

Devine Street/Fort Jackson Boulevard Commercial Node Plan

Snapshot of the Study Area

Technical Memorandum

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Introduction

The commercial area at the intersection of Devine Street, Fort Jackson Boulevard and Cross Hill Road is changing. Presently, the area consists primarily of strip shopping centers with national and local retailers and fast-food restaurants. This area will most likely continue to contain a mix of commercial uses that meet the needs of the area residents, students, employees, visitors, and military personnel. However, there is potential for a more diverse mix of uses and improvements in the quality of the development with reinvestment in the area. Some reinvestment, including the development of the Cross Hill Market shopping center which includes a Whole Foods grocery store, has already occurred. A key element that will likely redefine this area is the revitalization that is anticipated along the banks of Gills Creek as a result of implementing the Gills Creek Middle Watershed Plan. The potential environmental, economic and recreational opportunities of Gills Creek could make it a critical centerpiece of this redevelopment area.

To maintain the momentum, a concerted effort to position such areas as competitive business locations is sometimes needed to increase the appeal and attract businesses and other uses that, combined, strengthen the economic diversity and vibrancy of the area. Therefore, the City has initiated a planning process to study the node and prepare a master plan and supporting implementation strategies. By defining a direction forward with the participation of the community members and other stakeholders, public investment decisions can be better informed and result in catalyst projects that that will improve the area's vibrancy, walkability and aesthetics and will potentially stimulate subsequent private investment. This will strengthen the opportunity for this commercial node to act as a welcoming gateway into the City, a destination in the City, a neighborhood center, and a place that people and businesses want to be.

The resulting plan will create a clear vision for the future of the node; address development design, transportation, and other issues; establish standards for future development to ensure cohesiveness; and outline strategies so the public and private sectors can jointly implement the plan.

Context

The Devine Street/Fort Jackson Boulevard commercial node is a key location for commercial development in the city. Businesses benefit from traffic generated by four main institutional neighbors: Fort Jackson, Midlands Technical College, the University of South Carolina Medical School and the Dorn VA Medical Center. In addition, the node is surrounded by several Columbia neighborhoods. The node also serves as a gateway into Columbia. Garners Ferry Road which changes names to Devine Street at the study area's eastern edge is one of the main east/west connections for those traveling from Sumter, Shaw Air Force Base and points east to downtown Columbia.

Study Area

The heart of the study area is the intersection of Devine Street, Fort Jackson Boulevard, and Cross Hill Road. The study area extends east along Fort Jackson Boulevard to the gate at Fort Jackson. The properties adjacent to Beltline Boulevard form the western border of the area. The southern edge includes Midlands Technical College and the properties adjacent to Rosewood Drive. Map 1 illustrates the study area extent.

Map 1: Study Area



Planning Process

The process to develop the plan is divided into five phases. Phase One includes project initiation tasks such as data collection and initial meetings with City staff. An assessment of existing conditions occurs in Phase Two and includes a review of data, regulations, plans and studies and initial mapping. Development concepts and supporting imagery are developed in Phase Three. During Phase Four the project team will work with City staff to develop a set of recommendation and implementation strategies that support the plan and provide a framework of real, creative economic development, land use, urban design and transportation solutions. Based on the results of the two previous phases the Devine Street/Fort Jackson Boulevard Commercial Node Plan will be finalized in Phase Five.

Advisory Committee

The development of the Devine Street/Fort Jackson Boulevard Commercial Node Plan is informed by an Advisory Committee made up of a diversity of stakeholders including local developers, neighborhood advocates, Gills Creek Watershed representatives and Richland County staff. This group meets regularly through the process to provide feedback and advise the project team on plan concepts and recommendations.

Public Involvement

Community participation and input helps shape the Devine Street/Fort Jackson Boulevard Commercial Node Plan. Understanding community values today ensures that this plan can support recommendations to maintain those priorities in the future. The process includes two community meetings held at critical points during the process.

Stakeholder Interviews

Stakeholder interviews were conducted to verify and supplement the data gathered and mapped, to explain the conditions observed and to further understand the issues and opportunities that affect the study area and the plan. Their input supplements the input received directly from citizens and property owners participating in the process. The stakeholders include key personnel from City departments as well as representatives of interest groups who can address questions about the following topics: real estate development, neighborhoods, and Gills Creek.

Data Collection and Research

The plan is informed by existing plans, reports, policies and regulations. In addition, the project team analyzed data and created maps to further examine the study area's existing condition. The following topics are included in the analysis: market conditions, land use, urban design, transportation infrastructure, water and waste water infrastructure and natural resources and open space.

In addition to data collected for mapping purposes, data were also collected to gain a better understanding of the conditions reflected on maps. Many of these additional data were gathered through a review of relevant documents, interviews of key stakeholders, a study area tour, and conversations with City staff.

Study Area Tour

The project team participated in a study area tour with City staff, elected officials and Advisory Committee members. The purpose was to make observations and gather photos throughout the study area. Also, data gathered and information shown on preliminary mapping were verified. Observations made were intended to understand the study area context and document the established character of the built environment, including the development pattern.

About this Memo

The primary purpose of this memo is to provide a snapshot of the existing conditions of the node to gain an understanding of the potential impacts of various factors on the future growth and development of the area. By documenting the existing conditions in this memo, those involved in the process can identify the potential issues and opportunities, which will be the basis for Devine Street/Fort Jackson Commercial Node Plan.

Market Conditions

Current Market Conditions

For the purpose of this analysis a trade area was defined for the Devine Street/Fort Jackson Boulevard Commercial Node. The trade area is defined by a five-minute drive time from the intersection of Devine Street, Fort Jackson Boulevard and Cross Hill Road. Map 2 illustrates the trade area boundary.

Population

The trade area contains an estimated 28,961 residents, or 3.7% of the six-county Columbia Metropolitan Statistical Area (MSA). The 1,374 new residents in the trade area added between 2000 and 2012 equated to a growth rate of 5.0%. Richland County increased 23.3% to 395,322 residents during this same time period. The trade area contains established in-town neighborhoods close to downtown, the University of South Carolina (USC), and Fort Jackson; resulting in a lower Compound Annual Growth Rate (CAGR) of 0.4% compared to 1.8% for Richland County and 1.7% for the Columbia MSA.

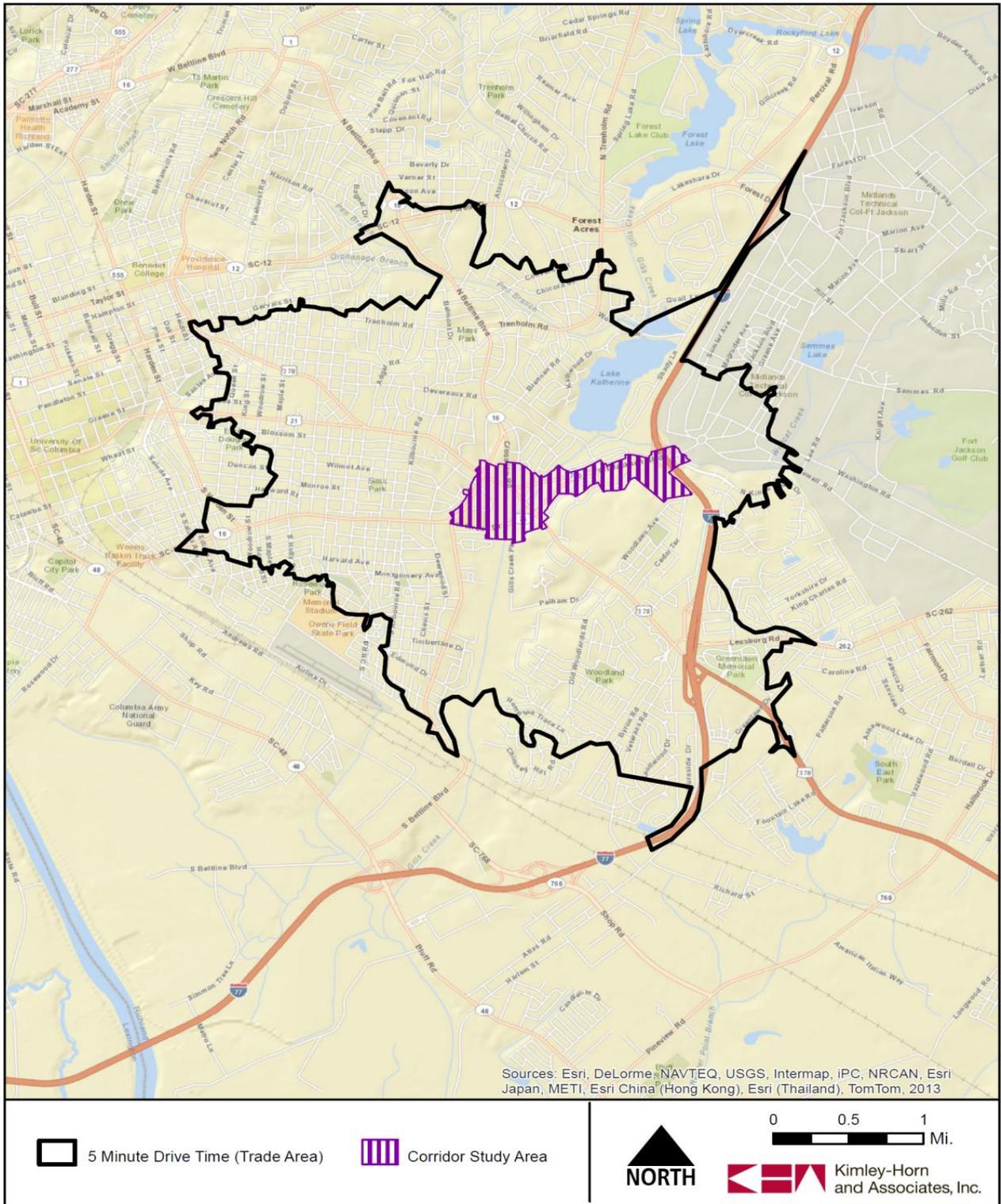
Table 1: Comparison of Population Trends, 2000-2012

Area	2000	2012	2000-2012 Δ		
			#	%	CAGR
Trade Area	27,587	28,961	1,374	5.0%	0.4%
Richland County	320,677	395,322	74,645	23.3%	1.8%
Columbia MSA	647,158	788,418	141,260	21.8%	1.7%
Trade Area % of MSA	4.3%	3.7%	1.0%		

Note: The Trade Area is defined as a five minute drive from the intersection of Devine Street and Fort Jackson Boulevard.

Source: ESRI; Kimley-Horn and Associates

Map 2: Trade Area



*Drive times were produced by ESRI's Business Analyst Online program using posted speed limits for local roads.

Snapshot of the Study Area

Reflective of national trends, Generation Y (included in 15-34 age cohorts) and Baby Boomers (included in 45-64 age cohorts) make up the majority of the trade area. The 15-24 age group comprises almost 20% of the trade area, reflecting presence of USC and other colleges. This age group also grew 20% over the 12-year period, adding almost 1,000 residents. Residents age 55-64 experienced the largest absolute and percent increases between 2000 and 2012 suggesting that Baby Boomers are aging in place. In addition, a decline in children between ages 5 and 14, as well as Generation X between ages 35 and 44 indicates loss of families with children. Table 2 provides these details.

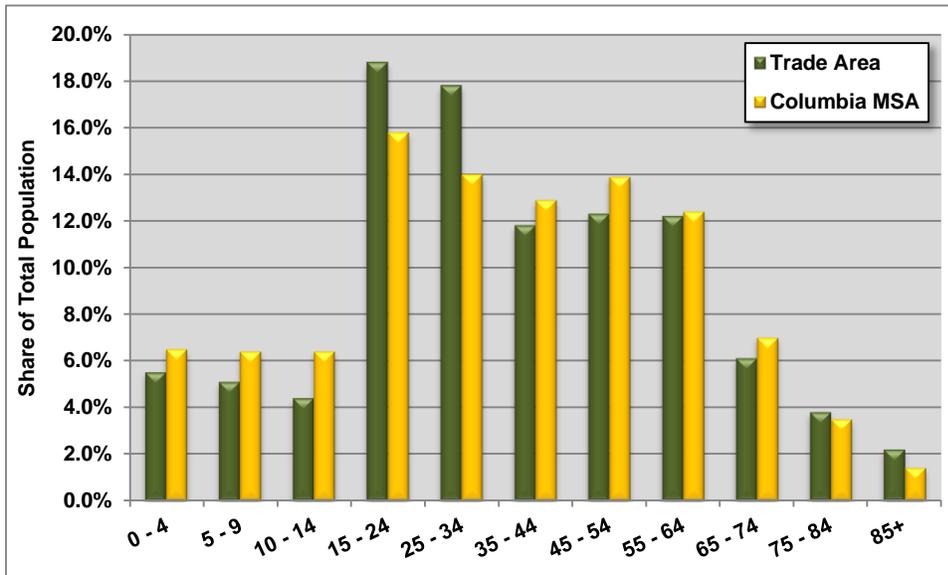
Table 2: Population by Age Cohort Trade Area, 2000-2012

Cohort	2000	2012	2000-2012 Δ		
			#	%	
0 - 4	1,545	1,593	48	3.1%	Generation Y
5 - 9	1,462	1,477	15	1.0%	
10 - 14	1,517	1,274	-243	-16.0%	Generation X
15 - 24	4,552	5,445	893	19.6%	
25 - 34	5,048	5,155	107	2.1%	Baby Boomers
35 - 44	4,221	3,417	-803	-19.0%	
45 - 54	3,779	3,562	-217	-5.7%	Greatest (Silent) Generation
55 - 64	2,041	3,533	1,492	73.1%	
65 - 74	1,572	1,767	194	12.3%	
75 - 84	1,462	1,101	-362	-24.7%	
85+	386	637	251	65.0%	
Total	27,587	28,961	1,374	5.0%	

Source: ESRI; Kimley-Horn and Associates

In comparison to the larger Columbia MSA, the trade area has notably higher shares of residents aged 15-34 (students and young professionals). This young cohort could drive demand for a variety of housing, retail goods and services, and entertainment in pedestrian friendly environments. Alternatively, the MSA has higher shares of school-aged children, Generation X (aged 35-44), and younger Baby Boomers.

Chart 1: Comparison of Shares of Population by Age Cohort, 2012



The area remains mostly white, but is becoming more ethnically diverse. Approximately 94% of residents in the trade area classify themselves as White or Black, similar to the larger MSA. Residents classifying themselves as having Hispanic origin (categorized separately) in the area doubled from 772 people in 2000 to 1,535 in 2012, but still only 5% of total population.

Table 3: Change in Shares of Population by Race, Trade Area, 2000-2012

Race/Ethnicity	2000	2012	'00-'12 Change
White Alone	78.8%	76.1%	-2.7%
Black Alone	16.8%	17.9%	1.1%
American Indian Alone	0.3%	0.3%	0.0%
Asian/Pacific Islander Alone	1.4%	1.9%	0.5%
Other Race Alone	1.4%	2.2%	0.8%
Two or More Races Alone	1.3%	1.7%	0.4%
Total	100.0%	100.1%	

Source: ESRI; Kimley-Horn and Associates

Table 4: Population by Race, Trade Area, 2000-2012

Race/Ethnicity	2000	2012	2000-2012 Δ	
			#	%
White Alone	21,739	22,039	301	1.4%
Black Alone	4,635	5,184	549	11.9%
American Indian Alone	83	87	4	5.0%
Asian/Pacific Islander Alone	386	550	164	42.5%
Other Race Alone	386	637	251	65.0%
Two or More Races Alone	359	492	134	37.3%
Total	27,587	28,961	1,374	5.0%
Hispanic Origin (Any Race)	772	1,535	762	98.7%

Source: ESRI; Kimley-Horn and Associates

Households

There were an estimated 13,098 households in the trade area in 2012, an increase of 2.3% since 2000. Richland County experienced a faster 24.6% growth rate, similar to the Columbia MSA’s 23.5%. With its older established neighborhoods near downtown and USC, the trade area captured only 0.5% of the total household growth in the larger Columbia MSA between 2000 and 2012.

Table 5: Comparison of Household Trends, 2000-2012

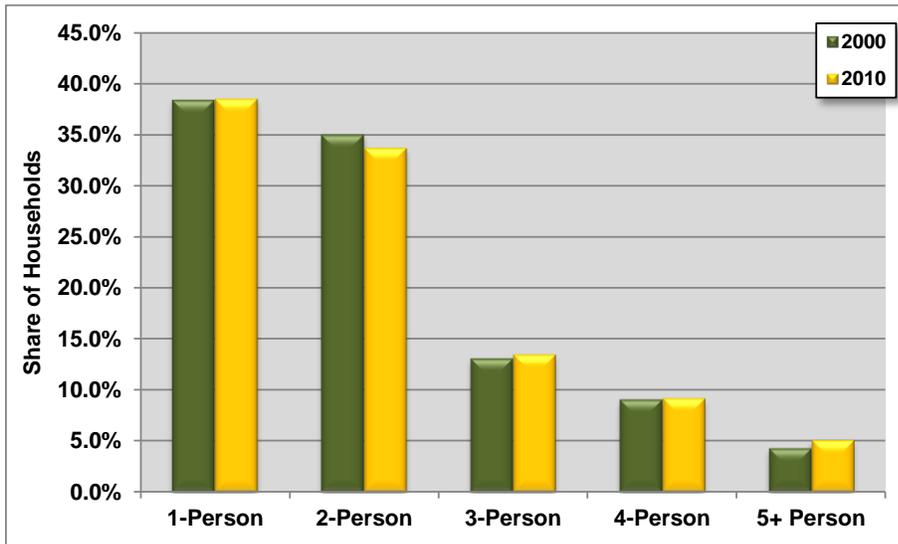
Area	2000	2012	2000-2012 Δ		
			#	%	CAGR
Trade Area	12,801	13,098	297	2.3%	0.2%
Richland County	120,101	149,679	29,578	24.6%	1.9%
Columbia MSA	245,347	303,015	57,668	23.5%	1.8%
Planning Area % of MSA	5.2%	4.3%	0.5%		

Note: The Trade Area is defined as a five minute drive from the intersection of Devine Street and Fort Jackson Boulevard.

Source: ESRI; Kimley-Horn and Associates

Nationally, average household size slightly declined from 2.59 to 2.58 people from 2000 to 2010. Growing Baby Boomer and Generation Y age cohorts typically have smaller household sizes than Generation X. The current average household size in the trade area of 2.06 is much lower than the U.S., due to higher shares of one- and two-person households that are typical of established urban and inner suburban areas.

Chart 2: Share of Households by Size, Trade Area, 2000-2010



Households earning \$50,000 to \$74,999 represent the largest cohort in the trade area, at 17.4% of the total. There is currently no dominant income cohort, indicating a diversity of housing demand and spending potential. However, the area is becoming more affluent; households earning \$100,000 to \$149,999 generated the predominant share of growth between 2000 and 2012. Continuation of 2000-2012 trends would result in the \$100,000-\$149,999 cohort being the largest in the trade area by 2017.

Table 6: Households by Income Cohort, Trade Area 2000-2012

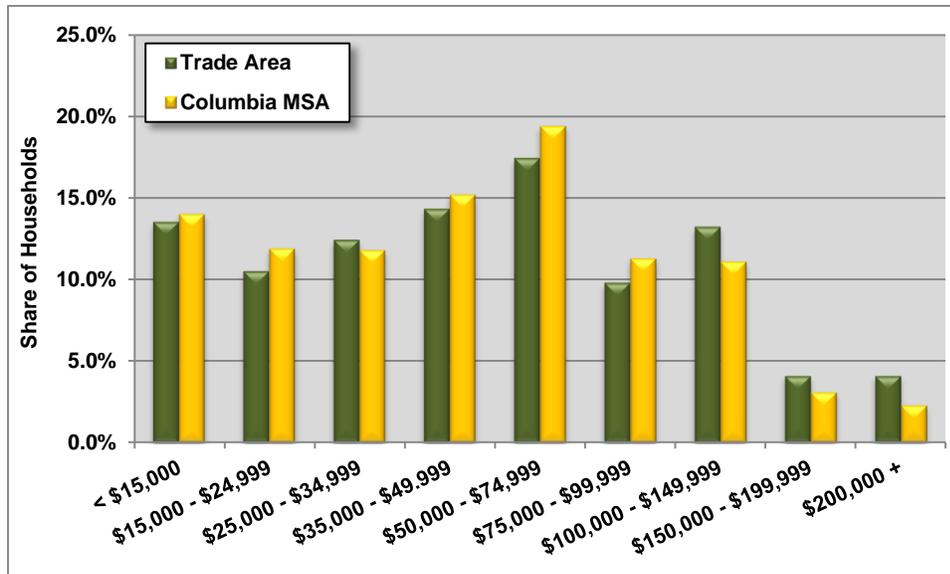
Cohort	2000	2012	2000-2012 Δ	
			#	%
< \$15,000	1,869	1,768	-101	-5.4%
\$15,000 - \$24,999	1,613	1,375	-238	-14.7%
\$25,000 - \$34,999	1,792	1,624	-168	-9.4%
\$35,000 - \$49,999	2,087	1,873	-214	-10.2%
\$50,000 - \$74,999	2,291	2,279	-12	-0.5%
\$75,000 - \$99,999	1,178	1,284	106	9.0%
\$100,000 - \$149,999	1,114	1,729	615	55.2%
\$150,000 - \$199,999	320	537	217	67.8%
\$200,000 +	550	537	-13	-2.4%
Total	12,801	13,098	193	1.5%

Source: ESRI; Kimley-Horn and Associates

The trade area has a higher share of households earning \$100,000+ than the Columbia MSA; the gap between shares over \$100,000 will escalate as the trade area becomes more affluent. With the exception of the \$25,000-\$34,999 cohort, the trade area has lower shares of households earning less than \$99,999 annually than the MSA.

Chart 3: Comparison of Households by Income Cohort, 2012

Snapshot of the Study Area



The trade area median household income of \$49,002 in 2012 was 2.4% higher than \$47,835 for Richland County and 5.7% higher than \$46,346 for the Columbia MSA. All three areas exceeded the \$44,578 median income reported for the State of South Carolina in 2012. The trade area’s 14.8% increase in median income from 2000 to 2012 was lower than 19.7% for Richland County, but slightly higher than 13.8% for the MSA.

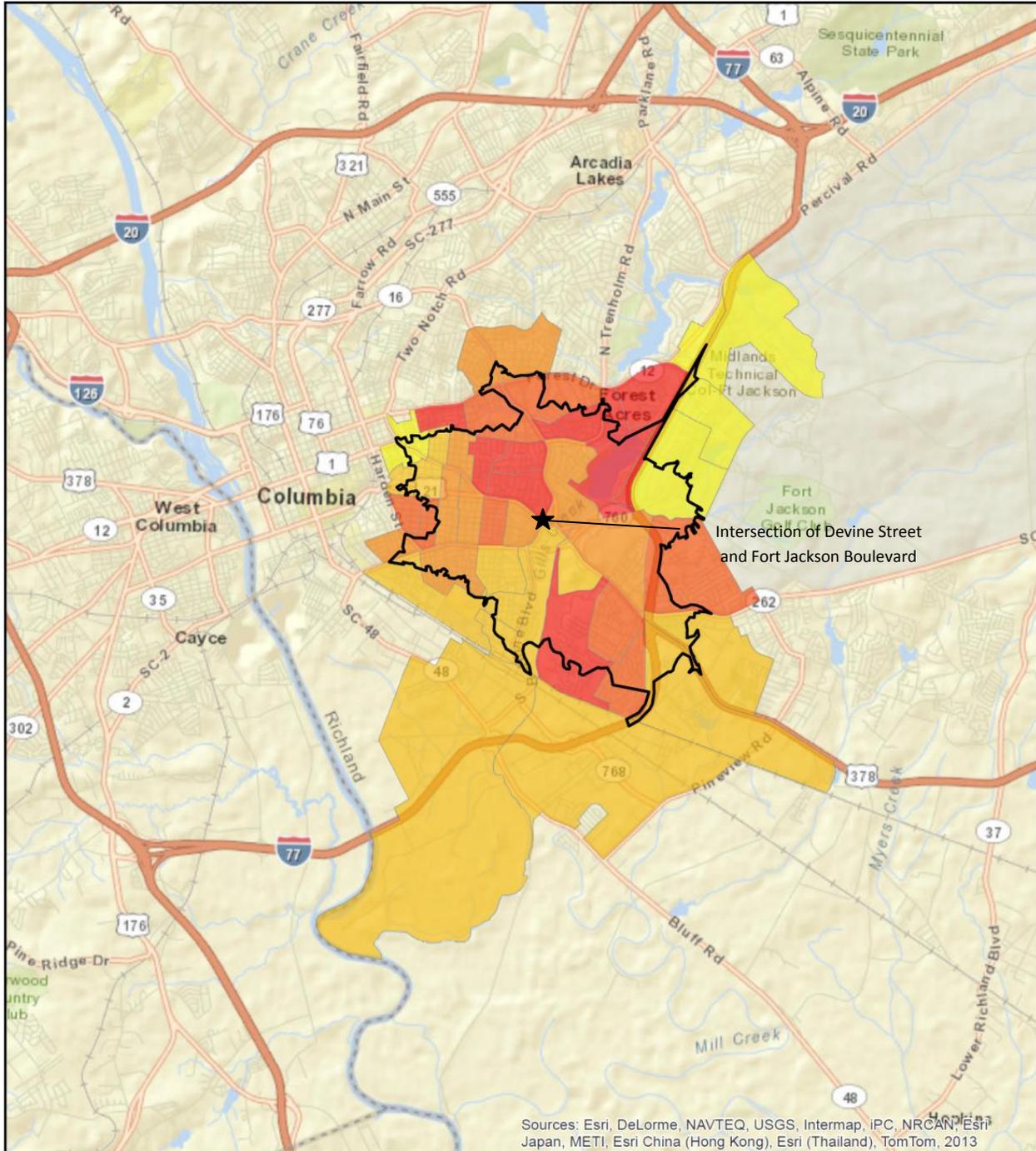
Table 7: Comparison of Median Household Incomes, 2000-2012

Geography	2000	2012	2000-2012 Δ	
			#	%
Trade Area	\$42,679	\$49,002	\$6,323	14.8%
Richland County	\$39,962	\$47,835	\$7,873	19.7%
Columbia MSA	\$40,740	\$46,346	\$5,606	13.8%

Source: ESRI; Kimley-Horn and Associates

Map 3: Median Household Income demonstrates median household incomes in the trade area by Census Block Group. Higher income households generally concentrated north of US-378 (Devine Street/Garners Ferry Road). Moderate- to lower-income households concentrated to the south and west.

Map 3: Median Household Income



Median Household Income

5 Minute Drive Time (Trade Area)

\$0.00 - \$25,000.00

\$25,000.01 - \$35,000.00

\$35,000.01 - \$60,000.00

\$60,000.01 - \$80,000.00

\$80,000.01 - \$160,000.00

NORTH

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Kimley-Horn
and Associates, Inc.

Housing Units

Housing inventory in the trade area increased by approximately 816 units, or 5.9%, between 2000 and 2012. Richland County grew at a faster 28.1% rate, and housing units in the larger MSA increased by 26.3% during the same time period. The area accounted for 1.2% of new housing unit growth in the MSA which indicates residential development focused in suburban areas of Richland County versus infill locations like the trade area’s established neighborhoods.

Table 8: Comparison of Housing Unit Trends, 2000-2012

Area	2000	2012	2000-2012 Δ		
			#	%	CAGR
Planning Area	13,818	14,634	816	5.9%	0.5%
Richland County	129,793	166,230	36,437	28.1%	2.1%
Columbia MSA	269,244	339,948	70,704	26.3%	2.0%
Planning Area % of CSA	5.1%	4.3%	1.2%		

Source: ESRI; Kimley-Horn and Associates

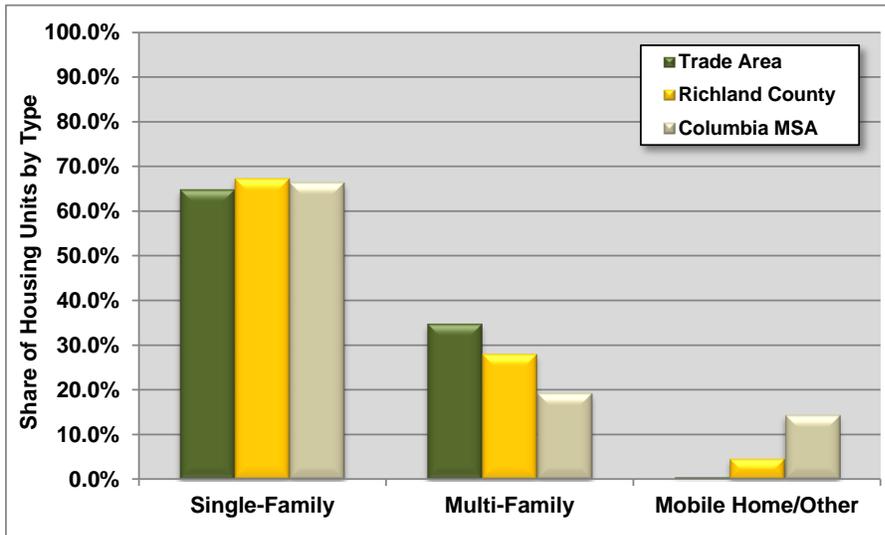
The majority of housing units in the trade area are single-family detached, making up 62.3% of the inventory. The area includes several established single-family neighborhoods such as Shandon and Sherwood Forest. Multi-family units in the trade area declined over the last 12 years as older product was demolished. The area has a relatively comparable share of single-family detached units to Richland County and the Columbia MSA and a higher share of multi-family units than Richland County or MSA.

Table 9: Housing Unit Trends, Trade Area, 2000-2012

Type	2000	2012	2000-2012 Δ	
			#	%
Single-Family, Detached	7,558	9,117	1,559	20.6%
Single-Family, Attached	359	351	-8	-2.2%
Multi-Family	5,886	5,093	-794	-13.5%
Mobile Home/Other	14	73	59	429.5%
Total	13,818	14,634	816	5.9%

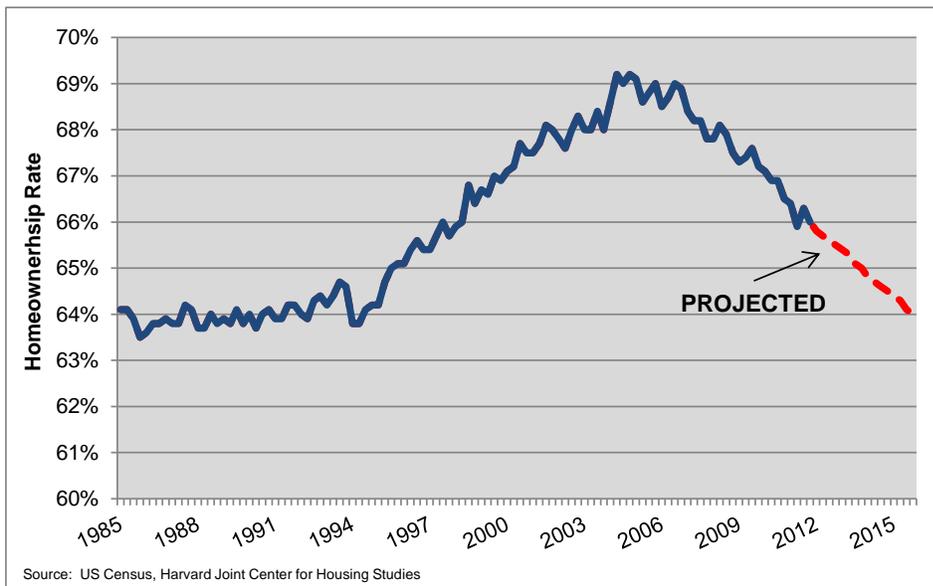
Source: ESRI; Kimley-Horn and Associates

Chart 4: Comparison of Housing Unit Trends, 2012



Since the 2007-2009 Recession and housing crisis, the national homeownership rate has declined sharply from a peak of approximately 69% in the mid-2000s. Decline was due to loss of jobs, foreclosures, severe drops in values, difficulties qualifying for a mortgage, and the Generation Y cohort showing a preference for apartments that offer urban lifestyles and greater mobility. The homeownership rate is expected to continue to decline over the next two to three years, reaching the long-term average of approximately 64% .

Chart 5: Homeownership Rate, United States, 1985-2015 (Projected)



Similar to national trends, the share of owner-occupied housing units in the trade area decreased between 2000 and 2012. During the same time period, the renter-occupied share also declined,

Snapshot of the Study Area

partially due to the demolition of older multi-family product. Vacant units made up approximately 10% of the area in 2012, increasing from 7.5% in 2000.

Chart 6: Housing Unit Tenure, Trade Area, 2000-2012



Owner-occupied units accounted for approximately 50% of all units in the trade area in 2012, lower than 60% for the Columbia MSA. As a result, the area's renter-occupied share is higher than the MSA. As the trade area and MSA have similar shares of single-family detached units, it is likely that many of the single-family units in the area are investor-owned rental units.

Chart 7: Housing Unit Tenure Comparison, 2012



Employment

Excluding the military, the largest employers in Richland County are the State of South Carolina, Palmetto Health, Blue Cross Blue Shield, and the University of South Carolina. Significant employment sectors include Government, Education, Healthcare, and Insurance; these industries did not experience the extreme losses exhibited by Manufacturing, Construction, and Wholesale Trade/Warehousing during the 2007-2009 Recession.

Table 10: Major Employers, Richland County, 2012

Employer	Industry	Estimated Employment
State of South Carolina	Government	24,791
Palmetto Health	Healthcare	9,000
Blue Cross Blue Shield of SC	Insurance	6,459
University of South Carolina	Education	5,997
S.C. Department of Transportation	Government	4,418
Richland County School District 1	Education	4,036
S.C. Department of Mental Health	Healthcare	3,798
Richland County School District 2	Education	3,300
S.C. Department of Health and Environmental Control	Government	3,096
AT&T	Call Centers/Customer Service	2,400
City of Columbia	Government	2,150
Humana/TriCare	Insurance	2,100
Providence Hospitals	Healthcare	2,075
Palmetto GBA	Insurance	1,900
Richland County	Government	1,708
Midlands Technical College	Education	1,600
Wells Fargo	Financial Services	1,549
Verizon Communications	Call Centers/Customer Service	1,500

Source: Central SC

The military is one of the area’s largest employers. Fort Jackson is home to the US Army’s largest Initial Entry Training Center. The installation trains over 36,000 basic and 8,000 advanced soldiers annually including 50% of Army’s basic combat units and 60% of women entering the Army. More than 3,500 active duty soldiers are assigned to Fort Jackson, but deployment affects the total on-base population at any given time. In addition the base supports a total of 16,460 jobs, earning approximately \$856 million in compensation. The Fort hosts numerous graduations each year and attracts over 120,000 out-of-state visitors annually.

Richland County had a total of 203,844 annualized full-time jobs at place of employment in 2012, a decrease of 5.8% since 2007. Healthcare and Social Assistance made up the largest share of Richland County employment in 2012 at nearly 15%. Educational Services, related to both K-12 facilities and colleges/universities, experienced the largest absolute growth over the last five years. The largest declines were noted in Construction; Retail Trade; and Transportation, Warehousing, and Utilities.

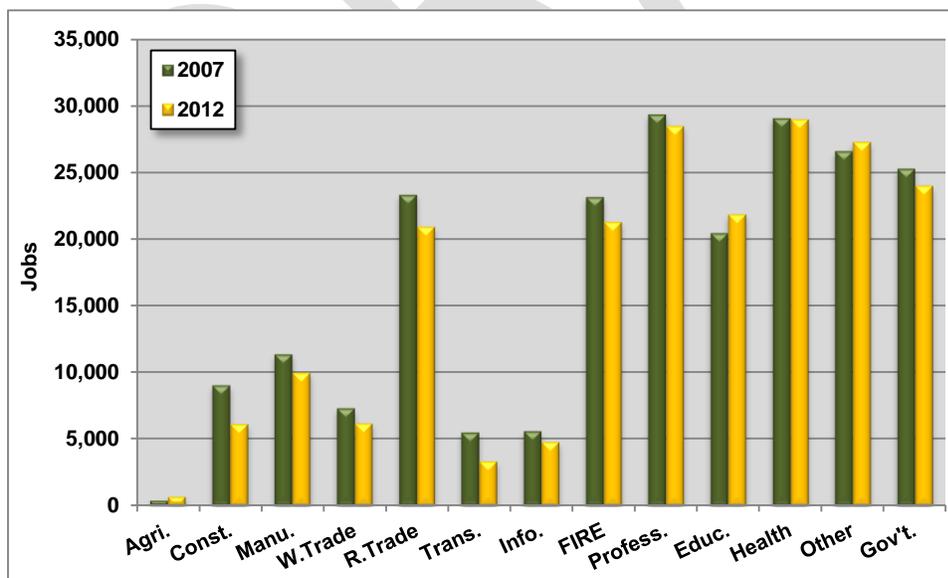
Table 11: At-Place Employment by Industry, Richland County, 2007-2012

Industry	2007	2012	2007-2012 Δ	
			#	%
Agriculture and Mining	385	675	290	75.3%
Construction	9,031	6,129	-2,902	-32.1%
Manufacturing	11,366	9,976	-1,390	-12.2%
Wholesale Trade	7,322	6,171	-1,151	-15.7%
Retail Trade	23,307	20,916	-2,391	-10.3%
Transportation, Warehousing & Utilities	5,499	3,323	-2,176	-39.6%
Information	5,590	4,778	-812	-14.5%
F.I.R.E.	23,142	21,288	-1,854	-8.0%
Professional Services	29,344	28,479	-865	-2.9%
Educational Services	20,444	21,844	1,400	6.8%
Healthcare and Social Assistance	29,057	28,983	-74	-0.3%
Other Services	26,581	27,281	700	2.6%
Public Administration	25,276	24,001	-1,275	-5.0%
Total	216,344	203,844	-12,500	-5.8%

Source: SC Employment Securities Commission; Kimley-Horn and Associates

Education and Other Services experienced increases between 2007 and 2012. Because of the Recession, most employment sectors noted declines over the last five years, with the largest losses in Construction, Retail Trade, and Transportation, Warehousing, and Utilities. A review of more recent quarterly trends demonstrates a stabilization of jobs in Richland County (between 4Q2011 and 4Q2012 Richland County added over 2,000 jobs.)

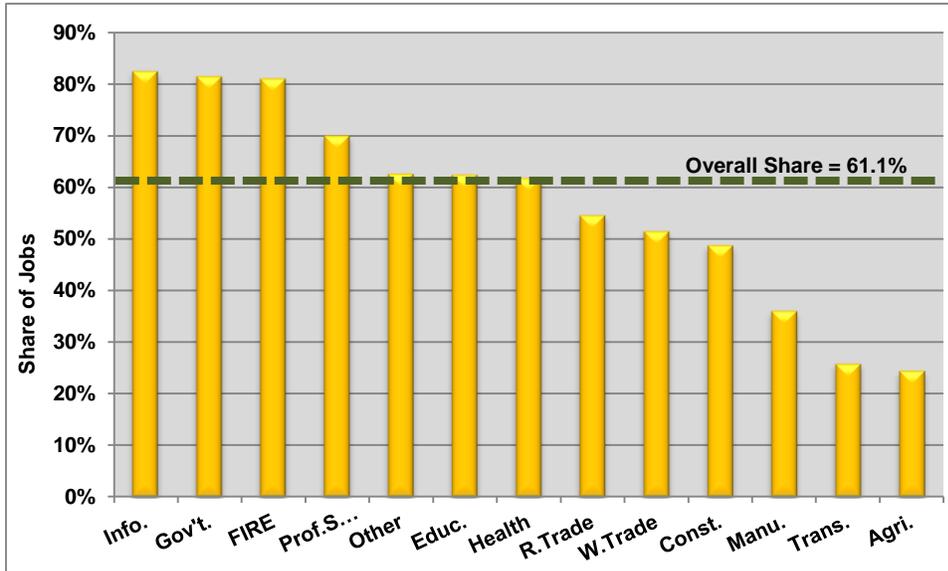
Chart 8: At-Place Employment by Industry, Richland County, 2007-2012



Jobs located in Richland County make up approximately 61.1% of the total in the six-county Columbia MSA. Industries in Richland County exceeding the overall 61.1% share of MSA jobs include Information;

Government; Finance, Insurance and Real Estate (FIRE); and Professional Services. The County’s 61.1% share of MSA jobs was higher than its 50.1% share of population in 2012, reflecting the concentration of jobs in Columbia.

Chart 9: Richland County Shares of Columbia MSA Employment, 2012



In 2012, the trade area had an estimated 11,461 jobs, comprising 5.6% of the Richland County total. The trade area had a 7.3% share of the County’s population in 2012, showing a higher concentration of people than jobs. Other Services, which includes Accommodation and Food Services, made up 18.2% of the total jobs in the trade area, followed by Public Administration (15.1%), Retail Trade (14.6%), and Professional Services (14.4%). A majority of trade area jobs are in service-related industries.

Table 12: Annual Employment by Industry, Trade Area, 2012

Industry	Jobs	% of Total
Agriculture and Mining	20	0.2%
Construction	391	3.4%
Manufacturing	137	1.2%
Wholesale Trade	302	2.6%
Retail Trade	1,678	14.6%
Transportation, Warehousing & Utilities	142	1.2%
Information	274	2.4%
F.I.R.E.	889	7.8%
Professional Services	1,647	14.4%
Educational Services	1,389	12.1%
Healthcare and Social Assistance	772	6.7%
Other Services	2,086	18.2%
Public Administration	1,734	15.1%
Total	11,461	100.0%

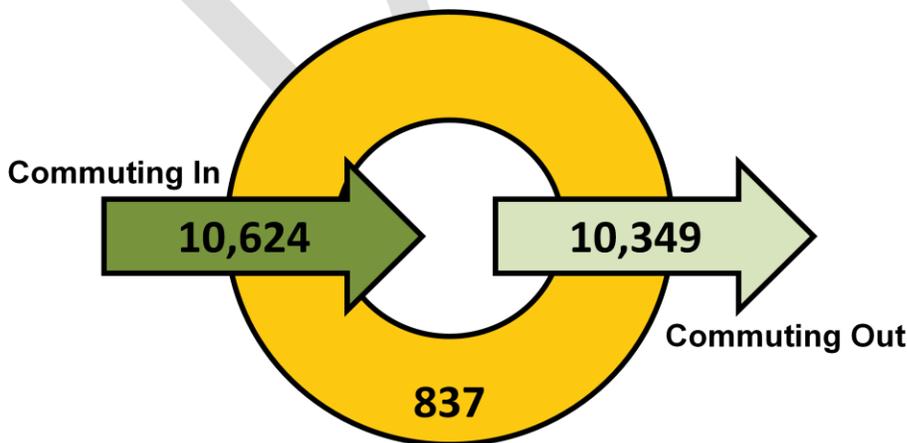
Source: ESRI; Kimley-Horn and Associates

There are an estimated 11,461 jobs at place of employment in the trade area, with 10,624 positions filled by in-commuters (93%) and 837 jobs held by residents (7%). Of the 11,186 employed residents of the trade area, an estimated 10,349 people, or 93%, commute elsewhere. The combination of 10,624 in-commuters and 10,349 out-commuters results in a net inflow of 275 workers to the area.

Table 12: Employment Inflow/Outflow, Trade Area, 2012

Trade Area Jobs Filled by In Commuters	10,624
Trade Area Jobs Filled by Residents	837
Total Trade Area Jobs	11,461
Trade Area Employed Residents	11,186
Net Inflow/Outflow	275

Source: ESRI; U.S. Census; Kimley-Horn and Associates



The Devine Street Trade Area has a 0.78 jobs/housing unit ratio. Fewer jobs than housing units is indicative of a predominantly residential development pattern and a comparatively high commuter share. Commuting distances and times have not been analyzed for the area, but the jobs/housing disconnect strains transportation infrastructure during peak hours. As the primary employment center in the MSA, Richland County has a 1.23 jobs/housing unit ratio. The Columbia MSA reports a comparatively balanced 0.98 jobs/unit.

Table 13: Jobs/Housing Unit Ratio Comparison, 2012

Geography	At-Place Jobs	Housing Units	Jobs/Unit
Trade Area	11,461	14,634	0.78
Richland County	203,844	166,230	1.23
Columbia MSA	333,754	339,948	0.98

Source: US Census; NCESC; Kimley-Horn and Associates

Future Market Conditions

Residential

Two residential growth scenarios were evaluated to forecast population, households, and housing units for the trade area through 2032:

- Scenario 1 (Baseline): Uses a 0.7% CAGR as a basis for increasing population; this measure is slightly higher than 0.4% annually demonstrated between 2000 and 2012
- Scenario 2 (Accelerated Growth): Scenario 2 forecast accelerated post-2015 to indicate improvements to the economy following the recession and continued attraction by the Gen Y to live in urban areas providing multiple transportation options

This analysis utilized a straight average of the two scenarios as the basis for the residential demand forecast. Housing unit forecasts are based on average household sizes and a 9% vacancy rate, reported by ESRI. Population in the trade area could increase by 2,800 people, equating to an annual growth rate of 0.9%. Population growth will likely be limited by land availability. Preferences of Gen Y will positively impact areas the study area, due to proximity to the urban core, pedestrian access to retail, and access to available transportation options.

Table 14: Average Residential Forecast, Trade Area, 2012-2032

Scenario	2012	2022	2032	2012-2032 Δ		
				#	%	CAGR
Scenario 1	14,630	15,980	17,220	2,590	17.7%	0.8%
Scenario 2	14,630	16,060	17,650	3,020	20.6%	0.9%
Average	14,630	16,020	17,430	2,800	19.1%	0.9%

Source: ESRI, Kimley-Horn & Associates

Snapshot of the Study Area

The study area could capture 10%-15% of the population growth in the trade area, equating to approximately 280 to 420 new residential units between 2012 and 2032. Housing demand is likely to break out as follows:

- **Single-Family Detached** construction will primarily be comprised of infill opportunities, based on existing land use this could be 10-20 units over the next 20 years
- **Townhouse**, or attached, units could provide an alternative to single-family detached units in established neighborhoods; approximately 50 to 75 attached units could be supported in the Study Area
- **Apartments/Multi-Family** are expected to comprise the majority of new residential development in the Study Area; approximately 220 to 325 units could be supported in smaller infill communities

Table 15: Housing Demand Forecast, Study Area, 2012-2032

Unit Type	Projected Unit Growth (2012-2032)
Single-Family Detached	10 - 20
Townhouse	50 - 75
Multi-Family	220 - 325
Total	280 - 420

Source: Kimley-Horn & Associates

The 2012-2032 land demand for new residential units is based on assumed ranges for units per acre by type. Density assumption for single-family detached in the study area is approximately eight units per acre, equating to demand of one to three acres. Townhouses are assumed to have a density of 15 units per acre, with total land demand of three to five acres. Assuming a density of 25 units per acre, multi-family would have land demand of nine to 13 acres, comprising the largest share of demand of all residential types. In total, the 2012-2032 residential land demand range from 13 to 21 acres. The majority of residential demand will be accommodated in infill or redevelopment opportunities, within walking distance of retail and restaurants.

Table 16: Residential Land Demand, Study Area, 2012-2032

Type	Land Demand	
	Low	High
Single-Family¹	1	3
Townhouse²	3	5
Multi-Family³	9	13
Total	13	21

¹ Assumes eight units per acre.

² Assumes 15 units per acre.

³ Assumes 25 units per acre.

Source: Kimley-Horn and Associates

Retail

As of second-quarter 2013, Columbia has an inventory over 12.5 million square feet of multi-tenant retail space. Retail occupancy has remained constant in the Columbia Market, reporting 8.36% in second-quarter 2013, a slight reduction from 9.45% two years earlier. Colliers International defines a smaller Southeast Submarket, which incorporates the intersection of Devine Street and Fort Jackson Boulevard. Within this Submarket there is over 1.0 million square feet of multi-tenant retail inventory. The current overall retail vacancy rate is estimated at less than 5%; there is extremely limited vacancy in anchor and junior anchor space in the Submarket. Average small-shop rents generally range from \$10-\$12/square foot.

Table 17: Retail Trends, Columbia Market, 2011-2013

Reporting Period	Columbia Market				
	Inventory	Vacancy Rate	Quoted Rent/Sq.Ft.		
			Anchor	Jr. Anchor	Sm.Shop
Q2 2011	11,978,792	9.45%	\$14.45	\$9.39	\$13.08
Q2 2012	12,373,368	8.34%	\$7.63	\$13.09	\$14.13
Q2 2013	12,505,119	8.36%	\$7.28	\$6.47	\$13.06

Note: * indicates that there is no space available in order to obtain a quoted rent

Source: Colliers International

Edens provided detail on three competitive retail developments in the vicinity of the trade area:

- **Trenholm Plaza**
 - 4840 Forest Drive
 - 99% occupancy; anchored by Publix
 - Quoted rent/sq.ft. from \$32 to \$38
- **Cross Hill Market**
 - Devine Street/Cross Hill Road
 - 100% occupancy; anchored by Whole Foods
 - Two outparcels available
 - Quoted rent/sq.ft. from \$28-\$35
- **Shoppes at Woodhill**
 - 6090 Garners Ferry Road
 - 97% occupancy; anchored by Target
 - Quoted rent/sq.ft. from \$24 to \$28

Competitive retail demonstrates high-performing centers that are likely to attract additional opportunities nearby.

The 2012-2032 retail demand for the Trade area was forecasted using the following method:

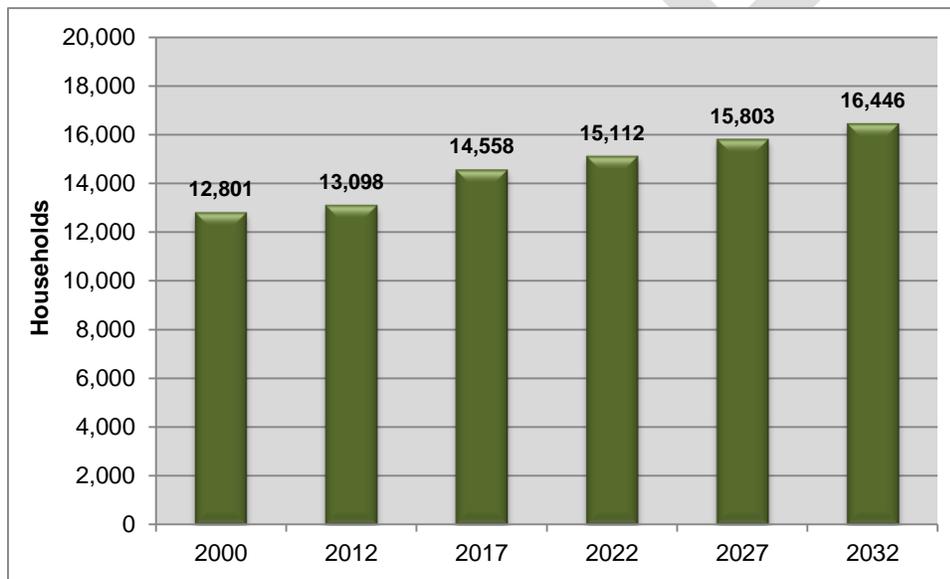
- Calculating the trade area's total household income in 2012 and 2032 by applying the forecasted households to average income projections derived from ESRI trends and proprietary population forecasts

Snapshot of the Study Area

- Estimating Richland County’s expenditure potential based on data from the South Carolina Department of Revenue that indicates the percentage of income spent on various goods and services
- Determining the trade area sales capture in five-year increments through 2032, taking into account leakage resulting from resident commuting patterns
- Estimating sales inflow from non-trade area residents, including those who work there and commuters
- Converting retail sales to square feet based on sales per square feet data by type of retail

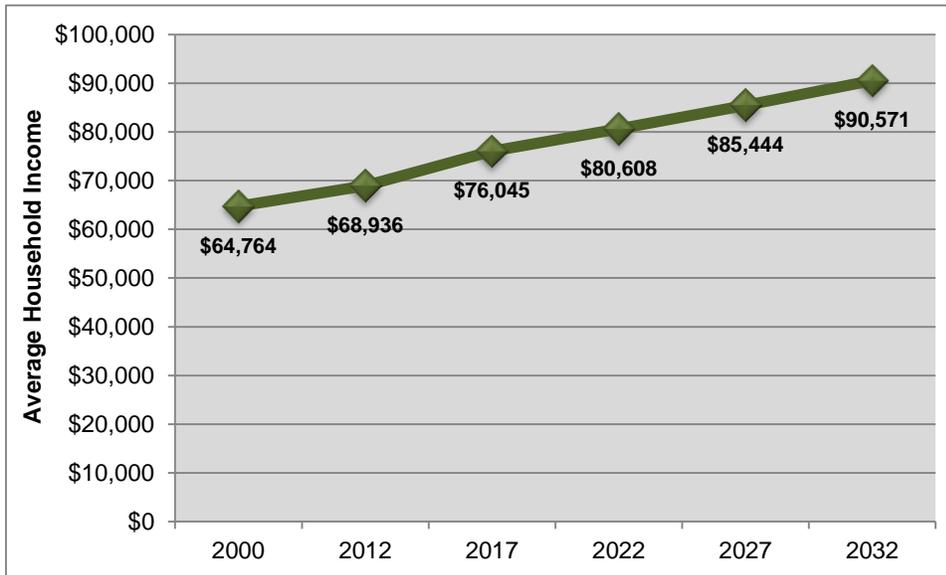
Based on the population forecast presented in the residential demand forecast, the trade area is expected to add 3,645 new households through 2032, a 25.6% increase over 20 years. In 2032, a total of 16,446 households could be located in the trade area. Although, the increase of new households will likely be limited by land availability.

Chart 10: Household Forecast, Trade Area, 2012-2032



Retail demand forecasts generally rely on average household income, which is typically higher than the median income statistics. According to ESRI, the trade area had an average income of \$68,936 in 2012, a 6.4% increase from \$64,764 in 2000. Based on income projections derived from ESRI trends, the average household income in the trade area could increase to \$90,571 by 2032.

Chart 11: Average Household Income Forecast, Trade Area, 2012-2032



The Trade Area has a forecasted demand of approximately 224,000 square feet of new retail space between 2012 and 2032. Demand for net new retail space is expected to hold constant throughout the forecast period; however, as available land for retail development declines new construction could also slow. Supermarkets, Building Materials, and Restaurants make up the largest growth categories for net new demand. The trade area is likely to accommodate one small grocery store through 2032.

Table 18: Net New Retail Demand, Trade Area, 2012-2032

Retail Category	Retail Demand (Sq.Ft.)				2012-2032 Change	% of Total
	2012-2017	2017-2022	2022-2027	2027-2032		
Supermarkets & Other Groceries	7,954	8,377	8,443	8,075	32,849	14.7%
Building Material & Supply Dealers	7,683	8,092	8,156	7,801	31,732	14.2%
Food Services - Restaurants	7,116	7,495	7,554	7,225	29,392	13.1%
Other General Merchandise Stores	5,297	5,579	5,623	5,378	21,876	9.8%
Pharmacies & Drug Stores	4,352	4,583	4,619	4,418	17,972	8.0%
Clothing Stores	3,670	3,865	3,896	3,726	15,157	6.8%
Discount Department Stores	2,880	3,033	3,057	2,924	11,895	5.3%
Department Stores	1,930	2,032	2,048	1,959	7,969	3.6%
Furniture Stores	1,734	1,826	1,841	1,761	7,162	3.2%
Electronics & Appliances	1,673	1,762	1,776	1,698	6,909	3.1%
All Other	9,951	10,481	10,564	10,104	41,101	18.3%
Total	54,239	57,127	57,577	55,069	224,012	100.0%

Source: Kimley-Horn and Associates

Similar to the residential forecast, two capture rate scenarios were prepared to demonstrate a range of demand for the Devine Street/Fort Jackson Boulevard Commercial Node Study Area. The more conservative scenario, defined as 'low', has capture rates ranging from 20% to 25% for the study area. Capture rates for the 'high' scenario ranges from 30% to 35%. Capture rates are based on the geographic size of the study area, the transportation network, and estimated share of current inventory.

Snapshot of the Study Area

Capture rates are expected to decline towards the end of the analysis period due to land availability in the study area. These rates equate to a net retail demand of 50,500 to 72,900 square feet between 2012 and 2032.

Table 19: Retail Capture Rates, Study Area, 2012-2032

Scenario	Time Period			
	2012-2017	2017-2022	2022-2027	2027-2032
Low	20%	25%	25%	20%
High	30%	35%	35%	30%

Source: Kimley-Horn and Associates

Retail land demand is based on floor area ratios (FAR) of 0.25, a typical industry standard for retail development. Applying the assumed FAR to the forecasted 2012-2032 net square footage for the study area equates to a land demand of approximately five to seven acres through 2032. New retail will likely be attracted to sites with superior visibility and access from Devine Street or Fort Jackson Boulevard. This acreage could also be accommodated in mixed-use developments.

Table 20: Retail Land Demand, Study Area, 2012-2032

Density Assumption	2012-2032	
	Forecast (Sq.Ft.)	Land (Acres)
Low	50,500	5
High	72,900	7

Source: Kimley-Horn and Associates

New retail tenants will likely be attracted to the momentum in the study area started by Whole Foods, and other high-end restaurants. Potential tenants might include:

- **Jr. Anchors:** Similar to Kohl's, TJ Maxx, Marshalls
- **Pharmacy:** Potential for another store, in addition to existing Walgreens
- **Restaurants:** Independent and chain; stores could locate as free-standing outparcels or in-line spaces
- **Small Shops/Specialty:** Independent clothing, home accessory, and gift stores

Given the presence of Whole Foods and Bi-Lo, it is unlikely that the study area would attract a third grocery store, although forecasted demand supports one in the larger trade area.

Office

The Columbia market reported a second-quarter 2012 inventory of over 9.4 million square feet of multi-tenant office. Nearly 50% of the inventory is located in the Central Business District (CBD). Although improvement has been noted between 2011 and 2013, vacancy rates remain elevated at 19.71%. Over the last three years annual (12-month) absorption has averaged approximately 115,000 square feet per year. Class A rents have remained steady at approximately \$18.50 per square foot. Inventory in the

“East Columbia” Submarket, as defined by Colliers, includes only 84,183 square feet of multi-tenant Class C space, with a vacancy rate of over 35%.

Table 21: Multi-Tenant Office Trends, Columbia Market, 2011-2013

Reporting Period	Columbia Market					
	Inventory	6-Month Absorption	Vacancy Rate	Quoted Rent/Sq.Ft.		
				ClassA	ClassB	ClassC
Q2 2011	9,828,371	20,223	20.40%	\$18.59	\$15.21	\$14.44
Q2 2012	9,975,599	94,306	23.31%	\$18.48	\$15.45	\$13.92
Q2 2013	9,425,679	59,533	19.71%	\$18.64	\$15.40	\$12.90

Source: Colliers International

Office demand for the trade area is based on office-occupying employment growth as reported for Richland County by Woods & Poole. Richland County is expected to add over 50,000 jobs over the next 20 years, a 24.6% increase. This equates to approximately 2,500 new jobs on an annual basis. The strongest growth is expected in Health Care, Professional and Business Services, and Education.

Table 22: Employment Forecast, Richland County, 2012-2032

Industry	2012	2017	2022	2027	2032	2012-2032 Δ	
						#	%
Agriculture Forestry Fishing & Hunting	590	596	602	614	626	36	6.1%
Mining	85	85	86	86	86	1	0.8%
Transportation, Warehousing, and Utilities	3,323	3,388	3,437	3,467	3,481	158	4.8%
Construction	6,129	6,270	6,420	6,575	6,732	603	9.8%
Manufacturing	9,976	9,977	9,952	9,932	9,912	-64	-0.6%
Wholesale Trade	6,171	6,280	6,379	6,465	6,539	368	6.0%
Retail Trade	20,916	21,262	21,548	21,772	21,933	1,017	4.9%
Information	4,778	4,864	4,940	5,004	5,057	279	5.8%
Finance and Insurance	18,178	18,214	18,269	18,324	18,379	201	1.1%
Real Estate and Rental and Leasing	3,110	3,249	3,384	3,514	3,639	529	17.0%
Professional and Business Services	28,479	31,327	35,086	40,349	46,401	17,922	62.9%
Educational Services	21,844	23,089	24,359	25,650	26,933	5,089	23.3%
Health Care and Social Assistance	28,983	31,881	35,707	41,063	47,633	18,650	64.3%
Arts Entertainment and Recreation	3,004	3,160	3,318	3,484	3,651	647	21.6%
Accommodation and Food Services	18,374	19,278	20,151	20,984	21,770	3,396	18.5%
Other Services	5,903	6,181	6,450	6,707	6,951	1,048	17.8%
Public Administration/Government	24,001	24,073	24,145	24,194	24,242	241	1.0%
Total	203,844	213,176	224,234	238,183	253,966	50,122	24.6%

Sources: SCESC; Woods & Poole; Kimley-Horn and Associates

To determine the forecasted increase in office-occupying employment, office shares were applied to each industry projection. Finance and Insurance and Professional and Business Services have the highest shares of office-occupying employment at 95%. Richland County is expected to have an increase of 26,964 office-occupying employees, or 30%, between 2012 and 2032.

Table 23: Office-Occupying Employment Forecast, Richland County, 2012-2032

Industry	Office Share	2012	2017	2022	2027	2032	'12-'32 Change	
							#	%
Agriculture Forestry Fishing & Hunting	5.0%	30	30	30	31	31	2	0.0%
Mining	5.0%	4	4	4	4	4	0	0.0%
Transportation, Warehousing, and Utilities	25.0%	831	847	859	867	870	40	4.8%
Construction	10.0%	613	627	642	657	673	60	9.8%
Manufacturing	5.0%	499	499	498	497	496	-3	-0.6%
Wholesale Trade	25.0%	1,543	1,570	1,595	1,616	1,635	92	6.0%
Retail Trade	10.0%	2,092	2,126	2,155	2,177	2,193	102	4.9%
Information	30.0%	1,433	1,459	1,482	1,501	1,517	84	5.8%
Finance and Insurance	95.0%	17,269	17,304	17,356	17,408	17,460	191	1.1%
Real Estate and Rental and Leasing	85.0%	2,644	2,762	2,877	2,987	3,093	450	17.0%
Professional and Business Services	95.0%	27,055	29,761	33,332	38,332	44,081	17,026	62.9%
Educational Services	30.0%	6,553	6,927	7,308	7,695	8,080	1,527	23.3%
Health Care and Social Assistance	35.0%	10,144	11,158	12,497	14,372	16,672	6,528	64.3%
Arts Entertainment and Recreation	15.0%	451	474	498	523	548	97	21.6%
Accommodation and Food Services	10.0%	1,837	1,928	2,015	2,098	2,177	340	18.5%
Other Services	25.0%	1,476	1,545	1,612	1,677	1,738	262	17.8%
Public Administration/Government	70.0%	16,801	16,851	16,902	16,935	16,969	169	1.0%
Total		91,273	95,872	101,661	109,377	118,237	26,964	29.5%

Sources: SCESC; Woods & Poole; Kimley-Horn and Associates

Forecasted office-occupying jobs have been used to estimate square footage demand. National trends indicate declining space per employee; estimates for office demand are based on square feet per employee averages, as follows:

- 2012-2017: 220 square feet/employee
- 2017-2022: 215 square feet/employee
- 2022-2027: 210 square feet/employee
- 2027-2032: 205 square feet/employee

Office demand in Richland County is expected to increase by 5.7 million square feet.

Table 24: Net New Office Demand, Richland County, 2012-2032

	Net Office Demand (Sq.Ft.)				2012-2032
	2012-2017	2017-2022	2022-2027	2027-2032	Total
Jobs	4,598	5,789	7,716	8,860	26,964
Square Feet	1,011,664	1,244,680	1,620,396	1,816,342	5,693,082

* Assumes declining square foot need per employee for each five-year period.

Source: Kimley-Horn and Associates; Woods & Poole

The trade area capture of Richland County demand is based on recent trends as presented by Colliers for the 'East Columbia' and 'Forest Acres' submarkets. This analysis assumes capture rates ranging from 2%-3% of the County total; capture rates are expected to decline as the trade area continues to build-out. Demand generators in the trade area will likely be existing office and retail in the Forest Acres neighborhood, competitive retail developments (Cross Hill, Trenholm, and Woodhill), and Five

Points/USC. In total, the trade area is expected to have a demand for approximately 136,000 square feet of office space through 2032.

Table 25: Net New Office Demand, Trade Area, 2012-2032

	Net Office Demand (Sq.Ft.)				2012-2032
	2012-2017	2017-2022	2022-2027	2027-2032	Total
Jobs	138	174	154	177	643
Square Feet	30,350	37,340	32,408	36,327	136,425

* Assumes increasing capture for each five-year period.

Source: Kimley-Horn and Associates; Woods & Poole

Two scenarios were prepared for office demand: a more conservative (low) and an aggressive (high). The study area’s potential capture of office demand is expected to decline due to land availability. Capture rates are based on the geographic size of the study area, surrounding employment generators, and the transportation network. Capture rates are expected to range from:

- 15%-30% for the low scenario
- 30%-45% for the high scenario

Based on the assumed capture rates the Devine Street/Fort Jackson Boulevard Commercial Node study area could support approximately 30,300 to 50,800 square feet of net new office space between 2012 and 2032. The lack of Class A or B office space in the Study Area would likely result in new construction.

Table 26: Office Capture Rates, Study Area, 2012-2032

Scenario	Time Period			
	2012-2017	2017-2022	2022-2027	2027-2032
Low	30%	25%	20%	15%
High	45%	40%	35%	30%

Source: Kimley-Horn and Associates

Similar to retail, land demand for office is based on industry-standard floor area ratio (FAR) of approximately 0.30. Applying the assumed FARs to the forecasted 2012-2032 spare footage equates to office land demand of approximately two to four acres through 2032 in the study area. New office developments will likely be attracted to pedestrian access to retail services and restaurants. This acreage could also be accommodated in mixed-use developments.

Table 27: Office Land Demand, Study Area, 2012-2032

Density Assumption	2012-2032	
	Forecast Land (Sq.Ft.)	(Acres)
Low	30,300	2
High	50,800	4

Source: Kimley-Horn and Associates

Snapshot of the Study Area

Demand of approximately 30,000 to 50,000 square feet of office space in the study area would be attractive to smaller professional tenants including:

- Real estate brokers
- Mortgage firms
- Financial advisors
- Insurance agents
- Architects/design firms
- Marketing/PR consultants
- Non-profit agencies

Pedestrian access to Whole Foods, and other neighborhood restaurants, would be an attractive amenity to employees of these tenants.

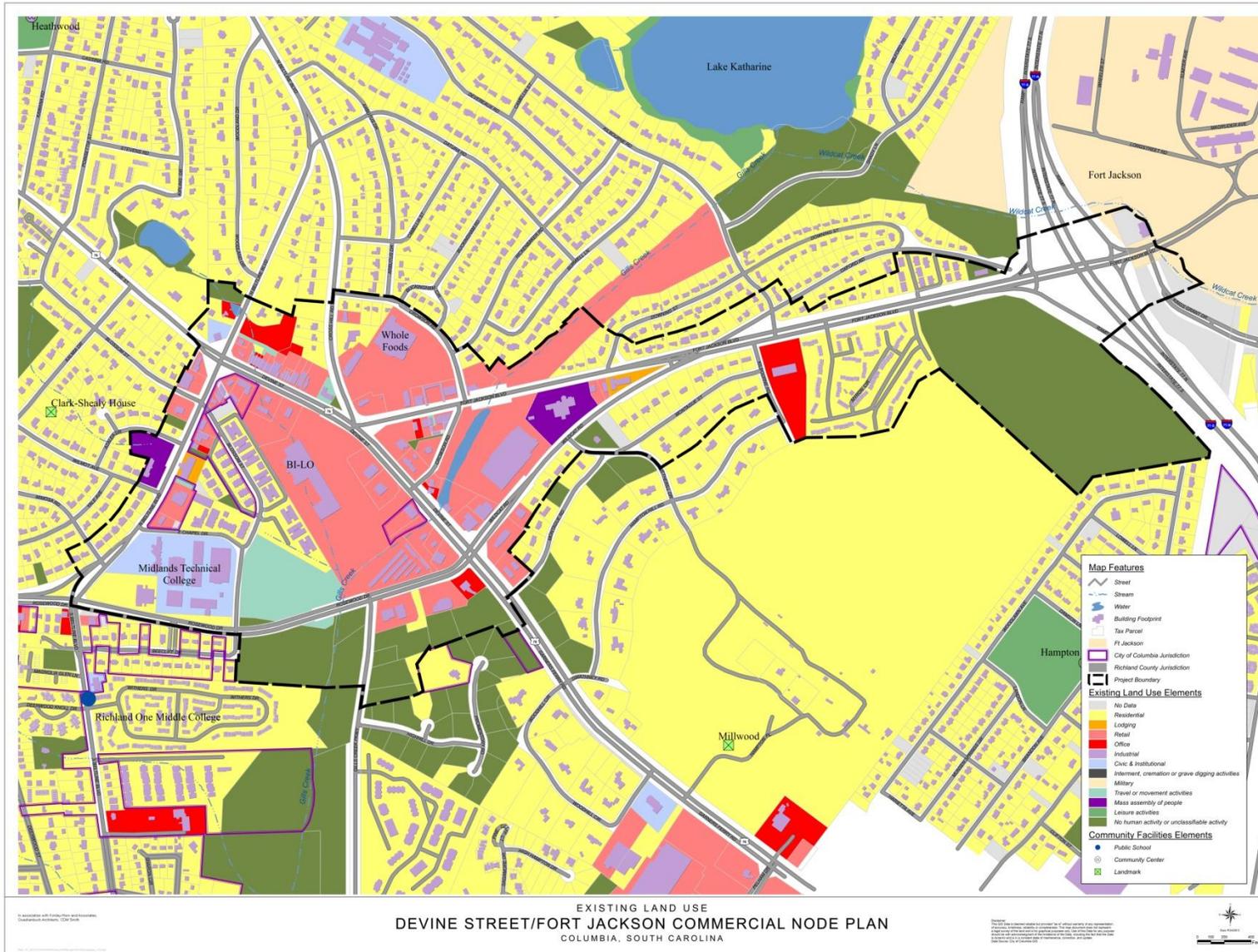
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Land Use & Development Characteristics

The Devine Street/ Fort Jackson Boulevard Commercial Node is an eclectic mix of new and old, of traditional strip retail centers and village-scale commercial, of apartments, condominiums and single-family residences. Over the past fifty years the area has developed as a regional commercial destination and a neighborhood-serving center. Land uses in the study area include a mixture of primarily retail and residential developments.

Map 4 shows the land uses of the study area at the parcel level. The following describes the variation in development within each land use type and the characteristics of development, providing details about the scale and quality of the architecture and site features.

Map 4: Existing Land Use



Commercial (Retail and Office)

Commercial uses are centered on the main intersection of Devine Street, Fort Jackson Boulevard and Cross Hill Road. The character of development surrounding this commercial heart of the node is traditional large footprint retailers center surrounded by out parcels and mainly quick-service restaurants, the type of auto-centric development that can be described as “Anywhere USA.” However, the Cross Hill Market redevelopment defines a new character for the area. While the development pattern is the same (large footprint anchor, surrounded by retail outparcels) the attention to detail creates a new sense of place for this corner of the study area. Regionally inspired landscaping materials such as Palmetto trees and native grasses cultivate a unique retail experience. The development balances private businesses with public gathering spaces to encourage community interaction. Sidewalk connections to the surrounding neighborhood allow a pedestrian-friendly route that can be used as a precedent for new redevelopment. Ceiling fans, light paint colors, shaded seating and landscaped green spaces provide a place to escape from Columbia’s summer heat.

The character of the retail development changes as you move west out of the main intersection. An eclectic mix of smaller footprint retail flank Devine Street west of the intersection. Local retailers line narrow sidewalks. Diagonal parking separates the pedestrian from vehicular movements. Many of the storefronts along this section of Devine Street are blighted or vacant. There is no streetscape and the sidewalks are in various states of disrepair. Turning the corner on Beltline, the retail again changes character. Larger footprint stores are surrounded by parking lots. Sidewalks are directly adjacent to the roadway making the pedestrian feel exposed and potentially unsafe. Much of the development in the area was constructed in the 1970s and is wearing the face of time.

East of the main intersection of Devine Street and Fort Jackson Boulevard is the Crowson Road commercial wedge. The area that fronts Devine has been redeveloped into a few national eateries. The development along Fort Jackson Boulevard and Crowson Road is smaller scale. Buildings of various sizes and shapes are surrounded by parking lots. Crowson Road lacks a definitive edge as pavement bleeds out on both sides, giving way to parking areas and sidewalks that are not delineated.



Many of the outparcels along Devine Street have recently redeveloped.



Whole Foods anchors the recently redeveloped Cross Hill Market shopping center.



A number of small, local businesses are located along Devine Street near the intersection at Beltline Boulevard.

Residential

From the main intersection at Fort Jackson Boulevard, Devine Street and Cross Hill Road, the character of the study area quickly transitions from commercial to residential. There are a number of neighborhoods in close proximity to the study area including Shandon, Sherwood Forest, Cross Hill, Hampton Hills, Heyward Park and Heathwood. These neighborhoods are primarily single-family and owner-occupied. The neighborhoods range from modest one-story homes to large single-family residences. Some of the most expensive residential product in the Columbia market is located in adjacent neighborhoods.



Historic Heathwood is just one of the many neighborhoods adjacent to the study area.

In addition, there are a few condominium and apartment complexes located within the study area. Near the intersection of I-77 and Fort Jackson Boulevard, there are two complexes. Nestled behind the commercial areas along Devine Street and Beltline Boulevard are a set of two-story apartment complexes. The apartments appear to be occupied but are in various states of disrepair.



The multi-family product in the study area was built in the 1970s and is in need of renovation.

Civic/Institutional

Midlands Technical College anchors the southern portion of the study area. The campus offers a variety of degree and certificate programs and serves as a feeder school to the University of South Carolina.



Midlands Technical College anchors the southern portion of the study area.

Transportation Infrastructure

Existing Roadway Conditions

This section of the report examines the roadway conditions and characteristics in the study area. Major intersections and travel behavior were evaluated based on field review and local expertise from the Advisory Committee.

Roadway Classification

The identification of roadway classification is a necessary step in assessing and evaluating the effectiveness of the roadway network. Federal Functional Classification System is used by SCDOT to classify roads in the study area by categorizing a road section on attributes common to its role and function within the roadway network.

- Interstates – Defined as significant highways featuring limited access and continuous, high-speed movements for a wide variety of traffic types. Interstates account for 1.0 miles as I-77 travels through the northeast part of the study area. The Annual Average Daily Traffic (AADT) on this roadway segment north of the I-77/Fort Jackson Boulevard Interchange is 24,388 vehicles per day (VPD), while south of the I-77/Fort Jackson Boulevard Interchange is 24,348 VPD.
- Arterials – Classified as major or minor arterials, these roads connect activity centers and carry large volumes of traffic at moderate speeds. The arterial system in the study area totals approximately 4.2 miles. Devine Street had highest traffic counts for arterials in the study area with an AADT of 46,585 southeast of the Devine Street and Wildcat intersection. Fort Jackson Boulevard has an AADT of 20,010 east of the intersection with Kilbourne and an AADT of 5,655 near the intersection with Devine Street.
- Collectors – Collectors typically allow access to activity centers from residential areas. Collectors can also be categorized as major and minor. Their purpose is to collect traffic from streets in residential and commercial areas and distribute it to the arterial system. The collector system in the study area consists of 0.1 total miles.

Roadway Statistics

Roadway statistics evaluated in this study include year 2005 and year 2035 traffic volumes, level of service (LOS), vehicle miles of travel (VMT), and vehicle hours of travel (VHT).

Traffic Volumes

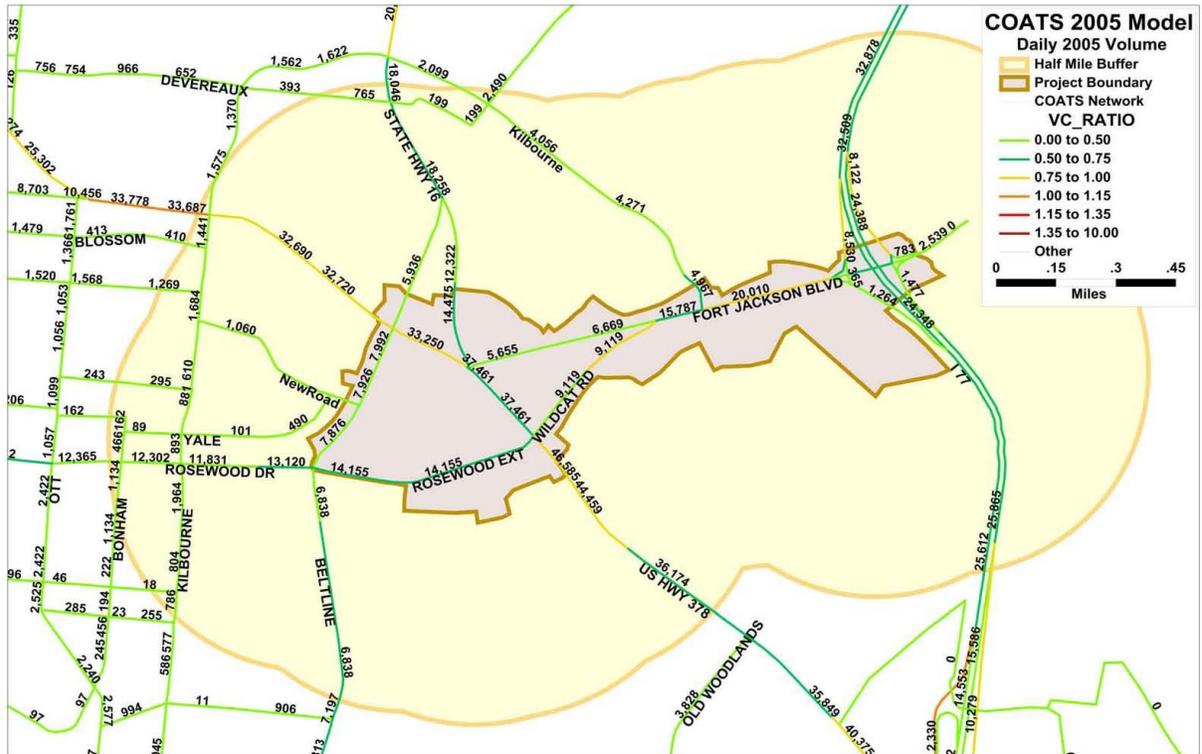
Traffic volume flow maps show projected growth over the 30-year horizon used in the COATS travel demand model. Map 5 shows the 2005 model year volumes and Map 6 shows the 2035 model horizon year volumes.

In Map 5, the highest existing traffic volumes in the study area are located along the Devine Street corridor. Along Devine Street between Beltline and south of Wildcat Road, the existing AADT varies between 33,250 and 46,585 respectively. The I-77 corridor through the study area contains an AADT over 24,000. The traffic volumes for Fort Jackson Boulevard changes greatly in the study area with an

Snapshot of the Study Area

AADT of 20,010 east of Kilbourne, 15,787 west of Kilbourne, and 5,655 at the Fort Jackson/Devine Street intersection. Both Cross Hill Road and Rosewood Boulevard have AADT's over 14,000 in the study area.

Map 5 – 2005 Traffic Volumes



In Map 6, the highest projected traffic volumes in the study area are located along the Devine Street corridor. The projected AADT along Devine Street between Beltline and south of Wildcat Road are between 44,505 and 62,272 respectively. The I-77 corridor through the study area projects an AADT over 41,000. The traffic volumes for the Fort Jackson Boulevard corridor projects an AADT of 25,070 east of Kilbourne, 20,145 west of Kilbourne, and 6,468 at the Fort Jackson/Devine Street intersection. The projected Cross Hill Road and Rosewood Boulevard have AADT's over 14,000 in the study area.

Map 6 - Projected 2035 Traffic Volumes

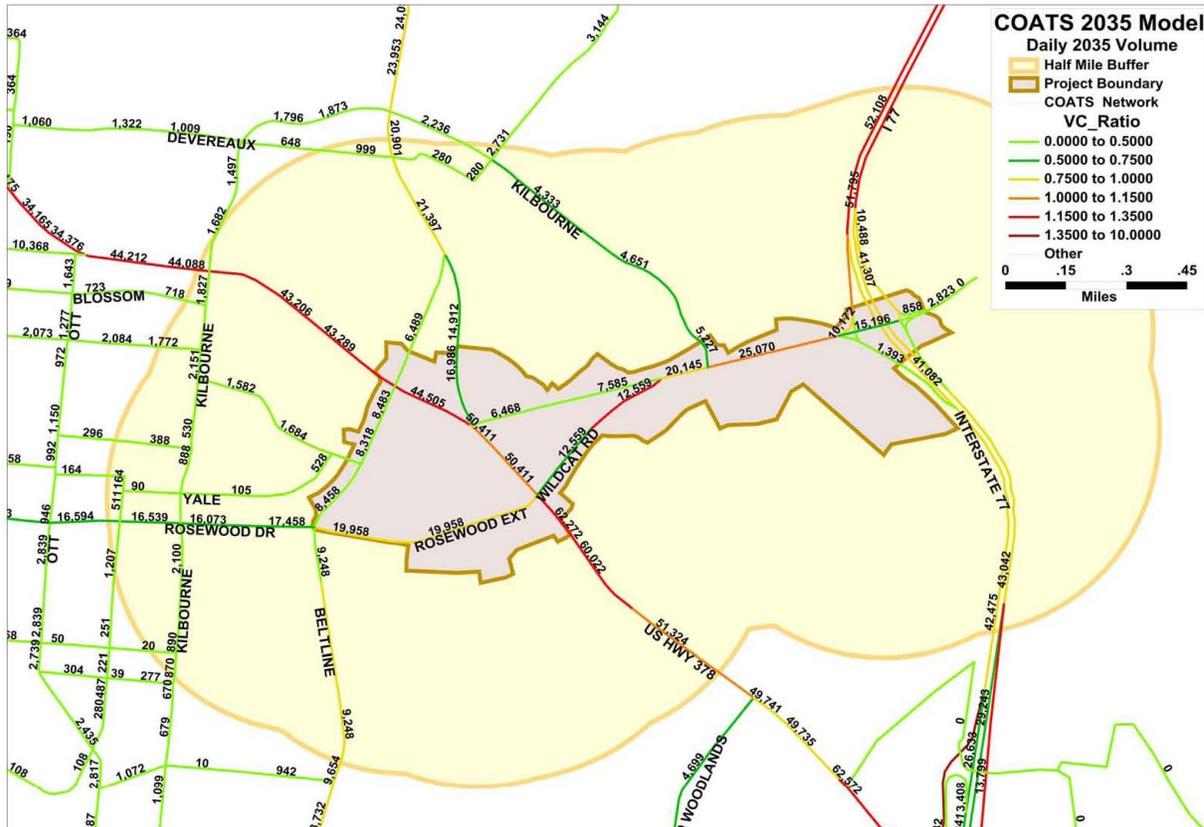


Table 28 shows the 2005 AADT counts and projected 2035 AADT volumes and percent changes on selected roadway segments. The historic AADT values are from the SCDOT traffic count table and the 2035 traffic volumes are derived from the COATS travel demand model. The roadway with the largest AADT growth between 2005 and 2035 is I-77 with count locations around 69 percent. The Devine Street corridor’s AADT is projected to grow around 34 percent, while Wildcat Road’s growth projection 38 percent.

Table 28 - Major Roadway Traffic Volumes

Roadway Segment	AADT		Percent Growth
	2005	2035	2005 to 2035
I-77 north of Fort Jackson Boulevard	24,388	41,307	69.4%
I-77 south of Fort Jackson Boulevard	24,348	41,082	68.7%
Devine Street between Beltline and Cross Hill Road	33,250	44,505	33.8%
Devine Street between Fort Jackson Boulevard and Wildcat Road	37,461	50,411	34.6%
Devine Street south of Wildcat Road	46,585	62,212	33.5%
Fort Jackson Boulevard between Devine Street and Wildcat Road	5,655	6,468	14.4%
Fort Jackson Boulevard between Wildcat Road and Kilbourne Road	15,787	20,145	27.6%
Fort Jackson between Kilbourne Road and I-77	20,010	25,070	25.3%
Wildcat Road between Devine Street and Fort Jackson Boulevard	9,119	12,559	37.7%
Cross Hill Road between Devine Street and Beltline	14,475	16,986	17.3%
Beltline between Cross Hill and Devine Street	5,936	6,489	9.3%
Beltline between Devine Street and Rosewood Boulevard	7,992	8,483	6.1%
Rosewood Boulevard between Beltline and Devine Street	14,155	19,958	41.0%

Level of Service

Level of service (LOS) is a qualitative measurement from **A** to **F** for describing operational conditions for a given road. On this grading scale, **A** is the best and **F** is the worst for the highway segment. Below is a general description of each LOS category:

- A** – Free flow; conditions where traffic flows at or above the posted speed limit and all motorists have complete mobility between lanes
- B** – Reasonable flow; slightly more congestion with reduced maneuverability
- C** – Stable flow; Ability to pass or change lanes is not assured. Most experienced drivers are comfortable, and posted speed is maintained, but roads are close to capacity.
- D** – Typical of an urban highway during commuting hours. Speeds are somewhat reduced, motorists are hemmed in by other cars and trucks.
- E** – Unstable flow; flow becomes irregular and speed varies rapidly, but rarely reaches the posted limit. On highways, this is consistent with a road over its designed capacity.
- F** – Flow is forced; every vehicle moves in lockstep with the vehicle in front of it, with frequent drops in speed to nearly zero mph. High vehicle delay.

SCDOT uses a LOS of **C** for planning efforts to ensure an acceptable operating service for users. Since LOS is determined by the relationship of roadway volume (traffic on the road) to the roadway’s capacity (what the road was designed to handle), each LOS category can be assigned a volume-to-capacity ratio range. At level **C**, this means the roadway volume is equal to the roadway capacity (Volume-to-Capacity Ratio equals 1.0). Below LOS **C** means the roadway volume is under capacity and above LOS **C** the roadway volume is over capacity. The range of Volume-to-Capacity ratios by LOS is shown in **Table 29**.

Table 19 - SCDOT Volume to Capacity Ratios by Level of Service

LOS	V/C Ratio Range
A	0.00 – 0.49
B	0.05 – 0.74
C	0.75 – 1.00
D	1.01 – 1.15
E	1.16 – 1.34
F	> 1.35

Snapshot of the Study Area

According to the 2005 COATS Model displayed in Map 5, segments of Devine Street, Fort Jackson Boulevard, the I-77 ramps, and Wildcat Road have LOS levels of “C” in the study area. All other roadway segments in the study area have a “A” or “B” LOS level.

Shown in Map 6, the projected 2035 COATS Model identifies segments of Devine Street and Wildcat Road has LOS levels of “E” in the study area. The I-77 ramps, Devine Street south of the Fort Jackson intersection and Fort Jackson Boulevard east of the Kilbourne has a projected LOS level of “D”. The entire segment of Rosewood in the study area, Fort Jackson Boulevard between Wildcat Road and Kilbourne, and I-77 mainlines have a projected LOS level of “C”. All other roadway segments in the study have a projected LOS level of “A” or “B”.

Vehicle-Miles and Vehicle-Hours of Travel

The COATS travel demand model was used to estimate the vehicle-miles of travel (VMT) and vehicle-hours of travel (VHT) by roadway type (functional classification). The model calculates BMT by multiplying the length of the roadway links by the assigned volume. The model calculates VHT by multiplying the time [$\text{Time} = (\text{Length}/\text{Speed}) * 60$] of the roadway links by the assigned volume. **Table 3** shows the VMT, VHT, and congested speed (mph) by roadway type within the study area.

Table 20 - 2005 Vehicle-Miles and Vehicle-Hours of Travel

Roadway Type	Length	VMT	VHT	Congested Speed (mph)
Interstate	1.0	25,271	396	63.8
Principal Arterial	0.9	31,110	831	37.4
Minor Arterial	3.3	36,135	920	39.3
Collector	0.1	507	13	37.8

Source: COATS Travel Demand Model

The study area is dependent on a reliable road network to function both in and around the study area. As Table 30 shows, the study area road network is largely made up of interstates, principal and minor arterials, and collectors roadways. The principal and minor arterials each have higher VMT and VHT values than the Interstate roadway segments within the study area. The congested speed of the principal and minor arterials and collector roadways are between 37.4 M.P.H and 39.3 M.P.H., while the interstate congested speed is 63.8 M.P.H.

COATS 2035 LRTP Improvements

According to the COATS 2035 Long Range Transportation Plan (LRTP), there are not any currently planned roadway improvements identified and prioritized within a financially constrained plan.

Existing Transit Service

Fixed-route transit service within the study area is provided by the Central Midlands Regional Transit Authority (CMRTA).

Central Midlands Regional Transit Authority (CMRTA)

CMRTA transit services include fixed-routes and paratransit service, Dial-A-Ride (DART), the provide access to jobs, schools, businesses, hospitals, shopping, and entertainment throughout the Columbia Metropolitan area. CMRTA has three routes that service the study area with a fixed one-way fare of \$1.50. Special needs one-way fares are \$0.75 and fares are free for children under the age of five-years old. Transfers between CMRTA routes are \$0.25 and are valid for two hours. The DART paratransit service has a \$3.00 one-way fare.

Existing Routes

As noted above, CMRTA has three fixed –routes which provide service to the study area. Route 3 & 8 is the Rosewood/Rosehill fixed-route which is in service Monday through Saturday and travels between the Downtown Transit Center, University of South Carolina, Rosewood, and the Shoppes at Woodhill. Routes 20 is the Greenlawn fixed-route which is in service Monday through Saturday and travels between the Downtown Transit Center, Benedict College, Allen University, Five Points, Devine Street, Woodhill Mall, VA Hospital, Greenlawn Cemetary, Sumter Highway, Garners Ferry Wal-Mart, and South East Park. Route 21 is the Veterans Hospital fixed-route which is in service on weekdays only and travels

Snapshot of the Study Area

between the Downtown Transit Center, Capitol Complex, Dreher High School, Devine Street, Shoppes at Woodhill, and the VA Hospital. No Sunday service is available for these three fixed-routes which service the study area. Table 31 lists the routes by day of week.

Table 31 - CMRTA Routes by Day of Week

Route Desc.	Route #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Rosewood/Rosehill	3 & 8	X	X	X	X	X	X	
Greenlawn	20	X	X	X	X	X	X	
Veterans Hospital	21	X	X	X	X	X		

Source: CMRTA

Route Travel Times and Frequency

The three CMRTA routes which provide weekday service to the study area start service between 5:50 AM and 6:21 AM and end service between 6:39 PM and 8:43 PM. Route 3 & 8 and route 20, the two CMRTA routes which provide Saturday service to the study area start service between 6:50 AM and 6:52 AM and end service between 6:50 PM and 6:52 PM. All three CMRTA routes which service the study area stop in the study area every 60 minutes. CMRTA route 3 & 8 has a roundtrip travel time of 70 minutes, CMRTA route 20 has a 95 minute roundtrip travel time, and CMRTA route 21 has a 65 minute roundtrip travel time. Table 32 shows the route travel times and frequency for the three routes within the study area.

Table 32 - Route Travel Times and Frequency within Study Area

Route #	Route Start Time	Route End Time	Frequency (minutes)	Runs per Day
3 & 8	5:50 AM	6:54 PM	60	14
20	5:52 AM	8:43 PM	60	15
21	6:21 AM	6:39 PM	60	13

Source: CMRTA

Major Stop Locations

There are several popular designations along the three CMRTA routes which serve the study area. Routes 3 & 8 travel between the Downtown Transit Center, University of South Carolina, Rosewood, and the Shoppes at Woodhill. Routes 3 & 8 travels through many roads in the study area, traveling from Rosewood Drive to Beltline Boulevard to Devine Street up to the Shoppes at Woodhill and loops back around on Pelham Drive to Gills Creek Parkway to Rosewood on its route back downtown. Route 20 travels between the Downtown Transit Center, Benedict College, Allen University, Five Points, Devine Street, Woodhill Mall, VA Hospital, Greenlawn Cemetary, Sumter Highway, Garners Ferry Wal-Mart, and

South East Park. Route 20 travels on Devine Street through the study area. Route 21 is the Veterans Hospital fixed-route which is in service on weekdays only and travels between the Downtown Transit Center, Capitol Complex, Dreher High School, Devine Street, Shoppes at Woodhill, and the VA Hospital. Route 21 travels on Devine Street through the study area.

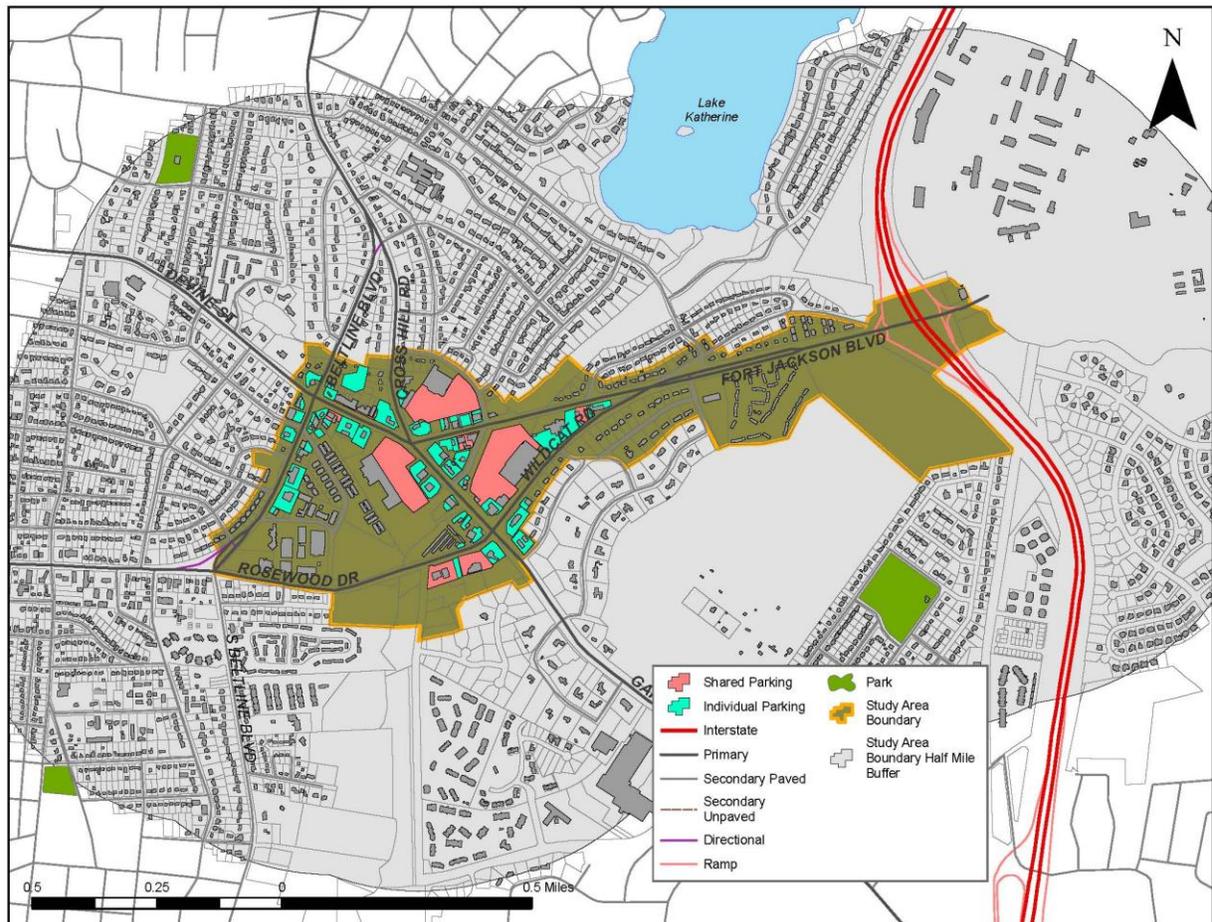
Dial-A-Ride Transit (DART)

CMRTA's DART service offers paratransit service which meets the requirements of the American with Disabilities Act (ADA). DART is a curbside service and requires advance reservations for service. Hours of service for DART are 5:30 AM to 6:30 PM Monday through Saturday.

Existing Bicycle and Pedestrian Facilities

Mobility within a community relies heavily on its citizens' ability to move about using safe facilities for pedestrians and bicycles. As shown in Map 7, sidewalks are located throughout the study area along the main roadways. The Palmetto Trail, a statewide bicycle trail, traverses through the study area traveling along Fort Jackson Boulevard between Kilbourne and Fort Jackson base. In the urban core of the Columbia metropolitan area, the Palmetto Trail is mostly a signed route and travels on the sidewalks in the area. The only on-road bicycle facilities that are located in the study area are the bicycle lanes on Cross Hill Road. Cross Hill Road has one lane traveling in each direction with a center turn lane and bicycle lane on both sides of the roadway. In addition, the City recently adopted Nacto urban bikeway design guidelines.

Map 7 – Existing Bicycle and Pedestrian Facilities in the Study Area

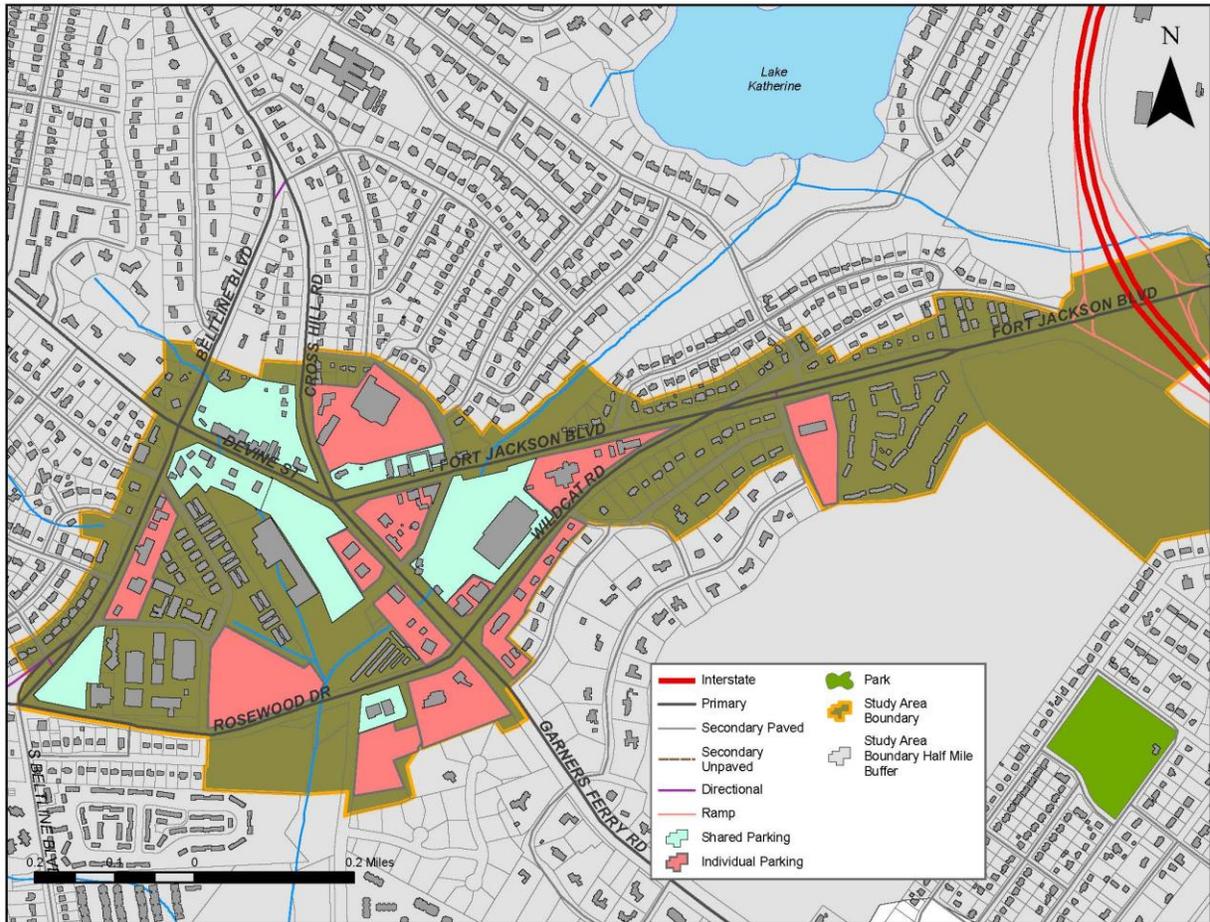


There are no regional greenway connections within the study area. The COATS Bike and Pedestrian Pathways Plan includes plans for three greenways, the Gills Creek Greenway, Leesburg – Fort Jackson Trail and Capital City Trail Greenway, to travel through the study area. The Gills Creek Greenway, which would travel along Gills Creek and would connect to other pathways in the region including the Congaree River Greenway, Bluff Road Bikeway, and Fort Jackson Greenway. The Leesburg – Fort Jackson Trail and Capital City Trail Greenway are both local segments of the statewide Palmetto Trail and connects the study area to Fort Jackson and Downtown Columbia.

Parking Supply

The Devine Street/Fort Jackson study area parking supply is concentrated along the western half of the study area. As shown in Map 8, parking has been categorized as shared parking and individual parking. Shared parking includes commercial land parcels with shared parking lots, while individual parking includes individual commercial land parcels with parking only available for that particular parcel. In the study area, the majority of the commercial parcels have individual parking lots. The study area does include three large shared parking lot sites are located at the Whole Foods, Bi-Lo and former K-Mart locations, along with a few additional smaller shared parking lots spread throughout the study area.

Map 8 - Existing Parking Facilities in the Study Area



Water and Wastewater Infrastructure

According to engineers with the Department of Utilities & Engineering for the City of Columbia, the existing water and wastewater systems that serve the study area are adequate. Beyond regular maintenance, city engineers foresee no need for major infrastructure projects to upgrade the system to serve existing and future development. Map 9 depicts the water and wastewater system in the area.

Natural Resources & Open Space

While there are no formal parks, open spaces or recreation areas in the study area there is a significant natural resource. Gills Creek runs from Lake Katherine through the study area to the Congaree River. It intersects the Capital City Passage of the Palmetto Trail, a statewide trail system, at Kilbourne Road and ultimately connects to the Congaree River Blue Trail.

The creek is part of the larger Gills Creek Watershed which is among the largest urban impaired watersheds in South Carolina. Over time the creek has been channelized. Storm water runoff from development and non-point source pollution threatens the

quality of the waterway. Flooding is a major concern in areas adjacent to the Creek. Development has encroached up on the capacity of the floodplain to perform natural stormwater management function. Increased run-off from development has exacerbated flooding issues associated with limitations of the floodplain. Map 10 highlights the natural and environmental features of the study area.

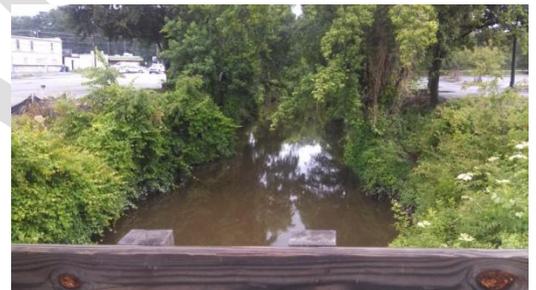
In response to many of the issues, the Gills Creek Watershed Association was established to restore the watershed, “through education, grass roots action, public and private partnerships, remediation projects, and controlled development.”

(Source: Gills Creek Watershed Association, www.gillscreekwatershedassociation.org)

The Gills Creek Watershed Association has initiated a study to develop a master plan for the restoration and enhancement of the creek, “the goal is to return the Gills Creek Watershed to a living resource providing recreational opportunities, habitat for native wildlife and plants, and a national model for watershed planning and management.” (Source: Gills Creek Watershed Association, www.gillscreekwatershedassociation.org) This study is ongoing and representatives from the Watershed Association are part of the Advisory Committee guiding this plan. The two planning initiatives are integrated and both recognize the goal of restoring the creek to its full environmental, economic and recreational potential.

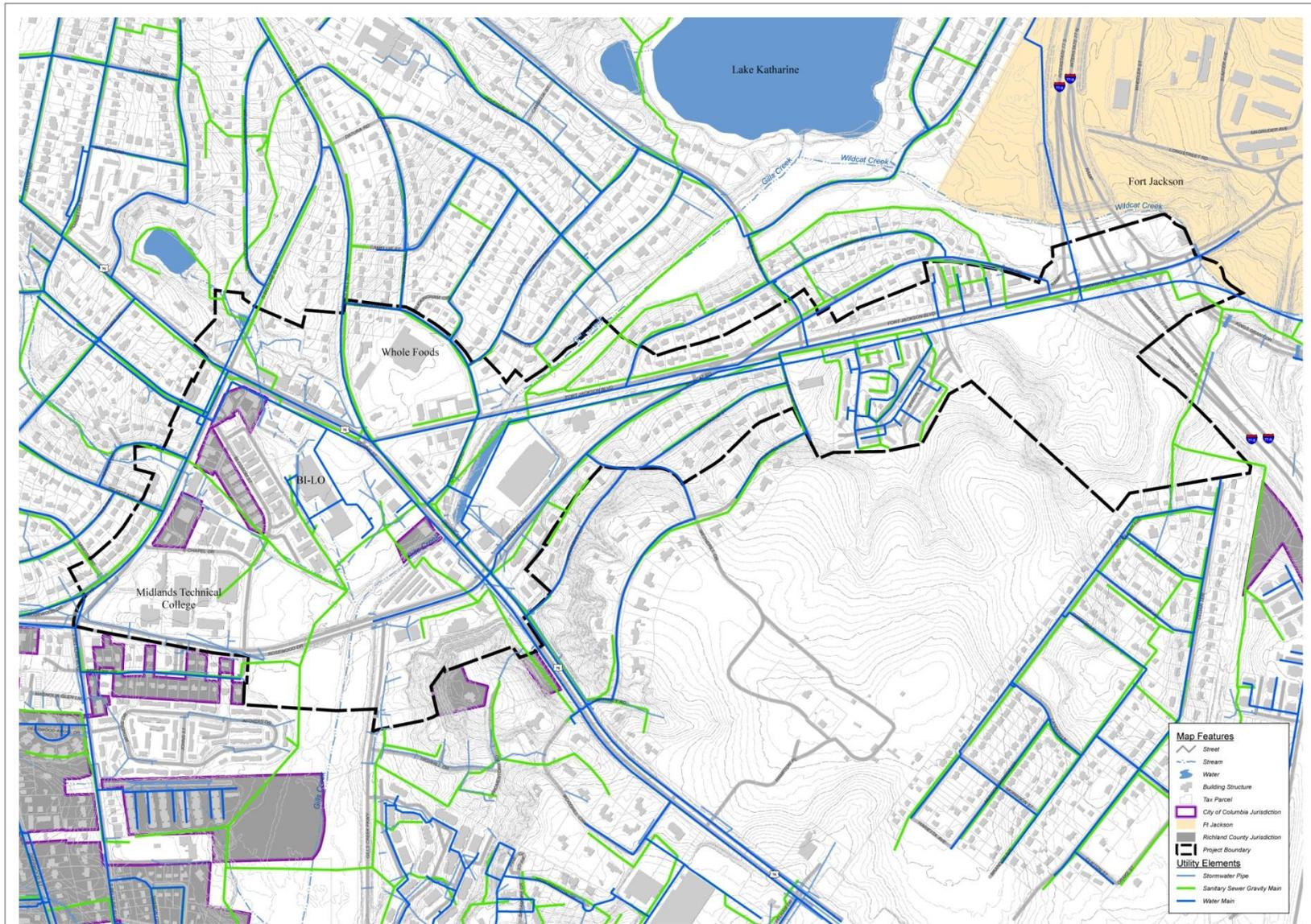


Gills Creek runs through the study area and ultimately feeds into the Congaree River.



During storm events, the creek regularly floods.

Map 9: Existing Utilities



Map 10: Environmental & Natural Features

