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# The Effects of Impact Fees on the Price of Housing and Land: A Literature Review

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*Since the 1970s, development impact fees have emerged as a way to pass the cost of new infrastructure to the development community. Although development impact fees intend to transfer the burden of infrastructure provision to the developer, it is widely believed that the homebuyer ultimately absorbs the cost through inflated housing and land prices. This article examines the planning practice implications of development impact fees on housing and land prices. The review of the literature suggests that impact fees contribute to housing price inflation in communities where there are no reasonable housing substitutes and that tax burden and infrastructure enhancements are capitalized into the price of home and land.*

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**Keywords:** *infrastructure; impact fees; housing prices; land prices*

**T**his article examines the planning practice implications of development impact fees on housing and land prices in the United States. Since the 1970s, development impact fees have emerged as a way to pass the cost of new infrastructure to the development community. The fees can be used to pay for new roads, extending water and sewer lines, and schools, among other things. In College Station, Texas, the city chose to adopt impact fees for water and sewer in a specific area of the city. To

service the area, a lift station would be needed. The city put in the impact fees to pass this additional cost on to the new homeowners and businesses that wanted to develop in this area. In Beavercreek, Ohio, rapid development was sapping the city's financial resources. By passing impact fees, the city was able to split the cost of extending infrastructure between the city and the developers. Although development impact fees intend to transfer the burden of infrastructure provision to the developer, some evidence suggests that the cost of infrastructure gets shifted to new residents of the community and that a new homebuyer ultimately absorbs the cost (Huffman et al. 1988). It has also been suggested that the existing community pays a portion of the cost through inflated prices on existing housing and land (Singell and Lillydahl 1990; Brueckner 1997).

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In a strong housing market, the impact fee is passed on to the homebuyer. However, in a buyer's market, where reasonable substitutes exist, the ability to pass the cost on to the homebuyer is limited, as buyers would simply choose to purchase in another community. Consequently, if home builders cannot sell the homes for an increased price, they either must pay less for land, lower the housing quality, take lower profits, or cease building until the market changes (Ellickson 1977; Snyder and Stegman 1986).

The extent to which home prices reflect the charges for infrastructure varies with conditions of supply and demand in the local housing market (Weitz 1985). Dowall (1984) argues that due to opportunities for substitution among submarkets, local or submarket demand is likely to be more elastic than demand for an entire metropolitan area. In this case, housing price increases in one city are likely to shift demand to other similar cities. However, some communities may be more attractive than others, causing the demand curves to vary from elastic to somewhat inelastic. Because of the scarcity of opportunities for substitution, small free-standing cities and entire metropolitan markets may have a somewhat inelastic housing demand. In addition, communities with higher vacancy rates in existing housing would offer more opportunities for substitution. In this case, the ability of the builder to pass the cost of an impact fee on to the homebuyer will vary from one city to another, depending on its location and attractiveness.

On the supply side of housing production, the developer's entry into a market depends on market conditions (Muth 1960). High land prices, land use regulation, and impact fees will also affect housing supply (Weitz 1985). Landis (1986) found in San Jose that high developer entry costs, high impact fees and taxes, and invariable land and production costs created a housing market that was insensitive to modest price increases, forcing developers to orient their homes to affluent households. As a result, starter home construction came to a halt in San Jose by the end of the 1970s. In desirable markets, builders tend to respond to high impact fees by ignoring lower-income households and focusing on more expensive housing, where the impact fee can be more easily passed on (Huffman et al. 1988).

There is limited empirical research that addresses the effects of impact fees on the price of housing and land. With regard to the effects of impact fees on housing prices, the International City Management Association (ICMA) stated in 1988, "Unfortunately there is no respectable empirical analysis to measure how increased fees affect housing prices" (p. 5). Impact fees have been criticized on many fronts for their suspected positive influence on housing prices (Beatley 1984;

Connerly 1988). Huffman et al. (1988) in "Who Bears the Burden of Development Impact Fees?" make a plea for empirical research into the effects of impact fees on the price of housing. With regard to the effects of impact fees on land prices, Brueckner (1997) suggests that when infrastructure is at a minimum per capita cost, a shift from the traditional cost-sharing system of paying for infrastructure to impact fees will, in some situations, increase the price of land subject to future development in the community. If a potential land buyer knows there are impact fees, then the infrastructure is guaranteed as long as the fees are paid. However, there are few studies that empirically illustrate the connection between the price of land and impact fees.

This article first looks at who bears the cost of impact fees, followed by discussions of the theoretical effects of impact fees and of available empirical research. A concluding section presents the policy implications of both theoretical and empirical research associated with impact fees.

#### WHO BEARS THE COST

Although impact fees have been seen as an easy way to help finance new infrastructure improvements, there are some misconceptions about impact fees. Nelson (1994) discusses several impact fee "myths" that shed light on who pays the impact fee. One such myth is that impact fees are passed on to the homebuyers in the form of higher housing prices. According to Nelson, this is not true when those homes are located in competitive communities; rather, the impact fees are reflected in lower land prices. In isolated communities where there are no substitutes, the fee "can indeed be passed on to homebuyers, especially in the short term" (Nelson 1994, 549). Nelson also argues that impact fees are not necessarily bad for low- and moderate-income housing efforts. Impact fees, according to Nelson, work to increase the supply of land by providing the funds needed to expand infrastructure and increase developable land, and therefore, "if supply meets demand, prices will not rise" (p. 551). Another myth is that impact fees "raise the price of doing business" and that imposing impact fees will reduce economic development efforts (p. 552). Not true, according to Nelson, since impact fees make more land serviceable and, in fact, increase the supply of land suitable for economic development activities. Nelson does point out that impact fees in their present form tend to be regressive, with lower-income residents paying a greater proportion of their income for the same services and infrastructure. Nelson also discusses the economic theory that "impact fees will be negatively internalized in land value" (p. 555). He points out, to the contrary, that

impact fees increase efficiency in the development process and thus reduce transaction costs. Therefore, impact fees “save developers time (and money) [and] will be positively internalized in the land market” (p. 555). Nelson states that the net effect of impact fees may be to reduce land values below the “reservation price,” causing landowners to withhold sale of land until prices rebound, although the net effects of impact fees on land is debatable. According to Nelson, reduced land values are beneficial to residents of the community if savings are realized by homebuyers.

Nelson (1995) later argued that system development charges (impact fees) are not passed on to the homebuyer, citing an *Atlanta Journal-Constitution* article that reported a developer had stated a \$1,400 impact fee would result in a \$15,000 increase in the price of a house. Nelson, however, argued that if the builder could charge \$15,000 more for a home, then the builder would raise prices regardless of the impact fee. Essentially, the homebuilder will charge the maximum price the market will bear, regardless of the cost of impact fees or housing construction. If the market will bear an increase in price, then the builder would be charging a higher price. In reality, Atlanta has numerous reasonable substitutes for housing that would negate any increase in the price of housing in one community.

#### THEORETICAL EFFECTS OF IMPACT FEES

Levine (1994), in dealing with the question of intergenerational equity of impact fees, investigated the capitalization of tax costs and infrastructure benefits into the value of house and land, and the role of property taxes. Economic theory asserts that amenities and disamenities are capitalized into the value of land. This capitalization is reflected in property assessment and property taxes. Since property values are, in part, based on perceived value of infrastructure improvements and/or availability, they are affected by a shift from an average cost approach, such as general obligation bonds, to an impact fee approach used to fund infrastructure improvements. The equity concerns raised by Levine address “who pays,” under what conditions, and how those decisions benefit the property tax position of existing residents versus new residents. Levine’s theoretical model suggests that land values are increased by the availability of infrastructure, “the infrastructure effect,” and are depressed by the “tax effect.” Levine points out that the “underlying assumption is that urban growth has the potential to lead to property tax increases to service debt incurred for infrastructure capacity expansion” (p. 211); this, in effect, depresses the value of the land. His model shows that this scenario does not occur when tax rate increases are

anticipated. However, in the case of unanticipated tax increases needed to pay for new infrastructure, homeowners pay more than the benefits they receive and become tax burdened by “growth-induced tax increases” (p. 220). In this case, Levine suggests, “impact fees could be justified in order to mitigate an inequitable burden” (p. 220). According to Levine, communities that extend publicly financed infrastructure to “previously unserved areas, windfalls are undoubtedly being granted to landowners in these areas” (p. 221). The dilemma in switching to impact fees and shelving a cost-sharing approach is in determining who receives the benefit in the switch: existing homeowners whose property values increase when impact fees are adopted and their tax burden is reduced or owners of newly developable land who are granted a windfall when a cost-sharing approach is retained and whose land holds promise of publicly supplied infrastructure. Levine suggests that dependence on impact fees may be justified, not so much in reducing tax burden on existing residents “but to prevent the granting of continuing windfalls to owners of developable land” (p. 221). Levine points out that “high growth rates do not, in and of themselves, constitute an equity-based rationale for the imposition of impact fees” (p. 221). He concludes that “unexpectedly rapid growth, coupled with financing periods shorter than the economic life of the infrastructure, may indeed lead to unjustified burdens on existing residents that are appropriately mitigated through impact fees” (p. 222).

Property taxes may be unreasonably increased to cover the cost of infrastructure needed to accommodate rapid growth; it is expected this would be negatively capitalized into property values. Likewise, property tax burdens may decline if the community shifts to an impact fee in place of property taxes, resulting in a positive capitalization for existing property owners. There is also the possibility that the community may combine the two approaches to minimize the capitalization effects.

Ellickson (1977) suggests that the rise in housing costs because of the impact fee should be passed back to the landowner. The housing market is highly competitive, and the availability of housing substitutes would limit the increase in home values. Homebuyers would simply choose to purchase within another community. Therefore, in a competitive housing market, fees may be pushed back to the original landowner and would be reflected in lower land prices.

Huffman et al. (1988) suggest landowners would only accept lower prices if sufficient developable land were available elsewhere in the community with infrastructure in place. The authors also note developers cannot absorb the impact fee in the form of lower profits

because the market has previously determined the point where costs are high enough to encourage development. The developer would most likely move construction to another city before receiving lower profits. Overall, the developer's ability to pass the cost of the fee back to the landowner is limited. Huffman et al. argue that the fees are shifted forward to the homebuyer in the form of a higher house price. In part, this may be true; however, the increase in house prices may also be due to higher quality housing being constructed.

Likewise, Brueckner (1997) suggests that impact fees can lead to efficient community growth by forcing developers to consider the cost of infrastructure needed to serve new residents. He constructs a theoretical model that suggests that switching from a cost-sharing infrastructure funding mechanism to impact fees will influence the price of existing development, yet differently than the influence on the price of undeveloped land. According to Brueckner, a city has an optimal point at which it is most efficient in providing infrastructure. When the optimal point is exceeded as a result of additional population growth, then the marginal cost of providing infrastructure may unduly burden residents. Additional tax burden, according to Brueckner, will have the effect of reducing property values (negative capitalization) since homebuyers will want to pay less for property with a high tax burden. Switching to a non-cost-sharing form of infrastructure finance, such as impact fees, will, in effect, reduce the tax burden of existing residents by transferring the cost of new infrastructure and services to new residents. Brueckner states,

When a city whose population exceeds . . . [the optimum point] switches from PS [perpetual-sharing, bond-financing scheme] to IF [impact fees] in an unanticipated fashion, growth temporarily stops (resuming later on a lower path), the value of developed land rises, and the value of undeveloped land changes in an ambiguous direction. When population is less than . . . [optimal], growth surges immediately following the switch (but moderates later), the value of some undeveloped land rises, but the value of other land could rise or fall. (P. 398)

He concludes that under his model, "the impact fee scheme generates the efficient population path for the city" (p. 403), since impact fees force developers to consider the cost of infrastructure imposed by new residents and force developers to factor that into the cost of development, thus "the impact fee scheme aligns private and social incentives, leading to efficient urban growth" (p. 403). According to Brueckner's model, impact fees in an open-city model do serve as a growth management tool, as the imposition of impact fees will

stop growth temporarily, and when growth resumes, the rate of growth will be at a lower level than prior to the imposition of impact fees. The full effects of impact fees on land values, especially undeveloped land, are not fully determinable through this model.

#### EMPIRICAL RESEARCH

Existing research has examined the influence of impact fees on the price of housing and land. To begin, the effect of impact fees on new homes will be examined, followed by existing homes and concluding with the effect of impact fees on land values.

Delaney and Smith (1989a) examined new housing prices in four Florida communities during a period of twelve consecutive years in order to determine the effect of impact fees on the price of new housing. Dunedin, Florida, imposed a \$1,150 impact fee in 1974, whereas the three control communities did not or had fees totaling less than \$250 during the study period. A hedonic model was used to examine the effects of the impact fee on the price of new housing in Dunedin. The hedonic model assumes that the price of a home is explained as the result of a bundle of attributes that describe the home, its size, quality, amenities, and locational attributes. The researchers performed a total of forty-eight regressions in the initial step of the analysis; one for each of the four cities, in each of the twelve years—Dunedin, Clearwater, Largo, and St. Petersburg. A proxy variable was applied to represent desirability of neighborhood. To ensure comparability of homes in all communities, the researchers "used the parameter estimates obtained from the forty-eight, individual regressions to predict the price of a new, constant quality house for each city and year" (Delaney and Smith 1989a, 47), since builders are free to vary the quality of housing in response to market demand. The constant quality analysis accounts for this variance from community to community. Finally, the constant quality results were used to compare "the price of a new, constant quality home in Dunedin to the price of a new, constant quality home in each of the other three cities on an annual basis" (p. 47). At this point, the analysis tested the influence of the impact fee on the price of a new, constant quality home in Dunedin, compared with a new, constant quality home in the other three communities. The results of the regression were converted to a ratio of the price of new, constant quality home to that of those in the other communities. The results suggest that the impact fee did, in fact, have an effect on new home prices in Dunedin as relative to two of the other three communities. Results for the third community were inconclusive. The hedonic model is commonly used to test the effects of impact fees on the price of housing.

Delaney and Smith took care to ensure that the price of housing among the sample communities was comparable, thus mitigating one of the potential shortfalls of the hedonic model. The three-step analysis gives credibility to the analysis.

An important contribution to the impact fee/housing price effect literature has been made by Singell and Lillydahl (1990). Loveland, Colorado, the site of their research, experienced an increase in population from approximately sixteen thousand to thirty-five thousand between 1970 and 1980. The reluctance of the community to approve a needed bond issue for capital improvements resulted in the city council adopting impact fees to fund infrastructure improvements. Singell and Lillydahl (1990), applying the hedonic price model described above, found that the average price of new homes increased approximately 7 percent after impact fees were imposed. An impact fee assessment of \$1,182 for a single family dwelling increased the price of new housing by \$3,300 to \$4,500, and as much as two-thirds of this amount was due to the implementation of impact fees. Thus, the authors concluded, the sales prices of new homes increase as a result of the impact fee.

Evidence supports price increases in new homes, but what happens to existing homes in the community? Singell and Lillydahl (1990) suggest that existing home sales prices may also increase as a result of impact fee imposition, by as much as \$7,000, because the sellers can ask a higher price since new homes in the area are selling at an increased price, even though the impact fees are applied only to new construction. The research had several drawbacks. Singell and Lillydahl did not use a control community to account for regional differences in housing prices, and they did not consider neighborhood characteristics. This reduces the ability to draw constructive conclusions on new and existing housing price increases. The researchers also failed to consider the effects of increased demand on the price of housing. This research, like much other, fails to discuss how impact fees have made the community a better place in which to live. Intuitively, one would expect quality of life to improve when impact fees are imposed; however, in many cases, the fees are a result of a shift in funding obligation from existing residents to new residents, which does not guarantee a higher quality of life in the community.

Whereas Delaney and Smith's first study looked at new home prices, a second study looked at existing home prices. A similar methodology was applied to the Delaney and Smith (1989b) regression analysis of the effects of impact fees on existing home prices in Dunedin, Florida, as compared to existing home sales in Clearwater, Florida, finding that "prices for existing

housing in Dunedin were, on average, \$1,643 greater than those for comparable housing in Clearwater (p. 9). However, in both studies, the researchers, in an effort to define a constant-quality home, held constant the land cost in each city. This may lead to an overstatement of the final housing price increase since the increase in housing price is not associated with an increase in land price. Land price is in part determined by the sales price of the home (Yinger 1998). This study did not take into account neighborhood differences or differences in infrastructure quality.

Housing prices are theorized to increase as a result of impact fees, but the theorized effects on land differ depending on the market conditions in the community. Skaburskis and Qadeer (1992) studied the association between impact fees and vacant lot prices in the Toronto area, between 1977 and 1986. Results indicated that impact fees are associated with increased prices for vacant lots at a rate 20 percent greater than the fee. The study found that the extent of the price increase was related to the city's growth rate;

lot prices to increase with development impact fees: each dollar difference or increase in the fee results in a \$1.88 increase in lot prices when the growth rate is zero. The extent of forward shifting of development impact fees is reduced by the region's growth rate: when the region is growing at the study period's average rate of 2.33 percent a year, each dollar increase in development impact fees leads to a \$1.23 increase in lot prices. (P. 663)

This study does not include data on the actual impact fees paid to the city by the developer in one of the three cities. The model includes prevailing fee schedules, but this may result in an over- or underestimation of the actual capitalization of the fees in that community. The study also does not account for differences in the level/quality of infrastructure provided in the different communities.

Nelson, Lillydahl, Frank, and Nicholas (1992) studied the price of developable land in Florida and Colorado in an effort to determine the effect of development impact fees on land. Although no statistically significant impact of fees on land prices in Colorado was found in this study, the researchers did find that land prices were significantly higher in Florida in areas that financed parks and roads. In both states, the types of facilities for which impact fees can be assessed are unrestricted.

Nelson, Frank, and Nicholas (1992) conducted a regression analysis of Sarasota County, Florida, and found "that impact fees are positively associated with residential urban land prices;" and there is a "positive capitalization of impact fees in the urban land market"

(p. 59). The authors argue it is positive from the standpoint that an impact fee policy reduces the uncertainty of development proposals; provides funds needed to construct infrastructure in unserved areas, thus making more land available for development; eliminates much of the exaction negotiation; and treats all development equally. The authors assert that impact fees are typically thought to be passed on to the homebuyer via higher home prices; in actuality, the impact fee "should be capitalized as lower land prices . . . in a relatively competitive housing market" (p. 60). If substitute locations exist, such as they are in Sarasota County, Florida, then homebuyers will refuse higher prices and choose alternate locations; "then impact fees will result in lower land prices" in the community charging the impact fee (p. 60). The authors conclude that an impact fee policy is a quasi-contract between the provider and the development community. As such, the impact fee increases certainty of development—reducing risk—and extends value to the land on which impact fees are paid ". . . since there is the expectation that facilities will be made available in exchange for the fee. Positive capitalization thus reflects expectation of developability" (p. 63). The primary recipient of the windfall is the seller of land, because developable land is more valuable than unserved land; however, "in a competitive urban land market, landowners must sell at lower prices" (p. 60). The authors conclude that impact fees are a positive influence in community planning and development because of their role in reducing uncertainty and providing more developable land, therefore increasing the supply of land. This article does not consider differences in infrastructure quality between the taxing districts. Although developers may be willing to pay more for the certainty of having infrastructure available, the authors do not indicate if there are also higher levels/quality of infrastructure provided.

The theoretical research discusses the importance of growth pressures in the community and region as a factor in determining the price effects of impact fees. Skidmore and Peddle (1998) analyzed data for all municipalities in DuPage County, Illinois, between 1977 and 1992 and determined that the rate of development in communities with development impact fees was 3 percent per year compared with 4.3 percent for nonfee cities. A total of eleven municipalities in the county assess development impact fees. This study does not, however, determine whether the reduction in growth in impact fee cities is shifted to increase growth in nonimpact fee cities. Another question raised by this study is whether the new home values of the housing growth experienced in impact fee cities was significantly higher than the new home values of the new housing in nonimpact fee cities. Builders may not be

able to shift the cost of an impact fee in lower-price housing to the homebuyer; in this case, the builder may choose to build in a nonimpact fee city.

The literature indicates some general trends in how impact fees affect housing and land prices. The empirical research finds that in many cases, housing prices increase when impact fees are imposed. Theoretical models, likewise, indicate that the imposition of impact fees will increase new and existing housing prices. The available research also suggests that land prices in cities that impose development impact fees may also increase if the infrastructure is guaranteed for the future; however, a definitive answer has not been substantiated through available research. The amount of the change in price, in both home and land, varies widely depending on the study. In all of the empirical studies reviewed herein, a limited number of communities have been included, which may be part of the reason for variation between studies. Housing prices can vary widely from community to community, depending on the level of amenities, location, and quality of construction. As a result, the studies conducted to date show that impact fees do have an effect on housing prices, but the degree of this effect is uncertain. Additional empirical studies that include broader samples need to be conducted to determine the magnitude of the effect of impact fees on housing prices. In the case of land, there are insufficient data to make a determination about the general effects of impact fees on land values. More research needs to be conducted to support or refute the theoretical proposition that in a competitive housing market, impact fees are indeed passed back to the land seller and are reflected in lower land prices.

Although a few studies have looked at existing housing prices, there is a need to look at the immediate and long-term effects of impact fees. There are a significant number of gaps in the existing literature that need to be filled. In part, impact fees have been implemented as an alternative to property tax increases, as was the case in Loveland, Colorado (Singell and Lillydahl 1990). However, there have been no studies that look at whether impact fees reduce property tax rates. In communities with identical levels of infrastructure and service, the impact fee city should have lower property taxes than the nonfee city. As an alternative, Blewett and Nelson (1988) believe some communities employ development impact fees to enhance their fiscal base and raise total revenues. Implementing an impact fee that reduces the volume of development raises the value of all real estate, thereby enhancing the community's tax base and increasing the municipality's fiscal base. In other cities, the goal of an impact fee program is to slow growth (Frank and Downing 1988). None of these areas have been explored on an empirical basis.

## POLICY IMPLICATIONS

This review of the literature suggests that impact fees contribute to housing price inflation in communities where there are no reasonable housing substitutes; tax burden and infrastructure enhancements are capitalized into the price of homes and land. Concern has been expressed by many researchers that this results in higher-priced housing and adversely affects lower-income residents and potential residents of the community (Snyder and Stegman 1986; Huffman et al. 1988; Levine, 1994). Because of the regressive nature of impact fees, they affect lower-income citizens with greater severity who must pay a larger portion of their income for impact fees than do upper-income citizens. Many communities, likewise, are concerned about the lack of availability of affordable housing within their communities. The research reviewed in this article indicates that communities with development impact fees have been found to have higher-priced housing and land suitable for new development. This, in turn, reduces the affordability of housing in the community; however, many communities waive impact fees on homes built for low- and moderate-income households. However, as Nelson (1994) argues, impact fees increase the amount of land ready for development by expanding infrastructure and thus may further affordable-housing efforts.

Although the existing literature indicates that communities using impact fees see an increase in the sales price of new homes, the price of existing homes may increase, and the magnitude of the change remains unclear. If the price of a new home increases by \$2,000, one would expect that the existing housing would sell for more as well, thus reducing the affordability of housing in the community as a whole. This filtering up through the housing system has not been adequately explored. In part, filtering up may result in an increase in property taxes for existing homeowners as well. In most states, the property tax assessments are based on the sales price of homes in the area. If new-home sale prices increase and this in turn results in an increase in the selling price of existing housing, everyone who owns a home could pay more taxes. This relationship has not yet been studied.

Many practitioners implement impact fee programs as a response to fiscal pressure and do not give much thought to the long-term effects on the affordability of housing in the community. One of the chief complaints about increased regulation is the purported effects that such regulation has on the price of housing. Elliott (1981) investigated the effects of intensive regulation on the rising cost of housing in high-growth communities imposing regulations aimed at slowing construction.

He asserts that these policies affect supply and demand and contribute to further housing price inflation. He applied a "growth pressure index," consisting of local population increase across the number of residential units constructed between 1968 and 1976 to measure the role that growth pressure plays in the price of housing. Using a regression analysis, Elliott (1981) analyzed the effects of regulations among California jurisdictions, based on whether the community is a strong regulator or not. He concludes,

In extensively regulated markets, where demand for housing is strong, the dilemma faced by public officials is clear. While officials can reduce the rate of housing price increases in their own jurisdiction by not managing growth, the city's policies can only marginally reduce the regional rate of housing price increases. (P. 129)

According to Elliott, cities in high-growth markets can choose not to regulate growth because of potential price increases, but they do so by risking rapid, unmanageable growth, which may not be in the best interest of the community.

To mitigate some of the effect of increasing development fees, some communities have developed impact fee programs that require no fee, or a minimal fee, for those developers interested in developing affordable housing in areas of the city with existing infrastructure improvements. In the case of Dade County, Florida, the fees are established on a sliding scale, based on the size of the housing (Malizia et al. 1997). York (1991) asserts that housing costs can be lowered through decreased governmental regulation and that it is possible to achieve affordable housing. The Orlando Affordable Housing Demonstration Project undertook the challenge to use greater public-private cooperation as a method of testing the reduced regulation-to-home price theory. The project found that when developer profit margins were controlled, cooperation and reduced regulatory impositions were instrumental in reducing housing costs by an estimated 15 to 20 percent (York 1991). Part of the reduction in regulatory cost included the waiving of a transportation impact fee for homes selling for \$62,000 or less.

A critical aspect ignored by the research reviewed here is the role of increased demand for housing in high-growth communities. Conventional supply-and-demand theory indicates that as demand increases, prices will rise. Generally, it would be unusual for a slow-growth community to impose impact fees or other growth controls. Certainly the literature reviewed here does not reflect research that could be applied to slow-growth communities. As Ellickson (1977) points out, there is nothing to be gained by a slow-growth commu-



nity imposing impact fees, growth controls, or other measures that dampen growth. Only those communities experiencing high growth rates, which unduly burden existing taxpayers, would benefit from impact fees, slowed or managed growth. These benefits include the ability of the community to improve the quality of infrastructure and the ability of the community to add to its housing and employment base. These benefits should not be ignored, however, nor should the potentially negative effects of increasing real estate prices.

#### CONCLUSION

This review of the literature suggests that impact fees contribute to housing price inflation in communities where there are no reasonable housing substitutes and that tax burden and infrastructure enhancements are capitalized into the price of home and land. The empirical research indicates that impact fees are positively capitalized into the price of homes. With land, it is questionable whether impact fees are positively or negatively capitalized. Research indicates that the cost of the impact fee is pushed backward to sellers of land in housing markets where reasonable housing substitutes exist, and sellers must reduce the sale price of land in such scenarios. The effects in isolated or special-attribute communities, research suggests, are that the cost of the impact fee will be pushed forward to the homebuyer via higher home sales prices. The empirical research on tax burden and infrastructure enhancements that are capitalized into land values is limited, but theoretical models suggest that existing land values will be enhanced when tax burden is reduced; however, theoretical models do not definitively indicate the effect of impact fees on undeveloped land that will subsequently become developed in the near future. Finally, there is an indication that impact fees force developers to consider the cost of infrastructure needed for growth and to factor this into the cost of development. As such, impact fees promote more efficiency in community planning and development.

Impact fees, as an infrastructure funding measure, imply that infrastructure improvements will be made in a timely manner, provide some certainty in land development, and thus expand the supply of developable land. Increasing the supply of developable land, theoretically, will reduce prices when supply meets demand. This may have some positive benefits for the community and may further affordable housing, as is suggested in the literature.

From a policy implication standpoint, planners must consider the goals entertained by the community in the decision to pursue impact fees. Is it to reduce tax burden on existing residents? Is it to relieve fiscal stress? Is it a

measure to enhance property values of existing residents? Is it to provide adequate infrastructure and services concurrent with development? Each course of action has consequences that must be considered in light of community goals, equity, and efficiency.

Although development impact fees have increased in use, the literature on the effect of these fees on housing and land prices has been slow to expand. The lack of empirical evidence makes it difficult to draw substantive conclusions and thus makes policy recommendations difficult to assess. It is evident that additional research must be conducted to provide greater policy guidance to local governments with regard to development impact fees.

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