Capital Improvement Plan and Development Impact Fee Study

Prepared for:

Town of Pageland, South Carolina

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DRAFT

Prepared by:

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EXECUTIVE SUMMARY

The Town of Pageland, South Carolina retained TischlerBise to prepare a Capital Improvement Plan and Development Impact Fee study. Development impact fees are collected from new construction at the time a building permit is issued and are one-time payments for new development's proportionate share of the capital cost of infrastructure. The following study addresses the Town of Pageland's Fire facilities, Police facilities, Parks and Recreation facilities, Water system, and Wastewater system. Development impact fees do have limitations and should not be regarded as the total solution for infrastructure funding. Rather, they are one component of a comprehensive funding strategy to ensure provision of adequate public facilities. Development impact fees may only be used for capital improvements or debt service for growth-related infrastructure. Under the South Carolina Development Impact Fee Act, fees may not be used for operations, maintenance, replacement of infrastructure, or correcting existing deficiencies.

South Carolina Development Impact Fee Act

The State of South Carolina grants the power for cities and counties to collect development impact fees on new development pursuant to the rules and regulations set forth in the South Carolina Development Impact Fee Act (Code of Laws of South Carolina, Section 6-1-910 et seq.). The process to create a local impact fee system begins with a resolution by the Town Council directing the Planning Commission to conduct an impact fee study and recommend a development impact fee ordinance for legislative action.

Generally, a governmental entity must have an adopted comprehensive plan to enact development impact fees; however, certain provisions in State law allow counties, cities, and towns that have not adopted a comprehensive plan to impose development impact fees. Those jurisdictions must prepare a capital improvement plan as well as prepare an impact fee study that substantially complies with Section 6-1-960(B) of the Code of Laws of South Carolina.

All counties, cities, and towns are also required to prepare a report that estimates the effect of development impact fees on the availability of affordable housing before imposing development impact fees on residential dwelling units. Based on the findings of the study, certain developments may be exempt from development impact fees when all or part of the project is determined to create affordable housing, and the exempt development's proportionate share of system improvements is funded through a revenue source other than impact fees. A housing affordability analysis in support of the development impact fee study is published as a separate report.

Eligible costs may include design, acquisition, engineering, and financing attributable to those improvements recommended in the local capital improvements plan that qualify for impact fee funding. Revenues collected by the county, city, or town may not be used for administrative or operating costs associated with imposing the impact fee. All revenues from development impact fees must be maintained in an interest-bearing account prior to expenditure on recommended improvements. Monies must be returned to the owner of record of the property for which the impact fee was collected if they are not spent within three years of the date, they are scheduled to be encumbered in the local capital

improvements plan. All refunds to private landowners must include the pro rata portion of interest earned while on deposit in the impact fee account.

The Town of Pageland is also responsible for preparing and publishing an annual report describing the amount of impact fees collected, appropriated, and spent during the preceding year. These updates must occur at least once every five years. Pursuant to the Act, the Town of Pageland will not be empowered to recommend additional projects eligible for impact fee funding or charge higher maximum allowable development impact fees until the Development Impact Fee study and capital improvement plan have been updated.

Conceptual Development Impact Fee Calculation

In contrast to project-level improvements, development impact fees fund growth-related infrastructure that will benefit multiple development projects, or the entire jurisdiction (referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of demand units for each unit of development. For example, an appropriate indicator of the demand for park facilities is population growth, and the increase in population can be estimated from the average number of residents per housing unit. The second step in the development impact fee formula is to determine infrastructure units per demand unit, typically called level-of-service (LOS) standards. In keeping with the parks example, a common LOS standard is park acreage per resident. The third step in the development impact fee formula is the cost of various infrastructure units. To complete the parks example, this part of the formula would establish the cost per acreage for acquiring new park land.

General Methodologies

There are three general methods for calculating development impact fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating development impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss three basic methods for calculating development impact fees and how those methods can be applied.

Cost Recovery (Past Improvements)

The rationale for recoupment, often called cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which

new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.

Incremental Expansion (Concurrent Improvements)

The incremental expansion method documents current level-of-service (LOS) standards for each type of public facility, using both quantitative and qualitative measures. This approach ensures that there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increment to keep pace with development.

Plan-Based Fee (Future Improvements)

The plan-based method allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two options for determining the cost per demand unit: (1) total cost of a public facility can be divided by total demand units (average cost), or (2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

Credits

Regardless of the methodology, a consideration of "credits" is integral to the development of a legally defensible development impact fee methodology. There are two types of "credits" with specific characteristics, both of which should be addressed in development impact fee studies and ordinances.

- First, a revenue credit might be necessary if there is a double payment situation and other revenues are contributing to the capital costs of infrastructure to be funded by development impact fees. This type of credit is integrated into the development impact fee calculation, thus reducing the fee amount.
- Second, a site-specific credit or developer reimbursement might be necessary for dedication of land or construction of system improvements funded by development impact fees. This type of credit is addressed in the administration and implementation of the development impact fee program.

Proposed Fee Methods and Cost Components

Figure 1 summarizes the methods and cost allocation components used for each infrastructure category in the Town of Pageland's development impact fee study. The development impact fees are based on the actual level of service. The Parks & Recreation component are allocated to only residential development based on population. The Police and Fire components are allocated to residential and nonresidential development based on population and nonresidential vehicle trips, respectively. The Water and Wastewater components are allocated based on estimated dwelling units (EDUs).

Figure 1: Proposed Fee Methods and Cost Components

Infrastructure Category	Service Area	Cost Recovery	Incremental Expansion	Plan-Based	Cost Allocation
Fire	Citywide	N/A	Fire Facilities, Fire Apparatus	N/A	Population, Nonres. Vehicle Trips
Parks	Citywide	N/A	Park Land, Park Improvements	N/A	Population
Police	Citywide	N/A	Police Facilities	N/A	Population, Nonres. Vehicle Trips
Water	Citywide	N/A	N/A	Distribution / Transmission	EDU
Wastewater	Citywide	Wastewater Treatment Plant	N/A	Sewer Line Upgrades	EDU

Proposed Development Impact Fee Schedule

As documented in this report, the Town of Pageland has complied with the South Carolina Development Impact Fee Act and applicable legal precedents. Development impact fees are proportionate and reasonably related to capital improvement demands of new development. Specific costs have been identified using local data and current dollars. This report documents the formulas and input variables used to calculate the development impact fees. The development impact fee methodologies also identify the extent to which new development is entitled to various types of credits to avoid potential double payment of growth-related capital costs.

For residential development, proposed fees are assessed per housing unit by type of unit. The proposed residential fee categories include single family and multifamily units. Single family units include detached, and attached (i.e., "townhouse"). Multifamily units include duplexes, condominiums and apartments with two or more units, and mobile home units. For nonresidential development, fees are assessed per 1,000 square feet of floor area. The proposed fee schedule for nonresidential development is designed to provide a reasonable development impact fee determination for broad property classes – retail, office, industrial, and institutional.

Figure 2 summarizes proposed development impact fees for new development in the Town of Pageland. The amounts shown are "maximum supportable" amounts based on the methodologies, levels of service, and costs for the capital improvements identified herein. The fees represent the highest amount feasible

for each type of applicable development, which represent new growth's fair share of the system improvement costs detailed in this report. The Town can adopt amounts that are lower than the maximum amounts shown; however, a reduction in fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in the Town 's level of service.

Figure 2: Maximum Supportable Development Impact Fee

Fees Per Unit				
Development Type	Fire	Parks	Police	Total
Single Family	$4,459	$2,550	$1,308	**$8,317**
Multi-Family	$2,585	$1,478	$758	**$4,822**

Fees Per 1,000 Square Feet				
Development Type	Fire	Parks	Police	Total
Industrial	$974	$0	$286	**$1,259**
Commercial	$7,058	$0	$2,070	**$9,128**
Office & Other Service	$3,132	$0	$919	**$4,051**
Institutional	$2,054	$0	$602	**$2,656**

Meter Size and Type		Water	Wastewater	Total
0.75	Displacement	**$265**	**$2,724**	**$2,988**
1.00	Displacement	**$442**	**$4,549**	**$4,990**
1.50	Displacement	**$881**	**$9,070**	**$9,951**
2.00	Displacement	**$1,410**	**$14,517**	**$15,928**
3.00	Singlejet	**$2,823**	**$29,062**	**$31,885**
3.00	Compound	**$2,823**	**$29,062**	**$31,885**
3.00	Turbine	**$3,088**	**$31,786**	**$34,874**
4.00	Singlejet	**$4,411**	**$45,404**	**$49,815**
4.00	Compound	**$4,411**	**$45,404**	**$49,815**
4.00	Turbine	**$5,557**	**$57,198**	**$62,755**
6.00	Singlejet	**$8,820**	**$90,781**	**$99,600**
6.00	Compound	**$8,820**	**$90,781**	**$99,600**
6.00	Turbine	**$11,466**	**$118,018**	**$129,483**
8.00	Compound	**$14,112**	**$145,255**	**$159,367**
8.00	Turbine	**$24,696**	**$254,203**	**$278,899**
10.00	Turbine	**$37,046**	**$381,317**	**$418,363**
12.00	Turbine	**$46,749**	**$481,195**	**$527,945**

1. AWWA Manual of Water Supply Practices M-1, 7th Edition

Furthermore, this report includes the Town of Pageland's Capital Improvement Plan. In accordance with South Carolina Development Fee Act a municipality must have an adopted Capital Improvement Plan in order to collect impact fees. The full enabling legislation can be found at the end of this report.

A note on rounding: Calculations throughout this report are based on an analysis conducted using Excel software. Most results are discussed in the report using one-, two-, and three-digit places, which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore, the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not in the analysis).

Projected Demand

Section 6-1-960 (B6) of the South Carolina Development Impact Fee Act requires:

> *"the total number of service units necessitated by and attributable to new development within the service area, based on the land use assumptions and calculated in accordance with generally accepted engineering or planning criteria."*

Based on the land use assumptions discussed in Appendix B, both residential and nonresidential development is expected to continue in the Town of Pageland over the next ten years. Figure 3 shows projected population, housing units, employment and nonresidential floor area over the next ten years.

The Town of Pageland expects that in the next 10 years there will be an increase in 1,050 housing units. This is an annual increase of 105 housing units per year. In total, the Town of Pageland is projected to increase by 2,608 residents of the next ten years, an increase of 106 percent from the base year.

Employment growth is based on projected housing unit growth. Nonresidential floor area growth is projected based on the employment growth and employee density factors from the Institute of Transportation Engineers. Over the next ten years, the Town is projected to grow by 1,382 jobs, a 95 percent increase from the base year. The Commercial sector is projected to have the highest employment growth.

Figure 3: Town of Pageland Residential and Nonresidential Projections

Pageland town, South Carolina	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10-Year
	Base Year	1	2	3	4	5	6	7	8	9	10	Increase
Population	**2,456**	**2,717**	**2,978**	**3,238**	**3,499**	**3,760**	**4,021**	**4,282**	**4,542**	**4,803**	**5,064**	**2,608**
Housing Units												
Single Family	823	903	983	1,063	1,143	1,223	1,303	1,383	1,463	1,543	1,623	**800**
Multi-family	272	297	322	347	372	397	422	447	472	497	522	**250**
Total Housing Units	**1,095**	**1,200**	**1,305**	**1,410**	**1,515**	**1,620**	**1,725**	**1,830**	**1,935**	**2,040**	**2,145**	**1,050**
Employment												
Industrial	178	195	212	229	246	263	280	297	315	332	349	**171**
Commercial	588	644	701	757	814	870	926	983	1,039	1,095	1,152	**564**
Office & Other Service	235	258	280	303	325	348	370	393	415	438	460	**225**
Institutional	440	482	524	567	609	651	693	735	778	820	862	**422**
Total Employment	**1,441**	**1,579**	**1,717**	**1,856**	**1,994**	**2,132**	**2,270**	**2,408**	**2,546**	**2,685**	**2,823**	**1,382**
Nonres. Floor Area (x1,000)												
Industrial	154	168	183	198	213	227	242	257	272	286	301	**147**
Commercial	277	303	330	356	383	409	436	463	489	516	542	**265**
Office & Other Service	72	79	86	93	100	107	114	121	128	134	141	**69**
Institutional	154	169	184	198	213	228	243	257	272	287	302	**148**
Total Nonres. Floor Area	**657**	**720**	**783**	**846**	**909**	**972**	**1,034**	**1,097**	**1,160**	**1,223**	**1,286**	**630**

PARKS & RECREATION DEVELOPMENT IMPACT FEE CALCULATIONS

Methodology

Section 6-1-920(18h) of the South Carolina Development Impact Fee Act states that a development impact fee may be imposed on public facilities including:

> *"…parks, libraries, and recreational facilities."*

Section 6-1-960(B)(1) of the South Carolina Development Impact Fee Act requires:

> *"a general description of all existing facilities and their existing deficiencies, within the service area or areas of the governmental entity, a reasonable estimate of all costs, and a plan to develop the funding resources, including existing sources of revenues, related to curing existing deficiencies including, but not limited to, the upgrading, updating, improving, expanding, or replacing of these facilities to meet existing needs and usage."*

Section 6-1-960(B)(2) of the South Carolina Development Impact Fee Act requires:

> *"an analysis of total capacity, the level of current usage, and commitments for usage of capacity of existing public facilities, which must be prepared by qualified a professional using generally accepted principles and professional standards."*

It is assumed that only residential growth creates additional demand on Parks & Recreation facilities. Furthermore, the level of service for all infrastructure components is calculated at a townwide basis. Residential development impact fees are calculated on a per capita basis, then converted to an appropriate amount for each type of housing unit based on persons per housing unit factors.

Service Units for Park & Recreation Analysis

Section 6-1-960(B)(4) of the South Carolina Development Impact Fee Act requires:

> *"a definitive table establishing the specific service unit for each category of system improvements and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, agricultural, and industrial, as appropriate."*

The "service unit" used for residential development is persons per housing unit (PPHU). This is a measure of, on average, the number of persons residing in each housing unit. As shown in Figure PR1, there are 2.76 persons per single family unit and 1.60 persons per multifamily unit. Factors have been calculate based on data provided by the U.S. Census Bureau's 2020 ACS 5-year estimates (further discussed in Appendix B).

Figure PR1: Residential Service Units

Housing Type	Persons	Housing Units	Persons per Housing Unit
Single-Family Units[1]	2,068	750	**2.76**
Multi-Family Units[2]	397	248	**1.60**
Total	2,465	998	**2.47**

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates

1. Includes detached, attached (i.e. townhouses).
2. Includes dwellings in structures with two or more units, and mobile home units.

Parks & Recreation Level of Service and Cost Analysis

Park Land – Incremental Expansion

Future development in Pageland will maintain current levels of service by incrementally expanding park land. Pageland's existing inventory includes 24.3 acres of land, and this analysis allocates 100 percent of demand to residential development. Pageland's existing level of service for residential development is 0.0099 acres per person (24.3 acres X 100 percent residential share / 2,456 persons).

Based on TischlerBise estimates this analysis uses a land acquisition cost of $30,000 per acre. For park land, the cost is $296.82 per person (0.0099 acres per person X $30,000 per acre).

Figure PR2: Existing Level of Service

Description	Acres
Moore's Park	1.6
Conbraco Park	17.1
Pigg Park	5.6
Total	**24.3**

Cost Allocation Factors	
Cost per Acre	$30,000

Level-of-Service (LOS) Standards	
Existing Acres	24.3
Residential	
Residential Share	100%
2022 Population	2,456
Acres per Person	0.0099
Cost per Person	**$296.82**

Source: Pageland, South Carolina

Park Improvements – Incremental Expansion

Pageland currently provides 14 park improvements in its parks, and the City plans to construct additional park improvements to serve future development. Based on cost estimates, the total cost of Pageland's existing park improvements is $1,540,000. The weighted average cost is $110,000 per park improvement ($1,540,000 total cost / 14 park improvements).

Figure PR3: Existing Inventory

Description	Improvements	Unit Cost	Replacement Cost
Playground	2	$75,000	$150,000
Restrooms	2	$100,000	$200,000
Picnic Shelter	3	$50,000	$150,000
Gazebo	1	$20,000	$20,000
Baseball Diamond	3	$250,000	$750,000
Football Field	1	$95,000	$95,000
Soccer Field	1	$95,000	$95,000
Basketball Court	1	$80,000	$80,000
Total	**14**	**$110,000**	**$1,540,000**

Pageland currently provides 14 park improvements in its existing parks, and this analysis allocates 100 percent of demand to residential development. Pageland's existing level of service for residential development is 0.0057 improvements per person (14 improvements X 100 percent residential share / 2,456 persons).

Based on the total cost of Pageland's existing park improvements, the weighted average cost is $110,000 per improvement. For park improvements, the cost is $627.04 per person (0.0057 improvement per person X $110,000 per improvement).

Figure PR4: Existing Level of Service

Cost Allocation Factors	
Cost per Improvement	$110,000

Level-of-Service (LOS) Standards	
Existing Improvements	14
Residential	
Residential Share	100%
2022 Population	2,456
Improvements per Person	0.0057
Cost per Person	**$627.04**

Source: Pageland, South Carolina

Projection of Parks & Recreation Growth-Related Facility Needs

Section 6-1-960(B)(5) of the South Carolina Development Impact Fee Act requires:

> *"a description of all system improvements and their costs necessitated by and attributable to new development in the service area, based on the approved land use assumptions, to provide a level of service not to exceed the level of service currently existing in the community or service area, unless a different or higher level of service is required by law, court order, or safety consideration."*

Section 6-1-960(B)(7) of the South Carolina Development Impact Fee Act requires:

> *"the projected demand for system improvements required by new service units projected over a reasonable period of time not to exceed twenty years."*

Park Land – Incremental Expansion

Pageland plans to maintain its existing level of service for park land over the next 10 years. Based on a projected population increase of 2,608 persons, future residential development demands 25.8 acres of park land (2,608 additional persons X 0.0099 acres per person) at a cost of $774,117 (25.8 acres X $30,000 per acre).

Figure PR5: Projected Demand for Park Land

Type of Infrastructure	Level of Service	Demand Unit	Cost per Acre
Park Land	0.0099 Acres	per Person	$30,000

Demand for Park Land					
Year	Population	Jobs	Acres		
			Residential	Nonresidential	Total
2022	2,456	1,441	24.3	0.0	24.3
2023	2,717	1,579	26.9	0.0	26.9
2024	2,978	1,717	29.5	0.0	29.5
2025	3,238	1,856	32.0	0.0	32.0
2026	3,499	1,994	34.6	0.0	34.6
2027	3,760	2,132	37.2	0.0	37.2
2028	4,021	2,270	39.8	0.0	39.8
2029	4,282	2,408	42.4	0.0	42.4
2030	4,542	2,546	44.9	0.0	44.9
2031	4,803	2,685	47.5	0.0	47.5
2032	5,064	2,823	50.1	0.0	50.1
10-Yr Increase	2,608	1,382	25.8	0.0	25.8

Growth-Related Expenditures	$774,117	$0	$774,117

Park Improvements – Incremental Expansion

Pageland plans to maintain its existing level of service for park improvements over the next 10 years. Based on a projected population increase of 2,608 persons, future residential development demands approximately 14.9 park improvements (2,608 additional persons X 0.0057 improvements per person) at a cost of $1,635,309 (14.9 park improvements X $110,000 per improvement).

Figure PR6: Projected Demand for Park Improvements

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Park Improvements	0.0057 Improvements	per Person	$110,000

Demand for Park Improvements					
Year	Population	Jobs	Improvements		
			Residential	Nonresidential	Total
2022	2,456	1,441	14.0	0.0	14.0
2023	2,717	1,579	15.5	0.0	15.5
2024	2,978	1,717	17.0	0.0	17.0
2025	3,238	1,856	18.5	0.0	18.5
2026	3,499	1,994	19.9	0.0	19.9
2027	3,760	2,132	21.4	0.0	21.4
2028	4,021	2,270	22.9	0.0	22.9
2029	4,282	2,408	24.4	0.0	24.4
2030	4,542	2,546	25.9	0.0	25.9
2031	4,803	2,685	27.4	0.0	27.4
2032	5,064	2,823	28.9	0.0	28.9
10-Yr Increase	**2,608**	**1,382**	**14.9**	**0.0**	**14.9**

Growth-Related Expenditures	$1,635,309	$0	$1,635,309

Maximum Supportable Parks & Recreation Development Impact Fee

The following figure lists the maximum supportable Parks & Recreation Development Impact Fee for the Town of Pageland. Development impact fees for Parks & Recreation are only assessed on residential development and based on household size (i.e., persons per housing unit). Differentiating the fee by housing type allows the results to be more exact about the level of demand (persons per housing unit) a residential development will place on the current infrastructure based on level of service standards. For residential development, the total cost per person is multiplied by the housing unit size to calculate the proposed fee. For example, there is a total cost per person of $923.86. There is an average of 2.76 persons per single family housing unit, resulting in a fee of $2,550 per unit ($923.86 cost per person x 2.76 persons per unit = $2,550 per unit).

The fees represent the highest amount supportable for each type of development, which represents new growth's fair share of the cost for capital facilities. The Town may adopt fees that are less than the amounts shown. However, a reduction in development impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in levels of service.

Figure PR7: Maximum Supportable Parks & Recreation Development Impact Fee

Fee Component	Cost per Person
Park Land	$296.82
Park Improvements	$627.04
Total	**$923.86**

Residential Development	Fees per Unit	
Development Type	Persons per Housing Unit[1]	Proposed Fees
Single Family	2.76	**$2,550**
Multi-Family	1.60	**$1,478**

1. See Land Use Assumptions

Projected Revenue from Parks & Recreation Development Impact Fee

Revenue from the Parks & Recreation Development Impact Fee is estimated in Figure PR6 by applying the maximum supportable fees to the projected growth. As a result, the development impact fee revenue over the next ten years is projected at $2.4 million, which is enough revenue to cover the projected $2.4 million of estimated growth related costs.

Figure PR8: Projected Revenue from the Parks & Recreation Development Impact Fee

Fee Component	Growth Share	Existing Share	Total
Park Land	$774,117	$0	$774,117
Park Improvements	$1,635,309	$0	$1,635,309
Total	$2,409,427	$0	$2,409,427

		Single Family $2,550 per unit	Multi-Family $1,478 per unit	Industrial $0 per KSF	Commercial $0 per KSF	Office & Other $0 per KSF	Institutional $0 per KSF
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2022	823	272	154	277	72	154
Year 1	2023	903	297	168	303	79	169
Year 2	2024	983	322	183	330	86	184
Year 3	2025	1,063	347	198	356	93	198
Year 4	2026	1,143	372	213	383	100	213
Year 5	2027	1,223	397	227	409	107	228
Year 6	2028	1,303	422	242	436	114	243
Year 7	2029	1,383	447	257	463	121	257
Year 8	2030	1,463	472	272	489	128	272
Year 9	2031	1,543	497	286	516	134	287
Year 10	2032	1,623	522	301	542	141	302
10-Year Increase		800	250	147	265	69	148
Projected Revenue		$2,039,883	$369,544	$0	$0	$0	$0

Projected Fee Revenue	$2,409,427
Existing Development Share	$0
Total Expenditures	$2,409,427

POLICE DEVELOPMENT IMPACT FEE CALCULATIONS

Methodology

Section 6-1-920(18f) of the South Carolina Development Impact Fee Act states that a development impact fee may be imposed on public facilities including:

> *"…public safety facilities, including law enforcement, fire, emergency medical and rescue, and street lighting facilities."*

The Police development impact fee includes the following component:

- Police facilities

An incremental expansion methodology is applied to the Police building space analysis. Costs are allocated to both residential and nonresidential development using different demand indicators for each type of development.

Section 6-1-960(B)(1) of the South Carolina Development Impact Fee Act requires:

> *"a general description of all existing facilities and their existing deficiencies, within the service area or areas of the governmental entity, a reasonable estimate of all costs, and a plan to develop the funding resources, including existing sources of revenues, related to curing existing deficiencies including, but not limited to, the upgrading, updating, improving, expanding, or replacing of these facilities to meet existing needs and usage."*

Section 6-1-960(B)(2) of the South Carolina Development Impact Fee Act requires:

> *"an analysis of total capacity, the level of current usage, and commitments for usage of capacity of existing public facilities, which must be prepared by qualified a professional using generally accepted principles and professional standards."*

Service Units for Police

Section 6-1-960(B)(4) of the South Carolina Development Impact Fee Act requires:

> *"a definitive table establishing the specific service unit for each category of system improvements and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, agricultural, and industrial, as appropriate."*

The "service unit" used for residential development is persons per housing unit (PPHU). This is a measure of, on average, the number of persons residing in each housing unit. As shown in **Error! Reference source not found.**, there are 2.76 persons per single family unit and 1.60 persons per multifamily unit. Factors have been calculate based on data provided by the U.S. Census Bureau's 2020 ACS 5-year estimates (further discussed in Appendix B).

Figure P1: Residential Service Units

Housing Type	Persons	Housing Units	Persons per Housing Unit
Single-Family Units[1]	2,068	750	**2.76**
Multi-Family Units[2]	397	248	**1.60**
Total	2,465	998	**2.47**

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates

1. Includes detached, attached (i.e. townhouses).
2. Includes dwellings in structures with two or more units, and mobile home units.

TischlerBise recommends using nonresidential vehicle trips as the nonresidential "service unit" for Police infrastructure. Average weekday vehicle trip ends for nonresidential development are from the 11th edition of the reference book, Trip Generation, published in 2021 by the Institute of Transportation Engineers. A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip ends for nonresidential development are calculated per thousand square feet.

Trip generation rates are used for nonresidential development because vehicle trips are highest for retail/commercial developments, such as shopping centers, and lowest for industrial development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for public safety services from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, public safety development fees would be disproportionately high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, public safety development fees would be disproportionately high for industrial development.

For nonresidential land uses, the standard 50 percent adjustment is applied to office, industrial, and institutional. A lower vehicle trip adjustment factor is used for commercial/retail because this type of development attracts vehicles as they pass-by on arterial and collector roads. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination. Further detail on vehicle trip factors can be found in Appendix B: Land Use Assumptions.

Figure P2: Nonresidential Service Units

Development Type	Avg Wkdy Veh Trip Ends[1]	Trip Rate Adjustment	Average Weekday
Industrial	3.37	50%	1.69
Commercial	37.01	33%	12.21
Office & Other Service	10.84	50%	5.42
Institutional	10.77	33%	3.55

1. See Land Use Assumptions

Police Proportionate Share Factors

Both residential and nonresidential developments increase the demand on police infrastructure. To calculate the proportional share between residential and nonresidential demand on Police services and infrastructure, a functional population approach is used. Functional population is similar to what the U.S. Census Bureau calls "daytime population," by accounting for people living and working in a jurisdiction, but also considers commuting patterns and time spent at home and at nonresidential locations. The functional population approach allocates the cost of the facilities to residential and nonresidential development based on the activity of residents and workers in the Town through the 24 hours in a day.

Residents that do not work are assigned 20 hours per day to residential development and 4 hours per day to nonresidential development (annualized averages). Residents that work in Pageland are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside the Town are assigned 14 hours to residential development, the remaining 10 hours in the day are assumed to be spent outside of the Town working. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2019 functional population data, residential development accounts for 60 percent of the functional population, while nonresidential development accounts for 40 percent.

Figure P3: Proportionate Share Factors

Demand Units in 2019					
Residential				Demand Hours/Day	Person Hours
	Population	2,571			
	Residents Not Working	1,575		20	31,500
	Employed Residents	996			
	Residents Employed in Pageland		132	14	1,848
	Residents Employed outside Pageland		864	14	12,096
				Residential Subtotal	45,444
				Residential Share	**60%**
Nonresidential					
	Residents Not Working	1,575		4	6,300
	Jobs Located in Pageland	2,451			
	Residents Employed in Pageland		132	10	1,320
	Non-Resident Workers (Inflow Commuters)		2,319	10	23,190
				Nonresidential Subtotal	30,810
				Nonresidential Share	**40%**
				Total	76,254

Source: U.S. Census Bureau, OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics.

Police Facilities Level of Service and Cost Analysis

Police Facilities – Incremental Expansion

Future development in Pageland will maintain current levels of service by incrementally expanding police facilities. Pageland's existing inventory includes 5,900 square feet of police facilities. To allocate the proportionate share of demand to residential and nonresidential development, this analysis uses daytime population outlined in Figure P3. Pageland's existing level of service for residential development is 1.4414 square feet per person (5,900 square feet X 60 percent residential share / 2,456 persons). For nonresidential development, the existing LOS is 0.5155 square feet per vehicle trip (5,900 square feet X 40 percent nonresidential share / 4,578 vehicle trips).

This analysis utilizes RSMeans construction estimates that have been inflated to account for land acquisition costs, which comes out to $329 per square foot. For police facilities, the cost is $473.92 per person (1.4414 square feet per person X $329 per square foot) and $169.51 per vehicle trip (0.5155 square feet per vehicle trip X $329 per square foot).

Figure P4: Existing Level of Service

Description	Square Feet
Police Station	5,900

Cost Allocation Factors	
Cost per Square Foot	$329

Level-of-Service (LOS) Standards	
Existing Square Feet	5,900
Residential	
Residential Share	60%
2022 Population	2,456
Police Square Feet per Person	1.4414
Cost per Person	**$473.92**
Nonresidential	
Nonresidential Share	40%
2022 Vehicle Trips	4,578
Square Feet per Vehicle Trip	0.5155
Cost per Vehicle Trip	**$169.51**

Source: Pageland, South Carolina

Projection of Police Growth-Related Facility Needs

Section 6-1-960(B)(5) of the South Carolina Development Impact Fee Act requires:

> *"a description of all system improvements and their costs necessitated by and attributable to new development in the service area, based on the approved land use assumptions, to provide a level of service not to exceed the level of service currently existing in the community or service area, unless a different or higher level of service is required by law, court order, or safety consideration."*

Section 6-1-960(B)(7) of the South Carolina Development Impact Fee Act requires:

> *"the projected demand for system improvements required by new service units projected over a reasonable period of time not to exceed twenty years."*

Police Facilities – Incremental Expansion

Pageland plans to maintain its existing level of service for police facilities over the next 10 years. Based on a projected population increase of 2,608 persons, future residential development demands approximately 3,759 square feet of police facilities (2,608 additional persons X 1.4414 square feet per person). With projected nonresidential vehicle trip growth of 4,390 vehicle trips, future nonresidential development demands approximately 2,263 square feet of police facilities (4,390 additional vehicle trips X 0.5155 square feet per vehicle trip). Future development demands approximately 6,022 square feet of police facilities at a cost of $1,980,067 (6,022 square feet X $329 per square foot).

Figure P5: Projected Demand for Police Facilities

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Police Facilities	1.4414 Square Feet	per Person	$329
	0.5155 Square Feet	per Vehicle Trip	

Demand for Police Facilities					
Year	Population	Vehicle Trips	Police Station Square Feet		
			Residential	Nonresidential	Total
2022	2,456	4,578	3,540	2,360	5,900
2023	2,717	5,017	3,916	2,586	6,502
2024	2,978	5,456	4,292	2,813	7,104
2025	3,238	5,895	4,668	3,039	7,707
2026	3,499	6,334	5,044	3,265	8,309
2027	3,760	6,773	5,420	3,492	8,911
2028	4,021	7,212	5,795	3,718	9,513
2029	4,282	7,651	6,171	3,944	10,115
2030	4,542	8,090	6,547	4,170	10,718
2031	4,803	8,529	6,923	4,397	11,320
2032	5,064	8,968	7,299	4,623	11,922
10-Yr Increase	**2,608**	**4,390**	**3,759**	**2,263**	**6,022**
Growth-Related Expenditures			**$1,235,988**	**$744,079**	**$1,980,067**

Maximum Supportable Police Development Impact Fee

Figure P6 shows the maximum supportable Police Development Impact Fee for the Town of Pageland. Development impact fees for Police facilities are assessed on residential and nonresidential development. Police development impact fees are based on persons per housing unit for residential development and vehicle trips per 1,000 square feet for nonresidential development. Differentiating the fee by housing type allows the results to be proportional to the level of demand (persons per housing unit) a residential development will place on the current infrastructure based on level of service standards. For residential development, the total cost per person is multiplied by the household size to calculate the proposed fee. For nonresidential development, the total cost per vehicle trip is multiplied by the trips per 1,000 square feet to calculate the proposed fee.

The fees represent the highest amount supportable for each type of development, which represents new growth's fair share of the cost for capital facilities. The Town may adopt fees that are less than the amounts shown. However, a reduction in development impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in levels of service.

Figure P6: Maximum Supportable Police Development Impact Fee

Fee Component	Cost per Person	Cost per Trip
Police Facilities	$473.92	$169.51
Total	**$473.92**	**$169.51**

Residential Development	Fees per Unit	
Development Type	Persons per Housing Unit[1]	Proposed Fees
Single Family	2.76	**$1,308**
Multi-Family	1.60	**$758**

Nonresidential Development	Fees per 1,000 Square Feet	
Development Type	Average Wkdy Vehicle Trips[1]	Proposed Fees
Industrial	1.69	**$286**
Commercial	12.21	**$2,070**
Office & Other Service	5.42	**$919**
Institutional	3.55	**$602**

1. See Land Use Assumptions

Projected Revenue from Police Development Impact Fee

Revenue from the Police Development Impact Fee is estimated in Figure P7 if the fee were implemented at the maximum supportable level and growth occurs as projected. Based on the growth projections and at the maximum development impact fee, the impact fee is projected to generate approximately $1.9 million in revenue. Additionally, there is a total of approximately $1.9 million in estimated capital costs to accommodate projected growth.

Figure P7: Projected Revenue from the Police Development Impact Fee

Fee Component	Growth Share	Existing Share	Total
Police Facilities	$1,980,067	$0	$1,980,067
Total	$1,980,067	$0	$1,980,067

		Single Family $1,308 per unit	Multi-Family $758 per unit	Industrial $286 per KSF	Commercial $2,070 per KSF	Office & Other $919 per KSF	Institutional $602 per KSF
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2022	823	272	154	277	72	154
Year 1	2023	903	297	168	303	79	169
Year 2	2024	983	322	183	330	86	184
Year 3	2025	1,063	347	198	356	93	198
Year 4	2026	1,143	372	213	383	100	213
Year 5	2027	1,223	397	227	409	107	228
Year 6	2028	1,303	422	242	436	114	243
Year 7	2029	1,383	447	257	463	121	257
Year 8	2030	1,463	472	272	489	128	272
Year 9	2031	1,543	497	286	516	134	287
Year 10	2032	1,623	522	301	542	141	302
10-Year Increase		800	250	147	265	69	148
Projected Revenue		$1,046,419	$189,569	$42,096	$549,411	$63,597	$88,975

Projected Fee Revenue	$1,980,067
Existing Development Share	$0

FIRE DEVELOPMENT IMPACT FEE CALCULATIONS

Methodology

Section 6-1-920(18f) of the South Carolina Development Impact Fee Act states that a development impact fee may be imposed on public facilities including:

> *"…public safety facilities, including law enforcement, fire, emergency medical and rescue, and street lighting facilities."*

The Fire development impact fee includes the following component:

- Fire facilities
- Fire Apparatus

An incremental expansion methodology is applied to the Fire facilities and apparatus analysis. Costs are allocated to both residential and nonresidential development using different demand indicators for each type of development.

Section 6-1-960(B)(1) of the South Carolina Development Impact Fee Act requires:

> *"a general description of all existing facilities and their existing deficiencies, within the service area or areas of the governmental entity, a reasonable estimate of all costs, and a plan to develop the funding resources, including existing sources of revenues, related to curing existing deficiencies including, but not limited to, the upgrading, updating, improving, expanding, or replacing of these facilities to meet existing needs and usage."*

Section 6-1-960(B)(2) of the South Carolina Development Impact Fee Act requires:

> *"an analysis of total capacity, the level of current usage, and commitments for usage of capacity of existing public facilities, which must be prepared by qualified a professional using generally accepted principles and professional standards."*

Service Units for Fire

Section 6-1-960(B)(4) of the South Carolina Development Impact Fee Act requires:

> *"a definitive table establishing the specific service unit for each category of system improvements and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, agricultural, and industrial, as appropriate."*

The "service unit" used for residential development is persons per housing unit (PPHU). This is a measure of, on average, the number of persons residing in each housing unit. As shown in Figure F1 there are 2.76 persons per single family unit and 1.60 persons per multifamily unit. Factors have been calculate based on data provided by the U.S. Census Bureau's 2020 ACS 5-year estimates (further discussed in Appendix B).

Figure F1: Residential Service Units

Housing Type	Persons	Housing Units	Persons per Housing Unit
Single-Family Units[1]	2,068	750	**2.76**
Multi-Family Units[2]	397	248	**1.60**
Total	2,465	998	**2.47**

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates
1. Includes detached, attached (i.e. townhouses).
2. Includes dwellings in structures with two or more units, and mobile home units.

TischlerBise recommends using nonresidential vehicle trips as the nonresidential "service unit" for Fire infrastructure. Average weekday vehicle trip ends for nonresidential development are from the 11th edition of the reference book, Trip Generation, published in 2021 by the Institute of Transportation Engineers. A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip ends for nonresidential development are calculated per thousand square feet.

Trip generation rates are used for nonresidential development because vehicle trips are highest for retail/commercial developments, such as shopping centers, and lowest for industrial development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for public safety services from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, public safety development fees would be disproportionately high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, public safety development fees would be disproportionately high for industrial development.

For nonresidential land uses, the standard 50 percent adjustment is applied to office, industrial, and institutional. A lower vehicle trip adjustment factor is used for commercial/retail because this type of development attracts vehicles as they pass-by on arterial and collector roads. For example, when someone stops at a convenience store on their way home from work, the convenience store is not their primary destination. Further detail on vehicle trip factors can be found in Appendix B: Land Use Assumptions.

Figure F2: Nonresidential Service Units

Development Type	Avg Wkdy Veh Trip Ends[1]	Trip Rate Adjustment	Average Weekday
Industrial	3.37	50%	1.69
Commercial	37.01	33%	12.21
Office & Other Service	10.84	50%	5.42
Institutional	10.77	33%	3.55

1. See Land Use Assumptions

Fire Proportionate Share Factors

Both residential and nonresidential developments increase the demand on Fire infrastructure. To calculate the proportional share between residential and nonresidential demand on Fire services and infrastructure, a functional population approach is used. Functional population is similar to what the U.S. Census Bureau calls "daytime population," by accounting for people living and working in a jurisdiction, but also considers commuting patterns and time spent at home and at nonresidential locations. The functional population approach allocates the cost of the facilities to residential and nonresidential development based on the activity of residents and workers in the Town through the 24 hours in a day.

Residents that do not work are assigned 20 hours per day to residential development and 4 hours per day to nonresidential development (annualized averages). Residents that work in Pageland are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside the Town are assigned 14 hours to residential development, the remaining 10 hours in the day are assumed to be spent outside of the Town working. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2019 functional population data, residential development accounts for 60 percent of the functional population, while nonresidential development accounts for 40 percent.

Figure F3: Proportionate Share Factors

Demand Units in 2019					
Residential				Demand Hours/Day	Person Hours
	Population	2,571			
	Residents Not Working		1,575	20	31,500
	Employed Residents		996		
	Residents Employed in Pageland		132	14	1,848
	Residents Employed outside Pageland		864	14	12,096
				Residential Subtotal	45,444
				Residential Share	**60%**
Nonresidential					
	Residents Not Working		1,575	4	6,300
	Jobs Located in Pageland		2,451		
	Residents Employed in Pageland		132	10	1,320
	Non-Resident Workers (Inflow Commuters)		2,319	10	23,190
				Nonresidential Subtotal	30,810
				Nonresidential Share	**40%**
				Total	76,254

Source: U.S. Census Bureau, OnTheMap 6.1.1 Application and LEHD Origin-Destination Employment Statistics.

Fire Infrastructure Level of Service and Cost Analysis

Fire Facilities – Incremental Expansion

Future development in Pageland will maintain current levels of service by incrementally expanding fire facilities. Pageland's existing inventory includes 13,600 square feet of fire facilities. To allocate the proportionate share of demand to residential and nonresidential development, this analysis uses daytime population outlined in Figure F3. Pageland's existing level of service for residential development is 3.3225 square feet per person (13,600 square feet X 60 percent residential share / 2,456 persons). For nonresidential development, the existing LOS is 1.1883 square feet per vehicle trip (13,600 square feet X 40 percent nonresidential share / 4,578 vehicle trips).

This analysis utilizes RSMeans construction estimates that have been inflated to account for land acquisition costs, which comes out to $276 per square foot. For fire facilities, the cost is $917.00 per person (3.3225 square feet per person X $276 per square foot) and $327.98 per vehicle trip (1.1883 square feet per vehicle trip X $276 per square foot).

Figure F4: Existing Level of Service

Description	Square Feet
Main Station	11,000
Fire Substation	2,600
Total	**13,600**

Cost Allocation Factors	
Cost per Square Foot	$276

Level-of-Service (LOS) Standards	
Existing Square Feet	13,600
Residential	
Residential Share	60%
2022 Population	2,456
Square Feet per Person	3.3225
Cost per Person	**$917.00**
Nonresidential	
Nonresidential Share	40%
2022 Trips	4,578
Square Feet per Trip	1.1883
Cost per Trip	**$327.98**

Source: Pageland, South Carolina

Fire Apparatus – Incremental Expansion

Future development in Pageland will maintain current levels of service by incrementally expanding its inventory of fire apparatus. Pageland's existing inventory includes 5 apparatuses. To allocate the proportionate share of demand to residential and nonresidential development, this analysis uses daytime population outlined in Figure F3. Pageland's existing level of service for residential development is .0012 apparatus per person (5 apparatus X 60 percent residential share / 2,456 persons). For nonresidential development, the existing LOS is .0004 apparatus per vehicle trip (5 apparatus X 40 percent nonresidential share / 4,578 vehicle trips).

Based on the total cost of Pageland's existing fire apparatus, the weighted average cost is $572,000 per apparatus. For fire apparatus, the cost is $698.70 per person (5 apparatus per person X $572,000 per apparatus) and $249.90 per vehicle trip (.0004 apparatus per vehicle trip X $572,000 per apparatus).

Figure F5: Existing Level of Service

Description	Unit Cost
Engine 1	$700,000
Engine 2	$700,000
Engine 3	$700,000
Engine 4	$700,000
Support 1	$60,000
Total	**$2,860,000**

Cost Allocation Factors	
Cost per Unit	$572,000

Level-of-Service (LOS) Standards	
Existing Apparatus	5
Residential	
Residential Share	60%
2022 Population	2,456
Apparatus per Person	0.0012
Cost per Person	**$698.70**
Nonresidential	
Nonresidential Share	40%
2022 Trips	4,578
Apparatus per Trip	0.0004
Cost per Trip	**$249.90**

Source: Pageland, South Carolina

Projection of Fire Growth-Related Infrastructure Needs

Section 6-1-960(B)(5) of the South Carolina Development Impact Fee Act requires:

> *"a description of all system improvements and their costs necessitated by and attributable to new development in the service area, based on the approved land use assumptions, to provide a level of service not to exceed the level of service currently existing in the community or service area, unless a different or higher level of service is required by law, court order, or safety consideration."*

Section 6-1-960(B)(7) of the South Carolina Development Impact Fee Act requires:

> *"the projected demand for system improvements required by new service units projected over a reasonable period of time not to exceed twenty years."*

Fire Facilities – Incremental Expansion

Based on a 10-year projected population increase of 2,608 persons, future residential development in Pageland demands approximately 8,665 square feet of fire facilities (2,608 additional persons X 3.3225 square feet per person). With projected vehicle trip growth of 4,390 trips, future nonresidential development demands approximately 5,216 square feet of fire facilities (4,390 additional vehicle trips X 1.1883 square feet per vehicle trip). Future development in Pageland demands approximately 13,881 square feet of fire facilities at a cost of $3,831,281 (13,881 square feet X $276 per square foot).

Figure F6: Projected Demand for Fire Facilities

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Fire Facilities	3.3225 Square Feet	per Person	$276
	1.1883 Square Feet	per Trip	

Demand for Fire Facilities					
Year	Population	Nonresidential Trips	Square Feet		
			Residential	Nonresidential	Total
2022	2,456	4,578	8,160.0	5,440.0	13,600.0
2023	2,717	5,017	9,026.5	5,961.6	14,988.1
2024	2,978	5,456	9,893.0	6,483.3	16,376.3
2025	3,238	5,895	10,759.5	7,004.9	17,764.4
2026	3,499	6,334	11,626.0	7,526.6	19,152.6
2027	3,760	6,773	12,492.5	8,048.2	20,540.7
2028	4,021	7,212	13,359.0	8,569.9	21,928.9
2029	4,282	7,651	14,225.5	9,091.5	23,317.0
2030	4,542	8,090	15,092.0	9,613.2	24,705.2
2031	4,803	8,529	15,958.5	10,134.8	26,093.3
2032	5,064	8,968	16,825.0	10,656.4	27,481.5
10-Yr Increase	**2,608**	**4,390**	**8,665**	**5,216**	**13,881**

Growth-Related Expenditures	**$2,391,544**	**$1,439,737**	**$3,831,281**

Fire Apparatus – Incremental Expansion

Based on a 10-year projected population increase of 2,608 persons, future residential development in Pageland demands 3.2 units of fire apparatus (2,608 additional persons X 0.0012 units per person). With projected vehicle trip growth of 4,390 trips, future nonresidential development demands 1.9 units of fire apparatus (4,390 additional vehicle trips X 0.0004 units per vehicle trip). Future development in Pageland demands approximately 5.1 units of fire apparatus at a cost of $2,919,986 (5.1 units X $572,000 per unit).

Figure F7: Projected Demand for Fire Apparatus

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Fire Apparatus	0.0012 Units	per Person	$572,000
	0.0004 Units	per Trip	

Demand for Fire Apparatus					
Year	Population	Nonresidential Trips	Units		
			Residential	Nonresidential	Total
2022	2,456	4,578	3.0	2.0	5.0
2023	2,717	5,017	3.3	2.2	5.5
2024	2,978	5,456	3.6	2.4	6.0
2025	3,238	5,895	4.0	2.6	6.5
2026	3,499	6,334	4.3	2.8	7.0
2027	3,760	6,773	4.6	3.0	7.6
2028	4,021	7,212	4.9	3.2	8.1
2029	4,282	7,651	5.2	3.3	8.6
2030	4,542	8,090	5.5	3.5	9.1
2031	4,803	8,529	5.9	3.7	9.6
2032	5,064	8,968	6.2	3.9	10.1
10-Yr Increase	**2,608**	**4,390**	**3.2**	**1.9**	**5.1**

Growth-Related Expenditures	**$1,822,202**	**$1,096,986**	**$2,919,188**

Maximum Supportable Fire Development Impact Fee

Figure F8 shows the maximum supportable Fire Development Impact Fee for the Town of Pageland. Development impact fees for Fire facilities are assessed on residential and nonresidential development. Fire development impact fees are based on persons per housing unit for residential development and vehicle trips per 1,000 square feet for nonresidential development. Differentiating the fee by housing type allows the results to be proportional to the level of demand (persons per housing unit) a residential development will place on the current infrastructure based on level of service standards. For residential development, the total cost per person is multiplied by the household size to calculate the proposed fee. For nonresidential development, the total cost per vehicle trip is multiplied by the trips per 1,000 square feet to calculate the proposed fee.

The fees represent the highest amount supportable for each type of development, which represents new growth's fair share of the cost for capital facilities. The Town may adopt fees that are less than the amounts shown. However, a reduction in development impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in levels of service.

Figure F8: Maximum Supportable Fire Development Impact Fee

Fee Component	Cost per Person	Cost per Trip
Fire Facilities	$917.00	$327.98
Fire Apparatus	$698.70	$249.90
Total	**$1,615.70**	**$577.88**

Residential Development	Fees per Unit	
Development Type	Persons per Housing Unit[1]	Proposed Fees
Single Family	2.76	**$4,459**
Multi-Family	1.60	**$2,585**

Nonresidential Development	Fees per 1,000 Square Feet	
Development Type	Vehicle Trips per	Proposed Fees
Industrial	1.69	**$974**
Commercial	12.21	**$7,058**
Office & Other Service	5.42	**$3,132**
Institutional	3.55	**$2,054**

1. See Land Use Assumptions

Projected Revenue from Fire Development Impact Fee

Revenue from the Fire Development Impact Fee is estimated in Figure F9 if the fee were implemented at the maximum supportable level and growth occurs as projected. Based on the growth projections and at the maximum development impact fee, the impact fee is projected to generate approximately $6.7 million in revenue. Additionally, there is a total of approximately $6.7 million in estimated capital costs to accommodate projected growth.

Figure F9: Projected Revenue from the Fire Development Impact Fee

Fee Component	Growth Share	Existing Share	Total
Fire Facilities	$3,831,281	$0	$3,831,281
Fire Apparatus	$2,919,188	$0	$2,919,188
Total	**$6,750,470**	**$0**	**$6,750,470**

		Single Family $4,459 per unit	Multi-Family $2,585 per unit	Industrial $974 per KSF	Commercial $7,058 per KSF	Office & Other $3,132 per KSF	Institutional $2,054 per KSF
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2022	823	272	154	277	72	154
Year 1	2023	903	297	168	303	79	169
Year 2	2024	983	322	183	330	86	184
Year 3	2025	1,063	347	198	356	93	198
Year 4	2026	1,143	372	213	383	100	213
Year 5	2027	1,223	397	227	409	107	228
Year 6	2028	1,303	422	242	436	114	243
Year 7	2029	1,383	447	257	463	121	257
Year 8	2030	1,463	472	272	489	128	272
Year 9	2031	1,543	497	286	516	134	287
Year 10	2032	1,623	522	301	542	141	302
10-Year Increase		800	250	147	265	69	148
Projected Revenue		**$3,567,466**	**$646,280**	**$143,514**	**$1,873,059**	**$216,817**	**$303,333**

Projected Fee Revenue	$6,750,470
Existing Development Share	$0

WATER DEVELOPMENT IMPACT FEE CALCULATIONS

Methodology

Section 6-1-920(18a) of the South Carolina Development Impact Fee Act states that a development impact fee may be imposed on public facilities including:

> *"…water supply production, treatment, laboratory, engineering, administration, storage, and transmission facilities."*

Section 6-1-960(B)(1) of the South Carolina Development Impact Fee Act requires:

> *"a general description of all existing facilities and their existing deficiencies, within the service area or areas of the governmental entity, a reasonable estimate of all costs, and a plan to develop the funding resources, including existing sources of revenues, related to curing existing deficiencies including, but not limited to, the upgrading, updating, improving, expanding, or replacing of these facilities to meet existing needs and usage."*

Section 6-1-960(B)(2) of the South Carolina Development Impact Fee Act requires:

> *"an analysis of total capacity, the level of current usage, and commitments for usage of capacity of existing public facilities, which must be prepared by qualified a professional using generally accepted principles and professional standards."*

Service Units for Water Analysis

Section 6-1-960(B)(4) of the South Carolina Development Impact Fee Act requires:

> *"a definitive table establishing the specific service unit for each category of system improvements and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, agricultural, and industrial, as appropriate."*

The "service unit" used for water development impact fee is equivalent dwelling unit (EDU). The Water impact fees are assessed on both residential and nonresidential development, using an EDU approach. In order to determine water system demand from an equivalent single family dwelling unit, TischlerBise obtained water billing data for 2021. TischlerBise estimates that, the 1,415 residential customers served by the Town accounted for 117.8 million gallons in 2021, or 322,783 gallons daily. The Town's 381 nonresidential customers are estimated to have accounted for 115.7 million gallons, or 317,197 gallons daily. To determine an EDU for the water system, the 1,415 residential customers are compared to the average daily consumption (322,783 gallons), for an average of 228 gallons a day.

Figure W1: Water Demand Factors

Account Type		Annual Consumption	Daily Consumption	Avg. Daily Usage
Residential	1,415	117,815,827	322,783	228
Commercial	381	115,777,000	317,197	833
Total	**1,796**	**233,592,827**	**639,980**	**356**

Source: Pageland, SC

As discussed above, Water impact fees are calculated by multiplying the number of gallons per single family unit equivalent (EDU) by the capacity ratio for the corresponding size and type of meter multiplied by the cost per EDU. The Town's demand for a single-family equivalent dwelling unit is 228 gallons per day. Figure W2 shows the capacity ratio by meter size from the *AWWA Manual of Water Supply Practices,* which is used for water meters larger than .75 inches.

Figure W2: Water Ratio of Service Units to Development Units

Meter Size and Type		Capacity Ratio[1]
0.75	Displacement	1.00
1.00	Displacement	1.67
1.50	Displacement	3.33
2.00	Displacement	5.33
3.00	Singlejet	10.67
3.00	Compound	10.67
3.00	Turbine	11.67
4.00	Singlejet	16.67
4.00	Compound	16.67
4.00	Turbine	21.00
6.00	Singlejet	33.33
6.00	Compound	33.33
6.00	Turbine	43.33
8.00	Compound	53.33
8.00	Turbine	93.33
10.00	Turbine	140.00
12.00	Turbine	176.67

1. AWWA Manual of Water Supply Practices M-1, 7th Edition

Projection of Water Growth-Related Infrastructure Needs

Section 6-1-960(B)(5) of the South Carolina Development Impact Fee Act requires:

> *"a description of all system improvements and their costs necessitated by and attributable to new development in the service area, based on the approved land use assumptions, to provide a level of service not to exceed the level of service currently existing in the community or service area, unless a different or higher level of service is required by law, court order, or safety consideration."*

Section 6-1-960(B)(7) of the South Carolina Development Impact Fee Act requires:

> *"the projected demand for system improvements required by new service units projected over a reasonable period of time not to exceed twenty years."*

Planned Water Transmission Upgrades

Pageland plans to construct upgrades to the water transmission system to serve future development. These projects will cost $2 million. To calculate the cost per demand unit (gallons), the costs of planned improvements ($2 million) are allocated to the capacity of planned projects (1.728 million gallons). This results in a cost of $1.16 per gallon.

Figure W3: Planned Water Transmission Cost

Description	Total Cost
New 12 Inch Water Line	$2,000,000
Total	$2,000,000
Total Capacity (Gallons)	1,728,000
Cost per Gallon	$1.16

Maximum Allowable Water Impact fees

The proposed Water impact fees are shown in Figure W7. As shown in Figure W7, the total water system investment totals $1.16 per gallon. New residential units needing a 3/4" meter will pay a water impact fee of $265 (228 gallons X capital cost per gallon of capacity of $1.16 X 1.0 capacity ratio), and future development needing a 1.0" meter will pay a water impact fee charge of $442 (228 gallons X capital cost per gallon of capacity of $1.16 X 1.67 capacity ratio).

Figure W4: Maximum Allowable Water Impact fees

Fee Component	Cost per Gallon
Distribution / Transmission	$1.16
Total	$1.16

Single-Family (Base Meter) Demand Factors	
Average Day Gallons	228

Meter Size and Type		Capacity Ratio[1]	Proposed Fees
0.75	Displacement	1.00	**$265**
1.00	Displacement	1.67	**$442**
1.50	Displacement	3.33	**$881**
2.00	Displacement	5.33	**$1,410**
3.00	Singlejet	10.67	**$2,823**
3.00	Compound	10.67	**$2,823**
3.00	Turbine	11.67	**$3,088**
4.00	Singlejet	16.67	**$4,411**
4.00	Compound	16.67	**$4,411**
4.00	Turbine	21.00	**$5,557**
6.00	Singlejet	33.33	**$8,820**
6.00	Compound	33.33	**$8,820**
6.00	Turbine	43.33	**$11,466**
8.00	Compound	53.33	**$14,112**
8.00	Turbine	93.33	**$24,696**
10.00	Turbine	140.00	**$37,046**
12.00	Turbine	176.67	**$46,749**

1. AWWA Manual of Water Supply Practices M-1, 7th Edition

WASTEWATER DEVELOPMENT IMPACT FEE CALCULATIONS

Methodology

Section 6-1-920(18b) of the South Carolina Development Impact Fee Act states that a development impact fee may be imposed on public facilities including:

> *"…wastewater collection, treatment, laboratory, engineering, administration, and disposal facilities."*

Section 6-1-960(B)(1) of the South Carolina Development Impact Fee Act requires:

> *"a general description of all existing facilities and their existing deficiencies, within the service area or areas of the governmental entity, a reasonable estimate of all costs, and a plan to develop the funding resources, including existing sources of revenues, related to curing existing deficiencies including, but not limited to, the upgrading, updating, improving, expanding, or replacing of these facilities to meet existing needs and usage."*

Section 6-1-960(B)(2) of the South Carolina Development Impact Fee Act requires:

> *"an analysis of total capacity, the level of current usage, and commitments for usage of capacity of existing public facilities, which must be prepared by qualified a professional using generally accepted principles and professional standards."*

Service Units for Wastewater Analysis

Section 6-1-960(B)(4) of the South Carolina Development Impact Fee Act requires:

> *"a definitive table establishing the specific service unit for each category of system improvements and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial, agricultural, and industrial, as appropriate."*

The "service unit" used for wastewater development impact fee is equivalent dwelling unit (EDU). The Wastewater impact fees are assessed on both residential and nonresidential development, using an EDU approach. Since Pageland does not bill wastewater usage separately, this analysis assumes that wastewater usage is 75% of the water usage shown in Figure W1. TischlerBise estimates that, the 1,415 residential customers served by the Town accounted for 88.3 million gallons in 2021, or 242,087 gallons daily. The Town's 381 nonresidential customers are estimated to have accounted for 86.8 million gallons, or 237,898 gallons daily. To determine an EDU for the waste water system, the 1,415 residential customers are compared to the average daily consumption (242,087 gallons), for an average of 171 gallons a day.

Figure WW1: Wastewater Demand Factors

Account Type		Annual Consumption	Daily Consumption	Avg. Daily Usage
Residential	1,415	88,361,870	242,087	171
Commercial	381	86,832,750	237,898	624
Total	**1,796**	**175,194,620**	**479,985**	**267**

Source: Pageland, SC

As discussed above, Wastewater impact fees are calculated by multiplying the number of gallons per single family unit equivalent (EDU) by the capacity ratio for the corresponding size and type of meter multiplied by the cost per EDU. The Town's demand for a single family equivalent dwelling unit is 171 gallons per day. Figure WW2 shows the capacity ratio by meter size from the *AWWA Manual of Water Supply Practices,* which is used for meters larger than .75 inches.

Figure WW2: Wastewater Ratio of Service Units to Development Units

Meter Size and Type		Capacity Ratio[1]
0.75	Displacement	1.00
1.00	Displacement	1.67
1.50	Displacement	3.33
2.00	Displacement	5.33
3.00	Singlejet	10.67
3.00	Compound	10.67
3.00	Turbine	11.67
4.00	Singlejet	16.67
4.00	Compound	16.67
4.00	Turbine	21.00
6.00	Singlejet	33.33
6.00	Compound	33.33
6.00	Turbine	43.33
8.00	Compound	53.33
8.00	Turbine	93.33
10.00	Turbine	140.00
12.00	Turbine	176.67

1. AWWA Manual of Water Supply Practices M-1, 7th Edition

Projection of Wastewater Growth-Related Infrastructure Needs

Section 6-1-960(B)(5) of the South Carolina Development Impact Fee Act requires:

> *"a description of all system improvements and their costs necessitated by and attributable to new development in the service area, based on the approved land use assumptions, to provide a level of service not to exceed the level of service currently existing in the community or service area, unless a different or higher level of service is required by law, court order, or safety consideration."*

Section 6-1-960(B)(7) of the South Carolina Development Impact Fee Act requires:

> *"the projected demand for system improvements required by new service units projected over a reasonable period of time not to exceed twenty years."*

Wastewater Treatment Plant Investment-Buy In

The sewer impact fee contains a buy-in component for the investment (original cost, no inflation included) in the wastewater treatment plant. As shown in Figure WW2, this total investment is $18,000,000. Pageland has the capacity to treat 1.5 million gallons per day. This results in a cost of $12.00 per gallon ($18,000,000 / 1,500,000 gallons).

Figure WW3: Treatment Plant Cost

Description	Total Cost
Wastewater Treatment Plant Upgrade	$18,000,000
Total	$18,000,000
Total Capacity (Gallons)	1,500,000
Cost per Gallon	$12.00

Planned Sewer Line Upgrades

The Town of Pageland plans to construct upgrades to its existing sewer line system to serve future development. These projects will cost a total of $4 million. To calculate the cost per demand unit (gallons), the costs of planned improvements ($4 million) are allocated to the remaining wastewater treatment plant capacity (1,020,15 gallons). This results in a cost of $3.92 per gallon.

Figure WW4: Planned Sewer Line Cost

Description	Cost
12 Inch Force Main	$4,000,000
Total Cost	**$4,000,000**
Remaining Treatment Plant Capacity	1,020,015
Cost per Gallon	$3.92

Maximum Allowable Wastewater Impact fees

Cost factors for Wastewater infrastructure components are summarized in the upper portion of Figure WW5. The Wastewater impact fee is derived from the average gallons per day per single family equivalent residential connection of 171 gallons multiplied by the capital cost per gallon of capacity ($15.92). New residential units needing a 3/4" meter will pay a Wastewater impact fee of $2,724 (171 gallons X capital cost per gallon of capacity of $15.92 X 1.0 capacity ratio), and future development needing a 1.0" meter will pay a Wastewater impact fee charge of $4,549 (171 gallons X capital cost per gallon of capacity of $15.92 X 1.67 capacity ratio).

Figure WW5: Maximum Allowable Wastewater Impact fees

Fee Component	Cost per Gallon
Sewer Line Upgrades	$3.92
Treatment Upgrade	$12.00
Total	**$15.92**

Equivalent Dwelling Unit (Single Family Unit) Demand Factor	
Average Gallons per Day	171

Meter Size and Type		Capacity Ratio[1]	Proposed Fees
0.75	Displacement	1.00	**$2,724**
1.00	Displacement	1.67	**$4,549**
1.50	Displacement	3.33	**$9,070**
2.00	Displacement	5.33	**$14,517**
3.00	Singlejet	10.67	**$29,062**
3.00	Compound	10.67	**$29,062**
3.00	Turbine	11.67	**$31,786**
4.00	Singlejet	16.67	**$45,404**
4.00	Compound	16.67	**$45,404**
4.00	Turbine	21.00	**$57,198**
6.00	Singlejet	33.33	**$90,781**
6.00	Compound	33.33	**$90,781**
6.00	Turbine	43.33	**$118,018**
8.00	Compound	53.33	**$145,255**
8.00	Turbine	93.33	**$254,203**
10.00	Turbine	140.00	**$381,317**
12.00	Turbine	176.67	**$481,195**

1. AWWA Manual of Water Supply Practices M-1, 7th Edition

CAPITAL IMPROVEMENT PLAN

Section 6-1-930(A) of the South Carolina Development Impact Fee Act requires:

> *"If a governmental entity has not adopted a comprehensive plan, but has adopted a capital improvements plan which substantially complies with the requirements of Section 6-1-960(B), then it may impose a development impact fee."*

Section 6-1-960(B5) of the South Carolina Development Impact Fee Act requires:

> *"a description of all system improvements and their costs necessitated by and attributable to new development in the service area, based on the approved land use assumptions, to provide a level of service not to exceed the level of service currently existing in the community or service area, unless a different or higher level of service is required by law, court order, or safety consideration."*

Along with the impact fee analysis, this report represents the Town of Pageland's Capital Improvement Plan. The Plan includes a list of 10-year capital facility needs for Parks & Recreation facilities, Fire facilities, Police facilities, Water system improvements, and Wastewater system improvements. The 10-year facility needs list represents the additional capital improvements necessary to accommodate the projected growth at the levels of service established in the impact fee analysis. Further details about the levels of service and calculations can be found in their respective chapters.

To respond to demand for Parks and Recreation facilities, the Town of Pageland plans to incrementally construct new park land and improvements. As shown in Figure CIP1, the estimated cost is $2.4 million. The analysis indicates that 100 percent of the need for this facility is growth-related.

Figure CIP1: Parks & Recreation Capital Improvement Plan

Type of Infrastructure	Units	10-Year Need	Town Cost
Parks & Recreation Department			
Park Land	Acres	25.8	$774,117
Park Improvements	Units	14.9	$1,635,309
		Total Parks & Recreation Cost	$2,409,427
		Projected Impact Fee Revenue	$2,409,427
		Non-Impact Fee Funding	$0

To respond to demand for Police facilities, the Town of Pageland plans to incrementally construct new Police facilities. As shown in Figure CIP2, the estimated cost is $1.9 million. The analysis indicates that 100 percent of the need for this facility is growth-related.

Figure CIP1: Police Capital Improvement Plan

Type of Infrastructure	Units	10-Year Need	Town Cost
Police Department			
Police Facilities	Sq. Ft.	6,022	$1,980,067
		Total Parks & Recreation Cost	$1,980,067
		Projected Impact Fee Revenue	$1,980,067
		Non-Impact Fee Funding	$0

To respond to demand for Fire infrastructure, the Town of Pageland plans to incrementally construct and purchase new fire facilities and apparatus. As shown in Figure CIP3, the estimated cost is $6.7 million. The analysis indicates that 100 percent of the need for this facility is growth-related.

Figure CIP3: Fire Capital Improvement Plan

Type of Infrastructure	Units	10-Year Need	Town Cost
Fire Department			
Fire Facilities	Sq. Ft.	13,881	$3,831,281
Fire Apparatus	Units	5.1	$2,919,188
		Total Parks & Recreation Cost	$6,750,470
		Projected Impact Fee Revenue	$6,750,470
		Non-Impact Fee Funding	$0

To respond to demand for Water and Wastewater infrastructure, the Town of Pageland plans to construct a new water and sewer line in the next 10 years. As shown in Figure CIP3, the estimated cost is $6 million for these two projects.

Figure CIP4: Water and Wastewater Capital Improvement Plan

Type of Infrastructure	Cost
Water	
New 12 Inch Water Line	$2,000,000
Wastewater	
12 Inch Force Main	$4,000,000

IMPLEMENTATION AND ADMINISTRATION

Development impact fees should be periodically evaluated and updated to reflect recent data. TischlerBise recommends that the Town of Pageland adjust for inflation. If cost estimates or demand indicators change significantly, the Town should redo the fee calculations.

Credits and Reimbursements

A general requirement that is common to development impact fee methodologies is the evaluation of credits. A revenue credit may be necessary to avoid potential double payment situations arising from one-time development impact fees plus on-going payment of other revenues that may also fund growth-related capital improvements. The determination of revenue credits is dependent upon the development impact fee methodology used in the cost analysis and local government policies.

Policies and procedures related to site-specific credits should be addressed in the resolution or ordinance that establishes the development impact fees. Project-level improvements, required as part of the development approval process, are not eligible for credits against development impact fees. If a developer constructs a system improvement included in the fee calculations, it will be necessary to either reimburse the developer or provide a credit against the fees due from that particular development. The latter option is more difficult to administer because it creates unique fees for specific geographic areas.

Service Area

A development impact fee service area is a region in which a defined set of improvements provide benefit to an identifiable amount of new development. Within a service area, all new development of a type (single family, retail, etc.) is assessed at the same development impact fee rate. Land use assumptions and development impact fees are each defined in terms of this geography, so that capital facility demand, projects needed to meet that demand, and capital facility cost are all quantified in the same terms. Development impact fee revenue collected within a service area is required to be spent within that service area.

Implementation of a large number of small service areas is problematic. Administration is complicated and, because funds collected within the service area must be spent within that area multiple service areas may make it impossible to accumulate sufficient revenue to fund any projects within the time allowed.

As part of our analysis, the Parks & Recreation, Fire, Police, Water, and Wastewater Development Impact Fees were determined to have one townwide service area.

APPENDIX A: HOUSING AFFORDABILITY ANALYSIS

Section 6-1-930(2) of the South Carolina Development Impact Fee Act requires:

> *"Before imposing a development impact fee on residential units, a governmental entity shall prepare a report which estimates the effect of recovering capital costs through impact fees on the availability of affordable housing within the political jurisdiction of the governmental entity."*

In accordance with South Carolina Development Impact Fee Act, this chapter estimates the effects of imposing the maximum supportable development impact fees on the affordability of housing in the Town of Pageland. The analysis will examine the current household income and housing expenses that burden an average household in the Town. Next, the maximum supportable development impact fee will be included in the cost burden analysis to identify the effect the proposed development impact fees will have on affordable housing in the Town.

Affordable housing is defined in South Carolina Development Impact Fee Act as housing to families whose incomes do not exceed 80 percent of the median income for the service area or areas within the jurisdiction of the governmental entity. The Act does not mention a preferred methodology to examine the household's whose income does not exceed 80 percent of the median income. Therefore, the analysis uses the US Housing and Urban Development's (HUD) criteria that housing should be 30 percent or less of a household's income. The cost of housing is "moderately burdensome" if its cost burden is over 30 percent and "severely burdensome" if the ratio is over 50 percent.

Maximum Supportable Development Impact Fees

The development impact fees found in Figure 1 represent the highest amount supportable for each type of development, which represents new growth's fair share of the cost for capital facilities. The Town may adopt fees that are less than the amounts shown. However, a reduction in development impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in levels of service. The housing affordability analysis will assume a conservative condition for assessing the effect of the development impact fee on affordable housing in the Town of Pageland (i.e., the maximum supportable development impact fee amount). If the Town Council were to choose a lower development impact fee amount, the results presented in this report would improve.

Figure 1. Maximum Supportable Development Impact Fees

Fees Per Unit				
Development Type	Fire	Parks	Police	Total
Single Family	$4,459	$2,550	$1,308	**$8,317**
Multi-Family	$2,585	$1,478	$758	**$4,822**

Fees Per 1,000 Square Feet				
Development Type	Fire	Parks	Police	Total
Industrial	$974	$0	$286	**$1,259**
Commercial	$7,058	$0	$2,070	**$9,128**
Office & Other Service	$3,132	$0	$919	**$4,051**
Institutional	$2,054	$0	$602	**$2,656**

Meter Size and Type		Water	Wastewater	Total
0.75	Displacement	**$265**	**$2,724**	**$2,988**
1.00	Displacement	**$442**	**$4,549**	**$4,990**
1.50	Displacement	**$881**	**$9,070**	**$9,951**
2.00	Displacement	**$1,410**	**$14,517**	**$15,928**
3.00	Singlejet	**$2,823**	**$29,062**	**$31,885**
3.00	Compound	**$2,823**	**$29,062**	**$31,885**
3.00	Turbine	**$3,088**	**$31,786**	**$34,874**
4.00	Singlejet	**$4,411**	**$45,404**	**$49,815**
4.00	Compound	**$4,411**	**$45,404**	**$49,815**
4.00	Turbine	**$5,557**	**$57,198**	**$62,755**
6.00	Singlejet	**$8,820**	**$90,781**	**$99,600**
6.00	Compound	**$8,820**	**$90,781**	**$99,600**
6.00	Turbine	**$11,466**	**$118,018**	**$129,483**
8.00	Compound	**$14,112**	**$145,255**	**$159,367**
8.00	Turbine	**$24,696**	**$254,203**	**$278,899**
10.00	Turbine	**$37,046**	**$381,317**	**$418,363**
12.00	Turbine	**$46,749**	**$481,195**	**$527,945**

1. AWWA Manual of Water Supply Practices M-1, 7th Edition

Housing Stock

Listed in Figure 2, there are a total of 998 housing units in the Town of Pageland. Of the total, 87 percent are occupied by permanent residents. Additionally, there are 460 owner-occupied households and 413 renter-occupied households. The majority (90 percent) of housing in Pageland is single family units.

Figure 2. Housing Stock Characteristics

Units in Structure	Owner-Occupied		Renter-Occupied		Renter & Owner Combined				
	Persons	Hsehlds	Persons	Hsehlds	Persons	Hsehlds	Hsg Units	PPHH	PPHU
Single family [1]	1,538	455	1,012	334	2,550	789	903	3.23	2.82
2 to 4	0	0	177	57	177	57	68	3.11	2.60
5 or more	12	5	44	22	56	27	27	2.07	2.07
Total	1,550	460	1,233	413	2,783	873	998	3.19	2.79

Vacant HU	125
Occupancy Rate	87%

Summary by Type of Housing	Totals						
	Persons	Hsehlds	Hsg Units	PPHH	PPHU	Hhld Mix	Hsg Mix
Single Family [1]	2,550	789	903	3.23	2.82	90%	90%
Multifamily [2]	233	84	95	2.77	2.45	10%	10%
Total	2,783	873	998	3.19	2.79	100%	100%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates

Household Income

The purchasing power of residents to secure housing is represented by personal income. Personal income includes all wages, tips, and bonuses from employment, as well as retirement income earned from a pension plan or retirement account. In the analysis, household income represents all residents living in the housing unit, no matter relationship. From the US Census Bureau American Community Survey, in 2020 the median annual household income for was $36,033. By using the US Bureau of Labor Statistics' CPI Calculator, the current household income is adjusted to current dollars. The annual income for a household making 80 percent of the area's median is $2,774.

Figure 3. Median Household Income

Median Annual Household Income (2020)	Median Annual Household Income (2022)	Household Income Factor	80% of Median Annual Income	Monthly Income
$36,033	$41,612	80%	$33,290	**$2,774**

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates; U.S. Bureau of Labor Statistics CPI Calculator

Note: American Community Surveys (ACS) are conducted in June. Thus, household income is calculated to current dollars by inputting ACS data into the CPI calculator for June, 2020.

Cost of Homeownership

The analysis uses 5 categories to calculate the baseline cost of homeownership: mortgage payment; property tax; water, sewer, and electric utilities; telephone, cable, and internet utilities; and homeowners insurance. The following section details the costs included.

Purchase Price

The median home value is used to estimate the purchase price of a home. The American Community Survey estimates that the median value of a home in the Town in 2020 was $103,300 (US Census Bureau,

2015-2020 American Community Survey 5-Year Estimates). With the US Bureau of Labor Statistics' CPI Calculator, the current home value is estimated to be $119,294.

Mortgage Payment

A conventional, fixed-rate 30-year mortgage is assumed to estimate monthly costs of principal and interest on a home loan. The down payment for a loan is assumed to be 20 percent of the purchase price ($119,294 x 20% = $23,859). The loan amount for the mortgage is determined by subtracting the down payment from the purchase price ($119,294 - $23,859 = $95,435). An interest rate of 6 percent is assumed for the home purchase. The monthly mortgage payment is $572.

Property Tax

It is assumed that housing affordability is based on permanent residency, so the assessment ratio in this analysis is 4 percent. As a result, the assessment value of an average home in the Town is $4,771 ($119,294 x 4% = $4,771).

Based on current property tax millage rates for the Town of Pageland, Chester County, and the School District, the millage rate for a home in the Town is 0.44217. This results in a gross annual property tax bill of $2,110.

Water, Sewer, and Electric Utilities

Based on a South Carolina Rural Infrastructure Authority Office of Local Government 2022 survey, households in Pageland average $33.55 per month in water usage and $47.20 per month in sewer usage. Additionally, using Duke Energy rates and assumed usage of 100 KWh a month, the average residential electricity bill in Pageland is $133.28.

In total, the utilities average $214 per month.

Telephone, Cable, and Internet Utilities

Sandhill Telephone Cooperative is a provider of telephone, cable, and internet in the Town of Pageland. From their website, the three services costs $97 per month.

Homeowner's Insurance

Homeowner's insurance provides protection for the home and is generally required when a home has a mortgage. The average cost for homeowner's insurance in Pageland is approximately 10 percent of the mortgage payment, estimated at $57 per month.

Monthly Payment

By compiling the month obligations, it is estimated that the monthly cost for homeownership is $1,116. At the end of this chapter the monthly costs are listed in Figure 6.

Cost of Renting

The cost of renting a home in Pageland is estimated with data provided by the US Census Bureau. In 2020, the median gross rent (including all utilities and rental insurance) is estimated to be $745. With the US Bureau of Labor Statistics' CPI Calculator, the current cost of renting is estimated to be $860.

Cost Burden Analysis

The cost burden for affordable housing is measured as the ratio between monthly payments for housing (including property tax, fee, utilities, and insurance) and monthly gross household income. An analysis was conducted for residents that purchase a home and residents that rent a home. A cost burden ratio of 30 percent is used as the threshold to determine housing affordability in the Town.

Scenario 1: Baseline Conditions

Figure 4 summarizes the cost burden analysis for residents purchasing and renting without the proposed maximum supportable development impact fee included. Based on the results, both owner-occupied housing costs and renter-occupied housing costs are above the limit considered for affordability for households whose income is 80 percent of the Town's median income.

Figure 4. Scenario 1: Cost Burden Analysis without Maximum Supportable Development Impact Fee

Condition	Monthly Income	Monthly Cost	Cost Burden
Owner-Occupied	$2,774	$1,116	**40.2%**
Renter-Occupied	$2,774	$860	**31.0%**

Scenario 2: Baseline Condition + Proposed Development Impact Fee

In the second scenario, the maximum supportable development impact fee is included into the cost burden analysis to highlight the effects the fee has on housing affordability. Indicated in Figure 2, owner-occupied housing units are predominately single family units and renter-occupied housings is mixed between the three categories (single family, 2 to 4 units, and 5 or more). Since the development impact fee is calculated by housing type, the owner-occupied housing unit will be assessed the fee for single family units ($8,317 + the 2,988 water and wastewater impact fee for a 3/4" meter) and the renter-occupied housing unit will be assessed the fee for multifamily units ($4,822 + 2,988 water and wastewater impact fee for a 3/4" meter).

The analysis takes a conservative approach and assumes the purchase price of the median home is raised by the development impact fee. This ultimately increases the household's mortgage payment and property tax, see Figure 6. For renter-occupied housing units, the analysis assumes that the development impact fee will be recouped by the landlord through an increase in monthly rent.

Listed in Figure 5, the monthly costs for owners and renters only marginally increases with the maximum supportable development impact fee. The impact fee increases the cost burden by 2.6 percent for owner-occupied units and .8 percentage points for renter-occupied units.

Figure 5. Scenario 2: Cost Burden Analysis with Proposed Development Impact Fee

Condition	Monthly Income	Monthly Cost	Cost Burden
Owener-Occupied	$2,774	$1,187	**42.8%**
Renter-Occupied	$2,774	$882	**31.8%**

Conclusion

The South Carolina Development Impact Fee Act requires preparation of a report that estimates the effect of imposing development impact fees on affordability of housing in the jurisdiction. To calculate the effect, a household that earns 80 percent of the median income should have a cost burden ratio of 30 percent or less for housing. **This analysis has concluded that the maximum supportable development impact fee results in a marginal increase to the monthly cost for residents. With the increase, the existing cost burden for home ownership and renting is unchanged.** As noted, this analysis takes a conservative approach and assumes that the development impact fees are absorbed entirely by the home occupants. If the Town were to choose a lower development impact fee amount, the results presented in this report would improve.

Figure 6. Cost of Homeownership

	Monthly Payment Calculation	
	Scenario 1	**Scenario 2**
	Baseline Condition Home	**Baseline Condition + Impact Fee**
Purchase Price	$119,294	$130,599
Down Payment (20%)	$23,859	$26,120
Loan Amount	$95,435	$104,479
Loan Length (Years)	30	30
Loan Length (Months)	360	360
Yearly Interest Rate	6.00%	6.00%
Monthly Interest Rate	0.50%	0.50%
Monthly Payment	$572	$626
Property Tax - County (per month)	$51	$56
Property Tax - City (per month)	$39	$43
Property Tax - School District (per month)	$86	$94
Water, Sewer & Electric Utilities	$214	$214
Telephone, Cable & Internet Utilities	$97	$97
Homeowners Insurance	$57	$57
Monthly Cost	**$1,116**	**$1,187**

APPENDIX B: LAND USE ASSUMPTIONS

Section 6-1-960(B)(3) of the South Carolina Development Impact Fee Act requires:

> *"a description of the land use assumptions."*

Summary of Growth Indicators

Key land use assumptions for the Pageland Impact Fee Study are population, housing units, employment, and nonresidential floor area. Based on discussions with staff, TischlerBise projects Pageland to add approximately 80 single family housing units and 25 multifamily housing units per year. For population, TischlerBise applies person per housing unit factors derived from American Community Survey 2016-2020 5-Year Estimates to housing unit projections. For nonresidential development, TischlerBise uses job estimates from Esri's Business Analyst and uses projections based on the increase in Pageland's housing units. These employment projections are converted to floor area using employment density factors published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Complete development projections are summarized in Figure B9. These projections will be used to estimate impact fee revenue and to indicate the anticipated need for growth-related infrastructure. However, impact fee methodologies are designed to reduce sensitivity to development projections in the determination of the proportionate share fee amounts. If actual development is slower than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development occurs faster than anticipated, fee revenue will increase, but Pageland will need to accelerate infrastructure improvements to keep pace with the actual rate of development. Over the next 10 years, development projections indicate an average increase of approximately 105 housing units per year and approximately 63,000 square feet of nonresidential development per year.

Residential Development

This section details current estimates and future projections of residential development including population and housing units.

Housing Unit Size

According to the U.S. Census Bureau, a household is a housing unit occupied by year-round residents. Impact fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPH is used in the fee calculations, the impact fee methodology assumes a higher percentage of housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends Pageland impose impact fees for residential development according to the number of persons per housing unit.

Occupancy calculations require data on population and the types of units by structure. The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau

switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses, which share a common sidewall, but are constructed on an individual parcel of land). For impact fees in Pageland, detached, stick-built units and attached units are included in the "Single-Family" category. The "Multi-Family" category includes duplexes, structures with two or more units on an individual parcel of land, mobile homes, boats, RVs, and vans.

Figure B1 below shows the occupancy estimates for Pageland. Single-family units average 2.76 persons per housing unit and multi-family units average 1.60 persons per housing unit.

Figure B1: Persons per Housing Unit

Housing Type	Persons	Households	Persons per Household	Housing Units	Persons per Housing Unit	Housing Mix	Vacancy Rate
Single-Family Units[1]	2,068	723	2.86	750	**2.76**	75.2%	3.60%
Multi-Family Units[2]	397	150	2.65	248	**1.60**	24.8%	39.50%
Total	2,465	873	2.82	998	**2.47**	100.0%	12.50%

Source: U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates

1. Includes detached, attached (i.e. townhouses).
2. Includes dwellings in structures with two or more units, and mobile home units.

Residential Estimates

Pageland's 2022 resident population is estimated at 2,456 persons and housing unit total is estimated at 1,095 based off U.S. Census data.

Residential Projections

Population and housing unit projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than is projected, the demand for infrastructure will also decrease.

Based on discussions with Pageland staff, in the next 10 years residential development is estimated at approximately 80 single family units per year and 25 multifamily units per year. Based on these projections, Pageland can expect 1,050 additional housing units over the next 10 years. For this study, the analysis assumes the occupancy factors shown in Figure B1 will remain constant. Converting projected housing units to population, based on the PPHU factors in Figure B1, results in a 10-year population increase of 2,608 persons.

Figure B2: Residential Projections

Pageland town, South Carolina	2022	2023	2024	2025	2026	2027	2032	10-Year
	Base Year	1	2	3	4	5	10	Increase
Population								
Single Family	2,060	2,281	2,502	2,723	2,944	3,164	4,268	**2,208**
Multi-Family	396	436	476	516	556	596	796	**400**
Total	**2,456**	**2,717**	**2,978**	**3,238**	**3,499**	**3,760**	**5,064**	**2,608**
Housing Units								
Single Family	823	903	983	1,063	1,143	1,223	1,623	**800**
Multi-Family	272	297	322	347	372	397	522	**250**
Total	**1,095**	**1,200**	**1,305**	**1,410**	**1,515**	**1,620**	**2,145**	**1,050**

Nonresidential Development

This section details current estimates and future projections of nonresidential development including jobs and nonresidential floor area.

Nonresidential Demand Units

In Figure B3, gray shading indicates the nonresidential development prototypes used by TischlerBise to derive employment densities and average weekday vehicle trip ends. For nonresidential development, TischlerBise uses data published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). The prototype for industrial development is Industrial Park (ITE 130) which generates 3.37 average weekday vehicle trip ends per 1,000 square feet of floor area and has 864 square feet of floor area per employee. Institutional development uses Hospital (ITE 610) and generates 10.77 average weekday vehicle trip ends per 1,000 square feet of floor area and has 350 square feet of floor area per employee. For office & other services development, the proxy is General Office (ITE 710); it generates 10.84 average weekday vehicle trip ends per 1,000 square feet of floor area and has 307 square feet of floor area per employee. The prototype for commercial development is Shopping Center (ITE 820) which generates 37.01 average weekday vehicle trips per 1,000 square feet of floor area and has 471 square feet of floor area per employee.

Figure B3: Nonresidential Demand Units

ITE Code	Land Use Group	Demand Unit	Avg Wkdy Trip Ends Per Demand Unit[1]	Avg Wkdy Trip Ends Per Employee[1]	Employees Per Demand Unit	Square Feet Per Employee
110	Light Industrial	1,000 Sq Ft	4.87	3.10	1.57	637
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
140	Manufacturing	1,000 Sq Ft	4.75	2.51	1.89	528
150	Warehousing	1,000 Sq Ft	1.71	5.05	0.34	2,953
254	Assisted Living	bed	2.60	4.24	0.61	na
310	Hotel	room	7.99	14.34	0.56	na
565	Day Care	student	4.09	21.38	0.19	na
610	Hospital	1,000 Sq Ft	10.77	3.77	2.86	350
620	Nursing Home	bed	3.06	3.31	0.92	na
710	General Office (avg size)	1,000 Sq Ft	10.84	3.33	3.26	307
720	Medical-Dental Office	1,000 Sq Ft	36.00	8.71	4.13	242
730	Government Office	1,000 Sq Ft	22.59	7.45	3.03	330
750	Office Park	1,000 Sq Ft	11.07	3.54	3.13	320
820	Shopping Center (avg size)	1,000 Sq Ft	37.01	17.42	2.12	471

1. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Nonresidential Estimates

TischlerBise uses the term jobs to refer to employment by place of work. Shown below in Figure B4, Esri Business Analyst estimates 2022 employment equal to 1,441 jobs. TischlerBise estimates 2022 nonresidential floor area equals 656,676 square feet.

Figure B4: Nonresidential Estimates

Nonresidential Category	2022 Jobs[1]	Percent of Total Jobs	Square Feet per Job[2]	2022 Estimated Floor Area[3]	Jobs per 1,000 Sq. Ft.[2]
Industrial[4]	178	12%	864	153,703	1.16
Commercial[5]	588	41%	471	276,762	2.12
Office & Other Service[6]	235	16%	307	72,191	3.26
Institutional[7]	440	31%	350	154,020	2.86
Total	1,441	100%		656,676	2.19

1. Esri Business Analyst Online, Business Summary, 2022.
2. Trip Generation, Institute of Transportation Engineers, 11th Edition (2022).
3. TischlerBise calculation (2022 jobs X square feet per job).
4. Major sectors are Manufacturing; Transportation & Wharehousing.
5. Major sectors are Retail Trade; Accommodation & Food Services.
6. Major sectors are Finance & Insurance; Other Services.
7. Major sectors are Health Care, Social Assistance; Educational Services.

Nonresidential Projections

This analysis projects jobs based off the projected increase in housing units. Shown below in Figure B5, this results in a 10-year increase of 1,382 jobs.

To project nonresidential floor area, TischlerBise divides the projected employment by the square feet per employee factors shown in Figure B3. Over the next 10 years, Pageland is projected to gain 1,382 jobs and approximately 630,000 square feet of nonresidential floor area.

Figure B5: Nonresidential Projections

Pageland, SC	2022 Base Year	2023 1	2024 2	2025 3	2026 4	2027 5	2032 10	10-Year Increase
Housing Units	1,095	1,200	1,305	1,410	1,515	1,620	2,145	**1,050**
Employment								
Industrial	178	195	212	229	246	263	349	**171**
Commercial	588	644	701	757	814	870	1,152	**564**
Office & Other Servi	235	258	280	303	325	348	460	**225**
Institutional	440	482	524	567	609	651	862	**422**
Total	**1,441**	**1,579**	**1,717**	**1,856**	**1,994**	**2,132**	**2,823**	**1,382**
Nonresidential Sq Ft (x1,000)								
Industrial	154	168	183	198	213	227	301	**147**
Commercial	277	303	330	356	383	409	542	**265**
Office & Other Servi	72	79	86	93	100	107	141	**69**
Institutional	154	169	184	198	213	228	302	**148**
Total	**657**	**720**	**783**	**846**	**909**	**972**	**1,286**	**630**

Average Weekday Vehicle Trips

Pageland will use average weekday vehicle trips (AWVT) for nonresidential Police and Fire Impact Fees. Components used to determine average weekday vehicle trips include trip generation rates and adjustments for pass-by trips.

Nonresidential Demand Units

In Figure B6, gray shading indicates the nonresidential development prototypes used by TischlerBise to derive average weekday vehicle trip ends. For nonresidential vehicle trips, TischlerBise uses data published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). The prototype for industrial development is Industrial Park (ITE 130) which generates 3.37 average weekday vehicle trip ends per 1,000 square feet of floor area. Institutional development uses Hospital (ITE 610) and generates 10.77 average weekday vehicle trip ends per 1,000 square feet of floor area. For office & other services development, the proxy is General Office (ITE 710); it generates 10.84 average weekday vehicle trip ends per 1,000 square feet of floor area. The prototype for commercial development is Shopping Center (ITE 820) which generates 37.01 average weekday vehicle trips per 1,000 square feet of floor area.

Figure B6: Nonresidential Demand Units

ITE Code	Land Use Group	Demand Unit	Avg Wkdy Trip Ends Per Demand Unit[1]	Avg Wkdy Trip Ends Per Employee[1]	Employees Per Demand Unit	Square Feet Per Employee
110	Light Industrial	1,000 Sq Ft	4.87	3.10	1.57	637
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
140	Manufacturing	1,000 Sq Ft	4.75	2.51	1.89	528
150	Warehousing	1,000 Sq Ft	1.71	5.05	0.34	2,953
254	Assisted Living	bed	2.60	4.24	0.61	na
310	Hotel	room	7.99	14.34	0.56	na
565	Day Care	student	4.09	21.38	0.19	na
610	Hospital	1,000 Sq Ft	10.77	3.77	2.86	350
620	Nursing Home	bed	3.06	3.31	0.92	na
710	General Office (avg size)	1,000 Sq Ft	10.84	3.33	3.26	307
720	Medical-Dental Office	1,000 Sq Ft	36.00	8.71	4.13	242
730	Government Office	1,000 Sq Ft	22.59	7.45	3.03	330
750	Office Park	1,000 Sq Ft	11.07	3.54	3.13	320
820	Shopping Center (avg size)	1,000 Sq Ft	37.01	17.42	2.12	471

1. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Trip Rate Adjustments

To calculate impact fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further below, the impact fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

Adjustment for Pass-By Trips

For commercial and institutional development, the trip adjustment factor is less than 50 percent since these types of development attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For an average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to another primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Since attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent – approximately 33 percent of trip ends.

Average Weekday Vehicle Trips

Shown in Figure B7 are the demand indicators for nonresidential land uses related to average weekday vehicle trips (AWVT) generated per 1,000 square feet of floor area. To calculate average weekday vehicle trips, multiply average weekday vehicle trip ends by the trip rate adjustment factor. For example, the industrial demand unit of 1.69 average weekday vehicle trips per 1,000 square feet of floor area is the sum of 3.37 average weekday vehicle trip ends per 1,000 square feet of floor area multiplied by a trip rate adjustment factor of 50 percent. Figure B8 includes nonresidential vehicle trips in the 2022 base year.

Figure B7: Average Weekday Vehicle Trips (AWVT) by Development Type

Development Type	Avg Wkdy Veh Trip Ends[1]	Trip Rate Adjustment	Average Weekday
Industrial	3.37	50%	1.69
Commercial	37.01	33%	12.21
Office & Other Service	10.84	50%	5.42
Institutional	10.77	33%	3.55

1. See Land Use Assumptions

Figure B8: Nonresidential Vehicle Trips

Development Type	Dev Unit	ITE Code	Avg Wkday VTE	Trip Adjustment	2022 Dev Units	2022 Veh Trips
Industrial	KSF	130	3.37	50%	154	259
Commercial	KSF	820	37.01	33%	277	3,380
Office & Other Services	KSF	710	10.84	50%	72	391
Institutional	KSF	610	10.77	33%	154	547

Development Projections

Provided below are summaries of development projections used in the Impact Fee Study. Development projections are used to illustrate a possible future pace of demand for infrastructure and cash flows resulting from revenues and expenditures associated with those demands.

Figure B9: Development Projections

Pageland town, South Carolina	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10-Year
	Base Year	1	2	3	4	5	6	7	8	9	10	Increase
Population	**2,456**	**2,717**	**2,978**	**3,238**	**3,499**	**3,760**	**4,021**	**4,282**	**4,542**	**4,803**	**5,064**	**2,608**
Housing Units												
Single Family	823	903	983	1,063	1,143	1,223	1,303	1,383	1,463	1,543	1,623	**800**
Multi-family	272	297	322	347	372	397	422	447	472	497	522	**250**
Total Housing Units	**1,095**	**1,200**	**1,305**	**1,410**	**1,515**	**1,620**	**1,725**	**1,830**	**1,935**	**2,040**	**2,145**	**1,050**
Employment												
Industrial	178	195	212	229	246	263	280	297	315	332	349	**171**
Commercial	588	644	701	757	814	870	926	983	1,039	1,095	1,152	**564**
Office & Other Service	235	258	280	303	325	348	370	393	415	438	460	**225**
Institutional	440	482	524	567	609	651	693	735	778	820	862	**422**
Total Employment	**1,441**	**1,579**	**1,717**	**1,856**	**1,994**	**2,132**	**2,270**	**2,408**	**2,546**	**2,685**	**2,823**	**1,382**
Nonres. Floor Area (x1,000)												
Industrial	154	168	183	198	213	227	242	257	272	286	301	**147**
Commercial	277	303	330	356	383	409	436	463	489	516	542	**265**
Office & Other Service	72	79	86	93	100	107	114	121	128	134	141	**69**
Institutional	154	169	184	198	213	228	243	257	272	287	302	**148**
Total Nonres. Floor Area	**657**	**720**	**783**	**846**	**909**	**972**	**1,034**	**1,097**	**1,160**	**1,223**	**1,286**	**630**

Provided below are summaries of nonresidential vehicle trip projections used in the Impact Fee Study.

Figure B10: Nonresidential Vehicle Trip Projections

Pageland, SC	Base	1	2	3	4	5	6	7	8	9	10	10-Year
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Increase
Industrial KSF	154	168	183	198	213	227	242	257	272	286	301	147
Commercial KSF	277	303	330	356	383	409	436	463	489	516	542	265
Office & Other Services KSF	72	79	86	93	100	107	114	121	128	134	141	69
Institutional KSF	154	169	184	198	213	228	243	257	272	287	302	148
Industrial Trips	259	284	309	333	358	383	408	433	458	483	507	248
Commercial Trips	3,380	3,704	4,028	4,353	4,677	5,001	5,325	5,649	5,973	6,297	6,621	3,241
Office & Other Services Trips	391	429	466	504	541	579	616	654	691	729	766	375
Institutional Trips	547	600	652	705	757	810	862	915	967	1,020	1,072	525
Nonresidential Trips	4,578	5,017	5,456	5,895	6,334	6,773	7,212	7,651	8,090	8,529	8,968	4,390

APPENDIX C: LAND USE DEFINITIONS

Residential Development

As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. The Town of Pageland will collect development fees from all new residential units. One-time development fees are determined by site capacity (i.e., number of residential units).

Single Family:

1. Single family detached is a one-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
2. Single family attached (townhouse) is a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.

Multifamily:

1. 2+ units (duplexes and apartments) are units in structures containing two or more housing units, further categorized as units in structures with "2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments."
2. Boat, RV, Van, Etc. includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.
3. Mobile home includes both occupied and vacant mobile homes, to which no permanent rooms have been added, are counted in this category. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

Nonresidential Development

The proposed general nonresidential development categories (defined below) can be used for all new construction within the Town of Pageland. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates and employment densities (i.e., jobs per thousand square feet of floor area).

Retail: Establishments primarily selling merchandise, eating/drinking places, and entertainment uses. By way of example, *Retail* includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, and movie theaters, hotels, and motels.

Office/Service: Establishments providing management, administrative, professional, or business services; By way of example, *Office/Service* includes banks, business offices, headquarter buildings, business parks, and research and development centers.

Industrial: Establishments primarily engaged in the production, transportation, or storage of goods. By way of example, *Industrial* includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.

Institutional: Establishments providing management, administrative, professional, or business services; By way of example, *Institutional* includes assisted living facilities, nursing homes, hospitals, medical offices, veterinarian clinics, schools, universities, churches, daycare facilities, government buildings, and prisons.