

# Effects of Proportionate-Share Impact Fees

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## *Abstract*

When it comes to paying for the significant costs of growth, local governments throughout the United States are usually the first line of financing. Yet because of a variety of factors, existing tax, fee, and interjurisdictional transfer revenues may not be sufficient. Many hundreds (if not thousands) of communities rely in part on proportionate-share impact fees to provide facilities concurrent with the effects of growth.

Impact fees have numerous detractors, many of whom worry about their effect on affordable housing, economic development, and development patterns. A disparate literature has emerged addressing each of these concerns. This article synthesizes current knowledge about the market effects of proportionate-share impact fees and finds that for the most part, they facilitate development in several important ways. Policy implications and guidance for future research are presented as well.

**Keywords:** Affordability; Growth management; Urban policy

## **Introduction**

During the past few decades, local governments across the United States have become increasingly concerned about the task of financing the significant costs of growth. This responsibility is particularly acute in rapidly growing localities, because demands for new infrastructure in the form of roads, schools, sewers, parks and recreational facilities, and public safety services can outstrip the means to pay for them with existing revenue streams. But why is this so important now, when the United States has long been a nation char-

acterized by growth?<sup>1</sup> One reason is that it has become increasingly difficult over the past few decades to raise taxes to pay for these additional infrastructure costs. During the 1970s, high inflation boosted assessed property values and, in turn, property tax collections, creating substantial taxpayer resentment (Altshuler and Gómez-Ibáñez 1993). In such an environment, localities have become hesitant to raise taxes to pay for the additional expenses associated with new development and have instead devised ways to shift the costs of public improvements away from existing residents.

One of the most innovative and popular of these methods is impact fees, which are one-time levies predetermined through a formula adopted by a local government unit and assessed on developers during the permitting process (Nelson 1988). In practice, impact fees bridge the gap between the cost of new municipal infrastructure and the revenue streams that will help pay for them. They also provide local politicians with ammunition that can be used to appease antigrowth constituencies within their community.

Historically, the antecedents of impact fees were in-kind exactions, land dedications, or build/install requirements for the construction of specific facilities. Impact fees paid as monetary rather than in-kind contributions first came into use in the 1970s, providing a more efficient and flexible means of financing local infrastructure than negotiated or ad hoc exactions. Since then, they have become more popular as communities have gradually warmed to the idea that impact fees may be a practical means of addressing fiscal shortfalls and adding capacity to public infrastructure systems that need it badly (Altshuler and Gómez-Ibáñez 1993).

Impact fees remain controversial, however. The development community often complains that they detract from economic development by driving up costs, thereby causing developers to “vote with their feet” and build in communities with lower (or no) impact fees.<sup>2</sup> Developers argue that these fees will drive prices up and construction down. A particularly popular criticism is that impact fees may disproportionately burden low-income groups and have negative effects on housing affordability. If true, this means that impact fees may lead to higher racial and income-based segregation and lower homeownership rates among Hispanics and blacks (Baden and Coursey 1999; Braun 2003). Others say that impact fees are the only feasible way to finance sufficient new infrastructure in a tax-averse political environment, that they

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<sup>1</sup>Nationwide population growth rates during the 1950s, 1960s, and 1970s far exceeded those seen over the past three decades.

<sup>2</sup>See National Association of Home Builders (2007) and National Association of REALTORS® (2003) for a more comprehensive discussion of their positions on impact fees.

may actually have many positive effects on communities, and that they serve more as an efficient user fee rather than as a tax (Jeong and Feiock 2006).

Because so many public discussions over the relative merits of impact fees have been based mostly on speculation and anecdotal evidence, much can be gained from a better understanding of what the literature has to say about their effects on market conditions. This article will summarize the various theoretical and empirical investigations of the effects of impact fees during the past two decades. It synthesizes the existing evidence on three critical market factors: (1) residential property values, (2) residential construction rates, and (3) nonresidential economic development and job growth. The article concludes after a brief section on how the collective empirical results from the literature can be used to better inform policy debates on the relative merits of impact fee programs.

### **Housing price effects**

Critics of impact fees often claim that they lead to higher construction costs and housing prices, with potentially adverse effects on housing affordability within communities (Connerly 1988). This section therefore addresses the effect of impact fees on housing prices. Most theoretical and empirical studies have either explicitly or implicitly investigated the price effects of impact fees under relatively normal elasticity of demand: that is, in a relatively competitive housing market.<sup>3</sup> This assumption is reasonable given that patterns of impact fees reveal that they are most likely to be implemented in growing areas where the vast majority of jurisdictions face competition in the housing market.

#### *Theoretical evidence*

Recent work by Ihlanfeldt and Shaughnessy (2004) has shed light on the relationship between impact fees and housing prices. These authors begin by noting that there are old (traditional) and new theoretical approaches to addressing this issue. The traditional view, advanced by Altshuler and Gómez-Ibáñez (1993), Delaney and Smith (1989a, 1989b), Downing and McCaleb (1987), Huffman et al. (1988), Singell and Lillydahl (1990), and Snyder, Stegman, and Moreau (1986), considers impact fees to be an excise tax on the production of housing. As such, the fee acts like any other tax in a competitive market and reduces the short-term supply of housing by the

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<sup>3</sup>Empirical investigations often make this assumption implicitly through their choice of data, while theoretical investigations generally make the assumption explicitly.

amount of the fee. Impact fees are hypothesized to lead to a higher price for housing, lower profits for developers, and a reduction in the quantity of new homes built. The share of the fee paid by each participant in the housing market depends on the relative elasticities of supply and demand for developable lots and constructed residences.<sup>4</sup> This approach also posits that, to the extent that housing consumers find new and existing housing of equal quality to be close substitutes, the price of existing housing should increase.

In the long run, developers are assumed to be mobile across jurisdictions and therefore able to avoid the fee. It must be shifted either forward to consumers in the form of higher housing prices or backward to landowners. Although Huffman et al. (1998) argue that backward shifting is unlikely in many markets because landowners have a reservation price below which they will not sell, some have challenged this conclusion. Ihlanfeldt and Shaughnessy (2004) acknowledge that while a reservation price may prevent concessions in the short run, it does not eliminate the possibility that impact fees will be shifted backward in the long run. Moreover, they argue that in weak markets occasioned by the business cycle, reservation prices are likely to decline, thus resulting in backward capitalization of at least part of the fee.

In a groundbreaking piece, Yinger (1998) challenges many of the conclusions of the traditional approach and develops what some have labeled the “new” view. More recently Nelson and Moody (2003), Ihlanfeldt and Shaughnessy (2004), and Burge and Ihlanfeldt (2006b) have extended the conclusions of the new view. According to this view, impact fees reflect the cost of providing the valued facilities needed to serve new development and may offset property taxes that would otherwise have been assessed, thereby leading to a savings in these costs that will be capitalized into home values. In his model, Yinger (1998) assumes mobility for housing consumers (a stronger assumption than assuming mobility for developers) so that they are protected from the long-run burden of impact fees just as developers are. While impact fees should still lead to higher housing prices, the implication is that increases come from the higher reservation prices consumers are willing to pay due to the value of public infrastructure and the present value of the expected future savings in property taxes associated with the fee regime.

The process by which impact fees lead to higher housing prices under the new view is traced by Ihlanfeldt and Shaughnessy (2004). Initially, it is

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<sup>4</sup>See Huffman et al. (1988) for an outline of three specific types of market elasticity conditions and a discussion of the likely distribution of costs in each case.

assumed that local governments rely almost exclusively on property taxes to finance new facilities. Also assuming that there is no change in the quality of the facilities accompanying the move away from the reliance on property taxes to impact fees, the new view suggests that prices for both new and existing homes will go up.

The increase in prices should equal the capitalized value of the property tax savings that homeowners expect from the reduction in the tax rate. The tax rate declines because the imposition of the impact fee shifts the costs of new infrastructure from existing property owners to developers. (Ihlanfeldt and Shaughnessy 2004, 4)<sup>5</sup>

Nelson and Moody (2003) extend this approach by arguing that because impact fees enhance the timely provision of public infrastructure, they may expand the supply of buildable land. This expansion may reduce the equilibrium price of land, but the interpretation is different than it was under the traditional view. The traditional view holds that because developers pay the impact fee (but receive no benefit), they reduce their demand for land to the extent that they are not able to fully shift the fee forward to consumers. However, if impact fees make more areas developable by adding capacity to existing public infrastructure, it may well be that an increase in the supply of developable land causes lower prices.

Burge and Ihlanfeldt (2006b) also emphasize the possibility that impact fees may increase the supply of developable land, but offer an alternative explanation. They argue that exclusionary fiscal motives may cause communities to zone their undeveloped land to protect themselves from high levels of residential development. They posit that if residential development does not generate enough additional tax revenue to cover the cost of providing new public services, the community may adopt more stringent exclusionary barriers to the construction of residential property if impact fees are not used. Under these conditions, developers are more likely to face costly rezonings that may or may not even be approved. Burge and Ihlanfeldt (2006b) contend that impact fees may cause communities to willingly zone more of their undeveloped land for residential purposes and lower other regulatory barriers if such fees are seen as a way to reduce the fiscal burden of growth. Hence, the supply-side price effects under this approach are complicated. On

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<sup>5</sup>Burge and Ihlanfeldt (2006a) point out that under an alternative assumption—that the property tax rate is held constant and that impact fee revenues are used entirely for *additional* provision of services—the result still holds. In either case, there is a more favorable ratio of property tax liabilities to public service provision that is capitalized into home values.

the one hand, developers have the statutory burden of paying a fee (a negative effect), but on the other, they may benefit from a drop in non-impact fee related project approval costs if communities have a fiscal motivation for exclusion (a positive effect). Therefore, the extent to which developers are forced to shift excess costs is mitigated by this direct savings.

Burge and Ihlanfeldt build their model (2006b) on the Yinger (1998) proposition that impact fees offset property tax revenues. They argue that consumers under impact fee regimes are willing to pay a higher price for housing to the extent that it is offset by a savings in property taxes and point out that the present value of this savings should vary directly with the value of the home.

While Yinger (1998) asserts that housing consumers value the additional public facilities provided by the impact fees such that they willingly pay higher prices, he takes no stance on the magnitude of this effect. Ihlanfeldt and Shaughnessy (2004) suggest that if the benefits from the new facilities financed by impact fees are valued highly enough by new home buyers, it is possible that housing prices will increase by an amount greater than the size of the fees. In fact, the various studies we discuss later find evidence to support this possibility, which is commonly referred to as “over-shifting” (defined as the possibility that a dollar of impact fees could lead to a home price increase of more than a dollar [Campbell 2004]).

We posit that one possible explanation in support of the over-shifting hypothesis is that local governments may use impact fee revenues strategically to secure additional benefits for the community. It is important to note that impact fees rarely cover the full cost of facilities and typically finance less than half. However, because these fees must be spent to deliver the quality or level of service on which they are predicated, often within binding time limits, local governments may attempt to leverage impact fees along with other revenues to provide facilities.<sup>6</sup> If this theory is valid, the value that impact fees add to the community may be greater than the fees themselves if they are leveraged to provide higher-value facilities.

### *Empirical evidence*

Previous empirical investigations of the price effects of impact fees include studies by Delaney and Smith (1989a and 1989b), Singell and Lillydahl

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<sup>6</sup>For example, it is a common practice in Florida to use road impact fees to pay for right-of-way acquisition and engineering, which account for about half the cost of road construction, with most of the remaining cost coming from the state. From anecdotal evidence, it seems possible that impact fees may create value for the community if revenues can be leveraged to secure state or federal funds.

(1990), Nelson et al. (1992), Skaburskis and Qadeer (1992), Dresch and Sheffrin (1997), Baden and Coursey (1999), Mathur, Waddell, and Blanco (2004), Ihlanfeldt and Shaughnessy (2004), Campbell (2004), Burge and Ihlanfeldt (2006b), and Mathur (2007). There was a great deal of inconsistency across early findings and little consideration was given to whether observed price increases were due to reductions in supply or increases in demand. Much of the early work also suffers from important methodological weaknesses that are often related to a lack of appropriate data. More recent investigations have the benefit of being able to account for significant developments in our theoretical understanding of the effects of impact fees on house prices and have also used more appropriate data.

In one early investigation, Delaney and Smith examine the effect of a single impact fee adopted by the city of Dunedin, FL, in 1974. In their first article (1989a), they find that impact fees raise the price of new homes by roughly three times the size of the original fee. Their second article (1989b) finds that impact fees also raise the price of existing housing, but by a much smaller amount. In addition to the implausibly large price effect on new homes, it is difficult to believe that the price effects of impact fees are so dissimilar for new and existing homes when other evidence suggests they are close substitutes. Yinger (1998) points out that the results put forth by Delaney and Smith (1989a and 1989b) are based on the assumption that the price of land does not change as a result of the fee (which may or may not hold) and that the failure to control for public infrastructure quality and neighborhood characteristics may be a critical flaw in their empirical models.

Singell and Lillydahl (1990) find a very different set of results in their study. Using Loveland, CO, data that spanned a three-year period (1983 to 1985), they examine the price effects of a \$1,182 increase in impact fees that occurred during that period. Consistent with Delaney and Smith (1989a and 1989b), they find an increase in the price of new homes of just over three times the amount of the impact fee. However, they also find that the fee increases the price of existing homes by \$7,000—roughly six times the original fee and a highly implausible result. Troubling aspects of this study include the fact that so few sales were used (429) and that only one impact fee change in a single jurisdiction was analyzed. Because both of these studies analyze only one impact fee change in a single community, any price effects they observe could be attributed to an omitted time-related factor.

Studies by Nelson et al. (1992) and Skaburskis and Qadeer (1992) are interesting because they investigate the relationship between impact fees and the price of undeveloped land within a community. To the extent that price effects on land are directly related to potential price effects on housing, their

results belong in a discussion of the effects of impact fees on prices. Nelson et al. (1992) find significant positive effects on the price of land that differ dramatically across selected housing markets. The positive effect is consistent with the over-shifting results from previous work. Nelson et al. (1992) offer two arguments in support of their finding. First, because impact fees establish a contract for development rights, developers may prefer impact fee programs to situations with no fees but less certain rights. They also argue that impact fees may delay the timing of development until housing prices, and in turn land prices, increase enough to offset the fee and any interest charges on the amount. One troubling point is that the effect of impact fees on land prices varies widely across the different areas included in their study, ranging from strong positive effects to sometimes insignificant ones.

Skaburskis and Qadeer (1992) also find that the price of land increases with the presence of an impact fee. Their models describe prices as a function of development costs (including impact fees), locational variables, and the expected future growth in housing prices and construction costs. They find that lot prices increase by 1.2 times the amount of the impact fee, again indicating over-shifting. Unfortunately, the studies by Nelson et al. (1992) and Skaburskis and Qadeer (1992) both suffer from the same data limitations as the other early studies. However, because they do provide some evidence that the price effects of impact fees may not be driven entirely by a reduction in supply, as most early work argued, these findings are significant.

In their 1997 article, Dresch and Sheffrin use data on housing sales in Contra Costa (CA) over a four-year period. The case study is divided into two areas, Eastern County and Western County. As is still common in California, impact fees were substantial: more than \$16,000 and \$24,000 in the Eastern and Western counties, respectively. In Western County, an additional \$1 of impact fees was found to significantly increase the price of new homes by \$1.88, while in Eastern County, the increase was only \$0.25. Although the authors provide a number of explanations for this large difference, their arguments are not consistent with the new view of impact fees, and there is no satisfactory resolution of this troubling issue.

A more recent attempt to measure the price effects of impact fees was made by Baden and Coursey (1999), who use sales from new and existing homes in the Chicago area between 1995 and 1997 to regress logged sales prices on a detailed set of structural variables and an impact fee variable. Their results produce an estimated elasticity of impact fees on the full sample of new and existing homes ranging between 0.011 and 0.013. After multiplying these coefficients by the mean selling price for each of their municipalities, they find significant, positive effects that are again larger than the size of

the fee itself. Baden and Coursey (1999) offer an explanation that is contrary to the Nelson et al. (1992) argument that impact fees reduce uncertainty and essentially argue the reverse—that impact fees add further uncertainties and delay costs into the approval process, forcing developers to more than fully recoup the cost of the fees. Since the magnitude of their price effect is highly consistent with other recent estimates that lend support to the over-shifting hypothesis, it is not clear why the authors failed to discuss any potentially positive effects of impact fees or cite earlier findings. The traditional view of focusing only on a supply-side effect comes through in their discussion of the results. Still, this study is important because it produced the first set of estimated price effects that holds up to more current evidence.

Mathur, Waddell, and Blanco (2004) used sales data from 38 jurisdictions for 1991 through 2000 to examine the effect of impact fees on the prices of new single-family homes in King County, WA. In hedonic models that control for a number of structural, locational, and jurisdictional attributes, they find that \$1 in impact fees is correlated with an increase of \$1.66 in the price of a new home selling for \$246,000 (the mean from their data set). Impact fees are found to have an even larger effect on the selling price of higher-quality new homes (\$3.58 for \$1 in fees), while their effect on lower-quality new homes is found to be positive but statistically insignificant at the 95 percent confidence level. This is the first piece of evidence that impact fees may cause different price effects on homes in different value ranges. Mathur, Waddell, and Blanco (2004) speculate that the effect on high-quality home prices is so large because the value of the infrastructure paid for by the fees was greater than the cost of the fee. These results are also consistent with the idea that impact fee revenues may reduce future property tax liabilities, thus increasing the demand for housing in the community proportionally to property values.

While these authors correctly point out that the price effect becomes insignificant for homes in the lower-quality tier, it is worth noting that the point estimate is nontrivial (\$0.63) with a *t*-statistic of nearly 1.5. All things considered, this study can be taken as evidence that the overall effects of impact fees on the price of housing are positive, with roughly \$0.65 cents of over-shifting if we look at the mean in their sample, and that the magnitude of these effects depends on the value of the new home.

In an article in this issue, Mathur (2007) again used the King County (WA) data to investigate the question of price effects on existing housing. His results show that impact fees raise the price of an average existing home by \$0.83 for a \$1 fee, again with a larger shift for high-quality (\$1.03) than for lower-quality homes, where the point estimate for the effect is positive but

insignificant at even the 90 percent confidence level. This again supports the new view of impact fees and is consistent with a positive shift in the demand curve for all types of housing within the community. Mathur (2007) also points out that since impact fees are not found to raise the price of lower-quality housing, they should not have severe effects on affordability as many opponents have often claimed.

In another recent study, Ihlanfeldt and Shaughnessy (2004) use time-series data from Dade County, FL, to investigate the effects of impact fees on the price of both new and existing housing. Their sample included sales of all new (39,792) and existing (107,376) homes during the study period. This study adds to the existing literature in that it uses hedonic and repeat sales regression methods to construct monthly constant-quality price indexes for new and existing single-family housing, as well as undeveloped residential land. These indexes are then used in a second stage that estimates the price effects of impact fees on these measures. Ihlanfeldt and Shaughnessy (2004) found that \$1 of impact fees increased the selling price of new and existing homes by \$1.64 and \$1.68, respectively. Both were statistically significant, although neither differed significantly from 1. The explanation was that, consistent with the new view, impact fees reduce the property tax burden for community residents, thus lowering future tax rates. In separate regressions, they estimate the present value of these future property tax savings to be about \$1.20 for each \$1 of additional impact fees, providing one of the most direct pieces of empirical evidence to support the new view to date.

Ihlanfeldt and Shaughnessy (2004) interpret their results as evidence in support of the argument that impact fees add value that is capitalized into home prices for consumers rather than operating merely as an excise tax that may be passed on to consumers under the right market conditions. This finding is important because it gets to the heart of the most important issue related to the price effects of impact fees: Are price increases primarily driven by reductions in the supply of housing or by increases in the demand, due to a more favorable ratio between public infrastructure services and property taxation?

Been (2005) has recently commented on the interpretation Ihlanfeldt and Shaughnessy (2004) offered for their findings. She argues that because impact fees will add amenity value only to new homes and because any future savings in property taxes should accrue equally to owners of new and existing homes, we would expect Ihlanfeldt and Shaughnessy's (2004) results to show larger price effects for new as opposed to existing homes. However, because enforceable legal standards generally require equitable access to public services across different parts of a community, the conclu-

sion that impact fees generate public facilities valued exclusively by owners of new homes is difficult to believe. While rational nexus tests require that impact fees be spent in ways that directly affect new construction, it seems a rather strong assumption that these revenues would be spent on projects that are completely worthless to existing residents. A simple example involving a school impact fee clarifies this point.

Suppose that a community is dealing with overcrowding in its elementary schools and that revenues from an existing school impact fee are pooled and used to pay for at least a portion of the capital cost of building a new school, thereby adding to system capacity. While new residents may predominantly send their children to the new school, it is wrong to assume that this does not also benefit existing residents because the new school alleviates overcrowding at other schools. It is reasonable to characterize this situation as providing a higher level of service to all community residents, rather than just households sending their children to the new school. This situation would easily pass a rational nexus test. A similar argument can be made for road impact fees leading to less congestion on major thoroughfares throughout the community, even when these fees are used to build or widen a road traversed primarily by new residents.

Campbell (2004), who investigates the effects of impact fees on house and land prices in several jurisdictions within the Orlando (FL) standard metropolitan statistical area (MSA), finds very similar results using a similar methodology. Although it is difficult to point to one conclusive piece of evidence because individual price effects models are estimated for each jurisdiction in his sample, the average price effect coefficient of roughly \$1.50 (per \$1 of impact fees) for new homes is in line with the Ihlanfeldt and Shaughnessy (2004) and Mathur, Waddell, and Blanco (2004) studies. He further estimates the average price effect on existing homes to be roughly \$1, which is consistent with Mathur (2007).

Burge and Ihlanfeldt (2006b) also investigate the price effects of impact fees on the constant-quality price of housing as estimated across different segments of the market for single-family homes. In the first stage of a two-stage process, they estimated constant-quality housing price indexes for new and existing home sales in each of three tiers (small, medium, and large homes as defined by square footage) across all Florida counties that used impact fees, including water and sewer impact fees, during an 11-year period from 1993 to 2003. The natural log of each of these estimated house price indexes was used as the dependent variable in the second stage, which regressed two categories of impact fees (water/sewer impact fees and non-water/sewer impact fees) on housing prices from each tier, along with various controls, in both

fixed-effects and random-trends price models. Non-water/sewer impact fees (roads, schools, parks) are found to have positive effects on prices, generally achieving statistical significance at conventional levels of confidence. At the point of means, their results implied that a \$1 increase in impact fees will increase the price of small, medium, and large homes by \$0.39, \$0.82, and \$1.27, respectively. While all were significant, the difference in magnitudes implies that the absolute change is roughly proportional to the value of the homes. Burge and Ihlanfeldt (2006b) interpret this as evidence that market demand is increasing from a more favorable ratio between public service levels and future property taxes such that consumers are willing to pay a higher price per unit for housing in the community.

### *Summary*

Collectively, the most convincing empirical evidence to date on the price effects of impact fees indicates the following:

1. Impact fees do lead to higher average housing prices. Focusing on several recent studies that use reliable data and methodological approaches, the estimated price effects for new homes have mostly pointed to a range between \$1.50 and \$1.70 for a \$1 increase in impact fees. For existing homes, point estimates are somewhat less consistent, starting at \$1 and ranging as high as \$1.68. Collectively, over-shifting is definitely occurring in the market for new homes and may or may not be occurring in the market for existing homes.
2. Demand-driven increases in willingness to pay (as opposed to a reduction in supply) are, at least in large part, responsible for these price increases. The new view accounts for two positive demand-side effects of impact fees, namely that they are expected to offset future property tax liabilities and that they create infrastructure valued by community residents.
3. Impact fees do not cause price increases of similar absolute magnitudes for expensive versus more affordable homes. Instead, the increase in the willingness to pay seems to be approximately proportional to the value of the home.
4. Due to conflicting evidence in the literature and the difficulty of adequately measuring constant-quality land prices, there is no strong consensus as to the price effects of impact fees on undeveloped land. More work must be done to address this question.

An understanding of the market price effects of impact fees is essential for local governments considering their use. Unfortunately, many discussions of impact fees focus mainly on the first point and fail to recognize the second and third. Good public policy should be mindful of any potential problems low-income consumers may face from rising prices for the most affordable homes in the community, but would also recognize where the positive pressure on prices seems to be coming from. Therefore, while concerns about housing affordability should certainly be addressed within the approach a community takes toward implementing impact fees, we argue that these concerns should not be used as a barrier to implementation in communities struggling to find ways to pay for badly needed infrastructure expansions.

### **Housing production effects**

It is useful to treat housing price effects and housing production effects in separate discussions, although they are related. One of the chief concerns about impact fees goes beyond whether and to what extent they may increase housing prices and whether the production of new affordable housing is jeopardized. That is to say, in addition to the worry that impact fees may adversely affect affordability, critics express concern that such fees may stifle the production of new homes and, in particular, smaller homes where the fee is a larger percentage of the production cost (Anthony 2003). This section therefore presents the theoretical and empirical evidence on the effects of impact fees on housing construction rates. Evaluating the evidence on supply effects is yet another way to better understand the complexity of the effects that proportionate-share impact fees have on housing markets.

#### *Theoretical evidence*

Existing evidence supports the idea that impact fees increase the demand for housing because they lower property taxes (the savings are capitalized into home values) and are used to provide infrastructure of value to both new and existing residents. It has also been suggested that impact fee revenues may be leveraged with extrajurisdictional funds to provide greater value in total facilities than the size of the fees themselves—one potential explanation for the over-shifting that is consistently found in recent empirical investigations of price effects. The following discussion considers the effects of impact fees on the supply curve for new homes and, in turn, on the construction of single-family homes. It will demonstrate how the relationship between impact fees and housing production is quite nuanced, with many important dynamics at work.

First, it is critical to recognize that impact fees may affect both the demand and the supply curves for new homes. The positive demand shift argument is strongly supported by the theoretical and empirical literature discussed earlier. The increase in consumers' willingness to pay means that *ceteris paribus*; we would expect an increase in the production of residential properties. However, all else is not held constant, and there are important supply-side effects to consider. In the end, both supply and demand shifts interact to determine whether impact fees will slow down, speed up, or have no effect on residential construction.

Impact fees have multifaceted supply-side effects. The development community has argued that such fees are a tax on residential development, reducing construction by causing a backward shift in the housing supply curve equal to the size of the fee.<sup>7</sup> This conclusion is an outgrowth of the traditional approach. While there is no question that the fee constitutes a cost for developers in the permitting process, several offsetting positive effects are at work as well.

To begin, we will consider what impact fee revenues actually do: They help provide the valuable facilities needed to accommodate growth. If in the absence of impact fees new facilities cannot be provided to meet the demands of growth, residential development may be slowed for areas that do not have adequate services. We could take a different approach and assume that local governments force existing residents to pay for these facilities through higher taxes so that the facilities will still be built. In this case, growth will become highly unpopular and community residents will become resistant to further residential development. The home voter hypothesis, advanced by Fischel (2001), predicts that something has to give in this situation; elected officials will not stay in office if they continue to burden existing homeowners with unpopular tax increases for the benefit of future residents. Therefore, it is unlikely that communities will willingly allow high levels of residential development necessitating costly infrastructure expansion and higher taxes. If elected officials and those who work for them respond predictably to the interests of their constituents, proposals for residential development will be more frequently denied and construction will be reduced. Further, other specific regulatory policies designed to limit or stop residential growth may be employed. Examples include exclusionary zoning, minimum lot size requirements, and urban growth or containment boundaries. Lengthening

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<sup>7</sup>Again, see National Association of Home Builders (2007) and National Association of REALTORS® (2003) for their positions on impact fees.

the time required for approval or simply making a conscious effort to lower the approval rates for residential projects is another possibility.

All of these reactions to the unwanted fiscal burden of rapid residential development increase developers' compliance costs but do not directly generate any revenue for the community. By contrast, because impact fees generate revenue that is used to help provide the facilities needed to accommodate growth, they provide easily visible benefits to the community in addition to their desired effect of internalizing some of the external fiscal burden of new residential development. Among other positive effects, impact fees may increase the supply of buildable land in a manner that is more responsive to growth needs. If so, upward pricing pressures that may occur in the absence of a supply of buildable land may be moderated.

In addition to providing infrastructure that increases the supply of buildable land, impact fees may also cause communities to zone a higher percentage of their land for residential purposes or to allow higher densities. Further, impact fees may reduce the presence or stringency of enforcement for other types of exclusionary barriers—a point that was first mentioned by Gyourko (1991) in a theoretical piece investigating the relationship between impact fees and optimal density levels for development. This possibility was also examined by Altshuler and Gómez-Ibáñez (1993) and Ladd (1998) and is a critical component of the model developed by Burge and Ihlanfeldt (2006b). Collectively, these positive factors may generate at least a partial offsetting of the cost of the impact fee itself and lead to higher probabilities of project approval.

Additionally, impact fees may reduce the time needed to review development proposals. In the absence of such fees, local governments will need to review proposals for their full impact on facilities, and this can delay the decision-making process. Another possibility is that local governments may use lengthy reviews and unforeseen delays to slow down the pace of residential development. These delays can lead to higher housing prices and lower rates of residential construction. Therefore, besides the direct negative effect that impact fees have on the supply curve, they are also expected to reduce other preexisting monetary and time-related compliance costs. Therefore, impact fees generate both positive and negative effects on residential construction, and there is no way to predict the net effect. This motivates well-designed empirical research that can answer the important question of whether impact fees will actually reduce or enhance the number of affordable housing opportunities within communities. This question is the focus of the review presented in the next section.

Before we take up this discussion, however, it is worth noting that construction effects may vary across different parts of metropolitan areas and across different size ranges of homes. Burge and Ihlanfeldt (2006b) note that the potential for impact fees to lower other regulatory costs is strongest in the suburbs, where numerous studies have documented the most stringent levels of preexisting residential exclusion. Also, both monetary and nonmonetary compliance costs may be higher for affordable residential developments than for large single-family developments. For a number of reasons, including fiscal budgetary considerations, Burge and Ihlanfeldt (2006b) argue that communities are more likely to try to exclude higher-density residential developments such as starter homes and multifamily structures than large single-family subdivisions.<sup>8</sup> They also recognize the argument that the demand-driven increase in consumers' willingness to pay is expected to be larger for expensive homes than it is for starter homes. Burge and Ihlanfeldt (2006b) argue that all of these considerations motivate research to investigate the supply effects of impact fees across different areas and home size ranges.

Brueckner (1997) constructs a theoretical model that compares an impact fee for infrastructure financing with two alternative types of cost-sharing schemes. His conclusion is that the effect of impact fees on residential construction rates is a priori ambiguous and that the parameters characterizing the housing market, such as the size of the community relative to the optimal size in his model, would largely determine whether impact fees actually slowed down or sped up residential development. Turnbull (2004) compares the development patterns that result from impact fees, urban growth boundaries, and an unregulated environment. He finds that optimally constructed impact fees lower construction rates in steady-state equilibrium and on the equilibrium path, but that this reduction reflects a move to the socially optimal level of construction, as opposed to growth boundaries and the unregulated environment, which lead to above-optimal growth rates.

While Yinger (1998) does not explicitly model the relationship between impact fees and residential construction and focuses instead exclusively on the incidence of residential impact fees, his conclusions are still relevant to this discussion. He points out that housing values are positively affected by the quality of the local public infrastructure but negatively affected by property tax burdens and that under a balanced budget analysis, impact fee revenues must either increase service levels (without raising property taxes), decrease property tax burdens (holding service levels constant), or lead to some com-

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<sup>8</sup>See Ihlanfeldt (2004) for a review of the evidence on various forms of exclusionary land use regulation.

ination of the two. Under all three outcomes, the conclusion is that impact fees increase the demand for housing in the community. However, he also assumes a decrease in the supply curve for new housing by the amount of the impact fee. Thus, the implication of his theoretical model is that construction effects are ambiguous rather than definitively positive or negative.

### *Empirical evidence*

While many studies have analyzed the effects that impact fees have on housing prices, the existing empirical literature on the relationship between impact fees and housing construction is comparatively thin and consists of studies by Skidmore and Peddle (1998), Mayer and Somerville (2000), and Burge and Ihlanfeldt (2006a, 2006b).

Skidmore and Peddle's (1998) data comprise a panel of 29 cities in Dupage County, IL, from 1977 to 1992. By the end of this period, just over a third of these cities had implemented impact fees. These authors regress the number of new single-family homes built in city  $i$  in year  $t$  on a dummy variable, indicating whether the city had an impact fee in year  $t$ ; year and city dummy variables, resulting in a two-way fixed-effects model; and a number of control variables, including per household property tax revenue and average assessed valuation of property in city  $i$  in year  $t$ . Depending on the specific models they employed, Skidmore and Peddle (1998) obtain results indicating that a newly imposed impact fee is associated with about a 25 to 30 percent reduction in residential development rates.

Their pioneering study suffers from many important shortcomings, however. Because their impact fee variable simply registers the existence of a fee and not the dollar amount or the type of services that are funded, it is difficult to place much confidence in their results. Moreover, because new homes are, on average, more expensive than existing ones, their control variables are not exogenous to the number of new homes built. Finally, they made little effort to consider the manner in which impact fees would likely affect the timing of development in the short run. It is easy to see that in advance of the implementation of impact fees, developers apply for building permits to generate as large an inventory as they can. The most direct evidence to support this idea comes from an investigation by Matthews (2002), which analyzed the timing effects of impact fees on residential permitting in metropolitan Atlanta. He collected data on the number of residential building permits issued each month for 18 months before and after the implementation of impact fees in Fulton and Cherokee counties. He found that for a small number of months leading up to implementation, extremely high numbers of permits were issued, followed by very low counts for a short period after-

ward. Within six months, permit levels had exceeded pre-implementation levels and continued to rise over the rest of the sample.

Mayer and Somerville (2000) use quarterly data on 44 metropolitan areas from 1985 to 1996 to regress the log of the number of single-family housing construction permits issued on impact fees, other land use regulatory variables, and a set of control variables. Like Skidmore and Peddle (1998), Mayer and Somerville (2000) use a dummy variable to measure impact fees. However, their variable is measured with an even greater error. For all quarterly observations coming from a particular MSA, the impact fee dummy variable equals 1 if impact fees were used somewhere within the MSA in 1989. Not surprisingly, this variable is not found to affect the number of single-family construction permits.

While impact fees may expedite the review process, lower the monetary costs of regulation unrelated to such fees, and increase the demand for housing within a community, they will also directly increase the fees a developer pays for a building permit. Therefore, the central question remains: Do impact fees help or hurt the production of low-income housing? To address this question, Burge and Ihlanfeldt constructed a unique database on impact fee use among Florida counties over an 11-year (1993–2003) period, investigating construction effects for single-family homes in one article (2006b) and multifamily housing in the other (2006a). In both studies, they estimated separate models for central cities, inner and outer suburbs, and rural areas. Due to the richness of their data, they were able to employ panel data estimation techniques (including fixed effects, random trends, and stock adjustment models) designed to control for unobservable factors—other than impact fees—that might also affect construction rates. Impact fees are broken down into two distinct categories: those that fund services otherwise covered by property taxes (roads, schools, parks, police, fire, and so on, henceforth labeled non–water/sewer impact fees) and those that fund services for which capital expansion costs are otherwise recouped through higher user fees (water/sewer). Their results include several interesting findings.

First, non–water/sewer impact fees are found to increase the construction of smaller homes and multifamily housing in Florida’s inner suburbs over this period. This provides the first piece of empirical evidence that, at least within the inner suburbs where most population growth occurs and where housing affordability issues have been noted as being the most pressing in Florida, the positive effects of impact fees seem to outweigh their direct cost, leading to higher rates of affordable housing construction. However, this category of fees had no significant effect on construction rates for either type of affordable housing in central-city, outer suburban, or rural areas. Accord-

ing to Burge and Ihlanfeldt (2006a, 2006b), the implication is that in those regions, the benefits are large enough to avoid a negative effect on affordable housing development but not large enough to cause a positive relationship. For larger single-family homes, their results show a significant positive effect of non-water/sewer impact fees for both inner and outer suburbs, again, however, with an insignificant effect on construction rates in central-city and rural areas. The finding that this type of fee increases the construction of large homes but not affordable housing opportunities in the outer suburbs is interpreted as evidence that the exclusion of low-income housing in these areas is more than just fiscally motivated. Burge and Ihlanfeldt (2006a, 2006b) note that compared with the inner suburbs, the outer suburbs are more homogenous with respect to both income and race and that reducing the fiscal impact of low-income housing may not be enough to overcome exclusionary barriers.

Burge and Ihlanfeldt (2006a, 2006b) also report that the effects of impact fees that fund services otherwise covered by user fees, namely water/sewer impact fees, are somewhat different. Such fees are found to be an insignificant determinant of construction rates for all size categories of homes and across all parts of the metropolitan area. The implication is that while water/sewer fees do provide enough benefits to avoid lowering construction rates, these benefits are not larger than the fee itself. Further, water/sewer impact fees were found to reduce the construction of multifamily housing, an indication that the benefits of this category may not be large enough to offset the direct cost for developers of multifamily projects. Additional work investigating why these two classes of impact fees have different effects on construction is merited.

### *Summary*

The effects of impact fees on residential construction rates are considerably more complicated than their effect on prices. Also, there are relatively few studies that have directly investigated supply effects rather than price effects. Not surprisingly then, our understanding of the effects that impact fees have on housing production is somewhat less refined than our understanding of price effects. Still, several important points are worth highlighting:

1. Although early theoretical work predicted that impact fees would have a negative effect on residential construction rates, more recent investigations conclude that the direction of the relationship is ambiguous. The eventual effect depends on the relative magnitudes of several factors that may partially or fully offset the cost to developers. Well-designed empirical work is needed.

2. The most reliable empirical evidence to date finds that impact fees used to provide infrastructure otherwise funded through property taxes (roads, schools, parks, and so on) have a positive effect on residential construction rates in suburban areas and a negligible impact on construction rates in central-city and rural areas. For affordable housing, this effect seems to be limited to the inner suburbs, but it applies to all suburban areas for larger homes.
3. Impact fees for services otherwise funded through user fees (water and sewer) do not seem to have the same positive effect on construction rates. At best, they seem to have a neutral effect, and at worst, they may actually inhibit the production of multifamily housing.

Understanding the complex effects of impact fees on residential construction rates and housing prices is equally important. Policy makers are still influenced by the central conclusion of the traditional approach, which is that impact fees will reduce construction rates. Often the possibility of using impact fees to address the growing problem of inadequate public facilities is derailed by the concern that such fees will stifle residential construction. Therefore, it is crucial that state and local government officials become familiar with the more recent evidence to support the idea that impact fees may not reduce residential growth in the long run. All things considered, effectively crafted impact fee programs can be a part of the solution for local governments that are open to growth, but also want to grow in ways that satisfy the needs of both current and future residents.

### **Economic development effects**

We now move away from our focus on residential development issues to the effects that impact fees may have on nonresidential development and economic growth more generally. Even if impact fees do not have adverse effects on housing affordability and availability, there is still the concern that they may stifle economic development and job growth. This possibility is worth investigating because the long-run feasibility of impact fees as an effective mechanism to raise revenue requires that they not drive economic development away to neighboring communities. This section first presents some theoretical considerations and then summarizes the results of the only two empirical studies to date that directly address the relationship between impact fees and economic development (as measured by employment growth).

### *Theoretical evidence*

We investigate two main questions in this section. First, what role do impact fees play in terms of infrastructure provision and the supply of developable land? Second, are they better characterized as a tax or as a user fee? Each question provides an important context for understanding the effects of impact fees on employment and economic development more broadly.

*The role of impact fees on infrastructure and land supply.* Often overlooked in debates about impact fees is what they are actually intended to do. Their fundamental purpose is to generate revenue to build public infrastructure serving areas of new development (Nelson 1988). In the absence of such fees, local governments may have difficulty raising the revenue to accommodate growth, in terms of paying for adequate concurrent infrastructure. In such cases, development is delayed through lengthy planning reviews that are preoccupied with the negative effect of the proposed development on already congested infrastructure systems, severely restricted through growth moratoria or permit limits, or simply displaced to other communities because developers are wary of locations with inadequate public facilities and services. Therefore, it is worth noting that impact fee revenues generate valuable infrastructure that otherwise would not have been provided or, alternatively, may have been provided by funding from alternative sources that over time would almost certainly lead to other forms of opposition to nonresidential development.

Another effect of impact fees—their effect on the supply of developable land—has long been overlooked in the literature. Even communities that have adequate central facility capacity may still lack the distribution network to accommodate new development. From an economic development perspective, the ability to plug into key infrastructure systems such as water, sewer, drainage, and roads is perhaps the most important ingredient in increasing the supply of land commensurate with development pressures (Blair and Premus 1987). By providing a revenue source for the costs of extending the distribution network to poorly connected areas that may otherwise be ready for development, impact fees may increase the supply of buildable land and markedly facilitate growth in areas that had previously lacked basic services.

Finally, some studies (Nelson et al. 1992) have argued that impact fees appear to reduce the uncertainty and risk involved with commercial development by providing developers with a reasonably predictable future supply of buildable land. This is critical because the eventual success or failure of most commercial developments is highly dependent on the presence and vitality of other supporting developments that may not be in place yet, but should likely

follow. Unfortunately, the relationship between impact fees and the supply of buildable land has been largely ignored in the literature (with the notable exception of Kaiser, Burby, and Moreau 1988).

*A tax or a user fee?* Even though the context is nonresidential development and job growth, our discussion must revisit the traditional and new views. The relationship between impact fees and development levels is controversial. The traditional approach considers them to be an excise tax. Under this view, the predicted effect is clear: Impact fees limit growth, shifting economic development away from otherwise more efficient outcomes and creating a loss to society. Market participants such as developers and commercial investors (and new home buyers in the case of residential development) bear the burden of the tax to the extent dictated by the supply and demand elasticities for land and developed structures. In a competitive market, we would expect the pace of development to slow and the price of buildable land to fall (Downing and McCaleb 1987). Likewise, if impact fees simply act as a tax on capital without creating value in the development process, markets will adjust by shifting the location of development and/or by raising prices, thus reducing consumption and eroding economic efficiency. On the one hand, a shortcoming of this conclusion is that revenues from excise taxes are not generally assumed to be used for expenses intimately connected to the payer of the tax. Hence, this view of impact fees may lead to incorrect conclusions if it implicitly assumes that those who pay the tax receive no direct benefits from the revenues.

On the other hand, if the revenues are used to provide sufficiently valuable benefits to payers, impact fees may behave more like a user fee (benefit tax). This approach assumes that developers have an underlying demand for public infrastructure services tied to particular locations and communities and that they are willing to pay for what they want. With this approach, it is possible that impact fees may help expand the supply of buildable land by positively affecting the pace and quality of infrastructure system development. Under rational nexus criteria, impact fees cannot exceed the cost of infrastructure apportioned to the development *net* of other revenues used to finance the same infrastructure. For example, if federal or state funds are available to help finance infrastructure, the impact fee is based on the cost of infrastructure *less* those external sources of revenue. As noted earlier, in this way the impact fee can leverage more infrastructure investments than the development itself pays to the local government. Also, it is important to note that impact fee revenues must be spent according to a predetermined, publicly available plan (Nicholas, Nelson, and Juergensmeyer 1991). This means that developers can reasonably forecast when and where infrastruc-

ture improvements will be added. Since the supply of land made available through these infrastructure investments occurs in a predictable manner, the risk and uncertainty taken on by developers and investors is reduced.

Still, it is not clear whether impact fees generate enough benefits to offset their tangible cost to developers. Thus the empirical question remains: Will these fees reduce new commercial development, or, alternatively, by providing a practical and efficient means of investing in needed infrastructure, can they actually stimulate nonresidential development and economic growth?

### *Empirical evidence*

While the current empirical literature investigating the relationship between impact fees and economic growth is thin, there are two important sets of findings to date: Nelson and Moody (2003) and Jeong and Feiock (2006). Nelson and Moody (2003) consider the following central question:

Between communities that are identical in every respect except for impact fees, are those with impact fees associated with the generation of more jobs at the margin than those without, all things considered? (9)

They use a panel database to examine the relationship between local economic development, defined as the annual change in jobs at the county level, and aggregate impact fee collections in the 67 counties of Florida from 1993 to 1999. Florida's counties vary considerably in size (7,000 to 2.1 million residents), economic growth rates (strongly positive to stagnant or even negative), and demographic characteristics (affluent, minority, urban, rural). Their panel follows counties over these seven years, encompassing various economic cycles and levels of impact fee assessment. Total impact fee revenues collected by the counties in their sample rose dramatically from about \$100 million in 1993 to nearly \$200 million by 1997. During their study period, about half the counties collected impact fees, and the variation in aggregate countywide collections was substantial. Thus, they argue that there is enough variation in the data to evaluate the "boost-or-drag" effects of impact fees on job growth.<sup>9</sup> Their analysis finds a significant, positive correlation between impact fees collected per building permit issued in one year and job growth over the next two years. This finding holds even when controlling for employment growth in the base year and in the previous decade;

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<sup>9</sup>Florida is the ideal case study since it has an extensive history of case law that develops and applies the rational nexus test to impact fee programs. This increases the likelihood that observed correlations reveal a true cause-and-effect relationship between fees and market conditions.

per capita property taxes; the value of local building permit activity; and regional, temporal, and other factors. Their finding is consistent with the hypothesis that impact fees spent on infrastructure development are not a drag on local economies with respect to job growth but instead can be beneficial to them. This supports the view of impact fees as a user fee rather than an excise tax, again consistent with the new view.

Jeong and Feiock (2006) also selected Florida as a case study for their investigation of the relationship between impact fees and commercial development. Their panel consisted of 66 Florida counties from 1991 to 2001, and they use annual job growth as their measure of economic growth. In contrast to Nelson and Moody (2003), Jeong and Feiock (2006) use the adoption of an impact fee program as their primary explanatory variable<sup>10</sup> and include a number of control variables meant to capture the economic and political differences that may affect both the likelihood of impact fee adoption and the trend in job growth over time. They employ ordinary least squares with panel-corrected standard errors to account for unobserved effects in the model. They find that impact fees have a positive and significant influence on rates of employment growth, supporting their hypothesis that such fees have a positive effect on the economic performance of communities. They conclude that “[g]rowth management institutions that reduce the uncertainty of private investment can allow local governments to sustain coordinated regulation as well as help the local economy” (Jeong and Feiock 2006, 764).

While these two studies are both carefully designed and implemented, as well as being consistent in their finding that impact fees can lead to increased levels of economic development, some important shortcomings bear mentioning. First, although job growth is an excellent measure of local economic performance, it is not the only possible measure and perhaps not even the best one. A more direct measure would be actual levels of different types of new commercial construction over time. To the extent that impact fees are an important determinant of local economic growth, they should register a direct effect on levels of new construction. The lack of studies on this relationship represents a significant hole in the literature, and investigations of this nature should be a high priority for future research. Also, data limitations forced both of these existing studies to measure impact fees in a less than ideal manner.

For Nelson and Moody (2003), the use of aggregate collections does not allow for the possibility that different sources of impact fees could poten-

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<sup>10</sup>Formally, they create a dichotomous variable that is coded 1 for the effective years of an impact fee system for each county-year observation and 0 otherwise.

tially affect commercial development in dramatically different ways. Impact fee levies on residential development may have a different effect on economic growth than fees paid by developers of commercial property. In both cases, there is a substantial benefit to the developers of commercial properties in the form of valuable infrastructure. On the one hand, in the case of residential impact fee collections, the commercial developer has borne no cost to obtain this benefit.<sup>11</sup> On the other hand, the strength of using aggregate collections (per permit) is that it reflects the communities' *intensity* of impact fee use, distinguishing between counties that impose only very small fees and those that charge much higher ones. While still informative, the dichotomous measure employed by Jeong and Feiock (2006) cannot capture potentially important intensity effects. Ideally, future studies would use impact fee data that capture intensity of use (through levels rather than just the presence of fee programs), in addition to distinguishing which fees actually apply to commercial developers as opposed to certain categories that apply only to residential development.

### *Summary*

The relationship between impact fees and economic development is complex, and more research is needed before we can say that it is well understood. For their part, Nelson and Moody (2003) caution that more rigorous analysis should be undertaken to explore the short- and long-term impacts of impact fee programs on job growth and other important measures of economic activity in communities. Nonetheless, a conservative interpretation of their results would be that no discernible adverse economic effects from impact fees are present. A more liberal interpretation would argue that the imposition of impact fees has a positive effect on local employment. Again, future research should be undertaken to further validate (or refute) this possibility.

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<sup>11</sup>It is important to note that impact fees for services such as roads and police, fire, and water/sewer service are typically imposed on residential and commercial developments jointly and in similar relative ratios over time and across counties. This significantly mitigates the misspecification issues of using aggregate collections. However, programs for school and park impact fees impose no direct costs on developers of commercial properties and yet may still reduce the reliance on other general revenue streams for these costs, thereby providing a direct benefit to financial investment in the community.

## Policy recommendations

Impact fees have become an important facilitator of community growth and development over the past generation. They are so widespread in many western (California, Arizona, New Mexico) and southern (Florida, Texas) states that expanding communities that do not have them are considered unusual. However, the desirability of impact fees is not without debate, especially because they represent a large shift away from traditional mechanisms of financing public infrastructure and land use management techniques. Among other things, opponents have claimed that impact fees stifle economic development and exacerbate housing affordability problems in communities that adopt them. Advocates disagree, claiming that these adverse effects are not likely and that impact fees are an effective growth management tool capable of providing valuable public infrastructure concurrent with new development in ways that existing community residents approve of. Advocates say that impact fees are not likely to slow residential or commercial growth or lead to a worsening of housing affordability problems.

Unfortunately, too many public debates over impact fees involve having both sides make broad speculations about even their most basic effects rather than drawing on evidence from careful investigation. There was a time where this was understandable, since so much of the convincing empirical evidence is relatively new. However, we hope that by summarizing the existing literature, this article informs future policy debates on the effects of impact fees. Current debates focus primarily on their effect on housing prices, residential construction rates (and construction patterns with regard to affordable housing opportunities), and commercial development and economic growth defined more broadly. Next, we will briefly review several relevant findings from the literature.

First, political resistance to property tax increases has compromised the conventional approach to paying for the infrastructure needs brought on by new development. The type of large, across-the-board property tax increases needed to pay for the full array of system and service extensions is unpopular and unlikely to be feasible in the long run. Alternative financing mechanisms such as impact fees are increasingly recognized as more feasible policies that enable communities to grow in ways that meet the needs of both current and future residents.

Second, unlike most types of taxes, impact fees are earmarked for facilities that will directly serve new development and may be better characterized as user fees or benefit taxes. Empirical evidence strongly indicates that this provision is valued by residential development and has just begun to provide insights that it is also valued by commercial development. While

most impact fee programs do not reflect the full marginal cost of infrastructure improvements, they do establish a clear link between those paying for and those receiving benefits from new infrastructure. The direct economic benefits include the actual investment in new roads, schools, and water and sewer system extensions. The indirect benefits are also important and may include improving the predictability of the marketplace, knowing when and where infrastructure investment will occur, and treating all developers more equitably, if they are willing to pay the fees.

Third, in the absence of impact fees, local governments may simply not be able to generate the revenue to accommodate growth. They are likely to react in predictable ways, either by severely limiting the supply of buildable land or by enacting other restrictions such as exclusionary zoning, urban service boundaries, explicit or implicit limitations on the number of building permits to be approved, or even outright growth moratoria. With impact fees, communities can more effectively generate the infrastructure needed to open areas for development.

Fourth, impact fees have complex effects on housing prices even though the direction of this effect is clear. Our review of recent theoretical and empirical investigations suggests that these fees do raise housing prices, but not because they are simply passed forward to home buyers. Instead, housing prices rise because impact fees reduce the burden of property taxes while still providing valuable facilities to the community, thus increasing residents' willingness to pay for housing. Evidence to support this idea comes from the consistent finding across multiple investigations that impact fees produce similar proportional rather than absolute shifts in price across different segments of the market for single-family homes. Also, the consistent finding of over-shifting lends some support to the notion that revenues from impact fees may be used to leverage extrajurisdictional investment. Thus, discussions of how impact fees will affect housing affordability within communities should be careful to note that not all types of housing react the same ways. Prices for newer and more expensive homes will tend to increase the most, while those for existing affordable homes should increase the least.<sup>12</sup>

Fifth, impact fees have dramatically different short- versus long-term impacts on applications for building permits. The development community calls attention to the significant drop-off in permitting that tends to occur right after implementation. However, investigations have shown that while this is true, it is only part of the story. Developers will try to get as many

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<sup>12</sup>Mathur (2007) is the most current and convincing source of empirical evidence to date to support this claim.

permits approved as they can in the months leading up to the implementation date (or increase in impact fees). This is followed by a period of several months where relatively fewer permits are issued. Once a program is adopted, developers on both sides of the implementation date bear all the same benefits, but only pay the fee if they obtain approval after implementation. Why would they wait to receive no additional benefits and instead incur an extra cost? However, this temporary spike-dip phenomenon is unlikely to have a noticeable impact on housing starts or aggregate completion rates over longer periods. Well-designed empirical work must account for this phenomenon by using longer time periods to measure growth and using lagged, rather than contemporaneous, values of impact fees.

Sixth, the relationship between impact fees and residential construction rates is even more complicated and may depend on the type of fee being used, the type of residential development, and the location of the jurisdiction within the greater metropolitan area. Our understanding of this complicated relationship is inhibited by the relative scarcity of empirical research. Burge and Ihlanfeldt (2006a, 2006b) find that non-water/sewer impact fees increase the stock of housing (including affordable housing) in suburban areas but that there is no significant relationship between impact fee levels and construction rates in central-city or rural areas. They also find evidence to support the idea that impact fees that replace property taxes (for roads, schools, and parks) generate more benefits than impact fees that replace user fees (for water and sewer). While this literature is still developing, there is at least some convincing evidence that impact fees do not stifle residential development and most notably smaller homes and multifamily housing, as opponents claim.

Seventh, while the existing literature on the relationship between impact fees and economic development is unfortunately sparse, two important recent studies suggest that such fees do not slow job growth. In fact, both investigations of this relationship find a positive effect, thereby suggesting that impact fees add something of value to the community such that economic growth is actually enhanced. This suggests that, at a minimum, these fees are not a drag on local economies as most opponents have supposed and that at best, they are an effective growth management tool that reduces risk and uncertainty in the development process by using revenues to provide valuable public infrastructure concurrent to new development.

## Conclusions

In the end, impact fees are no panacea. However, the existing literature is slowly but surely validating the theory that advocates have long advanced:

namely, that impact fee programs provide something of value to communities in addition to simply adding a cost to the development process. Viewing impact fees simply as a tax that will stifle development is incorrect. Rather, they typically enter into a complicated and dynamic community environment where housing prices and production, economic development, and job growth all depend on many factors. Recent evidence from the literature suggests that impact fees can facilitate the provision of infrastructure improvements needed to sustain economic development, meet growing housing needs, and even potentially generate more affordable housing than may otherwise be produced in the inner suburbs. A perspective that surfaces from the literature is that much of the early work on the effects of impact fees uses a partial-equilibrium approach. However, impact fee payments are not added into the development process while everything else remains the same. The best framework for public debates and analytical research is to recognize what outcomes implementation is likely to produce relative to the ones that occur when other methods are used more exclusively to handle pressing growth. Following this approach, it is likely that communities in rapidly growing regions that have impact fees may enjoy a higher quality of life and fewer negative effects of growth in the long run than communities that choose not to use impact fees.

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The authors thank Keith Ihlanfeldt for guidance in conducting much of the research and two anonymous reviewers for their extraordinarily helpful comments.

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