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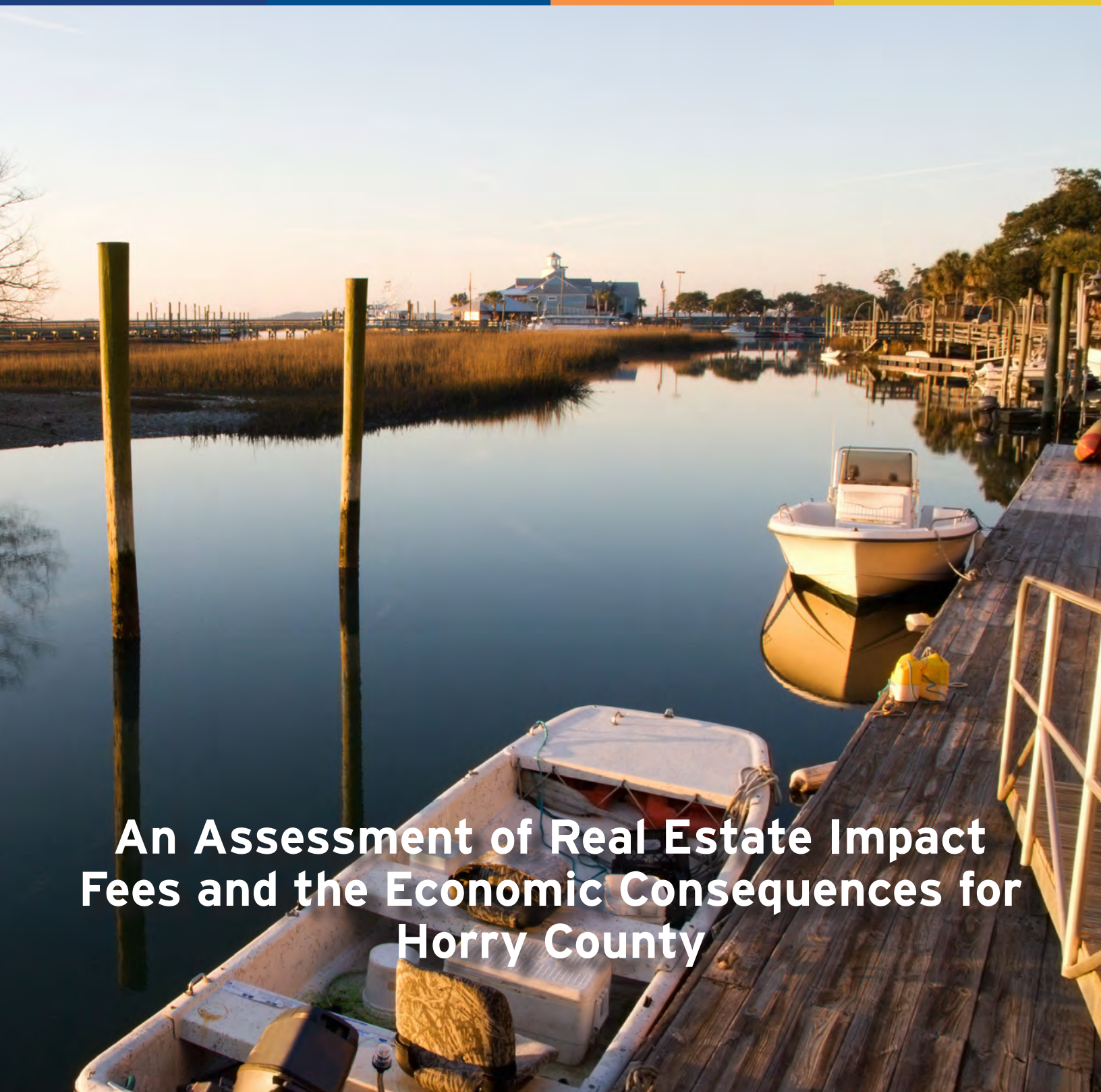

An Assessment of Real Estate Impact Fees and the Economic Consequences for Horry County

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All photographs of Conway, South Carolina were obtained from City of Conway, Conway Downtown Alive and the South Carolina Picture Project

Executive Summary

The purpose of this study is to conduct an analysis that examines the economic impacts that would likely arise as a result of the implementation of a new set of impact fees that Horry County is currently proposing. Specifically, the economic effects of the new impact fees being implemented on all new single-family housing developments as well as on new commercial property – including commercial office and industrial space – will be examined. These impact fees would directly increase the cost of property development in Horry County and thus be likely to increase the price of residential housing and all new commercial space to the final buyer. In addition, these price increases would also decrease housing affordability throughout the county. Such changes in the underlying demand for property in the region would also be likely to impact the growth of ongoing business activity in Horry County.

In this study, the effects of these new impact fees on future real estate sales activity as well as the broader effects on overall business activity are estimated through a two-phased process. Phase I estimates a set of supply and demand models that uses Multiple Listing Service (MLS) data to assess the impacts of price changes in Horry County's housing markets on sales activity and housing affordability within the county. Existing estimates of the price elasticity of demand are used to estimate pricing impacts on commercial property sales. Phase II then takes these estimated impacts on sales activity and uses economic input-output analysis to determine the extent to which any change in overall economic activity would likely occur as a result of the estimated change in real estate sales volume. These effects are measured through estimates of economic output, employment, and labor income.

The completed analysis, as outlined above, reveals the following set of key findings:

Although impact fees that have previously been imposed on residential and commercial property in various markets across the United States generate revenue for their local regions, these results often come at the cost of a significant increase in the overall price of real estate and an accompanying decrease in real estate production, sales activity, and housing affordability. Thus, there is an inherent tradeoff between impact fees and growth in the local economies in which they are implemented.

Any decrease in real estate sales activity also generates additional reductions in economic activity in the local region via the economic multiplier effect, which reduces the total volume of jobs and incomes for local residents that would have existed otherwise. This, in effect, makes the total impact of any price increase far larger. The extent to which any real estate price increase leads to a decrease in sales activity depends upon the elasticity of demand.

This study finds that the maximum newly proposed impact fees in Horry County are likely to reduce single-family residential sales activity by approximately 1.5 percent per year, which translates to about 242 single-family units in Horry County annually. More generally, this implies that the price elasticity of demand for single-family housing in Horry County is 0.88. For every one percent increase in the price of a single-family home in Horry County, this study finds that sales activity within the county is estimated to fall by 0.88 percent.

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Executive Summary

- For new commercial property, this study finds that the maximum newly proposed Horry County impact fees would be likely to reduce the development of new commercial office space by between 10 and 19 percent per year, which translates into between 25,000 and 50,000 square feet per year. Similarly, it is estimated that commercial industrial space would likely experience a reduction of between 14 and 24 percent in sales activity, or between an additional 16,000 and 29,000 square feet per year.

- The current maximum proposed impact fee on single-family homes in Horry County is estimated to reduce housing affordability by approximately 3.5 percent for the median household in Horry County.

- The reduction in total economic activity that would likely arise from the aforementioned 1.5 percent decrease in residential sales activity is estimated to be approximately $8.3 million annually on Horry County. This is associated with 62 jobs and $1.9 million in labor income that would not be created as a direct result of the reduction in residential sales.

- Additionally, it is estimated that the reduction in commercial development due to the newly proposed maximum impact fees would prevent up to $72.8 million in total new business activity for Horry County over the first five years of implementation. This is associated with an additional 594 jobs and $22.0 million in labor income that would not be generated for Horry County residents.

Section I
INTRODUCTION

An impact fee is a popular policy tool frequently used by local governments as a way to generate revenue to help pay for infrastructure and other amenities within a region. The use of impact fees has a long history in communities across the United States dating back to the 1940s, with policymakers implementing different impact fees for a variety of different reasons. Whether the net effects of impact fees – such as whether a given increase in local revenue is worth any associated higher housing prices, reduction in housing affordability, or reduction in growth rates – are viewed as positive or negative is a political question. However, assessing the local effects of a specific impact fee is an empirical exercise that can be undertaken to help policymakers evaluate the costs and benefits of any particular impact fee under consideration.

The purpose of this research effort is to conduct an analysis estimating the impact to Horry County's economy that would likely result from a new set of impact fees that the county is currently proposing. Specifically, these new impact fees would be implemented on all new single-family housing developments as well as on new commercial property – including commercial office and industrial space. Such impact fees would directly increase the cost of property development in Horry County and thus likely increase the price of residential housing and all new commercial space to the final buyer. This would, in turn, reduce the underlying demand for property in the region and thus impact the growth rate of ongoing business activity in Horry County. This analysis estimates both the effect of the proposed impact fees on the demand for residential and commercial real estate as well as the broader effects as measured by a reduction in overall economic activity – including all economic multiplier effects – that is likely to occur as a result of the change in real estate sales volume.

Section II
METHODOLOGY

Estimating the effects to the economy of Horry County that would likely result from the new set of impact fees being proposed can be completed through a two-phased process. Phase I entails estimating the extent to which any real estate pricing increases that directly arise from the proposed impact fees will affect demand in the form of lower sales activity. In other words, as the impact fees raise the price for residential and commercial real estate, how will these price increases impact total sales activity? Phase II then examines how any estimated reduction in real estate demand could translate into less total business activity within the county. For example, if the demand for commercial property were to fall by ten percent due to any new impact fees, then Horry County would likely forego the economic activity and accompanying job and income creation that would have resulted from the development and eventual operation of that commercial property by local businesses.

Phase I: Examining the Effects of the Proposed Impact Fees on Sales Activity

In order to estimate the effects of the proposed impact fees on residential sales activity, the relationship between changes in housing prices and the quantity of housing demanded in Horry County must first be established. Economists typically assess the relationship between price and quantity in any given market by building and estimating supply and demand models using data for each region in which they are interested. In this study, historical sales data were obtained from the Coastal Carolinas Association of REALTORS® (CCAR), which maintains a multiple listing service (MLS) database of residential housing transactions for Horry County. This database contains records on historical sales activity, including – for each housing transaction – data on the sale price, sale date, address, as well as a host of additional variables describing various housing characteristics. The MLS data obtained for this analysis includes all sold transactions on record from 2007 to 2022 and incorporates single-family detached homes, condos, and townhouses, which total nearly 185,000 sales records over this sixteen-year period. MLS data, while not able to capture 100 percent of all sales records in Horry County, is nevertheless the most comprehensive residential housing data set available for this study.

Using these MLS data, a series of econometric simultaneous equations models were created and estimated in order to determine the impact that house price changes would likely have on total residential sales activity. The simultaneous equations modeling technique is a standard statistical tool that economists use when measuring supply and demand relationships. The two-stage least squares estimation technique was used to generate all estimates displayed in this report. In order to estimate the effects of the proposed impact fees on commercial sales activity, existing estimates of price elasticities of demand were utilized.

The price elasticity of demand for any good is a measure of how the demand for that particular good responds to a change in price. More formally, the price elasticity of demand is defined as the percent change in quantity demanded divided by the percent change in price. Price elasticities of demand for many goods and services are frequently estimated by economists, and as such, there is a large economics literature to draw upon when evaluating market-based price changes. In this study, existing price elasticity of demand estimates for commercial property were combined with data on the proposed impact fees and the current average rental rates of commercial property in Horry County to determine the likely effects of the newly proposed impact fees on commercial sales activity.

Phase II: Examining the Effects of Reduced Real Estate Sales Activity on Market Demand

Once the effects of the newly proposed impact fees on residential and commercial sales activity are established, the second phase of this research effort assesses how these estimated changes in sales patterns will likely influence broader business activity in Horry County. Any reduction in residential and commercial sales activity is likely to not only reduce total economic activity within the construction and real estate industries, but also to generate additional reductions in economic activity across many local sectors by way of the economic multiplier effect.

The economic multiplier effects associated with the construction and real estate industries can be divided into direct, indirect, and induced impacts. The direct impacts reflect all local purchases made by these industries themselves. These include, for example, employee wages and benefits, construction equipment, technology services, and other overhead or administrative costs. Reductions in this spending activity decreases demand and leads to the reduction of jobs and income for the employees and suppliers of real estate and construction firms.

The indirect impact reflects additional changes in economic activity that results from inter-industry linkages between local firms in Horry County. For example, if a building company were to reduce its purchase of lumber from a local supplier, then this lumber supplier would experience a decrease in demand. The lumber supplier would, as a result, likely purchase fewer inputs from its own vendors – such as unprocessed timber or other material components. Suppliers of these inputs would then likely purchase fewer supplies as well, and so on. These indirect effects ripple through the economy and affect many industrial sectors of Horry County.

The induced impact reflects additional changes in economic activity that results from decreases in the spending of household income. For example, when the aforementioned lumber supplier purchases fewer raw materials from one of its vendors and the overall demand for this vendor falls, some of the staff working for this vendor will see a reduction in their income levels (or the vendor may reduce staff). This means that less income will be available for purchasing a variety of goods, including food, entertainment, or health care. These industries will then also see a decrease in demand for their goods and services, which will lead to a reduction in income for some of their employees, and so on.

These successive rounds of indirect and induced spending do not go on forever, which is why we can calculate a value for each of them. In order to determine the total economic impact that will result from an initial direct impact, economic multipliers are used. An economic multiplier can be used to determine the total impact (direct, indirect, and induced) that results from an initial change in economic activity (the direct impact). Multipliers are different in each sector of the economy and are largely determined by the size of the local supplier network as well the particular region being examined. Economic multipliers are available to calculate not just total economic activity, but also the total employment and income levels associated with the total impact.

In addition to the economic multiplier effects resulting from changes in activity within the construction and real estate industries, any reduction in commercial property development will also limit the amount of total available commercial space in the county, thus preventing additional local business activity that would have been operating within that space. Moreover, this lost business activity would also have generated economic multiplier effects as outlined above.

In this analysis, all multiplier effects are calculated using input-output analysis, which is the industry-standard method for estimation that is widely implemented across the United States. This analysis uses customized input-output models of Horry County, which contain specific information on economic linkages of over 500 different industries. The IMPLAN software package was used as the basis for calculating all reported multiplier effects.

Section III

PRIMARY RESULTS

Proposed Impact Fees and Housing Price Trends

Assessing the economic impact of the newly proposed Horry County impact fees on residential and commercial sales activity within the county begins by examining the size of the impact fees themselves along with the current growth patterns of residential and commercial real estate. Table 1 below specifically illustrates the impact fees currently being proposed by Horry County for each property type being examined in this analysis along with the average price in Horry County for each property type.[1]

Table 1 – Horry County Proposed Impact Fees and Average Prices by Property Type

Real Estate Type	Description	Current Impact Fee	Proposed Impact Fee (Maximum)	Proposed Impact Fee (Scenario A)	Avg. Current Price
Commercial	Office Space	$0.70 (per SQFT)	$4.56 (per SQFT)	$1.71 (per SQFT)	$16.67 (per SQFT)
	Industrial Space	$0.29 (per SQFT)	$1.35 (per SQFT)	$0.51 (per SQFT)	$6.67 (per SQFT)
Residential	Single-Family Housing	$1,236 (per unit)	$5,741 (per unit)	$2,199 (per unit)	$340,869 (per unit)

1 All estimates in Table 1 were calculated based upon data provided by CCAR. All estimates in this analysis operate under the assumption that the full cost of each impact fee would be passed along to the final renter or buyer. In the case of single-family residential impact fees, this analysis assumes that the full value of the impact fee will be passed along with an additional 30 percent markup due to builder margins and applicable interest.

There are two different categories of impact fees being proposed that are examined in this analysis: commercial real estate impact fees and single-family residential real estate impact fees. Commercial real estate impact fees are further divided into two distinct types: office space impact fees and industrial space impact fees. For example, **Table 1** states that the maximum proposed impact fee to be levied on any new office space in Horry County would be $4.56 per square foot, which represents an increase from the current fee of $0.70 per square foot. Assuming that such an impact fee is passed along to tenants, this could represent up to a 23.2 percent increase in the initial rental price offered.

Figures 1 and 2 highlight the overall growth in single-family house prices in Horry County between 2013 and 2022. For example, note that – as shown in **Figure 1** – the average price per square foot has increased by over 96 percent during this ten-year period (from $106/SQFT to $208/SQFT), which translates to approximately 7.0 percent per year. Nevertheless, the majority of this increase has occurred over the past three years following the onset of the COVID-19 pandemic. **Figure 2** explicitly documents the growth rate of the price per square foot in Horry County, revealing that while the average price per square foot increased at a relatively steady rate of about 4.1 percent per year from 2013 to 2019, this increased significantly to a rate of 11.9 percent per year by the end of 2022. Such a dramatic increase in the rate of growth of housing prices in Horry County is a reflection of broader statewide and national housing market trends with respect to both supply and demand. On the demand side, strong employment recovery from the COVID-19 recession combined with the federal fiscal stimulus packages in 2020 and 2021 led to unusually high levels of disposable income for American households. This high disposable income, in turn, has led to higher rates of total consumer spending on goods and services – including housing. On the supply side, inventory levels have been at historic lows throughout the pandemic period.

Thus, over the past three years, housing prices have grown at the fastest rate in Horry County in more than a decade due to both increases in total demand and decreases in total supply. These price increases, in turn, are also negatively impacting housing affordability, which any new impact fees would further exacerbate. Such impact fees would also likely be implemented following the recent period of interest rate hikes by the Federal Reserve, which has already led to a doubling of mortgage interest rates in the last twelve months and increased borrowing costs.

Figure 1 – Price Per SQFT of Single-Family Home Sales: Horry County

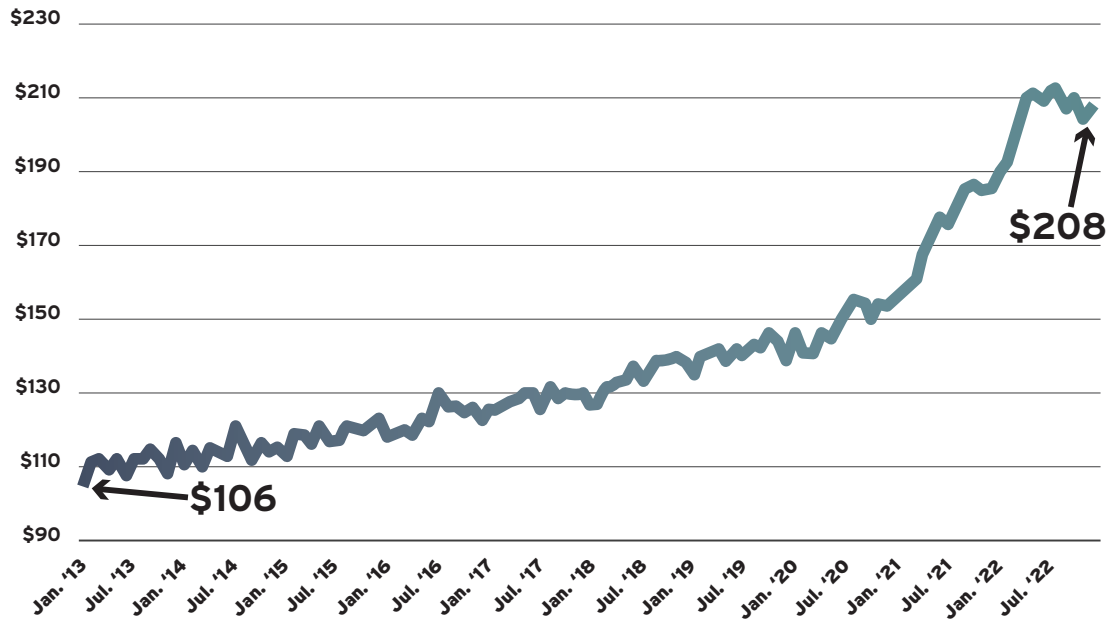
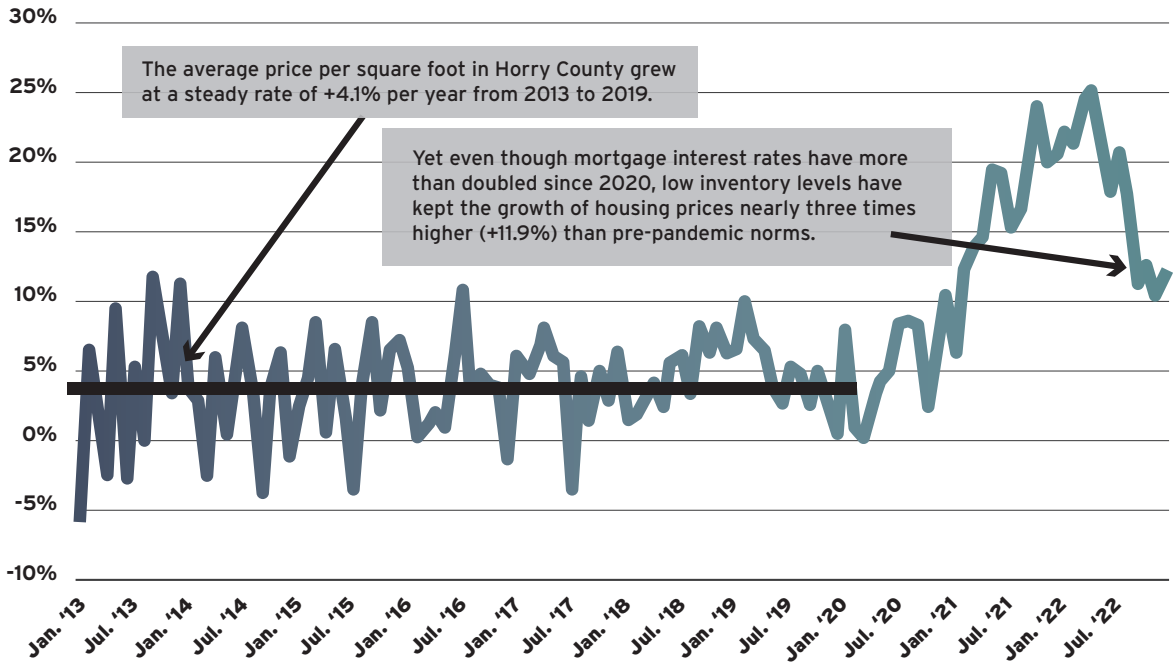


Figure 2 – Growth in Price Per SQFT of Single-Family Home Sales: Horry County



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Economic Impact: Residential Real Estate Sales

As with any good or service, an increase in the price of housing generally leads to a decrease in the total volume of sales activity. Thus, it can be expected that an increase in the current average price among single-family homes in Horry County will decrease total sales. The structural equation models described in Section II that use existing CCAR MLS data to estimate the supply and demand relationships of housing markets in Horry County generate a specific estimate of a sales adjustment factor.[2] This sales adjustment factor can then be applied to the projected average price increase that is estimated to be the result of the newly proposed impact fees such that the specific impact of these impact fees on sales activity can be determined. These results are displayed in **Table 2**.

Note that even though the proposed impact fees would only directly apply to new housing developments, resale markets would also be indirectly affected. Housing units are always appraised relative to one another, meaning that a general increase in the price of a new housing unit with a specific set of amenities will tend to bid up other houses in the market with similar amenities over time. The impact of price increases of new housing units can therefore be expected to impact all sales activity in the market.

Table 2 – Projected Residential Sales Reductions Resulting from Proposed Horry County Impact Fees

All Reported Figures Reflect 2022 Data

Metric	Estimate
Avg. House Price (w/o Proposed Impact Fee)	$340,869
Avg. House Price (w/ Proposed Scenario A Impact Fee)	$342,121
Avg. House Price (w/ Proposed Maximum Impact Fee)	$346,726
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Total SF Sales (w/o Proposed Impact Fee)	15,677
Total SF Sales (w/ Scenario A Proposed Impact Fee)	15,625
Total SF Sales (w/ Maximum Proposed Impact Fee)	15,435
Percentage Sales Reduction (w/ Proposed Scenario A Impact Fee)	**-0.3%**
Percentage Sales Reduction (w/ Proposed Maximum Impact Fee)	**-1.5%**

2 A sales adjustment factor (SAF) reflects the coefficient on the price variable in the two-stage least squares regression specification utilized. This estimation process is described in more detail in Appendix I.

Table 2 reveals that the average single-family house price of $340,869 would likely rise by as much as $5,857 to $346,726 in the event that the maximum proposed impact fee as outlined above were implemented. Applying the estimated sales adjustment factor yields a reduction in total sales activity of approximately 1.5 percent. In other words, the maximum proposed increase in the Horry County impact fee of $4,505 per unit on new single-family housing is estimated to reduce single-family residential sales activity by 1.5 percent per year. In 2022, this would have resulted in a loss of 242 sales in the Horry County market. It is also important to note that the 1.5 percent reduction in sales activity is specifically associated with a 1.7 percent price increase. This implies that the price elasticity of demand for single-family housing in Horry County is approximately 0.88. For every one percent increase in the price of a single-family home, sales activity (quantity demanded) is estimated to fall by 0.88 percent.

The estimated increase in the overall price levels of residential housing in Horry County as shown in **Table 2** is also likely to affect housing affordability. For example, consider that the median household income in Horry County is currently $55,819.[3] Given that a household can typically qualify for a home loan of up to three times its annual income, this implies that the median household in Horry County would be able to afford a home priced as high as $167,457.[4] The current proposed impact fee for single-family homes in Horry County could raise this price by as much as 3.5 percent to $173,314. Or put another way, the current proposed impact fee on single-family homes could reduce housing affordability by up to 3.5 percent for the median household in Horry County.

Economic Impact: Commercial Real Estate Sales

Just as increases in the overall price of residential real estate generally lead to a decrease in total residential sales activity, a similar relationship also exists within the commercial real estate market. Over the last forty years there has been an extensive body of empirical research documenting the elasticity of demand of commercial property, though the range of specific estimates have varied.[5] **Table 3** highlights the price elasticities of demand used in this study along with the estimated impacts that these elasticities generate regarding the likely decreases in projected new commercial property development in Horry County.

3 Source: U.S. Census Bureau, American Community Survey, 2021 1-Year Estimates

4 An individual household's ability to qualify for a home loan will depend on multiple factors in addition to household income, including the borrower's credit score, down payment amount, and other preexisting debt. The assumption that the average household can qualify for a mortgage to purchase a home with a total price of approximately three times the household's annual income is based on current market data from the Federal Housing Administration (FHA) that account for these various loan eligibility criteria.

5 See, for example, Maisel et al. (1971), Polinsky and Ellwood (1979), Chen et al. (2011), and EPA (2002).

Table 3 – Projected Reduction in Commercial Property Development Resulting from Proposed Horry County Impact Fees

All Reported Figures Reflect 2022 Data

Metric	Office Space	Industrial Space
Rental Rate w/o Proposed Impact Fee	$16.67 (per SQFT)	$6.67 (per SQFT)
Rental Rate with Proposed Scenario A Impact Fee	$17.68	$6.90
Rental Rate with Proposed Maximum Impact Fee	$20.53	$7.74
Estimated New Annual Square Footage to be Developed w/o Proposed Impact Fee	269,000	123,000
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Elasticity of Demand (Low)	-0.41	-0.85
Elasticity of Demand (High)	-0.80	-1.50
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Estimated New Annual Square Footage to be Developed with Proposed Scenario A Impact Fee (Low)	262,318	119,395
Estimated New Annual Square Footage to be Developed with Proposed Scenario A Impact Fee (High)	255,961	116,638
Estimated Pct. Decrease in New Commercial Property Development (Low)	-2.5%	-2.9%
Estimated New Annual Square Footage to be Developed with Proposed Maximum Impact Fee (Low)	-4.8%	-5.2%
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Estimated New Annual Square Footage to be Developed with Proposed Maximum Impact Fee (Low)	243,462	106,228
Estimated New Annual Square Footage to be Developed with Proposed Maximum Impact Fee (High)	219,170	93,403
Estimated Pct. Decrease in New Commercial Property Development (Low)	-9.5%	-13.6%
Estimated Pct. Decrease in New Commercial Property Development (High)	-18.5%	-24.1%

Specific estimates regarding projected reductions in the two types of commercial property resulting from the proposed Horry County impact fees are displayed in **Table 3**. First, consider commercial office space. According to data provided by CCAR, the current average rental rate for office space in Horry County is approximately $16.67 per square foot. The maximum proposed impact fee for commercial office space would have the potential to increase this rental rate to $20.53 per square foot. Given relatively low (-0.41) and high (-0.80) estimates of the price elasticity of demand for commercial office space, this implies that the likely decrease in new commercial office space development in Horry County would be between 10 and 19 percent, as **Table 3** denotes. This translates to between 25,000 and 50,000 square feet per year. Similarly, commercial industrial space, with an estimated price elasticity of demand of between -0.85 and -1.50, implies that the maximum proposed impact fee would reduce the total development of commercial industrial space in Horry County by between 14 and 24 percent, or a reduction of between 16,000 and 29,000 square feet per year.

Economic Impact: Market Demand and Ongoing Business Activity

To the extent that the aforementioned estimated reductions in sales activity in residential housing as well as the reduction in commercial property development occur as a result of the newly proposed Horry County impact fees, they will also generate additional reductions in economic activity across many local sectors by way of the economic multiplier effect. These additional impacts can be measuring using input-output models as described in Section II.

First, consider the loss in total economic activity that would likely arise from a decrease in residential sales activity resulting from a new impact fee that would increase the average price of residential housing. **Tables 4-5** highlight the results of examining the economic losses resulting from a decrease in sales of 52 and 242 houses per year, respectively, in Horry County at an average price point of $340,869.

More specifically, this analysis uses the structural input-output models outlined in Section II, which estimate economic losses in terms of three specific measures: economic output, employment, and labor income. Economic output simply reflects the dollar value of all final goods and services that can be attributed (directly or indirectly) to the loss of residential housing activity in Horry County. It can also be thought of as an aggregate measure of the total loss in spending activity that results from an initial direct expenditure loss. Because it includes all spending by consumers and businesses on both goods and services, it is an all-inclusive measure of the impact on total economic activity. Employment measures the total number of full-time equivalent positions associated with total economic output. Labor income reflects all employee compensation associated with total employment estimates, including wages, salaries, and benefits.

Table 4 - Estimated Annual Economic Losses from Decreases in Residential Real Estate Activity

Scenario A Impact Fee

	Economic Output	Employment	Labor Income
Direct Effect	$1,063,511	8	$221,411
Multiplier Effect	$715,915	5	$180,697
Total Impact	**$1,779,426**	**13**	**$402,108**

Table 5 - Estimated Annual Economic Losses from Decreases in Residential Real Estate Activity

Maximum Impact Fee

	Economic Output	Employment	Labor Income
Direct Effect	$4,949,418	38	$1,030,411
Multiplier Effect	$3,331,758	24	$840,937
Total Impact	**$8,281,176**	**62**	**$1,871,348**

The estimated decrease in sales activity of 242 houses per year (due to the maximum proposed impact fee) at an average price point of $340,869 would generate a loss in total sales revenue (or economic output) of approximately $4.9 million.[6] This is economic output that would have directly supported 38 jobs and roughly $1.0 million in labor income for residents of Horry County. This level of direct economic activity would have also led to multiplier effects totaling approximately $3.3 million in economic output and 24 jobs. These estimates reflect the additional demand for goods and services of local suppliers resulting from additional local expenditures on the part of the housing industry as well as additional economic activity that would be generated across all industries (e.g., food, entertainment, medical care) as a result of new labor income generating higher levels of consumer spending. The combination of the direct effects and all accompanying multiplier effects leads to a total economic impact of approximately $8.3 million, which is associated with 62 jobs across Horry County. This is the total volume of economic activity that would be expected to be lost annually as a result of the maximum newly proposed impact fee on single family housing in Horry County.

6 This estimate assumes that the total volume of real estate sales revenue generated from these transactions is approximately six percent of the aggregate sales price of all houses sold. This reflects the general commission structure of the residential real estate market in South Carolina.

Second, consider the loss in total economic activity that would likely arise from a decrease in commercial sales activity. If an impact fee were implemented on new commercial property being developed in Horry County and then were passed along to business tenants in the form of increased rental rates, this would decrease the demand for such commercial space and thus lower the level of new business activity that would otherwise have occurred within this developed space. **Tables 6-9** highlight the results of examining the hypothetical economic losses resulting from such a decrease based on the projected reduction in commercial office space shown in **Table 3**.[7] The range of losses (i.e., low vs. high) reflect the lower and higher bounds on the elasticity of demand used, also shown in **Table 3**.

Table 6 – Estimated 5-Year Economic Losses from Decreases in Commercial Real Estate Activity (Low)

Scenario A Impact Fee

	Economic Output	Employment	Labor Income
Direct Effect	$5,932,022	46	$1,648,184
Multiplier Effect	$3,657,269	33	$1,252,649
Total Impact	**$9,589,291**	**79**	**$2,900,832**

Table 7 – Estimated 5-Year Economic Losses from Decreases in Commercial Real Estate Activity (High)

Scenario A Impact Fee

	Economic Output	Employment	Labor Income
Direct Effect	$11,379,007	87	$3,161,602
Multiplier Effect	$7,015,498	63	$2,402,873
Total Impact	**$18,394,505**	**150**	**$5,564,475**

7 Note that data were collected on average rental rates and average vacancy rates for various commercial property uses. These data were then applied to the square footage values listed in Table 3 to impute the annual sales volume that would likely derive from businesses operating in this commercial space.

Table 8 - Estimated 5-Year Economic Losses from Decreases in Commercial Real Estate Activity (Low)

Maximum Impact Fee

	Economic Output	Employment	Labor Income
Direct Effect	$23,546,341	181	$6,542,237
Multiplier Effect	$14,517,024	130	$4,972,215
Total Impact	**$38,063,365**	**311**	**$11,514,452**

Table 9 - Estimated 5-Year Economic Losses from Decreases in Commercial Real Estate Activity (High)

Maximum Impact Fee

	Economic Output	Employment	Labor Income
Direct Effect	$45,029,820	345	$12,511,317
Multiplier Effect	$27,762,232	249	$9,508,822
Total Impact	**$72,792,052**	**594**	**$22,020,139**

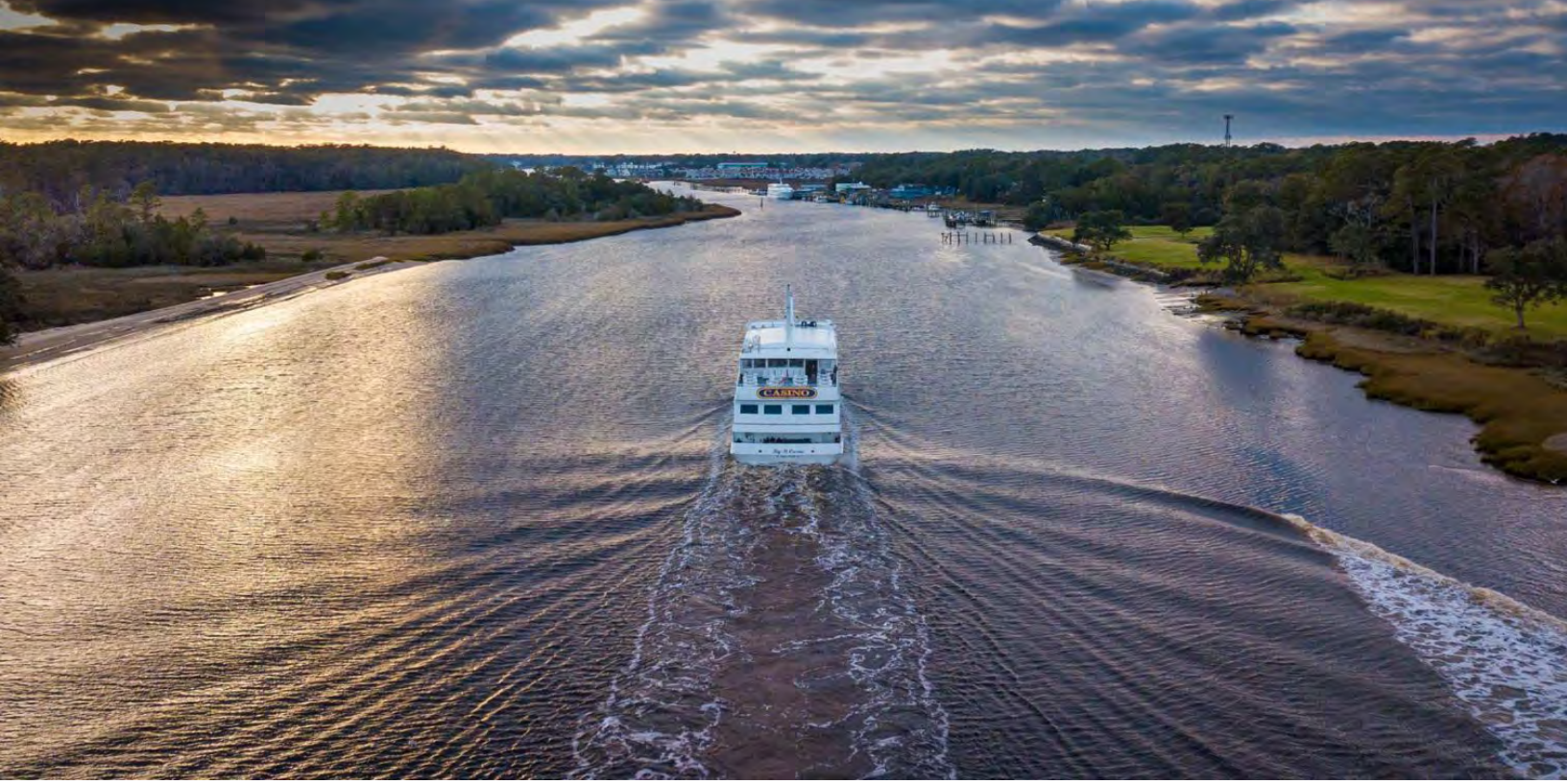
Over the next five years, it is estimated that the projected reductions in new business activity resulting from the maximum proposed Horry County impact fees would total between $38.1 million and $72.8 million. This would also be associated with preventing between approximately 311 and 594 new jobs from being created in Horry County along with between $11.5 million and $22.0 million in labor income for local residents. These estimates include not only the direct economic activity of between $23.5 million and $45.0 million that would not take place within new commercial property itself, but also all additional business activities in the county that would come about as a result of the economic multiplier effect. These additional activities would sum to between $14.5 million and $27.8 million.

Section IV
CONCLUSION

For many years, impact fees have been a popular policy tool frequently used by local governments as a way to generate revenue to help pay for infrastructure and other amenities within a region. Yet impact fees – like all costs – ultimately present a set of tradeoffs that must be considered. By increasing the price of residential and commercial real estate, impact fees often lower the demand for the real estate sales to which they apply. As such, this study has examined the specific economic impacts that would likely arise from the currently proposed new impact fees to be implemented in Horry County on all new single-family housing developments as well as on new commercial property – including commercial office and industrial space.

This study finds that residential single-family housing sales could decrease in Horry County by as much as 1.5 percent per year following the implementation of the newly proposed maximum impact fees. This translates to a loss of 242 sales in the Horry County market annually. More broadly, for every one percent increase in the price of a single-family home, this study finds that sales activity is estimated to fall by 0.88 percent. Additionally, the currently proposed maximum impact fee on single-family homes is estimated to reduce housing affordability by approximately 3.5 percent for the median household in Horry County.

For new commercial property, this study finds that the maximum proposed impact fees would decrease the development of new commercial office space by between 10 and 19 percent per year, which translates to between 25,000 and 50,000 square feet per year. For commercial industrial space, the estimated reduction is between 14 and 24 percent, or between an additional 16,000 and 29,000 square feet per year.



Even though the proposed impact fees would only directly apply to new construction, resale markets would also be indirectly affected. Residential housing units are always appraised relative to one another, meaning that a general increase in the price of a new housing unit with a specific set of amenities will tend to bid up other houses in the market with similar amenities over time. The impact of price increases of new housing units can therefore be expected to impact all sales activity in the market. Similarly, if the average price for new commercial property rises, this can also influence the price for existing commercial space over time.

Finally, to the extent that the aforementioned estimated reductions in sales activity occur as outlined, they will also likely generate additional reductions in economic activity across many local sectors by way of the economic multiplier effect. Specifically, the projected reduction in residential sales activity of approximately 242 units per year is estimated to generate a total reduction in economic activity for Horry County of $8.3 million annually, which is associated with about 62 jobs and $1.9 million in labor income. Additionally, it is estimated that a reduction in commercial development could prevent up to $72.8 million in new business activity for Horry County over the first five years of the maximum proposed impact fee's implementation. This is associated with 594 jobs and $22.0 million in labor income that would also not likely be created for Horry County residents.

A strong and thriving real estate market – both on the residential and commercial sides – are essential to long-run economic growth for both the national economy as well as for local market regions. It is, thus, critically important to examine all consequences that may result from any local regulatory changes on impact fees to ensure that Horry County continues its positive track record of economic growth in the coming years.

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Appendix I
ESTIMATING A SIMULTANEOUS EQUATIONS MODEL

The standard practice of economists when estimating supply and demand relationships in any market is to use a simultaneous equations model (SEM). Specifically, an SEM allows a researcher to estimate an economic relationship in which there are at least two dependent variables, such as market price and market quantity. In this study, the relationship between the price and quantity of housing sales was estimated using the following supply and demand equations:

$$Supply\colon\ Q_i = \beta_1\ + \beta_2 P_i + \beta_3 PPI_i + \varepsilon_i$$
$$Demand\colon\ Q_i = \alpha_1 + \alpha_2 P_i + \alpha_3 Rental_i + \alpha_4 Interest_i + \varepsilon_i$$

In this model set up, the quantity supplied of housing unit sales is represented as a function of the price of housing and the cost of material inputs (as measured by the producer price index (PPI)). The quantity demanded of housing sales is represented as a function of the price of housing, the price of housing's most abundant substitute good (measured by rental costs), and the affordability of housing (measured by mortgage interest rates).[8]

Two-stage least squares estimation, the most widely used method for estimating parameters for identified structural equations, was used to estimate the supply and demand equations above. These equations were estimated for Horry County and the price coefficient estimate in the demand equation (i.e., the estimated value of α_2) was used as the sales adjustment factor (SAF) identified in **Section III**.

8 Household income, another factor driving housing demand, was omitted from this model due to limitations on the frequency of release of household income estimates at the regional (county) level.

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