

Who Pays for Development Fees and Exactions?

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Foreword

Nearly twenty years have passed since the voters of California approved Proposition 13. Over those years, revenues from property taxes have declined dramatically as a source of local government income. As a result, counties, cities, and special districts have turned to fees and exactions for new sources of revenue. These levies and other miscellaneous revenues have grown substantially as a share of statewide local revenue. The recent passage of Proposition 218, which requires a super majority for the imposition of fees, was in part a taxpayer reaction to the emergence of these new revenue sources.

Before Proposition 13, the cost of building the infrastructure for new residential development was shared by all property taxpayers in a county or city. With the emergence of development fees and exactions—payments or dedications made by a developer for the right to proceed with a project—costs are imposed directly on the developer and therefore, many assume, on the buyers of newly constructed homes. Authors Marla Dresch and Steven Sheffrin ask the question: Who pays

for development fees and exactions? If developers are absorbing the costs, the expense may be a serious deterrent to new construction. If homebuyers are carrying the burden, fees and exactions may be imposing costs on households already strapped with a high cost of living in many parts of the state. Focusing on the experiences of Contra Costa County in the Bay area, the authors conclude that both developers and homebuyers are carrying the load, depending on the health of the local economy and the overall demand for housing.

This study is one of a group of studies that PPIC has undertaken to improve understanding of state and local governance in California. Subsequent reports will focus on the overall revenue burden at the state and local level and the alarming bankruptcy of Orange County in the midst of unrelenting pressure to find new sources of revenue.

David W. Lyon
President and CEO
Public Policy Institute of California

Summary

Throughout the country, there has been a growing realization that the property tax revenues generated through growth may not be sufficient to finance the full cost of providing services and infrastructure to residents of new residential development. In California, these issues became particularly acute because of Proposition 13, which limited the basic property tax rate to 1 percent. Other sources of revenues became necessary. These other sources include development fees and exactions. Exactions are payments or dedications made by a developer for the right to proceed with a project requiring governmental approval. They can be in the form of a fee, the dedication of public land, the construction or maintenance of public infrastructure, or the provision of public services.

Despite the growing importance of development fees and exactions in state and local finance, there has been relatively little research devoted to their economic effects as compared, for example, to traditional property taxation. Developers have expressed concerns that the burdens imposed by exactions and development fees have become excessive and

curtail economic growth. Local government officials often argue that, in a most basic sense, development fees and exactions are pro-growth—the provision of infrastructure necessary for development simply could not take place without them. This report provides new information and analysis of these important fiscal tools in the California context.

Our report begins with the legal environment in which exactions and development fees operate in California. A state law, commonly known as AB1600, creates a regulatory scheme that places some limits on development fees and exactions. Recent U.S. Supreme Court decisions also limit the burdens that can be placed on builders or developers. However, there is at least one important gap in the regulatory framework as it applies to financing the construction of schools.

Before 1986, cities and counties were the only entities that could impose fees on development to finance the construction of new schools. In 1986, the legislature allowed school districts to impose fees for new school construction but set strict limits on their magnitude. California appellate courts have ruled, however, that the limits on fees for school construction apply only to school districts and not to cities or counties. Thus, developers may face school fees imposed by cities or counties in addition to those imposed by school districts. This has been the primary area of policy concern over development fees in the legislature in recent years, because it effectively removed the limits on new development fees. There is a risk that some communities may sharply increase their reliance on development fees above prevailing levels to finance school construction.

Many analysts have viewed exactions or development fees simply as taxes whose burden must be borne by homeowners in terms of higher prices or by developers and landowners in terms of lower profits or

reduced prices for vacant land. Underlying supply and demand factors as well as current economic conditions will determine which fraction of the burden is actually borne by each party. If fees do result in higher prices for new housing, prices for existing homes may also increase, since existing homes are close substitutes for new housing.

However, in analyzing exactions and development fees, it is important to recognize that they typically provide infrastructure services that are valued by homeowners. If exactions finance incremental services to new residents (above what is typically offered in other communities), prices of housing will rise to reflect these services. Developers and landowners will not bear the burden of exactions in this case.

However, in some cases, development fees or exactions do not finance services that are directed solely to new residential development. They provide services to existing residents or are used to deliver services that are financed through other sources in neighboring communities. In this case, the burden of fees and exactions may fall in part on landowners or developers.

Our report studies the magnitude and effects of exactions and fees in detail for Contra Costa County—a county in the San Francisco Bay area that has experienced rapid growth in recent decades. Our analysis shows that the fees imposed on new construction are significant, typically falling in the range of \$20,000 to \$30,000 per dwelling. In one community, the fees and assessments totaled 19 percent of the mean sales price.

We used our data on development fees to conduct a detailed econometric investigation of the effect of fees on housing prices in Contra Costa County from 1992 to 1996. We found that the effect of fees on housing prices varied within the county. We estimated that in

the eastern area of the county, a \$1 increase in fees would raise housing prices by only \$0.25. This meant that \$0.75 was borne by either developers or landowners. On the other hand, our best estimate was that in the western (or southwestern) area of the county, a \$1 increase in fees led to a \$1.88 increase in price, although the statistical methods we employ could not reliably distinguish this estimate from a \$1 increase.

The difference in the effects of fees on prices was primarily due to disparate economic conditions. Although our econometric investigation took place during a declining housing market, there was significantly more distress in the eastern part of the county as price declines continued unabated. There is direct evidence that developers were willing to absorb fees and assessments to sell their properties. Although we may expect homeowners to pay for exactions and development fees in normal circumstances, under distressed conditions, builders or developers can pay a significant share of the burden.

From a developer's point of view, the possibility of unfavorable economic circumstances and consequently of absorbing a major share of exactions creates significant additional risk for a project. Since the building industry is typically quite competitive, builders will be reluctant to undertake projects that pose a significant risk of below-market returns. Excessive use of exactions creates additional risk for the market and can deter development.

If policymakers believe that too much of the burden of financing infrastructure for new development is borne by exactions and development fees, what are the alternatives? One possibility is to use other sources of funds to finance school construction—the focal point of the current policy debate. Several other sources of funds could be used to finance education, including Mello-Roos bonds, local general

obligation bonds, state general obligation bonds, and state general fund subsidies. However, Mello-Roos bonds are already being used as substitutes for exactions and development fees, and developers and local governments already weigh the tradeoffs between the two types of financing. The burden could be spread more widely by increasing the use of other types of bonds or general fund subsidies.

These other financing mechanisms would effectively share the burden of financing schools with existing residents. A case could be made that there are general, statewide benefits from education, which distinguishes it from other infrastructure. It can be argued that K–12 education provides benefits to all Californians through a better-educated work force and by reducing the risks of later dependence on the state. It is more difficult to make this argument with respect to other elements of the infrastructure—such as water, fire protection, or parks—where the benefits are restricted to local residents.

As long as we wish to see development proceed, there must be some financing mechanism for new infrastructure. Cities and counties can realistically reduce their reliance on development fees and exactions only if alternative sources of funds are provided, especially for the construction of new schools. Californians need to decide if the costs of school construction should be spread more widely throughout the state and, if so, to adopt appropriate changes in financing.

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1. Introduction and Overview

Throughout the country, there has been a growing realization that the property tax revenues generated through growth may not be sufficient to finance the full cost of providing services and infrastructure to residents of new development. To finance new development, governments have increasingly begun to rely on other sources of revenue, including fees imposed on new development and exactions. Exactions are payments or dedications made by a developer for the right to proceed with a project requiring governmental approval. They can be in the form of a fee, the dedication of public land, the construction or maintenance of public infrastructure, or the provision of public services. Both cities and counties throughout the country have increased their use of development fees and exactions in recent years.

This study analyzes the economic effects of development fees using data from Contra Costa County. It focuses on the development of new, single-family residences from 1992 through the first three months of 1996. Although the analysis does not directly cover exactions in the

form of the dedication of public land, the construction or maintenance of public infrastructure, or the provision of public services, its findings should apply to these mechanisms as well as to exactions in the form of fees. Throughout the study, therefore, when the term exactions is used, we are referring to exactions that take the form of fees.

Nationwide surveys of development fees have indicated that California leads the nation in imposing fees on new development. In part, this is because Proposition 13 limits the property tax revenue from new development. There is a debate over whether new development pays for itself, even at the higher property tax rates that prevail in other parts of the country. In California, the 1 percent property tax rate imposed by Proposition 13 makes financing new development especially difficult.

Despite the growing importance of development fees and exactions in state and local finance, there has been relatively little research devoted to their effect as compared, for example, to traditional property taxation. This report provides new information and analysis of this important fiscal tool in the California context.

There are many different perspectives on development fees and exactions. Business groups often see them as serious impediments to economic development, and, in California, have even quietly suggested changing the property tax system as part of a grand reform to limit these fees. The presumption underlying these suggestions is that traditional taxation is preferable to the current revenue-raising methods being chosen throughout the state.

City and county officials typically have mixed views on development fees and exactions. Although they welcome the revenue, some worry that they may be overusing the mechanism. Development fees and exactions from new growth represent a tempting source of revenue, but they may

also generate a growth that some cities find undesirable. Thus, new development may pay for services demanded by existing residents, but the new residents, in turn, would require further development to meet their needs. From this point of view, development fees and exactions may create a growth dynamic that cities view as threatening.

Furthermore, some city officials are concerned that the burden of development fees and exactions falls unfairly on the newest homeowners. They perceive that new construction is typically subject to fees paid for by newcomers who must also pay the charges levied on all residents. Some city officials believe that this burden was spread more equally across all property owners within a city before Proposition 13.

From a public finance point of view, someone must ultimately pay for exactions and development fees. Either the burden is being passed on to homeowners or renters in terms of higher prices or rents, or absorbed by business in terms of lower profit margins, or absorbed by landowners in terms of lower sale prices for vacant land. Each scenario might be possible, depending on the underlying economic situation in the market.

Clearly, there are a variety of conflicting views of the role of development fees and exactions in financing government. The debate, however, is taking place in a virtual intellectual vacuum—we simply lack information on several basic issues:

- How large are the fees and exactions that accompany new development?
- Who bears the burden of exactions and development fees? How do they affect housing prices? Does their effect vary depending upon the state of the real estate market?

This report addresses these issues.

In Chapter 2, we describe the legal and political environment surrounding development fees in California. Although a basic legal and regulatory framework governs development fees, this framework does not work effectively with regard to fees for school construction—a critical aspect of new development. We highlight the current policy debates under way on this issue.

In Chapter 3, we turn to an economic analysis of development fees and exactions. Our discussion highlights alternative perspectives on fees and exactions. We describe the circumstances under which it is more likely that either homeowners, developers, or landowners bear the ultimate burden of exactions.

The empirical work in this report focuses on Contra Costa County—a San Francisco Bay area county that has experienced rapid growth in the last decade. Exactions and development fees are more sophisticated in California than in many other areas, and it is important to have an accurate picture of fees. In Chapter 4, we describe in detail the nature and types of exactions and development fees and present a quantitative picture of their magnitude and evolution over time. In most cases, fees and exactions are discussed in general and abstract terms; our comprehensive portrait of the fees imposed in an illustrative California county will allow debate to take place in more concrete terms.

In Chapter 5, we use the data we develop on fees as inputs for an econometric analysis of the effects of fees on housing prices. We first combine our data on fees with a rich dataset of prices and characteristics of housing. We then estimate statistical models that allow us to determine what portion of total fees are actually incorporated into housing prices. This enables us to address the question of which parties

bear the burden of development fees. We also explore how fees imposed on new construction affect the prices of existing housing.

We conclude our report with a more comprehensive evaluation of development fees, based on our findings in this study. We argue that development fees are an important financing tool for growth in California, but there are risks in overreliance on these fees.

2. Development Fees: The Fiscal, Legal, and Political Context in California

In the last 30 years, the nation has experienced a sea change in attitudes toward growth. The 1950s saw a positive attitude toward economic expansion and the development of new housing. However, beginning in the 1960s, the environmental consequences of economic development became a matter of concern. Communities that once welcomed economic expansion began to enact growth controls, in part for environmental reasons and sometimes simply to prevent outsiders from entering their communities.

In addition to a change in environmental and political attitudes toward economic growth, there is a financial dimension as well. As Alan A. Altshuler and Jose A. Gomez-Ibanez have described it, the old view before 1970 was that growth was the inevitable by-product of population increases, and rising incomes and a growing tax base would provide sufficient funds for infrastructure development. The conventional

wisdom today, however, is that growth—in particular, additional housing development—does not generate sufficient funds to finance infrastructure. According to this view, localities face increasing marginal costs of infrastructure as they grow. Moreover, certain types of infrastructure, such as highways, may be impossible to build in the face of environmental restrictions and increased citizen involvement in the political process.¹

The California Context

In California, these issues have become particularly acute because of Proposition 13 (Article XIII A of the California Constitution), which limits the basic property tax rate to 1 percent, including preexisting indebtedness. After the passage of Proposition 13, it became clear that residential development could no longer be funded adequately through the property tax. Other sources of revenues were necessary.

Proposition 13 restrained governmental activities in other ways as well. It required that all “special taxes” (taxes devoted to a single purpose) be passed by two-thirds of the voters in the district (the California Constitution already included a two-thirds voting requirement for local debt, including bonds for schools). Fiscal affairs are constrained in a number of other ways as well. The most important of these are the requirements for a two-thirds vote for the passage of the budget, school

¹In practice, it is quite difficult to measure whether residential development pays its own way. For a discussion of this issue and references, see Alan A. Altshuler and Jose A. Gomez-Ibanez, *Regulation for Revenue*, Washington D.C.: The Brookings Institution, 1993, Chapter 6.

funding guarantees that earmark part of the general fund, and appropriation limits for all levels of government.²

As a consequence of Proposition 13, local governments increased their reliance on other existing revenue mechanisms and developed new methods.³ Cities and counties expanded the level and scope of their fees and charges, established new benefit assessment districts that use flat, per-parcel charges (not ad valorem taxes) to fund a variety of services ranging from police and fire support to landscape and lighting, and also instituted fees on the transfer of properties. Each of these revenue sources has its own limitations. Fees and charges cannot greatly exceed the true cost of providing the services without being subject to legal challenge. Benefit assessment districts can be financed only by parcel charges, and the revenues can be used only to pay for facilities that provide a special benefit to property owners, as opposed to general benefits to taxpayers. Finally, property transfer fees are partly restrained by state law.

The passage of Proposition 218 in 1996 placed even stronger limitations on these revenue sources. Although some of the provisions of Proposition 218 will be litigated, the measure imposes new voting requirements for benefit assessment districts and tightens the required relationships between assessment-funded activities and the benefits to property. Among its other provisions, it also prohibits local governments

²For a list of limitations, see *State and Local Government Finance in California: A Primer*, Sacramento, California: The California Budget Project, 1996.

³These methods are discussed in more detail in Terri A. Sexton and Steven M. Sheffrin, "Equity and Efficiency of the California Tax System," in *California Fiscal Reform: A Plan for Action*, Oakland, California: Business Higher Education Forum, 1994; and Arthur O'Sullivan, Terri A. Sexton, and Steven M. Sheffrin, *Property Taxes and Tax Revolts: The Legacy of Proposition 13*, Cambridge and New York: Cambridge University Press, 1995.

from imposing fees on property owners for services that are available to the public at large, such as police, fire, and library services. At this time, the full consequences of Proposition 218 are not known and will depend on the outcome of both legislation and litigation. It clearly will place pressure on other sources of revenue, however, including development fees.⁴

To finance large-scale infrastructure improvement, two other devices have become common. The Mello-Roos Community Facilities Act of 1982 gave counties, cities, and special districts the authority to establish community facilities districts (CFDs) within their jurisdiction. With two-thirds approval of the district's voters, tax exempt bonds can be issued and special taxes levied. If there are fewer than 12 registered voters residing in the CFD, approval of two-thirds of the landowners in the district is sufficient. This latter provision is responsible for the rapid growth of Mello-Roos districts, as the original landowners create a district to finance infrastructure. Proceeds from the bonds can be used for the full range of public facilities, including schools. Mello-Roos districts have been used throughout California, especially in San Bernardino and Riverside Counties.

As of March 1992, 302 Mello-Roos bonds had been issued, with the majority supporting projects in Southern California. Of these, nearly half were issued by cities (46 percent), 23 percent by counties, and 20 percent by school districts.⁵ The remainder were issued by special districts.

⁴For an analysis of Proposition 218, see Understanding Proposition 218, Sacramento, California: Office of the Legislative Analyst, December 1996.

⁵California Debt Advisory Commission, Summary of Public Debt, Sacramento, California, 1994.

The other major mechanism for financing infrastructure has been fees levied against developers or, more broadly, “exactions,” which include fees as well as other mandates on developers. Altshuler and Gomez-Ibanez discuss the growth of exactions from a national perspective. They note that the major growth in exactions occurred during the 1980s, after there had already been a shift from primary reliance on property taxation to increased reliance on current fees and charges.⁶ They also note a more recent trend toward “social exactions”—fees or taxes on property that finance broad social programs.

The Legal Framework for Exactions in California

Under California law, cities and counties have the authority to require developers to pay for infrastructure improvement through fees, the dedication of land to public use, or the construction of public improvements. Cities and counties have used this power extensively to support a wide variety of public facilities.

However, cities and counties also face constraints in imposing development fees or exactions. State law AB1600 sets out standards and procedures for development fees.⁷ Before a fee can be established, increased, or imposed, a city or county must:

- Identify the purpose of the fee,
- Identify the use of the fee,
- Determine how there is a reasonable relationship between the fee’s use and the development project,

⁶Altshuler and Gomez-Ibanez, *op. cit.*, p. 34.

⁷This description is taken from “A Legislative Review of Developer Fees,” A Background Staff Report for the Interim Hearing of the Senate Committee on Housing and Land Use, Sacramento, California: California State Senate, September 21, 1995.

- Determine how there is a reasonable relationship between the need for the public facility and the development project, and
- Determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility.

In addition to these conditions, there are also restrictions on accounting and reporting for the accounts in which the fees are held.⁸

Cities and counties are also bound by two important U.S. Supreme Court rulings. In *Nollan v. California Coastal Commission*, the court required that local governments show a “nexus” or connection between the conditions they impose on a project and the effects of the proposed development. This ruling was strengthened in *Dolan v. City of Tigard*. In that case, the U.S. Supreme Court ruled that governments must go beyond the nexus requirement and show a “rough proportionality” between the conditions imposed on the project and the specific effects from the development, as well as make an “individualized determination” in each case. As an example, a government could not levy a charge on new development for traffic mitigation without first determining how much the new development would contribute to traffic congestion and basing the fee on that determination.⁹

In addition to these general principles, there are special rules for school fees. Until the mid-1980s, only cities and counties could impose development fees, including school fees. In 1986, the legislature authorized school districts to impose their own fees on new construction. As of July 1996, these fees have been capped at \$1.84 per square foot for

⁸The Northern California Building Industry Association surveyed 29 jurisdictions and found that some were not in compliance with the reporting and accounting provisions of AB1600. See “A Legislative Review of Developer Fees,” op. cit.

⁹*Nollan v. California Coastal Commission* [483 U.S. 825 (1987)] and *Dolan v. City of Tigard* [512 U.S. 687(1994)].

residential projects and \$0.30 for commercial and industrial projects. At the time, the legislature viewed these fees as adding a third option for financing school construction, along with state general obligation bonds and local general obligation bonds. The limits were designed so that all three methods would be used collectively to finance school construction.

Recent Court Cases

The original framework governing fees for school construction has been radically changed by three California appellate court decisions, commonly known as *Mira*, *Hart* and *Murrieta*.¹⁰ In these decisions, the courts ruled that the fee limits applied only to fees imposed by school districts and not to those imposed by cities and counties. Cities and counties can impose fees above the cap in “legislative” land use decisions, that is, decisions involving policy changes such as zoning or general or specific plan amendments. They are bound by the cap in “adjudicatory” cases, that is, in decisions applying policy, such as approving subdivisions that do not require changes in zoning. Cities and counties have, in some cases, taken advantage of these rulings and, in the context of new policy decisions, imposed fees on new development that sharply exceed the limits on school districts.

The upshot of these court decisions is that California cities and counties can now legally impose fees for new schools that substantially exceed the caps. There is no longer a presumption that the costs of school construction will be shared between development fees and state or

¹⁰*Mira Development v. City of San Diego* [205 Cal. App. 3d 1201 (1988)], *William S. Hart Union High School District v. Regional Planning Commission* [226 Cal. App. 3d 1612 (1991)], and *Murrieta Valley Unified School District v. County of Riverside* [228 Cal. App. 3d 1212 (1991)].

local bonds. This change has been the major policy development in the area in the last several years.

Several other recent California court cases affect a community's ability to levy fees. A recent court ruling in *Western/California Ltd. et al. v. Dry Creek Joint Elementary District* held that Mello-Roos taxes are not a factor in determining the statutory cap on development fees imposed by school districts. In this case, the developers formed a Mello-Roos tax district, which would fund approximately one-half of the cost of school facilities. The school district agreed not to impose development fees. However, facing a revenue shortfall, the school district later imposed fees, which court ruling found to be consistent with current law.¹¹

Another case expands the powers of cities to impose excise taxes on new construction. In *Centex Real Estate Corp. v. Vallejo*, the California Court of Appeals upheld the City of Vallejo's excise tax on new construction against the builder's claim that it was really a development fee. The *Centex* decision allows cities to impose taxes on new construction without the statutory protections of AB1600, which requires a reasonable relationship between the amount and use of the charge and the proposed development project.¹²

The Current Debate

The two areas in which there is current controversy and legislative interest are school fees and the excise tax on new construction. In the 1996 legislative session, several bills were introduced dealing with these

¹¹*Western/California Ltd. et al. v. Dry Creek Joint Elementary District* [C020197 Cal. App. 3d., Super Ct. No. 376367 (1996)]. For a discussion, see "Court Rules Developer Fees and Mello-Roos Taxes Can Coexist," *State Tax Notes*, Vol. 11, No. 24, December 9, 1996, p. 1657.

¹²*Centex Real Estate Corp. v. Vallejo* [19 Cal. App. 4d 1358 (1993)]

topics. One bill would have overturned the Mira, Hart, and Murrieta decisions and placed a cap on cities' and counties' ability to levy school fees. A second bill would have allowed cities and counties to impose such fees only after developing a ten-year plan for school facilities and submitting a bond issue to voters. Another bill would have overturned the Centex decision and prevented local governments from imposing an excise tax as a way of escaping the requirements of AB1600. None of these bills passed in the 1996 legislative session.

In early 1997, Governor Pete Wilson offered several comments with regard to financing school construction. First, he indicated that he would support a state constitutional amendment to let local voters approve school construction bonds with a majority vote, rather than the current two-thirds requirement. Second, he proposed that the caps on fees for school construction be binding on cities and counties as well as on school districts. Third, he said he would support a state bond issue for new school construction, with the proviso that local districts pay half the costs of construction projects.¹³

All sides in the current debate recognize the constraints that local governments face in financing development. The days of using property taxes alone for financing the infrastructure for residential development are long gone. The development community, however, believes that a balance needs to be struck between the imposition of fees on development and other finance mechanisms. When there are only a few initial landowners, Mello-Roos financing is a viable alternative, although the creation of a Mello-Roos district forces the development process to proceed at a rapid rate to finance the bonds. In other circumstances,

¹³“Expand Class Size Cuts, Wilson Says,” Sacramento Bee, January 3, 1997, pp. A1 and A3.

Mello-Roos financing is less likely to occur, and other financing mechanisms, particularly for schools, become necessary. The harsh reality is that the state has limited capacity to continue to issue general obligation bonds, and local general obligation bonds (under the two-thirds voting requirement) are often rejected by the voters. By default, development fees imposed by cities and counties thus become a key mechanism for financing school construction.

3. The Economics of Development Fees and Exactions

In this chapter, we first discuss the conventional economic view of development fees and exactions. We then extend the traditional economic analysis to include more realistic factors and compare the economic effects of development fees and exactions to other financing mechanisms. Finally, we draw on the lessons from this discussion to set the stage for our econometric analysis of development fees.

The conventional economic view is that development fees and exactions are simply taxes on development. Both are payments required from builders to obtain approval for development; thus, they can be viewed as taxes on new construction.

Traditional economic analysis can then be used to analyze the effects of imposing this tax. In general, taxes on new construction will raise the price of housing and reduce the quantity of new construction. Moreover, the price of housing will typically rise by less than the tax,

which implies that there is a net burden placed on the developer.¹ Since the developer earns a lower return, less housing will be supplied in the market. In the standard analysis, both the buyer (in terms of higher prices) and the developer (in terms of a lower return) share the burden of the tax.

Exactions and development fees may also affect the market for existing homes. As the fees raise the price of new housing, some potential buyers of new housing will shift their demand to existing homes. The increased demand will raise the prices of these homes and the owners will enjoy a windfall gain as they benefit directly from the increase in the value of their homes.

Although often taken as an article of faith, the conventional view is seriously incomplete in several ways. In particular, it fails to consider several important factors that influence the economic effects of exactions. To understand these effects, we need to take into account a number of dynamic realities including:

- The role of competition in the market for new housing,
- The infrastructure financed by development fees and exaction,
- The market for land, and
- The nature of competition in the building industry.

Once we account for these factors, it is less clear that exactions raise quality-adjusted housing prices or adversely affect the quantity of housing in the market.

¹The increase in price will be less than the tax unless the demand for housing is totally insensitive to price, or builders will not supply any housing at all at a lower price.

Beyond the Conventional View

Although the implications of the conventional view are clear, it is based on a number of assumptions that are not necessarily realistic. As we relax these assumptions, the economic analysis of exactions and development fees changes in important ways.

Competition in the Market for New Housing

The conventional analysis assumes that there are limited substitutes for new homes. However, in most housing markets, there are many substitutes for new homes in a single area, including new homes in other areas as well as existing homes. In an extreme case, we can consider what economists call “perfect substitutes” for new homes. In this polar case, the price of housing can often be viewed as predetermined for any given region, because buyers have many alternative options and will not pay more for housing in a given community than they need pay in other communities.

In terms of traditional tax analysis, the assumption of perfect substitutes means that the price of housing cannot rise with the imposition of the tax. Since housing prices do not rise, the developer bears the full burden of the tax. Thus, if there are perfect substitutes for housing, raising exactions or development fees will not affect the price of housing but will simply force builders to absorb the additional costs. Even in the case where there are no perfect substitutes for new housing, the more substitutes for housing that are available, the smaller will be the increase in the price of housing.

However, consumer options may sometimes be limited. Although it may be convenient to assume that the housing market in a region is perfectly competitive, a number of factors tie consumers of housing to a

region and make demand less than fully price-sensitive. Furthermore, as in many markets, consumers lack full information about alternatives, particularly the quality of services (such as schools) in competing areas. Thus, they are more likely to remain within a given geographical area. Commitments ranging from employment to available child care may limit purchasers of housing to a narrow geographic region.

The availability of alternatives—and hence the price-sensitivity—will also depend on the state of the housing market. In rising markets, consumers may find fewer options than in slack markets. Thus, demand may be less sensitive to price. In contrast, in distressed markets or under pressure to sell, developers may be more likely to absorb the costs of fees or exactions.

Ultimately, the degree to which there are perfect or near-perfect substitutes for new housing in any particular setting will be an empirical issue. To the degree that new housing does have good substitutes, homeowners will be less likely to bear the burden of fees or exactions.

Infrastructure Financed by Development Fees and Exactions

In a few cases, exactions or development fees may be pure taxes levied on builders, with the proceeds used for purposes other than new development. In virtually all other cases, however, the bulk of the proceeds are used to provide services and infrastructure to new residents in the area. These services should be valued by consumers of housing and should lead to an increase in their demand for housing. Thus, exactions and development fees are not simply taxes—they also provide benefits to new residents.

Holding other factors constant, consumers of housing will pay more to live in communities that have the services and infrastructure they

desire. If potential new residents place a value on the infrastructure equal to the costs of the development fees or exactions necessary to finance the infrastructure, then fees and exactions will cause no distortions in the housing market. Prices of housing will rise by the full amount of the fees or the exactions.² Developers will not bear any of the burden of the exactions or fees, since the price at which they sell homes increases and thus offsets their higher costs. Since their net return does not change, they continue to supply the same quantity of housing as before.

Although exactions and development fees can provide valuable infrastructure to new residents, two important questions need to be addressed in any given setting:

- Are the exactions and development fees actually being used to provide services to new residents or are they being used for other purposes?

If fees are used to provide services that benefit or subsidize existing residents, then it is likely that prices for new homes will not be raised to fully offset the fees. In this case, the fees do impose a tax on new development. Moreover, prices for existing homes may rise if exactions finance services that benefit them. For example, exactions that are used to improve traffic circulation may raise the value of existing homes.

- Are the infrastructure/fee packages for new development in a community comparable to those offered in other communities?

The willingness of consumers to pay more for housing depends on the extent to which they receive services in excess of what they typically would obtain in other communities with comparable housing prices.

²As we discuss below, interactions with the existing property tax may lead to price increases below the amount of the exaction.

Suppose a single community requires builders to pay development fees or exactions to provide services that are already provided in neighboring areas and financed in those areas through external sources of funds. In this case, prices for new homes in that community will not rise to offset the fees or exactions, and the developer will bear the burden of the fees or exactions. For example, if schools are financed through state funds in neighboring areas but financed by fees or exactions in a single community, then consumers will not pay “extra” for schools and the fees or exactions will be borne by developers in that community.

The Market for Land

Perhaps the most important failure of the conventional view is not to include the market for land explicitly into the analysis. Although developers must purchase land, we can think of the market for land as distinct from the market for new homes. The demand for land is a derived demand based on its ultimate uses. When land is being developed, its demand will ultimately be based on the underlying demand for housing.

As a first approximation, it is useful to think of the supply of land available within a region as fixed and not changing as the price changes. When there is growth, the value of the land in development will typically far exceed its value in alternative uses, such as agriculture. As long as the price exceeds a threshold value determined by agricultural use, land will be offered for development. With a fixed supply of land, the price of land is determined by the derived demand for its use. Because the demand for land is a derived demand whereas the supply of land is fixed to the market, land prices are determined implicitly in the market for

housing. Land prices are the by-product of decisions made in the housing market.

Thinking of the land market in this way can dramatically alter our view of the effects of development fees and exactions. Suppose initially that exactions or fees do not provide any direct services to residents. Furthermore, assume that there are perfect substitutes for new housing within a region so that the price that consumers are willing to pay is given. In this case, neither homeowners nor builders will bear the burden of exactions or development fees. Rather, they will be fully borne by the owners of land.

When development fees or exactions are imposed on developers, they know that they cannot raise prices for housing, since consumers have alternative options and the fees and exactions are, by assumption, not producing any services valued by consumers. Moreover, as long as the housing market is competitive, builders or developers will not accept a return on their investment below the returns they can earn elsewhere in the economy. Instead, they will reduce their bids for land to reflect the new charges that have been imposed on them, and the price of land will fall. In this extreme case, there will be no effect on housing prices or the quantity of development. Land prices will fall by the full amount of the exactions or fees.

The market for land will reflect expectations of future fees and exactions. Buyers of land anticipate earning at least normal returns from investing in land. If the imposition of exactions or development fees comes as a surprise to the market, the land buyers will suffer a one-time capital loss. Subsequent purchasers of land, however, will expect to earn a normal rate of return by purchasing land at a lower price that reflects the exactions and fees. In the latter case, the burden of exactions and fees

falls on the owners of land at the time that exactions and fees are first uncovered by the market.

When exactions and development fees are used to provide services and infrastructure valued by new residents, prices for new housing will increase to reflect the services and mitigate the adverse effect on land prices. If prices do not rise fully to reflect the value of the services, landowners will still bear the remaining burden of the exactions.

However, this shift in the burden to landowners may not work smoothly. Landowners will not always be prepared to sell land at the “market” price. Large landholders may not be persuaded by apparent trends and may take a longer-term and more optimistic view of the market. They may reject the current bids of developers, anticipating that the market situation will improve. If the landowners are not willing to sell their land at reduced prices, developers must try to either pass on the costs of exactions and development fees to consumers, absorb lower profits, or forgo development.

This can explain comments sometimes heard from developers that they will “walk away” from projects if the fees are too high. If developers cannot obtain reduced prices from landowners or renegotiate existing contracts, they could face unacceptably low returns after the imposition of fees and may decide not to proceed with the project. There is also the possibility that the fees become so high that the price of land falls below the threshold value at which landowners will sell the land for development. The result will be undeveloped acreage as landowners wait for more favorable economic conditions.

Competition in the Building Industry

If the building industry is competitive, it will not bear the burden of exactions. In a competitive industry, builders must earn a rate of return equal to what they can earn elsewhere, or they simply will not build.

However, not all development markets are fully competitive. In many areas of the country, developers wishing to proceed with large-scale development must carefully cultivate city and county officials to gain their confidence. In these cases, outside firms cannot enter the market on short notice, and thus competition will be limited. However, since existing developers who have developed political relationships within a region may possibly expect to earn profits exceeding normal returns, cities and counties may have some leverage with them and perhaps can extract some profits from them through the imposition of development fees or exactions. Moreover, large developers may have already purchased land and may be in a position of either forgoing development entirely or absorbing the costs of fees or exactions.

Summary: Exactions in Realistic Settings

Once we extend our analysis of development fees and exactions to more realistic settings, our view of their burden can change sharply. Although their exact effect will vary depending on local conditions, several key factors determine who “shares the pain.”

- If potential residents have many options, they are less likely to bear the burden of any fees or exactions. These options will depend, among many other factors, on the overall state of the housing market.
- New residents will pay extra for infrastructure that provides services beyond those normally available in other communities,

at comparable housing prices. If fees or exactions are used to provide valued infrastructure to new residents, they do not impose an economic burden.

- If prices for new housing do not rise with the imposition of development fees and exactions, landowners will likely bear the fee and exaction burden.
- If the building industry is noncompetitive, builders could absorb some of the burden of development fees and exactions.

How Do Development Fees and Exactions Differ from Other Financing Mechanisms?

Property taxes, assessment districts (e.g., Mello-Roos districts in California), and development fees and exactions can all be used to provide infrastructure for new development. Yet, development fees and exactions differ considerably from other financing mechanisms.

As a base case, suppose that infrastructure investment is financed by fees or exactions, targeted completely to new residents and fully valued by new homeowners. In this case, housing prices will rise reflecting the value of the infrastructure investment. However, even in this case there could be some adverse effects on landowners. Since homeowners must pay property taxes on the increased value of their homes, the price they are willing to pay for homes may not rise by the full amount of the new investment.³ If the building industry is competitive, developers will thus bid less for land.⁴

³As an analogy, if your income tax rate was 25 percent, you would pay only \$75 for a winning lottery ticket that paid \$100.

⁴This argument is presented in John Yinger, "The Incidence of Development Fees and Special Assessments," mimeo, 1996. If there were no property taxes, land prices would not change.

Contrast this outcome with assessment districts, such as Mello-Roos and local bond districts. Although new homeowners may fully value infrastructure investment, they also must pay for it directly themselves through their assessment district. From the point of view of homeowners, the gain from the investment just equals the cost they must pay. Thus, there will be no change in the price of housing and no effect on landowners. However, in California, assessors have the option of adding local assessment bonds to assessed valuations.⁵ Consequently, the owner will pay taxes on the value of the infrastructure investment, just as in the case of developer fees and exactions. The result is that land will also bear part of the burden, as it did with development fees and exactions.

Our discussion of property taxes, the third mechanism for financing new infrastructure, must distinguish between national patterns and the unique situation in California. Traditionally in the United States, property taxes on existing development have been used to finance infrastructure for new development. In these situations, owners of land in existing residential areas bear part of the burden of new development. Since housing prices would rise in new areas by approximately the amount of the infrastructure investment, land prices in new areas also tend to increase because the demand for the land increases and landowners do not have to pay all the costs necessary for development. Therefore, owners of newly developed residential land experience a one-time capital gain. However, over time as growth continues, these new areas become subject to property taxes for further development. Thus,

⁵Contra Costa County does add local assessment bonds to property valuations. Mello-Roos bonds are not added, on the rationale that they provide services that are more external to the property.

they take their turn in paying for development. There is rough parity over time as landowners in newly developed areas eventually take their turn in financing further development.⁶

In California, however, Proposition 13 effectively ended this pattern of subsidization. With the passage of this proposition, new residents could no longer count on their predecessors paying for a portion of their infrastructure development and had to finance the total amount themselves. Today, new infrastructure can be financed only with assessment bonds or through development fees and exactions.

As we noted, bonds and fees will typically have different effects on housing prices. In addition to the purely economic effects of assessments and exactions or fees, there are psychological aspects as well. Development fees and exactions are invisible to the home purchaser. Buyers of new homes will evaluate the infrastructure in place but will generally not be aware of the precise fees that were levied. In contrast, home purchasers will be keenly aware of bonds, since they are included as part of a property tax bill. For these homeowners, there is a more direct connection between their payments and infrastructure. As a consequence, they may place more demands on builders and exert more pressure to ensure that the infrastructure development truly benefits them and not other homeowners in the area. This psychological aspect, although difficult to quantify, may be as important as the pure economic effects.⁷

⁶Despite this rough parity over time, land prices rise because the benefits come before the later taxes and some of the later property taxes will fall on structures as well as on land.

⁷Perception and knowledge of taxation have been shown to be important in a number of different contexts. For a discussion, see Steven Sheffrin, "Perceptions of Fairness in the Crucible of Tax Policy," in Joel Slemrod (ed.), *Tax Progressivity and Income Inequality*, Cambridge and New York: Cambridge University Press, 1994.

Implications for Empirical Work

Although there has been prior empirical work on the economic effects of development fees and exactions, it has not been fully satisfactory.⁸ The few existing studies that have been conducted have only analyzed markets where fees were rather limited in scope. Furthermore, no studies have been conducted for California. A much higher fraction of California communities rely on development fees and exactions than do other jurisdictions. As our next chapter demonstrates, existing fees in California are complex and sizable.

From our discussion of economic theory above, several key issues emerge in conducting any empirical analysis that have not been fully incorporated into prior empirical work. First, it is important to recognize that not all development fees or exactions are likely to have the same effect on housing prices. A key factor is the extent to which fees or exactions provide valued infrastructure for new residents. In practice, some fees or exactions are less likely to provide benefits directly to new residents but do provide overall benefits to the broader community. For example, fees to provide a local park may be reasonably targeted to benefit local residents, but fees for transportation may have spillovers to other areas. If benefits accrue to others, prices for new housing should not rise as much, and there should be an increase in the price of existing housing in the community. In practice, however, it may be difficult to determine these differential effects without very detailed knowledge of

⁸Representative prior work includes L. D. Singell and J. H. Lillydahl, "An Empirical Examination of the Effect of Impact Fees on the Housing Market," *Land Economics*, Vol. 66, No. 1, 1990, pp. 82–92; C. J. Delaney and M. T. Smith, "Pricing Implications of Development Exactions on Existing Housing Stock," *Growth and Change*, Vol. 20, No. 4, 1989, pp. 1–2; and A. Skaburskis and M. Qadeer, "An Empirical Estimation of the Price Effects of Development Impact Fees," *Urban Studies*, Vol. 29, No. 5, 1992, pp. 653–667. These studies were conducted in Florida and Canada.

the projects financed by the fees. Unfortunately, in empirical studies we generally have poor measures of service quality and can only observe the fees charged for new development.

Second, changes in demand can affect the availability of substitutes for housing and the competitiveness of the market. An empirical model that allows prices for housing to depend on fees must have some controls to adjust for the state of the market.

Finally, the theory suggests that development fees and exactions should be treated differently for empirical analysis than are assessments and Mello-Roos bonds. Services financed through exactions or fees will raise the value of housing and subject the owner to additional property taxes, whereas financing services through assessments will not raise the value of homes and, if services are held constant, will lower them.

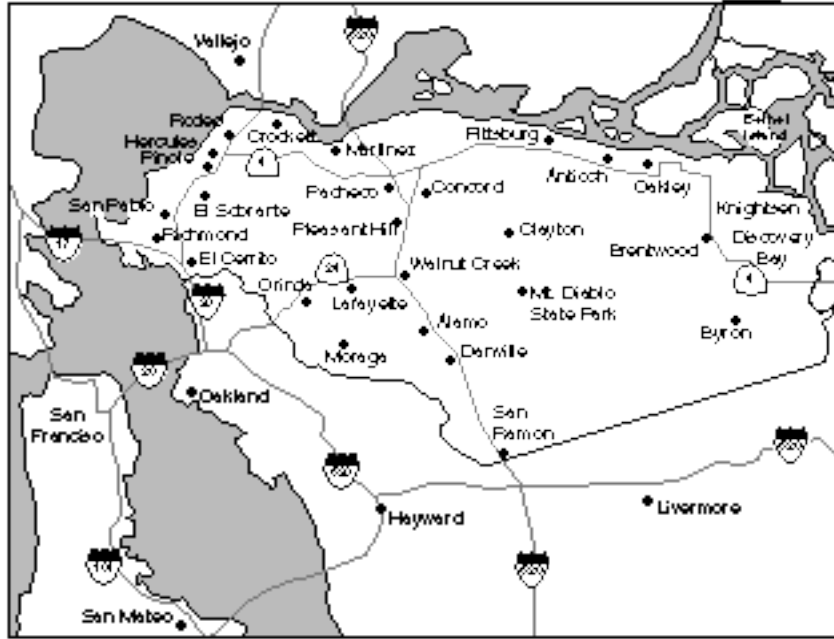
4. Development Fees in Contra Costa County

In this chapter, we look in detail at the fees in Contra Costa County—a large county situated between the urban areas of San Francisco and Oakland to the west and the agriculturally based Central Valley to the east (see Map 4.1). The county covers 733 square miles and is the ninth most populous county in the state.¹ Until about 1950, the county was primarily agricultural. In the 1950s, the county's population soared as a result of increased hiring at local industrial plants such as Shell, Chevron, U.S. Steel, and C&H Sugar. Most of these plants operate today.

In the 1980s, the county experienced a 20 percent increase in population and a 52 percent increase in employment.² Much of the

¹McCormack's Guide, Martinez, California: Contra Costa and Solano Counties, 1994.

²Projections '94, Oakland, California: Association of Bay Area Governments, December 1993.



Map 4.1—Contra Costa County

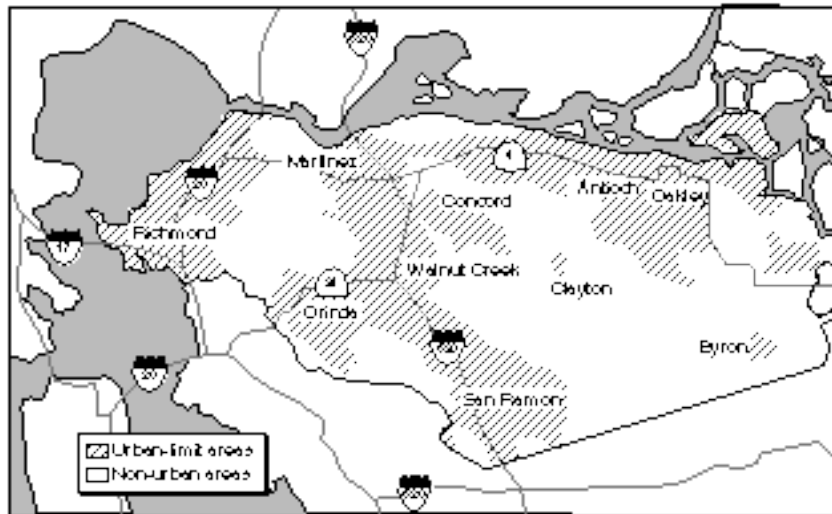
residential development occurred in the southern and eastern parts of the county, but most of the job growth occurred in the central part. Seventy-three percent of the new jobs added between 1985 and 1990 occurred in Concord, San Ramon, and Walnut Creek.³

In 1990, in response to the phenomenal growth that occurred in the prior decade, the county approved Measure C, which stipulated that 65 percent of the county must be preserved for agriculture, open space, wetlands, parks, and other nonurban uses. Urban-limit lines were created, defining boundaries for suburban-style growth and development. Development outside the boundaries was limited to one house for every

³Ibid.

five acres. Approximately 12,000 acres of prime farmland (land with class 1 and class 2 soils) in the eastern area of the county from Brentwood to Discovery Bay were set aside for agricultural uses.⁴ Map 4.2 depicts the urban limits.

The county is quite diverse and represents many different aspects of California. The far western portion of the county is home to much of the county's industrial development. This area is densely populated and urban in character, with little vacant land left for development. The south and central portions of the county contain many new office complexes. In general, this part of the county is an attractive place to live because of its close proximity to employment centers, the availability of Bay Area Rapid Transit (BART), and a geographically appealing



Map 4.2—Urban-Limit Lines of Measure C, Contra Costa County

⁴Contra Costa Times, December 2, 1992.

landscape. The easternmost portion of the county is rapidly transforming itself into a bedroom community, although it still has an agricultural flavor. There is ample land within the urban-limit lines available for future development. Home ownership is more affordable there than in other areas of the county, but commutes to employment centers are long and congested.

Patterns of Residential Development in the County

This case study focuses on the development of new, single-family residential dwellings from 1992 through the first three months of 1996. Development occurred in a number of distinct areas in the county. The eastern portion of the county includes the cities of Bay Point, Pittsburg, Antioch, Oakley, Brentwood, and Byron. The central portion of the county includes the cities of Clayton, Concord, Walnut Creek, Pleasant Hill, and Martinez. The southern portion of the county includes the cities of Orinda, Lafayette, Alamo, Danville, and San Ramon, and the far western portion of the county contains the cities of Richmond, San Pablo, Hercules, El Sobrante, Rodeo, El Cerrito, and Pinole.

Information on the location of new single-family home sales throughout the county is shown on Map 4.3. Much of the new development in Contra Costa County from 1992 through the first three months of 1996 occurred in the eastern and southern parts of the county. Approximately 6,900 new homes were sold in the eastern part of the county during this period, 2,600 in the southern area, 1,200 in the central area, and only 560 in the far western part. For this study, we chose the cities and unincorporated areas with the largest number of new sales where information on fees was also available. San Ramon and Danville were chosen from the southern part of the county, and Clayton,



Map 4.3—Number of Sales of New Single-Family Residences in Contra Costa County, by City

Bay Point, Antioch, Oakley, and Brentwood were chosen from the eastern and central parts of the county. To simplify the terminology we use in the study, we will refer to the cities and unincorporated areas of Danville and San Ramon as “West County” and the cities and unincorporated areas of Clayton, Bay Point, Antioch, Oakley, and Brentwood as “East County.”⁵

East County and West County are quite distinct. The communities in West County are upscale, have excellent schools, and are close to employment centers. Schools in East County are more typical of statewide averages and the commutes are long and fraught with traffic jams. West County is somewhat mountainous, whereas East County is

⁵We chose this nomenclature since Danville and Sam Ramon lie to the west of the other areas.

quite flat. As one would expect, homes are more affordable in East County and smaller than those in West County. Data for the mean sales price and mean square footage for new housing in East and West County for the years 1992 through 1995 are contained in Table 4.1. Whereas West County values remained stable at around \$400,000, East County values declined quite steadily from \$198,000 in 1992 to \$184,000 in 1995.

In addition, homes are significantly larger in West County. Whereas homes in West County average 2,700 square feet, new homes in East County are approximately 1,850 square feet. Some of the decline in the value of East County properties was due to a drop in housing sizes. In 1992, the average size of a new home was 1,923 square feet, but in 1995 the average size had decreased to 1,819. Tables 4.2a and 4.2b contain the average sales price of new homes for specific communities in East and West County.

Sales took place in both incorporated areas and unincorporated areas of the county. In the unincorporated areas, development fees are

Table 4.1
Mean Sales Price and Square Footage of New Housing,
East and West County, 1992–1995

Year	Sales Price (\$)	Square Footage
East County		
1992	198,954	1,932
1993	190,712	1,862
1994	186,779	1,800
1995	183,965	1,819
West County		
1992	401,413	2,791
1993	398,371	2,763
1994	407,122	2,783
1995	399,979	2,613

Table 4.2a
 Mean Sale Prices of New Housing, East County, 1992–1995
 (in dollars)

Year	Antioch	Bay Point	Brentwood	Clayton	Oakley
1992	192,506	213,567	226,554	333,881	165,871
1993	188,602	181,500	212,114	297,853	154,693
1994	178,928	173,923	199,020	290,158	156,370
1995	169,342	175,695	186,633	280,578	154,200

Table 4.2b
 Mean Sale Prices of New Housing, West County, 1992–1995
 (in dollars)

Year	Danville	Danville ^a	San Ramon	San Ramon ^a
1992	476,535	396,901	369,474	343,551
1993	428,703	404,472	357,986	339,186
1994	456,804	382,397	360,163	342,372
1995	436,375	394,190	364,081	328,952

^aUnincorporated.

determined and collected by the county; in the incorporated areas, cities set and administer the fees. Incorporation provides cities with more local control of growth and development. In addition, once a city is incorporated, tax revenues from any increase in property values accrue to the city. Unincorporated areas analyzed in our study include Bay Point, Oakley, and outlying portions of San Ramon and Danville. The main portions of San Ramon and Danville, as well as Antioch, Brentwood, and Clayton are all incorporated. With the exception of Clayton, they set their own fees and issue their own building permits. Clayton is a recently incorporated city that has contracted with the county to provide a variety of services, including the issuance of building permits and the collection of fees.

Data Sources

Sales Information

We obtained sales information for the entire county for new and existing single-family residences from 1988 to the beginning of 1996 from the Contra Costa County Assessor's Office. The file included sales price, date of transfer, assessor's parcel number, the address of the property, tract number, tax rate area, and property characteristics such as the square footage of the residence, square footage of the lot, effective year of the residence, number of bedrooms and bathrooms, and whether or not the property contained a pool or had a view. The effective year is the year the property was built, if there have been no major modifications. If major modifications have occurred (such as the addition of a bathroom or remodeling of a kitchen), the effective year refers to the date of the last major modification. The sales information allowed us to distinguish between sales of new versus existing homes.

Fee Information

Because this study focuses on the consequences that fees and exactions impose on new housing, we attempted to measure the fees that the builders actually paid on each property, rather than the fees that may have been in place when a property was later sold.

Types of Fees. We collected information on the following types of development fees: school, water and sewage, building permit and inspection, traffic, parks, fire, and community development. Most of these fees are charged at the time building permits are issued and apply to each unit. We did not include fees for grading, engineering, planning, and drainage. These are typically collected before the building permit,

apply to the entire subdivision as opposed to the new residence, and are difficult to estimate. We therefore underestimate some of the fees applied to new construction.⁶

Sources of Fee Information. Development fees are administered by several entities. Cities and counties typically collect fees for building permits and inspection, traffic, fire, parks, community development and, in some cases, child care.⁷ Other entities such as water and sewage facilities and school districts charge development fees as well. We obtained fee information from the county, the individual cities, sewage and water treatment facilities, and school districts.

We obtained fee information for all building permits for new single-family development from 1987 to 1996 in the unincorporated areas of the county (and Clayton) directly from Contra Costa County. The file included parcel number, city, building permit number, date of permit, type of fee, status of fee (paid or not), and amount of fee. Whereas most fees are charged at the time the building permit is taken out, some fees are charged before this time and are based on the “vested date” of the subdivision. The vested date typically comes after the tentative map but before the final map is approved. Typically, traffic and park fees are determined at the time the subdivision is vested. Vested dates of subdivisions, as well as a schedule of traffic and park fees, were collected through visits to the county’s building department and phone calls to the Public Works and Parks and Recreation departments.

Fees for incorporated cities and other entities were collected from the cities and entities themselves. Most cities charge fees as of the day the

⁶The fees charged at the subdivision level are approximately uniform across jurisdictions so that omission of these fees should not bias our results.

⁷Child care was included in community development fees.

building permit is taken out. Some cities such as Antioch, Clayton, and San Ramon published detailed fee schedules. Danville provided fee information for each tract in our new sales file. Brentwood provided us with fee schedules used internally. Most cities had readily accessible information going back only to the early 1990s. Thus, the time frame of this study was limited by the availability of fee information from cities.

Although some cities had separate entities that provided water and sewage, others such as Antioch and Brentwood provided their own water and sewage treatment or acted in conjunction with the regional water and sewage facility. For those served by a separate entity, fee information was collected from that entity. As noted above, only fees charged to individual homes, as opposed to the entire subdivision, were included.

School fees were collected from the school districts in which new sales occurred. In the unincorporated areas, some school districts allowed the county to collect these fees for them, and we obtained the data from the county. School fees are based on the square footage of the residence at the time the building permit is taken out. Fees started at \$1.52 per square foot for 1990 and 1991, rose to \$1.65 for 1992 and 1993, and reached \$1.72 for 1994 through 1995. They are currently at \$1.84 per square foot. Most school districts levied the maximum allowable square-footage charge and there were no additional school fees levied by the cities or the county. The Mt. Diablo school district charged less than the allowable maximum, and school fees were also lower in some developments in Danville and San Ramon that were covered by prior agreements.

In addition to the quantitative fee information, we obtained qualitative information concerning the genesis of some of the fees from newspaper articles and conversations with city officials. As we noted

previously, the rapid pace of growth in the county has resulted in severe traffic problems. Measure C, passed in 1990 and effective January 1, 1991, required that each region of the county establish a road fee to complement a sales tax assessed to pay for new roads. Many areas of the county had difficulty reaching agreement as to the level and details of the fee, because of the differing characteristics and needs of the communities. However, by June 1994, East County cities and the county (representing the unincorporated area of the region) had agreed upon a regional traffic mitigation fee to pay for highway expansion throughout the area. One newspaper speculated that perhaps the fact that developers in East County were accustomed to paying local fees made arriving at a regional agreement easier.⁸

Bond Information

Some cities financed traffic, school, and park improvements with development fees, but others used assessment and Mello-Roos bonds. Antioch, Clayton, Brentwood, and Danville used bonds to finance infrastructure improvements.

In Antioch, there was also a large Mello-Roos district. Eighty percent of the Mello-Roos proceeds were to be used to finance new school construction, whereas 20 percent were earmarked for construction of a large regional park. In addition, two assessment bond districts issued bonds to pay for road and curbside improvements—the Lone Tree District and the Hillcrest District. Many new homes in Antioch were included in all three of these bond districts.

⁸Contra Costa Times, March 2, 1996.

Clayton also used both types of bonds. Mello-Roos bonds were used to finance schools, and local assessment bonds were used to finance streets and other improvements. Local assessment bonds were used exclusively in a large development called Oakhurst. This assessment district was established in the late 1980s, just before the downturn in property values in 1991. In an effort to sell properties, the developer paid off local assessments in 1992 for new properties, much to the consternation of existing property owners, who not only were witnessing their property values dwindle but were saddled with bond payments as well.⁹

Brentwood used local assessment bonds to finance road and other improvements. Properties not in the assessment district were charged a development fee of \$8,550; those inside the district were assessed \$8,600 in bonds but received a credit toward their development fees. Currently, the city is in the process of setting up a Mello-Roos district to pay for new schools. The incorporated portion of Danville used assessment bonds but not Mello-Roos bonds. The bonds were generally used to finance roads and other property-based improvements.

Both Mello-Roos and assessment bonds were administered by the Muni Financial Corporation. The annual payment amounts by parcel number for fiscal year 1995–96 for local assessment and Mello-Roos bonds were obtained from Muni, as well as debt service schedules, which gave both principal and interest payments over the life of the bond. For properties in Clayton, where the developer paid off a large portion of the bonds, the parcel numbers of the properties that received these benefits were also provided.

⁹Contra Costa Times, June 1, 1992.

Each local assessment bond and Mello-Roos bond consisted of a variety of smaller denomination bonds with varying interest rates and retirement dates and differing levels of payments over the years, making a precise present-value approach to estimation of the total indebtedness extremely difficult. The amount of remaining principal to be paid on the bond at the time of sale is what is reported to the buyer as the total indebtedness.¹⁰ We used this figure as the value of the bond at the time of sale. Data from Muni Financial were used to calculate remaining indebtedness for each property.¹¹

Assignment of Fees to Individual Properties

For the unincorporated areas of the county, we merged the fee information with the data on sales of new properties by parcel number. Fees charged by other entities (schools, sewage, and water) were based on the date that the building permit was taken out. In addition, traffic and park fees were added based on the vested date of the tract that contained the parcel.

For the incorporated areas of the county, however, the date the building permit was issued was not available. To estimate the date, we assumed that the time between the date a building permit is taken out and the date the property sells is similar for the incorporated and unincorporated areas of the county. We first examined the distribution of the times from building permit date to sales date for the sales in the

¹⁰Based on a conversation with an employee at Muni Financial.

¹¹To determine the portion of the bond that applied to each property, we divided the 1995–96 payment for that parcel by the 1995–96 payment of the entire bond. We then calculated the total indebtedness of the property by multiplying the property's portion by the remaining principal to be paid off at the time of sale. This method was used for all bonds except those in Brentwood, where the amount of each bond was reported by the city to be \$8,600.

unincorporated area of the county. Because of the seasonal nature of construction, we broke down the distributions by the month in which the sales occurred. We found that the time between building permit and sale of the property depended on the season (fall, winter, spring, or summer) in which the property sold. Seasonal distributions are depicted in Figures 4.1 through 4.4. The distributions were fairly tight, with generally 80 percent of the properties being sold within a year after the building permit was taken out, and the remaining 20 percent stretching out past two years. Using this information, we assigned a date for the building permit nine months before sales that occurred in the summer and fall months and twelve months before sales that occurred in the winter and spring.

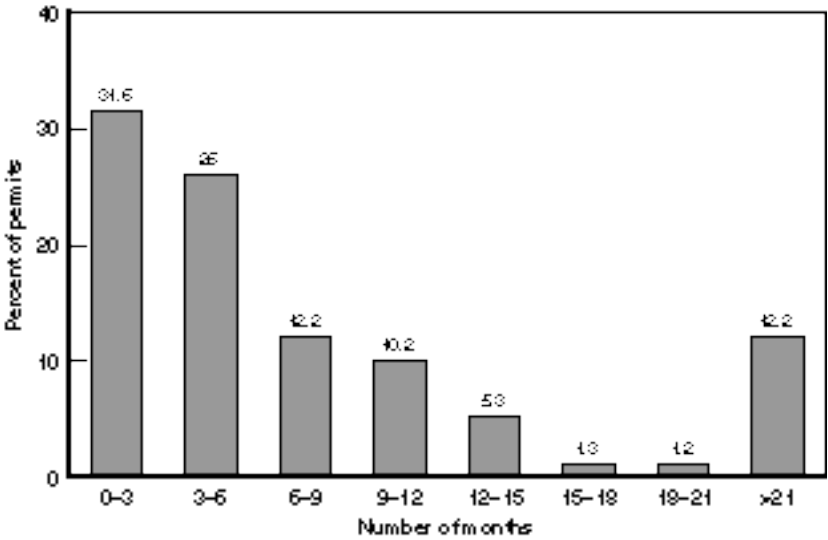


Figure 4.1—Time Between Building Permit and Sale, Unincorporated Areas of County, Summer

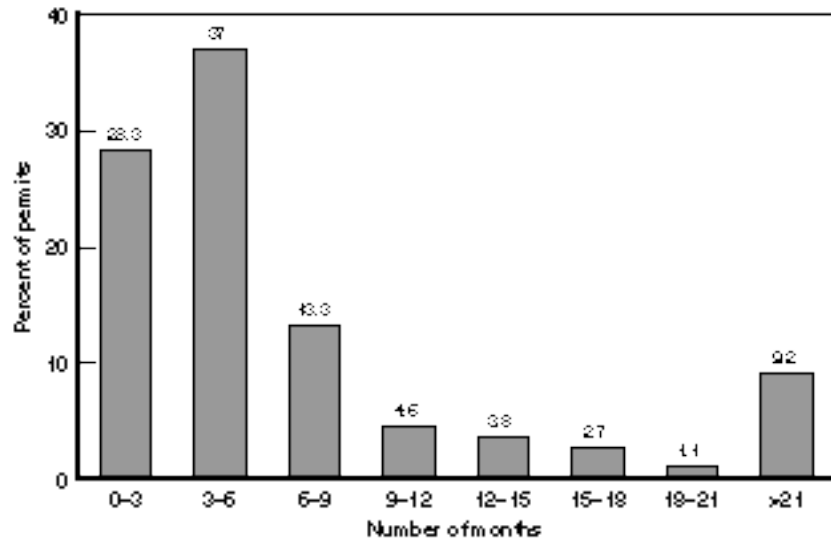


Figure 4.2—Time Between Building Permit and Sale, Unincorporated Areas of County, Fall

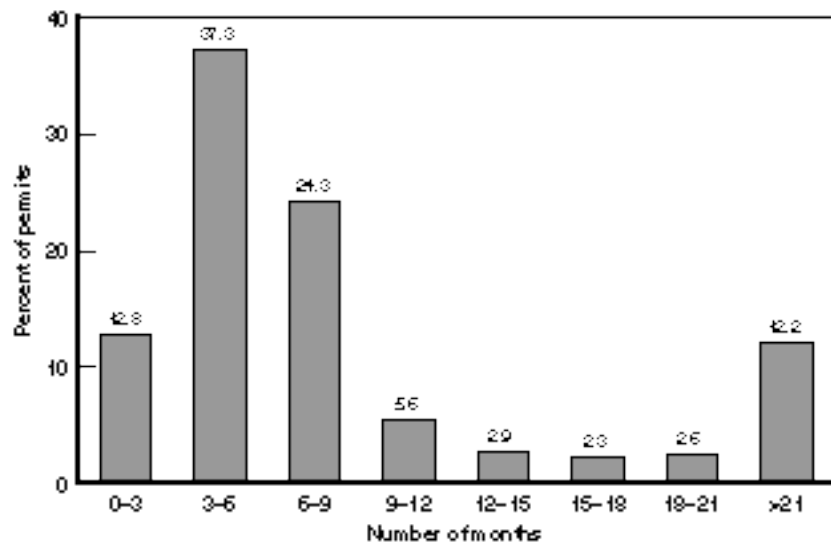


Figure 4.3—Time Between Building Permit and Sale, Unincorporated Areas of County, Winter

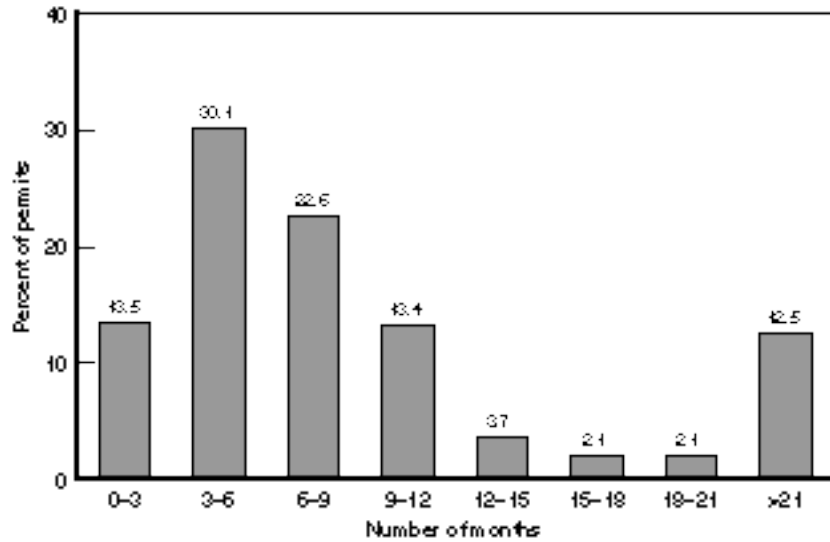


Figure 4.4—Time Between Building Permit and Sale, Unincorporated Areas of County, Spring

Once building permit dates were estimated, fees were added based on the level of fees that existed as of the estimated date of the building permit, the city in which the property lay, and, for some fees, the characteristics of the property. Many fees were of a lump sum nature and thus did not depend on the characteristics of the property. For example, traffic, park, water and sewage, and child care fees were lump sums in most cities. School fees were generally based on square footage.¹² Permit and inspection fees and community development fees were also square-footage-based fees.

¹²In the San Ramon School District, some fees were based on the number of bedrooms.

Data on Fees and Bonds

We begin our presentation of the data on fees by separating non-square-footage fees and square-footage fees. We make this distinction for two reasons. First, the size of homes varies across communities. Second, in our empirical work in the next chapter, we treat square-footage and non-square-footage fees differently.

Non-Square-Footage Fees

Non-square-footage fees are shown in Tables 4.3a and 4.3b for East and West County. Note that the fees in East County were lower than those in West County, but they grew more rapidly. Whereas East County fees grew approximately 30 percent over the four-year period, West County fees grew only about 12 percent. The higher fee increases in East County occurred during a period when property values were falling both absolutely and relative to West County. We also see that fees vary not only between East and West but also among areas in each of these regions. All parts of the county experienced growth in fee levels.

Table 4.3a

Non-Square-Footage Fees, East County, 1992–1995
(in dollars)

Year	Antioch	Bay Point	Brentwood	Clayton	Oakley	Average
1992	7,759	8,910	11,267	11,206	11,194	9,185
1993	7,874	9,411	11,267	11,239	12,335	9,722
1994	9,316	9,525	12,046	12,948	15,258	11,356
1995	11,493	10,594	12,837	14,222	14,806	12,612

Table 4.3b
Non-Square-Footage Fees, West County, 1992–1995
(in dollars)

Year	Danville	Danville ^a	San Ramon	San Ramon ^a	Average
1992	11,461	15,526	17,859	17,418	15,549
1993	12,667	16,182	18,340	18,232	15,570
1994	14,231	17,580	19,958	19,173	16,682
1995	15,439	18,198	20,072	19,077	17,631

^aUnincorporated.

Total Fees

Table 4.4 shows the breakdown of the total fees (both square-footage and non-square-footage fees) for East and West County. In both regions, water and sewage account for a large portion of the fees (45 and 54 percent, respectively). As a percentage of the total level of development fees, traffic fees in East County are more than twice those in West County. The total levels are roughly consistent with the results

Table 4.4
Development Fees by Type, East and West County, 1992–1995

Fee Type	East County		West County	
	Fee Amount (\$)	Percentage of Total	Fee Amount (\$)	Percentage of Total
Permit/inspection	1,305	8.1	2,633	10.9
Water and sewage	7,246	44.9	12,961	53.6
Traffic	3,194	19.8	1,997	8.3
Fire	325	2.0		
Parks	1,678	10.4	1,814	7.5
Community development	252	1.6	430	1.8
School	3,492	21.6	4,347	18.0
Exemption for bond district ^a	(1,340)	-8.3		
Total	16,153		24,182	

^aFee exemption for bond district in Brentwood.

of a fee survey for selected cities in San Diego County, which found that development fees for 1995 ranged between \$18,000 and \$23,000.¹³

Incorporating Bond Information

Comparing only development fees gives a very incomplete picture of infrastructure finance levels. Although some cities financed infrastructure with development fees, others, such as Antioch, Clayton, and Danville, relied heavily on Mello-Roos or local assessment bonds. Average development fees, local assessment bonds, and Mello-Roos bonds for East and West County for 1994, as well as for individual communities, are contained in Table 4.5a and 4.5b. One can see that East County relied more heavily on bond financing of infrastructure. Although development fees in East County were lower than those of West County, when bonds are included, the levels are much closer, with East County charging on average \$26,744 and West County charging on average \$29,479. This similarity is quite striking in light of the fact that West County property values are approximately twice those of East County.

Table 4.5a
Average Total Fees and Bonds, East County, 1994
(in dollars)

Financing Mechanism	Antioch	Bay Point	Brentwood	Clayton	Oakley	Average
Development fees	14,679	11,993	17,672	17,110	18,967	16,154
Mello-Roos bonds	11,338			4,891		5,420
Local bonds	8,621		6,218	216		5,170
Total	34,638	11,993	23,890	22,217	18,967	26,744
% of sales price	19.4	6.9	12.0	7.7	12.1	

¹³San Diego Fee Survey, San Diego, California: The Building Industry Association of San Diego County, 1996.

Table 4.5b
Average Total Fees and Bonds, West County, 1994
(in dollars)

Financing Mechanism	Danville	Danville ^a	San Ramon	San Ramon ^a	Average
Development fees	21,847	25,975	29,932	22,893	24,074
Mello-Roos bonds					
Local bonds	11,478				5,405
Total	33,325	25,975	29,932	22,893	29,479
% of sales price	7.3	6.8	7.5	6.7	

^aUnincorporated.

In examining the levels for individual communities in East and West County, several points deserve note. First, sources of infrastructure finance vary not only between the two parts of the county but also between areas within each region. In East County, total fees and bonds ranged from \$11,993 in Bay Point to \$34,638 in Antioch. In West County, there was less variation, with a low of \$22,893 in the unincorporated area of San Ramon to \$33,325 in the incorporated portion of Danville.

Second, there is considerable variation in the types of infrastructure financing used. Although all the incorporated cities of East County used some form of bond financing, the unincorporated areas did not. Mello-Roos financing was used exclusively in East County. Finally, although some areas such as Antioch and Danville relied heavily on bond financing, others such as San Ramon, Bay Point, and Oakley did not use bond financing at all.

Variation among total fee and bond financing levels is even more striking when expressed as a percentage of the mean sales price. In East County, total resources varied from a low of 6.9 percent of sales price in

Bay Point to a high of 19.4 percent in Antioch. As a percentage of sales price, fees and bonds are lowest in the westernmost areas of East County (6.9 for Bay Point, 7.7 percent for Clayton) and highest in the easternmost areas (12.0 in Oakley to 19.4 percent in Antioch). In West County, there was little variation in total fees and bonds as a percentage of sales price.

5. An Empirical Investigation of Who Bears the Burden

This chapter presents the results of an econometric investigation of the effects of development fees and bonds on housing prices in Contra Costa County, using the data described in the previous chapter. The goal of this econometric analysis is to shed light on the question of who actually bears the burden of development fees.

Methodology

Although we will describe our methods in more detail below, the basic idea of our approach is quite straightforward. We attempt to measure the effect of fees and bonds on the price of housing. For example, if a \$1 increase in fees leads to a \$1 increase in the price of housing, then homeowners bear the burden of the fees. On the other hand, if a \$1 increase in fees leads to only a \$0.50 increase in the price of housing, then homeowners pay one-half of the fees and the remainder is paid by developers or landowners.

Our methods can shed light only on the total portion of the fees borne by developers and landowners. We cannot partition the effects between landowners and developers because of data limitations. We do not have the necessary data on profits of developers or their required rates of return to assess the effects of exactions or development fees on their profitability. Similarly, we do not have accurate information on the price of land before the enactment of development fees or exactions, which is necessary for ascertaining how the fees affected land prices. However, in many cases, developers are landowners as well, so that any partition would be inherently artificial. We do know that some party must bear the burden of development fees or exactions. We will measure the effect on homeowners and presume that the remainder is borne by other parties.

From a conceptual point of view, the question that we pose is quite simple. How much does the price of a house rise when development fees are imposed on a builder? In practice, we must estimate the increase based on sales of new housing throughout the county, with differing fees imposed by local governments.

In measuring the effect of fees on housing prices, we immediately confront three difficulties. First, the houses will differ in quality and in the amenities they offer. This will be reflected in differences in prices. Second, we will be examining prices for new housing between 1992 and early 1996. During this period, there was a general decline in housing prices throughout the state and, in particular, in Contra Costa County. We need to address changes in market conditions during this period. Finally, we will be examining prices for new housing in different locations within the county. These locations differ in their desirability because of a variety of conditions, including commuting time to jobs and

the quality of schools and other public services. Prices of housing will reflect these differences.

Although we will employ the standard “solutions” for all these problems, it is important to note that the solutions will not be perfect. Inevitably, some inaccuracies will creep into the study. Of course, we attempt to keep these inaccuracies to a minimum.

To control for differences in quality of housing, we will use a method known as “hedonic regression,” which is widely used in applied econometric studies for a variety of durable goods, including automobiles and housing. The idea behind hedonic regression is simple. The value of a house will depend largely on its attributes, for example, its square footage, the square footage of its lot, the number of rooms, the number of bathrooms, whether it has a pool, and other factors. With a large number of houses and data on these attributes, it is possible to estimate the value that each attribute contributes toward the total value of the home using linear regressions. It is then possible to predict, for example, how much a house with larger square footage will sell for on the market. Thus, this method allows us to control for differences in the size of homes as well as other relevant characteristics. As long as the homes are relatively homogeneous, this method provides reasonable results.

Hedonic regressions, although very useful techniques, are subject to a number of important limitations, the most important of which is that hedonic regressions are linear statistical techniques that are meant to only approximate the very complex phenomenon of the value of a home.¹ As

¹More precisely, the value of a home is unlikely to be a linear function of its characteristics. Although it is possible to allow for some nonlinear functions of characteristics in the regressions, this will not resolve the basic difficulty. Since the value of a home is a nonlinear function of its characteristics, any linear approximation will work

an example, consider interpreting a regression coefficient for the number of rooms. The regression will hold constant the square footage of the house so that an increase in the number of rooms will mean that each room will be smaller. Thus, it is not obvious whether the coefficient on the number of rooms should be positive or negative. Similar difficulties occur in interpreting other coefficients as well. In general, all coefficients reflect both demand and supply considerations so that consumer preferences and costs of construction are all reflected in the coefficients. Our approach in this study is to control for as many relevant features as possible but not to “over-interpret” the coefficients on housing characteristics in the regressions.

The second major issue we identified was the need to confront changes in the state of the housing market over our sample period. During this period, there were sharp declines in real estate prices throughout the county. To allow for these changes, we experimented with several approaches. Our preferred approach allowed the price per square foot in the hedonic regression to vary over time. Specifically, we interacted a dummy variable (a variable that takes on the value of 1 if the attribute is present or 0 if the attribute is absent), for every four-month period in our sample with the square-footage variable. The four-month period was chosen to reflect the seasonality in the real estate market and to reflect the rapid changes in prices that occurred during this period. Although more complex interactions are possible, the approach we have taken is straightforward and worked well for both East and West County and in subsamples of our data.

reasonably well only if the houses have similar values. That is why we separate Contra Costa County into two districts in our analysis.

The third major issue we identified was the need to control for differing characteristics of communities. One approach would be to measure explicitly as many characteristics of communities as we could and enter them as control variables in our basic regression.

Unfortunately, the number and quality of control variables that we have are quite limited. We experimented with measures of commute time to the San Francisco Bay area, Scholastic Aptitude Test scores for schools, and local crime rates but discovered that these were not sufficient to account for the other quality-of-life measures that are critical to determining housing prices. These measures were just too crude to distinguish between communities and left out too many unmeasured factors that would affect prices.

We were thus led to introducing separate variables (dummy variables) for each community. The idea behind the separate variables for each community was to allow for a full range of quality differences across communities, even if we could not measure them directly.

The procedures we use for controlling for quality differences across communities and market conditions across time is powerful, but it does require that we estimate our equations by combining (pooling) data across different years and communities in our sample. This pooling enables us to estimate these quality differences across locations and market conditions over time.

If we did not pool our sample, we could easily draw erroneous inferences from our results. Suppose, for example, that we simply ran regressions for a single year across different communities and could not control for all the important community characteristics that affect housing prices. Furthermore, suppose that less-desired communities imposed greater development fees. The regression would find an

association between low prices for housing in the less desirable communities and higher development fees and attribute this to the effect of development fees.

A similar problem could possibly plague regressions over time for a single community. The difficulty that would arise in this case would involve untangling the effects of market conditions on housing prices from the effects of development fees. It is easy to see that there could be a spurious correlation in these results as well—for example, if fees were increasing but housing prices were falling because of market conditions. Thus, in this chapter we report the results from our pooled study.²

There remains, however, the issue of which communities should be pooled or combined together. This is particularly important in the context of hedonic regressions.³ As we noted above, hedonic regressions can only approximate the value of a home by its components. Such an approximation will be reasonably accurate only if the scale and size of the houses are comparable. As we described in detail in the last chapter, there is a qualitative difference between East and West County. There are many larger homes in West County. Commuting distances to employment in the Bay area are also shorter. Both of these factors contribute to distinctly higher housing prices, on average, in West County.

This was the basis, then, for our decision to split our sample into two parts—East County and West County. The communities in each of these pooled groups reflect relatively homogenous conditions. To

²Since fees do not change precisely at four-month periods, it is possible to estimate the effects of fees separately from market conditions. But the possibility of spurious correlation discussed in the text remains.

³As we explained above, hedonic regressions are linear approximations to nonlinear functions and work well only for homes of comparable values.

maintain further homogeneity in the sample, we excluded all homes that sold for more than \$800,000.

One final modeling issue needs to be addressed. As we described in the last chapter, there are two distinct types of development fees—those that are flat charges and those that are based on square footage.⁴ We needed to adopt different econometric procedures for these two types of fees.

The problem that we encountered was that it is practically impossible to disentangle the effects of fees based on square footage on housing prices from the effects of square footage itself on housing prices. Recall that the hedonic regressions simply try to approximate the relationship between square footage and price. However, for fees based on square footage, there will also be another relationship between square footage and fees. Larger homes will pay larger fees. Larger homes are also more highly valued in the market. As a practical matter, it is not possible to separate out the effects of the fees related to square footage on prices from the effects of square footage itself.

If we knew the exact relationship between price and square footage, we could circumvent this problem and measure the incremental effect of the fees. However, we do not know the precise relationship between the price of homes and square footage and must approximate it in our regressions. Because our relationship is inexact, we will generate spurious correlations if the fees based on square footage are included in our regressions.

We dealt with this problem in two ways. First, we simply ran regressions including only non-square-footage fees. In interpreting the

⁴As we noted in the last chapter, the square-footage-based fees were primarily for schools, permit and inspections, and community development.

econometric results, the coefficients for the variable for square footage will reflect both the direct link between price and square footage and the effects of fees that are linked to square footage. The difficulty with this approach is that omitting information about the square-footage-based fees could potentially bias our estimates of the non-square-footage fees. Our second approach was to include as a variable in the regression a measure of square-footage fee, which equals the average square-footage fee for the community in the year in which the home was sold. This variable captures the typical square-footage fee in the community at that time. Fortunately, our regression results from both procedures are quite similar.

Choice of Variables and Basic Regression Results

Using the data that we obtained from the Assessor’s Office, the data on fees, and the methodological issues we just discussed, we included the following variables in all of our regressions:

Variable Symbol	Variable Definition
Intercept	Intercept in regression
Square footage	Square footage
Dummy square footage	Interactive dummy for large square footage (see below)
Lot square footage	Lot square footage
Dummy lot square footage	Interactive dummy variable for large lot sizes (see below)
Bath	Number of bathrooms
Bed	Number of bedrooms
Pool	Pool
View	Lot with view
Fees, non-square footage	Fees not based on square footage
Mello-Roos	Mello-Roos bonds on house
Other bonds	Other bonds on house

In addition to these variables, we included (as discussed above) dummy variables for communities (using one community as the base) and allowed the square-footage variable to vary over four-month periods.⁵ We also ran supplemental regressions with a variable equal to the average square-footage fees for the community in the year the house was sold.

Once homes reach a certain threshold size, additional square footage does not contribute to the value of a home in the same manner as the basic square footage. To capture this effect, we created a new variable (Dummy lot square footage) that allowed the square footage above a certain threshold level to contribute to the price of a home in a differential manner. Because the average home size was larger in West County than in East County, we chose the thresholds to be 3,500 and 2,500 square feet, respectively. As an alternative, we also experimented with allowing the square-footage variable to enter the regressions with both a linear and quadratic term, but our original approach proved to be more robust on subsamples of the data. For regressions in West County and for regressions of sales of existing homes in East County, we also used an interactive dummy for lot sizes that exceeded 10,000 square feet. New houses in East County typically had smaller lots, so we did not use this variable for regressions for new housing in East County.

Tables 5.1 and 5.2 report the results of our regressions for East County and West County. For each regression, we report the coefficient estimate, the standard error, and the t-statistic. To focus attention on the most important variables, we do not report the dummy variables for

⁵We interacted a dummy variable for each four-month period with the square-footage variable.

Table 5.1
Regression Results for East County

Variable	Coefficient	Std. Error	T-Statistic
Intercept	39,285	2,363	16.85
Square footage	74.11	1.07	69.20
Dummy square footage	6.51	0.35	18.69
Lot square footage	3.11	0.11	27.12
Bath	-4,565	805	-5.67
Bed	-2,860	431	-6.63
Pool	14,665	3,739	3.92
View	26,101	2,080	12.55
Fees, non-square footage	0.25	0.12	2.09
Mello-Roos	-0.89	0.10	-8.49
Other bonds	-0.05	0.04	-1.19

NOTES: Regression includes dummy variables for Clayton, Antioch, Bay Point, and Brentwood, with Oakley as the base. It also includes time dummies interacted with square footage for all four-month periods from May 1992 (January through April 1992 as the base) to the first four months of 1996.

Sample size: 6,236

Adjusted R²: 0.90

Table 5.2
Regression Results for West County

Variable	Coefficient	Std. Error	T-Statistic
Intercept	6,043	13,066	0.47
Square footage	105.76	3.12	33.89
Dummy square footage	12.69	1.17	10.86
Lot square footage	5.28	0.56	9.35
Dummy lot square footage	1.29	0.35	3.67
Bath	-325	2,899	-0.11
Bed	-8,735	1,623	-5.38
Pool	28,024	16,790	1.67
View	9,828	3,808	2.58
Fees, non-square footage	1.88	0.65	2.86
Other bonds	0.004	0.27	0.016

NOTES: Regression includes dummy variables for San Ramon (unincorporated), San Ramon (incorporated), and Danville (unincorporated), with Danville (incorporated) as the base. It also includes time dummies interacted with square footage for all four-month periods from May 1992 (January through April 1992 as the base) to the first four months of 1996.

Sample size: 2,059

Adjusted R²: 0.84

communities or the square-footage variables that vary over time; however, we do discuss these results below.

Regression Results: East County

Turning first to the results for the East County, the unshaded part of Table 5.1 is the basic hedonic regression designed to capture the important influences on housing prices. We see from the regression that square footage and lot size are important determinants of price, as expected. The positive and statistically significant coefficient on Dummy square footage indicates that square footage above 2,500 is valued by the market more than the square footage less than 2,500. Holding square footage constant, additional bedrooms and bathrooms decrease the value of property whereas the presence of a pool and a view increases the value. As we noted above, it is important not to overinterpret these coefficients, since the hedonic regression is just trying to capture the salient features that determine the value of homes.

Although not reported in Table 5.1, the dummy variables for communities indicate that—relative to Oakley—Clayton, Bay Point, and Brentwood are (controlling for quality) more-expensive communities, and Antioch is a less-expensive community. The variables capturing the state of the market (dummies interacting with square footage) indicate that housing prices fell throughout the period and reached their lowest values in late 1995 and early 1996.⁶

The shaded portion of the table highlights the effects of fees and bonds on housing prices. The coefficient estimate of 0.25 on Fees, non-

⁶We also allowed the bathroom, bedroom, pool, and view variables to vary over time but this did not change the regression results for either East or West County in any substantial way.

square footage, means that for every dollar that fees (not related to square footage) increase in East County, housing prices will increase by \$0.25. The standard error on this coefficient estimate is 0.12. A common way to interpret the standard error is as a measure of variability in the coefficient estimate resulting from sampling error or other unmeasured factors in the regression. Under this interpretation, in repeated samples, the coefficient estimate would fall between 0.49 [$0.25 + 2(0.12)$] and 0.01 [$0.25 - 2(0.12)$] 95 percent of the time. The fact that this 95 percent confidence interval excludes 0 is often termed “statistical significance.” Note that the 95 percent confidence interval also excludes the value of 1.0. A value of 1.0 would mean that fees are passed through fully from builders to homeowners.

The regression that gave us the results in Table 5.1 did not contain any square-footage-based fees. When we rerun the regression and include the average square-footage fee variable, the coefficient on Fees, non-square footage rises just slightly to 0.26. Thus, the estimate of the coefficient on the non-square-footage fees is robust.

The coefficient on the Mello-Roos bonds is -0.89 and thus close to a value of -1.0 . It is also statistically significant. On the other hand, the coefficient for Other bonds is close to 0 and not statistically significant. All the results on fees and bonds were robust to alternative specifications of our basic underlying statistical model, including the addition of the square-footage fee variable.

Discussion of Findings: East County

The results of the regression shed light on the major questions of our study. The results for the fees indicate that in East County, during this period, homeowners did not absorb all of the fee increases—

approximately 75 percent were borne by developers and landowners. Although the econometric results strictly apply only to fees not based on square footage, we presume that the same economic forces would dictate a similar split for fees based on square footage.

There are several possible reasons why homeowners did not appear to pay for the fees and exactions levied on the builders. First, the fees may not have been used for services valued by the homeowners. However, there is no direct evidence for this argument (unlike the Mello-Roos fees we discuss below), nor does it appear to be the case for West County either, which we discuss below.

A more plausible argument has to do with market conditions. During the period of investigation, the real estate market in East County was depressed and it was truly a buyer's market.⁷ Our regression results indicated that prices kept falling throughout the period. Moreover, in Antioch, which accounts for a large percentage of the sales, developers were forced to make payments on their Mello-Roos bonds whether or not sales had occurred, and they were under great financial pressure to sell their properties.⁸ In these circumstances, buyers were apparently able to drive a more aggressive bargain, and the result was that a significant component of exactions and fees was borne by developers and landowners, rather than homeowners.

The results on Mello-Roos bonds indicate that roughly \$1 worth of bonds on a home reduced the value of the home by \$0.89. This result

⁷As we discussed in the last chapter, builders sometimes pay assessment bonds for homeowners; see "Oakhurst Development Is No Diamond in the Rough," *Contra Costa Times*, June 1, 1992.

⁸As evidence of changing market conditions, the Mello-Roos district in Antioch paid refunds to builders who had initially taken out permits to build but did not, in fact, build because of the turn in the market. *Antioch Ledger*, January 25, 1991.

seems to suggest that the services provided through the Mello-Roos district were not valued by the households required to pay the bonds. There appears to be direct evidence on this point. Most of the Mello-Roos activity in the East Bay occurred in Antioch. First, residents expressed discontent with the Mello-Roos district because services were not as forthcoming as promised by the developers. Second, many residents in Antioch who paid the Mello-Roos fees felt that the benefits provided served the entire city of Antioch and not their specific neighborhoods. In one case, for example, proceeds from Mello-Roos bonds were used to build a water-slide park that could be used by residents throughout the city. Later, protests led to discounts at the park for residents of the Mello-Roos district.⁹

The results for non-Mello-Roos bonds were not statistically significant. This could mean that the proceeds from these bonds were used to provide infrastructure valued by homeowners. It could also result from improper measures of the variable. One difficulty in making inferences about any of the results for bonds is that bond payments are linked, to some degree, to the square-footage of the home. Thus, there could possibly be some spurious correlation in the results. The results for fees, however, were not sensitive to inclusion or exclusion of the bonds in the regressions.

Regression Results: West County

Results for West County are contained in Table 5.2. The unshaded part of the table again contains the basic hedonic regression designed to capture the important influences on housing prices. Square footage and

⁹Based on a conversation with Victor Carnelia, an official with the City of Antioch.

lot size are again important determinants of price, as expected. The positive and statistically significant coefficient on Dummy square footage also indicates that square footage above 3,500 is valued by the market more than the square footage less than 3,500. Lot square footage above 10,000 is not valued as highly by the market as lot square footage less than 10,000. Holding square footage constant, additional bedrooms decrease the value of property (but the effect of additional bathrooms is not significant) whereas the presence of a pool and a view increases the value.

Although not reported in Table 5.2, the dummy variables for communities indicate that, relative to Danville (unincorporated), San Ramon (both incorporated and unincorporated) and Danville (unincorporated) are (quality adjusted) more-expensive communities. The variables capturing the state of the market (dummies interacting with square footage) indicate that housing prices fell most sharply in 1993 but then slowly rebounded toward their 1992 values by late 1995 and early 1996.

The effects of fees on housing prices are much larger in West County than they are in East County. The coefficient estimate of 1.88 indicates that a \$1 increase in fees would raise housing prices by \$1.88. However, the standard error on the coefficient is 0.65. Using this standard error, it would not be possible to reject the hypothesis that the coefficient was equal to 1.0—that is, a full pass-through of fees from builders to homeowners. Adding the average square-footage fee variable lowered the coefficient to 1.66 (with the same standard error), thus bringing the coefficient closer to 1.0. The effects for bonds on housing prices were not significant, as they were in East County. (The West County did not have any Mello-Roos districts.)

Discussion of Findings: West County

The possibility that prices of homes rise more than the fees needs to be considered seriously. In markets with imperfect competition, this is always a theoretical possibility. More likely, we may not be capturing all the fees associated with new construction. We noted in the last chapter that our data do not capture some fees associated with new construction that apply to entire subdivisions. In addition, the explicit fees that cities and counties impose on builders do not necessarily reflect the full cost to the builder. In many circumstances, developers or builders will spend important resources negotiating with local governments. Finally, if these charges are financed through borrowing, some of the additional interest costs could be passed on as well. It is important to note, however, that the standard error of our estimate is large enough so that it is possible that the true relationship linking fees to house prices is equal to 1.0.

Although the precise magnitude may be difficult to pin down, the coefficient on fees in West County was clearly larger than that for East County. The most plausible explanation is based on the relative degree of distress in housing markets in the two market segments. As we noted, the real estate market suffered declines in West County but climbed back to prior levels. However, in the East County, the decline continued unabated and there were more tales of incentives and sweeteners to entice purchasers. It is striking that within a single county and over a single period of time, there is evidence that the ability to pass on exactions and fees to homeowners can vary.

We experimented with disaggregating the non-square-footage fees into different components to determine if the composition of the fees mattered. However, the results were inconsistent across subsamples, and thus our results were not conclusive. Part of the difficulty is that by

disaggregating the fees, we lose some important time variation in the fees that we need to uncover their effects.

Effects on Prices of Existing Homes

In principle, fees levied on new homes can also raise prices for existing homes. As discussed above, if the exaction is viewed as a tax and raises the prices of new homes, there will be substitution into existing homes and an accompanying increase in price. In addition, if development fees or exactions are used to provide services that benefit existing homes, prices will likely increase to reflect the value of these services.

To explore these possibilities, we calculated the average total of non-square-footage fees and assessments in each jurisdiction for each time period, which for simplicity we call average fees and assessments. We then included this as a variable in a regression explaining the sales of existing (not new) homes. The idea behind this regression is that the average fee and assessment burden provides a measure of the potential spillover effects onto the prices of existing properties.¹⁰ In our base case, we eliminated the square-footage-based fees, because the average square footage of new housing could vary over time and we wanted to avoid spurious correlations. It is important to recognize that using a single value for all sales in a given area during a given time period can only approximate the actual spillover, which may vary by type of property.

Our work looks exclusively at the value of homes that sell in a given year, rather than all homes. Proposition 13 limits increases in assessed

¹⁰In principle, the spillover might vary with the type of fee or assessment. We experimented with separating the total assessment burden into fees, Mello-Roos bonds, and other bonds, but the results were not stable over subsamples of the data.

value to a maximum of 2 percent a year and thereby can create a divergence between the assessed value of a property (the data we have) and its true market value. When a property is sold, however, market and assessed value are again equal to each other. In addition to the variables we included in previous regressions, we also add the age and age-squared of the home to capture some age-related differences in quality of homes.

We ran regressions for both East and West County. In West County we found no relationship between the average of fees and assessments in a jurisdiction and the sale price of existing homes. However, we did find a consistent relationship for East County.

Table 5.3 contains our basic regression for sales of existing housing in East County. The first part of the table contains the variables to capture hedonic effects. As we have stressed, these are simply used to control for differing characteristics of the homes that are sold and should not be given strong structural interpretations. The key variable is the shaded row in Table 5.3. We estimate that prices of existing homes rise by approximately \$0.23 for every \$1 of average fees and assessments levied on new housing in the community.

We explored several other specifications for East County. Using total fees and assessments (including square-footage-related fees) produced similar qualitative results. We also tried disaggregating the sample by age of the property. We did not find any significant effects for property that was between 1 and 5 years of age. We did find significant effects of fees on housing prices (similar to those reported in Table 5.3) for properties between 6–15 and 15–30 years of age. Perhaps the reason that we could not find an effect for houses between 1 and 5 years of age was that these houses were potentially subject to development fees that

Table 5.3
Regression Results for Existing East County Housing

Variable	Coefficient	Std. Error	T-Statistic
Intercept	61,831	1,993	31.02
Square footage	57.93	1.07	53.91
Dummy square footage	6.34	0.49	12.80
Lot square footage	2.32	0.11	19.65
Dummy lot square footage	-0.49	0.08	-5.61
Bath	445	714	0.623
Bed	-1,483	453	-3.28
Pool	10,309	748	13.77
View	12,489	1,175	10.62
Age	-1,457	64.00	-22.77
Age squared	13.03	1.29	10.03
Average fees and assessments	0.23	0.08	2.76

NOTES: Regression includes dummy variables for Clayton, Antioch, Bay Point, and Brentwood, with Oakley as the base. It also includes time dummies interacted with square footage for all four-month periods from May 1992 (January through April 1992 as the base) to the first four months of 1996.

Sample size: 6,824
Adjusted R²: 0.88

we were not able to measure and, therefore, could not be included in our regressions.

As we noted, these increases in price could arise from substitution from more expensive new housing or because of a spillover of the services provided by the fees and exactions on new housing. Although we do not have any direct evidence on this point, the fact that we find effects on existing housing only in East County is suggestive that these may be the effect of the spillovers or externalities in East County that we discussed above.

6. Conclusions and Perspectives

In California's fiscally constrained governmental system, development fees and exactions are important mechanisms for generating new development. Proposition 13 limits the ability of local governments to rely on the traditional ad valorem property tax to raise sufficient revenue to finance infrastructure. Unless state funds are used to finance development, there are only two alternatives for local government: bonds (assessment bonds such as Mello-Roos bonds or local obligation bonds) or development fees and exactions. Without the ability to use these tools, new development in California could not take place. In a most basic sense, development fees and exactions are pro-growth—without them, development in many circumstances simply could not happen.

Our report addressed two basic issues:

1. How large are the fees and exactions imposed on new development?

2. Who bears the burden of the development fees and how do they affect housing prices? Does their effect depend upon the state of the economy?

Our first finding was that the fees imposed on new development are substantial. As our detailed analysis of Contra Costa County revealed, fees and assessments were typically in the range of \$20,000 to \$30,000 per dwelling. In one community, fees and assessments represented 19 percent of the mean sales price. The pattern of fees and assessments does vary across communities, with some communities using Mello-Roos or local assessment bonds to supplement development fees. Our analysis of development fees is consistent with prior studies that found similar fee levels for new construction in other areas of California.

The second major issue we address is the burden of the fees. From a theoretical point of view, it is possible for either homeowners, developers, or landowners to bear the true economic burden of the fees. Homeowners are more likely to pay for exactions through higher housing prices if the development fees and exactions are used to provide incremental services that add to the value of their property. New home prices will not increase if development fees and exactions are not used to provide additional services that directly benefit new residents and if potential buyers have options to purchase housing in nearby communities. In these circumstances, either developers or landowners will bear the burden of the fees and exactions. In principle, economic conditions in the housing market also matter. In depressed housing markets, developers or landowners are more likely to bear the burden of fees and exactions.

We studied the effect of development fees through an econometric investigation of housing prices in Contra Costa County for the period

1992–1996. We found that the effect of fees on housing prices varied within the county. We estimated that in the east area of the county, a \$1 increase in fees raised housing prices by only \$0.25. This meant that \$0.75 was borne by either developers or landowners. On the other hand, in the more western (or southwestern) part of the county, a \$1 increase in fees led to a \$1.88 increase in price, although our statistical methods could not distinguish this estimate from a \$1 increase.

The difference in the effects of fees on prices was primarily due to disparate economic conditions. Although our econometric investigation took place in a period of a declining housing market, there was significantly more distress in the eastern part of the county, as price declines continued unabated. There is direct evidence that developers were willing to absorb fees and assessments to sell their properties. Thus, even within the confines of a single county, the burden of development fees differed across communities because of differences in underlying economic conditions.

Housing prices are likely to rise when fees provide services targeted to new residents, as our econometric investigation indicated, but in distressed markets builders may be forced to absorb a significant fraction of the fees. Moreover, if cities or counties require developers to finance services whose benefits accrue to residents in neighboring areas, developers may not be able to pass on these fees to new residents.

From a developer's point of view, these possibilities create significant additional risk for a project. Since the building industry is typically quite competitive, builders will be reluctant to undertake projects that pose a risk of below-market returns. Moreover, they may not be able to convince landowners to accept lower prices, which would be necessary to

proceed with development. These risks may prevent builders from going forward with projects.

On the other hand, assessment bonds can also create risk for developers. Developers may be responsible for payments on bonds to finance infrastructure until the property sells. An unfavorable turn in the economy could force either a slowdown in the pace of new construction or unanticipated cuts in prices for new housing units, both of which would reduce profits for developers.

City and county officials who worry about the unfair burden imposed on new residents in their communities express some valid concerns. Before Proposition 13, property taxes on existing residents were used to finance infrastructure for new residents. In turn, these new residents would finance infrastructure for others in the future. Now, new residents must pay for their own infrastructure. What's more, some cities currently impose taxes on new construction to finance projects that benefit all residents in a city. These taxes further increase the burden placed on new residents. Developers and landowners may also be bearing the burden of some of these taxes and fees.

The key policy issue in this area in California today centers on the financing of new schools. Recent court cases have effectively removed prior limits on the fees that may be imposed on new development to finance school construction. These legal developments raise the possibility that some communities will sharply increase their reliance on development fees above prevailing levels.

If policymakers believe that too much of the burden of financing infrastructure for new development, and especially schools, is borne by exactions and development fees, then what are the alternatives? Several other sources of funds could be used to finance education: Mello-Roos

or assessment bonds, local general obligation bonds and state general obligation bonds, or state general fund subsidies. However, these sources have their own limitations and difficulties. Mello-Roos bonds are already being used as substitutes for exactions and development fees with developers and local governments weighing the tradeoffs between the two types of financing. To spread the burden more widely, there must be increased use of other bonds or general fund subsidies.

These other financing mechanisms would effectively share the burden of financing schools with existing residents. A case could be made that there are general, statewide benefits from education that distinguish it from other infrastructure. It can be argued that K–12 education provides benefits to all Californians through a better-educated work force and by reducing the risks of later dependence on the state. It is more difficult to make this argument with respect to other elements of the infrastructure—water, fire protection, or parks—where the benefits are restricted to local residents. Because schools can provide positive externalities to the broader community, we need to consider the possibility that financing school construction is, in part, a broader community responsibility.

Increased use of local obligation bonds would spread the burden of financing schools to all residents in a given political jurisdiction, not just new residents. However, the bonds are subject to a constitutional two-thirds vote for approval. Increased use of statewide general obligation bonds is an alternative that requires only majority vote approval. However, there are many competing uses for general obligation bonds. Increased general fund subsidies would mean additional fiscal pressure on tight state budgets at a time when K–12 education already has a preferred

position because of Proposition 98. It will not be easy to expand the use of any of these sources of additional revenue.

As long as we wish to see development proceed, there must be some financing mechanism for new infrastructure. Exactions and development fees will remain a critical tool for facilitating development. Cities and counties will reduce reliance on them only if alternative sources of funds, especially for schools, are provided. Californians need to decide if the costs of school construction should be spread more widely throughout the state and, if so, to adopt appropriate changes in financing.

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