BACKGROUNDER

Assessing the Effects of Local Impact Fees and Land-use Regulations on Workforce Housing in Florida

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Executive Summary

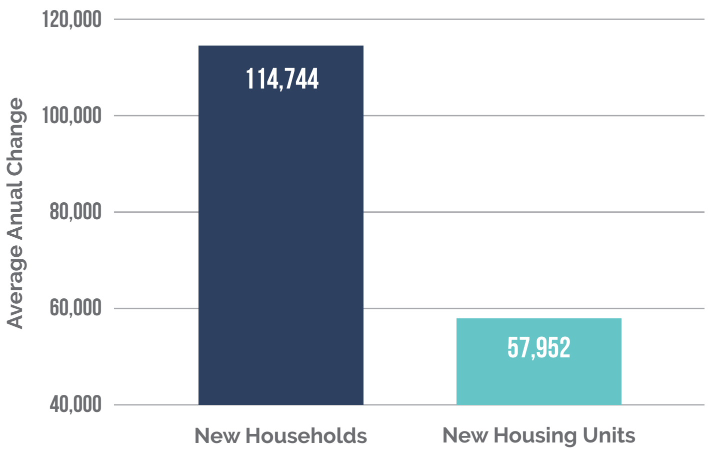
Housing rents and home prices in many areas of the nation, including Florida, have increased much faster than the cost of construction since the 1990s, squeezing the household budgets of middle- and lower-income families. According to a report from the Joint Center for Housing Studies of Harvard University (2018), national median rent rose 20 percent faster than overall inflation from 1990 to 2016 while the national median home price rose 41 percent faster.

Housing prices in Florida are growing rapidly

In Florida, rapid population growth has created a demand for more housing. The state's population has increased by 284,566 people per year on average between 2010 and 2016 according to the U.S. Census Bureau. The average household size is 2.48, implying Florida has increased the demand for housing by nearly 115,000 households each year. Yet, just 57,952 new housing units are added to the stock of housing each year. Increasing the number of homes to meet the rising demand for housing is critical to Florida's future.

When supply doesn't keep up with demand, prices go up. Since 2013, house prices in Florida's major metropolitan areas have increased by nearly 10 percent per year on average. In many parts of Florida, house prices are four to seven times the area's median income, which exceeds the commonly accepted threshold of three to four times median income.

Higher home prices can be explained by several factors, Average Annual Increase in Housing Units and Households in Florida: 2010 to 2016



some of which are out of the control of policymakers and some of which are a direct result of policies adopted by state and local governments. Higher incomes fuel demand for better housing, for example, resulting in larger homes with more rooms and higher construction quality (on average). Higher costs for construction labor and materials are other factors outside the control of homebuilders and policymakers that can increase the price of housing.

Sometimes, however, public policy increases housing costs. More stringent building codes, for example, require builders to use different or more materials than they otherwise would use. In still other cases, policymakers have a direct impact on housing costs and, ultimately, prices by levying higher taxes and impact fees on new development or causing delays through a cumbersome and lengthy permitting process or growth management review process. Indeed, land-use regulations often restrict the amount of developable land and increase the complexity and uncertainty of the permitting process, significantly increasing housing prices.

Overview of key findings

This paper reviews the effects of impact fees and land-use regulations on new home construction and new home prices in Florida. Several studies find that impact fees increase prices. Two studies find significant evidence that impact fees increase the price of new and existing homes in Florida by about $1 for each $1 of fees.

The impact fees in five jurisdictions in the Bradenton-Sarasota-Fort Myers metropolitan region of Florida are also examined. Assessed impact fees vary widely across this region and the actual fiscal impact may be difficult to estimate for builders. The impact fees are also generally regressive: more affordable houses carry a larger proportional burden of impact fees in each of the jurisdictions. For households on the economic margins of home ownership, even small fees can push homeownership beyond the means of a household at the lower ends of the income range if the fee is fully capitalized into the sales price, a likely effect in tight housing markets.

Other studies examine the effect impact fees have on new construction. Two studies on Florida real-estate markets find that impact fees assessed to fund infrastructure such as roads, schools, and parks increase residential housing construction —both single and multi-family—in suburban areas, although they find no effect on construction rates in central cities or rural areas. This could be due to impact fees serving as a bulwark against other barriers to building, such as land-use regulations.

Regarding land-use regulations, there is evidence that they increase the price of housing in Florida. In dollars, estimates for the price increase due to an additional land-use regulation varies from $14,800 to $22,800 per house, and as a percentage of the total house price the increase is largest for the smallest houses. Since lower-income people tend to buy smaller houses, this suggests land-use regulations have a regressive effect on Florida home buyers.

Permitting requirements can also increase the price of housing. Some amount of oversight in the form of a municipal permitting process may be desirable, but a permitting process that is confusing or ambiguous can adversely impact the housing market. One study finds that the cost of permitting delay averages 5.9 percent of the selling price of a finished lot and 1.7 percent of the selling price of a finished home. When applied to houses in Lee County, Fort Myers, and Manatee County, the cost increase associated with permitting delay ranges from $3,300 to $6,900 per house.

Recommendations

Despite the regressive effects of many impact fees, municipalities may not want to eliminate them altogether. New development needs infrastructure and city services and well-designed impact fees are an effective and efficient way to provide such things. Nevertheless, municipalities can implement several reforms to make impact fees less burdensome and less regressive, and thereby improve housing affordability.

- Ensure fee amounts (and formulas) are linked to rigorous studies of public service costs and delivery. Currently, a wide range of fees appears to be levied. The lack of transparency in the formulas and the sources of the estimates suggests some fees may not meet the rational dual nexus test embedded in the spirit and intent of state statute.
- Ensure the impact fees are calculated to reflect the marginal cost of development to the municipality. This way, the fees will act like a user fee and minimize any negative effects on development. Fees that are linked to the size of the unit

are more likely to achieve this. The formula for calculating impact fees should be made available to builders and the public at large to increase transparency.

- Assess impact fees at the time of application, not at the end of the process. Assessing fees at the final stage of the land development process can generate uncertainty as significant lags occur between application dates and issue dates. To reduce uncertainty, municipalities should assess impact fees at the time of application and not apply any subsequent changes retroactively.
- Link fees to the size of the unit to make fees less regressive. Fees that are linked to square footage are less regressive than fees that are linked to number of bedrooms or only linked to unit type, e.g. single-family home (see Been 2005 p.167 for discussion).
- Once the formula for calculating impact fees is established, an impact fee schedule should be calculated and made public. The schedule should be easy to understand and be relatively stable. A schedule with these characteristics makes it easier for developers to plan projects by reducing uncertainty. Individual or one-off impact fee assessments should be avoided since they increase uncertainty.

City officials should also be mindful of how restrictive land-use regulations increase housing prices. Policies that require developers to use more land than they otherwise would, such as minimum lot sizes, minimum parking requirements, or height limits that restrict density, all contribute to higher housing prices. Cities that want housing to be more affordable need to do what they can to make it less costly to build housing, and relaxing land-use regulations is a step in that direction.

Introduction

Housing rents and home prices in many areas of the nation and Florida have increased much faster than the cost of construction since the 1990s, squeezing the household budgets of middle- and lower-income families. According to a report from the Joint Center for Housing Studies of Harvard University (2018), national median rent rose 20 percent faster than overall inflation from 1990 to 2016 while the national median home price rose 41 percent faster.

The Great Recession eliminated some of these gains, but by 2012 house prices had resumed their rapid increase. In many areas, home prices have surpassed their pre-crisis high. The supply of homes for sale averaged 3.9 months in 2017, which is considerably below the six-month supply that is typically associated with a balanced market. Furthermore, lower-cost homes for sale are especially rare. Nearly all the 88 metro areas with available data had more homes for sale in the top one third of the market by price than the bottom one third. In 46 of the metro areas, more than half of the available supply was at the top end of the market. Bringing home prices in line with income and population growth is critical if states like Florida want to remain economically competitive and maintain a high quality of life.

Higher home prices can be explained by several factors, some which are out of the control of policymakers and some of which are a direct result of policies adopted by state and local governments. Higher incomes fuel demand for better housing, for example, resulting in larger homes with more rooms and higher construction quality (on average). Higher costs for construction labor and materials are other factors that increase housing prices, though these also are outside the control of homebuilders and policymakers. Sometimes, however, public policy increases housing costs. More stringent building codes, for example, require builders to use different or more materials than they otherwise would use. In still other cases, policymakers have a direct impact on housing costs and, ultimately, prices by levying higher taxes and impact fees on new development or causing delays through cumbersome and lengthy permitting processes or growth management review processes. Land-use regulations often restrict the amount of developable land and increase the complexity and uncertainty of the permitting process, significantly increasing housing prices.

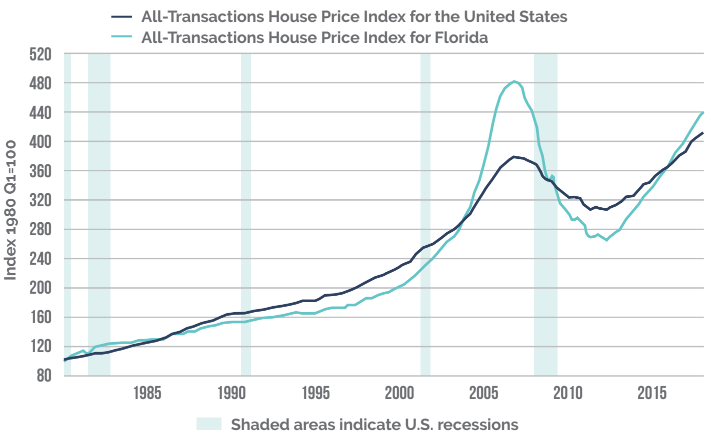
This study focuses specifically on the effects of impact fees and land-use regulations on new home construction and new home prices in Florida. The study first examines the nature of affordable housing, trends in housing costs, and the implications for Florida. This section also reviews academic literature on impact fees, land-use regulations, and permitting lags, and applies these findings to Florida's housing market, with a focus on counties and cities along Florida's southern Gulf Coast. We also analyze the calculation and application of impact fees in three counties and major cities in Southwest Florida to more fully examine the effects of impact fees on new home construction with a particular focus on affordable housing and fiscal burdens. The final section concludes with recommendations and suggestions for policy reform.

Housing Price Dynamics

Since the 1990s, both rents and house prices have become less affordable in many areas of the country. Affordable housing is typically defined as monthly housing costs that are 30 percent or less of a household's monthly income. Households paying more than 30 percent of their income are often classified as being "housing burdened," or, in the specific case of renters, "rent burdened." From 2000 to 2014, the proportion of households classified as rent burdened increased for households in the middle and lower end of the income distribution. For example, the percentage of households in the middle of the income distribution classified as rent burdened increased from 10 percent in 2000 to 25 percent in

2014. The increase was even larger for households in the income group just below the middle—from 40 percent of households to 60 percent. Overall, 38.1 million renters and buyers—nearly a third of all U.S. households—allocated more than 30 percent of their incomes to housing in 2016, a 21 percent increase since 2001. House prices also increased rapidly in the early 2000s before they began to fall around 2007. This housing boom and bust contributed to the Great Recession, which lasted from late 2007 to 2009. Figure 1 shows the house price index for the entire United States and Florida from 1980 to the first quarter of 2018, and the rapid increase in prices that began in the late 1990s can clearly be seen, as well as the subsequent decline.

Figure 1: Housing Price Trends,



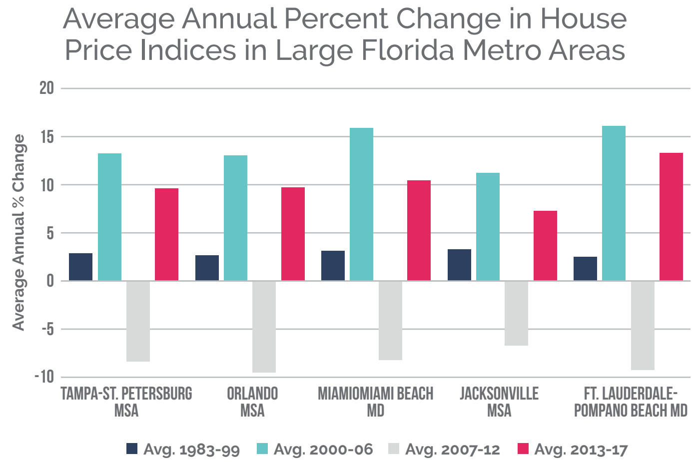
U.S. versus Florida

Source: Figure from St. Louis Fed FRED website and data from U.S. Federal Housing Finance Agency. The FHFA House Price Index (HPI) is a broad measure of the movement of single-family house prices. The HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. It is not adjusted for inflation.

The nadir of the decline occurred around 2012 in most areas of the country, but since then house prices have climbed nearly as fast as they did during the boom years preceding the recession. This can be seen in the chart above by looking at the steepness of the slopes of the lines, with a steeper slope meaning a faster rate of growth. In nominal dollars, the U.S. house price index has already exceeded its pre-bust high, while the Florida index is nearly there.

The increase in house prices in Florida since 2012 can be seen more clearly in Figure 2. This figure shows the average annual percent change in the house price index for the five largest metropolitan areas in Florida for four different time periods: 1983 through 1999; 2000 through 2006; 2007 through 2012; and 2013 through 2017.

Figure 2: Housing Price Changes in Selected Florida Metropolitan Areas



Source: Data from U.S. Federal Housing Finance Agency via FRED database.

As shown in Figure 2, the largest annual increases since 1983 occurred from 2000 to 2006 in each of the areas. Each area also experienced a substantial decline in house prices from 2007 to 2012, which is now followed by a period of increasing prices. Moreover, the average annual increases since 2012 are large: they are about three quarters of the size of the pre-recession boom-period increases and anywhere from two and a half to four times as large as the 1983 to 1999 changes. The modest annual increases from 1983 to 1999 show that the large fluctuations in house prices that have occurred throughout Florida and many other areas of the country since 2000 are a relatively new phenomenon.

Considering the rental affordability issues and the increase in house prices over the last several years, it's not surprising that housing affordability has become a prominent issue. The concern about housing affordability is even less surprising once we remember that wage growth is slow, and inflation is low. This means home prices are increasing faster than wages and the costs of many other goods and services, which makes it easier for people to notice the higher prices. Further, the result of slow wage growth and higher home prices is that the median price of existing homes in several parts of Florida is more than five times greater than median household income, as shown in Figure 3. Conventional rules of thumb in the housing finance industry indicate that a qualifying household can financially support a mortgage three to four times its income, depending on levels of consumer debt and other factors, which is the ratio in many parts of the Midwest and Plains regions.

Figure 3

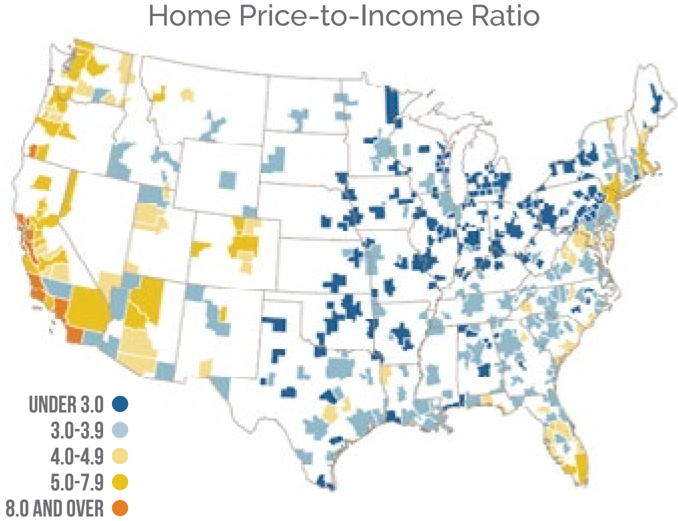


Figure from The State of Nation's Housing Report 2018. The Joint Center For Housing Studies of Harvard University. 2018 Note: Home prices are the median sale price of existing homes and incomes are the median household income within markets. Source: JCHS tabulations of NAR, Metropolitan Median Area Prices, and Moody's Analytics Forecasts.

Rising housing costs have a variety of consequences for quality of life, as well. People may double up to put more people in one unit, overcrowding housing units and straining city services. Alternatively, people may cut spending in areas such as food, clothing, healthcare, or retirement savings. Higher costs also cause some people to move to or remain in lower-cost locations such as cheaper cities, the periphery of urban areas where land tends to be less expensive, or neighborhoods with higher crime or other unattractive features, even when their long-term employment and professional interests would be served better by relocating. Moves to lower-cost locations can have additional adverse effects if they increase commute times, thus increasing traffic congestion and pollution, or make it harder for the movers to access jobs or high-quality schools.

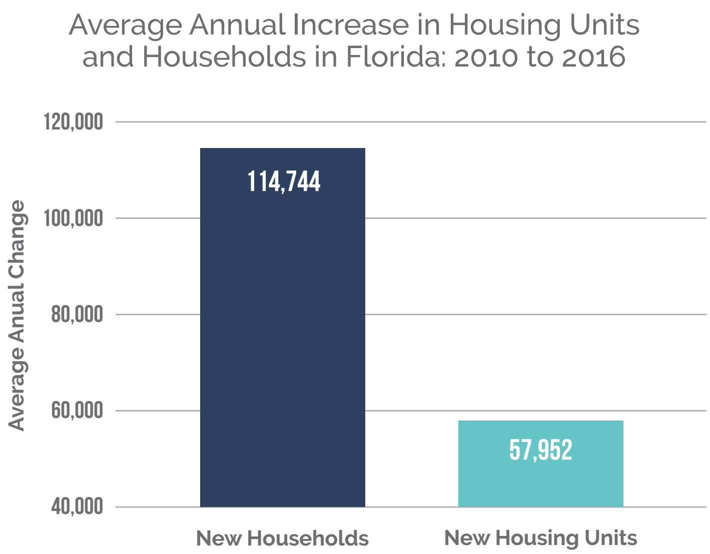
Moderating Home Price Growth

As we have just seen, home prices are rising rapidly in Florida and other parts of the country. These trends risk putting home ownership out of reach for many people, particularly in states such as Florida. Under conventional housing market conditions, new construction targeted toward middle- and higher-income households adds to the housing stock. Over time, homes formerly purchased and occupied by these households are resold to those on the lower end of the housing ladder—typically lower middle-income or lower-income households. Urban and housing economists refer to this as "filtering."

Empirical evidence suggests, in conventional economic environments, filtering is an effective way to increase the inventory of housing and improve access to housing for lower-income households. Filtering begins to break down when regions or states experience such rapid in-migration and population growth that housing construction cannot keep up with rising housing demand.

In Florida, rapid population growth has created a robust and dynamic housing industry. The state's population has increased by 284,566 people on average each year between 2010 and 2016 according to the U.S. Census Bureau. The average household size is 2.48, implying Florida has increased the demand for housing by nearly 115,000 households each year. Yet, just 57,952 new housing units are added to the stock of housing each year (Figure 4). Increasing the number of homes to meet the rising demand for housing is critical to Florida's future.

Figure 4



What is preventing housing supply from meeting this rising demand? The availability of materials and labor (skilled and unskilled) are certainly important factors. Research, however, is increasingly showing that regulatory barriers and other policies increase costs and create lags in building new housing. Given free migration of population and workers, the overall demand for housing and availability of labor to build new homes is largely out of the control of state and local policy makers. Other factors that contribute to lags in housing supply are directly impacted by local policy. Two of these policies—impact fees and land-use regulations—are the focus of the remainder of this report.

State and local regulations increase the costs of housing and reduce the flow of new housing in the market in two very important ways. First, they impose direct costs on development. For example, impact fees generate revenue from new development (in theory) to fund local public infrastructure. While this infrastructure provides benefits to households, the costs are born by land developers and builders well in advance of the revenue they earn from homes sales. Thus, developers and builders must carry these costs, as well as the interest on any debt they incur to pay these expenses in advance. Second, delays in the development and permit approval process extend the length of time builders and developers must hold debt and spend resources on core services in the pre-sale phase such as engineering, surveying, legal work, environmental planning and mitigation, and land-use planning. These delays can add hundreds of thousands, and sometimes millions, of dollars to a project depending on its scale. Researchers call the combined effects of these delays the "Regulatory Tax."[1] One study found that these effects outweigh the impacts of changing consumer demand and other factors, substantially reducing the number of new housing units in communities with political environments that create more uncertainty and delay in zoning and permit approvals.[2]

A wide range of researchers from diverse disciplines recognize that impact fees and land-use regulations contribute to higher housing prices. For example, the Joint Center for Housing Studies report (2018) notes that:

> *Local governments also add to costs by delaying approvals and charging sizeable fees…While new residential developments should contribute to the costs of providing infrastructure and public services, high fees make it even more challenging to provide housing. (p. 9)*

Later, the report notes that:

> *For their part, state and local jurisdictions also have an opportunity to reduce housing costs through regulatory reform. Allowing higher-density development and simpler housing designs, as well as streamlining approval processes, would enable and incentivize builders to supply homes affordable to a broader range of incomes (p. 36).*

Several other studies that examine housing markets in Florida and throughout the United States support these claims.[3] These studies are discussed further in the ensuing sections and their results will be applied to particular housing markets in Florida.

Economics of Impact Fees

Economic theory suggests infrastructure impact fees may be an efficient tool for funding certain public services, as long as they offset other fees and taxes. A properly designed impact fee essentially becomes a user fee that raises money directly from people or businesses that benefit from the services the fees fund. Developers and builders, in principle, would not be any worse off for paying them since the value of the impact fee would be reflected in higher housing prices in the market. This principle appears to be recognized by the State of Florida and its courts through the requirement that impact fees have a rational connection to the services they are supposed to financially support (see text box).

Impact Fees and "Rational Nexus"

By law, impact fees in Florida must pass a "dual rational nexus test" established in St. Johns County v. NE Florida Builders Association, Inc. (1991). Impact fees in Florida must do more than simply show a general connection between the revenue raised and the public services funded for a subdivision. They must take the next step and show that the new infrastructure directly benefits the area being serviced. Thus, the case establishes a legal requirement for the government levying the fee to show a reasonable connection, or "rational nexus," between population growth and the need for additional capital improvement. Then, the government must show a reasonable connection between the spending associated with the fees and benefits to the new development. The later condition requires the impact fees to be specifically earmarked for use in acquiring capital facilities that benefit the new residents. In short, impact fees cannot be used as general taxes to fund services or infrastructure beyond the requirements of the specific housing or commercial land development.

The key, of course, is whether the impact fee is "well designed" or appropriately designed. Some jurisdictions, for example, might set their impact fees to discourage housing development if they are pursuing a "no growth" or "slow growth" agenda. Other jurisdictions might use their fees solely for cost recovery. Still other cities or counties might use their fees to fund other services they provide to the general population. (A thorough examination of whether impact fees in Florida are too high (or low) relative to the service levels provided by local jurisdictions is, however, beyond the scope of this report.)

Impact Fees and Housing Prices

Several studies find that impact fees increase prices. Two studies on Florida find significant evidence that impact fees increase the price of new and existing homes in Florida by about $1 for each $1 of fees.[4] Another study finds that impact fees increase the price of new single-family housing in King County, Wash. by $1.66 to $3.58 per $1 of fees, with more expensive homes experiencing a larger increase in price due to fees.[5] Another study finds that existing home prices in King County also increase by about $1 for every $1 of impact fees, though the increase is not statistically significant for low-quality homes.[6] Thus, the King County studies are generally consistent with the Florida studies. The authors of these studies interpret their findings as evidence that consumers value the infrastructure supported by the fees at least as much as the cost of the fee. An alternative perspective in the research is that impact fees can lead to future declines in property taxes which are then capitalized into home values. An analysis of homeowners in Phoenix found evidence suggesting that local residents see impact fees as a substitute for the property tax in funding local public infrastructure.[7]

These studies are consistent with the idea that impact fees provide infrastructure and public services that consumers value and may reduce future property taxes, which are then capitalized into the price of both new and existing homes. They support the intuition behind current Florida state legislation allowing impact fees so long as the revenues fund services valued by housing consumers and homebuyers.

Importantly, these results also support the notion of competitive development markets. Consumers are more likely to absorb the cost of the fees by paying higher prices for housing. If the profit margins of housing developers are already thin due to competition there is no room for them to absorb the fees out of profits.[8] This implies that housing prices must either increase by the amount of the fee (contributing to lower housing affordability), land prices must fall to offset the higher fee and potentially lower profit margins, or some combination of both.

Impact Fees and New Housing Construction

Other studies examine the effect impact fees have on new construction. Two studies on Florida real-estate markets by economists Gregory Burge and Keith Ihlanfeldt found that impact fees assessed to fund infrastructure such as roads, schools, and parks, increase residential housing construction —both single and multi-family—in suburban areas although they find no effect on construction rates in central cities or rural areas.[9] Cameron Murray also finds that changes in impact fees are weakly associated with more new housing sales.[10]

It might seem surprising that impact fees can raise the price of housing but not slow construction, but it makes sense in land markets that are highly regulated or characterized by significant uncertainty around permit approval. To the extent that impact fees alleviate existing property owners of the burden of providing public goods and services for new development, they may also make it less likely that existing property owners try to block or delay new development via regulation. Thus, impact fees may serve as a bulwark against more exclusionary land-use policies like minimum lot sizes, environmental regulations, parking requirements, and height limits.

Urban economist William Fischel notes in his book *The Homevoter Hypothesis* that impact fees may be a way to circumvent moratoriums on new development until funds to provide the necessary infrastructure are raised. Such funds are typically generated via levies or bonds whose cost is imposed on the entire community, which may cause residents who are leery of more taxes to resist new development.

In addition, real-estate markets characterized by high and increasing housing demand, such as Florida, may hide the negative effect of impact fees on housing construction. In high demand markets, impact fee costs, particularly those higher than necessary to provide valued infrastructure, will contribute to higher housing costs and lower housing affordability.

Impact Fees in Practice

Even though impact fees can be efficient in theory, their implementation may be quite different and even create unintended negative consequences. If the impact fee is unexpected, or the fee increases unexpectedly, developers are likely to build sooner, contributing to residential housing business cycles. Paradoxically, the larger housing inventory built at higher costs will also compromise the ability for builders to construct more homes later as they wait for revenue from current home sales to offset past impact fees. A potentially significant unintended impact might be a reduction in workforce or market-based affordable housing. The result would be housing markets that cater to higher-income households while squeezing out lower-income households. While building homes for higher-income families is an important part of the long-term housing market filtering process, in markets such as Florida, rapid growth in housing demand requires adding new homes in other tiers of the market geared to households with lower incomes. Since local economies rely on a diverse labor force to support employers and services, lower-income households will be forced to live further out and commute longer distances, exacerbating problems associated with urban sprawl, traffic congestion, and low-capacity infrastructure to serve the more dispersed living patterns.

Thus, impact fees may well have disproportional impacts on different tiers of the housing market. Higher housing prices without commensurate increases in income reduces housing affordability. Moreover, since impact fees are typically assessed per housing unit regardless of household or physical size, the financial burden may fall disproportionately on lower-priced housing, exacerbating the negative impacts on lower-income households. Higher impact fees as a proportion of the housing value will likely discourage homebuilding for that market by reducing profit margins.

This next section of this report explores these potential inequities from impact fees on housing development by examining their implementation in several counties and cities in Southwest Florida: Manatee County, Lee County, the City of Bradenton, the City of Fort Myers, and the City of Sarasota. The next section explains the general approach used to assess and compare the effects of the impact fees while later sections review the fees in the specific jurisdictions. Finally, we discuss some general observations about the potential effects of impact fees on workforces and affordable housing.

Overview of Equity Analysis of Impact Fees in Southwest Florida

Interviews with builders and land developers as well as local news reports suggest that housing for "working families"—households that are not poor but also fall below conventional thresholds to be classified as "middle class"—is becoming more difficult to build. As the national and statewide economy picks up steam, housing affordability is likely to erode further as prices outpace incomes. Thus, the role of impact fees in exacerbating the housing supply shortage and encouraging inequities in the housing market is critical to addressing housing affordability issues at the local level.

For this analysis, impact fee schedules and procedures were examined in five jurisdictions in Southwest Florida (Table 1). These are coastal jurisdictions and face similar topographical and geologic challenges. They also exist within the same general labor market area and face similar challenges in terms of access to construction materials, technology, and land for development. In short, construction and development costs should be similar across these jurisdictions, helping isolate the fiscal effects of impact fees on similarly situated homes.

The Bradenton-Sarasota-Fort Myers region is a high-growth area, attracting large numbers of tourists and "snow birds" who take advantage of the mild winters and world-class beaches. Notably, the median household income is about $50,000 per household in Manatee, Lee, and Sarasota Counties, slightly above the statewide median income of $48,900. The median incomes for households in the cities of Bradenton, Forty Myers, and Sarasota hover significantly lower at around $40,000. A median income level of about $50,000 in these counties, however, likely implies a two-earner household for workers at the lower ends of the income spectrum.

Appendix A includes a list of 30 occupations taken from the U.S. Bureau of Labor Statistics with estimated annualized incomes of between $20,000 and $50,000 (in May 2017) for the North Point-Bradenton-Sarasota Metropolitan Area (Sarasota and Manatee Counties) and the Cape Coral-Fort Myers Metropolitan Area (Lee County).[11] These occupations are representative of lower-tier jobs that pay enough to lift a person out of poverty (working full time) but too little to secure a more comfortable middle-class lifestyle. In the Sarasota metropolitan area, for example, the median annualized wage for a veterinary technician is $34,550 (about $17 per hour), a graphic designer $41,490 (about $20.50 per hour), a janitor $24,820 (about $12 per hour), and a retail sales person $26,200 ($13 per hour). Many people just starting out in professions such as janitors, retail sales clerks, cashiers, landscapers, and others would be making substantially less, perhaps close to the Florida minimum wage of $8.25 ($16,500 if full time, year-round, and annualized). Moreover, many of these jobs, such as bus drivers, construction workers, and heavy equipment operators are either seasonal or part-time.

Thus, households would almost all have at least two earners to get to the median county and city household incomes. A full-time retail sales worker ($26,200) combined with a full-time restaurant cook ($26,050) could combine incomes to generate a household income of $53,250 per year.[12] Other types of households could attain a much higher income. For example, a graphic designer ($41,490) married to a paralegal ($43,070) could combine to generate an annual income of nearly $85,000 per year, pushing them into the middle-class income range.

Given the relatively low pay of most of these occupations, however, the ability to rent a single-family detached house would create financial challenges for those interested in moving

Table 1: Population and Income in Selected Florida Jurisdictions

	Population	Pop. Growth (%)	Median Household Income	% in Poverty (persons)	% Owner Occupied	Median Home Value	Pop > 65
Manatee County	385,571	19.4%	$51,483	12.7%	69.9%	$178,700.00	26.8%
Bradenton	56,508	15.1%	$41,093	17.3%	54.5%	$135,900.00	23.9%
Lee County	739,224	19.5%	$50,390	12.8%	69.0%	$171,100.00	28.0%
Ft. Myers	79,943	28.3%	$38,971	22.6%	46.5%	$160,800.00	18.6%
Sarasota County	419,119	10.5%	$52,796	10.8%	73.2%	$196,800.00	36.1%

into homeownership even for double-income households. As mentioned previously, conventional rules of thumb indicate that a qualifying household can financially support a mortgage three times its income. This heuristic implies a mortgage of about $150,000 for a household earning $50,000 per year, or $240,000 for a household earning $80,000 per year. These numbers ignore other factors such as maintaining the home, utilities, property taxes, etc.

For households on the economic margins of home ownership, a relatively small fee of $5,000 per unit could push homeownership beyond their means if the fee is fully capitalized into the sales price, a likely effect in a tight housing market. Moreover, the impact will also likely place a disproportionate burden on the lower-cost homes and lower-income households. For example, an impact fee of $15,000 per home would represent 10 percent of a house selling for $150,000. The fee represents just 6.3 percent of a home valued at $240,000. Thus, the lower-income household buying the cheaper home shoulders a higher proportional financial burden compared to the higher-income household (15 percent vs. 6.3 percent) even though the absolute dollars are the same ($15,000).

This inequity is made worse because the higher-valued homes likely use local infrastructure and resources more intensely by virtue of their size. Smaller homes usually indicate a smaller household and less intense use of utilities. For example, larger houses usually have more bedrooms and are built to a larger scale. They also have more bathrooms and half baths suggesting greater use of water. Higher-valued homes also typically (but not always) have larger lots, requiring more spread out storm water collection facilities that can add costs.

The size and impact of these inequities depends on the design and comprehensiveness of the impact fee policy. A fee levied on each unit of housing regardless of size and location will have larger proportional impacts on lower-valued housing and, usually, low-income households. For example, Lee County lists separate impact fees for the following eight public services: local roads, firefighting services, emergency medical services (EMS), publicly-provided water, public sewer, local public schools, regional parks, and community parks. Combined, these fees add at least $12,915 dollars to new home construction. In contrast, Manatee County assesses impact fees based on the size and physical location of the home. The county assesses fees on new homes for law enforcement, libraries, a multi-modal (public transit and roads) transportation system, parks and natural resource conservation, public safety, and administration fees. Total fees can range from $3,161 to $13,072.

To assess and illustrate the effects of impact fees on different types of residential development in different places, the impact fee schedules for the five jurisdictions identified for this analysis were applied to three new home "profiles" represented in Table 2. All houses are assumed to be located on a privately-owned lot varying from 4,800 square feet (one tenth of an acre) to 6,400 square feet.[13] The rooms increase with the value of the house, as well. Total rooms include bedrooms, kitchen areas, family rooms, and dining areas as the size increases. (Bathrooms are excluded from the total room count.) The results are explained in the following three sections of this report.

Table 2: Characteristics of Hypothetical Homes

	Home A	Home B	Home C
Sales Price	**$175,000**	**$250,000**	**$350,000**
Home size (sq. ft.)	1,500	1,800	2,100
Bedrooms	2	3	3.5
Bathroom	2	2.5	3.5
Total Rooms	5	6	7
Lot Size (sq. ft.)	4,800	6,100	6,400
Garage size (vehicles)	2	2	2
Ft. Myers	419,119	419,119	419,119

Lee County and the City of Fort Myers

Lee County is located in South Florida along the Gulf Coast with a permanent resident population of 739,224. The county grew by 19.5 percent between 2010 and 2017––nearly twice the state average. Twenty-eight percent of the county's residents are over the age of 65, about one third higher than the state average of 20.1 percent. The median household income is $50,390 and the poverty rate is lower than the state average of 12.8 percent. The owner-occupied housing rate is 69 percent with a median home value of $171,100.

Fort Myers is in Lee County and has a year-round resident population of 79,943. Like the county, the city ranks among Florida's fastest growing municipalities. The city grew 28.3 percent between 2010 and 2017. The senior population, those 65 years or older, makes up 18.6 percent of the population, nearly 10 percentage points below Lee County as a whole. The median household income is $38,971 and the poverty rate is 22.6 percent, higher than the state average. The city and county's location as a national destination for "snowbirds" and winter vacations may explain the low rate of owner-occupied housing in the city (46.5 percent). The median value of owner-occupied housing is about average for the state at $160,800 although much of this housing is likely reserved for winter and seasonal rentals.

Both the city and county levy their impact fees on a per unit basis. These fees have substantial implications for equity and potential impacts on the supply of workforce housing.

Lee County Impact Fees

Lee County levies impact fees for roads, regional parks, fire, EMS, and schools.[14] As a practical matter, the online interface for accessing information about the county code is relatively easy. The county has a clearly marked section of the code dedicated to impact fees. A web search for "Lee County Impact Fees" returns a webpage on the County's website that provides ample information and instructions for compliance with county fees.[15] Impact fees in Lee County vary by the number of families and building levels (Table 2). However, all single-family dwellings pay the same impact fees. The county ordinance does not distinguish between a two-bedroom, one-bathroom house or a six-bedroom house, nor does it consider lot size or the size in square feet. The total fiscal impact of the various fees accumulates to about $8,500 per home excluding water and sewage fees, which are calculated based on a formula.

Table 2. Lee County Residential Impact Fee Schedule (Effective 6/4/2018)

Single Family		
Roads	per unit	$4,498.00
Fire	per unit	$766.00
EMS	per unit	$55.00
Schools	per unit	$2,468.00
Regional Park	per unit	$293.00
Community Park	per unit	$398.00

Note: Fire impact fee calculated at maximum. Fee liability depends on the fire district development is located within. However, most districts charge the maximum fee

While the total cost of the impact fee may be transparent and predictable, the effects on homes within Lee County vary dramatically (Table 3). New homes on the lower end of the market would find impact fees represent about five percent of the value of home in a strong market (high demand) once water and sewer fees are included.[16] This share is nearly double the share higher-income families would be expected to absorb. While this report does not examine the strength of the Lee County housing market to provide estimates of how much home buyers absorb the cost of impact fees, new housing targeted toward non-wealthy segments of the market typically have lower profit margins—builders need to produce and sell higher volumes to generate the total profits needed to justify their investment. Thus, impact fees in Lee County are likely squeezing profit margins for workforce housing to a higher degree than higher-income housing, contributing to housing shortages for moderate-income households.

Table 3: Equity Effects of Impact Fees: Lee County

Lee County	House A	House B	House C
Fee	**$175,000**	**$250,000**	**$350,000**
Roads	2.6%	1.8%	1.3%
Fire	0.4%	0.3%	0.2%
EMS	0.0%	0.0%	0.0%
Schools	1.4%	1.0%	0.7%
Regional Park	0.2%	0.1%	0.1%
Total	4.6%	3.2%	2.3%

Fort Myers Impact Fees

The City of Fort Myers participates in Lee County's roads, regional parks, fire, EMS, and schools impact fee programs through interlocal agreements according to its Code of Ordinances (Sec. 122-461.a). The city levies its own impact fees for water (Sec. 122-53) and sewage (Sec 122-133). Fee schedules can be found online in the city and county Codes of Ordinances.[17] However, estimating the total impact fees required for a new single-family dwelling can be complicated. County impact fees are mentioned in the City Code, but fee schedules can only be found in the County Code. The exception is for the city's regional and community parks fees. The parks fee is different for city residents, and development within the city is subject only to the city parks fees.

The online interface for accessing the city and county codes is the same. However, finding the impact fee schedules is considerably more difficult for city fees than county fees. To find schedules for city fees, the user must navigate an eight-click process through several subsections, starting with the city's landing page.

Start: https://www.cityftmyers.com/

1. Government
2. Code of Ordinances
3. Municode website
4. Subpart B: Land Development Code
5. Ch. 22: Public Facilities
6. Article II: Water System
7. Division 2: Connections
8. Sec. 122-53.

Alternatively, a user could simply Google "City of Fort Myers Impact Fees" and find a pdf containing the impact fee schedule Table 4. This document includes city and county fees and provides per-unit fee totals for various dwelling types.

However, the online schedule does not provide any information about the way fees should be calculated or the application process for the fees. According to the schedule provided by the City of Fort Myers, all single-family dwellings should pay similar impact fees totaling $12,915.66.[18] The majority of the total expenses ($8,684.91) is attributable to county fees. City water and sewage fees account for $4,230.75.[19]

Table 4. Fort Myers Residential Impact Fee Schedule (Effective 6/4/2018)

Single Family				
		Impact Fee	Admin. Fee	Total
Roads	per unit	$4,498.20	$134.95	$4,633.15
Fire	per unit	$338.00	$10.14	$348.14
EMS	per unit	$55.00	$1.65	$56.65
Meter (5/8") - installation fee	per unit	$150.00	$N/Av	$150.00
Water	per unit	$2,023.00	$46.53	$2,069.53
Sewer	per unit	$1,966.00	$45.22	$2,011.22
Schools	per unit	$2,467.80	$74.03	$2,541.83
Regional Park	per unit	$292.95	$8.79	$301.74
Community Park	per unit	$780.00	$23.40	$803.40

Not surprisingly, the impacts of the fees represent the same inequities implied in the county assessments. More affordable houses carry a larger proportional burden of impact fees, accounting for 7.4 percent of a new home sold for $150,000. Higher-income households buying a $350,000 house, would find that impact fees account for just 3.7 percent of the sales price. This is still proportionally smaller than lower-tier homes would pay in Lee County. Moreover, the lower infrastructure burdens for higher-income households and more expensive homes is consistent across fees.

Table 5: Equity Impacts of Impact Fees, Fort Myers, Florida

Fort Myers	House A	House B	House C
Fee	**$175,000**	**$250,000**	**$350,000**
Roads	2.6%	1.9%	1.3%
Fire	0.2%	0.1%	0.1%
EMS	0.0%	0.0%	0.0%
Meter (5/8") - installation fee	0.1%	0.1%	0.0%
Water	1.2%	0.8%	0.6%
Sewer	1.1%	0.8%	0.6%
Schools	1.5%	1.0%	0.7%
Regional Park	0.2%	0.1%	0.1%
Community Park	0.5%	0.3%	0.2%
Total	7.4%	5.2%	3.7%

Another intriguing result of this heuristic analysis is higher impact fees assessed for new homes inside the City of Fort Myers. Conventional wisdom holds that developments in more rural and suburban area are more expensive to serve because homes are more spread out and distances to work places longer. Thus, water and sewer pipes must be extended over larger areas of land to serve the same number of homes and road infrastructure needs to be more robust to serve large commuter populations. In the case of Lee County and Fort Myers, infrastructure could potentially be 50 percent more expensive inside the city than in rural areas.

4. Sarasota County and City of Sarasota

Sarasota County is located just south of Manatee County along Florida's Gulf Coast. Its current estimated population of 419,119 represents growth of 10.5 percent between 2010 and 2017.[20] Over one third of the county's population (36.1 percent) is over the age of 65. The owner-occupied housing rate and median value of owner-occupied housing are high relative to the state of Florida at 73.2 percent and $196,000 respectively. The median household income is $52,796 compared to the state average of $48,900. Moreover, the poverty rate of 10.8 percent is 3.9 percentage points lower than the state average.

The City of Sarasota has a population of 56,994 and grew by 9.5 percent between 2010 and 2017.[21] Residents over 65 years old account for 25.2 percent of the city's population. Just 54.2 percent of housing is owner-occupied compared to 64.8 percent in the state and 73.2 percent in Sarasota County. The median value of owner-occupied housing is relatively high at $190,500. The low owner-occupied housing rate may indicate that housing in the city is too expensive for middle- and lower-income residents, but access to affordable homes could also be complicated by the substantial seasonal demand created by "snowbirds". The median household income in the city is quite low at $43,477. Moreover, the poverty rate is 19.6 percent and significantly higher than the state, national, and county poverty rates.

Sarasota County Impact Fees

Sarasota County's impact fees are codified in its Code of Ordinances for libraries (Article II), parks (Article V), water (Article VI), wastewater (Article VII), education (Article VIII), law enforcement (Article IX), justice facilities (Article X), general government (Article XI), and mobility (Article XII). The county administers impact fees through interlocal agreements with municipalities within its boundaries. An online fee calculator allows permit applicants to enter their permit number and determine what impact fees they will be charged. However, a user must have an application in progress to determine impact fees. Impact fees for prospective projects cannot be calculated using these tools. A similar tool allowing users to enter various development characteristics into the interface and determine the fee assessments based on choices in fixtures, square-footage, etc. may be valuable.

With the exception of education, water, and wastewater fees, residential impact fees are scaled to the square footage of living space (Table 6). The fees, however, may not necessarily reflect the impact of new development. For example, the impact of a larger home on libraries, parks, law enforcement, general government facilities, or justice facilities is unclear. Although the evidence may be available, the county's website does not cite studies or research that supports assessing the fees based on home size or footprint. Moreover, some fees are assessed at the same level regardless of specific features. For example, a home with a swimming pool may or may not require more intensive infrastructure to service. The educational system impact fee is also the same for all single-family residential units. Overall, a 1,500 square-foot home in Sarasota County would face around $16,991.16 in impact fees.

Table 7. Water, Wastewater, and Educational System Impact Fee Schedule

Single-Family Residential (1.0 EDU)		
Water (per EDU)	Wastewater (per EDU)	Educational System
$2,720.00	$2,627.16	$2,032.00

The schedule for the county's mobility impact fee is shown in Table 8. The fee is assessed according to square-footage of living space, apart from rural single-family residential units. The County Code of Ordinances (Florida Chapter 70) defines rural residential as "a single-family detached unit one acre or greater in size located outside the Urban and Future Urban Service Area Boundary and not located within an existing platted subdivision as of the date of [the mobility impact fee] ordinance or within a 2050 Plan designated Hamlet, Settlement or Village" (Article XII, Section 70-504). The mobility fee has replaced a former roads impact fee. According to the County Code of Ordinances, the impact fee appears to be assessed based on actual use since "the road impact fee system is principally focused on vehicular mobility. The mobility fee system takes a comprehensive view on the provision of mobility through walking, biking, transit and motor vehicles (Article XII, Section 70-500(2)a)."

Three mobility fee service districts have been established within the unincorporated areas of Sarasota County to ensure that mobility fee funds benefit the area of the new development. The City of Sarasota has established its own functionally equivalent impact fee program, but the City of North Port, the City of Venice, and the Town of Longboat Key participate in the county fee program through interlocal agreements. Developers have the option to submit an independent mobility fee study subject to the approval of the Impact Fee Administrator and a review fee (Article

Table 6. Sarasota County Libraries and Parks Impact Fee Schedule

Single Family					
Sq. ft. of Living Space	Libraries	Parks	Law Enforcement	Justice Facilities	General Government (County)
< 1,250	$610.00	$2,428.00	$252.00	$902.00	$557.00
1,250-1,999	$627.00	$2,495.00	$258.00	$926.00	$572.00
2,000-2,499	$683.00	$2,719.00	$281.00	$1,009.00	$623.00
2,500-2,999	$719.00	$2,865.00	$296.00	$1,063.00	$657.00
> 3,000	$773.00	$3,077.00	$319.00	$1,142.00	$706.00

XII, Section 70-509(b)). If the study is accepted, the developer will be reimbursed the difference between the fee paid and the impact fee determined by the independent study. If the study is rejected, the applicant must still pay the review fee and receives no reimbursement.

Table 8. Mobility Impact Fee

Sq. ft. of living space	Single Family
< 1,500	$3,603
1,500-3,500	$4,734
> 3,500	$5,389
Rural single-family	$7,184

The detailed and cumulative effects of these impact fees in Sarasota County are estimated in Table 9. Despite the attempt to vary the fees by size or scale of the housing unit, and the consequent increase in total impact fees (based on the published schedule), higher-income households (and more expensive homes) continue to bear a proportionally lower financial burden. Lower-income households in the lower tiers of the housing market appear to bear a proportionally larger share. In addition to the three representative homes applied to fee schedules in other counties and cities, a fourth home that would represent the largest fee assessments was added for comparison. The proportional share continued to decline. Indeed, in Sarasota County, the inequity is even larger than in Lee County or in Fort Myers.

City of Sarasota Impact Fees

The City of Sarasota participates in the Sarasota County impact fee program for libraries, parks, education, law enforcement, justice facilities, and general government through interlocal agreements. However, the city levies its own impact fee for multimodal transportation, water, and sewage (Sarasota Code of Ordinances, Chapter 25, Article II). New development within the city is not required to pay county mobility, water, or wastewater impact fees.

The multimodal transportation impact fee schedule is displayed in Table 10. Development within North Trail and Newtown CRA are charged discounted multimodal impact fees––excluding homes 3,500 square feet and larger. The city levies no multimodal transportation fee on housing that qualifies under very low-income or low-income criteria to promote the construction of affordable housing. Homes less than 1,500 square feet are required to pay between $2,712 and $5,423 depending on their location. Moreover, the city transportation impact fees are significantly greater than the mobility impact fees charged by the county. The schedule for water and sewage impact fees in the City of Sarasota is shown in Table 11. Fees are assessed according to meter size, not the number or types of water fixtures within units. A 1,500 square-foot home in the City of Sarasota would face around $14,250 in impact fees excluding water and sewage.

Table 9: Estimated Impact Fees for Single Family House in Sarasota County

	Home A	Home B	Home C	Home D
Sales Price	$175,000	$250,000	$350,000	$400,000
Home Size	1,500	1,800	2,100	2,500
Libraries	$627.00	$627.00	$683.00	$773.00
Parks	$2,495.00	$2,495.00	$2,719.00	$3,077.00
Law Enforcement	$258.00	$258.00	$281.00	$319.00
Justice Facilities	$926.00	$926.00	$1,009.00	$1,142.00
General Govt.	$572.00	$572.00	$623.00	$706.00
Water	$2,720.00	$2,720.00	$2,720.00	$2,720.00
Wastewater	$2,627.16	$2,627.16	$2,627.16	$2,627.16
Education	$2,032.00	$2,032.00	$2,032.00	$2,032.00
Mobility	$3,603	$4,734	$4,734	$5,389
Total	$15,860.16	$16,991.16	$17,428.16	$18,785.16
Burden	9.1%	6.8%	5.0%	4.7%

Table 10. City of Sarasota Multimodal Transportation Impact Fee Schedule

Single Family (Detached)					
Home size	Current Adopted Rate	City-Wide Rate	Downtown	Newtown CRA	North Trail
Low or very low income	$2,887	$0	$0	$0	$0
< 1,500 sq. ft.	$2,887	$5,423	$5,423	$2,712	$2,712
1,500-3,499 sq. ft.	$2,887	$7,340	$7,340	$3,670	$3,670
3,500 sq. ft. or more	$2,887	$8,161	$8,161	$8,161*	$8,161*

Note: *The Single-Family land use (3,500 sf and greater) does not receive a discount in the Newtown CRA and North Trail areas.

Table 11. City of Sarasota Water and Sewer Impact Fee Schedule

Meter Size (inches)	Water System	Sewer System	Combined
5/8	$900.00	$2,577.00	$3,477.00
1	2,250.00	6,442.50	8,692.50
1½	4,500.00	12,885.00	17,385.00
2	7,200.00	20,616.00	27,816.00
3	14,400.00	41,232.00	55,632.00
4	22,500.00	64,425.00	86,925.00
6	45,000.00	128,850.00	173,850.00
8	72,000.00	206,160.00	278,160.00

5. Manatee County and City of Bradenton

Manatee County is located just south of Tampa on the western coast of Florida. It has a population of 385,571 and grew by 19.4 percent from 2010 to 2017.[22] The county has a relatively large elderly population, with 26 percent of its residents over the age of 65. According to the US Census Bureau, the median household income is $51,483 with a poverty rate of 12.7 percent, compared to the state averages of $48,900 and 14.7 percent, respectively. Moreover, a large share of residents own their homes. The owner-occupied housing rate in Manatee County is 69.9 percent and the median value of owner-occupied homes is $178,700.

The City of Bradenton is located on the west coast of Manatee County.[23] It has a population of 56,508 and grew by 15.1 percent from 2010 to 2017, slightly lower than the rest of the county. Twenty-four percent of city residents are over 65 which is higher than the state average, but lower than the rate in Manatee County. The City has a median household income of $41,093 and a relatively high poverty rate of 17.3 percent. The owner-occupied housing rate is also low at 54.5 percent, and the median value of owner-occupied housing is $135,900.

Manatee County Impact Fees

Manatee County levies impact fees for educational facilities, law enforcement, libraries, multi-modal transportation, parks and natural resources, and public safety.[24] Residential impact fees and an administrative surcharge vary according to square footage. They do not vary by location with the exception of the multi-modal transportation impact fee. The user-interface for accessing the land development code for Manatee County is the same as the one employed in Lee County and the City of Fort Myers although users will have to navigate a seven-click pathway to find the relevant information.

Website: https://www.mymanatee.org/

1. Business
2. Building and Development
3. Land Development Code
4. Municode website
5. Chapter 11: Impact Fees
6. Section 1102: Impact Fee Determination
7. Exhibit 11-1

Section 1102.3 of the Manatee County Land Development Code states that "[d]uring the time period commencing on April 18, 2017 and continuing thereafter, the impact fee shall be ninety percent (90 percent) of the amount set forth in the above schedule."[25] Aside from this complication and the multi-modal transportation fee, the impact fee schedule in Manatee County is relatively straightforward. Fees range from $2,450.70 to $11,764.80 compared to the near universal $6,734.84 fee in Lee County.

In contrast, a web search of "Manatee County impact fees" returns a webpage on the Manatee County website dedicated to impact fees. It provides useful information about the purpose, application, and administrative procedure for collecting impact fees. In addition, a link to another impact fee schedule displays fees calculated at 90 percent of those displayed in Table 12. This schedule includes impact fees for educational facilities not found in the Manatee County Land Development Code. Rather, the schedule for educational facilities impact fees is in the Manatee County Code of Ordinances.[26] Educational facilities impact fees indicate all new single-family dwellings are assessed $6,127. The online path to find the educational facilities impact fee schedule is as follows:

https://www.mymanatee.org/

1. Business
2. Resources
3. Code of Ordinances
4. Municode website
5. Chapter 2-29: Taxation and Fiscal Procedures
6. Article VII
7. Impact Fees
8. Division 2: Educational Facilities

With the exception of educational facilities impact fees, the Manatee County schedule does not differentiate between single-family dwellings and higher-density housing. Impact fee rates in Manatee County appear to be relatively high compared to Lee and Sarasota counties. Total fees for single-family dwellings including educational facilities impact fees range from $8,578 to $17,892.

Table 13. Manatee County Educational Facilities Impact Fee Schedule

Residential (Per Housing Unit)	
Single-Family	$6,127
Townhouse/Duplex	$6,471
Manufactured Home	$1,971
Multi-Family	$3,502

The total estimated impact fees for a single-family home in Manatee County varies significantly, from just $11,911 in the Southwest district to $19,199 in the Northeast District (Table 14). As in the previous counties, homes built for lower sales price tiers bear a higher financial burden. Moderately-priced new homes will include impact fees of nearly 10 percent of the sales price in the Northeast and Northwest districts compared to under 7 percent for higher-valued homes in the Southeast and Southwest.

Table 14. Estimated Impact Fees for Manatee County

Estimtd. Fee	NE	NW	SE	SW
Home A	$14,462	$14,182	$12,855	$11,911
Home B	$16,611	$16,258	$14,590	$13,404
Home C	$19,199	$18,760	$16,682	$15,201

Table 12. Manatee County Residential Impact Fee Schedule

	Law Enf.	Libraries	Multi-Modal Transportation				Parks & Natural Resrcs	Public Safety	Admin. Surchg.	Total Fee			
			NE	NW	SE	SW				NE	NW	SE	SW
Residential (Per Housing Unit)													
1,000 sq ft or less	$222	$119	$2,863	$2,731	$2,107	$1,689	$538	$120	$55	$3,917	$3,785	$3,161	$2,723
1,001-1,300 sq ft	$345	$185	$4,455	$4,250	$3,279	$2,598	$836	$186	$86	$6,093	$5,888	$4,917	$4,236
1,301-1,700 sq ft	$473	$253	$6,092	$5,812	$4,485	$3,541	$1,144	$255	$118	$8,335	$8,055	$6,728	$5,784
1,701-2,200 sq ft	$596	$319	$7,657	$7,304	$5,636	$4,450	$1,442	$321	$149	$10,484	$10,131	$8,463	$7,277
2,201 or more sq ft	$744	$399	$9,541	$9,102	$7,024	$5,543	$1,801	$401	$186	$13,072	$12,633	$10,555	$9,074

Note: The full schedule including non-residential fees can be found in the Manatee County Land Development Code

Table 15. Relative Financial Burden of Impacts Fees in Manatee County

	NE	NW	SE	SW
Home A	9.6%	9.5%	8.6%	7.9%
Home B	8.3%	8.1%	7.3%	6.7%
Home C	7.7%	7.5%	6.7%	6.1%

The City of Bradenton Impact Fees

Housing development within the City of Bradenton is not subject to county impact fees based on the city's Code of Ordinances. The city levies its own impact fees for water, sewage (Article IV, Section 70-160), parks and recreation (Article X, Section 18-260), public safety (Article X, Section 18-261), roads (Article X, Section 18-263), and transportation (Article X, Section 18-263). Information about most of the fees can be found in the City of Bradenton Code of Ordinances, but they are scattered throughout the code. There is also no schedule for water or sewage impact fees included in the code. The schedule for water and sewage impact fees can, however, be found through a web search for "City of Bradenton impact fees."[27]

The schedule for parks and public safety impact fees is displayed in Table 16. The parks and public safety fees are charged per square foot of new residential development. As in Manatee County, this allows for discrimination between larger and smaller homes, but square footage may not be the best indicator of the impact of new development. Fees for roads, transportation, water, and sewage are more complicated.

Table 17 presents the roads impact fee schedule for Bradenton. Roads impact fees are determined by the number of bedrooms within a residential unit. Houses with greater capacities likely have more occupants who will use public road systems and contribute to traffic. The City of Bradenton Proportionate Share Transportation Ordinance outlines the formula (shown below) for determining transportation impact fee liability:

Development Trips = Those trips from the development that are assigned to roadway segment

SV Increase = Service volume increase provided by the improvement to roadway segment

Cost = Adjusted cost of the improvement.

The cost of the fee and associated road improvements is subject to decisions by city officials. The uncertainty associated with the calculation of the transportation impact fee may introduce unnecessary costs that hinder development.

Table 16. Bradenton Parks and Recreation and Public Safety Impact Fee Schedule

New Residential Unit or Expansion (Per sq. ft.)	
Parks and Recreation	$0.36
Public Safety	$0.155

Table 17. Bradenton Roads Impact Fee Schedule

Single-Family Detached	
0-2 Bedrooms	$1,677.11
3 Bedrooms	$2,073.50
4+ Bedrooms	$2,833.50

Assessing water and sewage impact fees involves a complicated process. The schedule is not available in the city code, but can be found through a web search for "City of Bradenton impact fees." The schedule lists 33 different "fixture types" each with a corresponding "unit value." A developer must count the number of fixtures under each type and then multiply the total by the unit value. Then, these totals are added together to arrive at the number of "total units." Finally, the number of total units is multiplied by both the water and sewage charges of $62.24 and $81.34 respectively. According to the fee schedule, a residential unit with two bathrooms, a dishwasher, a kitchen sink with a garbage disposal, and a washing machine would incur a fee of $2,871.60. The schedule is ostensibly designed such that impact fees more accurately reflect the impact of new development on water and sewage systems, but it is overly complicated. Many of the fixture types such as "Service (P trap) self-contained or remote to indirect" or "Service (trap standard) (Indirect Waste)" are highly specific and require technical knowledge of plumbing and water systems design.

The unit values and distinctions between some fixture types appear somewhat arbitrary. The unit value of a lavatory with a 1¼" drain is less than a lavatory with a 1½" drain––a difference of $143.58. A bidet is assessed to have the same unit value as a bathtub which likely requires more water.

There is an apparent tradeoff between schedule simplicity and attempts to reflect the true impact of development. Bradenton's impact fee schedule, however, is largely independent of actual usage or demand. For example, fixtures in and of themselves provide little information about how much water is used, only the potential volume that could be used.

Summary

In principle, impact fees should reflect the true impact of new development on public services, but the process for determining that impact should be more straightforward. The five jurisdictions examined in this section suggest that assessed fees vary widely, and the actual fiscal impact may be difficult to estimate for builders. In the case of the cities of Sarasota and Bradenton, the impact fee estimates were incalculable without significant detail about the developments. Even estimating general ranges for our representative homes was problematic. Developers within Manatee County could face fees ranging from $11,911 to $19,199, depending on where the homes were located. Lee County assessed the most affordable fees: $8,500 per unit. But the City of Fort Myers assessed fees ranging 50 percent higher than the county.

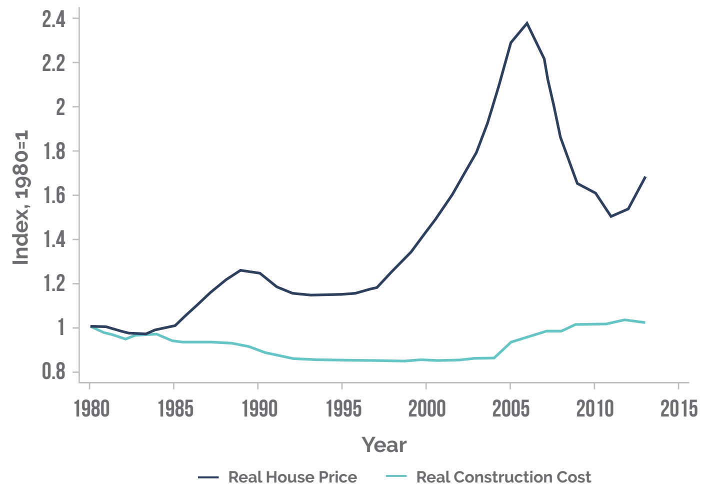
These ranges in estimates and the level of detail required in some cases to calculate the fee suggests the impact fee assessment process creates substantial uncertainty in the residential land market. The lack of transparency, despite published schedules, likely contributes to delays in the land development process, higher than necessary costs, and a justified skepticism about whether the fees represent the "double nexus" required by Florida state statute.

Regulation and Housing Prices

As mentioned earlier, for most of the 20th century the price of a house was largely determined by construction costs. This is consistent with the fact that the homebuilding industry is competitive. Government statistics reveal that the homebuilding sector routinely contains more than 100,000 different companies and many of them generate less than $10 million in revenue per year.[28] In a competitive industry with many smaller firms, prices should track average total costs, and for many years this was the case in homebuilding.

More recently, however, house prices have diverged from construction costs. Figure 4 from economists Joseph Gyourko and Raven Molloy shows construction costs from 1980 to 2013 along with house prices from the repeat-sales index published by CoreLogic.[29] Both statistics are adjusted for inflation. Construction costs have been relatively stable when adjusted for inflation, while house prices have risen rapidly since the mid-1980s. Much of the resulting gap is interpreted by researchers as the cost of land-use regulations that limit the supply of developable land and thus increase its price.

Figure 4



In support of this interpretation, several studies find that land-use regulations are associated with higher housing prices.[30] Land-use regulations such as minimum lot sizes, density limits, minimum parking requirements, height limits, and single-use zoning artificially restrict the amount of land available for new housing, which means less new housing and higher prices for the housing that is built. Similarly, National Association of Home Builders (NAHB) housing economist Paul Emrath's analysis supports the notion that regulations increase home prices.[31] In a survey conducted in 2011, the NAHB asked a group of single-family home builders how much regulation affected the cost of developing a lot and building a home. The responses indicated that regulations account for 25 percent of the final price of a new single-family home, and that about two thirds of this effect, or 16.4 percent of the final price, is due to regulations that affect the cost of developing a lot. The remaining 8.6 percent is due to regulatory costs incurred by builders after acquiring a buildable lot.

A study by Leonard Gilroy and Samuel Staley found that housing prices increase significantly faster in Florida counties subject to the state's statewide planning law for longer periods of time.[32] Another study of particular relevance to Florida regarding land-use regulations and housing prices is by Keith Ihlanfeldt.[33] The study uses data from 112 Florida jurisdictions in 25 counties to examine the effect land-use regulations such as large-lot zoning, annual building permit limits, urban service boundaries, and others have on the price of housing and the price of vacant residential land.

Ihlanfeldt finds that an additional land-use regulation increases the price of a single-family home and that the effect is larger when there are fewer jurisdictions within the county. This is evidence that consumers are less willing to pay higher prices when there are more choices about where to live. Ihlanfeldt analyzes small (less than 1,349 square feet), medium (between 1,349 and 2,245 square feet), and large homes (bigger than 2,245 square feet) individually and finds that one additional regulation in a county increases house prices in all three size categories.

To make these findings more salient, the table below shows the effect of an additional land-use regulation on house prices in Lee County, Fort Myers, and Manatee County based on current house price data for three house sizes: 1,300 square feet, 1,800 square feet, and 2,500 square feet. The findings from Ihlanfeldt's study are used in the calculations. It's important to note that the purpose of these examples is to illustrate the approximate magnitude of the effect land-use regulations have on house prices, not to calculate the true effect on any particular house.

In dollars, the price increase due to an additional land-use regulation is similar across all three house sizes in each of the areas (fifth column). This finding is not surprising, since theory suggests land-use regulations increase the fixed cost of building a house and thus the cost increase should not vary significantly with house size. However, as a percentage of the total house price the effect is largest for small houses: 9.5 percent, 9.5 percent, and 10.4 percent in Lee County, Fort Myers, and Manatee County, respectively (last column). Since lower-income people tend to buy smaller houses, this suggests land-use regulations have a regressive effect on Florida home buyers.

The study also finds that land-use regulations decrease the price of vacant residential land. An additional regulation decreases land price per acre by approximately 14 percent. The combination of higher home prices and lower land prices due to an additional regulation is consistent with the theory that land-use regulations increase costs for developers and that some of the increase is passed on to buyers in the form of higher home prices and some is passed on to land owners in the form of lower land prices.

Finally, Ihlandfeldt examines the effect land-use regulations have on home size. Land-use regulations can affect home size if, for example, buyers of large homes are less sensitive to price increases than buyers of small homes. If that is the case, developers will choose to build larger homes since it will be easier to pass the higher costs due to regulation on to buyers. A similar argument applies to lot size. In his analysis, Ihlanfeldt finds that one additional regulation increases the size of a new home by 61 square feet on average and increases lot size by 0.02 acres on average, or 871 square feet. Thus, it appears that developers build larger homes on larger lots in response to land-use regulations.

Regulations that constrain the supply of new housing also lead to more housing price volatility.[34] Cities that make it easier to build housing in response to changes in demand have more stable prices than similar cities that have more regulation and permitting delays. This means that less-regulated cities will experience smaller housing price increases when demand rises and that housing prices will normalize sooner. As we saw in Figure 2, house prices have fluctuated widely in Florida since 2000, and these studies suggest land-use regulations are a contributing factor.

Uncertainty in the Permitting Process and Housing Prices

Permitting requirements can also increase the price of housing. Some amount of oversight in the form of a municipal permitting process may be desirable, but a permitting process that is confusing or ambiguous can adversely impact the housing market. One

Table 18: Potential Price Effects of Regulatory Impacts in Select Florida Counties

Area	House Size	Price/Sq. Foot	Total Price	Price Increase Due to Additional Regulation	Increase as Percentage of Total Price
Lee County	Small - 1,300 sq. feet	$160.00	$208,000.00	$19,728.80	9.5%
	Medium - 1,800 sq. feet	$160.00	$288,000.00	$19,411.20	6.7%
	Large - 2,400 sq. feet	$160.00	$384,000.00	$14,810.88	3.9%
Fort Myers	Small - 1,300 sq. feet	$150.00	$195,000.00	$18,495.75	9.5%
	Medium - 1,800 sq. feet	$150.00	$270,000.00	$18,198.00	6.7%
	Large - 2,400 sq. feet	$150.00	$360,000.00	$13,885.20	3.9%
Manatee County	Small - 1,300 sq. feet	$168.00	$218,400.00	$22,779.12	10.4%
	Medium - 1,800 sq. feet	$168.00	$302,400.00	$22,740.48	7.5%
	Large - 2,400 sq. feet	$168.00	$403,200.00	$19,780.99	4.9%

Notes: Price per square foot is the median list price per square foot of all homes in respective jurisdiction from Zillow's home index as of June 2018. Sizes for small, medium, and large houses chosen to correspond to size classes in Ihlanfeldt (2007). Price increase due to an additional land-use regulation calculated using coefficients from Table 4 in Ihlanfeldt (2007) and seven cities for Lee County and Fort Myers and six cities for Manatee County.

Table 19

Area	House Size	Price/Sq. Foot	Total Price	Cost of Delay
Lee County	Small - 1,300 sq. feet	$160.00	$208,000.00	$3,536.00
	Medium - 1,800 sq. feet	$160.00	$288,000.00	$4,896.00
	Large - 2,400 sq. feet	$160.00	$384,000.00	$6,528.00
Fort Myers	Small - 1,300 sq. feet	$150.00	$195,000.00	$3,315.00
	Medium - 1,800 sq. feet	$150.00	$270,000.00	$4,590.00
	Large - 2,400 sq. feet	$150.00	$360,000.00	$6,120.00
Manatee County	Small - 1,300 sq. feet	$168.00	$218,400.00	$3,712.80
	Medium - 1,800 sq. feet	$168.00	$302,400.00	$5,140.80
	Large - 2,400 sq. feet	$168.00	$403,200.00	$6,854.40

Notes: Cost of delay taken from Emrath (2011) Table 2, "Pure" cost of delay, and is equal to 1.7% of the price of a home.

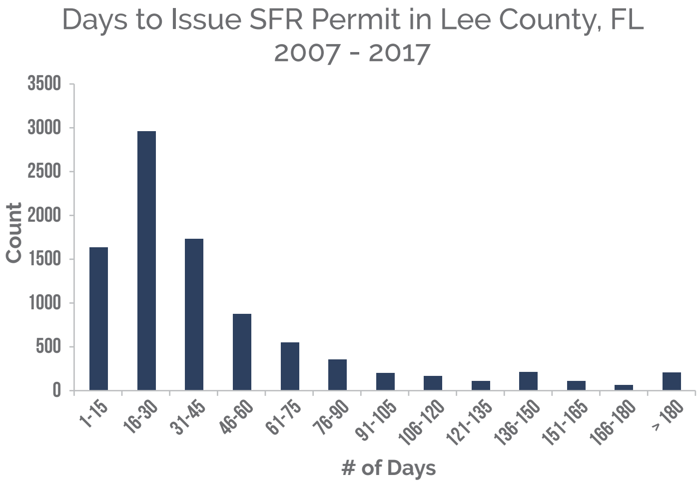
study finds that the per-house cost of construction rises faster in response to a demand increase in metro areas that have longer average permitting delays.[35]

Paul Emrath reports that builders of single-family homes assign significant costs to permitting and approval delays.[36] According to his study, the cost of delay averages 5.9 percent of the selling price of a finished lot and 1.7 percent of the selling price of a finished home. Table 19 applies the 1.7 percent cost to the same house sizes as Table 18 above to estimate the dollar amount of the delay costs in Lee County, Fort Myers, and Manatee County. Again, it's important to note that these estimates are meant to be illustrative.

While permitting and approval delays contribute to the price of a house, the actual price increase will depend on the length of the delay and there is considerable variation in permitting delays across projects and jurisdictions. Figures 5 and 6 below show the counts of the number of days it took to obtain a builder's permit for a single-family residence (SFR) once an application was submitted in the unincorporated area of Lee County and Fort Myers. The data are displayed in 15-day intervals up to 180 days (approximately 6 months). The last bin contains the cases that took more than 180 days. The figure for Lee County covers the years 2007 to 2017 while the figure for Fort Myers only covers 2012 to 2017 due to data availability.

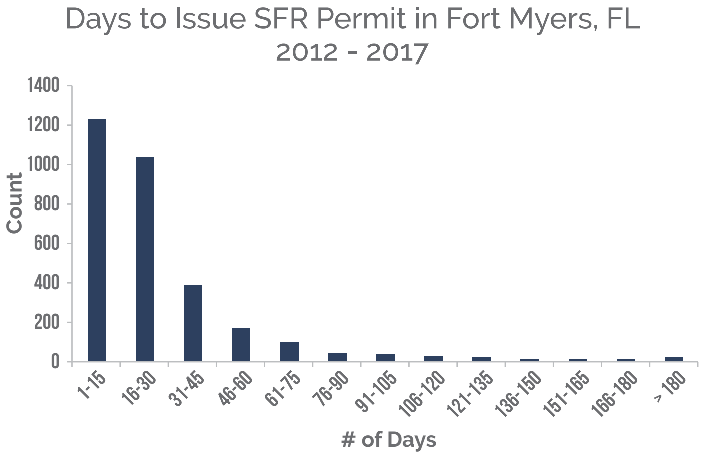
In the figures it appears that Fort Myers issues permits in less

Figure 5



Data from the Building Permits by Issued Date report from Lee County and cover dates 1/1/2007 to 12/31/2017.

Figure 6



Data from Community Development Department reports from Fort Myers and time than Lee County on average, and a deeper dive into the data supports this first impression. The table below shows the percentage of permits issued after 30 days and subsequent 30-day intervals up to 180 days in Lee County and Fort Myers. The data for both areas are from 2012 to 2017 to make the comparison more appropriate.

Table 20

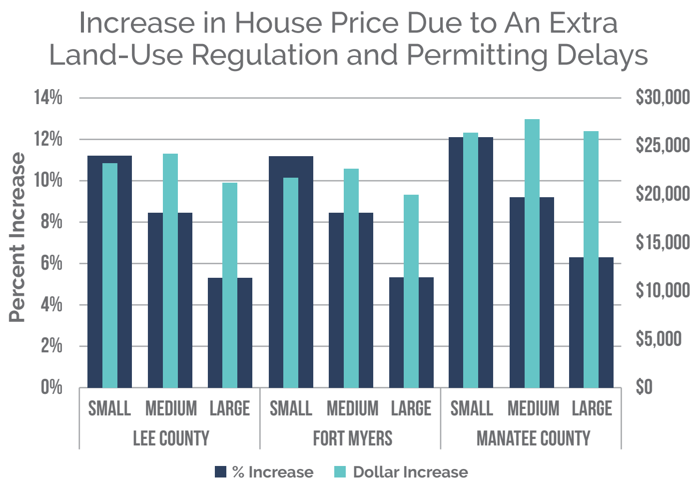
Single-Family Residence Permitting Times		
% greater than	Lee County	Fort Myers
30 days	48%	26%
60 days	14%	8%
90 days	7%	4%
120 days	4%	2%
150 days	3%	1%
180 days	2%	1%

notes: Both Lee County data and Fort Myers data are from 2012 to 2017.

In Lee County, it took more than 30 days to issue 48 percent of all single-family residence permits, while in Fort Myers it took more than 30 days only 26 percent of the time. This relationship holds throughout the table. Across all the time intervals, the percentage of permits issued is about twice as high in Lee County compared to Fort Myers. According to these data, on average it took longer to get a building permit in Lee County than in Fort Myers, and this suggests that permitting delays have a bigger effect on house prices in Lee County than in Fort Myers.[37]

The total effects of an additional land-use regulation and permitting delays on the prices of our example houses in Lee County, Fort Myers, and Manatee County are presented in the figure below. The thick blue bars show the total percent increase (measured on left vertical axis) and the thin green bars show the total dollar increase (measured on right vertical axis).

Figure 7



Notes: House sizes are 1,300; 1,800; and 2,400 square feet respectively. Total dollar increase is sum of cost increase from Tables 18 and 19.

As shown, the cost in dollars is similar across all house sizes within an area while the cost as a percent of the house price is highest for small houses. If lower-income people tend to buy smaller houses, then the price effects of land-use regulations and permitting delays are regressive. This implies that municipalities could increase affordability at the lower end of the housing market by reducing some of their land-use regulations or streamlining their permitting process to reduce delays.

Conclusions and Recommendations

Florida is facing an emergent housing crisis. The demand for housing is significantly outstripping the ability of homebuilders to add to the state housing inventory. In fact, the state is adding nearly twice as many households as new housing units, putting upward pressure on housing prices and reducing housing affordability. This growth, in fact, is preventing the conventional filtering process from allowing the existing housing stock to meet the rising demand for housing among lower middle-income and lower-income households. State and local policymakers must seriously consider policy reforms that improve the ability of the construction and building industry to meet this rising demand. A reconsideration of regulatory and tax burdens should be part of this discussion.

Specifically, this policy study has examined the effects that impact fees and land-use regulations have on the price of houses in several southwestern Florida communities. Generally, the academic research suggests that impact fees, land-use regulations, and permitting delays increase the price of houses, and that these increases are proportionally larger for smaller houses. A larger impact on smaller houses makes homeownership difficult for lower-income working families in these communities at a time when housing affordability is a major concern of government at all levels.

Despite the regressive effects of many impact fees, municipalities may not want to eliminate them altogether. New development needs infrastructure and city services and well-designed impact fees are an effective and efficient way to provide such things. However, wide variations in impact fees among the communities examined in this report raise important questions about whether local communities are meeting the state statutory requirements that levied fees are tied directly to services delivered to those households. Moreover, the wide variation—ranging from $9,000 per unit to more than $12,000 per unit, creates significant uncertainty in the home building community about the appropriateness and transparency of local impact fee policies. These uncertainties along with delays in securing permits (which appear to be rising) drive higher costs for homebuilders (and thus lower housing affordability).

The evidence suggests that impact fees raise the price of housing in Florida, though buyers may experience some property tax relief as compensation. Impact fees also vary widely across counties and cities within counties, and some jurisdictions make it easier to find and calculate total impact fees than others.

Ideally, this report would have been able to include a return on investment (ROI) analysis of these impact fees. Presumably, the fees are used to offset the expenses of providing public facilities and services that would otherwise be provided by private builders. Unfortunately, collecting the detailed expenses and revenues generated, including the economic impact on land developer profits (or expected profits) were beyond the scope of this research project. Similarly, a detailed analysis of whether impact fees were aligned with the actual costs of providing specific services would require resources beyond the scope of this project.

Nevertheless, the impact fees represent added costs to builders, and these costs influence expected profits. Thus, fees higher than necessary to fund core services efficiently, or impact fee programs that delay permitting or land development, reduce the ability of builders to add housing to the existing inventory and likely reduce their profits and incentives to build in a jurisdiction.

Municipalities, however, can minimize the effect impact fees have on housing affordability more broadly by implementing several reforms (some of which might require changes in state statute).

First, impact fees should be designed to minimize their tendency to impose greater burdens on lower-income households compared to higher-income households. Fees linked to the size of a housing unit or housing type (e.g., single-family homes) are less regressive than those that are applied across the board (see Been 2005 p.167 for discussion). Importantly, these fees should be rigorously linked to the value and cost of the services provided. Fees that exceed the value of the public service benefit will discourage development and may run afoul of the state's dual rational nexus provision in state statute.

In practice, impact fees should be set to reflect the marginal cost of development to the municipality. This way, the fees will act like a user fee and minimize any negative effects on development. Fees that are linked to the size of the unit, as suggested above, are more likely to achieve this. The formula for calculating impact fees should be made available to builders and the public at large to increase transparency.

Second, once the impact fee formula is established, an impact fee schedule should be calculated and made public. The schedule should be easy to understand, easy to access, and be relatively stable. A schedule with these characteristics makes it easier for developers to plan projects by reducing uncertainty. Individual or one-off impact fee assessments should be avoided since they increase uncertainty.

Third, impact fees and assessments should be calculated and locked into place at the beginning of the permit process. In Florida, impact fees are generally assessed at the time a permit is issued, not at the time of application. This can generate uncertainty when there is a significant lag between application dates and issue dates. To reduce uncertainly, municipalities should assess impact fees at the time of application and not apply any subsequent changes retroactively.

Properly designed impact fees tied to actual costs and assessed in a transparent and predictable manner can become a growth management tool that facilitates housing development rather than discourages it. Unfortunately, in the current environment, impact fees appear to be more destabilizing than stabilizing, creating an economic and policy climate that increases costs and discourages housing development at a time when Florida needs significant new housing.

Appendix A

Estimated Annual Wages of Selected Occupations: North Point-Bradenton-Sarasota and Cape Coral-Fort Myers Metropolitan Areas

Occupation	North Port-Sarasota-Bradenton	Cape Coral-Fort Myers
Paralegals	$43,070	$54,240
Elementary School Teachers	$46,140	$49,330
Graphic Designers	$41,490	$38,860
Newspaper Reporters	$39,610	$55,210
Veterinary Technician	$34,550	$36,900
Licensed Practical Nurse	$42,770	$42,710
Medical Records Technician	$41,590	$42,450
Athletic Trainer	$32,650	$53,520
Home Health Aide	$27,900	$24,240
Dental Assistant	$40,770	$39,150
Medical Assistant	$34,900	$31,770
Pharmacy Aides	$21,330	$26,210
Restaurant cooks	$26,050	$27,450
Waiters & Waitresses	$31,950	$25,730
Janitors & Cleaners	$24,820	$25,630
Maids & Housekeeping	$23,930	$23,810
Landscapers & Groundskeeping	$26,140	$25,600
Recreation Workers	$25,800	$30,870
Retail Salespersons	$26,200	$26,180
Advertising Sales Agents	$36,450	$63,800
Bookkeeping, Accounting Clerks	$39,440	$37,410
Police, Fire dispatchers	$40,270	$36,000
Carpenters	$40,330	$40,160
Construction laborers	$31,310	$29,900
Electricians	$47,740	$46,020
Roofers	$32,300	$35,910
Auto Service Technicians	$39,980	$40,320
Machinists	$42,720	$36,260
Bus Drivers, Transit	$34,250	$30,280
Heavy Truck Drivers	$37,340	$39,170
Heavy Equipment Operators	$35,080	$38,930
Average	**$35,125**	**$37,226**

Source: Bureau of Labor Statistics, US. Department of Commerce, Occupational Employment Statistics, www.bls.gov/oes

Endnotes

1 This academic literature has become quite large. See for examples Kristoffer Jackson, "Do Land Use Regulations Stifle Residential Development? Evidence from California Cities," Journal of Urban Economics, Vol. 91 (2016), pp. 45-56; Nils Kok, Paavo Monkkonen, and John M. Quigly, "Land Use Regulations and the Value of Land and Housing: An Intra-Metropolitan Analysis," Journal of Urban Economics, Vol. 81 (2014), pp. 136-148; Ron Cheung, Keith Ihlanfeldt, and Tom Mayok, "The Incidence of the Land Use Regulatory Tax," Real Estate Economics, Vol. 37, No. 4 (2009), pp. 675-704; Edward Glaeser, Joseph Gyourko, and Raven Saks, "Why Have Housing Prices Gone Up? Working Paper Series No. 11129, National Bureau of Economic Research (2005); Edward Glaeser and Joseph Gyourko, The Impact of Zoning on Housing Affordability, Economic Policy Review, Vol. 9, No. 2 (2003), pp. 21-29; Samuel R. Staley, Planning Rules and Urban Economic Performance: The Case of Hong Kong (Chinese University Press, 1994).

2 Samuel R. Staley, "Ballot-Box Zoning, Transaction Costs, and Urban Growth," Journal of the American Planning Association, Vol. 67, No. 1 (2001), pp. 25-37.

3 See Leonard C. Gilroy, Samuel R. Staley, and Sara Stedron, "Statewide Growth Management and Housing Affordability in Florida," Backgrounder No. 53, James Madison Institute, October 2007; Cheung, Ihlanfeldt, and Mayock, "The Incidence of the Land Use Regulatory Tax."; Samuel R. Staley, Leonard C. Gilroy, "Smart Growth and Housing Affordability: Evidence from Statewide Growth Management Laws, Policy Report No. 287, Reason Foundation, December 2001;

4 Gregory Burge and Keith Ihlanfeldt. "Impact fees and single-family home construction." Journal of Urban Economics 60.2 (2006): 284-306; Keith R. Ihlanfeldt and Timothy M. Shaughnessy. "An empirical investigation of the effects of impact fees on housing and land markets." Regional Science and Urban Economics 34.6 (2004): 639-661; Burge, Gregory, and Keith Ihlanfeldt. "Impact fees and single-family home construction." Journal of Urban Economics 60.2 (2006): 284-306.

5 Shishir Mathur, Paul Waddell, and Hilda Blanco. "The effect of impact fees on the price of new single-family housing." Urban Studies 41.7 (2004): 1303-1312.

6 Shishir Mathur, "Do impact fees raise the price of existing housing?" Housing Policy Debate 18.4 (2007): 635-659).

7 Abigail M. York, et al. "What Determines Public Support for Graduated Development Impact Fees?." State and Local Government Review 49.1 (2017): 15-26

8 Vicki Been, "Impact fees and housing affordability," Cityscape (2005): 139-185.

9 Burge and Ihlanfeldt, "Impact fees and single-family home construction." Journal of Urban Economics 60.2 (2006): 284-306; Gregory Burge and Keith Ihlanfeldt. "The effects of impact fees on multifamily housing construction." Journal of Regional Science 46.1 (2006): 5-23.

10 Cameron K. Murray, "Developers pay developer charges." Cities 74 (2018): 1-6. The author, however, argues that this finding is consistent with the possibility that developers move housing sales forward in order to avoid higher impact fees in the future.

11 The hourly wages were "annualized" by taking the average wage rate and assuming a full-time 40-hour work week for 50 weeks.

12 In reality, while both of these positions are likely to be year-round, attaining a 40 hour work might be challenging given the nature of the work and shift schedules.

13 Lot size estimates identified through local builders. Note that these are private lot sizes. New developments typically include larger common areas to meet environmental and community infrastructure needs, such as water detention and retention areas, and often managed by homeowner's associations. Thus, most homes have access to larger areas of open space than implied in the small privately-owned lots.

14 Land Development Code Lee County, Florida. Chapter 2 Article VI available at https://library.municode.com/fl/lee_county/codes/land_development_code?nodeId=LADECO_CH2AD_ARTVIIMFE

15 See Lee County website, http://www.leegov.com/dcd/BldPermitServ/ImpFees

16 Note that the amount of the impact fee paid by the homebuyer would depend on the market. If the market is a strong one—high demand relative to supply—builders will be able to recover more, perhaps all, of the impact fee through the sales price of the home. The that relative share of a tax that the builder (supplier) or buyer (consumer) will pay is what economists refer to as "tax incidence." Slack markets (low demand relative to supply) result in builders absorbing a larger share of the impact fee as they moderate the price to encourage purchases.

17 The city's impact fee schedule can be found here, https://www.cityftmyers.com/DocumentCenter/View/7773/City-of-Fort-Myers-Impact-Fee-Schedule-effective-030718-PDF

18 See the city's impact fee schedules here, https://www.cityftmyers.com/DocumentCenter/View/7773/City-of-Fort-Myers-Impact-Fee-Schedule-effective-030718-PDF

19 Importantly, the authors did not attempt to verify the impact fee schedule against actual fees assessed against built developments.

20 Demographic data take from United States Census Bureau, Quick Facts available at https://www.census.gov/quickfacts/fact/table/fl,sarasotacityflorida,sarasotacountyflorida,US/PST045217

21 Demographic data provided from United States Census Bureau, Quick Facts available at https://www.census.gov/quickfacts/fact/table/fl,sarasotacityflorida,sarasotacountyflorida,US/PST045217

22 Demographic information taken from United States Census Bureau, Manatee County QuickFacts available at https://www.census.gov/quickfacts/fact/table/manateecountyflorida/PST045217

23 Demographic date taken from United States Census Bureau, Bradenton City QuickFacts available at https://www.census.gov/quickfacts/fact/table/bradentoncityflorida/RHI725217

24 Manatee County Code of Ordinances, Article VII Division 2 available at https://library.municode.com/fl/manatee_county/codes/code_of_ordinances?nodeId=PTIIMACOCOOR_CH2-29TAFIPR_ARTVIIIMFE_DIV2EDFA; Manatee County Land Development Code, Chapter 11: Impact Fees available at https://library.municode.com/fl/manatee_county/codes/land_development_code?nodeId=CH11IMFE

25 Manatee County Land Development Code, Section 1102.3.A.2 available at https://library.municode.com/fl/manatee_county/codes/land_development_code?nodeId=CH11IMFE_S1102IMFEDE

Endnotes (Cont.)

26 "Manatee County Impact Fees With School Impact Fees Effective 11/13/17" available at https://www.mymanatee.org/UserFiles/Servers/Server_7588306/File/Departments/County percent20Administration/Impact percent20Fees/Co-Sch-Impact-Fees-11-13-17.pdf

27 See City of Bradenton Water and Sewage Impact Fees Application available at http://www.cityofbradenton.com/vertical/Sites/percent7B2D1C3C91-86C5-4ACC-86B6-6CFA76381D46 percent7D/uploads/Impact_Fee_Application-07-23-14(1).pdf

28 Joseph Gyourko and Raven Molloy, "Regulation and Housing Supply." Handbook of regional and urban economics. Vol. 5. Elsevier, 2015. 1289-1337.

29 Gyourko and Molloy, "Regulation and Housing Supply." Construction costs include all material and labor costs incurred in putting up a modest-quality single-family unit that meets all applicable building codes.

30 Glaeser, Gyourko, Saks, "Why have housing prices gone up?"; Quigley and Raphael, "Is Housing Unaffordable?"; Edward J. Glaeser and Bryce A. Ward. "The causes and consequences of land use regulation: Evidence from Greater Boston." Journal of Urban Economics 65.3 (2009): 265-278; Jackson, "Do Land-Use Regulations Stifle Residential Development?"

31 Paul Emrath, "How government regulation affects the price of a new home." National Association of Home Builders (2011).

32 Gilroy, Staley, and Stedron, "Statewide Growth Management and Housing Affordability in Florida."

33 Keith R. Ihlanfeldt, "The effect of land use regulation on housing and land prices." Journal of Urban Economics 61.3 (2007): 420-435

34 Haifang Huang and Yao Tang. "Residential land use regulation and the US housing price cycle between 2000 and 2009." Journal of Urban Economics 71.1 (2012): 93-99; Andrew Paciorek, "Supply constraints and housing market dynamics." Journal of Urban Economics 77 (2013): 11-26.

35 Paciorek, "Supply Constrains and Housing Market Dynamics."

36 Emrath, "How Government Regulation Affects the Price of a New Home."

37 One builder reports that the average days needed to secure a permit in Lee County has increased to 47 days in 2018 from 31 days in 2017 and 33 days in 2016. Ninety-seven percent of their permits required more than 30 days to process on average in 2018, up from 75 percent in 2017 and 50 percent in 2016.

38 The Sentencing Project. "State-by-State Data." 2015. Web. <http://www.sentencingproject.org/the-facts/> 02 August 2018.

39 Fla. Stat. § 322.245; Fla. Stat. § 322.055; Fla. Stat. § 322.056; Bannon, Alicia, Mitali Nagrecha and Rebekah Diller. "Criminal Justice Debt: A Barrier to Reentry." Brennan Center for Criminal Justice. 2010. Web. <http://www.brennancenter.org/sites/default/files/legacy/Fees%20and%20Fines%20FINAL.pdf> 02 Dec. 2018.

40 Fla. Stat. § 322.055; Fla. Stat. § 322.056

41 Fla. Stat. § 322.245

42 Ibid.

43 Fla. Stat. § 812.0155

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