

Stantec

Southern Connector Toll Rate Study

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Prepared for:

Connector 2000 Association, Inc.

Prepared by:

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1.0 INTRODUCTION

Stantec Consulting Services Inc. ("Stantec") was retained by the Board of Directors of the Connector 2000 Association, Inc. (the "Association") to complete this detailed 2023 toll rate study with traffic and revenue forecasts for the Southern Connector. The Association, its advisors and the South Carolina Department of Transportation (SCDOT) intend to use this study to plan the future toll increases needed to cover its bond obligations and its obligations to SCDOT.

This report summarizes the analysis of the traffic and revenue potential of the toll road. To determine the near-term forecast, recent trends in actual traffic and revenue on the Southern Connector were evaluated. Field data, including traffic count data at the non-tolled ramps and origin-destination data, were collected and levels of congestion on competing roads were identified. In addition, Stantec retained the services of CBRE, local real estate experts, to evaluate the potential for future land use development projects in the area. These data are discussed herein and the CBRE report is included in the Appendix. In addition, overall population and employment growth as predicted by Greenville Pickens Area Transportation Study (GPATS), the Metropolitan Planning Organization for the Greenville region, was used to inform estimates of the long-term traffic growth in the area.

1.1 DESCRIPTION

The 16-mile Southern Connector is located in Greenville County, South Carolina, south of the City of Greenville's downtown. It was built to interstate standards and is designated as I-185. As shown in Figure 1.1, the Southern Connecter, together with the toll-free sections of I-185 and I-385, form a circumferential interstate route leading into the City of Greenville. Within the City, I-185 connects to Church Street (US 29) on the west side and I-385 connects to North Street (SC 183) on the east side.

The Southern Connector extends south from toll-free I-185 at its interchange with I-85 and east to its terminus at I-385 near the city of Simpsonville. North of the Southern Connector's western terminus, toll-free I-185 provides access to the Greenville Memorial Hospital Health Campus and



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downtown Greenville. I-85 provides access to Atlanta to the southwest and to Charlotte to the northeast. I-385 provides access to the City of Greenville to the north and to the fast-growing suburbs of Simpsonville and Fountain Inn to the south. Further south, I-385 connects to I-26 which provides access to Columbia and Charleston.

The Southern Connector has four intermediate interchange locations. From the west, at the interchange of I-185 and I-85, the Southern Connector proceeds southeast to an interchange with SC 153 (Exit 12), continues east to interchanges with SC 20 (Exit 10), with US 25 south of the South Carolina Technology and Aviation Center (formerly known as the Donaldson Center) and the Augusta Grove Business Park (formerly known as the Matrix Business Park) (Exit 7), and with Fork Shoals Road (Exit 4) before turning northeast and terminating at an interchange (Exit 1) with I-385 at its intersection with US 276 and Standing Springs Road, between the cities of Mauldin and Simpsonville. Posted speeds on the Southern Connector are 65 mph, except for the section between the two mainline toll plazas, where posted speeds are 70 mph. Speed limits through the electronic toll collection lanes are 45 mph, and speeds limits are 30 mph at the toll plaza approaches.



Figure 1.1: Southern Connector Location Map

1.2 FINANCIAL HISTORY

In 1998, bonds were issued to finance substantially all of the costs of the Southern Connector. The Connector 2000 Association operates the Southern Connector as a toll facility pursuant to a License Agreement with the South Carolina Department of Transportation (SCDOT). It opened to toll-paying traffic on March 14, 2001.

Land use in the area surrounding the Southern Connector was slow to develop at that time and, consequently, actual toll revenues were lower than those forecasted. Revenues were not sufficient to cover the 1998 Bond obligations when due, nor the obligations to SCDOT and, as a result, the Association filed for bankruptcy protection on June 24, 2010. In 2011, the Association completed the actions necessary to implement its Debt Adjustment Plan, including the exchange of certain 2011 Pro-rata Term Bonds for By-Lot Term Bonds and payment of the

remaining outstanding cost of issuance of the 2011 Bonds. As such, the Bankruptcy Court issued a Final Decree closing the Association's Chapter 9 Bankruptcy case on August 27, 2012.¹

As part of the governing First Amended and Restated Master Indenture of Trust, dated April 1, 2011, (the "Indenture"), the Association is required to deliver a written Toll Rate Study to the Trustee prior to any toll increase, but at a frequency of no less than every five years. The study would analyze the past and projected future traffic, growth, employment and other relevant factors to determine the optimum toll rates for the Southern Connector that would maximize revenue over a projected period of not less than five years. This study is the third of these toll rate studies.

1.3 TOLL COLLECTION AND TOLL RATES

As shown on the map, tolls are collected at two across-the-road mainline plazas and two ramp locations. The West Toll Plaza is located between SC 153 and SC 20 and the East Toll Plaza is located between Fork Shoals Road and I-385. Tolls are also collected on the ramps to and from the east at SC 20 and to and from the west at Fork Shoals Road.

Toll payments on the Southern Connector fall into two categories: cash and electronic toll collection (ETC). Cash payments at the mainline plazas can be made at attended lanes via a cash or credit card/debit card transaction. Cash payment is also possible at lanes equipped with an automatic coin machine (ACM). ETC payments refer to payment via a transponder that allows customers to travel through dedicated lanes without stopping and have their tolls automatically deducted from a prepaid account. The electronic toll collection transponder in South Carolina is Palmetto Pass, known as PalPass, and it is the only transponder that can be used for payment on the Southern Connector. The Southern Connector is not currently interoperable with transponders from nearby states such as North Carolina, Georgia and Florida. While it is a long-term goal for the Southern Connector, no timeline for implementation is in place. According to the Association, ETC transactions cost the least to collect while credit card transactions in the lanes cost the most to collect.

Each mainline plaza consists of four toll collection lanes. The two left lanes are unattended; the left-most lane is an express PalPass lane and the second-from-left lane is for exact change payment (coin only) for 2-axle vehicles only. The two right lanes are attended for cash payment, change, credit card payments and receipts. PalPass is accepted for payment in each lane. The speed limits are 45 mph through the express PalPass lane and 30 mph on the approach lanes.

The ramp plazas each consist of one unattended lane requiring either exact change payment (coin only) or PalPass payment.

The original toll rates for the entire 50-year term of the License Agreement, which permits the Association to operate the Southern Connector, were set by the SCDOT pursuant to Section 57-

¹ Connector 2000 Association, Inc., Annual Report. June 30, 2014.



5-1340 of the South Carolina Code of Laws, 1976, as amended under Section 6.4 of the License Agreement. The 2001 rates were adjusted and implemented by the Association on January 3, 2005 and then again on November 1, 2009 pursuant to a Toll Rate Study that was required by the Association. As part of the bankruptcy filing, the toll rates were adjusted and were put into effect on January 2, 2012 and on January 2, 2016. A full toll increase for all payment types at both ramps and plazas was also implemented in January 2020. In January 2021, January 2022, and January 2023, PalPass tolls at the mainline were increased; the January 2023 rates are still in effect as of the date of this report. The toll rates effective in 2001, 2005, 2009, 2012, 2016, and 2020 to 2023 are shown in Table 1.1 for 2-axle vehicles and in Table 1.2 for multi-axle vehicles. Note that the ramp charge is the same regardless of vehicle class or payment type.

Effective Date	Mainline		Ran	np ⁽¹⁾	
	Cash	PP	Cash	PP	
3/14/2001	\$0.75	\$0.60	\$0.50	\$0.50	
1/3/2005	\$1.00	\$0.75	\$0.50	\$0.50	
11/1/2009	\$1.25	\$1.00	\$0.65	\$0.65	
1/2/2012	\$1.50	\$1.35	\$0.75	\$0.75	
1/2/2016	\$1.75	\$1.50	\$1.00	\$1.00	
1/1/2020	\$2.00	\$1.75	\$1.25	\$1.25	
1/1/2021 (2)	\$2.00	\$1.80	\$1.25	\$1.25	
1/1/2022 (2)	\$2.00	\$1.85	\$1.25	\$1.25	
1/1/2023 (2)	\$2.00	\$1.90	\$1.25	\$1.25	

Table 1.1: Historical Toll Rates, 2-Axle Vehicles

1) Cash and PalPass tolls are equal, and rates are the same for all vehicle classes at ramp plazas.

2) Only PalPass toll rates increased in 2021, 2022, and 2023.

Table 1.2: Historical Mainline Plaza Toll Rates, Multi-Axle Vehicles

Effective Date	3 a	3 axle		4 axle		5 axle		6 axle	
	Cash	PP	Cash	PP	Cash	PP	Cash	PP	
3/14/2001	\$1.50	\$1.20	\$2.00	\$1.60	\$2.50	\$2.00	\$3.00	\$2.40	
1/3/2005	\$1.80	\$1.35	\$2.40	\$1.80	\$3.00	\$2.25	\$3.60	\$2.70	
11/1/2009	\$2.55	\$2.10	\$3.40	\$2.80	\$4.25	\$3.50	\$5.10	\$4.20	
1/2/2012	\$3.00	\$2.55	\$4.00	\$3.40	\$5.00	\$4.25	\$6.00	\$5.10	
1/2/2016	\$3.60	\$3.00	\$4.80	\$4.00	\$6.00	\$5.00	\$7.20	\$6.00	
1/1/2020	\$4.20	\$3.60	\$5.60	\$4.80	\$7.00	\$6.00	\$8.40	\$7.20	
1/1/2021 (1)	\$4.20	\$3.72	\$5.60	\$4.96	\$7.00	\$6.20	\$8.40	\$7.44	
1/1/2022 (1)	\$4.20	\$3.84	\$5.60	\$5.12	\$7.00	\$6.40	\$8.40	\$7.68	
1/1/2023 (1)	\$4.20	\$3.96	\$5.60	\$5.28	\$7.00	\$6.60	\$8.40	\$7.92	

1) Only PalPass toll rates increased in 2021, 2022, and 2023.

1.3.1 PalPass Discounts

The Indenture permits the Association to implement discounts to encourage utilization of the Southern Connector. As was shown in Table 1.1 and Table 1.2, PalPass payment at the mainline plazas is discounted from the cash rates. Since opening, the 2-axle PalPass discount on the Southern Connector has ranged between 5 and 25 percent for 2-axle vehicles and between 5 and 25 percent for multi-axle vehicles.

As shown in the tables, 2-axle PalPass customers currently receive a 5.0 percent discount and multi-axle vehicles receive a 5.7 percent PalPass discount at the mainline plazas; no PalPass discount is received at ramp toll collection locations. The resulting 2023 toll cost over 16 miles is approximately 25 cents per mile for 2-axle vehicles paying cash and 23.8 cents per mile for 2-axle vehicles using PalPass.

The PalPass discount program has been continued in order to encourage the use of PalPass. Paying by PalPass is a convenience for the repeat customer as it allows for quicker toll payment; vehicles do not have to stop at the plaza. Also, as cash rates increase, cash customers have had the ability to reduce the magnitude of the toll increases by switching to PalPass. PalPass payments are also beneficial to the Association as it costs less to collect an electronic payment than a cash payment.

1.3.2 Multi-Axle Programs

The Southern Connector offers payment programs to multi-axle vehicles. These programs are described below. It should be noted that the Southern Connector has the right to discontinue or to change the level of discount provided by the programs at any time but must give the participants one month's notice.

1.3.2.1 Fleet Volume Discounts

A fleet volume discount program for multi-axle vehicles was initiated on the Southern Connector in January 2009 but was discontinued in January 2020. A fleet was defined as an account with three or more vehicles. Companies could opt into the program which provided additional discounts to trucks using the facility using a PalPass transponder. If the enrolled company's toll expenditures in a calendar month totaled more than \$500, a credit was refunded to the prepaid account on the last day of that month.

1.3.2.2 Pay-by-Plate Program

A pay-by-plate program was initiated on the Southern Connector in January 2012. Companies may opt into the program which allows trucks to use the facility via the PalPass lanes without a transponder. A company may open a pay-by-plate account with a minimum deposit of \$100 and needs to provide the Association with license plate numbers and/or company ID numbers for their trailers and trucks. These trailers and trucks are directed to use the PalPass express lanes and do not need to stop and pay a toll. The trucks are identified via the plate numbers or



company ID numbers as they pass through the PalPass lanes and are currently charged the PalPass toll. Currently there are over 200 national carriers that participate in the program and there is a list of over 750,000 individual license plates in the program database.

1.3.2.3 Interoperability Program

The Association implemented a national toll payment program for trucks on the Southern Connector in 2019. Since implementation, two companies have taken advantage of the program. On April 1, 2019, Bestpass became the first company to be integrated into the program and soon after, Prepass joined the program on June 1, 2022.

The program consolidates electronic toll payments for trucking operators from multiple toll facilities, now including the Southern Connector, into one "invoice" making electronic toll payments streamlined for these operators. Bestpass and Prepass represent approximately 4.2 million vehicles that now have access to utilize the Southern Connector.

2.0 HISTORICAL TRANSACTIONS AND REVENUE

Table 2.1 shows the Southern Connector's annual transactions and annual revenue from its opening in 2001 through June of 2023. Figure 2.1 and Figure 2.2 graphically depict the annual transactions and revenue, respectively, broken down by payment type.

Year	Annual Transactions	Annual Average Daily Transactions	% Change	То	ll Revenue	% Change	Re	Other evenue ⁽¹¹⁾	% Change	Total Revenue	% Change
2001 ⁽¹⁾	2,658,741	9,105		\$	2,002,807		\$	1,851		\$ 2,004,659	
2002	3,966,717	10,868	19.4%	\$	2,945,221	47.1%	\$	11,779	536.2%	\$ 2,957,000	47.5%
2003	4,566,095	12,510	15.1%	\$	3,305,699	12.2%	\$	31,278	165.5%	\$ 3,336,977	12.9%
2004	5,129,949	14,016	12.0%	\$	3,748,937	13.4%	\$	21,233	-32.1%	\$ 3,770,170	13.0%
2005 ⁽²⁾	4,948,535	13,558	-3.3%	\$	4,633,110	23.6%	\$	30,971	45.9%	\$ 4,664,081	23.7%
2006	5,434,691	14,890	9.8%	\$	5,064,719	9.3%	\$	20,940	-32.4%	\$ 5,085,659	9.0%
2007 ⁽³⁾	5,839,205	15,998	7.4%	\$	5,419,500	7.0%	\$	28,714	37.1%	\$ 5,448,214	7.1%
2008	5,653,527	15,447	-3.4%	\$	5,200,631	-4.0%	\$	38,678	34.7%	\$ 5,239,309	-3.8%
2009 ⁽⁴⁾	5,455,974	14,948	-3.2%	\$	5,206,726	0.1%	\$	46,014	19.0%	\$ 5,252,741	0.3%
2010 ⁽⁵⁾	4,538,473	12,434	-16.8%	\$	5,275,047	1.3%	\$	52,063	13.1%	\$ 5,327,110	1.4%
2011	4,884,705	13,383	7.6%	\$	5,692,648	7.9%	\$	56,700	8.9%	\$ 5,749,348	7.9%
2012 ⁽⁶⁾	4,617,246	12,615	-5.7%	\$	6,691,761	17.6%	\$	62,388	10.0%	\$ 6,754,149	17.5%
2013	4,688,005	12,844	1.8%	\$	6,888,613	2.9%	\$	74,421	19.3%	\$ 6,963,035	3.1%
2014	5,162,469	14,144	10.1%	\$	7,473,234	8.5%	\$	92,654	24.5%	\$ 7,565,888	8.7%
2015	5,821,891	15,950	12.8%	\$	8,350,959	11.7%	\$	220,579	138.1%	\$ 8,571,538	13.3%
2016 ⁽⁷⁾	5,939,748	16,229	1.7%	\$	9,883,797	18.4%	\$	273,011	23.8%	\$ 10,156,808	18.5%
2017	6,191,267	16,962	4.5%	\$	10,853,219	9.8%	\$	393,747	44.2%	\$ 11,246,967	10.7%
2018	6,453,526	17,681	4.2%	\$	11,521,927	6.2%	\$	387,622	-1.6%	\$ 11,909,549	5.9%
2019	6,599,088	18,080	2.3%	\$	11,940,537	3.6%	\$	445,429	14.9%	\$ 12,385,965	4.0%
2020 ⁽⁸⁾	5,191,374	14,184	-21.5%	\$	11,369,802	-4.8%	\$	277,075	-37.8%	\$ 11,646,876	-6.0%
2021 ⁽⁹⁾	5,909,028	16,189	14.1%	\$	13,648,546	20.0%	\$	530,535	91.5%	\$ 14,179,080	21.7%
2022 ⁽¹⁰⁾	6,193,075	16,967	4.8%	\$	14,772,781	8.2%	\$	726,845	37.0%	\$ 15,499,626	9.3%
			F	irst	6 months o	f Calendar Y	eα	r			
2022	2,999,428	16,571		\$	7,264,572		\$	332,986		\$ 7,597,558	
2023	3,251,738	17,965	8.4%	\$	7,793,032	7.3%	\$	81,000	-75.7%	\$ 7,874,032	3.6%

Table 2.1: Southern Connector Transaction and Revenue Growth

Source: The Connector 2000 Association Traffic and Revenue Summary and 2019 Traffic Log

(1) Southern Connector opened to toll-paying traffic March 14, 2001. Recession from March 2001 through November 2001.

(2) Toll increase January 2005.

(3) Recession starts December 2007.

(4) Recession ends June 2009. Toll increase November 2009.

(5) Northbound I-385 closed near Columbia from January 2010 through August 2010.

(6) Toll increase January 2012

(7) Toll increase January 2016. Construction on the I-385/I-85 interchange improvements began February 2016.

(8) Toll increase in January 2020. COVID-19 pandemic travel restrictions and social distancing orders begin in March 2020.

(9) Toll increase for PalPass at mainline plazas January 2021.

(10) Toll increase for PalPass at mainline plazas January 2022.

(11) Other revenue includes Pre-paid Deposit (PPD) and Misc. revenue.





Figure 2.1: Annual Transactions

Source: The Connector 2000 Association Traffic and Revenue Summary and 2019 – 2023 Transaction Detail Reports



Figure 2.2: Annual Total Revenue

Source: The Connector 2000 Association Traffic and Revenue Summary

The Southern Connector opened in mid-March 2001 and during the remainder of the year, processed nearly 2.7 million transactions. In the next three years, transactions grew from nearly 4.0 million in 2002 to over 5.2 million in 2004, a period known as ramp-up, when potential users become aware of the facility's service area and benefits. There was a slight decline due to the 2005 toll increase and then more moderate growth to 5.8 million transactions in 2007. Growth was dampened and reversed between 2008 and 2013 due to the Great Recession, toll increases in 2009 and 2012, and an 8-month construction period closure of I-385. Between 2013 and 2019, transactions increased from 4.7 million to 6.6 million in part due to diversions from the Gateway Project construction and in spite of the 2016 toll increase.

Transactions declined by 21 percent from 2019 levels to 5.2 million in 2020 due to the January toll increase and the onset of the COVID-19 pandemic in mid-March with executive orders limiting travel and social gatherings. By 2021 most of these restrictions were lifted and transactions grew by 14.1 percent to 5.9 million. Transactions in 2022 grew by 4.8 percent and are continuing to grow into 2023. The first six months of 2023 showed an 8.3 percent increase over the same months in 2022, on track to be back to pre-COVID levels.

As shown in Table 2.1 and Figure 2.2, there have only been two years of total revenue declines on the Southern Connector, 2008 and 2020. In 2008, the economic effects of the Great Recession that started in November 2007 caused transactions to decrease by 3.4 percent and total revenues to decrease by 3.8 percent. After each toll increase except in 2020, revenues have increased. The January 2020 toll increase was followed by the COVID-19 travel restrictions in March 2020, resulting in a 4.8 percent decline in toll revenue from \$11.9 million to \$11.4 million. Since 2020, toll revenues have grown from \$11.4 million to \$14.8 million in 2022. Total revenues in the first six months of 2023 grew 3.6 percent over the same six months in 2022.

Table 2.2 and Table 2.3 show the monthly comparisons for 2019-2023 for transactions and total revenue, respectively. The monthly data in the tables include the most up-to-date information available as of the writing of this report; transaction and total revenue data were available through July 2023. Transaction growth was negative through February 2021 as a result of the toll increase and more so, the COVID-19 pandemic. The only other month that showed a decrease in transactions over the previous year was July 2022, which had one less weekday than the previous year. Total revenues showed growth by mid-2020; a few months between June 2020 and December 2022 showed negative growth over the previous year. Monthly total revenue growth in 2023 has been positive as a whole when compared to the first six months of 2022, however four of the last six months have shown negative growth over the previous year.

Month	2019	2020 ⁽²⁾	'19 to '20 % change	2021	'20 to '21 % change	2022	'21 to '22 % change	2023 ⁽¹⁾	'22 to '23 % change ⁽³⁾
January	508,567	467,312	-8.1%	400,845	-14.2%	412,071	2.8%		19.9%
February	487,123	462,343	-5.1%	397,424	-14.0%	451,776	13.7%	477,920	5.8%
March	580,892	416,924	-28.2%	487,321	16.9%	518,726	6.4%	544,300	4.9%
April	556,245	292,414	-47.4%	507,778	73.7%	537,199	5.8%	548,782	2.2%
May	601,777	401,246	-33.3%	498,868	24.3%	552,684	10.8%	610,950	10.5%
June	553,550	442,925	-20.0%	525,532	18.7%	526,972	0.3%	575,756	9.3%
July	543,554	457,021	-15.9%	524,623	14.8%	504,709	-3.8%	557,299	10.4%
August	561,661	451,854	-19.6%	502,334	11.2%	531,261	5.8%	n/a	n/a
September	564,370	440,805	-21.9%	502,242	13.9%	535,966	6.7%	n/a	n/a
October	591,820	489,758	-17.2%	545,324	11.3%	559,263	2.6%	n/a	n/a
November	545,393	441,788	-19.0%	523,122	18.4%	552,539	5.6%	n/a	n/a
December	504,136	426,984	-15.3%	493,615	15.6%	509,909	3.3%	n/a	n/a

Table 2.2: Monthly Transaction Comparison

Source: The Connector 2000 Association Traffic and Revenue Summary

(1) Transaction data available through July 2023

(2) COVID-19 pandemic declared March 2020

(3) Omicron variant in Jan 2022 resulted in a higher growth between 2022 and 2023

Table 2.3: Monthly Total Revenue Comparison

Month	2019	2020 ⁽²⁾	'19 to '20 % change	2021	'20 to '21 % change	2022	'21 to '22 % change	2023 ⁽¹⁾	'22 to '23 % change ⁽³⁾
January	\$974,151	\$1,014,808	4.2%	\$966,095	-0.8%	\$938,950	-2.8%	\$1,150,418	
February	\$924,343	\$1,004,394	8.7%	\$1,037,479	12.2%	\$1,201,579	15.8%	\$1,247,205	3.8%
March	\$1,123,119	\$896,713	-20.2%	\$1,181,833	5.2%	\$1,475,391	24.8%	\$1,448,321	-1.8%
April	\$1,064,184	\$461,934	-56.6%	\$1,217,363	14.4%	\$1,353,971	11.2%	\$1,330,690	-1.7%
May	\$1,100,798	\$697,298	-36.7%	\$1,102,866	0.2%	\$1,373,065	24.5%	\$1,488,220	8.4%
June	\$1,024,425	\$1,082,593	5.7%	\$1,263,428	23.3%	\$1,254,601	-0.7%	\$1,209,179	-3.6%
July	\$1,023,671	\$1,030,964	0.7%	\$1,317,836	28.7%	\$1,227,929	-6.8%	\$1,220,910	-0.6%
August	\$1,063,437	\$1,158,686	9.0%	\$1,219,038	14.6%	\$1,339,873	9.9%	n/a	n/a
September	\$1,043,476	\$1,128,513	8.1%	\$1,219,145	16.8%	\$1,326,266	8.8%	n/a	n/a
October	\$1,094,246	\$1,174,414	7.3%	\$1,293,338	18.2%	\$1,340,228	3.6%	n/a	n/a
November	\$1,004,379	\$1,038,039	3.4%	\$1,187,165	18.2%	\$1,290,513	8.7%	n/a	n/a
December	\$945,736	\$958,519	1.4%	\$1,173,495	24.1%	\$1,377,260	17.4%	n/a	n/a

Source: The Connector 2000 Association Traffic and Revenue Summary

(1) Revenue data available through July 2023

(2) COVID-19 pandemic declared March 2020

(3) Omicron variant in Jan 2022 resulting in a higher growth between 2022 and 2023

2.1 MONTHLY TRANSACTION VARIATIONS

Table 2.4 and Figure 2.3 show the average transactions by month and each month indexed to the average monthly transactions for 2019 and for 2022/2023, the last 12 months of data available. Historically, as shown by the 2019 data, monthly traffic volumes were generally greater in the late summer/early fall months because of Clemson University-related travel such as



students returning to campus for the Fall semester and fans traveling to home football games. This trend seems to be changing; August through October transactions represented 26 percent of the total 2019 transactions and 25 percent of the last 12 month's transactions. In 2022/2023, May and June were the most heavily travelled months on the Southern Connector. In both 2019 and the last 12 months, January and February have been the least travelled months due to occasional winter weather and February having only 28 days. The changes in monthly traffic variations between 2019 and 2022/2023 may be attributed to the addition of new, consistent commuter trips on the Southern Connector, particularly to the East Toll Plaza, where residential development has significantly increased since 2019 (see Section 3.3.3).

	2019		2022/20)23
Month	Total Transactions	Index	Total Transactions	Index
January	508,567	0.92	494,030	0.91
February	487,123	0.89	477,920	0.88
March	580,892	1.06	544,300	1.01
April	556,245	1.01	548,782	1.01
Мау	601,777	1.09	610,950	1.13
June	553,550	1.01	575,756	1.06
July	543,554	0.99	557,299	1.03
August	561,661	1.02	531,261	0.98
September	564,370	1.03	535,966	0.99
October	591,820	1.08	559,263	1.03
November	545,393	0.99	552,539	1.02
December	504,136	0.92	509,909	0.94
Average	549,924	1.00	541,498	1.00

Table 2.4: 2019 and 2022/2023 Monthly Traffic

Source: The Connector 2000 Association Traffic and Revenue Summary

(1) Jan and Feb 2022 data were affected by the Omicron Variant; therefore,

Jul 2022 through Jun 2023 were used for the annual comparison.



Figure 2.3: 2019 and 2022/2023 Monthly ADT Variations

Since the first full year the Southern Connector was open, 2002, the seasonal traffic pattern has remained fairly consistent, as shown in Figure 2.4. The exception is 2020 when the COVID-19 pandemic caused a significantly drop in transactions in April 2020. Since then, the monthly variations have gradually returned to the long-term historical patterns.



Figure 2.4: Indexed Monthly Transactions 2002 – 2022

Source: The Connector 2000 Association Traffic and Revenue Summary

Source: The Connector 2000 Association Traffic and Revenue Summary

2.2 DAILY TRANSACTION VARIATIONS

Table 2.5 displays the average weekday (Monday to Friday) and total monthly transactions since January 2022. Average weekday transactions and total monthly transactions have both been increasing. Average weekday transactions are increasing at a faster rate than total monthly transactions indicating that weekdays are growing faster than weekends.

	Avg We	ekday Trans	actions	Total Monthly Transactions				
Month	2022	2023	Percent Change	2022	2023	Percent Change		
January	15,356	18,109	17.9%	412,071	494,030	19.9%		
February	17,869	19,357	8.3%	451,776	477,920	5.8%		
March	18,196	19,460	7.0%	518,726	544,300	4.9%		
April	19,694	20,832	5.8%	537,199	548,782	2.2%		
May	19,615	21,689	10.6%	552,684	610,950	10.5%		
June	18,907	20,822	10.1%	526,972	575,756	9.3%		
July	17,944	19,730	10.0%	504,709	557,299	10.4%		
August	18,592	N/A	N/A	531,261	N/A	N/A		
September	19,372	N/A	N/A	535,966	N/A	N/A		
October	19,884	N/A	N/A	559,263	N/A	N/A		
November	19,640	N/A	N/A	552,539	N/A	N/A		
December	18,422	N/A	N/A	509,909	N/A	N/A		
Jan - Jul Avg/Total	18,241	20,007	9.7%	3,504,137	3,809,037	8.7%		

Table 2.5: 2022 and 2023 Average Weekday and Total Transactions by Month

Source: The Connector 2000 Association 2019 - 2023 Transaction Detail Reports

Table 2.6 and Figure 2.5 show the transaction proportion each day of the week represents of a total week for both 2019, before the pandemic and 2022. Sunday shows the least amount of traffic in both years, averaging only about 10 to 11 percent of the weekly total. Monday through Thursday transactions are consistently about 14 to 16 percent of the weekly total, while Friday traffic is higher, representing over 17 percent of the total weekly traffic. The Southern Connector serves as a regional bypass for weekend travel; therefore, Friday carries the highest percentage of weekday traffic all year round. The daily variations in Southern Connector traffic have been fairly consistent since the toll road opened in 2001.

	2019			2
Day	Percent of Weekly Total	Daily Factor	Percent of Weekly Total	Daily Factor
Sunday	10.8%	0.75	10.2%	0.72
Monday	14.5%	1.01	14.2%	1.00
Tuesday	14.6%	1.02	15.2%	1.07
Wednesday	15.0%	1.05	15.6%	1.09
Thursday	15.8%	1.11	16.3%	1.14
Friday	17.5%	1.23	17.0%	1.19
Saturday	11.9%	0.83	11.4%	0.79

Table 2.6: 2019 and 2022 Transactions by Day of the Week

Source: The Connector 2000 Association Daily Summary



Figure 2.5: 2019 and 2022 Daily Factors by Day of the Week

Source: The Connector 2000 Association Daily Summary

2.3 TRANSACTION AND TOLL REVENUE BY LOCATION

Table 2.7 shows the 2022 actual transactions and estimated revenue by toll plaza location. The transactions are from the Association's transaction detail reports, and the revenues are estimated by multiplying transactions and the estimated average tolls at the plazas and ramps. The mainline plazas accounted for 92.2 percent of the 6.2 million annual transactions and 95.6 percent of the \$14.8 million total annual toll revenue. Since the toll rates on the ramps do not increase for higher-axle vehicles as they do at the mainline plazas, the ramps only accounted for 4.1 percent of the toll revenue even though more than 7 percent of the transactions took place on the ramps. The proportion of transactions occurring at the ramp plazas have showed only slight growth over the years; the ramps accounted for 6.4 percent, 6.9 percent and 7.2 percent of the total transactions in 2005, 2014 and 2018, respectively. This percentage rose only slightly to 7.8 percent in 2022.

Toll Location	Transactions	Percent	Toll Revenue	Percent
West ML Plaza	2,559,414	41.4%		
East ML Plaza	3, 136, 367	50.7%		
Mainline Plaza Subtotal	5,695,781	92.2 %	\$14,166,382	95.9 %
SC-20 Ramps	201,352	3.3%		
Fork Shoals Rd Ramps	283,767	4.6%		
Ramps Subtotal	485,119	7.8 %	\$606,399	4 .1%
Total	6,180,900	100.0%	\$14,772,781	100.0%

Note: Transactions from 2022 Transaction Detail Reports. Toll revenue at ramps and plazas estimated using average toll rates.

2.4 TRANSACTIONS AND TOLL REVENUE

2.4.1 Transactions and Revenue by Vehicle Class

There are two categories into which vehicles can be grouped: vehicle class and payment type.

Table 2.8 shows the 2019 through 2023 traffic and revenue by vehicle class. While 2-axle vehicles declined 9.9 percent from 6.2 million in 2019 to 5.6 million in 2022, multi-axle vehicles increased by 51 percent from 401,000 to 608,000 during the same period. The transaction share of multi-axle vehicles has increased from over 6 percent in 2019 to 10 percent in the first half of 2023. Due to higher toll rates for multi-axle vehicles at the mainline plazas, the toll revenue share of trucks is even higher. In 2019, 14.6 percent of toll revenue is estimated to have come from trucks and in the first 6 months of 2023, nearly 24 percent is from multi-axle vehicles.

	Transactions							
Year	Total	2-axle	Multi-axle	% 2-axle	% Multi-axle			
2019	6,599,088	6,197,229	401,859	93.9%	6.1%			
2020	5,191,374	4,770,551	420,823	91.9%	8.1%			
2021	5,909,028	5,389,719	519,309	91.2%	8.8%			
2022	6,193,075	5,585,249	607,826	90.2%	9.8%			
Jan - Jun 2023	3,251,738	2,927,077	324,661	90.0%	10.0%			
		1	oll Revenue					
Year	Total	2-axle	Multi-axle	% 2-axle	% Multi-axle			
2019	\$11,940,537	\$10,197,949	\$1,742,587	85.4%	14.6%			
2020	\$11,369,802	\$9,181,293	\$2,188,509	80.8%	19.2%			
2021	\$13,648,546	\$10,810,539	\$2,838,007	79.2%	20.8%			
2022	\$14,772,781	\$11,343,240	\$3,429,540	76.8%	23.2%			
Jan - Jun 2023	\$7,793,032	\$5,937,463	\$1,855,569	76.2%	23.8%			

Table 2.8: 2019 - 2023 Traffic and Toll Revenue by Vehicle Class

Source: The Connector 2000 Association 2019 – 2023 Transaction Detail Reports

A shown in Figure 2.6, the percentage of multi-axle vehicle transactions has steadily grown since 2009 with a large jump from about 6 to 8 percent between 2019 and 2020. This increase is due to consistent growth in truck transactions while auto growth slowed during the pandemic. Since 2020, truck growth is due to the non-residential, industrial development for manufacturing and distribution that continues to occur within the Southern Connector study area (discussed in Section 3.3).





Source: The Connector 2000 Association 2019 - 2023 Transaction Detail Reports

2.4.2 Transactions and Revenue by Payment Type

2.4.2.1 Total System Transactions and Revenue by Payment Type

Table 2.9 shows the traffic and toll revenue by payment type for the first six months of 2023, the most current months of data available. Payment is divided into two categories: electronic toll collection (Palmetto Pass) and cash. A Palmetto Pass (PalPass) is an electronic toll collection (ETC) device, or transponder, that allows customers to pre-pay tolls with cash, check, or credit card charge and drive through a dedicated toll lane without stopping for a manual transaction. Transponders can be obtained by submitting an application that can be obtained at any of the manned toll lanes, calling the customer service number, or applying online at the Southern Connector's website. The PalPass share of total transactions and revenue was 51.2 percent and 50.6 percent, respectively, for the first six months of 2023. The PalPass share of total revenue is less than the share of total transactions due to PalPass discounts given to all PalPass customers. PalPass makes payments easier and more convenient for the customer and also is cost-effective for the Association. On a per transaction basis, it is less costly to collect an electronic payment than a cash or credit card payment.

	Transactions							
Month in 2023	Total	Cash	PalPass	% Cash	% PalPass			
January	494,030	229,846	264,184	46.5%	53.5%			
February	477,920	225,436	252,484	47.2%	52.8%			
March	544,300	256,082	288,218	47.0%	53.0%			
April	548,782	274,475	274,307	50.0%	50.0%			
May	610,950	307,251	303,699	50.3%	49.7%			
June	575,756	295,016	280,740	51.2%	48.8%			
Jan - Jun Total	3,251,738	1,588,107	1,663,631	48.8%	51.2%			
		T	oll Revenue					
Month in 2023	Total	Cash	PalPass	% Cash	% PalPass			
January	\$1,210,687	\$593,905	\$616,782	49.1%	50.9%			
February	\$1,193,529	\$600,422	\$593,107	50.3%	49.7%			
March	\$1,400,634	\$665,322	\$735,312	47.5%	52.5%			
April	\$1,293,593	\$644,026	\$649,567	49.8%	50.2%			
May	\$1,449,765	\$704,471	\$745,294	48.6%	51.4%			
June	\$1,244,824	\$639,197	\$605,627	51.3%	48.7%			
Jan - Jun Total	\$7,793,032	\$3,847,343	\$3,945,689	49.4%	50.6%			

Table 2.9: 2023 Toll Transactions and Toll Revenue by Payment Type

Source: The Connector 2000 Association 2019 - 2023 Transaction Detail Reports

Figure 2.7 displays the percent of total transactions that were PalPass transactions from the first full year the Southern Connector was open (2002) to June 2023. PalPass transactions accounted for about 15 percent of the total transactions in the first full year of operation (2002) and have increased to account for 51.2 percent of the total trips for the first six months of 2023. As shown in the graph, PalPass usage has increased by about 10 percent since 2019.



Figure 2.7: PalPass Usage 2002 to 2023*

Source: The Connector 2000 Association 2019 Traffic Log and The Connector 2000 Association 2019 – 2023 Transaction Detail Reports. *January to June 2023

In the last full year of data, 2022, 48.5 percent of the passenger car transactions were paid by PalPass and 79.0 percent of truck transactions were paid by PalPass. Electronic Toll Collection (ETC or PalPass) usage at the Southern Connector is low when compared to other U.S. toll roads due to the relatively low percentage of commuters using the Southern Connector. Typically, ETC is used by travelers that use the roadway frequently. A roadside interview survey conducted by URS Consultants in 2005 indicated that approximately 40 percent of the Southern Connector traffic was commuters. The percentage of commuters has likely increased; however, no newer data are available. There has been a notable increase in the number of PalPass transactions since 2019. Reasons for this increase in the share of PalPass transactions include:

- PalPass tolls are currently discounted from the cash toll providing a financial incentive to use PalPass.
- PalPass offers a convenience. Customers do not have to stop to pay a toll, nor do they have to have the dollars/coins or credit card to pay the toll.
- Customers became used to paying with PalPass at the beginning of the pandemic when social distancing was recommended.
- The Interoperability program continues to add vehicles to their roster making use of the Southern Connector easy for trucks. By consolidating electronic toll payments for trucking

operators from multiple toll facilities, including the Southern Connector, into one "invoice", electronic toll payments are streamlined for these operators.

Figure 2.8 shows the geographical distribution of PalPass account holders in 2018, the most recent year available for these data. The map below is not tied to toll road usage/transactions, but merely displays the address location of the PalPass account. As expected, the majority of accounts are based in the vicinity of the Southern Connector.



Figure 2.8: Account Locations for PalPass Accounts (2018)

Source: The Connector 2000 Association Accounts by Zip Code

2.4.2.2 Mainline Plaza Transactions by Payment Type

Table 2.10 shows the transactions at the mainline plazas by class (2-axle vs multi-axle) by payment type. The proportion of ETC transactions at the mainline plazas has been increasing over the last few years and in the first six months of 2023, over 45 percent of the 2-axle vehicle transactions and 80.2 percent of the multi-axle transactions were made by ETC. The proportion of vehicles that pay at the automatic coin machines (ACM) is low compared to the other payment options; less than 2 percent of 2-axle vehicles and just 0.2 percent of multi-axle vehicles use ACMs. It should be noted that there are signs at the mainline plazas that indicate only 2-axle vehicles may use the ACMs, however some trucks still use these lanes. In the first six months of 2023, credit card/debit card transactions represented 13.1 percent of the 2-axle vehicle transactions and 6.5 percent of the multi-axle vehicle transactions. The proportion of ETC transactions has been increasing over time. In 2019, cash transactions represented more of the 2-axle transactions than any other payment type; in 2022 and the first six months of 2023, ETC transactions have been the most frequent type of transaction. ETC transactions represent more of the multi-axle transactions than any other payment type. The switch from cash is not unexpected. As tolls increase, people are less likely to have the cash with them to pay with tangible coins and bills, especially since the pandemic when many cash payments were generally discouraged at most establishments. Also, ETC provides a discount to the cash rate financially incentivizing the payment type.

Mainline Plaza Transactions											
		2-axle					Multi-axle				
Year	Total	ETC	ACM	Manual- Cash	Manual- Credit Card	Total	ETC	ACM	Manual- Cash	Manual- Credit Card	
2021	4,987,936	2,072,935	125,675	2,187,057	602,269	460,453	331,191	1,410	92,238	35,614	
2022	5,171,417	2,280,755	105,532	2,121,772	663,357	535,584	415,315	1,230	79,458	39,580	
Jan - Jun 2023	3,163,810	1,446,598	60,564	1,242,739	413,909	331,899	266,311	684	43,282	21,623	
	% By Payment Type										
2021	100.0%	41.6%	2.5%	43.8%	12.1%	100.0%	71.9%	0.3%	20.0%	7.7%	
2022	100.0%	44.1%	2.0%	41.0%	12.8%	100.0%	77.5%	0.2%	14.8%	7.4%	
Jan - Jun 2023	100.0%	45.7%	1.9%	39.3%	13.1%	100.0%	80.2%	0.2%	13.0%	6.5%	

Table 2.10: Mainline Plaza Transactions by Method of Payment

Source: 2019-2023 Transaction Detail Reports

(1) Numbers may not sum to total due to rounding

2.5 SOUTHERN CONNECTOR TRANSACTION TRENDS COMPARED TO SOCIO-ECONOMIC DATA

Figure 2.9 compares the monthly growth of the Federal Highway Administration (FHWA) vehicles miles traveled (VMT) in the United States and South Carolina with transactions on the Southern Connector since 2004. VMT in South Carolina and the national VMT show very similar growth patterns, and except for the 12 months following a toll increase, transactions on the Southern Connector generally follow the same growth patterns as South Carolina VMT. The precipitous drop in VMT in early 2020 was due to the pandemic related travel restrictions. Between January 2017 and December 2019, South Carolina VMT had a steady growth trend and recent months have shown a return to that steady trend.



Figure 2.9: Southern Connector Transactions vs VMT

Source: Federal Highway Administration (FHWA)

It is likely that motorists will adjust their travel patterns in the future if there are higher gasoline prices. Higher gas prices lead to less discretionary income that could be spent elsewhere, including on tolls. Figure 2.10 compares the Southern Connector's transaction percent change with the gas prices in the South Carolina area. As shown in the graph, transactions generally increase in response to cheaper gasoline prices; more recent instances of this behavior occurred in July 2017 and January 2018. Similarly, transactions decreased in response to higher gasoline prices in October 2017, April 2018, May 2019.



Figure 2.10: Comparison of Growth Rates of SC Transactions and Price of Gasoline

Source: U.S. Energy Information Administration

Note: Lower Atlantic region includes West Virginia, Virginia, North Carolina, South Carolina, Georgia, and Florida. Gasoline prices reflect volume-weighted average gasoline prices for regular, midgrade, and premium grades of gasoline in dollars per gallon from a sample of retail gasoline outlets across the United States."

Figure 2.11 displays the US Energy Information Administration's gasoline price forecasts for the US east region. Over the next year, gas prices across the country are expected to decrease slightly and follow standard seasonal patterns but remain fairly stable.



Figure 2.11: US East Coast Retail Gasoline Prices and Short-Term Forecasts (July 2019 Indexed to 1.00)

Source: US Energy Information Administration (Regular Gasoline U.S. Retail Price incl. Taxes) – September 15, 2023

2.6 STUDY AREA TRAFFIC CHARACTERISTICS

2.6.1 Volumes on Competing Routes

Table 2.11 summarizes count data available from permanent South Carolina Department of Transportation (SCDOT) stations from 2008 through to 2022. Although data since 2019 has been unavailable at the permanent count station along I-85, the primary competing route to the Southern Connector, the 2019 data shows that I-85 carried about 12 times more traffic than the Southern Connector.

Of note is the 7.2 percent decrease on I-385, south of Simpsonville, in 2010. SCDOT completely closed the northbound direction of the southernmost portion of I-385 (from mile marker 1 to 15) to accelerate a reconstruction project's schedule. While this closure helped SCDOT to finish the project in a more efficient manner, the closure had a substantial effect on through traffic on both I-385 and the Southern Connector as this through traffic was detoured to I-26 and I-85. As shown, the Southern Connector had a 16.5 percent decrease in traffic in 2010. About 7 percent was due to the I-385 closure, and the rest was due to the toll increase at the end of 2009. Traffic has still grown on the Southern Connector for all years except 2020 since the toll increase in 2012.

It should be noted that traffic growths on the area interstates slowed between 2017 and 2019. Annual traffic growth on all area interstates, except the Southern Connector, were less than 3 percent on I-85 and I-385. Traffic on the Southern Connector increased over 4 percent each year between 2017 and 2019. Some of this can be attributed to the major construction at the I-85/I-385 interchange; some traffic diverted from I-385 to the Southern Connector to avoid these construction delays. Once this project was completed at the end of 2019, traffic likely shifted back to the free route leading to a 3 percent increase in traffic on I-385 between the Southern Connector and I-85. In 2020, the pandemic caused decreases in traffic on both I-385 and the Southern Connector (and presumably I-85 as well). With less congestion on the free alternatives, the Southern Connector experienced greater decreases in traffic compared to the other roadways. Traffic volumes at all locations have met or exceeded their levels from 2019, the last full year before the pandemic.

		85	I-;	385	I-3	85	I-18	35 ⁽⁴⁾	
	Between NC 20 and US 25			n Southern or and I-85	South of Simpsonville		At East T	At East Toll Plaza	
Year	Avg M-F	Average Annual Growth	Avg M-F	Average Annual Growth	Avg M-F	Average Annual Growth	Avg M-F	Average Annual Growth	
2008	95,931		65,481		42,250		7,932		
2009 (1)	93,836	-2.2%	66,669	1.8%	42,333	0.2%	7,634	-3.7%	
2010 (2)	97,171	3.6%	64,915	-2.6%	39,288	-7.2%	6,378	-16.5%	
2011 ⁽³⁾	n/a	n/a	n/a	n/a	43,055	9.6%	6,916	8.4%	
2012 (1)	92,972	-2.2%	n/a	n/a	43,797	1.7%	6,438	-6.9%	
2013	90,067	-3.1%	n/a	n/a	45,909	4.8%	6,493	0.9%	
2014	102,770	14.1%	63,820	-0.4%	48,450	5.5%	7,199	10.9%	
2015	107,822	4.9%	77,529	21.5%	51,717	6.7%	8,074	12.2%	
2016 ⁽¹⁾	111,576	3.5%	79,048	2.0%	53,277	3.0%	8,307	2.9%	
2017	113,561	1.8%	80,205	1.5%	54,620	2.5%	8,770	5.6%	
2018	113,762	0.2%	78,631	-2.0%	54,809	0.3%	9,164	4.5%	
2019	115,111	1.2%	81,014	3.0%	55,901	2.0%	9,584	4.6%	
2020 (1,5)	n/a	n/a	79,230	-2.2%	50,553	-9.6%	7,673	-19.9%	
2021	n/a	n/a	90,805	14.6%	56,758	12.3%	8,687	13.2%	
2022	n/a	n/a	94,512	4.1%	58,880	3.7%	9,567	10.1%	

Table 2.11: SCDOT Counts in the Study Area

Increase on the Southern Connector.

2) Northbound I-385 closed between mile markers 1 and 15. Traffic diverted to I-26 and I-85.

3) n/a was noted where locations had only partial counts available.

4) Counts are via SCDOT permanent count equipment, not toll plaza receipts.

5) COVID-19 pandemic travel restrictions in place beginning in March.

2.6.2 Travel Times

As part of this study, travel time runs were collected along two routes, in both directions, to analyze the travel time savings that the Southern Connector provides compared to its free alternative I-85. The two routes have the same termini, I-85 just south of the SC 153 interchange and I-385 just south of the I-185 interchange, but one route used the toll facility, and the other route used the free route via I-85 and I-385. The travel times were collected for a single weekday (Tuesday, July 11, 2023) from 7-9am, 11am-1pm, and 4-6pm. Two to three travel time runs were collected for each route in each direction during each 2-hour time period.

Figure 2.12 and Figure 2.13 compare the average travel times by time of day between the free and tolled routes. As shown, there are more significant travel time savings in the eastbound direction than in the westbound direction throughout the day. Eastbound traffic can save 4 to 5 minutes by taking the Southern Connector during the AM and PM and about 2 minutes during the midday. Westbound traffic can save about 3 minutes by taking the Southern Connector in the PM, but other times of the day do not appear to offer notable travel time savings. It should be noted that although the data presented here is from a single weekday in July 2023, the data was validated against Google API data collected over the entire month of July 2023. By studying the Google API data, the travel times shown in these figures can be considered typical of current conditions.



Figure 2.12: July 2023 Average Travel Time Comparison, Eastbound Routes



Figure 2.13: July 2023 Average Travel Time Comparison, Westbound Routes

2.6.3 Southern Connector Traffic Volumes

As part of this study, traffic counts were collected at the non-tolled ramps between the two mainline plazas and on the ramps to and from the east at SC 153. The counts were taken in July 2023 and adjusted to reflect an annual average weekday (Monday to Thursday) for 2023 using the monthly factor shown in Table 2.4. The resulting volumes are shown in Figure 2.14. As shown, the ramps between the toll plazas all carry low volumes. The highest ramp volumes between the two toll plazas are located at the ramps to and from US 25; roughly 1,300 vehicles per day use the EB off and the WB on ramps each, while over 1,500 vehicles use the EB on ramp on an average weekday. Additionally, the ramps to and from the east at SC 153 carry high volumes (over 2,500 vehicles per day). When travelling northbound on I-85, traffic is directed to use SC 153 to access the Southern Connector even though there is an interchange with I-185 further north on I-85. This movement is a "short-cut" to the Southern Connector and although it is not signed in the reverse direction, knowledgeable travelers likely take the shortcut in both directions.



Figure 2.14: 2023 Average Weekday Volumes along the Southern Connector

2.6.4 Origin-Destination Patterns of Traffic on the Southern Connector

A limited origin-destination study was also undertaken as part of this study. Data were obtained from Streetlight Data, which uses "big data" in the form of anonymous location data from tens of millions of GPS-enabled devices. The device sources include smart phone navigation applications, in-dashboard car navigation systems, smart phone handsets, and commercial vehicle management systems. Travel patterns were traced in both directions for all vehicles using any portion of I-185 between I-85 and I-385. Data were collected for May 2022 through April 2023 (the latest year available) and are summarized for the average weekday (Mon – Thurs) for a 24-hour period. Data were summarized for all trips (autos and trucks) and truck trips. At the time of this study, StreetLight did not separate auto trips from truck trips.

The top 10 origin-destination pairs for all trips are summarized in Table 2.12. These trips total 60 percent of all trips on I-185 between I-85 and I-385. As shown, the two most popular trips pass through both toll plazas and represent an eastbound trip from SC-153/Brown Road to I-385 southbound as well as the returning westbound trip from I-385 northbound to SC-153/Brown Road. These trip pairs represent 12.5 percent and 9.0 percent, respectively, of all trips using I-185.

Rank	Origin	Destination		Trip Type	% of Total
1	I-185 EB On Ramp from SC-153/Brown Rd (int. 12)	I-185 EB Off Ramps to I-385 SB (int. 1)	EB	2 Mainline Plazas	12.5%
2	I-185 WB On Ramp from I-385 NB (int. 30)	I-185 WB Off Ramp to SC-153/Brown Rd (int. 12)	WB	2 Mainline Plazas	9.0%
3	I-185 EB On Ramp from SC-153/Brown Rd (int. 12)	S Conn EB Off Ramp to US-25 (int. 7)	EB	1 Mainline Plaza	5.8%
4	I-185 WB West of I-385	S Conn WB Off Ramp to Fork Shoals Rd (int. 4)	WB	1 Mainline Plaza	5.4%
5	I-185 EB On Ramp from I-85 SB DC (int. 42)	I-185 EB Off Ramp to SC-153/Brown Rd (int. 12)	EB	No Plazas	5.3%
6	S Conn WB On Ramp from US-25 (int. 7)	I-185 WB Off Ramp to SC-153/Brown Rd (int. 12)	WB	1 Mainline Plaza	5.0%
7	I-185 EB West of I-85	I-185 EB Off Ramp to SC-153/Brown Rd (int. 12)	EB	No Plazas	4.7%
8	S Conn WB On Ramp from US-25 (int. 7)	I-185 WB West of I-85	WB	1 Mainline Plaza	4.2%
9	I-185 WB On Ramp from SC-153/Brown Rd (int. 12)	I-185 WB West of I-85	WB	No Plazas	4.1%
10	S Conn EB On Ramp from US-25 (int. 7)	I-185 EB Off Ramps to I-385 SB (int. 1)	EB	1 Mainline Plaza	4.1%

Table 2.12: Top 10 Origin-Destination pairs for All Trips (Average Day)

The top 10 origin-destination pairs for truck trips are summarized in Table 2.13. As shown, the most popular truck trip pair passes through both toll plazas and represents an eastbound trip from SC-153/Brown Road to I-385 southbound. It represents 19.3 percent of all truck trips utilizing I-185 between I-85 and I-385. The top ten most popular commercial trip pairs represent nearly 74 percent of all truck trips in the corridor.

Rank	Origin	Destination	Dir	Trip Type	% of Total
1	I-185 EB On Ramp from SC-153/Brown Rd (int. 12)	I-185 EB Off Ramps to I-385 SB (int. 1)	EB	2 Mainline Plazas	19.3%
2	I-185 EB On Ramp from I-85 NB DC (int. 42)	I-185 EB Off Ramps to I-385 SB (int. 1)	EB	2 Mainline Plazas	12.9%
3	I-185 WB On Ramp from I-385 NB (int. 30)	I-185 WB Off Ramp to SC-153/Brown Rd (int. 12)	WB	2 Mainline Plazas	10.9%
4	S Conn EB On Ramp from US-25 (int. 7)	I-185 EB Off Ramps to I-385 SB (int. 1)	EB	1 Mainline Plaza	6.6%
5	I-185 EB On Ramp from SC-153/Brown Rd (int. 12)	S Conn EB Off Ramp to US-25 (int. 7)	EB	1 Mainline Plaza	5.3%
6	S Conn WB On Ramp from US-25 (int. 7)	I-185 WB Off Ramp to SC-153/Brown Rd (int. 12)	WB	1 Mainline Plaza	4.3%
7	I-185 WB On Ramp from I-385 NB (int. 30)	S Conn WB Off Ramp to US-25 NB (int. 7)	WB	1 Mainline Plaza	4.3%
8	I-185 WB West of I-385	S Conn WB Off Ramp to Fork Shoals Rd (int. 4)	WB	1 Mainline Plaza	4.2%
9	I-185 WB On Ramp from I-385 NB (int. 30)	S Conn WB Off Ramp to Fork Shoals Rd (int. 4)	WB	1 Mainline Plaza	3.0%
10	S Conn WB On Ramp from US-25 (int. 7)	I-185 WB West of I-85	WB	1 Mainline Plaza	2.9%

Table 2.13: Top 10 Origin-Destination pairs for Truck Trips (Average Day)

Additionally, StreetLight provides origin-destination data for several preset geographies. The figures below show percent origin and destinations based on Census Block Groups. The majority of eastbound traffic utilizing the West mainline plaza originates west of the corridor in the Powdersville area, as shown in Figure 2.15. There is one Census Block Group closer to Greenville, along the non-tolled portion I-185, north of I-85, that generates a higher percentage of traffic utilizing the West mainline plaza, when compared to the rest of the region. This is the location of the Greenville Memorial Medical Campus.



Figure 2.15: Daily Trip Origins for Eastbound Traffic Passing Though West Toll Plaza

Source: StreetLight InSight Note: Percentages displayed for Census Block Groups accounting for 1% or more.
Figure 2.16 shows the destinations by Census Block Group for eastbound traffic utilizing the West mainline plaza. The Census Block Groups with the highest percentage share are along the corridor, generally between SC 20 and US 25. This is where Michelin, SCTAC, and August Grove are located, as discussed in Chapter 3. The Simpsonville area, at the easternmost terminus of the Southern Connector also attracts a higher percentage of traffic, compared to the rest of the region. More that two percent of trips are either heading to the area along I-385 near Laurens where there is a Walmart distribution center and further south along I-26 in Clinton.



Figure 2.16: Daily Trip Destinations for Eastbound Traffic Passing Through West Toll Plaza

Source: StreetLight InSight Note: Percentages displayed for Census Block Groups accounting for 1% or more.

Figure 2.17 shows the origins by Census Block Group for westbound traffic utilizing the East mainline plaza. The majority of traffic originates in the Mauldin and Simpsonville areas, as well as areas south of the corridor along I-385 and I-26.



Figure 2.17: Daily Trip Origins for Westbound Traffic Passing Through East Toll Plaza

Source: StreetLight InSight Note: Percentages displayed for Census Block Groups accounting for 1% or more. Figure 2.18 shows the destinations by Census Block Group for westbound traffic utilizing the East mainline plaza. The Census Block Groups with the highest percentage share are along the corridor, generally between Fork Shoals Road and SC 20, and along SC 153, east of the Southern Connector. Once again, this is where manufacturing and distribution is concentrated along the Southern Connector.



Figure 2.18: Destinations for Westbound Traffic Passing Through East Toll Plaza

Source: StreetLight InSight Note: Percentages displayed for Census Block Groups accounting for 1% or more.

2.7 IMPACT OF PAST TOLL INCREASES

Since its opening, tolls on the Southern Connector have been raised for both cash and PalPass five times: January 2005, November 2009, January 2012, January 2016, and January 2020. As a result of these toll increases, transactions on the facility decreased and toll revenues increased for all years except 2016, where transaction and revenue growth remained positive. The ratio of the percent decrease in traffic to the percent increase in tolls is termed the toll elasticity and measures the sensitivity or reaction to a toll increase. Elasticity is a negative factor: the greater the absolute value of the elasticity factor, the greater the loss of traffic due to a toll increase. An elasticity value close to -1.0 indicates that the facility is very elastic or very sensitive to toll increases. An elasticity value close to 0.0 indicates that the facility is relatively inelastic, or not sensitive to toll increases. Moderate elasticity ranges from -0.20 to -0.40.

The major impact of a toll increase on traffic volumes is generally due to the shift of traffic to other routes resulting from the attractiveness and potential cost benefits of these competing alternative routes. Motorists may also curtail trips by carpooling, consolidating trips and foregoing trips. I-85/I-385 is a very competitive route to the Southern Connector as it is free, shorter in distance and also provides a comparable trip in terms of travel time for through trips. Factors that also affect toll elasticity, but that also cannot be easily measured, include current economic conditions (including but not limited to the price of gas), the frequency of toll increases and how long the facility has been in operation. Other more "human" factors that cannot be directly measured include the impacts of a multiple coin increase.

It should be noted that elasticity is a measure of the impact of "real" toll increases and is not adjusted to reflect inflation. In general, if toll increases aligned with inflation are implemented periodically, there should be little impact on traffic volumes. A decrease in toll rates could result in increased traffic; however, there is no evidence based on the results of the prior toll increases to indicate that the traffic increases would be sufficient to yield higher toll revenues on the Southern Connector.

To estimate the elasticity resulting from a toll increase, it is necessary to remove the effects of normal growth on facility performance by calculating pro forma traffic as though the toll increase had not occurred and then comparing the pro forma values to actual performance after the toll increase. The following Table 2.14 presents the pro forma traffic for each of the toll increases and calculates the resulting elasticity values. As shown, elasticity had been relatively consistent between 2005 and 2016, ranging between -0.45 and -0.35. After the 2016 toll increase, it was noted that the PalPass customers seemed to be less elastic to the toll increase. As such, the 2016 and 2020 toll elasticities were calculated separately for cash and PalPass.

Due to the COVID-19 pandemic, which drastically impacted transactions from March 2020 on, the elasticity calculations for the 2020 toll increase used data from January and February 2020 only. The other years' analyses were based on 12 months of data accounted for the traffic to reach a new normal after the toll increases. As shown in the table, the 2020 elasticity factors are closer to -1.0 than prior toll increases and are beyond the moderately elastic range of -0.20 to -



0.40. This indicates that the Southern Connector would be categorized as a highly elastic facility and very sensitive to toll increases. This is expected as the Southern Connector does not provide a time or distance advantage for most trips in the study area. The completion of the I-85/I-385 Gateway project at the end of 2019 (discussed in Chapter 4), which benefitted the Southern Connector due to more congestion along the competing route, also likely contributed to the significant change in elasticity from 2016 to 2020. Lastly, the 2020 elasticity calculations may be higher than in previous years because only two months of data were available for analysis. It is our opinion that using these factors is a conservative and appropriate for use in this study.

		Toll Increase Year ⁽¹⁾												
	2	005	2	009	2	2012	201	16-Cash	20	16-PalPass	20	20-Cash	202	20-PalPass
Pro Forma Traffic ⁽²⁾	5,67	71,928	5,5	12,104	5,0	80,093	4,	156,860		2,071,594		573,545		451,401
Actual Traffic ⁽³⁾	4,94	48,535	4,90	09,443	4,6	517,246	3,	769,130		2,170,618		487,693		441,962
Actual Traffic Adjusted ⁽⁴⁾							3,	.844,851		1,976,102		523,031		406,624
Average Toll before Increase ⁽⁵⁾	\$	0.73	\$	0.93	\$	1.18	\$	1.56	\$	1.30	\$	2.00	\$	1.63
Average Toll after Increase ⁽⁶⁾	\$	0.94	\$	1.17	\$	1.46	\$	1.85	\$	1.47	\$	2.32	\$	1.86
Elasticity ⁽⁷⁾		-0.45		-0.41		-0.38		-0.41		-0.35		-0.56		-0.70

Table 2.14: Elasticity Calculations for Toll Increases

(1) 2005, 2012, 2016, and 2020 toll increases in January. 2009 toll increase in November.

(2) Estimated total traffic without a toll increase for 12 mos after the toll increase, except for 2020 which analyzed 2 mos after the toll increase due to the pandemic.

(3) Actual total traffic for the 12 mos after the toll increase date, except for 2020 which analyzed 2 mos after the toll increase due to the pandemic.

(4) Actual traffic for the 12 mos after the toll increase adjusted for I-85/I-385 construction (2016 only) and payment type shifts (2016 & 2020).

(5) Actual average toll for the 12 months before the toll increase, except for 2020 which analyzed Jan/Feb 2019 before the toll increase due to the pandemic.

(6) Actual average toll for the 12 months after the toll increase, except for 2020 which analyzed 2 mos after the toll increase due to the pandemic.

(7) Elasticity = change in traffic/change in toll

Elasticity factors can be applied to future traffic to estimate the effect of a future toll increase. Based on the analysis of the historical elasticity factors, an elasticity factor of -0.56 was used to estimate the effects of future cash toll increases on the Southern Connector, and -0.70 was used to estimate the effects of future PalPass toll increases on the Southern Connector. For example, an elasticity of -0.56 would forecast a decrease in traffic of 56 percent for each 100 percent increase in toll rates. Table 2.15 and Figure 2.19 show the theoretical revenue change that can be expected at various levels of toll increase, given a theoretical elasticity factor of -0.40. For example, revenues would increase by approximately 20 percent with a toll increase of 50 percent. Maximum revenues can be expected at a toll level that is about 75 percent higher than existing rates, however traffic would decrease by 30 percent. It should be noted that all past toll increases were based on passenger car cash toll increases of 25 cents. The calculated elasticity may not be valid for a passenger car toll increase substantially more than 25 cents and could potentially be higher.

Toll Increase	Traffic Impact	Revenue Change
0%	0.0%	0.0%
25%	-10.0%	12.5%
50%	-20.0%	20.0%
75%	-30.0%	22.5%
100%	-40.0%	20.0%
125%	-50.0%	12.5%
150%	-60.0%	0.0%

Table 2.15: Theoretical Impact of Revenue on Toll Increases Elasticity = -0.40

Figure 2.19: Theoretical Elasticity Curve, Elasticity = -0.40



3.0 SOCIOECONOMIC AND DEMOGRAPHIC FACTORS

The major factors affecting traffic generation for potential customers of the Southern Connector are population, employment, and land use in the areas served by the toll road. To support the reasonableness of the forecasts, historical and projected data from the Greenville-Pickens Area Transportation Study (GPATS), the local metropolitan planning organization (MPO) and other sources were compared to information from the US Bureau of Census and a private socioeconomic forecasting firm, Woods & Poole Economics. Information was also obtained from the 2023 Real Estate Study for the Southern Connector Toll Road prepared by CBRE specifically for this study as an update to CBRE's 2019 study.

3.1 POPULATION

As shown in Table 3.1, the population in Greenville County, as reported by the US Bureau of the Census, has been growing at a faster rate than both the entire United States and the state of South Carolina over the past 30 years. Between 1990 and 2000, the population of Greenville County increased by 64 percent from just over 320,000 to more than 525,000, an average annual rate of increase of nearly 7,000 residents or nearly 1.7 percent. By comparison, during the same period, the state population increased by 47 percent from 3.5 million to 5.1 million, an annual increase of 54,000 residents or nearly 1.3 percent. In general, Greenville County population increased at nearly twice the rate of the entire United States and represented more than 10 percent of the State's total population, up from 9 percent in 1990.

	US	5	South C	Carolina	Greenville County		
Year	Рор	Average Annual Growth	Рор	Average Annual Growth	Рор	Average Annual Growth	
1990	248,710,000		3,486,310		320,127		
2000	281,422,000	1.2%	4,012,012	1.4%	379,616	1.7%	
2010	308,748,000	0.9%	4,625,364	1.4%	451,225	1.7%	
2020	331,449,520	0.7%	5,118,429	1.0%	525,539	1.5%	

Source: US Census

Long term population estimates for Greenville County indicate that growth is anticipated to slow. Table 3.2 presents actual and projections through 2040 from two sources: Woods & Poole Economics, Inc., a nationally recognized demographics forecasting firm; and GPATS. The Woods & Poole data are shown for 2007, 2016, 2019, and 2023 releases, the most recent year of publication. Three sets of socioeconomic forecasts are shown for GPATS, a 2008 release, a 2017 release, and a 2022 release. Note that the GPATS forecast includes a large portion but not the entire amount of Greenville County. The development of the 2008 GPATS release corresponds to a similar publishing timeline as the 2007 Woods & Poole data. The development of the 2016 GPATS release corresponds to a similar publishing timeline as the 2023 GPATS release corresponds to a similar publishing timeline as the 2023 Woods & Poole data.

	Year				Tot	al Popula	tion			
	real	1990	2000	2010	2015	2020	2030	2035	2040	2045
ంర	2007 Release	321,857	381,135	433,323	453,315	474,214	520,042	n/a	n/a	n/a
oods Poole	2016 Release	321,857	380,949	452,695	488,329	519,029	584,355	616,993	648,525	679,246
Woods Poole	2019 Release	321,857	380,949	452,752	490,816	523,427	578,727	605,271	630,485	655,286
5	2023 Release	321,857	380,949	452,688	488,579	527,207	595,539	624,714	652,890	681,127
IS	2008 Release	n/a	379,616	426,570	n/a	474,430	521,990	n/a	n/a	n/a
GPATS	2017 Release	n/a	n/a	n/a	467,334	n/a	n/a	n/a	548,062	n/a
Ū	2022 Release	n/a	n/a	n/a	n/a	482,632	528,238	n/a	573,840	596,725
	Year			A	verage Annual Rate of Growth					
	real	'90-'00	'00-'10	'10-'15	'15-'20	'20-'30	'30-'35	'35-'40	'40-'45	'20-'45
త	2007 Release	1.70%	1.29%	0.91%	0.91%	0.93%				
'oods Poole	2016 Release	1.70%	1.74%	1.53%	1.23%	1.19%	1.09%	1.00%	0.93%	1.08%
Woods Poole	2019 Release	1.70%	1.74%	1.63%	1.29%	1.01%	0.90%	0.82%	0.77%	0.90%
5	2023 Release	1.70%	1.74%	1.54%	1.53%	1.23%	0.96%	0.89%	0.85%	1.03%
S	2008 Release		1.17%	1.0	7%	0.96%				
GPATS	2017 Release					0.64%				
U	2022 Release					0.91%	0.8	3%	0.79%	0.85%

 Table 3.2: Greenville County Actual and Estimated Population 1990 – 2045

Note: GPATS does not include the entirety of Greenville County

It is important to note that the GPATS geographic base changed between the 2008 and the 2017 releases and has not changed since then. In the 2017 release, GPATS added approximately 350 square miles to the model coverage area. More than 50 percent of the 2017 model area is in Anderson County, nearly 30 percent is in Pickens County, just over 10 percent is in Greenville County, with the remaining 10 percent falling in either Laurens or Spartanburg counties. Figure 3.1 shows the changes to the model coverage area between 2008 and 2017.





Generally, population estimates are published as a reaction to the current economic climate, so that during a down cycle, as was the case for the 2007 estimates, growth projections tend to be lower. The 2016 and 2019 Woods & Poole estimates show higher future population growth rates than the 2007 Woods & Poole estimates, as they were published during an upward trend in the economic cycle. The 2023 Woods & Poole estimates show the highest near-term growth rates of all the estimates, however, growth rates after 2030 are more moderate.

Estimated growth rates for Greenville County from the 2008 GPATS release were similar to the 2007 Woods & Poole estimated growth rates. Estimated populations between the two data sources were also similar in each year with 2030 population estimates within 0.5 percent.



The 2017 GPATS release included only two years: a 2015 base year and a 2040 horizon year. The 2015 base year as estimated by GPATS is 4 percent lower than the 2016 Woods & Poole data and 5 percent lower than the 2019 Woods & Poole data. These differences are even greater in 2040, where GPATS is 15 percent lower than the 2016 Woods & Poole data and 13 percent lower than the 2017 Woods & Poole data. At least some of this difference could be due to the fact that GPATS does not include the entirety of Greenville County.

Similar to the 2017 GPATS release, the 2022 GPATS release estimates lower Greenville County population by 8.5 to 12.5 percent in each horizon year. The annual growth rates in the 2022 GPATS release are also more conservative than the 2023 Woods & Poole estimates, ranging between about 0.8 percent and 0.9 percent per year. The general growth trends estimated in the 2022 GPATS model were used to inform estimates of the long-term traffic growth in the area, as discussed later in this report.

As was shown in Figure 3.1, the geographic base for the GPATS regional transportation model includes parts of Greenville, Pickens, Anderson, Laurens, and Spartanburg Counties. The following Table 3.3 shows the population for the year 2020 and the projections for 2030, 2040, and 2045 for the portion of each County included in the study area. Greenville County is the most significant portion of the model, accounting for approximately 68 percent of the population in each year.

County		Total Pop	oulation		
County	2020	2030	2040	2045	
Greenville	482,632	528,238	573,840	596,725	
Pickens	119,071	132,404	145,743	152,423	
Anderson	67,231	73,111	78,987	81,929	
Laurens	7,335	8,374	9,413	9,934	
Spartanburg	29,338	32,134	34,918	36,316	
Total	705,607	774,261	842,901	877,327	
Ave	erage Anni	ual Rate of	Growth		
		'20-'30	'30-'40	'40-'45	
Greenville		0.9%	0.8%	0.8%	
Pickens		1.1%	1.0%	0.9%	
Anderson		0.8%	0.8%	0.7%	
Laurens		1.3%	1.2%	1.1%	
Spartanburg		0.9%	0.8%	0.8%	
Total		0.9%	0.9%	0.8%	

Table 3.3: 2022 GPATS Model Area Estimated Population by County – Model Years 2020,2030, 2040 & 2045

Note: GPATS only includes portion of each county

Growth rates for the sections of Greenville County included in the model are similar to the rates for the full model coverage area. The portion of Greenville County in the GPATS model area is forecasted to grow 0.8 to 0.9 percent annually between 2020 and 2045. The highest growth rates are for Pickens and Laurens counties, which are expected to grow between 0.9 percent and 1.3 percent annually between 2020 and 2045. It is important to note, however, that the population in the portions of Laurens County in the model accounts for only 1 percent of the full GPATS area.

3.2 EMPLOYMENT

As shown in Table 3.4, the population in Greenville-Anderson-Mauldin SC Metropolitan Statistical Area (MSA), as reported by the U.S. Bureau of Labor Statistics, has been growing at a faster rate than the entire United States and slightly less than the state of South Carolina for the past 30 years. Note that this period included the Great Recession as well as the onset of COVID-19 Pandemic. Between 1990 and 2020, the MSA's employment increased by 38 percent from over 296,000 to over 411,000, an average annual rate of increase of nearly 3,800 employees or nearly 1.1 percent. By comparison, during the same period, South Carolina employment increased by 47 percent, from 1.5 million to 2.2 million, an average annual increase of 24,000 employees or nearly 1.3 percent. Since 2020, employment growth in the MSA has outpaced both the State as well as the United States, averaging between 4 and 5 percent, and over the entire 32-year period has supplied between 18 and 19 percent of the State's employees.

	US		South C	arolina	Greenville-Anderson- Mauldin, SC		
Year	Employment	Annual Growth between Yrs	Employment	Annual Growth between Yrs	Employment	Annual Growth between Yrs	
1990	109,527,000		1,527,600		296,700		
2000	132,185,000	1.9%	2,021,283	2.8%	374,100	2.3%	
2010	130,502,083	-0.1%	1,978,617	-0.2%	354,500	-0.5%	
2019	151,059,667	1.6%	2,357,717	2.0%	433,500	2.3%	
2020	142,321,500	-5.8%	2,250,058	-4.6%	411,000	-5.2%	
2021	146,449,333	2.9%	2,323,317	3.3%	427,900	4.1%	
2022	152,793,750	4.3%	2,412,592	3.8%	449,300	5.0%	

Table 3.4: Historical Employment	Comparison 1990 – 2022
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Source: US Bureau of Labor Statistics, Current Employment Statistics

As shown in Table 3.5, employment in the GPATS model area is estimated to increase from 281,029 jobs in 2020 to 347,624 jobs in 2045. This is an average annual rate of increase of 0.85 percent and represents over 65,000 new jobs. This rate of growth is about half of that forecasted for Greenville County by the 2023 Woods & Poole estimates, with average annual growth of 1.67 percent. It's important to note that the GPATS 2022 release forecasts employment numbers in the 2015 base year and the 2040 horizon year that are much lower when compared to Woods & Poole. Some of this difference may be due to differing definitions of employment. For instance, Woods and Poole employment includes sole proprietors, while it is unclear if GPATS includes these jobs in its employment estimate. The 2022 GPATS release estimates nearly 24 percent fewer jobs in 2020 and 38 percent fewer jobs in 2045. Although the GPATS model area does not include all of Greenville County, the areas not included tend to be more sparsely populated, and it is unlikely that their inclusion would contribute significantly to the employment estimates. While the actual estimates differ between the two sources, it is useful to compare the estimated growth in employment and the general trends in the data sets.

	Verr				Total	Employm	nent			
	Year	1990	2000	2010	2015	2020	2030	2035	2040	2045
ంర	2007 Release	229,949	290,386	314,300	337,304	360,300	406,263	n/a	n/a	n/a
oods Poole	2016 Release	228,055	288,447	293,779	329,938	358,018	414,351	442,372	470,582	499,301
Woods Poole	2019 Release	228,054	288,863	298,703	344,234	375,951	438,857	470,527	501,448	532,585
5	2023 Release	228,054	288,861	298,703	344,279	368,616	452,325	486,653	521,621	557,242
IS	2008 Release	n/a	269,007	n/a	n/a	395,914	n/a	n/a	n/a	n/a
GPATS	2017 Release	n/a	n/a	n/a	276,413	n/a	n/a	n/a	375,447	n/a
U	2022 Release	n/a	n/a	n/a	n/a	281,029	307,784	n/a	334,279	347,624
	Year			Av	erage An	nual Rate	e of Growt	h		
	real	'90-'00	'00-'10	'10-'15	'15-'20	'20-'30	'30-'35	'35-'40	'40-'45	'20-'45
ంర	2007 Release	2.36%	0.79%	1.42%	1.33%	1.21%				
'oods Poole	2016 Release	2.38%	0.18%	2.35%	1.65%	1.47%	1.32%	1.24%	1.19%	1.34%
Woods Poole	2019 Release	2.39%	0.34%	2.88%	1.78%	1.56%	1.40%	1.28%	1.21%	1.40%
5	2023 Release	2.39%	0.34%	2.88%	1.38%	2.07%	1.47%	1.40%	1.33%	1.67%
TS	2008 Release			1.95%						
GPATS	2017 Release						1.23%			
Q	2022 Release					0.91%	0.8	3%	0.79%	0.85%

 Table 3.5: Greenville Area Actual and Estimated Employment 1990 – 2045

Note: GPATS does not include the entirety of Greenville County

Greenville County is the most significant portion of the model for both population and employment, accounting for over 75 percent of the employment. Growth rates for the sections of Greenville County included in the model are the same as the average rate in the entire model coverage area, at 0.8 to 0.9 percent per year. Employment growth is fairly consistent for all counties in the GPATS model area. All five counties grow between 0.7 percent and 1.1 percent annually, with Laurens and Spartanburg counties exhibiting the lowest average annual growth rate, and Pickens County the highest. Estimated GPATS model area employment for 2020, 2030, 2040, and 2045 is shown in Table 3.6 by county.

County		Total Emp	oloyment	
County	2020	2030	2040	2045
Greenville	281,029	307,784	334,279	347,624
Pickens	43,721	48,792	53,856	56,383
Anderson	24,071	26,634	29,173	30,449
Laurens	1,000	1,088	1,162	1,203
Spartanburg	15,475	16,756	18,010	18,643
Total	365,296	401,054	436,480	454,302
Ανε	erage Ann	ual Rate of	f Growth	
		'20-'30	'30-'40	'40-'45
Greenville		0.9%	0.8%	0.8%
Pickens		1.1%	1.0%	0.9%
Anderson		1.0%	0.9%	0.9%
Laurens		0.8%	0.7%	0.7%
Spartanburg		0.8%	0.7%	0.7%
Total		0.9%	0.9%	0.8%

Table 3.6: 2022 GPATS Model Area Estimated Employment by County – Model Years2020, 2030, 2040 & 2045

Note: GPATS only includes portion of each county

As shown in Table 3.7, Greenville County is expected to continue to account for the majority of jobs in the model area for the foreseeable future. In fact, each county's share of employment remains fairly consistent between 2020 and 2045, with some slight variations.

County	Percent of Total Employment								
County	2020	2030	2040	2045					
Greenville	76.9%	76.7%	76.6%	76.5%					
Pickens	12.0%	12.2%	12.3%	12.4%					
Anderson	6.6%	6.6%	6.7%	6.7%					
Laurens	0.3%	0.3%	0.3%	0.3%					
Spartanburg	4.2%	4.2%	4.1%	4.1%					
Total	100.0%	100.0%	100.0%	100.0%					

Table 3.7: Employment Distribution Among Counties, 2020, 2030, 2040 & 2045

3.3 REAL ESTATE STUDY

In order to estimate the near-term future development growth, both residential and commercial, in the area surrounding the Southern Connector, a local real estate firm, CBRE, prepared a study of recent and projected development patterns in the area along the toll road and in the broader surrounding area served by the route. The study included an assessment of demographic trends, available buildings and vacant tracts of land, zoning and entitlements, utility/infrastructure availability and economic development initiatives, as well as residential, retail, office and industrial sectors of the overall real estate market. The full report is attached in Appendix A.

3.3.1 Greenville Land Use

Greenville County's predominant land use pattern is best characterized as low-density, dispersed development, with separated and disconnected uses. This underlying development structure, described as Communities, Centers, and Corridors, follows development patterns outlined in Greenville County's land use plan from 2009. However, Greenville County's 2020 Designing Our Destiny Comprehensive Plan advocates a land use vision to create economically viable, mixed-use, people-oriented communities supportive of plans for multi-modal transportation alternatives.

Land use in the Southern Connector area is guided by the Greenville County Comprehensive Plan, which lays out a vision for future development for the next twenty years. Figure 3.2 shows the current land use map for Greenville County as developed by Greenville County Planning. For comparison purposes to future land use, the existing Character Area map is shown in Figure 3.3. Character Areas offer a qualitative alternative to traditional single-use land categorization, and each Character Area shares certain other characteristics, such as existing and proposed



development intensity, transportation options, topography and natural cover, and employment types. Figure 3.4 shows the most recent future land use map which was adopted in January 2020 and also displays Character Areas rather than specific land use types.

The January 2020 Greenville County Comprehensive Plan identifies three future land use alternatives. Scenario 1 "Continued Growth" assumes development trends from the past two decades would continue including suburban expansion into rural areas. Scenario 2 "Focus Growth" assumes focused development and redevelopment of areas in the county currently able to support additional growth, increasing population density. Scenario 3 "Maximize Infill" utilizes the concepts from Scenario 2 and also constrains outward expansion through the establishment of an urban growth boundary. Scenario 2 was adopted as the preferred scenario and therefore, is the scenario discussed herein.

Existing land uses within the Southern Connector area are predominately industrial and single family residential with pockets of commercial development. Major industrial developments of influence in the immediate area include the Donaldson Center Airport, the Michelin Tire facility, and the Southern Railroad spur. These projects have all fostered industrial growth in the region including Beechtree Business Park, Augusta Grove Business Park, South Greenville Enterprise Park, among others. Residential development in the area occurs on the eastern portion of the Southern Connector area and has picked up over the past five years and has included several subdivisions in the Southern Connector area. These subdivisions are discussed in further detail in the key developments section of this chapter. While new commercial development within the study area has been limited over the years, it is anticipated to increase over the next few years, given the influx of new homes in the area.

Commercial development prior to the recession was growing slightly, relegated to the primary north-south corridors including US 276 and Augusta Road, but little growth has occurred since. The majority of commercial development is business service and retail, designed to serve the area's immediate population.

Future land use north of the Southern Connector is not projected to change significantly over the next twenty years. However, the areas south of the corridor are projected to shift from rural to suburban mixed-use and mixed employment centers. Higher density "suburban" residential will continue to concentrate at the easternmost end of the corridor, but along the southern side of the corridor's western end may become redeveloped as suburban mixed-use if the future land use map comes to fruition. CBRE's analysis and research indicates that further industrial and residential growth can be expected in the Southern Connector area; however, retail/office development will continue to lag behind for the near-term until enough residential is built to support larger retail/office developments.



Figure 3.2: Existing Land Use Plan

Source: Greenville County Comprehensive Plan, January 2020, Greenville County Planning



Figure 3.3: Existing Character Areas

Source: Greenville County Comprehensive Plan, January 2020, Greenville County Planning

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Figure 3.4: Future Land Use Map

Source: Greenville County Comprehensive Plan, January 2020, Greenville County Planning

3.3.2 Study Area Key Developments

Key developments in the study area over the last five years are discussed in the following sections. The locations of key developments mentioned are shown in Figure 3.5.



Figure 3.5: Major Developments in the Southern Connector Area

3.3.3 Residential Development

Historically, the immediate area surrounding the Southern Connector has not seen much residential development, and population growth has been minimal. Over the last several years, the Southern Connector area is becoming more attractive compared to other locations throughout Greenville due to available land, ease of access and other major economic drivers. Residential development within the Southern Connector area has been positive and developers are actively prospecting land near the I-85 and I-185 corridor, the US 25 and I-185 corridor, and along West Georgia Road near I-385 and Simpsonville. Residential development is expected to be primarily single-family in nature and to represent a moderate-growth trend in the near-term with continued expansion of new developments, as water and sewer utilities are extended, and population growth continues within the area. As shown in the CBRE Report, Greenville County's Comprehensive Plan and the Long-Range Transportation Plan produced by GPATS indicates the majority of growth in the southeast Greenville area along the eastern boundary of the Southern Connector area over the next 10- to 15-years.

Based on visual assessments and other research conducted by CBRE and Stantec in Summer 2023, developments recently completed/being built out include:

- Arden Woods: Located north of the Southern Connector at the intersection of Fork Shoals Road and Ashmore Bridge Road, Arden Woods is a planned residential community that will contain a mixture of single-family and townhomes. According to their website, homes are being marketed from \$349,990 to \$408,990. Although the exact figures are not known, it appears that this development will contain approximately 150 homes at completion. As of July 2023, it appears that lots have been developed, but no homes have been completed.
- Woodland Pointe: Located north of the Southern Connector on Ashmore Bridge Road east of Fork Shoals Road, Woodland Pointe is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed from \$269,990 to \$294,990. Although the exact figures are not known, it appears that this development will contain approximately 130 homes at completion. Google Earth imagery from 9/12/2022 shows the development is approximately 50 percent built out.
- Hidden Lake Preserve: Located just north of Interstate 185 at the intersection of Starlight Drive and Standing Springs Road, Hidden Lake Preserve is a 20-acre neighborhood with homes selling in the lower to mid \$200,000 range. Google Earth imagery from 9/12/2022 shows that the development is 95 percent built out. According to the development website, 14 homes are still available for sale.

- **Meadow Springs**: Located north of the Southern Connector along Standing Springs Road, Meadow Springs is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed solely for rent in the \$2,125 to \$2,375 per month range. Although the exact figures are not known, it appears that this development will contain approximately 140 homes at completion. As of July 2023, it appears that 5 have been constructed.
- **Chestnut Ridge:** Located just north of the Southern Connector on Fork Shoals Road, Chestnut Ridge is a planned residential community that will only contain single-family townhomes. According to their website, homes are being marketed for sale starting from \$313,000. Google Earth imagery from 9/12/2022 shows that land is cleared, but construction has not begun.
- Harrington: Located just north of the Southern Connector at the intersection of Fork Shoals Road and Reedy Fork Road, Harrington is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed from \$315,295 to \$437,185. Although the exact figures are not known, it appears that this development will contain approximately 300 homes at completion. As of July 2023, it appears that 141 have been sold/constructed.
- **Tanglewood Townes:** Located north of the Southern Connector west of the intersection of Fork Shoals Road and Antioch Church Road, Tanglewood Townes is a planned residential community that will only contain single-family townhomes. According to their website, homes are being marketed for sale starting from \$247,990. Google Earth imagery from 9/12/2022 shows that land is cleared, but construction has not begun.
- Huff Creek: Located north of the Southern Connector west of the intersection of Fork Shoals Road and Antioch Church Road, Huff Creek is a planned residential community that will contain traditional single-family residences for lease. According to their website, homes are being marketed from \$2,125 to \$2,600 per month. According to the development website, it appears that this development will contain approximately 134 homes at completion. Based on Google Earth imagery from 9/12/2022, the community appears to be approximately 50 percent built out.
- **Riverstone:** Located south of the Southern Connector at the intersection of Log Shoals Road and McCall Road, Riverstone is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed from \$332,990 to \$438,990. Although the exact figures are not known, however, it appears that this development will contain approximately 400 homes at completion. As of July 2023, it appears that 180 have been sold/constructed.

- **Poplar Glen:** Located just south of the Southern Connector west of the intersection of Fork Shoals Road and Log Shoals Road, Poplar Glen is a planned residential community that will only contain traditional single-family residences. According to their website, the prospective homes are being marketed for sale in the mid-\$200,000 range. We are not aware of the exact figures; however, it appears that this development will contain approximately 80 homes at completion. Google Earth imagery from 9/12/2022 shows the land has been cleared, but home construction not yet started.
- **Reedy Lake:** Located south of the Southern Connector along Reedy Fork Road, Reedy Lake is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed for sale starting from \$390,000. We are not aware of the exact figures; however, it appears that this development will contain approximately 63 homes at completion. According to the development website, all of the lots have been sold. Google Earth imagery from 9/12/2022 shows nearly all of the homes constructed.
- Southpointe Cottages: Located south of the Southern Connector near the intersection of West Georgia Road and Standing Springs Road, Southpointe Cottages is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed for sale starting from \$399,000. Google Earth imagery from 9/12/2022 shows that the development is approximately 20 percent built out, and it appears that this development will contain approximately 60 homes at completion.
- Garrison Grove: Located in the southeastern quadrant of the intersection of Fork Shoals Road and West Georgia Road, Garrison Grove is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed for sale from \$294,900 to \$417,900, and it appears that this development will contain approximately 145 homes at completion. According to the development website, about 100 lots have been sold. Google Earth imagery from 9/12/2022 shows approximately 50 percent of the homes have been constructed.
- Harvest Glen: Located south of the Southern Connector on Blakely Avenue, east of US 25, Harvest Glen is a planned residential community that will only contain traditional singlefamily residences. According to their website, homes are being marketed from \$285,900 to \$352,900. We are not aware of the exact figures; however, it appears that this development will contain approximately 150 homes at completion. Google Earth imagery from 9/12/2022 shows approximately 75 percent of the homes have been constructed.

- **Bracken Woods:** Located north of the Southern Connector and west of the intersection of US 25 and Bracken Road, Bracken Woods is a planned residential community that will only contain traditional single-family residences. According to their website, the prospective homes are being marketed for sale in the low-\$300,000 range. We are not aware of the exact figures; however, it appears that this development will contain approximately 140 homes at completion. As of July 2023, it appears that 63 have been sold/constructed.
- Acadia Subdivision: Construction on the 290-acre Traditional Neighborhood Development (mixed-use) located along the Southern Connector between SC 153 and SC 20 began in 2006. The neighborhood is planned for up to 700 residential units and 50,000 square feet of commercial space. According to the Acadia website, two neighborhoods, the Village and Saluda Run, are fully developed with approximately 200 residents, and the remaining three neighborhoods, The Gardens, The Sanctuary, and Beaver Creek, will have home sites released soon. Based on a Stantec site visit in June 2023, The Gardens neighborhood and a portion of The Sanctuary neighborhood have land cleared and a few homes are under construction, approximately 10 percent built out.

3.3.4 Non-residential Development

3.3.4.1 Regional Developments

Growth in the Greenville-Spartanburg market is being driven by two factors: the presence of manufacturing and the attractiveness of the location as a potential distribution hub. The market is located on I-85 between Charlotte, NC and Atlanta, GA with interstate access via I-385 and I-26 to the Port of Charleston. The Greenville-Spartanburg market has access to over 16 million people within a three-hour drive. Population growth along the I-85 corridor as well as strength in the automotive sector, poise Greenville and neighboring Spartanburg to benefit from major federal investments in electrification of vehicles and other high-tech manufacturing. Most recently, BMW announced a \$1.7 billion investment in an electric vehicle production center and an additional EV battery production facility in Woodruff, both in the Spartanburg market.

Compared to Spartanburg, which has seen one of the largest expansions of industrial inventory in the United States over the past three years, Greenville's industrial market is more subdued. Of the more than 18 million SF of industrial space absorbed in the combined Greenville-Spartanburg area since 2021, Spartanburg accounted for nearly two-thirds of the activity despite having only a quarter of the area's population and workforce. In Greenville, longer-term strong demand has compressed the vacancy rate to 4.2 percent. With less developable land than Spartanburg, the Greenville market is less likely to see a surge in new development and will face increasing competition from its neighbor, even as net deliveries and under-construction stock continues to expand. Most new projects are on the southeastern side of the market, near the BMW plant and Inland Port in Greer.



The Inland Port of South Carolina in Greer, SC (near Spartanburg) has attracted business to the area. Even if a local business is not actively using the South Carolina Inland Port, the fact that they have options helps to mitigate the operational risk of relying too heavily on one mode of transportation. The facility is designed to help increase already strong efficiencies for importers and exporters of goods through the Port of Charleston, which has increased distribution of traffic traveling to and from Georgia and Charleston, SC. Large regional manufacturers Michelin, GE and automaker BMW, located in nearby Spartanburg, have constituted the majority of the port's activity.

The Inland Port has outperformed expectations and a more than \$30 million expansion was completed in 2021. According to the Upstate Business Journal, the expansion increased terminal capacity, allowed for additional storage and processing tracks inside the terminal, which improved rail capacity, efficiency, and flexibility, and expanded on-terminal support facilities. During its most recently released fiscal year, which ended June 30, 2022 (2023 data was not available for this report), the Inland Port handled a record 150,000+ containers, which was 27.32 percent higher than fiscal year 2018.

As reported by CoStar, the metropolitan Greenville - SC warehouse market consists of approximately 140,511,520 square feet of warehouse space. As of 1st Quarter 2023, there was approximately 134,339,968 square feet of occupied warehouse space (including sublet space), resulting in an occupancy rate of 95.6 percent for the metro area. This reflects a decrease from the previous year's occupancy of 96.7 percent; occupancy is projected to drop to 94.0 percent in 2024. The area had completions of positive 2,703,757 square feet for the current quarter, which indicates an improvement from completions of positive 1,781,980 square feet from the prior year.

As reported by CoStar, the I-85 South/Donaldson warehouse submarket consists of approximately 18,326,678 square feet of warehouse space, or about 13 percent of the overall Greenville – SC market. As of 1st Quarter 2023, the submarket had an occupancy rate of 91.6 percent which is lower than the overall metro area. Occupancy for the submarket is projected to be 86.5 percent at the end of the current year but projected to increase to 91.2 percent in 2024. The submarket is projected to achieve completions of positive 3,475,738 square feet at the end of 2023, which is significantly higher than 2022 completions and projected completions for 2024. CBRE notes that the over 1 million square feet is due to the completion of Enterprise 85 (described later in this chapter).

3.3.4.2 Key Study Area Developments

Generally, the outlook for non-residential development in the study area is stable with existing development and available commercial space and land for development. The Southern Connector provides a direct, reliable route for non-residential developments within the study area to the broader regional highway network.

Some of the key non-residential developments in the Southern Connector corridor mentioned in the Real Estate Study are discussed below.



 The South Carolina Technology and Aviation Center, SCTAC, was formerly known as the Donaldson Center Business Park and is located in the northeast quadrant of the intersection of Route 25 and the Southern Connector. SCTAC, a 2,600-acre business and industrial park, was converted from an Air Force base to a "multi-modal" industrial park and has modern airport facilities and railway access. With more than 110 successful and diverse companies, SCTAC has an annual economic impact of over \$2.0 billion. A total of 6,800 jobs are supported either directly, indirectly, or induced by operations at SCTAC. The aviation companies located at SCTAC, including global giant Lockheed Martin, provide aircraft maintenance and repair, fuel and supplies, flight charters, hangar rentals, and other aviation services. The SCTAC will be Lockheed Martin's home for the production of the F-16 Fighting Falcon. Michelin North America maintains a major manufacturing facility within the SCTAC. According the CBRE report, the SCTAC has 82 acres still available.

The South Carolina Army Air National Guard completed the Aviation Center of Excellence at SCTAC in 2016 with an initial investment of \$30 million and the creation of 150 jobs. This facility was expanded in 2018 to open a joint training facility with Greenville Technical College. According to a press release, this investment was for a 95,225 sq. ft. facility that cost approximately \$22 million and allows Greenville Tech to expand enrollment in its aircraft maintenance technology program, which is currently licensed by the Federal Aviation Administration for 120 students.

SCTAC converted a closed runway into an automotive test track, breathing new economic life into an aviation asset that had stood idle for nearly 50 years. The International Transportation Innovation Center (ITIC) provides multiple industries; automotive, information, and communication, with a comprehensive approach that promotes and facilitates innovation workshops, prototype development and validation, technology demonstration events, technology conferences, and exhibition management. With over 550 acres, ITIC's testbed offers an ideal environment for conducting rigorous scientific and educational testing of new mobility technologies and traditional vehicle testing. Designed by the world's leading designer of automotive testing facilities, Tilke GmbH & Co. of Germany, ITIC's master plan build out is occurring in priority phases to meet the most pressing industry demands for testing technologies.

Whether testing for safety, efficiency, durability or maneuverability, ITIC's testbed is customizable for a multitude of configurations. Available to any organization, regardless of OEM, scientific or university affiliation, ITIC works to provide a unique testing experience for each customer's needs. Features include: a 1-mile long by 300-foot straightaway; taxiways and off-road areas; surface variations, including asphalt, concrete, and off-road surfaces; transport vehicle parking; wireless charging capabilities; DSRC communications network; EV charging; and a dedicated fire department, providing emergency services 24 hours a day.

- The Augusta Grove Business Park (formerly the Matrix Business Park) is located in the northwest quadrant of the intersection of US 25 (Augusta Road) and the Southern Connector. The Augusta Grove Business Park is a 1,100-acre, master-planned park with a special I-2 zoning classification and restrictive covenants that make it ideally suited for industry, warehouse/distribution operations, research & development and headquarters campus facilities. Companies currently operating within the Augusta Grove Business Park include GE Aviation, Roy Metal Finishing, Sun City Produce, Kimura, JTEKT, Orbis, Android Industries, Padagis, Yuasa International, and Magna/Proper Polymers. CBRE is aware of only a few tracts of varying sizes located within the Augusta Grove Business Park that are being marketed for sale, however they do not have a set asking price.
- Based on discussions with the Greenville Area Development Corporation (GADC), the South Greenville Enterprise Park has broken ground and is an 875-acre business park located at US 25 (August Road) and Bessie Road, just to the south of the Southern Connector. It is CBRE's understanding that all utilities have been pulled to the site. Vermeer Co. developed a 150,000 square foot manufacturing plant in 2021, while SunCap property Group broke ground in 2022 on Enterprise 85, a 140-acre industrial park. A 1,006,880-SF Phase I spec building is under construction and expected to deliver by the end of 2023. The South Greenville Enterprise Park has a 379.50-acre tract listed for sale at \$30,500 per acre, or \$11,600,000.

As noted in the CBRE Report, the relative lack of consistent sewer service is one of the main constraints to development in this area. Renewable Water Resources (ReWa) provides wastewater treatment services to the Southern Connector area. ReWa owns and maintains the sewer trunk lines and treatment facilities, while sewer sub-districts (Metropolitan, Mauldin, and Simpsonville) maintain the smaller collector lines that feed into the trunk lines. The sewer authority and its sub-districts are often unwilling to share in the costs of extending service. Several recent projects in the study area have spent an enormous amount of money to bring sewers to their property in order to make their project viable. These projects are on a large enough scale to be able to justify this expense; smaller projects would not be able to afford these capital improvements. Consequently, commercial and residential development in the Southern Connector service area will continue to follow locations with existing sewer availability for some time into the future. However, progress is finally starting to be made on this front and is likely to continue as Greenville County continues to push development in the Southern Connector area. Based on CBRE's discussions, it appears that a sewer line has been extended down Augusta Road, south of I-185, in order to facilitate the Enterprise 85 industrial park. Extensions further south along this thoroughfare would require funding from developers.

4.0 FUTURE ROADWAY NETWORK IMPROVEMENTS

From 2017 to 2019, the Southern Connector benefitted during the construction of the I-85/I-385 Gateway project interchange. This project included the widening of I-385 from south of Woodruff Road to north of I-85, the construction of auxiliary lanes and widening of ramps on I-85 between Pelham Road and I-385, the addition of collector-distributor roads along I-385 and the replacement of loop ramps with directional ramps. Construction began in February 2017 and was substantially complete by the end of 2019. Traffic disruptions that occurred as part of this project, including nighttime and weekend closures, benefitted the Southern Connector. Stantec's analysis of the traffic data estimates that the Southern Connector volumes increased an additional 2 percent during this period as traffic diverted to avoid the construction delays.

According to the GPATS 2023-2028 Transportation Improvement Program (TIP), there are currently two local area roadway improvements in the planning or pre-construction phase that may have an impact on Southern Connector traffic.

- Project P308375, includes intersection improvements along West Georgia Road (SC 272) at Neely Ferry, E Standing Springs Road, and Rocky Creek Road and a roadway widening from Kettle Oak Way to Rio Grande and Morning Mist Lane to Malibu Lane. While West Georgia Road is a minor competitor to the Southern Connector, this improvement could potentially divert a small volume of traffic that had been using the Southern Connector to access I-385. The project is scheduled to be let in 2024 and there is no scheduled completion date yet.
- Project P027368 is an I-85 widening from SC153 (Interchange 40) to near SC 85 (Interchange 69). This project is in the early planning stages and no date has been set for construction. Discussions with the SCDOT project manager indicate that this project would be let no earlier than 2030. For the purposes of this study a 4-year construction schedule was assumed from 2030 to 2034. A one percent bump in traffic was assumed on the Southern Connector during this time period, and this diverted traffic was assumed to move back to I-85 once the construction is completed in 2035.

5.0 PROJECTED TOLL TRANSACTIONS AND REVENUE

The Southern Connector is an established toll facility; it has been open to traffic since 2001 and has had toll increases that could be evaluated for impacts to transactions and revenue. Using over 20 years of operating history through the Great Recession and the COVID-19 pandemic, a detailed land use development study, and the apparent lack of significant roadway network changes, Stantec has developed long-term traffic and revenue estimates.

Shown below are Stantec's estimates of the maximum revenues that are reasonably achievable for the Southern Connector, subject to the assumptions and limitations in Section 5.4.

5.1 ESTIMATED 2023 TOLL TRANSACTIONS AND REVENUE

The first step in preparing the traffic and revenue forecasts for the toll road was to review the traffic and revenue growth on the Southern Connector since the last toll increase in 2020. As shown in Table 5.1, growth since the lows of 2020 has been positive for both transactions and revenue. From 2021 to 2022, transactions grew by 4.8 percent, and revenues grew by 8.2 percent.

Year	Annual Transactions	Annual Average Daily Transactions	% Change	Toll Revenue	% Change
2019	6,599,088	18,080		\$11,940,537	
2020(1)	5,191,374	14,184	-21.5%	\$11,369,802	-4.8%
2021	5,909,028	16,189	14.1%	\$13,648,546	20.0%
2022	6,193,075	16,967	4.8%	\$14,772,781	8.2%
		Jan	i-Jun		
2022	2,999,428	16,571		\$ 7,264,572	
2023	3,251,738	17,965	8.4%	\$ 7,793,032	7.3%
		Feb	-Jun		
2022	2,587,357	17,249		\$ 6,360,665	
2023	2,757,708	18,385	6.6%	\$ 6,582,345	3.5%
		Total	Annual		
2022	6,193,000	16,967		\$14,773,000	
2023 ⁽²⁾	6,423,000	17,597	3.7%	\$15,544,000	5.2%

Table 5.1: Southern Connector Transaction and Revenue Growth since 2020 Toll Increase

Source: The Connector 2000 Association Traffic and Revenue Summary (1) Toll increase in January 2020

(2) Estimated Annual Totals.

In the first six months of 2023, 3.25 million transactions were recorded, a growth of 8.4 percent over 2022; toll revenue reached \$8.79 million, growing 7.3 percent over the same six months of 2022. The Omicron variant resulted in fewer transactions in January 2022 leading to higher growth between the first six months of 2022 and 2023. However, if January is excluded, the

growth rates for transactions and toll revenues is 6.6 percent and 3.5 percent between 2022 and 2023. This analysis indicated that growth has stabilized from the recovery since the pandemic.

For the remainder of 2023, growth rates were estimated by individual plaza and differentiated by autos and trucks accounting for the observed variability by plaza and by vehicle class. The growth rates were also softened somewhat compared to the first half of the year due to the possibility of an upcoming recession (see Blue Chip discussion in next section). At the aggregate level, 2023 transactions and toll revenue for the full calendar year are estimated to grow by 3.7 percent and 5.2 percent, respectively.

5.2 LONG-TERM TRANSACTION GROWTH FORECASTING PROCEDURE

As discussed in Chapter 3, the Greenville Pickens Area Transportation Study (GPATS) did not identify the area immediately surrounding the Southern Connector as a high growth area in terms of population or employment as compared to other areas in the region. Similarly, the Real Estate Study, did not identify any near-term developments in the area immediately surrounding the Southern Connector that would generate significant new traffic in the area.

As a result, a spreadsheet model was developed that used the long-term growth rates based on the historical growth trends. The growth rates were developed by individual plaza and differentiated by autos and trucks to account for the observed variability by plaza and by vehicle class. Based on the revealed behavior of the 2020 toll increase, toll elasticities were applied in each year that a toll increase was assumed, starting in 2024. The elasticity factors were assumed to vary based on payment type (cash or PalPass) and vehicle type (autos or trucks). Passenger car elasticities for both cash and PalPass were determined to be similar at -0.61 and -0.60. Truck elasticities were assumed to be lower than the passenger car elasticities at -0.29 and -0.40. This assumption was based upon the truck transaction data which showed continued growth even after the toll increase. Overall, the resulting toll elasticity for cash transactions was assumed to be -0.56, and the resulting toll elasticity for PalPass transactions was assumed to be -0.70. Some diversion from cash payment to PalPass was assumed as drivers would realize some cost savings and electronic payment will be easier and more convenient.

Adjustments to the forecasted growth in the model were made to account for the planned construction on I-85, expected to begin in 2030, and to account for current economic conditions. As discussed in Chapter 4, SCDOT has a project to widen I-85 from SC153 (Interchange 40) to near SC 85 (Interchange 69). For the purposes of this study a 4-year construction schedule was assumed from 2030 to 2034. A one-time one percent bump in traffic was assumed on the Southern Connector in 2030 and that amount of traffic was assumed to move back to I-85 once the construction is completed in 2035.

In addition, there has been recent economic activity that indicate that there may be a national economic slowdown. In the August Blue Chip Economic Indicators: A Monthly Publication of the Top Analysts Forecasts of the U.S. Economic Outlook, the consensus forecast is that there is approximately a 50 percent probability of a U.S. recession in the next 12 months. The biggest



concern, according to these analysts, is stemming from the recent weaknesses in the European and some Asian economies. In particular, most respondents opined that the weaker-thanexpected recent economic news from China would stunt global growth. As a result, a conservative assumption was programmed into the spreadsheet model that a recession would negatively impact transaction growth on the Southern Connector in 2023 and 2024. A recovery period beginning in 2025, which would positively impact transaction growth on the Southern Connector, was also programmed into the model.

5.3 ESTIMATED TRAFFIC AND REVENUE, PROPOSED TOLLS

The proposed toll rates that would result in the maximum revenues for the Southern Connector are shown in Table 5.2. The next toll increase would occur on or about January 1, 2024.

Vehicle	Payment									
Class	Туре	1-Jan-23		1-Jan-24		1-Jan-28		1-Jan-32		
Mainline Toll Plazas										
2-Axle	Cash	\$	2.00	\$	2.25	\$	2.50	\$	2.75	
	PalPass	\$	1.90	\$	2.15	\$	2.40	\$	2.65	
3-Axle	Cash	\$	4.20	\$	4.80	\$	5.40	\$	6.00	
	PalPass	\$	3.96	\$	4.56	\$	5.16	\$	5.76	
4-Axle	Cash	\$	5.60	\$	6.40	\$	7.20	\$	8.00	
	PalPass	\$	5.28	\$	6.08	\$	6.88	\$	7.68	
5-Axle	Cash	\$	7.00	\$	8.00	\$	9.00	\$	10.00	
	PalPass	\$	6.60	\$	7.60	\$	8.60	\$	9.60	
6-Axle	Cash	\$	8.40	\$	9.60	\$	10.80	\$	12.00	
	PalPass	\$	7.92	\$	9.12	\$	10.32	\$	11.52	
Ramp Toll Plazas										
All	Cash	\$	1.25	\$	1.50	\$	1.75	\$	2.00	
	PalPass	\$	1.25	\$	1.50	\$	1.75	\$	2.00	

Table 5.2: Proposed Toll Schedule through 2032

Under this toll schedule, 2-axle mainline cash and PalPass tolls would increase by \$0.25 every four years starting in 2024. Tolls for 3-axle, 4-axle, 5-axle and 6-axle vehicles at the mainline plazas would increase every four years by \$0.60, \$0.80, \$1.00 and \$1.20, respectively.

PalPass tolls would continue to be discounted from cash tolls by \$0.10, \$0.24, \$0.32, \$0.40, and \$0.48 for 2-axle. 3-axle, 4-axle, 5-axle, and 6-axle vehicles, respectively.

Tolls at the two ramp locations would be increased by \$0.25 every four years beginning in 2024. All vehicles pay the same toll at the ramp plazas and no discount is given at the ramp plazas for PalPass payment. It is recommended to keep a PalPass discount in place at the mainline barriers as it is an effective marketing tool to both attract and retain customers on the facility. As discussed previously, most trips on the Southern Connector are through trips. These trips compete directly with the free alternative route on I-85/I-385. Since the Southern Connector trip has limited time savings during peak periods only, most trips are discretionary and based on the perceived quality of the trip (comfort, safety, ease of payment, reliability). Electronic payments also cost the Association less on a per transaction basis, thereby potentially saving the Association operational costs. Preserving a PalPass discount throughout the forecast period also allows for the potential for increased revenue should it be needed at a future time. These discounts could be reduced to increase revenues without implementing an across-the-board toll increase.

The traffic and revenue forecast is presented in Table 5.3. It is to be noted that the forecasts reflect a longer term trendline representing projected average performance over the years. Individual years will vary from this trendline, in both positive and negative directions. Every four years, per our toll increase assumption, a slight decrease in transactions occurs to account for the elastic reaction to the assumed toll increase. In addition, as previously discussed, a transaction growth slowdown due to a recession has been assumed in the forecast period from 2023 to 2024 with a recovery period from 2025 to 2028. Also, a one-time "bump" in traffic was assumed to occur in 2030 to account for the traffic diversions from I-85 while that route is under construction. The traffic is assumed to revert back to their route on I-85 in 2035.

Estimated revenue will continue to grow throughout the forecast period with revenue jumps in years that toll increases are assumed. Average tolls will increase from the current level of \$2.39 to \$4.72 at the end of the forecast.

Year	Annual Percent			Annual Toll Percent		Average Toll		Annual Other		Annual Total		Percent
2012	Transactions	Change	Revenue		Change	<u> </u>		Revenue ⁽⁸⁾		Revenue		Change
2013 2014	4,688,000	10.1%	\$ \$	6,888,600	0 507	\$ \$	1.47	\$ \$	74,400	\$ \$	6,963,000	0 707
2014	5,162,500 5,821,900	10.1%	ې \$	7,473,200 8,351,000	8.5% 11.7%	ې \$	1.45	ې \$	92,700 220,600	ş Ş	7,565,900 8,571,600	8.7% 13.3%
2013	5,821,900	2.0%	ş	9,883,800	18.4%	ې \$	1.43	\$ \$	273,000	ې ډ	10,156,800	13.3%
2010	6,191,300	4.2%	Ş	10,853,200	9.8%	Ş	1.75	\$ \$	393,700	Ş	11,246,900	10.3%
2018	6,453,500	4.2%	Ş	11,521,900	6.2%	\$	1.79	\$	387,600	\$ \$	11,909,500	5.9%
2019	6,599,100	2.3%	\$	11,940,500	3.6%	\$	1.81	Ś	445,400	\$	12,385,900	4.0%
2020	5,191,400	-21.3%	Ş	11,369,800	-4.8%	\$	2.19	\$	277,100	Ş	11,646,900	-6.0%
2020	5,909,000	13.8%	Ş	13,648,500	20.0%	Ş	2.31	\$	530,500	Ş	14,179,000	21.7%
2022	6, 193, 100	4.8%	\$	14,772,800	8.2%	\$	2.39	\$	726,800	\$	15,499,600	9.3%
2023	6,422,700	3.7%	\$	15,544,100	5.2%	\$	2.42	\$	575,100	\$	16,119,200	4.0%
2024	6,196,200	-3.5%		17,097,300	10.0%	\$	2.76	\$	632,600	\$	17,729,900	10.0%
2025	6,559,600	5.9%	\$	18,095,300	5.8%	\$	2.76	\$	669,500	\$	18,764,800	5.8%
2026	6,898,500	5.2%	\$	19,043,000	5.2%	\$	2.76	\$	704,600	\$	19,747,600	5.2%
2027	7,210,100	4.5%	T	19,875,300	4.4%	\$	2.76	\$	735,400	\$	20,610,700	4.4%
2028	6,980,100	-3.2%	\$	21,594,900	8.7%	\$	3.09	\$	799,000	\$	22,393,900	8.7%
2029	7,229,800	3.6%	\$	22,343,800	3.5%	\$	3.09	\$	826,700	\$	23,170,500	3.5%
2030 ⁽²⁾	7,556,200	4.5%		23,334,400	4.4%	\$	3.09	\$	863,400	\$	24,197,800	4.4%
2031	7,805,700	3.3%	\$	24,073,600	3.2%	\$	3.08	\$	890,700	\$	24,964,300	3.2%
2032	7,568,500	-3.0%		25,876,900	7.5%	\$	3.42	\$	957,400	\$	26,834,300	7.5%
2033	7,769,300	2.7%		26,523,900	2.5%	\$	3.41	\$	981,400	\$	27,505,300	2.5%
2034	7,909,100	1.8%		26,953,900	1.6%	\$	3.41	\$	997,300	\$	27,951,200	1.6%
2035 ⁽³⁾	8,099,000	2.4%	\$	27,571,200	2.3%	\$	3.40	\$	1,020,100	\$	28,591,300	2.3%
2036	7,851,800	-3.1%	\$	29,350,600	6.5%	\$	3.74	\$	1,086,000	\$	30,436,600	6.5%
2037	8,019,600	2.1%	\$	29,957,700	2.1%	\$	3.74	\$	1,108,400	\$	31,066,100	2.1%
2038	8,171,600	1.9%	\$	30,489,100	1.8%	\$	3.73	\$	1,128,100	\$	31,617,200	1.8%
2039	8,304,600	1.6%	\$	30,961,800	1.6%	\$	3.73	\$	1,145,600	\$	32,107,400	1.6%
2040	8,029,500	-3.3%	\$	32,619,800	5.4%	\$	4.06	\$	1,206,900	\$	33,826,700	5.4%
2041	8,138,600	1.4%	\$	33,051,600	1.3%	\$	4.06	\$	1,222,900	\$	34,274,500	1.3%
2042	8,249,200	1.4%	\$	33,489,100	1.3%	\$	4.06	\$	1,239,100	\$	34,728,200	1.3%
2043	8,360,700	1.4%	\$	33,926,600	1.3%	\$	4.06	\$	1,255,300	\$	35,181,900	1.3%
2044	8,094,700	-3.2%	\$	35,563,000	4.8%	\$	4.39	\$	1,315,800	\$	36,878,800	4.8%
2045	8,204,100	1.4%	\$	36,027,300	1.3%	\$	4.39	\$	1,333,000	\$	37,360,300	1.3%
2046	8,315,100	1.4%	\$	36,497,700	1.3%	\$	4.39	\$	1,350,400	\$	37,848,100	1.3%
2047	8,427,500	1.4%	\$	36,974,400	1.3%	\$	4.39	\$	1,368,100	\$	38,342,500	1.3%
2048	8,187,600	-2.8%		38,669,700	4.6%	\$	4.72	\$	1,430,800	\$	40,100,500	4.6%
2049	8,298,300	1.4%		39,174,400	1.3%	\$	4.72	\$	1,449,500	\$	40,623,900	1.3%
2050	8,410,500	1.4%		39,685,800	1.3%	\$	4.72	\$	1,468,400	\$	41,154,200	1.3%
2051	8,524,300			40,203,900	1.3%	\$	4.72	\$	1,487,500	\$	41,691,400	1.3%

Table 5.3: Annual Traffic and Revenue Forecast

(1) Values shown from 2013 to 2022 are Actual Transactions and Revenue.

(2) Construction for I-85 widening project begins, so 1% increase in traffic is assumed to account for traffic diverted to the Southern Connector during construction.

(3) I-85 widening complete, so all traffic diverted to the Southern Connector during construction reverts to original I-85 route.

(4) Other revenue includes PPD revenue (tolls and fees from violations, other revenues) and Misc. revenue (statement revenue, lost PalPass deposits, adjustment).



5.4 ASSUMPTIONS

It is Stantec's opinion that the traffic and toll revenue estimates made for the Association and provided herein have been prepared in accordance with accepted industry-wide practice. In Stantec's opinion, the assumptions underlying the study provide a reasonable basis for the analysis. There are likely to be differences between the projections and actual results, and those differences may be material. Because of these uncertainties, Stantec makes no guaranty or warranty with respect to the projections in this study.

The estimates contained in this document, while presented with numeric specificity, are based on a number of estimates and assumptions which, though considered reasonable to us, are inherently subject to uncertainties and contingencies, most of which are beyond the control of the Association and cannot be predicted with certainty. In many instances, a broad range of alternative assumptions could be considered reasonable, and any changes in the assumptions could result in material differences in estimated outcomes. It is important to note the following assumptions which, in our opinion, are reasonable:

- This report presents the results of Stantec's consideration of the information available as of the date hereof and the application of our experience and professional judgment to that information. It is not a guarantee of any future events or trends.
- The traffic and gross toll revenue estimates will be subject to future economic and social conditions, demographic developments and regional transportation construction activities that cannot be predicted with certainty.
- Toll levels for the forecasts will occur on the same timeline as proposed herein and toll increases will be as described herein.
- We do not express any opinion on the following items: socioeconomic and demographic forecasts, proposed land use development projects and potential improvements to the regional transportation network.
- The standards of operation and maintenance on the Southern Connector will be maintained as planned within the business rules and practices.
- The general configuration of the Southern Connector and its interchanges will remain as discussed in this report.
- Access to and from the Southern Connector will remain as discussed in this report.
- Transportation improvements in the Greenville area will be the same as those included in the 2023-2028 Transportation Improvement Program (TIP) and 2022 Long Range Transportation Plan (LRTP) and there will be no additional improvements to existing competing routes to the Southern Connector or construction of any additional competing

routes. No other competing highway projects, tolled or non-tolled, are assumed to be constructed or significantly improved in the area during the forecast period, except those identified within this report.

- Major highway improvements that are currently underway or fully funded will be completed as planned.
- The Southern Connector will be well maintained, efficiently operated, and effectively signed to encourage maximum usage.
- No reduced growth initiatives or related controls that would significantly inhibit normal development patterns will be introduced during the estimate period.
- Utility infrastructure in the area served by the Southern Connector will be developed so that it is adequate to serve the projected increases in population and land use development;
- There will be no future serious protracted recession during the estimate period.
- There will be no protracted fuel shortage during the estimate period.
- No local, regional, or national emergency will arise that will abnormally restrict the use of motor vehicles.

This document, and the opinions, analysis, evaluations, or recommendations contained herein are for the sole use and benefit of the contracting parties, except as hereinafter stated. There are no intended third-party beneficiaries, and Stantec Consulting Services Inc. (and its affiliates) shall have no liability whatsoever to any third parties for any defect, deficiency, error, omission in any statement contained in or in any way related to this document or the services provided. Stantec acknowledges and agrees that this Toll Rate Study will be provided to the South Carolina Department of Transportation, to the Trustee for the holders of the Client's bonds and to the holders of the Client's bonds and will be open to public inspection on Client's website.

Neither this document nor any information contained therein or otherwise supplied by Stantec in connection with the study and the services provided to the Association shall be used in connection with any financing solicitation, proxy, and proxy statement, proxy soliciting materials, prospectus, Securities Registration Statement or similar document without the express written consent of Stantec Consulting Services Inc.

Appendix A REAL ESTATE STUDY BY CBRE, INC.

CBRE VALUATION & ADVISORY SERVICES

REAL ESTATE STUDY

SOUTHERN CONNECTOR TOLL ROAD GREENVILLE, SOUTH CAROLINA 29673 CBRE GROUP, INC. FILE NO. CB23US055307-1

STANTEC


VALUATION & ADVISORY SERVICES



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August 8, 2023

Ms. Tiffany Cummings Associate Stantec 475 5th Avenue, 12th Floor New York, NY 10017-7239

RE: Real Estate Study for Southern Connector Toll Road Southern Connector Toll Road Greenville, Greenville County, South Carolina 29673 CBRE, Inc. File No. CB23US055307-1

Dear Ms. Cummings:

At your request and authorization, CBRE, Inc. has prepared a real estate study for the Southern Connector Toll Road area in Greenville, South Carolina. This study will be used as a part of the basis for the overall Traffic and Revenue Study. Our analysis is presented in the following Real Estate Report. The subject area is known as the Southern Connector and represents an approximate tolled 14-mile portion of Interstate 185. Overall, I-185 is a 17.7-mile highway that serves as a spur route of Interstate 85 into the city of Greenville, as well as a shortcut route for drivers accessing Interstate 385 from northbound I-85. The subject (Southern Connector) was constructed as a public-private partnership between the South Carolina Department of Transportation and Interest Carolina Transportation Group, LLC, a development team that included a not-for-profit corporation called Connector 2000 Associates, Inc.

This report is the result of a comprehensive study of historical and projected development patterns in the area along the Southern Connector and the broader surrounding area served by the Southern Connector. It includes an assessment of demographic trends, available buildings and vacant tracts of land, zoning and entitlements, utility/infrastructure availability, planned transportation improvements, and economic development initiatives, as well as the residential, retail, office and industrial sectors of the overall real estate market. CBRE has relied on several market analytic resources, market participant interviews and transportation studies within this report. As requested, this report estimates projected development for the short (5 year), intermediate (15 year), and long (50 year) term time periods.



It has been a pleasure to assist you in this assignment. If you have any questions concerning the analysis, or if CBRE can be of further service, please contact us.

Respectfully submitted,

CBRE - VALUATION & ADVISORY SERVICES

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- A Greenville Area Data Sheets
- B Demographic Data Sheets
- C Traffic Data Sheets



Introduction

The subject area is known as the Southern Connector and represents a tolled 14-mile portion of Interstate 185. Overall, I-185 is a 17.7-mile highway that serves as a spur route of Interstate 85 into the city of Greenville, as well as a shortcut route for drivers accessing Interstate 385 from northbound I-85.

Southern Connector Toll Road Map



The Southern Connector was constructed as a public-private partnership between the South Carolina Department of Transportation and Interest Carolina Transportation Group, LLC, a development team that included a not-for-profit corporation called Connector 2000 Associates, Inc. Under this agreement, C2A operates the toll road under a fifty-year license. They were responsible for financing, designing, constructing, operating and maintaining the road during this period and the toll revenue would be used to pay them for these efforts.



The Southern Connector was built to relieve congestion on Interstate Highways 85 and 385, and to open up a significant portion of southern Greenville County to economic development. The Connector is the only toll road in South Carolina. The Southern Connector's mission is to facilitate safe, efficient, and convenient commuter, shipping and leisure traveler access to, through and around Greater Greenville and Upstate South Carolina by operating, maintaining and servicing the Southern Connector toll road.

There are two toll plazas located along the Southern Connector, known as the east and west plazas. Toll booths are located on entrance/exit ramps on Fork Shoals Road (Exit 4) and Piedmont Highway (Exit 10). The toll plazas have both electronic toll collection (ETC) and cash lanes; toll booths located on ramps accept only ETC or exact change only. Those that do not have exact change or do not pay the toll can fill out a "Pledge Payment Form;" violators have 30 days to remit payment before administrative fees are added to the toll due.

Based on the Southern Connector's website, year-to-date figures (through June) show 3,251,738 transacts, or a 6-month annualized figure of 6,503,476 riders. The 2022 yearly transacts was 6,193,075 (4.77% less than 2023 annualized), while the 2021 yearly transacts was 5,909,028 (4.59% less than 2022 YTD). These figures were depressed after COVID-19 in 2020 and have been steadily climbing over the past three years. To put this into perspective, the annual riders in 2002 (the first full year after opening) was 3,966,717.

Based on this information, the Southern Connector appears to be on track in 2023 to get closer to their all-time largest number of riders, which was set at 6,599,088 in 2019.



Executive Summary

Overall, the Southern Connector Area has experienced strong growth over the past five years. While most of this growth has been industrial-oriented development, residential development is beginning to increase as Greenville's overall population continues to expand down Highway 276 (Laurens Road) and I-385 towards Mauldin and Simpsonville.

INDUSTRIAL DEVELOPMENT TRENDS AND PROJECTIONS

The major developments of influence in the immediate area include the Donaldson Center Airport (a former Air Force Base moved in the early 1960's conveyed to the city and county of Greenville), the Michelin Tire facility, and the Southern Railroad spur. These projects have all fostered industrial growth in the region, and include the Beechtree Business Park, Augusta Grove Business Park (formerly the Matrix Business Park), and the South Greenville Enterprise Park.

Michelin North America

Michelin North America is a \$10.76 billion dollar a year company operating 19 plants in 16 locations and employs 22,000 people. Michelin employs over 4,100 people in Greenville where it has its North American headquarters, as well as a major manufacturing facility and R&D center. The manufacturing facilities are all located within the Southern Connector Area.

SC Technology and Aviation Center (SCTAC)

Originally established in 1964 as the Donaldson Center Industrial Airpark, it was rebranded the SC Technology and Aviation Center in 2008. The SC Technology and Aviation Center is designed to meet the unique needs of technologically advanced businesses in a global economy. The center features an attractive combination of advanced manufacturing, distribution, and aviation facilities on 2,600 acres. As of the date of this report, 82 acres were currently still available. With more than 118 successful and diverse companies, SCTAC has an annual economic impact of over \$1.93 billion, while supporting more than 6,800 jobs.

South Carolina Army Air National Guard

The South Carolina Army Air National Guard completed the Aviation Center of Excellence at SCTAC in 2016 with an initial investment of \$30 million and the creation of 150 jobs. This facility was expanded in 2018 to open a joint training facility with Greenville Technical College. According to a press release, this investment was for a 95,225 square foot facility that cost approximately \$22 million and allows Greenville Tech to expand enrollment in its aircraft maintenance technology program, which is currently licensed by the Federal Aviation Administration for 120 students.

International Transportation Innovation Center (ITIC)

SCTAC converted a closed runway into an automotive test track, breathing new economic life into an aviation asset that had stood idle for nearly 50 years. ITIC provides multiple industries;



automotive, information, and communication, with a comprehensive approach that promotes and facilitates innovation workshops, prototype development and validation, technology demonstration events, technology conferences, and exhibition management. ITIC is located within the South Carolina Technology & Aviation Center (SCTAC). With over 550 acres, ITIC's testbed in Greenville, SC offers an ideal environment for conducting rigorous scientific and educational testing of new mobility technologies and traditional vehicle testing. Designed by the world's leading designer of automotive testing facilities, Tilke GmbH & Co. of Germany, ITIC's master plan build out is occurring in priority phases to meet the most pressing industry demands for testing technologies.

Whether testing for safety, efficiency, durability or maneuverability, ITIC's testbed is customizable for a multitude of configurations. Available to any organization, regardless of OEM, scientific or university affiliation, ITIC works to provide a unique testing experience for each customer's needs. Features include: a 1-mile long by 300-foot straightaway; taxiways and off-road areas; surface variations, including asphalt, concrete, and off-road surfaces; transport vehicle parking; wireless charging capabilities; DSRC communications network; EX charging; and a dedicated fire department, providing emergency services 24 hours a day.

Augusta Grove Business Park

Augusta Grove Business Park (formerly the Matrix Park) is situated at the corner of U.S. Highway 25 (Augusta Road) and the Southern Connector, and is also within four miles of Interstate 85. Companies currently operating within the Augusta Grove Business Park include: GE Aviation, Roy Metal Finishing, Sun City Produce, Kimura, JTEKT, Orbis, Android Industries, Padagis, Yuasa International, and Magna/Proper Polymers.

South Greenville Enterprise Park

Based on our discussions with the Greenville Area Development Corporation (GADC), the South Greenville Enterprise Park has broken ground and is an 875-acre business park located at U.S. Highway 25 and Bessie Road, just to the south of the Southern Connector. It is our understanding that all utilities have been pulled to the site. Vermeer Co. developed a 150,000 square foot manufacturing plant in 2021, while SunCap property Group broke ground in 2022 on a 1,006,880 square foot spec building that they plan to deliver before the end of 2023.

RESIDENTIAL TRENDS AND PROJECTIONS

Overall, it was indicated that the residential development within the Southern Connector area has been positive and developers are actively prospecting land near the I-85 and I-185 corridor, the U.S. Highway 25 and I-185 corridor, and along West Georgia Road near I-385 and Simpsonville. As shown in this report, Greenville County's Comprehensive Plan and the Long-Range Transportation Plan produced by GPATS indicates the majority of growth in the southeast Greenville area along the eastern boundary of the Southern Connector area over the next 10- to 15-years. Our research and discussions with market participants confirmed these projections.



Conclusion

The Southern Connector Area has seen increased activity on several fronts within recent years. While most of the significant projects in the Southern Connector Area are industrial oriented, residential developments are beginning to expand into the east and west boundaries of the Southern Connector Area. Further, it was noted that the Southern Connector area is becoming more attractive compared to other locations throughout Greenville due to available land, ease of access and other major economic drivers, such as Michelin Tire. However, until water and sewer are expanded into low growth areas, development will remain moderate. Overall, the Southern Connector Area can expect to continue to see moderate growth with industrial oriented development in the near-term centered around the Donaldson Center Airport and U.S. Highway 25. Residential development is expected to be primarily single-family in nature and to represent a moderate-growth trend in the near-term with continued expansion of new developments, as utilities are extended, and population growth continues within the area.



Area Analysis



The subject is located in the Greenville-Anderson-Mauldin, SC Metropolitan Statistical Area. Key information about the area is provided in the following tables and is based on 2023 estimates compiled by ESRI.

According to ESRI's website, they have "access more than 2,000 variables on current year estimates and 5-year projections of US demographics including population, households, income, age, and ethnicity and data on education, marital status, and languages spoken. Data sources include: ESRI, US Census Bureau, and the American Community Survey (ACS).



POPULATION

The area has a population of 966,684 and a median age of 40, with the largest population group in the 30-39 age range and the smallest population in 80+ age range.

Population has increased by 142,666 since 2020, reflecting an annual increase of 5.5%. Population is projected to increase by an additional 33,264 by 2028, reflecting 0.7% annual population growth.



INCOME

The area features an average household income of \$91,667 and a median household income of \$62,324. Over the next five years, median household income is expected to increase by 12.4%, or \$1,551 per annum.

EDUCATION

A total of 34.7% of individuals over the age of 24 have a college degree, with 21.8% holding a bachelor's degree and 12.9% holding a graduate degree.









EMPLOYMENT



The area includes a total of 447,658 employees and has a 2.70% unemployment rate. The top three industries within the area are Manufacturing, Health Care/Social Assistance and Retail Trade, which represent a combined total of 40% of the population.

According to CoStar, the Greenville-Spartanburg region, also known as South Carolina's Upstate, is the state's largest consolidated metro area and its manufacturing hub. According to 2021 census data, the Upstate has a population of 1,508,150 and contains 5,507 square miles. More than 14% of the workforce here is employed in manufacturing, with competitive strengths in automotive and advanced textiles, according to an analysis by the Upstate SC Alliance.

This industrial focus has helped the region weather the pandemic and accompanying economic downturn with a faster-than-average jobs recovery. Employment in the area has fully recovered from its pre-pandemic levels and is up more than 4% since February 2020.

Positioned on the Interstate 85 corridor between major Southern cities Charlotte and Atlanta, the region's manufacturing and logistics industries were initially damaged by supply chain disruptions early in the pandemic, but a shift in consumer spending from services to goods, particularly durable goods, boosted industrial activity in the region. Job announcements continued into 2023, with GE Appliances announcing plans to expand its distribution center. That came after a series of wins over the past several years, including TTI Floor Care's \$93 million investment in a new distribution center in Greer, DHL Supply Chain's addition of 200 new jobs in nearby Cherokee County, and electric vehicle maker Oshkosh Defense adding more than 1,000 new jobs in Spartanburg after winning a U.S. Postal Service contract to build the federal agency's next generation of delivery vehicles. Adidas also announced plans to expand its distribution center.

Once a textile mill hub, the decline of the U.S. textiles industry in the 1990s focused Upstate economic development efforts toward attracting advanced manufacturers. BMW's production facility in nearby Greer, which opened in 1994, has become the German automaker's most productive plant worldwide, with around 10,000 employees producing the majority of the company's SUVs sold in the U.S. and worldwide. In 2019, the company announced a \$1 billion expansion of the plant, making room for production of its new X7 model, and an additional \$1.7 billion investment announced in late 2022 will enhance the plant's capabilities to produce electric vehicles and develop a new battery assembly facility in Woodruff.

The presence of BMW, Michelin, Bosch, and other major automotive and machinery manufacturers has attracted automotive parts suppliers to the region and reoriented the textile industry here around producing for automotive uses. ZF, a German transmission manufacturer, announced 500 new jobs, and Huvis Indorama Advanced Materials announced it would add 50 new jobs at its current facility.

Nearby Clemson University and its engineering school have developed automotive research capabilities, including the International Center for Automotive Research (ICAR). Aerospace manufacturers have also leveraged the region's engineering and production talent. Lockheed Martin announced it would hire 200 workers at its Greenville facility to produce jets for a \$1.1 billion contract with the U.S. Air Force.



While industrial sectors draw the most attention, the area is also known for its downtown redevelopment, particularly in Greenville, and the office and retail uses that accompany it. Major office users include TD Bank regional headquarters, Denny's corporate headquarters, and the global headquarters of Fortune 1000 technology distributor ScanSource. Other office-using expansions include United Community Bank's 230-job move to downtown Greenville, Transcom's 450-job customer service center, Epsilon Software's 145-job expansion in Mauldin, and Global Lending Services' 660-job expansion in Greenville County. Canal Insurance also moved into a 60,000-SF lease in Downtown Greenville in 2022, the largest office lease since the beginning of the pandemic.

GREENVILLE INDUSTRIAL MARKET

Greenville's industrial market thrives on the automotive industry and an advantageous location with quick access to interstates, population centers, and ports. While growth in e-commerce and consumer spending boosted industrial real estate activity during the coronavirus pandemic, cooling consumer spending led to flat absorption over the three quarters leading into 23Q2. Longer-term, however, population growth along the Interstate 85 corridor as well as strength in the automotive sector, poise Greenville and neighboring Spartanburg to benefit from major federal investments in electrification of vehicles and other high-tech manufacturing. Most recently, BMW announced a \$1.7 billion investment in an electric vehicle production center and an additional EV battery production facility in Woodruff, both in the Spartanburg market.

Compared to Spartanburg, which has seen one of the largest expansions of industrial inventory in the U.S. over the past three years, Greenville's industrial market is more subdued. Of the more than 18 million SF of industrial space absorbed in the combined Greenville-Spartanburg area since 2021, Spartanburg accounted for nearly two-thirds of the activity despite having only a quarter of the area's population and workforce. In Greenville, longer-term strong demand has compressed the vacancy rate to 4.2%, though a recent slowdown in leasing activity has loosened the market slightly. Rent growth, at 10.3% year over year, remains above national trends.

Growing population and strong fundamentals have attracted investors to the area, including REITs and institutional investors, which have increased their share of total sales volume in the market in recent years. However, with rising interest rates and increasing economic uncertainty, sales volume declined considerably through mid-2023.

With less developable land than Spartanburg, the Greenville market is less likely to see a surge in new development and will face increasing competition from its neighbor, even as net deliveries and under-construction stock continues to expand. Most new projects are on the southeastern side of the market, near the BMW plant and Inland Port in Greer.

Leasing

Greenville and neighboring Spartanburg continue to attract automotive-related companies looking to locate near BMW's largest North American factory in Greer. However, the bulk of new



industrial development, particularly distribution, has shifted closer to the Interstate 26/85 junction in the Spartanburg market. While this has led to an increase in demand and declining vacancy rates in the longer term, a more recent slowdown has lifted vacancies off of all-time lows to about 4.2%. With a 3.3% expansion of industrial inventory slated to deliver over the coming quarters, vacancies are likely to rise through 2023.

Greenville remains a destination for engineering and manufacturing tenants, particularly automotive suppliers, which signed some of the largest recent leases. That includes passenger vehicle air conditioner-maker Thermo King's 589,680-SF lease in West Greenville's Willimon Business Park, which opened in September 2022, as well as signings from Sage Automotive Interiors (171,000 SF) and Gissing North America (136,000 SF). Third-party logistics providers such as Warehouse Services (647,790 SF), Swafford Transport and Warehouse (146,320 SF), Kimura Logistics (146,260 SF), and Global Trade Logistics (60,000 SF) also signed leases or moved in recent quarters. In early 2023, Orian Rugs moved into 658,000 SF in Anderson.

Electric golf cart maker STAR EV also announced plans to expand its Simpsonville production facility, representing one of many electric vehicle-related announcements in the broader Greenville-Spartanburg area, including expansion or relocation announcements from Oshkosh Defense and Proterra in neighboring Spartanburg. Medical device and other life science companies have also made plans to move into industrial space in the market, spurred by the opening of a branch of University of South Carolina's medical school as well as newly enhanced state incentives for the industry. Pharmaceutical manufacturer Padagis moved into 160,000 SF in Piedmont in July 2022. Arthrex, a maker of orthopedic surgery supplies, announced a \$100 million expansion of its Pendleton factory in 2023, and Luxor Scientific plans to expanded its laboratory facilities in Greenville.

Rents

Population growth and demand for logistics space has raised rent growth rates in Greenville above the national average, at roughly 10.3% annually. Asking rents average close to \$6.40/SF, with logistics rents asking slightly lower rates at \$6.10/SF. The metro's newest distribution centers and warehouses typically commanding a slight premium; however, larger properties with longer lease terms tend to rent for slightly less. For example, Trane's 10-year, 294,840-SF lease in the Willimon Business Park started at \$5.15/SF NNN, while Warehouse Services' 647,790-SF lease in a 1970- built facility on Orion Street was advertised at \$4.50/SF. Among use types, rent growth is highest in logistics-oriented facilities, at 11.4%, and lowest in flex space, at 7.9% annually. Specialized facilities, a category that includes the market's many manufacturers, have seen rent growth of 9.3% over the past year. Rent growth rates are evenly distributed through the metro's submarkets, but areas along or near one of the metro's major interstates, such as I-85 and I-385, have experienced slightly higher rent growth over the past year.

The submarkets with some of the highest rents are near the Inland Port of Greer to the east of Greenville, such as Pelham Road and I-385/Woodruff Road/Highway 14. In particular, the



properties along I-85 to the south of the inland port boast the highest rents in the metro. These properties enjoy a convenient location between Greenville and Spartanburg, with quick access to both I-26 and I-385. Slower leasing volume and an increase in new deliveries is likely to moderate rent growth in the coming quarters.

Construction

Greenville and neighboring Spartanburg are preparing for another wave of industrial deliveries. In Greenville, only about 4.3 million SF has delivered in the past 12 months, but another 4.6 million SF is underway. By contrast, neighboring Spartanburg is facing the second largest inventory expansion in the country. The construction pipeline in Greenville is only about 10% preleased, though existing properties that have delivered since 2020 are more than two-thirds leased.

Construction is largely concentrated along the I-85 corridor and the southeastern side of the Greenville market, near key transportation infrastructure like I-385, which provides a direct connection to Columbia and Charleston and connects to I-85. The I-385/Simpsonville and I-85 South/Donaldson submarkets (where the Southern Connector is located) account for more than three-fourths of under construction projects.

The Fox Hill Business Park in Fountain Inn, developed by New Jersey-based Sudler Companies, recently delivered its first two buildings—a 206,000-SF warehouse, which is partially occupied by Gissing North America, and a second 300,000-SF building, which was preleased by an unnamed tenant. The industrial park will eventually house up to 2.5 million SF of industrial and distribution space. Nearby in Simpsonville, SunCap Property Group broke ground on Enterprise 85, a 1.5 million-SF speculative distribution center scheduled to deliver later in 2023.

In Anderson County, The Exchange Logistics Park at I85 delivered a 289,170-SF building, which is about 80% leased, including an 80,000-SF lease by logistics company CHEP USA. Also in Anderson County, Atlanta-based developer Rooker delivered the Pelzer Point Commerce Center. User One World Technologies bought the two-building, 400,000-SF park in 2022. One World is a subsidiary of Techtronic Industries, or TTI, which owns or occupies a total of more than 2 million SF in the Greenville-Spartanburg area.

Recent Sales

Investors have been active in Greenville, closing on around \$422 million in transactions over the past 12 months. However, nearly three-quarters of that investment came before the fourth quarter of 2022, when rising interest rates and general economic uncertainty began putting some deals on hold.

Institutional, and even international capital continues to close deals in fast-growing tertiary markets like Greenville, especially for industrial investment. GIC Real Estate, Singapore's sovereign wealth fund, purchased two Greenville-based logistics properties as part of a 53-property, \$1.26 billion portfolio of Sun Belt logistics properties. Newer properties have continued

to close, with institutional investors making up most buyers. Dalfen Industrial bought the 2023built Building 2 at Upstate Trade Center for \$23.2 million or \$87/SF in March 2023. That came after London-based PGIM purchased a four-property portfolio of newly built distribution properties, including one in Anderson in February. High-profile deals and increased investment activity have helped market prices appreciate from about \$23/SF in 2011 to more than \$60/SF.

South Carolina Inland Port



One of the long-term primary drivers of our economy going forward will be the South Carolina Inland Port (SCIP). While this facility is not located within the Southern Connector's immediate neighborhood, the facility is designed to help increase already strong efficiencies for importers and exporters of goods through the Port of Charleston, which has caused increased distribution traffic traveling to and from Georgia and Charleston, South Carolina. The Inland Port outperformed expectations and a \$25 million expansion was completed in 2021. Large regional manufacturers Michelin, GE and automaker BMW, located in nearby Spartanburg, have constituted the majority of the port's activity. Located between Charlotte, North Carolina and Atlanta, Georgia, the port is situated in one of the fastest growing corridors in the South, and provides inland manufacturers direct access to the Port of Charleston.

The South Carolina Inland Port opened in October 2013, extending the Port of Charleston's reach 212 miles inland to Greer, South Carolina, and providing shippers with access to more than 95 million consumers within a one-day drive. The inland port boosts efficiency for

international freight movements between the Port of Charleston and companies located across the Southeast, and the project is expected to create additional economic investment in the South Carolina Upstate, where BMW, Michelin and other international manufacturers already operate.

As mentioned earlier, the South Carolina Ports Authority received a \$25 million grant for the U.S. Department of Transportation. According to the Upstate Business Journal, this expansion increased terminal capacity, allowed for additional storage and processing tracks inside the terminal, which improved rail capacity, efficiency, and flexibility, and expanded on-terminal support facilities.

The expansion included an extension of the port's lead track and rail line to about 15,100 feet, the acquisition of additional equipment for the handling, loading, and unloading of containers, and the paving of up to 40 acres. The Upstate port now accounts for more than half the economic impact of South Carolina Ports, according to a recent study by University of South Carolina economists.

According to the Upstate Business Journal, "Inland Port Greer was completed in 2013 and has grown steadily since. The expansion [recently] completed involved building an additional rail processing track and two rail storage tracks within the terminal. The addition of 8,000 feet of new rail is expected to meet cargo demands through 2040.

The next phase of growth involves expanding the container yard by 15 acres to the east toward J. Verne Smith Parkway and the west toward Greer to handle 50% more cargo.

The expansion also involves doubling the size of the existing chassis yard capacity and building new facilities for heavy lift maintenance and terminal operations. The full project is slated for completion in winter 2024.

The more than \$30 million expansion is funded by both SC Ports' revenues and a portion of a \$25 million BUILD (Better Utilizing Investments to Leverage Development) grant. The grant was awarded to the S.C. Department of Transportation for its Upstate Express Corridor Program."

During its most recently released fiscal year, which ended June 30, 2022 (2023 data has was not available to us for this report), the inland port in Greer handled a record 150,000+ containers, which was 27.32% better than fiscal year 2018.

Exporters and importers of goods use the facility as a staging area for operations up and down the east coast. As such, we envision strong continued growth for the distribution market as a result of activity at the SCIP over the next decade, especially considering the recent widening and increased depth of the Panama Canal and the more regular visits by the "neo-Panamax" vessels (capable of carrying up to 14,000 cargo containers) to the Port of Charleston.



GREENVILLE HOUSING MARKET

According to an article in the Greenville Business Magazine published in January 2023, "average [home] sales prices in the region had crested to a new record, sellers were receiving an average of over 100 percent of their asking price, and homes in the city's most desirable locations were inundated with showings and sold within days.

The first half of 2022 proved the final gasp of an unprecedented and exhaustive sales frenzy, launched in South Carolina and throughout the nation by pent-up demand that built to a crescendo during pandemic lockdowns. When those restrictions were lifted in the summer of 2020, the market in the Palmetto State exploded. Interest rates were low, people had stimulus money in their pockets, and South Carolina became a destination of choice for cash-rich transplants from more urban areas who wanted space, sunshine, sea breezes, and everything else the state had to offer.

Ultimately, it all crashed headlong into a South Carolina housing market with acute inventory shortages, stemming from difficulties the home-building industry suffered during the Great Recession. And now, as the calendar turns the page into 2023, the Palmetto State housing market finds itself in a very different place than it was a year ago — with interest rates higher, homes sitting on the market longer, sales numbers declining, and everyone wondering when or if average home prices are going to start to come down.

Statewide numbers were trending down in the final months of 2022, with year-to-date closings of 9.4 percent through October, the most recent month that figures were available from South Carolina Realtors. Prices, though, continued to trend upward, buoyed by a lack of inventory. When looking at the national picture, it's not difficult to find some worrying forecasts — like one from Morgan Stanley that predicted a 7 percent price drop through December 2023, and another from John Burns Real Estate Consulting that envisioned a 10 percent price plummet through 2024, both according to The New York Times.

But experts do not foresee those type of gloom-and-doom scenarios for South Carolina. 'We still have an influx of people moving from other states,' Carlson said. 'And then you've got all of this development that's coming, like BMW announcing that \$1.7 billion investment in their EV program, and then Volvo investing \$43 million in their other plant that's going in near Fountain Inn. I mean, if companies are investing here, then people are going to move here.'"

Based on our research of various residential listing sources, it appears that residential home prices in the Greenville area have continued to increase since January 2023; although at a slower pace. That said, according to the National Association of Realtors, Greenville, SC was chosen as the number five housing market from across the country to lead the nation in 2023. This was determined based on their projections of housing affordability, the number of renters who can afford to buy a median-priced home, job growth, migration gains and population growth, an increase in active housing inventory, and less severe housing shortages.



CONCLUSION

Greenville-Anderson-Mauldin's recovery has transitioned into an expansion. Increasing demand for both the industrial and housing markets in the Greenville market area have led to increased population growth, as well as industrial inventory. The expansion of the SCIP indicates that the inland port is thriving, and that growth should help facilitate additional demand in the area. Longer term, population increases, improving educational attainment, and an expanding logistics industry are expected to underpin above-average job growth over the forecast horizon.



Neighborhood Analysis



We note that the Southern Connector is outlined in light blue in the above map (Interstate 185). The seven-mile radius from the central section of the Southern Connector is estimated to be the subject's market area.

LOCATION

The subject area is in the city of Greenville and is considered a suburban location. The city of Greenville is situated in southwest Greenville County, with the Southern Connector area situated in the south to southeast portion of the city of Greenville. The Greenville Central Business District (CBD) ranges in distance from the Southern Connector neighborhood; depending on the relative



location within the neighborhood; however, the southern boundary of the neighborhood is considered to be Sandy Springs Road, which is approximately 12 miles from the Greenville CBD.

BOUNDARIES

The neighborhood boundaries are not differentiated or exact, but generally conform to a sevenmile radius from the central section of the Southern Connector.

LAND USE – OVERALL GREENVILLE COUNTY AREA

Greenville County's predominant land use pattern is best characterized by low-density, dispersed development, with separated and disconnected uses. This pattern, while consistent with the land use plan from Designing Our Destiny, does little to advocate current goals that emphasize the need to create economically viable, mixed-use, people-oriented communities supportive of plans for multi-modal transportation alternatives. Despite the current dispersed development pattern, Greenville County has an underlying development structure that can be described as Communities, Centers, and Corridors.

After studying the existing land use and transportation patterns, the determination was made that three basic components —Communities, Centers, and Corridors— form a skeletal structure of the existing growth pattern and form the basis for the future land use strategy. The basic premise of the Communities, Centers, and Corridors is to encourage growth in areas that can best support new development. This strategy seeks to build on Greenville's existing development framework by clearly defining the role of each of these three components to better accommodate future growth and ensure continued economic development.

A key goal of the Communities, Centers, and Corridors growth strategy is to better integrate land use and transportation planning so that land uses are supportive of our transportation objectives and vice versa. As a new growth strategy is implemented, land uses can be organized so that citizens will have improved access to future transportation choices resulting in higher use. This growth strategy encourages a future growth pattern that focuses mixed-use development in centers and along major roadways so that pedestrian, bike, and transit options are more feasible. By utilizing existing facilities and infrastructure more effectively, this strategy seeks to reduce the demand for extensive new facilities and infrastructure. Utilizing this approach, Greenville County can continue to accommodate growth and economic development while reducing long-term costs associated with road widening projects and costly infrastructure improvements. The following maps summarize Greenville County's projected concentrations of growth from the most recently adopted Land Use Map. We note that this plan was adopted in 2020 and is known as Plan Greenville County.





Greenville County – Historical Concentrations of Growth Map

As shown in the above map, the highlighted area represents the Southern Connector Area. There are several growth areas within the Southern Connector Area with the largest growth seen at the Fork Shoals Road/I-385 and I-185 corridor with residential, industrial and retail development over the past five years.

For comparison purposes, we have included a 2023 Google Aerial map of the Southern Connector.





As shown on the previous aerial, the largest concentration of commercial properties along the Southern Connector is at its intersection with U.S. Highway 25 (Augusta Road), as well as along the I-385 corridor. The majority of the recent development has been of industrial users, as well as new residential subdivisions.





Greenville County – Current Land Use Map

*Source – Greenville County Comprehensive Plan January 2020





Greenville County – Projected Suburban Density Map

*Source – Greenville County Comprehensive Plan January 2020

We note that the highlighted region represents the Southern Connector market area.

According to the current land use plan, Greenville County projects some of the higher residential density in the area to be located near the eastern portion of the Southern Connector.





Greenville County - Future Land Use Map

*Source – Greenville County Comprehensive Plan January 2020

We note that the market area for the Southern Connector is highlighted on the previous map.



Zoning Map



Zoning R-	7.5
AG DODD HID R-	
AP R-	
B-G R-	
B-I R-	
B-L R-	
R-	LO
Ou BTD Ou R-	
R-	M1
C 411	M1.5
K-	M10
R-	
Deal C 4	M11
CRD	M12
CITVNEW	M13
CPD	M14
DRD	M15
ESD_PM	M16
ERD	M17
-1	M18
-2	M19
	M2
NC	M20
0-D 88	M3
PD	M4
PD-0	M5 RDV
PD-1	M6 RR-ROW
FU-R	M7 S-1
FUD	M8 TH
11-10	M9 UNZONED
11-12	MA UP-C
R-15 R-	MHP UP-DT
R-16 R-	MID UP-F
R-20 R-	
R-20A R-	R1 UP-NCO
10 0 5 1mi	R3 UP-SD
R-6	S

*Source – Greenville County GIS

	Table 2.1.2-1: Zoning Districts			
District Category	Description	Districts		
Base	Base districts establish uniform use, dimensional, and development standards for each class or kind of building, structure, or use in a district.	AG, Agricultural Preservation ESD-PM, Environmentally Sensitive District—Paris Mountain R-R3, Rural Residential R-R1, Rural Residential R-20, Single Family Residential R-20, Single Family Residential R-10, Single Family Residential R-12, Single Family Residential R-12, Single Family Residential R-10, Mixed Residential R-10, Mixed Residential R-M10, Mixed Residential R-M10, Mixed Residential R-M10, Mixed Residential R-M4, Multiplex Family Residential R-M4, Multiplex Commercial R-M4, Commercial Manufactured Home Park O-D, Office District RU-V, Rural Village C-N, Commercial-Neighborhood C-1, Commercial RU-C, Rural Corridor C-2, Commercial S-1, Services I-1, Industrial		
Review	Review districts are similar to base districts, except development in review districts is subject to a site plan and development standards approved as part of a rezoning application.	BTD, Business & Technology FRD, Flexible Review I-2, Industrial Park PD, Planned Development		
Overlay	Overlay districts establish additional standards that supplement the underlying (base or review) districts. Overlay districts may enhance or relax standards of the underlying district.	AP-O, Airport Protection Overlay HP-O, Historic Preservation Overlay MV-O, Mill Village Overlay SRC-O, Scuffletown Rural Conservation Overlay TMS-O, Taylors Main Street Overlay		
Legacy ²	Obsolete base or review districts that cannot be expanded or added to the zoning map.	POD, Planned Office R-D, Residential Duplex		

The following table summarizes the main zoning classifications within the county and is taken from the Greenville County Zoning Ordinance revised September 30, 2022.

We note that the market area for the Southern Connector is highlighted on the previous map.

As shown above, the Southern Connector area is primarily focused on industrial development with a significant amount of environmentally sensitive areas to the south of I-185 (Huff Creek Watershed). Additionally, the majority of the residential zoning districts are located towards the north and northeast of the Southern Connector neighborhood; closer to the Greenville CBD, the

Interstate 85 and Highway 276 corridors, as well as south of the Southern Connector, in more rural areas.

LAND USE – SOUTHERN CONNECTOR NEIGHBORHOOD

Land uses within the immediate vicinity are predominately industrial development with pockets of single family residential and commercial development. Major developments of influence in the immediate area include the Donaldson Center Airport (a former Air Force Base moved in the early 1960's conveyed to the city and county of Greenville), the Michelin Tire facility, and the Southern Railroad spur. These projects have all fostered industrial growth in the region including Beechtree Business Park, Augusta Grove Business Park, and the South Greenville Enterprise Park, among others. Development in this region has been slow, but relatively consistent and helped by improved infrastructure including the widening of Highway 25 and the completion of Interstate 185, identified as the Southern Connector. The majority of commercial development is business service and retail, designed to serve the area's immediate population. Residential development in the area has picked up over the past five years and have included Arden Woods Estates, Woodland Pointe, Meadow Springs, Harrington, Riverstone, Bracken Woods, and Harvest Glen. The median value of all homes within the 29673 zip code (centralized to the middle of the Southern Connector) is \$321,245, which represents a 91% increase from \$167,400 in 2019. While new commercial development within the study area has been limited over the years, we anticipate that it will increase over the next few years, given the influx of new homes in the area.

GROWTH PATTERNS

The neighborhood is considered to be in the mature stage of the development cycle and just outside of what are considered the primary growth areas of the MSA. The majority of growth is concentrated further north along White Horse Road and the I-85 / I-185 intersections. There is very little retail development in the neighborhood with most of the commercial improvements being industrial buildings, centralized around the I-185 and Augusta Road intersection. The neighborhood is best characterized as an industrial area, with most residents living just outside the neighborhood. Population and household growth over the past decade have been generally on average with Greenville County as a whole; however, the area is expected to outpace Greenville County over the next five years.

As discussed earlier, residential development over the past few years has included Arden Woods Estates, Woodland Pointe, Meadow Springs, Harrington, Riverstone, Bracken Woods, and Harvest Glen. All of these subdivisions are located in proximity to the Southern Connector, mainly north on I-185 and east of Donaldson Center.

Industrial completions over the past 10 years in proximity to the Southern Connector have included a 210,000 square foot building leased to Propose Polymers at 1940 Grove Reserve Parkway, a 14,000 square foot recycling center located at 1635 Antioch Church Road, a 300,645 square foot spec building located at 1700 Old Grove Road, a 331,845 square foot



spec building located at 1610 Old Grove Road now occupied by Android Industries, an 85,000 square foot addition to the Roy Metal Finishing building located at 1515 Old Grove Road, a 65,000 square foot addition to the Kimura Logistics building located at 501 Matrix Parkway, the 155,101 square foot spec building that was completed at 130 Monroe Drive, the 150,000 square foot MP Husky facility located at 1370 Old Stage Road, a Class A, 194,260 square foot spec building located at 464 Augusta Arbor Way, as well as the previously discussed 1,0006,880 square foot spec building located within Enterprise 85 Industrial Park.

The most recent commercial development has included a QuickTrip gas station located at 7599 Augusta Road and a proposed Zaxby's fast food restaurant, which will be located at just north across Interstate 185 along the west side of Augusta Road.

ACCESS

Primary access to the subject neighborhood is provided by Interstate-85, Interstate-185 and Interstate-385 with secondary access provide by U.S. Highway 276, U.S. Highway 25, U.S. Highway 50/146 and U.S. Highway 20 as identified in the preceding map. Secondary roads such as Fork Shoals Road, White Horse Road, Perimeter Road, Ridge Road, Verdae Boulevard and South Pleasantburg Drive provide additional access throughout the area. Ingress/egress to the neighborhood and the major transportation routes of the region (I-85 and I-185) are considered good, fostering industrial development of the area within he near-term and several proposed commercial developments in the long-term.

CONCLUSION

Overall, the Southern Connector area has seen several new industrial projects within the Donaldson Industrial area, The Augusta Grove Business Park, Enterprise 85, and the South Carolina Technology and Aviation Center. Additionally, discussions with several residential real estate agents indicated strong residential development and selling activity within the Southern Connector area. Based upon our research, further industrial and residential growth can be expected in the neighborhood; however, retail/office development will continue to lag behind for the near-term until enough residential is built to support larger retail/office developments.



Demographic Analysis

Demand for retail properties is a direct function of demographic characteristics analyzed on the following pages.

Housing, Population, and Household Formation

The following table illustrates the population and household changes for the subject neighborhood with primary focus on the 1-, 3- and 5-mile radii.

POPULATION AND HOUSEHOLD PROJECTIONS					
	1 Mile Radius	3 Mile Radius	5 Mile Radius	Greenville County	
Population					
2028 Total Population	1,492	14,922	59,243	578,009	
2023 Total Population	1,343	13,559	55,481	552,910	
2010 Total Population	1,171	9,696	43,897	451,253	
2000 Total Population	688	7,555	35,693	379,625	
Annual Growth 2023 - 2028	2.13%	1.93%	1.32%	0.89%	
Annual Growth 2010 - 2023	1.13%	3.06%	2.03%	1.73%	
Annual Growth 2000 - 2010	5.46%	2.53%	2.09%	1.74%	
Households					
2028 Total Households	576	5,544	22,416	232,835	
2023 Total Households	517	5,033	20,929	221,108	
2010 Total Households	450	3,674	16,400	176,542	
2000 Total Households	255	2,957	13,570	149,560	
Annual Growth 2023 - 2028	2.18%	1.95%	1.38%	1.04%	
Annual Growth 2010 - 2023	1.15%	2.85%	2.12%	1.94%	
Annual Growth 2000 - 2010	5.84%	2.19%	1.91%	1.67%	

As shown, the subject's neighborhood is experiencing moderate positive increases in both population and households.

Income Distributions

Household income available for expenditure on consumer items is a primary factor in determining the retail supply and demand levels in a given market area. In the case of this study, a projection of household income identifies (in gross terms) the market from which the subject submarket draws. The following table illustrates estimated household income distribution for the subject neighborhood.



louseholds by Income Distribution (2023)	1 Mile Radius	3 Mile Radius	5 Mile Radius	Greenville County
<\$15,000	9.48%	8.82%	9.87%	7.96%
\$15,000 - \$24,999	4.84%	6.83%	6.82%	6.40%
\$25,000 - \$34,999	22.63%	15.46%	11.12%	8.57%
\$35,000 - \$49,999	15.86%	12.93%	13.88%	12.88%
\$50,000 - \$74,999	19.34%	20.64%	20.98%	17.21%
\$75,000 - \$99,999	11.61%	12.50%	12.97%	13.37%
\$100,000 - \$149,999	8.51%	13.59%	13.53%	16.22%
\$150,000 - \$199,999	4.64%	5.50%	5.85%	8.32%
\$200,000+	3.09%	3.70%	4.98%	9.06%

The following table illustrates the median and average household income levels for the subject neighborhood.

HOUSEHOLD INCOME LEVELS					
	1 Mile Radius	3 Mile Radius	5 Mile Radius	Greenville County	
Income				,	
2023 Median Household Income	\$46,570	\$55,195	\$57,507	\$69,155	
2023 Average Household Income	\$68,761	\$77,568	\$82,015	\$101,302	
2023 Per Capita Income	\$26,582	\$28,596	\$31,006	\$40,561	

An analysis of the income data indicates that the submarket is generally comprised of households with below average median incomes as compared to Greenville County as a whole.

Retail Sales Volumes

The following tables illustrate household expenditures for the subject's market area at given radii intervals from the subject.



CONSUMER HOUSEHOLD EXPENDITURES		-			
7598 Augusta Rd 1 Mile			Prepared For:Stant Prepared By:CBF		
S ANNUAL BUDGET	Average	Index (US = 100)	Total		
Annual Budget	\$61,489	67	\$33.9M		
() FOOD AND ALCOHOL					
Food	\$6,936	66	\$3.8M		
Food at Home	\$4,454	65	\$2.5M		
Food Away from Home	\$2,482	67	\$1.4M		
Alcoholic Beverages	\$429	64	\$236.4K		
Alcoholic Beverages at Home	\$288	65	\$158.9K		
Alcoholic Beverages Away from Home	\$141	61	\$77.5K		
HOME EXPENDITURES					
nome expenditores					
Housing	\$19,929	65	\$11.0M		
Shelter	\$15,959	64	\$8.8M		
Utilities, Fuel and Public Services	\$3,970	68	\$2.2M		
Household Operations	\$1,784	69	\$983.3K		
Housekeeping Supplies	\$627	67	\$345.4K		
Household Furnishings and Equipment	\$1,993	67	\$1.1M		
Household Textiles	\$80	66	\$44.3K		
Furniture	\$578	70	\$318.7K		
Major Appliances	\$378	71	\$208.1K		
Small Appliances and Housewares	\$930	65	\$512.3K		
Rugs	\$27	65	\$14.9K		
APPAREL					
Apparel and Services	\$1,439	65	\$793.1K		
Boys' Apparel	\$79	70	\$43.6K		
Girls' Apparel	\$89	70	\$49.1K		
Men's Apparel	\$267	65	\$147.2K		
Women's Apparel	\$207	65	\$268.1K		
Infant Apparel (Under 2)	\$69	73	\$208.1K \$38.2K		
Footwear	\$317	64	\$36.2K \$174.6K		
Watches	\$104	62			
Apparel Products & Services	\$104 \$27	61	\$57.3K \$15.0K		
TRANSPORTATION					
\odot					
Transportation	\$7,074	69	\$3.9M		
Gasoline & Motor Oil	\$1,753	69	\$965.7K		
Other Vehicle Expenses	\$3,006	67	\$1.7M		
Payments on Vehicles excluding Leases	\$2,257	75	\$1.2M		
Public/Other Transportation	\$58	38	\$31.8K		

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CBRE CONSUMER HOUSEHOLD EXPENDITURES Prepared For:Stantec 7598 AUGUSTA RD 1 MILE Prepared By:CBRE Index (US = Total Average 100) HEALTH CARE (d) Health Care \$5,108 69 \$2.8M Medical Services \$928 68 \$511.2K Drugs \$567 70 \$312.6K Medical Supplies \$162 65 \$89.1K Health Insurance \$3,451 70 \$1.9M ENTERTAINMENT -Travel \$1,525 68 \$840.0K Entertainment and Recreation \$2,539 67 \$1.4M Fees & Admissions \$474 67 \$261.4K TV/Video/Audio 68 \$504.3K \$915 \$332.0K Pets \$602 65 Toys and Games \$111 70 \$61.0K Recreational Vehicles & Fees \$99 66 \$54.6K \$206 Sports, Recreation and Exercise Equipment 73 \$113.6K Photo Equipment and Supplies \$31 67 \$17.2K Reading \$80 63 \$43.8K Live Entertainment for Catered Affairs \$9 62 \$5.1K Supplies Rental for Catered Affairs \$11 71 \$6.0K OTHER EXPENSES ₩ Personal Care Products and Services \$631 66 \$347.5K Education \$1,064 59 \$586.2K Smoking Products \$293 68 \$161.4K Lotteries & Pari-Mutuel Losses \$29 57 \$16.2K Legal Fees \$127 61 \$69.7K Funeral Expenses \$82 69 \$45.4K Safe Deposit Box Rentals \$3 69 \$1.9K Check Account or Bank Service Charges \$21 66 \$11.7K Cemetery Lots, Vaults, Maintenance Fee \$9 55 \$4.7K Accounting Fees \$71 62 \$39.2K Miscellaneous Personal Services, Advertising, Fines \$45 63 \$24.7K Occupational Expenses \$40 56 \$22.2K \$89 \$49.0K Expenses for Other Properties 78 Credit Card Membership Fees \$7 61 \$3.9K Shopping Club Membership Fee **\$41** 68 \$22.4K Support Payments, Cash Contributions and Gifts in Kind \$2,175 70 \$1.2M Life and Other Insurance \$486 70 \$268.0K Pensions and Social Security \$6,605 68 \$3.6M

The Index is household-based, and represents the amount spent for a product or service relative to a national average of 100.

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CONSUMER HOUSEHOLD EXPENDITURES				
7598 AUGUSTA RD 3 MILES		Prepared For:Stante Prepared By:CBR		
S ANNUAL BUDGET	Average	Index (US = 100)	Total	
Annual Budget	\$67,540	73	\$314.0M	
Annual budget	\$07,5 4 0	/3	\$314.UM	
() FOOD AND ALCOHOL				
Food	\$7.815	74	\$36.3M	
Food at Home	\$5,095	75	\$23.7M	
Food Away from Home	\$2,721	73	\$12.6M	
Alcoholic Beverages	\$446	66	\$2.1M	
Alcoholic Beverages at Home	\$303	68	\$1.4M	
Alcoholic Beverages Away from Home	\$143	63	\$665.4K	
	\$145	03	\$005.4K	
(A)- HOME EXPENDITURES				
Housing	\$21,463	70	\$99.8M	
Shelter	\$16,771	68	\$78.0M	
Utilities. Fuel and Public Services	\$4.692	81	\$21.8M	
Household Operations	\$4,082	75	\$21.0M	
Housekeeping Supplies	\$719	75	\$9.0M \$3.3M	
Household Furnishings and Equipment	\$2.175	74	\$10.1M	
Household Textiles	\$2,175	73	\$414.8K	
Furniture	\$637	73	\$3.0M	
	\$429	81	\$2.0M	
Major Appliances Small Appliances and Housewares	\$990	69	\$2.0M \$4.6M	
	\$29	71	\$136.7K	
Rugs	\$28		\$130.7K	
APPAREL				
Apparel and Services	\$1,549	70	\$7.2M	
Boys' Apparel	\$90	80	\$418.6K	
Girls' Apparel	\$95	76	\$439.5K	
Men's Apparel	\$285	70	\$1.3M	
Women's Apparel	\$525	70	\$2.4M	
Infant Apparel (Under 2)	\$72	76	\$336.3K	
Footwear	\$341	68	\$1.6M	
Watches	\$112	67	\$522.1K	
Apparel Products & Services	\$29	66	\$136.3K	
	020		\$100.0H	
(A) TRANSPORTATION				
Transportation	\$8,176	80	\$38.0M	
Gasoline & Motor Oil	\$2,109	83	\$9.8M	
Other Vehicle Expenses	\$3,428	76	\$15.9M	
Payments on Vehicles excluding Leases	\$2,578	85	\$12.0M	
Public/Other Transportation	\$62	40	\$287.4K	

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CBRE CONSUMER HOUSEHOLD EXPENDITURES Prepared For:Stantec 7598 AUGUSTA RD 3 MILES Prepared By:CBRE Index (US = Average Total 🕣 🗕 HEALTH CARE 🛛 100) Health Care \$5,882 80 \$27.3M Medical Services \$1.019 75 \$4.7M Drugs \$695 86 \$3.2M Medical Supplies \$186 75 \$863.0K Health Insurance \$3,983 81 \$18.5M 🞬)— ENTERTAINMENT 🗕 \$1,603 71 Travel \$7.5M Entertainment and Recreation \$2,799 74 \$13.0M Fees & Admissions \$460 65 \$2.1M TV/Video/Audio \$1,069 79 \$5.0M Pets \$695 75 \$3.2M Toys and Games \$118 75 \$549.5K Recreational Vehicles & Fees \$110 73 \$509.1K Sports, Recreation and Exercise Equipment \$213 76 \$989.0K \$31 Photo Equipment and Supplies 67 \$145.5K \$391.5K Reading \$84 66 Live Entertainment for Catered Affairs \$9 59 \$41.3K Supplies Rental for Catered Affairs \$11 71 \$50.5K W) OTHER EXPENSES -Personal Care Products and Services \$674 71 \$3.1M \$1.079 \$5.0M Education 60 Smoking Products \$426 98 \$2.0M Lotteries & Pari-Mutuel Losses \$34 65 \$155.8K Legal Fees \$133 64 \$616.3K Funeral Expenses \$107 89 \$498.3K Safe Deposit Box Rentals \$4 88 \$20.5K \$27 84 \$125.2K Check Account or Bank Service Charges **\$**9 59 \$42.3K Cemetery Lots, Vaults, Maintenance Fee \$326.6K Accounting Fees \$70 61 \$43 \$202.2K Miscellaneous Personal Services, Advertising, Fines 61 Occupational Expenses \$38 52 \$174.4K Expenses for Other Properties \$107 94 \$496.9K Credit Card Membership Fees \$7 \$33.7K 63 Shopping Club Membership Fee \$42 70 \$195.4K Support Payments, Cash Contributions and Gifts in Kind \$2,413 77 \$11.2M Life and Other Insurance \$550 79 \$2.6M \$6,870 \$31.9M Pensions and Social Security 71

The index is household-based, and represents the amount spent for a product or service relative to a national average of 100.

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CONSUMER HOUSEHOLD EXPENDITURES		_	
7598 AUGUSTA RD 5 MILES	Prepared For:St Prepared By:C		
S ANNUAL BUDGET	Average	Index (US = 100)	Total
Annual Budget	\$71,090	77	\$1.4B
FOOD AND ALCOHOL			
Food	eo 400	78	CAOE EM
	\$8,189		\$165.5M
Food at Home	\$5,320 \$2,869	78 77	\$107.5M \$58.0M
Food Away from Home	\$2,809 \$483	72	\$08.0M \$9.8M
Alcoholic Beverages			
Alcoholic Beverages at Home	\$325	73	\$6.6M
Alcoholic Beverages Away from Home	\$158	69	\$3.2M
HOME EXPENDITURES			
Housing	\$22,820	75	\$461.3M
Shelter	\$17,999	73	\$363.8M
Utilities, Fuel and Public Services	\$4,821	83	\$97.4M
Household Operations	\$2,033	79	\$41.1M
Housekeeping Supplies	\$748	80	\$15.1M
Household Furnishings and Equipment	\$2,294	78	\$46.4M
Household Textiles	\$94	77	\$1.9M
Furniture	\$668	81	\$13.5M
Major Appliances	\$441	83	\$8.9M
Small Appliances and Housewares	\$1,059	74	\$21.4M
Rugs	\$31	74	\$625.0K
APPAREL			
Apparel and Services	\$1,657	75	\$33.5M
Boys' Apparel	\$94	84	\$1.9M
Girls' Apparel	\$100	81	\$2.0M
Men's Apparel	\$304	74	\$6.2M
Women's Apparel	\$562	75	\$11.4M
Infant Apparel (Under 2)	\$77	81	\$1.6M
Footwear	\$368	74	\$7.4M
Watches	\$119	71	\$2.4M
Apparel Products & Services	\$32	71	\$639.4K
- TRANSPORTATION			
Transportation	\$8,437	83	\$170.5M
Gasoline & Motor Oil	\$2,146	85	\$43.4M
Other Vehicle Expenses	\$3,577	80	\$72.3M
Payments on Vehicles excluding Leases	\$2,640	87	\$53.4M
Public/Other Transportation	\$75	49	\$1.5M

The index is household-based, and represents the amount spent for a product or service relative to a national average of 100.

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CBRE CONSUMER HOUSEHOLD EXPENDITURES Prepared For:Stantec 7598 AUGUSTA RD 5 MILES Prepared By:CBRE Index (US = Average Total 100) (ð) HEALTH CARE Health Care \$6,069 82 \$122.7M Medical Services \$1,072 79 \$21.7M \$14.2M Druas \$702 86 Medical Supplies \$194 78 \$3.9M \$82.9M Health Insurance \$4,101 83)— ENTERTAINMENT • Travel \$1,704 76 \$34.4M Entertainment and Recreation \$2,944 78 \$59.5M Fees & Admissions \$506 71 \$10.2M TV/Video/Audio \$1,107 82 \$22.4M Pets \$720 78 \$14.6M Toys and Games \$126 79 \$2.5M Recreational Vehicles & Fees \$115 77 \$2.3M Sports, Recreation and Exercise Equipment \$224 80 \$4.5M 73 \$685.4K Photo Equipment and Supplies \$34 Reading 71 \$90 \$1.8M Live Entertainment for Catered Affairs \$192.8K \$10 64 Supplies Rental for Catered Affairs \$12 75 \$234.1K 🐨)= OTHER EXPENSES = Personal Care Products and Services \$721 75 \$14.6M \$1,178 \$23.8M Education 66 Smoking Products \$418 96 \$8.4M Lotteries & Pari-Mutuel Losses \$37 71 \$740.7K Legal Fees \$145 69 \$2.9M Funeral Expenses \$107 90 \$2.2M 87 \$88.1K Safe Deposit Box Rentals \$4 Check Account or Bank Service Charges \$27 85 \$553.3K \$218.9K Cemetery Lots, Vaults, Maintenance Fee S11 70 Accounting Fees \$78 67 \$1.6M Miscellaneous Personal Services, Advertising, Fines \$48 68 \$977.0K Occupational Expenses \$44 60 \$879.8K Expenses for Other Properties \$103 90 \$2.1M Credit Card Membership Fees 69 \$8 \$161.4K 76 Shopping Club Membership Fee \$45 \$916.8K \$50.4M Support Payments, Cash Contributions and Gifts in Kind \$2,494 80 Life and Other Insurance \$567 82 \$11.5M Pensions and Social Security \$7,331 75 \$148.2M

The index is household-based, and represents the amount spent for a product or service relative to a national average of 100.

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GREENVILLE/PICKENS AREA - LONG RANGE TRANSPORTATION PLAN (LRTP) Horizon 2045

GPATS stands for the Greenville-Pickens Area Transportation Study, the Metropolitan Planning Organization (MPO) for the Greenville area, which includes a significant portion of Greenville and Pickens Counties, and smaller portions of Anderson, Laurens, and Spartanburg Counties. GPATS facilitates a regional, cooperative planning process for a 905- square-mile area that is home to more than 700,000 residents. This process is used to allocate the region's state and federal transportation funds.

GPATS reviews the LRTP every five years and completes a major update every 10 years. Horizon 2045 is the first major update to the region's LRTP since 2007 and was completed in 2020. The plan fulfills federal requirements and serves as the region's transportation vision. It characterizes current and future transportation needs, outlines the region's long-range transportation goals, identifies multimodal transportation strategies to address needs through the year 2045, and documents long-term opportunities beyond current funding capabilities. Federal funding cannot be allocated to transportation projects unless they are included in the financially-constrained plan. In other words, GPATS cannot plan to spend more money than it reasonably expects to receive.

The population is expected to grow by 222,000 residents and 86,000 new jobs by 2045, which is projected to place added strain on the existing infrastructure. To address these concerns GPATS analyzes these trends and hopes to alleviate some of the most congested areas through long-range planning.





Existing Transit Routes with Recommendations For Street Improvements

We note that the highlighted region represents the Southern Connector market area.

No recommendations have been made for the Southern Connector; however, some of the roadways in proximity to the subject have various widening or corridor improvements that have been recommended.





Density Map

We note that the highlighted region represents the Southern Connector market area.

As shown above, most of the Greenville area density is located towards the north and east of the subject neighborhood. The majority of the population has historically been located within the Greenville CBD and Northeast Greenville along the Interstate 85 corridor.

Projected Population Change

The areas along the Southern Connector were analyzed by Transportation Analysis Zones (TAZ) and the broader surrounding area served by the Connector was analyzed by Planning Areas. Planning Areas are subdivided into Traffic Analysis Zones (TAZs), and the Planning Area population forecasts are then allocated among these zones. This allocation was performed by the Greenville County Planning Commission and is accomplished by developing a Growth Index for the TAZs in each Planning Area. The Growth Index evaluates each TAZ relative to the other TAZs within the same Planning Area, based on the following: (1) the percent of the total undeveloped area within the TAZ; (2) the share of vacant or developable land in the Planning Area contained within each TAZ; (3) the percent change in dwelling units that has occurred in the TAZ since 2020; (4) the percent of total residential development in the Planning Area since 2020. Based on



a scoring system for these Growth Index criteria, each TAZ is designated as Low, Moderate, or High growth. The total growth forecast for the Planning Area is then distributed accordingly to each TAZ. The enclosed maps show population densities and changes by Planning Area and TAZ in for the period from 2020 to 2045.

To calculate the number of projected housing units in each TAZ, the forecasted populations were adjusted by the historical vacancy rate and average household size in its particular Planning Area. It should be noted that these two figures were assumed to remain constant over the study period.



A map showing the projected population change for the subject's market area follows.

We note that the highlighted region represents the Southern Connector market area.

As shown above, the estimated population change in the subject's market area is expected to be relatively strong. With high growth projected along the I-185/I-85 corridor to the west, as well as south of I-185, near Fork Shoals Road.





Projected Employment Change

We note that the highlighted region represents the Southern Connector market area.

As shown above, the estimated employment change in the subject's market area is generally in proximity to the Donaldson Airport, with strong employment growth projected near the I-85/I-185 corridor to the west. In addition, there is another estimated pocket of high employment growth along the eastern boundary of the subject's market area in the city of Simpsonville.

CONCLUSION

Generally speaking, the existing road system in the Southern Connector service area is not an obstacle to future commercial and residential development within the foreseeable future. On a small-scale year over year basis, any necessary road improvements (widening, realignment, signalization, etc.) are typically made during construction of the development that justified the improvements, and usually at the expense of the private developer. Larger scale road projects initiated by the SCDOT are usually reactionary, acting to alleviate traffic congestion and improve safety. The Southern Connector Toll Road has seen continued increase in use and revenue on a year over year basis with continued industrial and research investment proposed for the immediate neighborhood.



It appears that a majority of the development within the Southern Connector Area will be industrially oriented with significant activity in recent years and several developments proposed for the near term. However, based on the above reports, the overall Greenville County area is projecting the majority of population growth to continue its positive growth trend along Highway 276 and Interstate 385 within Mauldin and Simpsonville, as well as along I-85 and Piedmont. With regards to the Southern Connector Area, population growth is expected to be moderate over the next 25 years with a majority of population growth occurring along the eastern boundary of the Southern Connector Area and western area, along the I-85 corridor. As discussed earlier in the report, there appears to be several single-family developments under construction or recently completed along the Southern Connector corridor, which is further support for projected population growth in the area.



Market Analysis – Industrial

METROPOLITAN GREENVILLE - SC WAREHOUSE MARKET OVERVIEW

Recent Performance

The following table summarizes historical and projected performance for the overall metropolitan Greenville - SC warehouse market, as reported by CoStar.

								Transaction
Year Ending	Inventory (SF)	Completions (SF)	Occupied Stock (SF)	Occupancy	Asking Rent (\$/SF NNN)	Asking Rent Change	Net Absorption (SF)	Price Per Area (SF)
2018	133,447,074	-106,596	128,328,880	96.2%	\$4.47	6.05%	1,493,245	\$31.34
2019	134,789,173	1,342,099	128,613,680	95.4%	\$4.70	5.31%	284,804	\$49.37
2020	135,668,997	879,824	128,731,416	94.9%	\$4.98	5.93%	117,735	\$38.03
2021	136,025,783	356,786	131,129,560	96.4%	\$5.49	10.17%	2,398,148	\$52.32
Q1 2022	136,184,952	159,169	131,283,504	96.4%	\$5.67	3.26%	153,940	\$64.25
Q2 2022	136,210,952	26,000	131,979,184	96.9%	\$5.83	2.96%	695,683	\$70.17
Q3 2022	137,598,014	1,387,062	133,111,056	96.7%	\$6.01	2.92%	1,131,871	\$61.65
Q4 2022	137,807,763	209,749	133,260,960	96.7%	\$6.16	2.53%	149,903	\$39.93
2022	137,807,763	1,781,980	133,260,960	96.7%	\$6.16	12.19%	2,131,397	\$39.93
Q1 2023	140,511,520	2,703,757	134,339,968	95.6%	\$6.34	2.95%	1,079,002	\$63.56
Q2 2023*	142,011,520	1,500,000	134,032,864	94.4%	\$6.43	1.40%	-307,096	\$46.12
Q3 2023*	142,305,233	293,713	134,118,904	94.2%	\$6.54	1.68%	86,586	-
Q4 2023*	143,924,583	1,619,350	134,383,088	93.4%	\$6.62	1.27%	266,156	-
2023*	143,924,583	6,116,820	134,383,088	93.4%	\$6.62	7.49%	1,124,648	-
2024*	145,828,984	1,904,401	137,096,336	94.0%	\$6.84	3.38%	2,718,713	-
2025*	147,763,737	1,934,753	139,651,056	94.5%	\$7.07	3.35%	2,560,860	-
2026*	149,884,292	2,120,555	141,603,744	94.5%	\$7.27	2.80%	1,958,484	-
2027*	151,865,579	1,981,287	143,349,008	94.4%	\$7.42	2.12%	1,751,107	-
2028*	153,656,771	1,791,192	145,014,256	94.4%	\$7.56	1.78%	1,671,605	-

The Greenville - SC warehouse market consists of approximately 140,511,520 square feet of warehouse space. The following observations are noted from the table above:

- As of 1st Quarter 2023, there was approximately 134,339,968 square feet of occupied warehouse space (including sublet space), resulting in an occupancy rate of 95.6% for the metro area. This reflects a decrease from the previous quarter's occupancy of 96.7%, and a decrease from an occupancy rate of 96.7% from the prior year.
- The area experienced positive 1,079,002 square feet of net absorption for the current quarter. This indicates an improvement from the previous quarter's positive 149,903 square feet of net absorption, and a decline from the positive 2,131,397 square feet of net absorption from the prior year.
- The area had completions of positive 2,703,757 square feet for the current quarter, which indicates an increase from the previous quarter's completions of positive 209,749 square feet, and indicates an improvement from completions of positive 1,781,980 square feet from the prior year.



• The area achieved average asking rent of \$6.34 per square foot, which indicates an increase from the previous quarter's asking rent of \$6.16 per square foot, and an increase from the asking rent of \$6.16 per square foot from the prior year.



Historical and Projected Inventory – Market

Inventory is projected to be 143,924,583 square feet at the end of the current year, which represents an increase from the previous year's inventory of 137,807,763 square feet. Inventory for next year is projected to be 145,828,984 square feet, reflecting an increase from the current year.



Historical and Projected Occupancy - Market



At the end of the current year, the occupancy rate is projected to be 93.4%, which reflects a decrease from the 96.7% occupancy rate at the end of the prior year. Occupancy for next year is projected to be 94.0%, reflecting an increase from the current year.



Historical and Projected Net Absorption - Market

At the end of the current year, the area is projected to experience positive 1,124,648 square feet of net absorption, which indicates a decline from the positive 2,131,397 square feet of net absorption for the previous year. The area is projected to experience positive 2,718,713 square feet of net absorption as of the end of next year, which indicates an improvement from the current year.



Historical and Projected Completions - Market

The area is projected to achieve completions of positive 6,116,820 square feet for the current year, which indicates an improvement from the previous year's completions of positive 1,781,980 square feet. The area is projected to experience completions of positive 1,904,401 square feet as of the end of next year, which indicates a decline from the current year.

Some of the major 2023 deliveries were summarized earlier in the Greenville Industrial Market section of this report; however, the following table also provides a visual summary of the major projects that will be completed before the end of 2023.

Pro	operty Name/Address	Rating	Bidg SF	Stories	Start	Complete	Developer/Owner
1	7755 Augusta Rd	****	1,500,000	1	Aug 2022	Sep 2023	SunCap Property Group SunCap Property Group
2	12490 N Hwy 56	****	517,440	1	Aug 2022	Dec 2023	- Central Realty & I-26 LIc
3	Building 1 1808 Easley Hwy	****	408,000	1	Nov 2022	Sep 2023	-
4	Building 1 300 Masters Blvd	****	407,680	1	Sep 2022	Sep 2023	-
5	Anderson Manufacturing Highway 81 & Ryobi Dr	****	317,520	1	Jul 2022	Oct 2023	-
6	Fox Hill Business Park B 170 Patriot Hill Dr	****	251,100	1	Mar 2023	Oct 2023	-
7	3 301 Piedmont Grove Park	****	201,649	1	Jun 2022	Oct 2023	-

Historical and Projected Asking Rent - Market



The area is projected to achieve average asking rent of \$6.62 per square foot at the end of the current year, which indicates an increase from the previous year's asking rent of \$6.16 per square foot. The area is projected to achieve asking rent of \$6.84 per square foot by the end of next year, indicating an increase from the current year.



SUBMARKET SNAPSHOT

The following table summarizes the supply of warehouse square footage for each submarket within the Greenville - SC market as of 1st Quarter 2023.

Submarkat		HOUSE SUBMARK		0.000
Submarket	Inventory (SF)	Completions* (SF)	Asking Rent (\$/SF NNN)	Occupan
Downtown Airport	3,319,861	-5,200	\$8.13	96.9%
Downtown Greenville	153,004	0	\$8.60	100.0%
Greenville CBD	194,307	0	\$9.90	83.5%
I-385/Simpsonville	12,497,503	609,690	\$5.87	94.9%
I-385/Woodrf Rd/Hy 14	10,249,355	45,436	\$8.51	93.6%
I-85/N Anderson Co	1,321,284	346,283	\$6.39	73.8%
I-85 South/Donaldson	18,326,678	1,846,344	\$6.32	91.6%
I-85/Wenwood/ICAR	11,240,907	0	\$6.61	94.9%
Laurens County	14,621,897	320,122	\$4.05	99.8%
Outlying Anderson Co	29,382,258	1,371,680	\$6.46	94.8%
Outlying Pickens Co	7,605,705	0	\$5.19	96.4%
Pelham Road	1,742,570	0	\$7.78	98.3%
Rt 14 Corridor	3,451,475	-286,843	\$7.07	97.2%
Rt 153/Rt 123 Corr	1,552,693	1,500	\$8.48	96.1%
Rt 29 Rutherford Rd	8,711,972	25,000	\$7.09	99.2%
South Greenville	422,538	-4,000	\$8.50	100.0%
Travelers Rest	3,084,796	0	\$6.04	100.0%
West End	298,253	0	\$6.54	98.8%
West Greenville	12,334,464	56,556	\$6.22	98.4%
pletions include trailing 4 quarters	, - , -	,		

It is important to note that the completions column in the following chart also includes properties that have been demolished. As a result, some of the submarkets show negative completions for square footage.

I-85 South/Donaldson Submarket

Important characteristics of the I-85 South/Donaldson warehouse market (where the Southern Connector is mainly located) are summarized below:



Year Ending	Inventory (SF)	Completions (SF)	Occupied Stock (SF)	Occupancy	Asking Rent (\$/SF NNN)	Asking Rent Change	Net Absorption (SF)
2018	15,721,303	75,877	14,597,780	92.9%	\$4.42	6.84%	327,069
2019	16,158,948	437,645	14,594,016	90.3%	\$4.65	5.14%	-3,764
2020	16,327,834	168,886	14,983,481	91.8%	\$4.91	5.68%	389,465
2021	16,480,334	152,500	15,701,779	95.3%	\$5.45	10.87%	718,298
Q1 2022	16,480,334	0	15,902,591	96.5%	\$5.62	3.22%	200,812
Q2 2022	16,480,334	0	16,073,942	97.5%	\$5.79	3.02%	171,351
Q3 2022	16,480,334	0	16,136,118	97.9%	\$5.97	3.09%	62,176
Q4 2022	16,674,594	194,260	16,067,849	96.4%	\$6.12	2.55%	-68,269
2022	16,674,594	194,260	16,067,849	96.4%	\$6.12	12.41%	366,070
Q1 2023	18,326,678	1,652,084	16,779,938	91.6%	\$6.32	3.18%	712,089
Q2 2023*	19,826,678	1,500,000	17,017,070	85.8%	\$6.40	1.39%	237,132
Q3 2023*	19,820,520	-6,158	17,195,516	86.8%	\$6.51	1.67%	178,498
Q4 2023*	20,150,332	329,812	17,429,852	86.5%	\$6.59	1.26%	234,561
2023*	20,150,332	3,475,738	17,429,852	86.5%	\$6.59	7.69%	1,362,280
2024*	20,770,852	620,520	18,948,620	91.2%	\$6.81	3.33%	1,519,245
2025*	21,528,929	758,077	20,248,574	94.1%	\$7.04	3.29%	1,300,610
2026*	22,355,683	826,754	21,141,200	94.6%	\$7.23	2.76%	893,131
2027*	23,132,292	776,609	21,909,934	94.7%	\$7.38	2.07%	769,319
2028*	23,840,186	707,894	22,623,250	94.9%	\$7.51	1.74%	713,983

The I-85 South/Donaldson warehouse submarket consists of approximately 18,326,678 square feet of warehouse space. The current submarket inventory represents approximately 13.0% of the overall market inventory. The following observations were noted from the table above:

- As of 1st Quarter 2023, there was approximately 16,779,938 square feet of occupied warehouse space (including sublet space), resulting in an occupancy rate of 91.6% for the submarket. This reflects a decrease from the previous quarter's occupancy of 96.4%, and a decrease from an occupancy rate of 96.4% from the prior year. The submarket occupancy is below the 95.6% market occupancy.
- The submarket experienced positive 712,089 square feet of net absorption for the current quarter. This indicates an improvement from the previous quarter's negative 68,269 square feet of net absorption, and an improvement from the positive 366,070 square feet of net absorption from a year ago. The submarket's current net absorption of positive 712,089 square feet is below the overall market net absorption of positive 1,079,002 square feet.
- The submarket had completions of positive 1,652,084 square feet for the current quarter, which indicates an increase from the previous quarter's completions of positive 194,260 square feet, and an increase from the zero completions from the prior year.
- The submarket achieved average asking rent of \$6.32 per square foot, which indicates an increase from the previous quarter's asking rent of \$6.12 per square foot, and an increase from the asking rent of \$6.12 per square foot from the prior year. The submarket's current asking rent of \$6.32 per square foot is below the overall market asking rent of \$6.34 per square foot.



Historical and Projected Inventory - Submarket

Submarket Inventory is projected to be 20,150,332 square feet at the end of the current year, which represents an increase from the previous year's submarket inventory of 16,674,594 square feet. Inventory for next year is projected to be 20,770,852 square feet, reflecting an increase from the current year.



Historical and Projected Occupancy - Submarket

Submarket occupancy is projected to be 86.5% at the end of the current year, which represents a decrease from the previous year's submarket occupancy of 96.4%. Submarket occupancy for next year is projected to be 91.2%, reflecting an increase from the current year.



Historical and Projected Net Absorption - Submarket

Net absorption in the submarket is projected to be positive 1,362,280 square feet at the end of the current year, reflecting an improvement from the previous year's net absorption of positive 366,070 square feet. Net absorption for next year is projected to be positive 1,519,245 square feet, indicating an improvement from the current year.



Historical and Projected Completions - Submarket

The submarket is projected to achieve completions of positive 3,475,738 square feet at the end of the current year, which indicates an improvement from the previous year's completions of

positive 194,260 square feet. The submarket is projecting completions of positive 620,520 square feet for next year, which indicates a decline from the current year.



Historical and Projected Asking Rent - Submarket

The submarket is projected to achieve average asking of \$6.59 per square foot at the end of the current year, which represents an increase from the previous year's asking rent of \$6.12 per square foot. The submarket is projected to achieve average asking rent of \$6.81 per square foot, reflecting an increase from the current year.

AVAILABLE LAND TRACTS

Discussions with the Greenville Area Development Corporation and several local commercial real estate brokers indicated that there are several available land tracts for sale. We are aware of a few tracts of varying sizes located within Augusta Grove Business Park, as well as the surrounding areas around Donaldson that are presently being marketed for sale; however, they do not have a set asking price. South Greenville Enterprise Park has a 379.50-acre tract listed for sale at \$30,500 per acre, or \$11,600,000. Finally, we are aware of a 47-acre tract located off Piedmont Highway that is listed for \$52,500 per acre and proximate to the Southern Connector.

MAJOR INDUSTRIAL DEVELOPMENTS

The major developments of influence in the immediate area include the Donaldson Center Airport (a former Air Force Base moved in the early 1960's conveyed to the city and county of Greenville), the Michelin Tire facility, and the Southern Railroad spur. These projects have all fostered industrial growth in the region including Beechtree Business Park, Augusta Grove, and Enterprise 85, among others.



Michelin Tire Facility

Michelin North America is a \$10.76 billion dollar a year company operating 19 plants in 16 locations and employs 22,000 people. It manufactures and sells tires for airplanes, automobiles, farm equipment, heavy duty trucks, motorcycles, and bicycles. Michelin employs 4,000 people in Greenville where it has its North American headquarters as well as a major manufacturing facility and R&D center. With over 8,000 people within South Carolina, the company manufactures and sells tires for every type of vehicle including those used by NASA. A vital extension of Michelin's research and development community is the Michelin test facility in Laurens, S.C. This 3,500-acre site maintains 12 special tracks of varying lengths and surfaces for testing tires and suspension systems and for driver training. Engineers test tires for noise, adherence to wet surfaces, gravel endurance, off-road inclines, traction in mud, and vehicle dynamics, such as high-speed lane change and drift. Used primarily by Michelin, the facility also offers other groups test opportunities, such as vibration analysis and chassis loading tests in a confidential environment. The facility is also used to train law enforcement officers from North and South Carolina to enhance their skills in handling emergency situations.

South Carolina Technology & Aviation Center

SC Technology and Aviation Center is designed to meet the unique needs of technologically advanced businesses in a global economy. This is the primary generator of economic development and future growth in traffic demand among the subject neighborhood. The center features an attractive combination of advanced manufacturing, distribution, and aviation facilities with 450 acres of available property. With more than 110 successful and diverse companies, SCTAC has an annual economic impact of \$2.0 billion, while supporting more than 6,800 jobs. The park, centered around Donaldson Field's 8,000' primary runway, is also recognized as a major aircraft maintenance and modification center capable of completing major structural repairs, inspections, and other service needs. The aviation companies located at SCTAC, including global giant Lockheed Martin, provide aircraft maintenance and repair, fuel and supplies, flight charters, hangar rentals, and other aviation services.

SCTAC serves as landlord to various companies and the property management team maintains hundreds of acres of common area and Donaldson Field's 1,400 acres. These operations are essential to the SCTAC organization, as they are 100 percent dependent upon lease revenues to fund their operations.

Donaldson Center Airport (Donaldson Field)

Donaldson Center Airport is a public airport six miles south of the central business district of Greenville. It is located at the Donaldson Center Industrial Air Park and is owned by the City and County of Greenville. Donaldson Center Airport covers an area of 1,400 acres which contains one runway designated 5/23 with 8,000 x 150 feet concrete pavement. Donaldson Field is the largest general aviation airport in the state, with more than 40,000 aircraft operations per year.



Donaldson Army Aviation Support Facility

This 115,000 SF aviation support facility includes four CH-64 hangar bays at 32,226 SF for helicopter maintenance, a 20,020 SF operations AMU facility, a 24,648 SF unheated helicopter storage hangar for another three CH-64 bays, a 10,000 SF shop area, 3,300 SF of ground support equipment storage, and other support facilities. The facility includes adequate provision of administrative, supply, classroom, medical, locker, and physical fitness areas totaling nearly 60,000 SF. Classrooms consist of lecture, testing, and assembly halls, instructor offices, learning center and library.

International Transportation Innovation Center

SCTAC converted a closed runway into an automotive test track, breathing new economic life into an aviation asset that had stood idle for nearly 50 years. The International Transportation Innovation Center (ITIC) boasts 350 acres of testing infrastructure, including two miles of resurfaced asphalt and concrete straightaways and an urban track landscape. ITIC provides multiple industries - automotive, information, and communication with a comprehensive approach that promotes and facilitates innovation workshops, prototype development and validation, technology demonstration events, technology conferences, and exhibition management. ITIC is located within the South Carolina Technology & Aviation Center (SCTAC). Much more than just a test-track infrastructure, ITIC is a world-class innovation and research platform in the domain of sustainable mobility and networked connectivity that brings experts together to collaborate on transportation topics of the future. The ITIC facilities include an extensive range of offices, hangars, and meeting space for the following: research & development, strategic events, product unveilings, industry conferences & exhibitions, educational programs & training, entertainment, and more SCTAC, Clemson University's ICAR, Oak Ridge National Lab, Toyota, Duke Energy and other industry partners are performing wireless charging testing in support of a \$12 million grant award from the United States Department of Energy. The development of ITIC promises unlimited opportunity for connected vehicle research and clean transportation technologies.

Augusta Grove Business Park

The Augusta Grove Business Park (formerly called the Matrix Business and Technology Park) is a 1,100-acre, master planned industrial park, with a special I-2 zoning classification and restrictive covenants that make it ideally suited for industry, warehouse/distribution operations, research & development and headquarters campus facilities.

The Augusta Grove Business Park is situated at the corner of US-25 (Augusta Road) and the Southern Connector, and is also within 4 miles of I-85.

Ideal access is featured within the park as well. Augusta Grove's internal road system is designed for industrial use. Major park thoroughfares are paved for three-lane traffic, and graded for five lanes. In addition, the system forms two loops, creating an easy and efficient design for truck and commuter traffic. Companies currently operating within the park include GE Aviation, KI Logistics, Magna, Android, JTEKT, Orbis and more.

Enterprise 85 Business Park

Enterprise 85 is a 140-acre industrial park in the South Greenville market by developer SunCap Property Group. A 1,006,880-SF Phase 1 building is under construction now and expected to deliver Q3 2023.

The park is designed for flexibility, offering tenants the option to expand the initial Phase 1 building up to 1.5 million square feet under one roof or to divide the site into two stand-alone buildings.

GE Aviation

In 2010, GE Aviation built a 150,000 square foot facility within the Matrix Industrial Park. GE Aviation is a world-class leader in the aviation industry and a renowned manufacturer of engines for commercial and military aircraft. GE has a long history in South Carolina with investments in Florence, Charleston and Greenville. The Greenville facility produces high pressure turbine (HPT) blades that are used in commercial aircraft engines produced by GE Aviation.

JTEKT

In 2013, JTEKT expanded its current footprint and invested \$102 million at their facility within the Augusta Grove Business Park. JTEKT manufactures auto parts used in driveline components. The company constructed a new building near its existing facility at 1866 Old Grove Road.

KI Logistics

In 2014, KI Logistics completed a new \$11.5 million, 206,000-square-foot North American headquarters at The Augusta Grove Business Park. The logistics company is a subsidiary of Kimura Inc., a manufacturer of steel containers and racks for the automotive market, which already operates a 70,000-square-foot facility in Laurens. Given the increased demand from customers, KI Logistics has since expanded their headquarters to 272,000 square feet. Kimura Unity is best known for its expertise in logistics and distribution, and serves such customers as Drive Automotive, JTEKT and Toyota.

Roy Metal Finishing

In 2013, Roy Metal Finishing expanded its current operations. RMF previously operated two facilities in Greenville County; however, they built a new 85,000 square foot building to combine all operations. This facility has expanding potential for up to 200,000 square feet.

Manga

Magna International, which is a Canadian automobile parts manufacturer. The company was founded in 1957 and is publicly traded under NYSE: MGA. The company provides manufacturing parts for car companies such as BMW, Mercedes, Volkswagen, Toyota, Tesla, and Tata Motors.



They have two adjacent facilities located at 1940 Old Grove Road and 393 Grove Reserve parkway within the Augusta Grove Business Park.

Padagis

In 2022, a 160,000 square foot, Class A, spec building was completed at 301 Grove Reserve Parkway. This property was leased to Padagis, which is a pharmaceutical manufacturer that offers high quality generic prescriptions and over the counter products that meet strict standards of quality and safety. Their line of dermatological products is the largest in the United States.

Upstate trade Center

Buildings One and Two at the Upstate Trade Center were completed in 2022 and located at 1170 Bracken Road in Piedmont. These reflect two Class A, speculative facilities that total approximately 900,000 square feet. The property was acquired by Dalfen Industrial in March 2023; however, Building One was recently sold to Nissin Foods in June 2023. Nissin foods is an Asian food manufacturer and the first producer of instant ramen. Building Two is still being actively marketed for lease, but has reportedly had interest.

Market Participant Interviews

Discussions with several market participants indicated the I-185 area will be the corridor of development for the future. While the corridor has been slow to develop since its development in 2001, it is anticipated more growth will develop within the Greenville area and ultimately within southern Greenville due to the development of the toll road and the recent extension of municipal sewer lines. This is evidenced by the recent development of the Enterprise 85 Business Park.

CONCLUSION

The overall market area and submarket remain at a stabilized occupancy. Positive population and job growth are key factors to the major demand generators and are positive. The submarket is experiencing lower occupancy rates, but generally in-line asking rental rates. Considering the recent trends in absorption and construction, the local market area is projected to maintain a stabilized occupancy position through the near term. The long-term projection is for stable market conditions as the Greenville area has demonstrated solid underlying economic fundamentals.



Market Analysis – Residential

To assess the historical and project residential market trends, we gathered data from both primary and secondary sources. The primary data collected relates to the specific market in which the subject area is located. Primary data may include: specific property sales information, buyer preference surveys, project absorption statistics and competition inventory surveys. Secondary data may include: census data, building permit information, housing and vacancy rates from the Department of Housing and Urban Development (HUD), multi-listing service information, surveys by private companies and surveys and forecasts performed by local planning boards, economic development commissions, and universities. Overall, we have included market information as it relates to the single-family and multi-family development throughout the Greenville area and the Southern Connector neighborhood.

SINGLE FAMILY DEVELOPMENT

Market Overview

According to Keller Williams, "In May, the real estate market in Greenville showed signs of balance, as both buyers and sellers approached the market cautiously, hesitating to make substantial decisions until they had a clearer understanding of its direction. The housing market has experienced a slight slowdown, with home sales only showing a marginal increase of 0.4% compared to the corresponding period last year. The ongoing impact of higher interest rates remains a factor affecting the affordability of homes.

The number of new listings also decreased by 5.4% to 1,877. Prices also moved lower as the median sales price was down to \$315,000. Days on the market also surged by 120% to 44 days, and months of inventory supply increased by 123.1% to 2.9 months, showing a relative rise in supply compared to demand. However, the slowdown in sales has led to an increase in housing supply, with inventory rising by 87.5% to 3,593 units.

The slowdown in sales has led to an increase in the average number of days that homes stay on the market in Greenville, which currently stands at 44 days. As a result, sellers are becoming more willing to offer concessions, providing buyers with more time and bargaining power when searching for a home. Although there are more houses available for sale, they are taking longer to sell."

While house prices have remained stable, the slower sales activity means that properties are staying on the market for longer periods of time. The decrease in the number of homes being purchased has contributed to the overall slowdown in the housing market. U.S. existing-home sales declined 3.4 percent month-over-month as of last measure, according to the National Association of REALTORS® (NAR).



Residential Market Summary – Overall Greenville Area (Courtesy of Greenville Online)



Housing Type	Single Family Home	
Total Sales Values	\$234,339,135	
	March 2023	Compared to A Year Ago
Number of Sales	605	-31.17% 🖊
95th Percentile Price	\$891,250	-15.52% 🖊
75th Percentile Price	\$442,000	7.80% 🕇
Median Price	\$310,000	8.39% 🕇
25th Percentile Price	\$235,000	9.30% 🕇

Housing Type	Condo/Townhome	
Total Sales Values	\$78,315,085	
	March 2023	Compared to A Year Ago
Number of Sales	32	-23.81% 🔶
95th Percentile Price	\$4,934,750	356.39% 🕇
75th Percentile Price	\$319,300	44.68% 🕇
Median Price	\$229,750	47.04% 🕇
25th Percentile Price	\$182,125	64.25% 🕇

Communities Under Construction

The following represent several communities under construction within the Southern Connector Area:



ARDEN WOODS - 1

Arden Woods is a planned residential community that will contain a mixture of single-family and townhomes. According to their website, homes are being marketed from \$349,990 to \$408,990. We are not aware of the exact figures; however, it appears that this development will contain approximately 150 homes at completion. As of July 2023, it appears that lots have been developed, but no homes have been completed.

WOODLAND POINTE - 2

Woodland Pointe is a planned residential community that will only contain traditional singlefamily residences. According to their website, homes are being marketed from \$269,990 to \$294,990. We are not aware of the exact figures; however, it appears that this development will contain approximately 130 homes at completion. As of July 2023, it appears that 7 have been sold/constructed.

MEADOW SPRINGS - 3

Meadow Springs is a planned residential community that will only contain traditional singlefamily residences. According to their website, homes are being marketed solely for rent in the \$2,125 to \$2,375 per month range. We are not aware of the exact figures; however, it appears that this development will contain approximately 140 homes at completion. As of July 2023, it appears that 5 have been sold/constructed.

HARRINGTON - 4

Harrington is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed from \$315,295 to \$437,185. We are not aware of the exact figures; however, it appears that this development will contain approximately 300 homes at completion. As of July 2023, it appears that 141 have been sold/constructed.

RIVERSTONE - 5

Riverstone is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed from \$332,990 to \$438,990. We are not aware of the exact figures; however, it appears that this development will contain approximately 400 homes at completion. As of July 2023, it appears that 180 have been sold/constructed.

BRACKEN WOODS - 6

Bracken Woods is a planned residential community that will only contain traditional single-family residences. According to their website, the prospective homes are being marketed for sale in the low-\$300,000 range. We are not aware of the exact figures; however, it appears that this development will contain approximately 140 homes at completion. As of July 2023, it appears that 63 have been sold/constructed.

HARVEST GLEN - 7

Harvest Glen is a planned residential community that will only contain traditional single-family residences. According to their website, homes are being marketed from \$285,900 to \$352,900. We are not aware of the exact figures; however, it appears that this development will contain approximately 150 homes at completion. As of July 2023, it appears that 30 have been sold/constructed.

METROPOLITAN GREENVILLE/SPARTANBURG, SC APARTMENT MARKET OVERVIEW

Recent Performance

Year Ending	Inventory (Units)	Completions (Units)	Occupied Stock (Units)	Occupancy	Effective Rent (\$/Unit / Mo.)	Effective Rent Change	Net Absorption (Units)
2018	63,641	1,586	60,223	94.6%	\$947	5.12%	2,227
2019	65,124	1,634	61,738	94.8%	\$987	2.68%	1,513
2020	67,300	2,176	64,197	95.4%	\$1,002	1.46%	2,459
2021	69,653	2,641	67,633	97.1%	\$1,173	15.35%	3,437
Q1 2022	70,047	394	67,883	96.9%	\$1,202	1.07%	244
Q2 2022	70,298	251	67,521	96.1%	\$1,264	3.77%	-360
Q3 2022	70,628	330	67,210	95.2%	\$1,313	3.10%	-312
Q4 2022	71,086	458	66,913	94.1%	\$1,319	0.17%	-291
2022	71,086	1,433	66,913	94.1%	\$1,319	8.66%	-719
Q1 2023	71,921	835	67,261	93.5%	\$1,318	-0.04%	343
Q2 2023*	73,406	1,485	69,075	94.1%	\$1,326	0.61%	1,757
Q3 2023*	74,279	873	70,416	94.8%	\$1,359	2.49%	1,341
Q4 2023*	75,031	752	71,054	94.7%	\$1,359	0.00%	638
2023*	75,031	3,945	71,054	94.7%	\$1,359	3.00%	4,162
2024*	78,328	3,297	74,333	94.9%	\$1,404	3.30%	3,278
2025*	79,825	1,497	75,514	94.6%	\$1,457	3.80%	1,182
2026*	81,443	1,618	77,127	94.7%	\$1,505	3.30%	1,612
2027*	83,099	1,657	78,695	94.7%	\$1,556	3.40%	1,569

The following table summarizes historical and projected performance for the overall metropolitan Greenville/Spartanburg, SC apartment market, as reported by Axiometrics.

The Greenville/Spartanburg, SC apartment market consists of approximately 71,921 units of apartment space. The following observations are noted from the table above:

- As of 1st Quarter 2023, there were approximately 67,261 units of occupied apartment space, resulting in an occupancy rate of 93.5% for the metro area. This reflects a decrease from the previous quarter's occupancy of 94.1%, and a small decrease from an occupancy rate of 94.1% from the prior year.
- The area experienced positive 343 units of net absorption for the current quarter. This indicates an improvement from the previous quarter's negative 291 units of net absorption, and an improvement from the negative 719 units of net absorption from the prior year.
- The area had completions of positive 835 units for the current quarter, which indicates an increase from the previous quarter's completions of positive 458 units, and indicates a decline from completions of positive 1,433 units from the prior year.
- The area achieved average effective rent of \$1,318 per unit, which indicates a decrease from the previous quarter's effective rent of \$1,319 per unit, and a decrease from the effective rent of \$1,319 per unit from the prior year.



Historical and Projected Inventory – Market

Inventory is projected to be 75,031 units at the end of the current year, which represents an increase from the previous year's inventory of 71,086 units. Inventory for next year is projected to be 78,328 units, reflecting an increase from the current year.



Historical and Projected Occupancy - Market

At the end of the current year, the occupancy rate is projected to be 94.7%, which reflects an increase from the 94.1% occupancy rate at the end of the prior year. Occupancy for next year is projected to be 94.9%, reflecting a small increase from the current year.



Historical and Projected Net Absorption - Market

At the end of the current year, the area is projected to experience positive 4,162 units of net absorption, which indicates an improvement from the negative 719 units of net absorption for the previous year. The area is projected to experience positive 3,278 units of net absorption as of the end of next year, which indicates a decline from the current year.



Historical and Projected Completions - Market

The area is projected to achieve completions of positive 3,945 units for the current year, which indicates an improvement from the previous year's completions of positive 1,433 units. The area is projected to experience completions of positive 3,297 units as of the end of next year, which indicates a decline from the current year.



Historical and Projected Effective Rent - Market

The area is projected to achieve average effective rent of \$1,359 per unit at the end of the current year, which indicates an increase from the previous year's effective rent of \$1,319 per unit. The area is projected to achieve effective rent of \$1,404 per unit by the end of next year, indicating an increase from the current year.

SUBMARKET SNAPSHOT

The following table summarizes the supply of apartment units for each submarket within the Greenville/Spartanburg, SC market as of 1st Quarter 2023.

Submarket	Inventory (Units)	Completions* (Units)	Effective Rent (\$/Unit / Mo.)	Occupano
Anderson	4,993	0	\$1,178	95.5%
Central Greenville	15,714	308	\$1,481	92.9%
Clemson/Pickens County	6,349	0	\$1,297	96.0%
North Greenville	20,759	701	\$1,289	94.1%
South Greenville	8,544	431	\$1,324	94.5%
Spartanburg	15,562	434	\$1,160	92.0%
npletions include trailing 4 quarters				

South Greenville Submarket

Important characteristics of the South Greenville apartment market are summarized below:

		SOUT	H GREENVILLE A	PARTMENT S	JBMARKET		
Year Ending	Inventory (Units)	Completions (Units)	Occupied Stock (Units)	Occupancy	Effective Rent (\$/Unit / Mo.)	Effective Rent Change	Net Absorption (Units)
2018	6,431	190	6,043	94.0%	\$952	5.54%	224
2019	7,207	776	6,729	93.4%	\$971	2.44%	686
2020	7,309	102	6,911	94.6%	\$1,037	4.16%	182
2021	8,053	744	7,819	97.1%	\$1,178	13.67%	907
Q1 2022	8,113	60	7,829	96.5%	\$1,181	0.23%	11
Q2 2022	8,186	73	7,875	96.2%	\$1,251	3.63%	46
Q3 2022	8,279	93	7,947	96.0%	\$1,293	3.10%	73
Q4 2022	8,385	106	8,052	96.0%	\$1,315	1.71%	104
2022	8,385	332	8,052	96.0%	\$1,315	9.30%	234
Q1 2023	8,544	159	8,072	94.5%	\$1,324	0.68%	20
Q2 2023*	9,009	465	8,459	93.9%	\$1,378	4.08%	385
Q3 2023*	9,069	60	8,498	93.7%	\$1,396	1.31%	38
Q4 2023*	9,069	0	8,534	94.1%	\$1,362	-2.44%	36
2023*	9,069	684	8,534	94.1%	\$1,362	3.60%	534
2024*	9,514	445	9,010	94.7%	\$1,417	4.00%	446
2025*	9,859	345	9,307	94.4%	\$1,482	4.60%	291
2026*	10,266	407	9,701	94.5%	\$1,528	3.10%	395
2027*	10,634	368	10,049	94.5%	\$1,586	3.80%	348
uture Projected Da							

The South Greenville apartment submarket consists of approximately 8,544 units of apartment space. The current submarket inventory represents approximately 11.9% of the overall market inventory. The following observations were noted from the table above:

- As of 1st Quarter 2023, there were approximately 8,072 units of occupied apartment space, resulting in an occupancy rate of 94.5% for the submarket. This reflects a decrease from the previous quarter's occupancy of 96.0%, and a decrease from an occupancy rate of 96.0% from the prior year. The submarket occupancy is above the 93.5% market occupancy.
- The submarket experienced positive 20 units of net absorption for the current quarter. This indicates a decline from the previous quarter's positive 104 units of net absorption, and a decline from the positive 234 units of net absorption from a year ago. The submarket's current net absorption of positive 20 units is below the overall market net absorption of positive 343 units.
- The submarket had completions of positive 159 units for the current quarter, which indicates an increase from the previous quarter's completions of positive 106 units, and an increase from the completions of positive 60 units from the prior year.
- The submarket achieved average effective rent of \$1,324 per unit, which indicates an increase from the previous quarter's effective rent of \$1,315 per unit, and an increase from the effective rent of \$1,315 per unit from the prior year. The submarket's current effective rent of \$1,324 per unit compares favorably with the overall market asking rent of \$1,318 per unit.



Historical and Projected Inventory - Submarket

Submarket Inventory is projected to be 9,069 units at the end of the current year, which represents an increase from the previous year's submarket inventory of 8,385 units. Inventory for next year is projected to be 9,514 units, reflecting an increase from the current year.



Historical and Projected Occupancy - Submarket

Submarket occupancy is projected to be 94.1% at the end of the current year, which represents a decrease from the previous year's submarket occupancy of 96.0%. Submarket occupancy for next year is projected to be 94.7%, reflecting an increase from the current year.



Historical and Projected Net Absorption - Submarket

Net absorption in the submarket is projected to be positive 534 units at the end of the current year, reflecting an improvement from the previous year's net absorption of positive 234 units. Net absorption for next year is projected to be positive 446 units, indicating a decline from the current year.



Historical and Projected Completions - Submarket

The submarket is projected to achieve completions of positive 684 units at the end of the current year, which indicates an improvement from the previous year's completions of positive 332 units.

The submarket is projecting completions of positive 445 units for next year, which indicates a decline from the current year.



Historical and Projected Effective Rent - Submarket

The submarket is projected to achieve average effective of \$1,362 per unit at the end of the current year, which represents an increase from the previous year's effective rent of \$1,315 per unit. The submarket is projected to achieve average effective rent of \$1,417 per unit, reflecting an increase from the current year.

Under Construction and Proposed

							Construction	Construction
Submarket	Property Name	Address	City	Stories	Units	Property Status	Start	Finish
South Greenville	BridgeWay Station	I-385 & Bridges Rd	Simpsonville	5	380	Under Construction/Lease-Up	Apr 2021	Jun 2023
South Greenville	Hawthorne Palmetto	9001 Blue Flag Dr	Simpsonville	3	240	Under Construction/Lease-Up	Jul 2021	Jul 2023
South Greenville	Maverick Yards	N Main St & Jenkins St	Mauldin	3	55	Pre-Planned	-	-

CONCLUSION

Overall, residential development within the Southern Connector area includes single-family development and multifamily development focused towards households that fall near the indicated average income characteristics as compared to Greenville County as a whole. In addition, we noted that several new residential communities are currently under construction or proposed in proximity to the Southern Connector. It is anticipated that this trend will continue for the near-term for the area. However, over the long-term, it is anticipated the area will experience more retail, office growth following the continued industrial and residential growth seen in the Southern Connector area.

Utilities and Infrastructure

The neighborhood is primarily provided utilities by Duke Energy, Piedmont Natural Gas, the Greenville Water System, Renewable Water Resources (ReWa) and AT&T. Aside from overall real estate market conditions, the availability of utilities and infrastructure has had the biggest impact on where and when development activity will occur in the area served by the Southern Connector. The relative lack of consistent sewer service is one of the main constraints to development in this area.

Sewer

Renewable Water Resources (ReWa) provides wastewater treatment services to the Southern Connector area. ReWa owns and maintains the sewer trunk lines and treatment facilities, while sewer sub-districts (Metropolitan, Mauldin, and Simpsonville) maintain the smaller collector lines that feed into the trunk lines.

Sewer service is a concern in this area, as the sewer authority and its sub-districts are often unwilling to share in the costs of extending service. Several projects in the study area have spent an enormous amount of money to bring sewer to their property in order to make their project viable. These projects are typically on a large enough scale to be able to justify this expense, but smaller projects would not be able to afford these capital improvements. Commercial and residential development in the Southern Connector service area will continue to follow sewer availability for some time into the future.

ReWa has several trunk lines in place serving this area. Generally speaking, they cross the Southern Connector in four places: along the Reedy River and Standing Springs Road; between Fork Shoals Road and Reedy Fork Road; between U.S. Highway 25 and S.C. Highway 20; and at I-85 and S.C. Highway 153. Please see the enclosed sewer map showing the location of these lines. As you can see, there is a lack of adequate service to the south of the Southern Connector between Fork Shoals Road and U.S. Highway 25 (Augusta Road). The most recent update to the Upstate Roundtable (which occurred in 2021) is the 20-year strategic plan to align regional wastewater infrastructure with projected growth, while promoting environmental sustainability. This process is a strategic effort in guiding ReWa over the next twenty years as well as identifying where projected wastewater treatment capacity will be available.

According to the Greenville County Long Range Plan (Updated in 2017) ReWa presently have two wastewater treatment facilities in or close to the study area. As it stands, these plants possess sufficient capacity to address additional development that may occur within the near future. These plants are the Lower Reedy Wastewater Resource Recovery Facility (WRRF), and the Piedmont Wastewater Resource Recovery Facility.



Lower Reedy Wastewater Resource Recovery Facility (WRRF)

Any new development on the east side of U.S. Highway 25 and above I-185 in the Huff Creek watershed will be treated by the Lower Reedy WRRF, which currently has no capacity concerns.

Below I-185, there are no current wastewater treatment options with the exception of an existing pump station at the Perry Correctional Institution. In the future, either a series of pump stations to connect to the Lower Reedy Plant or the possible construction of a new Huff Creek WRRF could serve future development.

The following tables show the 20-year investment plan for the Lower Reedy WRRF basin.

2.0 Lower Reedy WRRF Basin

Project Driver				5-Year Period Beginning						20-Year Total	
	202	1		2026		2031		2036	•		
				Lower Ree	dy W	RRF					
Capacity	\$4,4	126,000	\$	-	\$	-	\$	-		\$4,426,000	
Growth	\$	-	\$	-	\$	-	\$	-	\$	-	
Process Improvements	\$7,4	155,000		\$5,460,000	\$	-	\$			\$12,915,000	
Regulatory	\$	-	\$	-		\$58,790,000	\$	-		\$58,790,000	
Renewal & Replacement	\$9,6	523,000		\$6,848,000		\$5,516,000		\$5,105,000		\$27,092,000	
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	-	
Other	\$1	40,000	\$	-	\$	-	\$	-		\$140,000	
WRRF Total	\$21,6	544,000		\$12,308,000		\$64,306,000		\$5,105,000		\$103,363,000	
Trunk Sewer System											
Capacity	\$3,5	54,000		\$8,228,000	\$	-	4	\$49,057,000		\$60,839,000	
Growth	\$	-	\$	-	\$	-	\$	-	\$	-	
New Market or Service	\$		\$	-	\$		\$		\$		
Process Improvements	\$4	178,000	\$	-	\$		\$	-	\$	478,000	
Regulatory	\$	-	\$	-	\$	-	\$	-	\$	-	
Renewal & Replacement	\$	-	\$	-	\$			\$2,000,000		\$2,000,000	
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	-	
Other	\$	-	\$	-	\$	-	\$	-	\$	-	
Trunk Sewer System Total	\$4,0	32,000		\$8,228,000	\$;	51,057,000		\$63,317,000	
				Collection Sev	wer S	ystem					
Capacity	\$	-		\$624,000		\$12,593,000	4	\$14,833,000		\$28,050,000	
Growth	\$	-	\$	-	\$	-	\$	-	\$	-	
Renewal & Replacement	\$2	211,000	\$	-	\$		\$			\$211,000	
Other	\$	-	\$	-	\$	-	\$	-	\$	-	
Collection Sewer System Total	\$2	211,000		\$624,000		\$12,593,000	;	14,833,000		\$28,261,000	

Project Driver				5-Year Perio	d Begi	nning			20-Year Total	
	2	2021		2026		2031	20	036		
				New Servi	ce Area	I.				
Growth	\$	7,340,000		\$4,663,000	\$	-	\$107	,400,000	\$1	19,403,000
Renewal & Replacement	\$	-		\$	\$	-	\$		\$	-
New Service Area Total	\$	7,340,000		\$4,663,000	\$		\$107	,400,000	\$1	19,403,000
				Planning & T	echnolo	PBA				
Capacity	\$	-	\$	-	\$	-	\$	-	\$	-
Growth	\$	-	\$	-	\$	-	\$	-	\$	-
IT Business Applications	\$	-	\$	-	\$	-	\$		\$	
IT Systems & Infrastructure	\$	-	\$		\$	-	\$		\$	-
New Market or Service	\$	-	\$	-	\$	-	\$		\$	-
Planning		\$434,000	\$	-	\$	-	\$	-		\$434,000
Process Improvements	\$	-	\$		\$	-	\$	-	\$	-
Other	\$	-	\$	-	\$	-	\$	-	\$	-
Planning & Technology Total		\$434,000	\$		\$		\$			\$434,000
				Renewable I	Resourc	es				
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	-
Renewable Resources Total	\$		\$		\$		\$		\$	
				Other Priorit	y Proje	cts				
Capacity		\$200,000	\$	-	\$	-	\$	-		\$200,000
Growth	\$	-	\$	-	\$		\$	-	\$	-
Planning	\$	-	\$	-	\$	-	\$	-	\$	-
Regulatory	\$	-	\$	-	\$	-	\$	-	\$	-
Renewal & Replacement	\$	-	ş		\$	-	\$		\$	-
Sustainability	\$	-	\$		\$	-	\$		\$	-
Other	\$	-	\$	-	\$	-	\$		\$	-

Project Driver	5-Year Period Beginning				20-Year Total
	2021	2026	2031	2036	
Other Priority Projects Total	\$200,000	\$-	\$-	\$-	\$200,000
Lower Reedy WRRF Basin Total	\$33,861,000	\$25,823,000	\$76,899,000	\$178,395,000	\$314,978,000

As shown in the previous tables, ReWa does not anticipate extensive upgrades over the next five years or so.


Piedmont Wastewater Resource Recovery Facility. (WRRF)

All new development occurring on the western side of U.S. Highway 25 will be pumped or gravity fed to the Piedmont Regional WRRF. The former Grove Creek WRRF has been converted to a pump station for this reason. The Grove Creek watershed is in a good position to support additional development from a wastewater treatment perspective.

Project Driver				5-Year Perio	od Begi	nning			20-Year Total	
		2021		2026		2031	2036			
Piedmont Regional WRRF										
Capacity	\$	-		\$130,997,000	:	\$70,303,000	\$	-	\$201,3	00,000
Growth	\$	-		\$	\$	-	\$	-	\$	
Process Improvements		\$8,707,000		\$2,520,000	\$	-	\$	-	\$11,2	27,000
Regulatory	\$		\$		\$		\$	-	\$	-
Renewal & Replacement		\$5,739,000		\$1,816,000		\$4,940,000		\$3,516,000	\$16,0	11,000
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	
Other	\$	-	\$	-	\$	-	\$	-	\$	
WRRF Total	\$:	14,446,000	\$	135,333,000	\$	75,243,000		\$3,516,000	\$228,53	8,000
				Trunk Sewer	System	1				
Capacity		\$89,000		\$1,013,000	\$			\$29,237,000	\$30,3	39,000
Growth	\$	-	\$	-	\$	-	\$	-	\$	
New Market or Service	ş	-	ş		ş		\$		\$	
Process Improvements	ş	-	ş	-	ş		\$	-	\$	
Regulatory	\$	-	\$	-	\$	-	\$	-	\$	
Renewal & Replacement		\$2,399,000		\$900,000	ş		\$		\$3,2	99,00
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	
Other	\$	-	\$	-	\$	-	\$	-	\$	
Trunk Sewer System Total	:	\$2,488,000		\$1,913,000	\$		\$	29,237,000	\$33,63	8,000
			0	Collection Sew	er Syst	em				
Capacity	\$	-	\$	-	\$	-		\$7,627,000	\$7,6	27,000
Growth	\$	-		\$6,298,000	\$	-	\$	-	\$6,2	98,000
Renewal & Replacement		\$3,141,000		\$821,000	ş		\$		\$3,9	62,000
Other	\$	-	\$	-	\$	-	\$	-	\$	
Collection Sewer System Total	:	\$3,141,000		\$7,119,000	\$			\$7,627,000	\$17,88	7,000

The following tables show the 20-year investment plan for the Piedmont Regional WRRF.

Project Driver			5	5-Year Perio	d Beginn	ing			20-Year Total	
	20	021		2026	203	1	203	36		
New Service Area										
Growth	\$2	0,641,000	\$	-	\$1	,280,000	\$27	,495,000	\$49,4	16,000
Renewal & Replacement	\$		\$	-	\$		\$		\$	
New Service Area Total	\$20	,641,000	\$		\$1,3	280,000	\$27,	495,000	\$49,41	6,000
			P	anning & Te	chnology					
Capacity	\$		\$	-	\$	-	\$	-	\$	-
Growth	\$	-	\$	-	\$	-	\$	-	\$	-
IT Business Applications	s	-	\$		\$		\$		\$	
IT Systems & Infrastructure	s	-	\$		\$	-	\$		\$	
New Market or Service	s	-	\$		ş		\$		\$	
Planning		\$221,000	\$	-	\$	-	\$	-	\$2	21,000
Process Improvements	s		s		s		s		s	
Other	-	\$43,000	s		s		s			43,000
Planning &		<i>Q</i> 10,000	Ť		*		Ť			13,000
Technology Total	:	\$264,000	\$	-	\$	-	\$	-	\$26	4,000
			R	enewable Re	esources					
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	-
Renewable Resources Total	\$		\$	-	\$	-	\$	-	\$	-
			0	ther Priority	Projects					
Capacity	\$	-	\$	-	\$	-	\$	-	\$	-
Growth	\$	-	\$	-	\$		\$	-	\$	-
Planning	\$		\$	-	\$	-	\$	-	\$	-
Regulatory	\$	-	\$	-	\$	-	\$	-	\$	-
Renewal & Replacement	ş		\$		\$		\$		\$	
Sustainability	\$	-	\$	-	\$	-	\$	-	\$	-
Other	\$	-	\$		\$		\$		\$	-

Project Driver	5-Year Period Beginning				20-Year Total
	2021	2026	2031	2036	
Other Priority Projects Total	\$ -	\$-	\$-	\$-	\$-
Piedmont Regional WRRF Basin Total	\$40,980,000	\$144,365,000	\$76,523,000	\$67,875,000	\$329,743,000

According to the ReWa 20-Year Community Investment Plan, the majority of the upgrades to the Piedmont Regional WRRF are summarized as follows: "A total of \$201,300,000 is planned to be spent on capacity upgrades, \$11,227,000 on process improvements, and \$16,011,000 on

renewal and replacement of equipment. The largest expenditure for this facility in the next 20 years will be the WRRF capacity expansion to 9 MGD. In total, Piedmont Regional WRRF is estimated to receive approximately \$288,538,000 of investment in the next 20 years.

Capital improvements for ReWa's trunk sewer system within the Piedmont Regional WRRF Basin will primarily include improvements to the sewer lines, pump stations and force mains. Improvements will include capacity upgrades and renewal and replacement of equipment. Near-term improvements include rehabilitation of existing pump station and upgrades to approximately 20,000 linear feet of the Grove Creek interceptor.

In addition to capital improvements to the trunk sewer system, several capital improvement projects are planned for the Piedmont Regional WRRF basin collection sewer system. Improvements will include capacity upgrades, growth related upgrades, and renewal and replacement of equipment. Near term improvements include rehabilitation of existing pump stations. A total of \$7,627,000 is planned to be spent on capacity upgrades, \$6,298,000 on growth related improvements, and \$3,962,000 on renewal and replacement of equipment. The largest expenditure to be spent on trunk sewer system improvements in the Piedmont Regional WRRF will be for approximately 2,400 linear feet of new gravity sewer to serve Childers Circle, as well as an additional 1,300 linear feet of gravity sewer to eliminate the Riverstone Pump Station and 900 linear feet to eliminate the Meadow Green Pump Station. In total, the collection sewer systems within the Piedmont Regional WRRF Basin are estimated to receive approximately \$17,887,000 of investment in the next 20 years."

Metro-Connects (formerly Metropolitan Sewer Subdistrict) is the special purpose district responsible for the operation and maintenance of sanitary sewer facilities (the collection system) for part of the study area. Metro-Connects collection system transports wastewater from their customers (home or business) to the trunk lines (ReWa) that ultimately go to the WRRF.

Metro-Connects has completed a project that involved accepting ownership of the sewer system formerly operated by the Piedmont Public Service District. Metro-Connects collection system is primarily located within the Grove Creek watershed and north of I-185 within the study area.

Based on our discussions, it appears that a sewer line has been extended down Augusta Road, south of Interstate 185, in order to facilitate the Enterprise 85 industrial park. Extensions further south along this thoroughfare would require funding from developers.

The Greenville Water System is the public water provider for the majority of the study area. The entire study area is within their jurisdiction; however, distribution of water service is based upon the extension of water lines off of their main 24" trunk line down South U.S. Highway 25. This 24" trunk line becomes a 16" line at the intersection of Donaldson Road. This 16" line runs to the intersection with S.C. Highway 418 where it becomes a 12" line to the County boundary. Individual customers and developers are required to pay for any water line installation as well as tap and meter fees. At the present time Greenville Water has no plans for any major

infrastructure improvements in the study area other than minor water line extensions and maintenance.

The following map shows a more in-depth look at the current sewer lines, pump stations, and the limited/restricted capacity areas.



We note that the highlighted area represents the Southern Connector area. It should also be noted that this map does not appear to have been updated to reflect the sewer line along Augusta Road.

Water

The Greenville Water System has been very active replacing and upgrading water lines and pump stations to make their distribution system as efficient and effective as possible. Based on our review of the current and planned construction for Greenville Water, there do not appear to be any major upgrades planned within the market area.

Electricity

The availability and capacity of electrical service is not an issue in this area. Duke Energy has lines along almost all thoroughfares serving the Southern Connector. Generally speaking, it is not difficult to get electricity extended to a particular site that may not have service due to the fact that it is a relatively inexpensive process, and Duke's financial return on new infrastructure is usually achieved by revenues derived from the project's electrical consumption.

Natural Gas

Piedmont Natural Gas provides service to the Southern Connector area, and generally speaking, follows the path of sewer service. They serve several of the major residential subdivisions in the area, as well as the major commercial nodes. Piedmont has no plans at this time to extend service to any particular areas or projects, but would be willing to investigate this possibility on a case-by-case basis. Historically speaking, Piedmont Natural Gas has provided service to the majority of commercial and residential projects.

South Carolina Priority Investment Act (PIA)

The SC Priority Investment Act (PIA) amended the South Carolina Local Government Comprehensive Planning Enabling Act by requiring a Priority Investment Element be added to all local comprehensive plans in South Carolina. The purpose of the Priority Investment Element is to improve governmental efficiency by requiring a higher level of coordination among local governments and other local or regional public service providers. Improved coordination among these organizations will result in future development that is more cost effective and more efficient in the consumption of land.

The Priority Investment Area Committee developed a planning process where they were able to identify areas of greatest potential to serve as Priority Investment Areas. This process included the development of goals, an analysis of geographic areas with the existing capacity to support new growth and redevelopment, a review of the draft Future Land Use Map, and the identification of current and future infrastructure and facility needs. From the first PIAC meeting in February 2009, all participants agreed on the importance of sharing existing information – data, plans, and mapping- in order to determine if areas where all public services have some capacity to support additional development existed. This discussion led to a common goal: to communicate and share information on a regular basis. The committee agreed to provide computer mapping information to Renewable Water Resource's (ReWa) computer mapping system, as ReWa was undertaking a long-range planning process and had already created a base map to analyze future growth areas.

In addition to providing a forum for ongoing communication and the sharing of information, two tangible products were produced as a result of the PIAC's regular meetings: 1) a list of public infrastructure and facilities needed over the next ten years, and 2) a series of maps identifying each recommended Priority Investment Area.

Consistent with the requirements of the Priority Investment Act, this project list of public infrastructure needed over the next ten years was developed from the direct input from county department heads and/or special purpose districts responsible for providing the prescribed infrastructure, service, or utility. The proposed project list is a carefully considered list of anticipated infrastructure, service, and utility needs necessary to support future growth and improve or maintain existing levels of service. This project list is not an all-inclusive list, nor does it attempt to prioritize individual projects; it is simply a "wish list" identifying candidate projects for

inclusion in the County's Capital Improvement Plan (CIP) or projects that the County can anticipate will occur during the ten-year planning horizon.

The Priority Investment Area map will serve as a supplement to the Future Land Use Map and identify those areas where the County can most cost effectively accommodate future growth, and/or where growth is needed to support overall future land use objectives. The Priority Investment Areas are where the County can and should encourage more concentrated growth and economic development. As a response to the utility issues mentioned above, the Southern Connector area has been identified as one of these Priority Investment areas. These three areas are shown on the following map:



We note that the highlighted oval area represents the Southern Connector market area. As shown, the Southern Connector Area includes Priority Investment Area Two and a portion of Priority Investment Area One.

Conclusion

Based on our research, as well as discussions with local market participants, the Southern Connector market area has historically been slow to develop. This is mainly due to the limited availability of public utilities (mainly sewer) within the study area. Over the past few years, sewer has been extended south of Interstate 185 in order to help facilitate development of the Augusta Road corridor. Future developments further south along Augusta Road will require the developer to pull the sewer line; however, progress is finally starting to be made on this front and is likely to continue, as the County continues to push development in this area.

We are aware of multiple industrial properties that have been recently completed, as well as those under construction or proposed from within the market area. As the majority of the developable land along the Interstate 85 corridor has been developed, brokers have indicated that South Greenville (which encompasses the study area) is likely to see increased demand.

In addition, we are aware of multiple single-family residential subdivisions that are currently being developed, mainly located in the northeastern portion of the study area. A greater number of households typically indicates that supporting commercial developments will follow, in order to keep up with demand.

Short Term – 5 Years

Given the recent development trends, as well as development projections for the area, it is our opinion that the areas surrounding Interstate 185 (mainly centered around Augusta Road and Fork Shoals Road) should see continued growth in the near term. The majority of this growth is projected to be industrial and residential, with pockets of commercial, mainly centered along major intersections.

Intermediate Term – 15 Years

As industrial and residential development is projected to increase in the area, we anticipate that supporting services, such as retail and office will slowly be developed within the market area. Historically, there has been limited commercial development in the area, outside of what was previously discussed; however, given the projected growth in households for the area, we anticipate that commercial development will follow. Based on current trends, we anticipate the commercial development to be centered along and grow outward from the I-185 and Augusta Road node, as well as the Interstate 185 and Interstate 385 intersection.

Long Term – 50 Years

Based on current and projected growth trends, as well as the future land use map developed by the County, we anticipate the subject's market area to grow significantly over the next fifty years, as growth and development are projected to continue to push southward from the city of Greenville. As Greenville consistently ranks high in national publications for best places to live in the country, we do not foresee Greenville's population growth slowing down anytime in the near future. In order to keep up with the added strain on infrastructure and services, Greenville County will need to keep up with planning initiatives, which they have proven capable of over the past. As a result, we anticipate the County to invest in added infrastructure in the area, to support the additional households and businesses to the area.

References and Sources

ESRI

Existing and projected neighborhood demographics, including population, households, income levels, income distribution, as well as education and employment statistics.

CoStar

Commercial real estate database for each geographic area, including existing inventory, recently constructed inventory and inventory to be constructed in the next five years.

Greenville County GIS

Geographic Information System for Greenville County. This was used for zoning and land use information.

CBRE, Cushman & Wakefield, Colliers, and Avison Young

Q4 2022 Industrial Market Outlook

FastReportDimension

1, 3, and 5-mile radii analysis of retail expenditures

Greenville County Planning Commission

- 2009 Greenville County Comprehensive Plan
- 2020 Greenville County Comprehensive Plan Amendment
- Greenville County Zoning Map

Greenville-Pickens Area Transportation Study (GPATS)

Long Range Transportation Study, Finalized July 2018

Market Participants

- Kevin Landmesser Senior Vice President of Greenville Area Development Corporation
 - o Mr. Landmesser currently serves as the Senior Vice President with the Greenville Area Development Corporation (GADC). Our discussions focused mainly on the recent, as well as proposed projects within the study area. Mr. Landmesser said that the majority of the recent development has been both industrial and single-family residential. The majority of the industrial development has been in proximity to the Donaldson Airport, but has also included the new Enterprise 85 business park. He also said that the lack of sewer, south of I-185 along the U.S. Highway 25 corridor had hampered development, but as of our report date, sewer had been extended south of I-185 to facilitate future development along the Highway 25 corridor. Mr. Landmesser said that they have seen strong growth over the past year or so and expect development to continue, especially with the lack of developable land along the Interstate 85 corridor.

- Trey Pennington CBRE Broker specializing in industrial
 - Trey Pennington is a commercial broker with CBRE who specializes in industrial property with CBRE in the Greenville market. Mr. Pennington said that the lack of sewer in the area had hampered development in the past. He also said that the Southern Connector's toll fee has also had a negative impact on the development of the area. However, he said that as developable land between Greenville and Spartanburg becomes increasingly limited, that the business parks proximate to Donaldson are likely to see increased demand.

ADDENDA

Addendum A

GREENVILLE AREA DATA SHEETS

Where the second second

Greenville County

Finding an abundance of streams and rivers, textile manufacturers began operating in Upstate South Carolina in the 1820s. From those early days, Greenville County has gradually transformed from the textile capital of the world into an office, engineering and advanced manufacturing center of excellence. As South Carolina's most populous county, Greenville is situated in the northwestern corner of the state and is part of one of the nation's fastest growing areas, "The I-85 Mega-Growth Corridor." Located on I-85 between Charlotte, NC and Atlanta, GA, Greenville is just 200 miles via I-26 to the Atlantic Ocean and the Port of Charleston. To the northwest and just 30 minutes away are the Blue Ridge mountains. Access to the rest of the U.S. is made easy by the Greenville-Spartanburg International Airport, recognized as one of the most user friendly ones. With a unique blend of southern traditions and international influences, gentle rolling hills and beautiful, majestic mountains, Greenville County is just the right mix for a great place to live, work and play.



Total Population

				Growth
	2010	2021	2026	Rate ¹
Greenville County	451,225	535,463	575,020	1.44%
Upstate SC	1,362,073	1,544,124	1,631,029	1.10%
South Carolina	4,625,364	5,321,206	5,665,411	1.26%

1Projected Annual Growth Rate 2021-2026

Population by Age

	/ 5		
	2010	2021	2026
Under 5	6.9%	6.1%	6.0%
5 to 9	6.6%	6.4%	6.2%
10 to 14	6.7%	6.5%	6.5%
15 to 24	13.5%	12.1%	12.1%
25 to 34	13.4%	13.4%	12.6%
35 to 44	14.0%	13.3%	13.5%
45 to 54	14.4%	12.6%	12.3%
55 to 64	11.8%	12.9%	12.2%
65+	12.8%	16.8%	18.6%
Median Age	37.1	39.1	39.8

Households & Families

	2010	2021	2026
Total Households	176,531	210,860	226,734
Total Families	119,362	139,700	149,364
Average HH Size	2.49	2.49	2.49
Renter Occupied*	32.6%	33.2%	32.8%
Owner Occupied*	67.4%	66.8%	67.2%

*Housing tenure data is a percentage of total occupied housing units

Median Household Income

	2021	2026
Greenville County	\$62,562	\$69,630
South Carolina	\$55,711	\$61,082
United States	\$64,730	\$72,932

39.3% of the 2021 population is prime working age

Population by Race & Ethnicity

	2010	2021	2026
White	73.8%	72.4%	71.5%
Black	18.1%	17.4%	17.1%
American Indian/ Alaska Native	0.3%	0.3%	0.3%
Asian	2.0%	2.8%	3.2%
Hawaiian/ Pacific Islander	0.1%	0.1%	0.1%
Some Other Race	3.9%	4.6%	4.9%
Two or More Races	1.9%	2.5%	2.8%
Hispanic Origin (Any Race)	8.1%	9.6%	10.6%

Per Capita Income

	2021	2026
Greenville County	\$34,909	\$38,905
South Carolina	\$30,714	\$34,369
United States	\$35,106	\$39,378

2021 Highest Education Attainment, Age 25+



2018 Commuting Patterns

Travel Distance to Work

Less than 10 miles	56.0%	82.0% of
10-24 miles	26.0%	workers travel
25-50 miles	6.4%	less than 25 miles
50 miles or more	11.6%	25 miles

Worker Inflow/Outflow



Gross Retail Sales by Fiscal Year



Where Do Greenville County Workers Live?

3.7%
9.9%
8.1%
5.8%
3.1%
1.9%
1.7%
1.2%
1.2%
1.1%

2021 Employment by Industry

Agriculture/Mining	0.5%	1,220
Construction	6.2%	16,309
Manufacturing	17.5%	46,120
Wholesale Trade	3.0%	7,819
Retail Trade	9.9%	26,059
Transportation/Utilities	4.8%	12,670
Information	1.7%	4,554
Finance/Insurance/Real Estate	6.2%	16,287
Services	47.7%	126,071
Public Administration	2.7%	7,173
Total	100%	264,282

2021 Civilian Population in Labor Force (16+)

Labor Force	275,681
Unemployed	4.1%

2021 Business Establishments by Industry

	/	/
Agriculture/Mining	0.2%	41
Construction	6.7%	1,274
Manufacturing	3.9%	728
Wholesale Trade	3.5%	663
Retail Trade	14.3%	2,702
Transportation/Utilities	1.6%	317
Information	1.9%	357
Finance/Insurance/Real Estate	11.7%	2,220
Services	48.0%	9,092
Public Administration	1.8%	342
Unclassified Establishments	6.1%	1,162
Total	100%	18,898

Top 10 Major Employers

Company	Employees	Primary Product(s)
Prisma Health*	10,000+	Health Services
Greenville County Schools*	10,000+	Public Education
Michelin North America*	2,501 - 5,000	Headquarters / R&D / Mfg (radial tires)
Bon Secours St. Francis Health System*	2,501 - 5,000	Health Services
Spectrum Communications	2,501 - 5,000	Utility Provider
Greenville County Government	2,501 - 5,000	Local Government
GE Power	1,001 - 2,500	Turbines
TD Bank	1,001 - 2,500	Financial Services
Fluor Corporation	1,001 - 2,500	Engineering / Construction Services
Verizon Wireless	1,001 - 2,500	Call Center

* Multiple Locations





Upstate SC Alliance John Lummus, *President/CEO* 864.283.2300 www.upstatescalliance.com



Additional Resources

www.greenvilleeconomicdevelopment.com www.greenvillesc.gov www.greenvillecounty.org www.visitgreenvillesc.com www.upstateforever.org www.southcarolinaparks.com

Sources: ESRI Business Analyst (2021 and 2026 Estimates); US Census Bureau (2010 Census Data); US Bureau of Labor Statistics; Longitudinal Employer-Household Dynamics, US Census Bureau (2018; Commuting Patterns & Where do County Workers Live), Manufacturer's News, Appalachian Council of Governments, Upstate SC Alliance, and SC Department of Revenue and Taxation (Fiscal Year Retail Sales).

Addendum B

DEMOGRAPHIC DATA SHEETS



FUTURE LAND USE MAP







2018 TOTAL HOUSEHOLDS BY CENSUS TRACT



POPULATION CHARACTERISTICS



\$53,739

Median Household Income

» \$48,781 (S.C.) » \$57,652 (U.S.)

Source: US Census Bureau (2013-2017), 2017 dollars

2.58

Average Household Size » 2.54 (S.C.) » 2.63 (U.S.)

Source: US Census Bureau (2013-2017)



Homeowners

» 68.6% (S.C.) » 63.8% (U.S.)

Renters

» 31.4% (S.C.)

» 36.2% (U.S.)
» Source: US Census Bureau (2013-2017)



20



TOTAL POPULATION BY AGE





» Greenville County's population distribution by age closely follows both state and national trends.



U.S. (30.9%).

EMPLOYMENT

but has a slightly higher black population compared to the nation.





Addendum C

TRAFFIC DATA SHEETS



Figure 24: 2020 Volume/Capacity (V/C) Ratios



Figure 25: 2045 Volume/Capacity (V/C) Ratios



Figure 26: Projected Population Change



Figure 31: Projected Household Change



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SOUTHERN CONNECTOR TOLL RATE STUDY

Appendix B SOUTHERN CONNECTOR ORIGIN-DESTINATION PATTERNS, 2019 TO 2022/2023 COMPARISON USING STREETLIGHT DATA

Daily Trip Origins for Eastbound Traffic Passing Through West Plaza



2022-2023

Daily Trip Destinations for Eastbound Traffic Passing Through West Plaza



2019

Daily Trip Origins for Westbound Traffic Passing Through West Plaza



2022-2023

Daily Trip Destinations for Westbound Traffic Passing Through West Plaza



Daily Trip Origins for Eastbound Traffic Passing Through East Plaza



2019

2022-2023

Daily Trip Destinations for Eastbound Traffic Passing Through East Plaza



Daily Trip Origins for Westbound Traffic Passing Through East Plaza



Daily Trip Destinations for Westbound Traffic Passing Through East Plaza

