For example, reducing the equity criterion for proportional-share fees from 5 to 4 produces a total score of 4.0 and increasing the equity criterion for fee waivers from 2 to 3 produces an identical score of 4.0. Because the two scores are equal, this suggests a possible hybrid between the two policy options. Readers should note, too, that this CAM analysis is an initial first step to finding a policy option that expands the supply of multi-family housing and other forms of affordable housing, but the problem area deserves a much more comprehensive analysis.

Table 5.1
CAM Analysis
(*ranked by highest total score*)

Alternatives	Criterion 1: Effectiveness 0.5	Criterion 2: Equity 0.3	Criterion 3: Political Acceptability 0.2	Total
Proportional-Share Impact Fees	4	5	4	4.3
Fee Waivers or Reductions	5	2	3	3.7
Broad-Based Tax or Fee	4	1	2	2.7
Mandatory Inclusionary Housing	2	1	2	1.7
In-Lieu Fees	1	2	2	1.5

Ratings:
(5) Very Favorable (4) Somewhat Favorable (3) Moderate (2) Somewhat Unfavorable
(1) Very Unfavorable

Final Thoughts

Financing basic community infrastructure in California relies on the payment of development impact fees, but decision-makers responsible for adopting fee ordinances face the complex task of considering multiple perspectives and understanding the effects of impact fees on achieving housing diversity and affordability objectives. Considering all of the market players,

politicians must be cognizant of the stakeholders at the state level, the private sector, and the residents in their local communities and the region as a whole.

From the perspective of the California Department of Community Housing and Development, their mission is to oversee the state's housing needs, and ensure cities and counties comply with California's housing element law. As communities throughout California grow, jurisdictions cannot raise taxes to finance new infrastructure and impact fees serve as the alternative funding mechanism to keep taxes low for the general population. At the same time, residents may not fully understand how impact fees can affect the price of housing and in some communities, question the need to provide less expensive, multi-family housing. Local governments hold the power to make land use decisions to manage growth and adopt policies that shape the supply of housing, but frequently look to the development community to develop housing that is affordable or less expensive for low-income residents. The participants in the development community (landowners, developers, and builders) want to maximize returns, suggesting that the incidence of development fees passes forward to consumers in the form of higher prices to cover lot and construction costs. However, low- and moderate-income earners cannot afford higher housing prices, and in affluent suburban communities throughout California dominated by single-family homes, the housing stock offers few choices for substitute housing. Affordable housing advocates become the voice for the poor, demanding equitable housing and changes in government policy to deliver such housing. Thus, it is not surprising that the pushes and pulls between the stakeholders make it difficult to answer the question I posed at the end of Chapter 4:

> *How does one establish an acceptable level of development impact fees to fund capital facilities, without discouraging multi-family housing supply and*

maintaining housing prices at levels that are affordable to lower income groups?

The purpose of this thesis is to illustrate the trade-offs between infrastructure funding, and housing diversity and affordability. If there is a better balance, finding the solution requires input from all of the stakeholders, but city and county leaders cannot enact changes on their own. They will have to engage other agencies, such as water, fire, and school districts, to examine the effects of their combined decisions on Sacramento's housing supply and evaluate if the decisions made at the local level are consistent with The Blueprint and help the region, as a whole, succeed in meeting SACOG's growth principle of housing choice and diversity.

Appendix A
New Home Sales Prices

Builder Project Name and Master Plan	Size	Bed/Bath Levels/Gar./ Room	Base Price	Incent-ives	Net Price	Net Price/SF
El Dorado Hills						
2,800 to 3,600 square feet					**Median Price/sf:**	**157.96**
Standard Pacific *Legacy Oaks @ Serrano*	3,121	4/3/2/3 Loft	639,540	-	639,540	204.92
Standard Pacific Legacy Oaks @ Serrano	3,364	4/3.5/2/2 Den, Loft	578,110	-	578,110	171.85
Taylor Morrison *Pinnacle @ Blackstone*	2,847	3/2.5/1/3 None	488,000	10,000	478,000	167.90
Shea Homes *Bramasole @ Serrano*	2,978	4/3.5/1/3 Loft	497,000	10,000	487,000	163.53
Lennar Homes *Shenandoah @ Blackstone*	3,485	5/4/2/3 None	570,950	5,000	565,950	162.40
Lennar Homes *Shenandoah @ Blackstone*	3,491	5/4/2/3 Bonus	557,950	5,000	552,950	158.39
Meritage Homes *Del Sol @ Blackstone*	3,222	4/3.5/2/3 None	513,950	5,000	508,950	157.96
Meritage Homes *Del Sol @ Blackstone*	3,085	4/3.5/2/3 None	489,950	5,000	484,950	157.20
Shea Homes *Bramasole @ Serrano*	3,143	3/3.5/1/2 Library	496,000	10,000	486,000	154.63
Shea Homes *Bramasole @ Serrano*	3,213	4/3.5/2/3 None	502,000	10,000	492,000	153.13
Taylor Morrison Pinnacle @ Blackstone	3,402	4/3.5/2/3 None	528,000	10,000	518,000	152.26
Taylor Morrison Pinnacle @ Blackstone	3,564	4/3.5/2/3 Bonus/Ofc.	550,000	10,000	540,000	151.52
Taylor Morrison Pinnacle @ Blackstone	3,545	4/4.5/2/3 Bonus	545,000	10,000	535,000	150.92

Builder Project Name and Master Plan	Size	Bed/Bath Levels/Gar./ Room	Base Price	Incent-ives	Net Price	Net Price/SF
1,800 to 2,400 square feet					**Median Price/sf:**	**191.29**
Standard Pacific *Sagewood @ Blackstone*	1,951	3/2/1/2 None	427,265	10,000	417,265	213.87
Lennar Homes *Shenandoah @ Blackstone*	2,128	3/2/1/2 Den	471,950	5,000	466,950	219.43
Meritage Homes *Del Sol @ Blackstone*	2,347	4/2.5/1/2 None	453,950	5,000	448,950	191.29
Standard Pacific *Sagewood @ Blackstone*	2,317	3/3/2/2 None	448,540	10,000	438,540	189.27
Standard Pacific *Sagewood @ Blackstone*	2,384	3/3/2/2 None	447,000	10,000	437,000	183.31
Rancho Cordova						
2,800 to 3,600 square feet					**Median Price/sf:**	**132.48**
Elliot Homes *Trentino*	3,008	5/3/2/3 None	439,950	-	439,950	146.26
Lennar Homes *Cypress Reserve @ Kavala Ranch*	2,935	4/3/1/3 Den, NextGen	413,990	6,000	407,990	139.01
Lennar Homes *Cypress Reserve @ Kavala Ranch*	2,981	4/3/2/3 Loft	407,990	6,000	401,990	134.85
Lennar Homes *Cypress Point @ Kavala Ranch*	3,105	5/3/2/3 None	409,990	6,000	403,990	130.11
Lennar Homes *Cazadero @ Kavala Ranch*	2,811	5/4/2/3 None	364,990	6,000	358,990	127.71
Woodside Homes *Mariposa @ Sunridge Park*	2,983	4/3/1/3 Den	379,990	11,399	368,591	123.56
1,800 to 2,400 square feet					**Median Price/sf:**	**145.11**
Elliot Homes *Trentino*	1,919	4/3/2/2 None	354,950	-	354,950	184.97
Elliot Homes *Trentino*	1,935	4/3/2/2 None	338,950	-	338,950	175.17

Builder Project Name and Master Plan	Size	Bed/Bath Levels/Gar./ Room	Base Price	Incent-ives	Net Price	Net Price/SF
Woodside Homes *Eclipse @ Sunridge Park*	1,983	3/2/1/3 None	318,990	5,000	313,990	158.34
Woodside Homes *Eclipse @ Sunridge Park*	2,256	3/2/1/3 None	341,990	5,000	336,990	149.38
Woodside Homes *Mariposa @ Sunridge Park*	2,245	3/2/1/3 Den	325,990	9,779	316,211	140.85
Lennar Homes *Cypress Point @ Kavala Ranch*	2,295	4/3/2/2 None	328,990	6,000	322,990	140.74
Lennar Homes *Cazadero @ Kavala Ranch*	2,295	4/3/2/2 None	326,990	6,000	320,990	139.86
Lennar Homes *Cypress Point @ Kavala Ranch*	2,361	4/3/1/3 None	335,990	6,000	329,990	139.77
Roseville						
2,800 to 3,600 square feet					**Median Price/sf:**	**167.17**
JMC Homes *The Woods @ Fiddyment Farm*	3,227	5/3.5/2/3 Bonus	610,990	7,500	603,490	187.01
JMC Homes *Mira Bella @ Crocker Ranch*	3,302	5/3.5/2/3 Bonus	609,990	-	609,990	184.73
JMC Homes *The Woods @ Fiddyment Farm*	3,031	5/3.5/2/3 Bonus	564,990	7,500	557,490	183.93
JMC Homes *Casa Bella @ Crocker Ranch*	3,031	3/3.5/2/2 Bonus	529,990	10,000	519,990	171.56
JMC Homes *Casa Bella @ Crocker Ranch*	3,150	5/3/2/3 Den	539,990	10,000	529,990	168.25
JMC Homes *Casa Bella @ Crocker Ranch*	3,200	5/3/2/4 Bonus/Den	544,950	10,000	534,950	167.17
JMC Homes *Casa Bella @ Crocker Ranch*	3,540	6/4/2/3 Bonus/Den	569,990	10,000	559,990	158.19
K Hovnanian *Stone Mill II @ Fiddyment Farm*	3,188	4/3/2/3 Den	504,990	15,149	489,841	153.65

Builder Project Name and Master Plan	Size	Bed/Bath Levels/Gar./ Room	Base Price	Incent-ives	Net Price	Net Price/SF
K Hovnanian *Stone Mill II @ Fiddyment Farm*	3,438	5/3/2/3 Loft	507,990	15,239	492,751	143.32
Meritage Homes *Sonata @ Fiddyment Farm*	2,921	4/3.5/2/3 Flex, Game	414,950	5,000	409,950	140.35
Meritage Homes *Sonata @ Fiddyment Farm*	3,221	4/3.5/2/3 Flex, Game	429,950	5,000	424,950	131.93
1,800 to 2,400 square feet					**Median Price/sf:**	**176.94**
JMC Homes *Mira Bella @ Crocker Ranch*	1,842	3/3/1/2 Den	429,990	-	429,990	233.44
JMC Homes *The Vineyards*	1,916	4/2.5/2/2 None	398,990	-	398,990	208.24
JMC Homes *The Village @ Crocker Ranch*	2,011	4/3/2/2 None	419,990	7,500	412,490	205.12
K Hovnanian Homes *Settler's Ridge @ Fiddyment Farm*	1,854	3/2/1/2 Den	367,990	8,000	359,990	194.17
Del Webb *The Club @ West Park*	2,071	2/2/1/2 Den	405,990	10,000	395,990	191.21
Black Pine Communities *Molly's Walk @ Diamond Creek*	1,864	4/2.5/2/2 None	334,990	-	334,990	179.72
Black Pine Communities *Molly's Walk @ Diamond Creek*	1,848	3/2.5/2/2 Den	330,990	-	330,990	179.11
Lennar Home *Chateau @ Diamond Creek*	1,844	3/2.5/2/2 None	323,990	4,000	319,990	173.53
Del Webb *The Club @ West Park*	1,992	3/2/1/2 None	387,990	10,000	377,990	189.75
JMC Homes *The Village @ Crocker Ranch*	2,338	5/3/2/2 None	449,990	7,500	442,490	189.26
JMC Homes *The Vineyards*	2,150	5/3/2/2 Den	399,990	-	399,990	186.04
KB Homes *Garden Grove @ Fiddyment Farm*	2,077	3/2.5/2/2 None	389,000	3,890	385,110	185.42

Builder Project Name and Master Plan	Size	Bed/Bath Levels/Gar./ Room	Base Price	Incent- ives	Net Price	Net Price/SF
Meritage Homes *Sonata @ Fiddyment Farm*	1,972	3/2/1/3 None	364,950	5,000	359,950	182.53
Del Webb *The Club @ West Park*	2,385	3/2.5/1/2 None	431,990	10,000	421,990	176.94
K Hovnanian Homes *Settler's Ridge @ Fiddyment Farm*	2,096	4/2/1/2 None	375,990	8,000	367,990	175.57
KB Homes *Garden Grove @ Fiddyment Farm*	2,269	3/2.5/2/2 None	396,000	3,960	392,040	172.78
Meritage Homes *Sonata @ Fiddyment Farm*	2,142	3/2/1/3 None	373,950	5,000	368,950	172.25
Tim Lewis Communities *Villemont*	1,996	4/2.5/2/2 None	339,900	-	339,900	170.29
Meritage Homes *Sonata @ Fiddyment Farm*	2,278	3/2/1/3 None	379,950	5,000	374,950	164.60
K Hovnanian Homes *Settler's Ridge @ Fiddyment Farm*	2,359	3/3/2/2 Den	393,990	8,000	385,990	163.62
Lennar Homes *Chateau @ Diamond Creek*	2,003	3/2.5/2/2 Loft	329,990	4,000	325,990	162.75
Lennar Homes *Chateau @ Diamond Creek*	2,282	4/2.5/2/2 None	359,990	4,000	355,990	156.00
Lennar Homes *Chateau @ Diamond Creek*	2,195	4/3/2/2 None	339,990	4,000	335,990	153.07
Black Pine Communities *Molly's Walk @ Diamond Creek*	2,284	4/2.5/2/2 Flex	347,990	-	347,990	152.36
Lennar Homes *Laurel Grove @ West Park*	2,295	4/3/2/2 None	332,990	-	332,990	145.09

Source: The Gregory Group (2013)

Appendix B
Condominium Resales
(constructed 2000 or later)

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/ sf
El Dorado Hills and Folsom							**Median Price/sf:**	**190.23**
309 Blossom Rock Ln # 261	95630	1,319	2/2.5/ 2/2	2009/ Stucco/ Tile	150	8/23/13	285,000	216.07
201 Rodin Ln	95630	1,324	2/2.5/ 2/2	2012/ Stucco/ Tile	225	4/12/13	285,000	215.26
404 Blossom Rock Ln # 16	95630	1,115	2/2/ 1/1	2009/ Stucco/ Tile	150	6/7/13	240,000	215.25
609 Blossom Rock Ln # 9	95630	1,115	2/2/ 1/1	2009/ Stucco/ Tile	150	6/7/13	238,000	213.45
407 Blossom Rock Ln	95630	1,289	3/2.5/ 2/2	2009/ Stucco/ Tile	150	8/19/13	274,000	212.57
202 Blossom Rock Ln	95630	1,347	2/2.5/ 2/2	2011/ Stucco/ Tile	150	8/21/13	278,000	206.38
303 Picasso Wy	95630	1,501	2/2.5/ 2/2	2007/ Stucco/ Tile	187	7/15/13	308,000	205.20
106 Monet Ln # 106	95630	1,313	2/2/ 2/2	2007/ Stucco/ Tile	182	9/11/13	269,000	204.87
2230 Valley View Pkwy # 1016	95762	1,227	2/2/ 2/1	2007/ Stucco/ Tile	298	6/20/13	250,000	203.75
2230 Valley View Pkwy # 916	95762	1,227	2/2/ 1/2	2008/ Stucco/ Tile	297	8/23/13	250,000	203.75
306 Blossom Rock Ln # 58	95630	1,319	2/2.5/ 2/2	2009/ Stucco/ Tile	150	6/28/13	267,500	202.81
111 Blossom Rock Ln # 49	95630	1,234	2/2/ 2/1	2009/ Stucco/ Tile	150	5/24/13	250,000	202.59

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/sf
406 Monet Ln # 406	95630	1,313	2/2/ 2/2	2009/ Stucco/ Tile	181	8/5/13	265,000	201.83
2506 Esplanade Cir	95630	1,313	2/2/ 2/2	2005/ Stucco/ Tile	215	8/8/213	265,000	201.83
607 Blossom Rock Ln	95630	1,289	3/2.5/ 2/2	2009/ Stucco/ Tile	150	5/24/13	260,000	201.71
900 Moon Cir. # 918	95630	1,265	3/2/ 1/1	2007/ Stucco/ Tile	199	8/28/13	255,000	201.58
403 Blossom Rock Ln # 15	95630	1,234	2/2/ 2/1	2009/ Stucco/ Tile	150	5/21/13	247,000	200.16
1005 Esplanade Cir # 1005	95630	1,364	2/2.5/ 2/2	2004/ Stucco/ Tile	220	8/20/13	272,000	199.41
700 Moon Cir. # 733	95630	1,031	2/2/ 1/1	2007/ Stucco/ Tile	199	8/20/13	205,000	198.84
103 Rivage Cir	95630	1,501	2/2.5/ 2/2	2007/ Stucco/ Tile	210	8/19/13	297,500	198.20
2106 Esplanade Cir	95630	1,364	2/2.5/ 2/2	2005/ Stucco/ Tile	219	7/11/13	267,900	196.41
2230 Valley View Pkwy # 234	95762	1,031	2/2/ 1/1	2007/ Stucco/ Tile	297	8/7/13	200,000	193.99
1100 Moon Cir. # 128	95630	1,120	3/3/ 3/1	2007/ Stucco/ Tile	199	8/2/13	215,000	191.96
500 Moon Cir. # 528	95630	1,120	2/2/ 2/1	2007/ Stucco/ Tile	199	7/25/13	214,500	191.52
103 Monet Ln # 103	95630	1,501	3/2.5/ 2/2	2007/ Stucco/ Tile	185	6/12/13	286,000	190.54
606 Rivage	95630	1,313	2/2/ 2/2	2007/ Stucco/ Tile	185	6/14/13	250,000	190.40
885 Halidon Wy 3 322	95630	1,077	2/2/ 2/2	2007/ Stucco/ Tile	210	9/23/13	205,000	190.34

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/sf
600 Moon Cir. # 627	95630	1,031	2/2/ 1/1	2007/ Stucco/ Tile	199	4/12/13	196,000	190 .11
201 Monet Ln.	95630	1,313	2/2/ 1/2	2009/ Stucco/ Tile	185	6/14/13	249,000	189.64
1000 Moon Cir. # 1025	95630	1,009	1/1/ 2/1	2007/ Stucco/ Tile	199	6/13/13	191,000	189.30
2230 Valley View Pkwy # 233	95762	1,031	2/2/ 2/1	2007/ Stucco/ Tile	297	6/12/13	194,950	189.09
900-925 Moon Cir. # 925	95630	1,109	2/2/ 1/1	2007/ Stucco/ Tile	199	6/26/13	209,000	188.46
1306 Esplanade Cir	95630	1,364	2/2.5/ 2/2	2005/ Stucco/ Tile	219	6/25/13	255,000	186.95
1111 Vessona Cir.	95630	1,314	2/2/ 1/1	2006/ Stucco/ Tile	270	6/4/13	245,000	186.45
4601 Esplanade Cir	95630	1,501	2/2.5/ 2/2	2005/ Stucco/ Tile	217	5/23/13	279,500	186.21
3606 Esplanade Cir.	95630	1,313	2/2/ 1/2	2004/ Stucco/ Tile	207	5/30/13	244,000	185.83
882 Halidon Wy. # 512	95630	1,276	3/2/ 2/2	2007/ Stucco/ Tile	235	7/11/13	237,000	185.74
400 Moon Cir. # 433	95630	1,018	2/2/ 1/1	2007/ Stucco/ Tile	199	5/24/13	185,000	181.73
2230 Valley View Pkwy # 927	95762	1,340	2/2/ 2/1	2008/ Stucco/ Tile	298	4/26/13	240,000	179.10
2230 Valley View Pkwy # 922	95762	994	1/1/ 2/1	2007/ Stucco/ Tile	298	5/13/13	174,990	176.05
500 Moon Cir # 537	95630	1,031	2/2/ 1/1	2007/ Stucco/ Tile	199	4/23/13	179,900	174.49
885 Halidon Cir. # 812	95630	1,267	2/2/ 2/2	2007/ Stucco/ Tile	235	5/15/13	220,000	173.64

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/sf
2230 Valley View Pkwy # 1025	95762	1,070	1/1/ 2/1	2007/ Stucco/ Tile	298	7/10/13	184,990	172.89
2230 Valley View Pkwy # 221	95762	1,109	2/2/ 1/1	2007/ Stucco/ Tile	298	4/25/13	189,000	170.42
1000 Moon Cir. # 1028	95630	1,340	2/2/ 2/1	2007/ Stucco/ Tile	199	6/11/13	225,000	167.91
885 Halidon Wy # 621	95630	1,077	2/2/ 1/0	2007/ Stucco/ Tile	224	4/19/13	180,000	167.13
602 Ferry Cir.	95630	1,428	3/3/ 2/2	2007/ Stucco/ Tile	154	7/1/13	229,500	160.71
2230 Valley View Pkwy # 1023	95762	1,070	1/1/ 2/1	2008/ Stucco/ Tile	298	10/11/13	169,990	158.87
400 Moon Cir. # 428	95630	1,265	3/2/ 1/1	2007/ Stucco/ Tile	199	5/21/13	200,000	158.10
2230 Valley View Pkwy # 925	95762	1,070	1/1/ 2/1	2008/ Stucco/ Tile	297	9/6/13	169,000	157.94
4604 Esplanade Cir. # 4604	95630	1,313	2/2/ 2/2	2005/ Stucco/ Tile	205	5/24/13	197,000	150.04
1802 Ferry Cir. # 102	95630	1,493	3/2/ 2/2	2007/ Stucco/ Tile	154	5/31/213	220,111	147.43
1214 Vessona	95630	1,185	1/1/ 2/1	2006/ Stucco/ Tile	272	9/10/13	170,000	143.46
400 Moon Cir. # 426	95630	969	2/2/ 2/1	2007/ Stucco/ Tile	199	4/24/13	129,900	134.06
Rancho Cordova							**Median Price/sf:**	**153.66**
10864 Disk Wy	95670	1,096	3/3/ 2/2	2009/ Stucco / Comp	165	10/1/13	205,000	187.04
10808 Atherstone Dr	95670	1,065	2/2/ 2/2	2010/ Stucco / Comp	136	10/10/13	199,000	186.85

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/sf
10874 Atherstone Dr	95670	1,271	2/2.5/ 3/2	2007/ Stucco / Comp	157	8/26/13	220,000	173.09
3115 Eades Wy	95670	1,311	2/2.5/ 2/2	2009/ Stucco / Comp	148	8/8/13	225,000	171.62
10826 Atherstone Dr	95670	1,065	2/2/ 2/2	2010/ Stucco / Comp	165	5/17/13	177,000	166.20
10838 Nederland Wy	95670	1,311	2/2/ 2/2	2008/ Stucco / Comp	147	5/6/13	185,000	141.11
10878 Disk Wy	95670	1,658	3/3/ 3/2	2009/ Stucco / Comp	165	9/27/13	233,000	140.53
10871 Wraysbury Wy	95670	1,658	3/4/ 3/2	2008/ Stucco / Comp	165	5/23/13	170,000	102.53
10880 Disk Wy	95670	1,658	4/4/ 3/2	2009/ Stucco / Comp	165	7/19/13	170,000	102.53
10844 Nederland Wy	95670	1,658	3/3/ 3/2	2008/ Stucco / Comp	165	8/13/13	163,000	98.31
Roseville							**Median Price/sf:**	**152.07**
151 Talmont Cir	95678	1,233	2/3/ 2/2	2008/ Stucco / Tile	115	8/19/13	269,000	218.17
8452 Cortina Cir	95678	1,271	3/2.5/ 2/2	2004/ Stucco / Tile	80	10/7/13	250,000	196.70
8844 Cortina Cir	95678	1,464	3/3/ 2/2	2006/ Stucco / Tile	80	9/23/13	280,200	191.39
8388 Cortina Cir	95678	1,337	3/2.5/ 2/2	2004/ Stucco / Tile	80	8/21/13	249,500	186.61
33 Villa Gardens Ct	95678	1,351	3/2.5/ 2/2	2006/ Stucco / Tile	115	4/26/13	241,000	178.39
25 Villa Gardens Ct	95678	1,362	3/2.5/ 2/2	2006/ Stucco / Tile	115	6/27/13	241,000	176.95

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/sf
8343 Oliva Rd	95678	1,337	3/2.5/ 2/2	2005/ Stucco / Tile	80	9/9/13	227,000	169.78
8844 Cortina Cir	95678	1,464	3/2.5/ 2/2	2006/ Stucco / Tile	80	6/21/13	236,000	161.20
30 Villa Gardens Ct	95678	1,376	3/3/ 2/2	2006/ Stucco / Tile	115	4/5/13	220,000	159.88
701 Gibson Dr. # 533	95678	819	1/1/ 1/0	2002/ Stucco / Tile	211	8/6/13	128,200	156.53
219 Chambord Wy	95678	1,142	2/3/ 2/2	2009/ Stucco / Comp	115	6/7/13	175,000	153.24
501 Gibson Dr. # 2513	95678	1,016	2/2/ 1/2	2003/ Stucco / Tile	219	10/9/13	155,000	152.56
501 Gibson Dr. # 822	95678	1,016	2/2/ 2/1	2003/ Stucco / Tile	221	5/30/13	154,500	152.07
501 Gibson Dr. # 1922	95678	1,211	2/2/ 1/2	2003/ Stucco / Tile	240	7/30/13	182,000	150.29
701 Gibson Dr. # 1123	95678	1,041	2/2/ 3/1	2002/ Stucco / Tile	224	10/18/13	155,000	148.90
701 Gibson Dr. # 1721	95678	970	2/1/ 1/0	2002/ Stucco / Tile	219	5/17/13	143,000	147.42
1709 Dante Cir	95678	1,050	2/2/ 1/2	2007/ Stucco / Tile	175	4/12/13	153,000	145.71
701 Gibson Dr. # 1024	95678	819	1/1/ 1/0	2002/ Stucco / Tile	211	4/30/13	115,000	140.42
904 Dante Cir	95678	1,355	2/2.5/ 2/2	2005/ Stucco / Tile	187	4/8/13	180,500	133.21
701 Gibson Dr. # 1016	95678	819	1/1/ 1/0	2002/ Stucco / Tile	211	8/30/13	106,500	130.04
700 Gibson Dr. # 1524	95678	1,041	2/2/ 1/1	2002/ Stucco / Tile	230	8/15/13	134,000	128.72

Address	Zip Code	Size	Bed/Bath/ Levels/ Gar.	Year Built/ Exterior / Roof	HOA (per mo.)	COE	Price	Price/sf
501 Gibson Dr. # 623	95678	1,211	3/2/ 1/2	2003/ Stucco / Tile	240	4/5/13	149,400	123.37
1510 Dante Cir	95678	1,434	2/3/ 2/2	2006/ Stucco / Tile	205	6/6/13	160,000	111.58
501 Gibson Dr. # 1612	95678	851	1/1/ 1/0	2003/ Stucco / Tile	210	5/30/13	92,000	108.11
301 Gibson Dr. # 1924	95678	1,424	3/2/ 1/1	2004/ Stucco / Tile	247	4/29/13	145,000	101.83

Source: Multiple Listing Service (2013)

Appendix C
Multi-Family Unit Values

Thesis Study Area		**El Dorado Hills**		**Rancho Cordova**		**Roseville**
Comparable Sacramento Submarket		**Folsom**		**Rancho Cordova**		**Roseville/ Rocklin**
Average Rent/sf [1]		$1.26		$1.01		$1.17
Average Occupancy [1]		95.1%		94.1%		95.9%
Unit Size Assumption (sf)		900		900		900
Monthly Rent		$ 1,134		$ 909		$ 1,053
Revenues						
Gross Annual Rent		$ 13,608		$ 10,908		$ 12,636
Other Revenue [2]	*5%*	$ 680	*5%*	$ 545	*5%*	$ 632
Total Gross Revenues		**$ 14,288**		**$ 11,453**		**$ 13,268**
Expenses						
(less) Vacancy		$ (700)		$ (676)		$ (544)
(less) Operating Expenses	*35%*	$ (5,001)	*35%*	$ (4,009)	*35%*	$ (4,644)
(less) Capital Reserves	*5%*	$ (714)	*5%*	$ (573)	*5%*	$ (663)
Total Expenses		**$ (6,415)**		**$ (5,257)**		**$ (5,851)**
Net Operating Income		**$ 7,873**		**$ 6,196**		**$ 7,417**
Capitalized Value [1]	***6%***	**$ 131,215**	***6%***	**$ 103,271**	***6%***	**$ 123,612**
Rounded		$ 131,200		$ 103,300		$ 123,600
Value per Square Foot		**$ 146**		**$ 115**		**$ 137**

[1] *Source: Colliers International (2013) and Marcus and Millichap (2013)*

[2] *Parking and laundry revenues*

Appendix D
El Dorado County Fee Breakdown

Single-Family

Assumptions					
Housing Type		Single-Family		Single-Family	
Prototype		For Sale (Large)		For Sale (Small)	
Density		2.5 DU/acre		5.0 DU/acre	
Unit Square Feet (Average)		3,200		2,100	
Garage Square Feet		400	[1]	600	[2]
Covered Porch Square Feet		150		150	
Unit Valuation/SF		116.91	[3]	116.91	[3]
Garage Valuation/SF		44.58	[3]	44.58	[3]
Covered Porch Valuation/SF		44.58	[3]	44.58	[3]
Total Valuation/SF		398,631		278,946	
AGENCY FEES					
Processing Fees					
Plan Check [5]		4,225		2,957	
Strong Motion [6]		40		28	
Green Building [7]		16		11	
Subtotal		**4,281**		**2,996**	
Utility Connection Charges					
Sewer	Flat Fee	12,862		12,862	
Water	Flat Fee	14,517	[8]	14,517	[8]
Subtotal		**27,379**		**27,379**	
Development Impact Fees					
Animal Control		-		-	
Community Services	Flat Fee	215		215	
Drainage		-		-	
Electric Backbone		-		-	

Housing Type Prototype		Single-Family For Sale (Large)	Single-Family For Sale (Small)
Fire - per sf [10]	$1.16	4,350	3,306
Housing		-	-
Library		-	-
Parks and Recreation	Flat Fee	9,806	9,806
Plan Area Fees		-	-
Plant/Species Mitigation	Flat Fee	386	386
School - per sf [11]	$3.11	9,952	6,531
Solid Waste		-	-
Traffic [12]	Flat Fee	28,140	28,140
Subtotal		**52,849**	**48,384**
TOTAL AGENCY FEES		**84,509**	**78,759**
Rounded		**84,500**	**78,800**

Multi-Family

Assumptions			
Housing Type		Multi-Family	Multi-Family
Prototype		For Sale (Condo)	For Rent (Apt.)
Density		12.0 DU/acre	20.0 DU/acre
Unit Square Feet (Average)		1,200	900
Garage Square Feet		0	0
Covered Porch Square Feet		0	0
Unit Valuation/SF		111.03 [4]	111.03 [4]
Garage Valuation/SF		-	-
Covered Porch Valuation/SF		-	-
Total Valuation/SF		133,236	99,927
AGENCY FEES			
Processing Fees			
Plan Check [5]		1,412	1,059
Strong Motion [6]		28	21
Green Building [7]		5	4
Subtotal		**1,446**	**1,084**
Utility Connection Charges			
Sewer	Flat Fee	9,647	8,162
Water	Flat Fee	10,888 [8]	9,164 [9]
Subtotal		**20,534**	**17,326**
Development Impact Fees			
Animal Control		-	-
Community Services	Flat Fee	215	215
Drainage		-	-
Electric Backbone		-	-
Fire - per sf [10]	$1.16	1,392	1,044
Housing		-	-

Housing Type Prototype		Multi-Family For Sale (Condo)	Multi-Family For Rent (Apt.)
Library		-	-
Parks and Recreation	Flat Fee	8,103	8,103
Plan Area Fees		-	-
Plant/Species Mitigation	Flat Fee	290	290
School - per sf [11]	$3.11	3,732	2,799
Solid Waste		-	-
Traffic [12]	Flat Fee	18,370	18,370
Subtotal		**32,102**	**30,821**
TOTAL AGENCY FEES		**54,082**	**49,231**
Rounded		**54,100**	**49,200**

Footnotes:

1 2-car garage, 20' x 20'

2 3-car garage, 20' x 30'

3 2012 International Code Council Building Safety Journal Building Valuation, Group R-3 (one- and two-family), Type V-B (0-hour rating)

4 2012 International Code Council Building Safety Journal Building Valuation, Group R-2 (multi-family), Type V-A (1-hour rating)

5 $0.0106 of valuation

6 $0.0001 of valuation for single-family and $0.00021 of valuation for multi-family

7 $1 for every $25,000 valuation

8 Assumes a 3/4 inch meter per dwelling unit

9 Assumes a 1.5" meter for each building of 16 dwelling units

10 Total square feet under roof

11 Per dwelling square foot for Buckeye Union Elementary and El Dorado Union High School Districts

12 Fee Zone 8

Sources: Economic and Planning Systems, Inc. (2007), El Dorado County Building Services (2013), El Dorado Department of Transportation (2013), El Dorado County Office of Education (2013), El Dorado Hills Fire Department (2013), El Dorado Irrigation District (2013)

Appendix E
Rancho Cordova Fee Breakdown

Single-Family

Assumptions					
Housing Type		Single-Family		Single-Family	
Prototype		For Sale (Large)		For Sale (Small)	
Density		2.5 DU/acre		5.0 DU/acre	
Unit Square Feet (Average)		3,200		2,100	
Garage Square Feet		400	[1]	600	[2]
Covered Porch Square Feet		150		150	
Unit Valuation/SF		104.89	[3]	104.89	[3]
Garage Valuation/SF		44.36	[3]	44.36	[3]
Covered Porch Valuation/SF		44.36	[3]	44.36	[3]
Total Valuation/SF		360,046		253,539	
AGENCY FEES					
Processing Fees					
Plan Check [4]		4,034		3,192	
Strong Motion [5]		36		25	
Green Building [6]		14		10	
Subtotal		**4,085**		**3,227**	
Utility Connection Charges					
Sewer (per net. ac.)	$14,171	5,668		2,834	
Water (Zone 40)	Flat Fee	13,166	[7]	13,166	[7]
Subtotal		**18,834**		**16,000**	
Development Impact Fees					
Animal Control		-		-	
Community Services [9]	Flat Fee	2,822		2,822	
Drainage (Zone 11a)	Varies by ac.	4,952		2,907	
Electric Backbone		-		-	

Housing Type Prototype		Single-Family For Sale (Large)	Single-Family For Sale (Small)
Fire - per sf [10]	Varies	2,100	1,596
Housing	-	-	-
Library	Flat Fee	578	578
Parks and Recreation	Flat Fee [11]	12,527	12,527
Plan Area Fees	-	-	-
Plant/Species Mitigation	Flat Fee	-	-
School - per sf [12]	$5.22	16,704	10,962
Solid Waste		-	-
Traffic [13]	Flat Fee	16,599	16,599
Subtotal		**56,282**	**47,991**
TOTAL AGENCY FEES		**79,201**	**67,219**
Rounded		**79,200**	**67,200**

Multi-Family

Assumptions					
Housing Type		Multi-Family		Multi-Family	
Prototype		For Sale (Condo)		For Rent (Apt.)	
Density		12.0 DU/acre		20.0 DU/acre	
Unit Square Feet (Average)		1,200		900	
Garage Square Feet		0		0	
Covered Porch Square Feet		0		0	
Unit Valuation/SF		110.29	[3]	110.29	[3]
Garage Valuation/SF		-		-	
Covered Porch Valuation/SF		-		-	
Total Valuation/SF		132,348		99,261	
AGENCY FEES					
Processing Fees					
Plan Check [4]		2,233		885	
Strong Motion [5]		28		21	
Green Building [6]		5		4	
Subtotal		**2,266**		**910**	
Utility Connection Charges					
Sewer (per net. ac.)	$14,171	1,181		709	
Water (Zone 40)	Flat Fee	3,166	[7]	1,892	[8]
Subtotal		**14,347**		**2,601**	
Development Impact Fees					
Animal Control		-		-	
Community Services [9]	Flat Fee	2,205		2,205	
Drainage (Zone 11a)	Varies by ac.	1,379		882	
Electric Backbone		-		-	
Fire - per sf [10]	Varies	900		675	
Housing	-	-		-	

Housing Type Prototype		Multi-Family For Sale (Condo)	Multi-Family For Rent (Apt.)
Library	Flat Fee	452	452
Parks and Recreation	Flat Fee [11]	12,527	9,395
Plan Area Fees	-	-	-
Plant/Species Mitigation	Flat Fee	-	-
School - per sf [12]	$5.22	6,264	4,698
Solid Waste		-	-
Traffic [13]	Flat Fee	14,409	11,619
Subtotal		**38,136**	**29,926**
TOTAL AGENCY FEES		**54,749**	**33,436**
Rounded		**54,700**	**33,400**

Footnotes:

1 2-car garage, 20' x 20'

2 3-car garage, 20' x 30'

3 Per the City of Rancho Cordova Development Related Process and Fees Handbook, April 2013

4 Formula based on total valuation

5 $0.0001 of valuation for single-family and $0.00021 of valuation for multi-family

6 $1 for every $25,000 valuation

7 Assumes a 3/4 inch meter per dwelling unit for Zone 40

8 Assumes a 1.5" meter for each building of 16 dwelling units

9 City Hall, police, community center, corporation yard, museum, animal services, telecommunications & computers, and records management

10 Total square feet under roof. $0.56 per/sf for single-family; $0.75 per/sf for multi-family

11 Estimated Park Development Impact Fee and Park Renovation Fee by Economic Planning Systems, Inc.

12 Folsom-Cordova Unified School District

13 Area 2 and Measure A

Sources: City of Rancho Cordova (2013b), Folsom-Cordova Unified School District (2013), Sacramento Area Sewer District (2013), Sacramento Metropolitan Fire District (2013), and Sacramento Transportation Authority (2013)

Appendix F
Roseville Fee Breakdown

Single-Family

Assumptions					
Housing Type		Single-Family		Single-Family	
Prototype		For Sale (Large)		For Sale (Small)	
Density		2.5 DU/acre		5.0 DU/acre	
Unit Square Feet (Average)		3,200		2,100	
Garage Square Feet		400	[1]	600	[2]
Covered Porch Square Feet		150		150	
Unit Valuation/SF		93.00	[3]	93.00	[3]
Garage Valuation/SF		25.00	[3]	25.00	[3]
Covered Porch Valuation/SF		25.00	[3]	25.00	[3]
Total Valuation/SF		311,350		214,050	
AGENCY FEES					
Processing Fees					
Plan Check [4]		3,110		2,332	
Strong Motion [5]		31		21	
Green Building [6]		12		9	
Subtotal		**3,154**		**2,362**	
Utility Connection Charges					
Sewer	Flat Fee	7,101		7,101	
Water	Flat Fee	7,383	[7]	7,383	[7]
Subtotal		**14,484**		**14,484**	
Development Impact Fees					
Animal Control	Flat Fee	206		206	
Community Services		-		-	
Drainage	Flat Fee [9]	459		459	

Housing Type Prototype		Single-Family For Sale (Large)	Single-Family For Sale (Small)
Electric Backbone	Flat Fee	1,225	1,225
Fire - per sf [10]	$0.005	1,557	1,070
Housing		-	-
Library		-	-
Parks and Recreation	Flat Fee	3,410	3,410
Plan Area Fees	Flat Fee	5,600	5,600
Plant/Species Mitigation		-	-
School	Flat Fee [11]	18,385	18,385
Solid Waste	Flat Fee	410	410
Traffic	Flat Fee	8,501	8,501
Subtotal		**39,753**	**39,266**
TOTAL AGENCY FEES		**57,391**	**56,112**
Rounded		**57,400**	**56,100**

Multi-Family

Assumptions			
Housing Type		Multi-Family	Multi-Family
Prototype		For Sale (Condo)	For Rent (Apt.)
Density		12.0 DU/acre	20.0 DU/acre
Unit Square Feet (Average)		1,200	900
Garage Square Feet		0	0
Covered Porch Square Feet		0	0
Unit Valuation/SF		89.00 [3]	89.00 [3]
Garage Valuation/SF		-	-
Covered Porch Valuation/SF		-	-
Total Valuation/SF		106,800	80,100
AGENCY FEES			
Processing Fees			
Plan Check [4]		1,474	1,177
Strong Motion [5]		22	17
Green Building [6]		4	3
Subtotal		**1,501**	**1,197**
Utility Connection Charges			
Sewer	Flat Fee	7,101	7,101
Water	Flat Fee	7,383 [7]	1,866 [8]
Subtotal		**14,484**	**8,967**
Development Impact Fees			
Animal Control	Flat Fee	50	50
Community Services		-	-
Drainage	Flat Fee [9]	459	379
Electric Backbone	Flat Fee	524	524
Fire - per sf [10]	$0.005	534	401
Housing		-	-

Housing Type Prototype		Multi-Family For Sale (Condo)	Multi-Family For Rent (Apt.)
Library		-	-
Parks and Recreation	Flat Fee	2,914	2,416
Plan Area Fees	Flat Fee	5,600	5,600
Plant/Species Mitigation		-	-
School	Flat Fee [11]	7,175	7,175
Solid Waste	Flat Fee	139	139
Traffic	Flat Fee	8,501	4,588
Subtotal		**25,896**	**21,272**
TOTAL AGENCY FEES		**41,881**	**31,436**
Rounded		**41,900**	**31,400**

Footnotes:

1 2-car garage, 20' x 20'

2 3-car garage, 20' x 30'

3 Per the City of Roseville Residential Development Fees Handbook, July 2013 through June 2014

4 Formula based on total valuation

5 $0.0001 of valuation for single-family and $0.00021 of valuation for multi-family

6 $1 for every $25,000 valuation

7 Assumes a 3/4 inch meter per dwelling unit

8 Assumes a 1.5" meter for each building of 16 dwelling units

9 Pleasant Grove Creek Assessment Zone

10 Total square feet under roof

11 Roseville Joint Union High School and Roseville City School Districts

Sources: City of Roseville (2013b), Roseville Joint Union High School and Roseville City School Districts (2013), Sierra Vista Financing Plan (Al Johnson Consulting, Inc., 2010)

Appendix G
El Dorado Hills Residual Land Value: Landowner Incidence

Single-Family						
		Large Lot For Sale	%		Small Lot For Sale	%
Assumed Square Footage:		3,200			2,100	
Assumed Vertical Construction Cost:		$ 72			$ 75	
Assumed Sales Price [1] or Unit Value [2]		**$ 505,500**	100%		**$ 401,700**	100%
Infrastructure Costs						
City & County Agency Fees [3]		$ 84,500	17%		$ 78,800	20%
Other Backbone Infrastructure Cost [4]		$ 10,000	2%		$ 10,000	2%
Subtotal Infrastructure Costs		**$ 94,500**	**19%**		**$ 88,800**	**22%**
Unit Development						
Lot Development Cost (in-tract) [5]		$ 47,800	9%		$ 39,800	10%
Vertical Construction Cost [6]		$ 230,400	46%		$ 157,500	39%
Soft Cost (20% of lot dev. & unit costs)	20%	$ 55,640	11%		$ 39,460	10%
Builder Profit (10% of sales price)	10%	$ 50,550	10%		$ 40,170	10%
Subtotal Unit Development		**$ 384,390**	**76%**		**$ 276,930**	**69%**
TOTAL UNIT COST		**$ 478,890**	**95%**		**$ 365,730**	**91%**
Residual Land Value		**$ 26,610**	**5%**		**$ 35,970**	**9%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.8

Multi-Family						
		Condo/ Townhouse For Sale	%		Apartment For Rent	%
Assumed Square Footage:		1,200			900	
Assumed Vertical Construction Cost:	$	80		$	95	
Assumed Sales Price [1] or Unit Value [2]	**$**	**228,300**	100%	**$**	**131,200**	100%
Infrastructure Costs						
City & County Agency Fees [3]	$	54,100	24%	$	49,200	38%
Other Backbone Infrastructure Cost [4]	$	7,500	3%	$	5,000	4%
Subtotal Infrastructure Costs	**$**	**61,600**	**27%**	**$**	**54,200**	**41%**
Unit Development						
Lot Development Cost (in-tract) [5]	$	20,300	9%	$	15,000	11%
Vertical Construction Cost [6]	$	96,000	42%	$	85,500	65%
Soft Cost (20% of lot dev. & unit costs)	$	23,260	10%	$	20,100	15%
Builder Profit (10% of sales price)	$	22,830	10%	$	13,120	10%
Subtotal Unit Development	**$**	**162,390**	**71%**	**$**	**133,720**	**102%**
TOTAL UNIT COST	**$**	**223,990**	**98%**	**$**	**187,920**	**143%**
Residual Land Value	**$**	**4,310**	**2%**	**$**	**(56,720)**	**-43%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.9

Appendix H
Rancho Cordova Residual Land Value: Landowner Incidence

Single-Family						
		Large Lot For Sale	%		Small Lot For Sale	%
Assumed Square Footage:		3,200			2,100	
Assumed Vertical Construction Cost:		$ 67			$ 70	
Assumed Sales Price [1] or Unit Value [2]		**$ 423,900**	100%		**$ 304,700**	100%
Infrastructure Costs						
City & County Agency Fees [3]		$ 79,200	19%		$ 67,200	22%
Other Backbone Infrastructure Cost [4]		$ 8,500	2%		$ 8,500	3%
Subtotal Infrastructure Costs		**$ 87,700**	**21%**		**$ 75,700**	**25%**
Unit Development						
Lot Development Cost (in-tract) [5]		$ 43,600	10%		$ 37,200	12%
Vertical Construction Cost [6]		$ 214,400	51%		$ 147,000	48%
Soft Cost (20% of lot dev. & unit costs)	20%	$ 51,600	12%		$ 36,840	12%
Builder Profit (10% of sales price)	10%	$ 42,390	10%		$ 30,470	10%
Subtotal Unit Development		**$ 351,990**	**83%**		**$ 251,510**	**83%**
TOTAL UNIT COST		**$ 439,690**	**104%**		**$ 327,210**	**107%**
Residual Land Value		**$ (15,790)**	**-4%**		**$ (22,510)**	**-7%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.8

Multi-Family						
		Condo/ Townhouse For Sale	%		Apartment For Rent	%
Assumed Square Footage:		1,200			900	
Assumed Vertical Construction Cost:	$	75		$	92	
Assumed Sales Price [1] or Unit Value [2]	**$**	**184,400**	100%	**$**	**103,300**	100%
Infrastructure Costs						
City & County Agency Fees [3]	$	54,700	30%	$	33,400	32%
Other Backbone Infrastructure Cost [4]	$	7,400	4%	$	5,400	5%
Subtotal Infrastructure Costs	**$**	**62,100**	**34%**	**$**	**38,800**	**38%**
Unit Development						
Lot Development Cost (in-tract) [5]	$	18,700	10%	$	12,900	12%
Vertical Construction Cost [6]	$	90,000	49%	$	82,800	80%
Soft Cost (20% of lot dev. & unit costs)	$	21,740	12%	$	19,140	19%
Builder Profit (10% of sales price)	$	18,440	10%	$	10,330	10%
Subtotal Unit Development	**$**	**148,880**	**81%**	**$**	**125,170**	**121%**
TOTAL UNIT COST	**$**	**210,980**	**114%**	**$**	**163,970**	**159%**
Residual Land Value	**$**	**(26,580)**	**-14%**	**$**	**(60,670)**	**-59%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.9

Appendix I
Roseville Residual Land Value: Landowner Incidence

Single-Family						
		Large Lot For Sale	%		Small Lot For Sale	%
Assumed Square Footage:		3,200			2,100	
Assumed Vertical Construction Cost:		$ 70			$ 74	
Assumed Sales Price [1] or Unit Value [2]		**$ 535,000**	100%		**$ 371,600**	100%
Infrastructure Costs						
City & County Agency Fees [3]		$ 57,400	11%		$ 56,100	15%
Other Backbone Infrastructure Cost [4]		$ 14,400	3%		$ 14,400	4%
Subtotal Infrastructure Costs		**$ 71,800**	**13%**		**$ 70,500**	**19%**
Unit Development						
Lot Development Cost (in-tract) [5]		$ 42,500	8%		$ 38,500	10%
Vertical Construction Cost [6]		$ 224,000	42%		$ 155,400	42%
Soft Cost (20% of lot dev. & unit costs)	20%	$ 53,300	10%		$ 38,780	10%
Builder Profit (10% of sales price)	10%	$ 53,500	10%		$ 37,160	10%
Subtotal Unit Development		**$ 373,300**	**70%**		**$ 269,840**	**73%**
TOTAL UNIT COST		**$ 445,100**	**83%**		**$ 340,340**	**92%**
Residual Land Value		**$ 89,900**	**17%**		**$ 31,260**	**8%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.8

Multi-Family						
		Condo/ Townhouse For Sale	%		Apartment For Rent	%
Assumed Square Footage:		1,200			900	
Assumed Vertical Construction Cost:	$	75		$	95	
Assumed Sales Price [1] or Unit Value [2]	**$**	**182,500**	100%	**$**	**123,600**	100%
Infrastructure Costs						
City & County Agency Fees [3]	$	41,900	23%	$	31,400	25%
Other Backbone Infrastructure Cost [4]	$	12,500	7%	$	7,700	6%
Subtotal Infrastructure Costs	**$**	**54,400**	**30%**	**$**	**39,100**	**32%**
Unit Development						
Lot Development Cost (in-tract) [5]	$	18,700	10%	$	12,900	10%
Vertical Construction Cost [6]	$	90,000	49%	$	85,500	69%
Soft Cost (20% of lot dev. & unit costs)	$	21,740	12%	$	19,680	16%
Builder Profit (10% of sales price)	$	18,250	10%	$	12,360	10%
Subtotal Unit Development	**$**	**148,690**	**81%**	**$**	**130,440**	**106%**
TOTAL UNIT COST	**$**	**203,090**	**111%**	**$**	**69,540**	**137%**
Residual Land Value	**$**	**(20,590)**	**-11%**	**$**	**(45,940)**	**-37%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.9

Appendix J
El Dorado Hills Residual Land Value: Consumer Incidence

Single-Family						
		Large Lot For Sale	%		Small Lot For Sale	%
Assumed Square Footage:		3,200			2,100	
Assumed Vertical Construction Cost:		$ 72			$ 75	
Assumed Sales Price [1] or Unit Value [2]		**$ 600,000**	100%		**$ 490,500**	100%
Infrastructure Costs						
City & County Agency Fees [3]		$ 84,500	14%		$ 78,800	16%
Other Backbone Infrastructure Cost [4]		$ 10,000	2%		$ 10,000	2%
Subtotal Infrastructure Costs		**$ 94,500**	**16%**		**$ 88,800**	**18%**
Unit Development						
Lot Development Cost (in-tract) [5]		$ 47,800	8%		$ 39,800	8%
Vertical Construction Cost [6]		$ 230,400	38%		$ 157,500	32%
Soft Cost (20% of lot dev. & unit costs)	20%	$ 55,640	9%		$ 39,460	8%
Builder Profit (10% of sales price)	10%	$ 60,000	10%		$ 49,050	10%
Subtotal Unit Development		**$ 393,840**	**66%**		**$ 285,810**	**58%**
TOTAL UNIT COST		**$ 488,340**	**81%**		**$ 374,610**	**76%**
Residual Land Value		**$ 111,660**	**19%**		**$ 115,890**	**24%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.8

Multi-Family						
		Condo/ Townhouse For Sale	%		Apartment For Rent	%
Assumed Square Footage:		1,200			900	
Assumed Vertical Construction Cost:	$	80		$	95	
Assumed Sales Price [1] or Unit Value [2]	**$**	**289,900**	100%	**$**	**185,400**	100%
Infrastructure Costs						
City & County Agency Fees [3]	$	54,100	19%	$	49,200	27%
Other Backbone Infrastructure Cost [4]	$	7,500	3%	$	5,000	3%
Subtotal Infrastructure Costs	**$**	**61,600**	**21%**	**$**	**54,200**	**29%**
Unit Development						
Lot Development Cost (in-tract) [5]	$	20,300	7%	$	15,000	8%
Vertical Construction Cost [6]	$	96,000	33%	$	85,500	46%
Soft Cost (20% of lot dev. & unit costs)	$	23,260	8%	$	20,100	11%
Builder Profit (10% of sales price)	$	28,990	10%	$	18,540	10%
Subtotal Unit Development	**$**	**168,550**	**58%**	**$**	**139,140**	**75%**
TOTAL UNIT COST	**$**	**230,150**	**79%**	**$**	**193,340**	**104%**
Residual Land Value	**$**	**59,750**	**21%**	**$**	**(7,940)**	**-4%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.9

Appendix K
Rancho Cordova Residual Land Value: Consumer Incidence

Single-Family						
		Large Lot For Sale	%		Small Lot For Sale	%
Assumed Square Footage:		3,200			2,100	
Assumed Vertical Construction Cost:		$ 67			$ 70	
Assumed Sales Price [1] or Unit Value [2]		**$ 511,600**	100%		**$ 380,400**	100%
Infrastructure Costs						
City & County Agency Fees [3]		$ 79,200	15%		$ 67,200	18%
Other Backbone Infrastructure Cost [4]		$ 8,500	2%		$ 8,500	2%
Subtotal Infrastructure Costs		**$ 87,700**	**17%**		**$ 75,700**	**20%**
Unit Development						
Lot Development Cost (in-tract) [5]		$ 43,600	9%		$ 37,200	10%
Vertical Construction Cost [6]		$ 214,400	42%		$ 147,000	39%
Soft Cost (20% of lot dev. & unit costs)	20%	$ 51,600	10%		$ 36,840	10%
Builder Profit (10% of sales price)	10%	$ 51,160	10%		$ 38,040	10%
Subtotal Unit Development		**$ 360,760**	**71%**		**$ 259,080**	**68%**
TOTAL UNIT COST		**$ 448,460**	**88%**		**$ 334,780**	**88%**
Residual Land Value		**$ 63,140**	**12%**		**$ 45,620**	**12%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.8

Multi-Family					
	Condo/ Townhouse For Sale	%		Apartment For Rent	%
Assumed Square Footage:	1,200			900	
Assumed Vertical Construction Cost:	$ 75		$	92	
Assumed Sales Price [1] or Unit Value [2]	**$ 246,500**	100%	**$**	**142,100**	100%
Infrastructure Costs					
City & County Agency Fees [3]	$ 54,700	22%	$	33,400	24%
Other Backbone Infrastructure Cost [4]	$ 7,400	3%	$	5,400	4%
Subtotal Infrastructure Costs	**$ 62,100**	**25%**	**$**	**38,800**	**27%**
Unit Development					
Lot Development Cost (in-tract) [5]	$ 18,700	8%	$	12,900	9%
Vertical Construction Cost [6]	$ 90,000	37%	$	82,800	58%
Soft Cost (20% of lot dev. & unit costs)	$ 21,740	9%	$	19,140	13%
Builder Profit (10% of sales price)	$ 24,650	10%	$	14,210	10%
Subtotal Unit Development	**$ 155,090**	**63%**	**$**	**129,050**	**91%**
TOTAL UNIT COST	**$ 217,190**	**88%**	**$**	**167,850**	**118%**
Residual Land Value	**$ 29,310**	**12%**	**$**	**(25,750)**	**-18%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.9

Appendix L
Roseville Residual Land Value: Consumer Incidence

Single-Family						
		Large Lot For Sale	%		Small Lot For Sale	%
Assumed Square Footage:		3,200			2,100	
Assumed Vertical Construction Cost:		$ 70			$ 74	
Assumed Sales Price [1] or Unit Value [2]		**$ 606,800**	100%		**$ 442,100**	100%
Infrastructure Costs						
City & County Agency Fees [3]		$ 57,400	9%		$ 56,100	13%
Other Backbone Infrastructure Cost [4]		$ 14,400	2%		$ 14,400	3%
Subtotal Infrastructure Costs		**$ 71,800**	**12%**		**$ 70,500**	**16%**
Unit Development						
Lot Development Cost (in-tract) [5]		$ 42,500	7%		$ 38,500	9%
Vertical Construction Cost [6]		$ 224,000	37%		$ 155,400	35%
Soft Cost (20% of lot dev. & unit costs)	20%	$ 53,300	9%		$ 38,780	9%
Builder Profit (10% of sales price)	10%	$ 60,680	10%		$ 44,210	10%
Subtotal Unit Development		**$ 380,480**	**63%**		**$ 276,890**	**63%**
TOTAL UNIT COST		**$ 452,280**	**75%**		**$ 347,390**	**79%**
Residual Land Value		**$ 154,520**	**25%**		**$ 94,710**	**21%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.8

Multi-Family						
		Condo/ Townhouse For Sale	%		Apartment For Rent	%
Assumed Square Footage:		1,200			900	
Assumed Vertical Construction Cost:	$	75		$	95	
Assumed Sales Price [1] or Unit Value [2]	**$**	**236,900**	100%	**$**	**162,700**	100%
Infrastructure Costs						
City & County Agency Fees [3]	$	41,900	18%	$	31,400	19%
Other Backbone Infrastructure Cost [4]	$	12,500	5%	$	7,700	5%
Subtotal Infrastructure Costs	**$**	**54,400**	**23%**	**$**	**39,100**	**24%**
Unit Development						
Lot Development Cost (in-tract) [5]	$	18,700	8%	$	12,900	8%
Vertical Construction Cost [6]	$	90,000	38%	$	85,500	53%
Soft Cost (20% of lot dev. & unit costs)	$	21,740	9%	$	19,680	12%
Builder Profit (10% of sales price)	$	23,690	10%	$	16,270	10%
Subtotal Unit Development	**$**	**154,130**	**65%**	**$**	**134,350**	**83%**
TOTAL UNIT COST	**$**	**208,530**	**88%**	**$**	**173,450**	**107%**
Residual Land Value	**$**	**28,370**	**12%**	**$**	**(10,750)**	**-7%**

Footnotes:

[1] The assumed sales price is based on the current, median new home base price or condominium resale in each study jurisdiction. See Appendices A and B for additional detail.

[2] The assumed value per unit is based on the capitalized value of each unit. See Appendix C for additional detail.

[3] See Appendices D, E, and F for detailed fee breakdowns.

[4] Backbone infrastructure costs are estimated for El Dorado Hills because the Public Facilities Financing Plan for the Village of Marble Valley has not been prepared. Other backbone infrastructure costs are as reported by each Specific Plan's Public Facilities Financing Plan.

[5] Lot development costs for single-family detached and multi-family apartment provided by industry contacts. Estimated lot development costs for multi-family townhome/condominium.

[6] Vertical construction costs per Table 4.9

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