The transportation-land use connection influences both land use and transportation planning. While the most significant role that transportation plays in land development is in providing access, transportation facilities serve as a significant element of the built environment, creating both connections and barriers. For instance, a high-volume, four-lane highway may connect key areas of a community for vehicular travel, but safety concerns can deter pedestrians who need to cross the highway to get to resources on the other side. Traffic congestion on a thoroughfare can also be a barrier, causing motorists to seek alternative routes through residential areas. An understanding of these relationships is critical to solving and even preventing transportation related problems such as congestion, higher energy consumption, reduced air quality, threats to public health and safety, and decreased access to services and employment.

Debate on the relationship between transportation and land use typically hinges on whether the transportation network should be planned to accommodate anticipated land uses and growth, or the transportation network should evolve organically to accommodate traffic generated by the location of land uses and subsequent growth patterns. Ideally, transportation networks should be planned to anticipate and accommodate future needs. However, funding for costly transportation infrastructure is limited, particularly at the local level, with resources focused on alleviating immediate problems such as congestion, road maintenance, and safety issues caused by increased traffic volume.

As the dominant mode of travel in the United States since the Second World War, accommodation of the automobile has been a significant factor in land use development. Residential areas have evolved from walkable neighborhoods to subdivisions focused on optimum vehicular access. In recent years, public concern about issues such as traffic congestion, energy conservation, and air quality have resulted in a broadening of transportation planning to focus on the full range of transportation options.

While roads comprise the majority of most transportation systems, they are not the only viable component. Effective transportation systems are built upon a broad, multi-modal network of options that include rail, air, shipping, public transit, and pedestrian and bicycle systems. In general, a transportation system can be defined as any means used to move people and/or products. The Transportation Element provides an analysis of transportation systems serving Kershaw County including existing roads, planned or proposed major road improvements and new road construction, existing and proposed transit projects, and proposed and existing pedestrian and bicycle facilities and projects.

A. ROAD NETWORK

According to the *2017-2022 South Carolina Statewide Transportation Improvement Program (STIP)*, projected demand for travel in the State will continue to grow due to economic growth, as well as increases in the number of resident drivers and driving activity. While travel volume is generally greatest on the Interstates, Federal and State highways and many local roads have

also experienced the traffic congestion and road wear associated with increased motor vehicle travel. An examination of the local road network will enable Kershaw County to work with regional partners to plan for transportation needs for the coming decade, particularly as they relate to future land use.

1. Local Road Funding

The State of South Carolina launched its "C Program" in 1946 for the purpose of paving dirt farm-to-market roads in the State system. Program funds, known as C-Funds, are derived from a 2.66 cent per gallon user tax on gasoline sales that is deposited in the County Transportation Fund and allocated to the counties. As part of the program, each county has a *County Transportation Committee (CTC)* with members appointed by the county legislative delegation. The Committee is responsible for the formation of a county transportation plan, and is empowered with the authority to select and approve projects to be funded utilizing C-Funds. The CTC may choose to administer its own program or may request that the South Carolina Department of Transportation (SCDOT) administer the program. Kershaw is one of 19 counties in the State that administers its own program. The seven member Kershaw County Transportation Committee is appointed by the County Legislative Delegation. The CTC reviews all C-Fund projects, including those that may be submitted by the County's municipalities.

C-Funds may be used for construction, improvements, or maintenance on the State highway system; local paving or improvements to county roads; street and traffic signs; and other road and bridge projects. Resurfacing, sidewalk construction, and drainage improvements may also be accomplished with C-Funds. By law, counties must spend at least 25 percent of C-Fund allocations on construction, improvements, and maintenance related to the state highway system, with the remaining 75 percent available for local transportation system projects. The FY 2016-2017 C-Fund apportionment for Kershaw County was $1,473,600 *(SCDOT, May 2017)*.

By Ordinance, Kershaw County assesses an annual road maintenance fee of $35 per vehicle, paid at the time vehicle taxes are due. Road maintenance fees are used for road maintenance, paving and repaving projects. The Ordinance also requires that a percentage of collected fees be allocated to municipalities that have road maintenance programs. As the only municipality in Kershaw County with a road maintenance program, Camden receives a percentage based on fees collected for vehicles within the City. In FY 2015-16, Kershaw County received $1.8 million in road maintenance fees, with $147,810 allocated to Camden for vehicle fees collected in the City.

2. Road Naming and Addressing

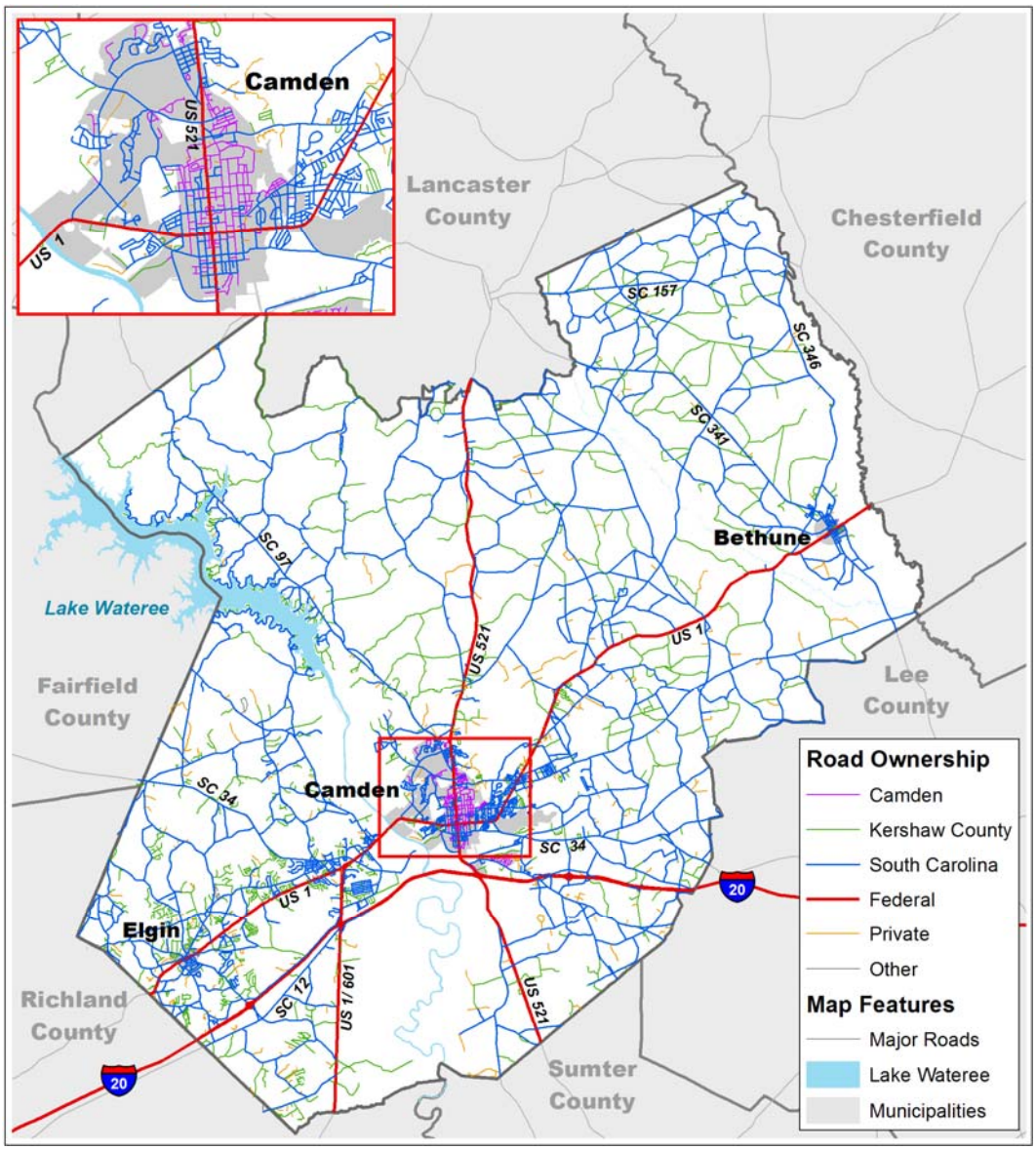
The Kershaw County E-911 Addressing Office administers the requirements for the assignment of addresses countywide, road naming, and renaming for County roads per the requirements of the County's *E-911 Ordinance*. Road naming or renaming requests from developers or interested parties in the City of Camden must also be submitted to the City of Camden Planning Commission for approval. In Kershaw County and its municipalities, addresses must be assigned

and approved by the Addressing Office before final plat approval can be granted for new developments. Address assignments are coordinated with the County's E-911 database to maintain the best possible dispatching of emergency services to the community.

3. Road Network

There are nearly 1,678 miles of roads within Kershaw County. The County owns and maintains 464 of these road miles. The State of South Carolina owns and maintains 944 miles of roads in the County and also maintains the 129.5 miles of federally owned roads in the County. The City of Camden owns and maintains 36.3 miles of road. The remainder of roads in the County are privately owned and maintained. Map 8-1 illustrates road ownership in Kershaw County.

Map 8-1. County Road Ownership, 2017



Source: Kershaw County Information Services Department, May 2017

Kershaw County has 22 miles of direct frontage on Interstate 20, with four interchanges. Access to I-95 is only 50 miles to the east in Florence, while I-77 and I-26 are located approximately 25 and 45 miles westward in Columbia, respectively. Three four-lane, U.S. highways traverse the County. U.S. Highway 1 has long provided an east-west link for Bethune, Camden, and the Lugoff-Elgin corridor. The U.S. Highway 601 and Highway 521 corridors provide vital north-south access through the County.

4. Road Paving

Maintaining dirt roads can be costly, while the return on investment for paving can take a number of years. However, the paving of dirt roads provides many benefits to residents as well as local governments. Paving seals the road surface from rainfall, preventing erosion and protecting the base and sub-grade materials. It also eliminates dust, makes vehicular travel much smoother, and can accommodate a wide range of vehicles such as tractor-trailers. Vehicles cost more to operate on gravel surfaces than on paved surfaces. The greater rolling resistance and less traction increase fuel consumption and the surface roughness contributes to additional tire wear and maintenance and repair expenses. The dust from unpaved roads causes extra engine wear, oil consumption, and maintenance costs. In general, unpaved roads are less safe than paved roads, with dust in dry weather contributing to poor air quality and visibility and wet conditions resulting in slippery, muddy road surfaces.

The life of a road, regardless of the surface, is affected by the number of vehicles and the weight of the vehicles using it. Generally, the more vehicles using a road, the faster it will deteriorate. For unpaved roads, heavy use can result in potholes, pronounced ruts, and washboarding that require more frequent road maintenance including scraping, and resurfacing.

There are currently 491 miles of unpaved roads in Kershaw County, representing 29% of the County's total road miles. Kershaw County owns and maintains 390 miles of these unpaved roads that comprise 84% of the road miles owned and maintained by the County. Only 5.9 miles of unpaved roads are owned and maintained by the City of Camden. Nearly 84 miles of unpaved roads in the County are private roads and 10.3 miles are owned by the State.

The County does not accept unpaved roads into its system. Although allowed in new developments, private unpaved roads must be constructed to accommodate emergency vehicle traffic and must be privately maintained. While the County does not have specific guidelines or procedures in place to prioritize road paving, all road paving requests must be submitted to the County Transportation Committee for approval and funding. The City of Camden's paving fund is primarily funded by the annual road maintenance fee and is used for transportation projects, including road maintenance, paving, sidewalks, and crosswalks.

B. FUNCTIONAL ROAD CLASSIFICATION

Streets and roads serve two primary functions – to provide mobility and facilitate access to land. Optimally, the transportation network balances these two functions. On higher capacity roads such as interstates, mobility is the primary function, while the primary function of local roads is to provide residential access. Between these two extremes, the level of mobility and access to land vary depending on the function of the network.

The Federal Highway Administration (FHWA) defines functional classification as the process by which streets and highways are grouped according to the character of service they are intended to provide. Because most travel involves movement through a network of roads, it is necessary to determine how travel can be channelized within the road network in a logical and efficient manner. Functional classification defines the nature of the channelization process by identifying the role of any particular road in serving the flow of trips through a highway network. Transportation planners and engineers classify roads based on FHWA and State criteria that consider the type of road and traffic volume. Land use changes, road widening or narrowing, and development can change the classification of a road or road segment over time. Streets and highways are grouped in four categories – freeways, arterials, collectors, and local roads. The *Functional Classification Map* for Kershaw County roads is shown in Map 8-2.

Table 8-1. Functional Road Classifications

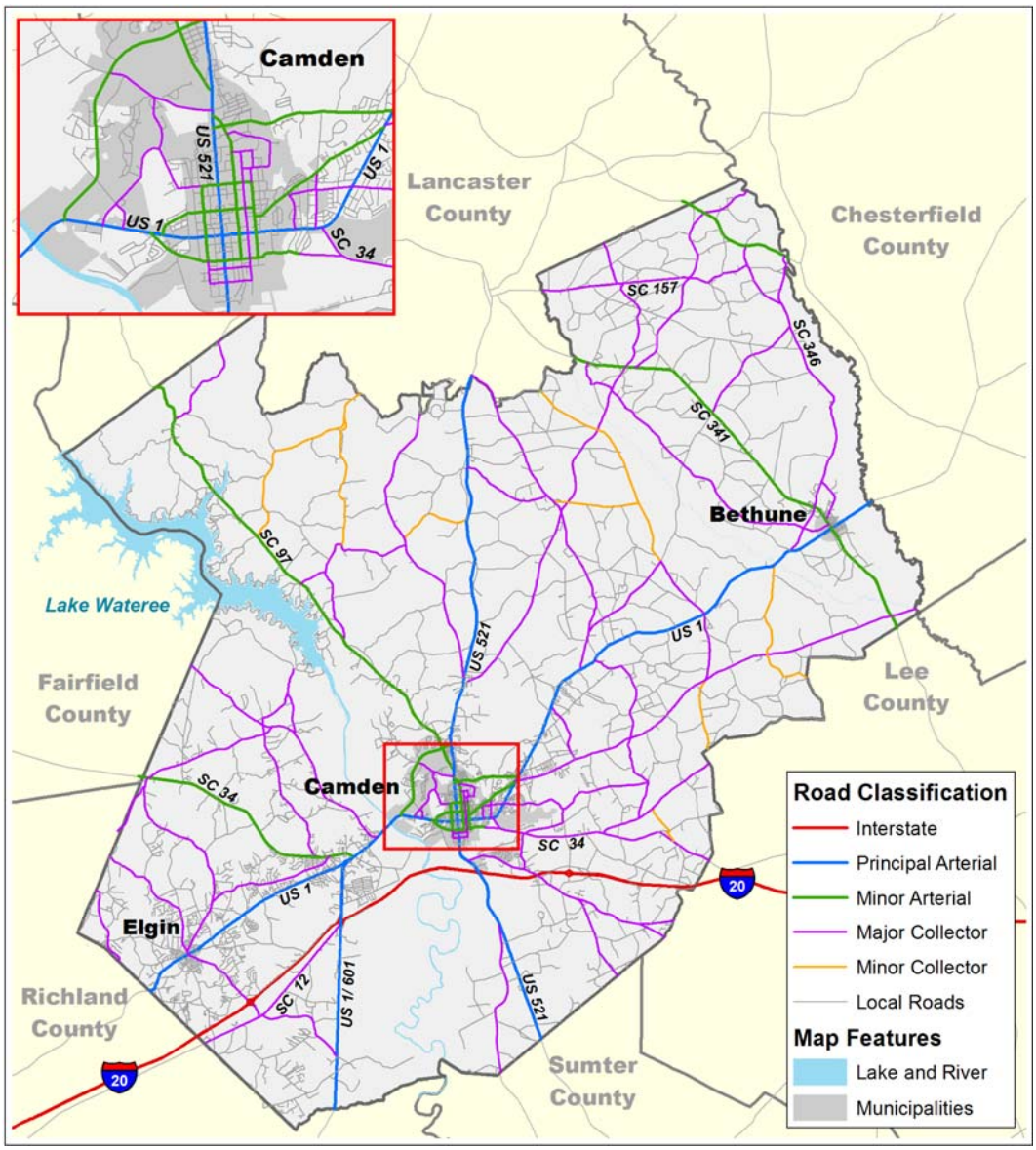
Classification	Functional Purpose
Freeways (Interstates)	▪ Multi-lane divided roadways with full control of vehicular access ▪ Operate under the purest form of uninterrupted flow, with no fixed elements such as traffic signals to interrupt the traffic flow
Arterials	▪ Provide the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.
Principal Arterials	▪ Connected network of continuous routes that serve corridor movements with trip length and travel density characteristics indicating substantial statewide or interstate travel ▪ Serve high percentage of area population, providing integrated network without stub connections, except where dictated by unusual geographic or traffic flow conditions, such as existing road that has been divided by a manmade lake or interstate highway
Minor Arterials	▪ Form a network linking cities and larger towns as part of an integrated network providing interstate and intercounty service ▪ Include all arterials not classified as principal and constitute routes designed for relatively high overall travel speeds, with minimum interference to through movement ▪ Classification places more emphasis on land access and offers a lower level of traffic mobility in more urban areas
Collectors	▪ Provide less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials ▪ Generally serve travel between counties rather than being of statewide importance ▪ Constitute routes on which, regardless of traffic volume, predominant travel distances are shorter than on arterial routes with more moderate speeds on average ▪ Provide rural service to larger towns not directly served by higher systems and to other traffic generators of county importance such as schools, parks, and major industries – linking these places with nearby towns or cities, or with routes of higher classification

Table 8-1. Functional Road Classifications, *Continued*

Classification	Functional Purpose
Collectors	▪ Principal collectors serve the more important travel corridors within a county ▪ Urban collector street system provides both land access and traffic circulation within residential neighborhoods, commercial, and industrial areas ▪ May penetrate neighborhoods, distributing trips from arterial roads and collecting traffic from local streets
Local Roads	▪ Primarily provide access to adjacent land and road systems of higher classification for travel over relatively short distances as compared to collectors ▪ Comprises all facilities not assigned a higher classification and offers lowest mobility level

Source: Federal Highway Administration, 2017

Map 8-2. Functional Road Classifications, 2017



Source: SCDOT, May 2017

Principal County arterials include U.S. Highways 1, 521, and 601. Minor arterials include S.C. Highways 34, 97 and 341, as well as Dicey Ford Road, Springdale Drive, and Campbell, Chestnut, Haile, Laurens, Lyttleton, Mill, and York Streets in the City of Camden.

C. TRAFFIC COUNTS

The most recent SCDOT traffic counts for the most traveled road segments in Kershaw County are listed in Table 8-2. The counts represent estimated 24-hour, two-way annual average daily traffic (AADT) and reflect seasonal and daily adjustments. Segments of Interstate 20 are the most traveled routes in the County, with AADT counts that range from 28,900 to 46,900. Traffic counts on segments of U.S. Highway 1 were also comparatively high, ranging from 11,100 to 27,800 on the Highway's busiest segments. Segments of U.S. Highways 601 and 521 and a section of Springdale Drive also posted high AADTs in 2015.

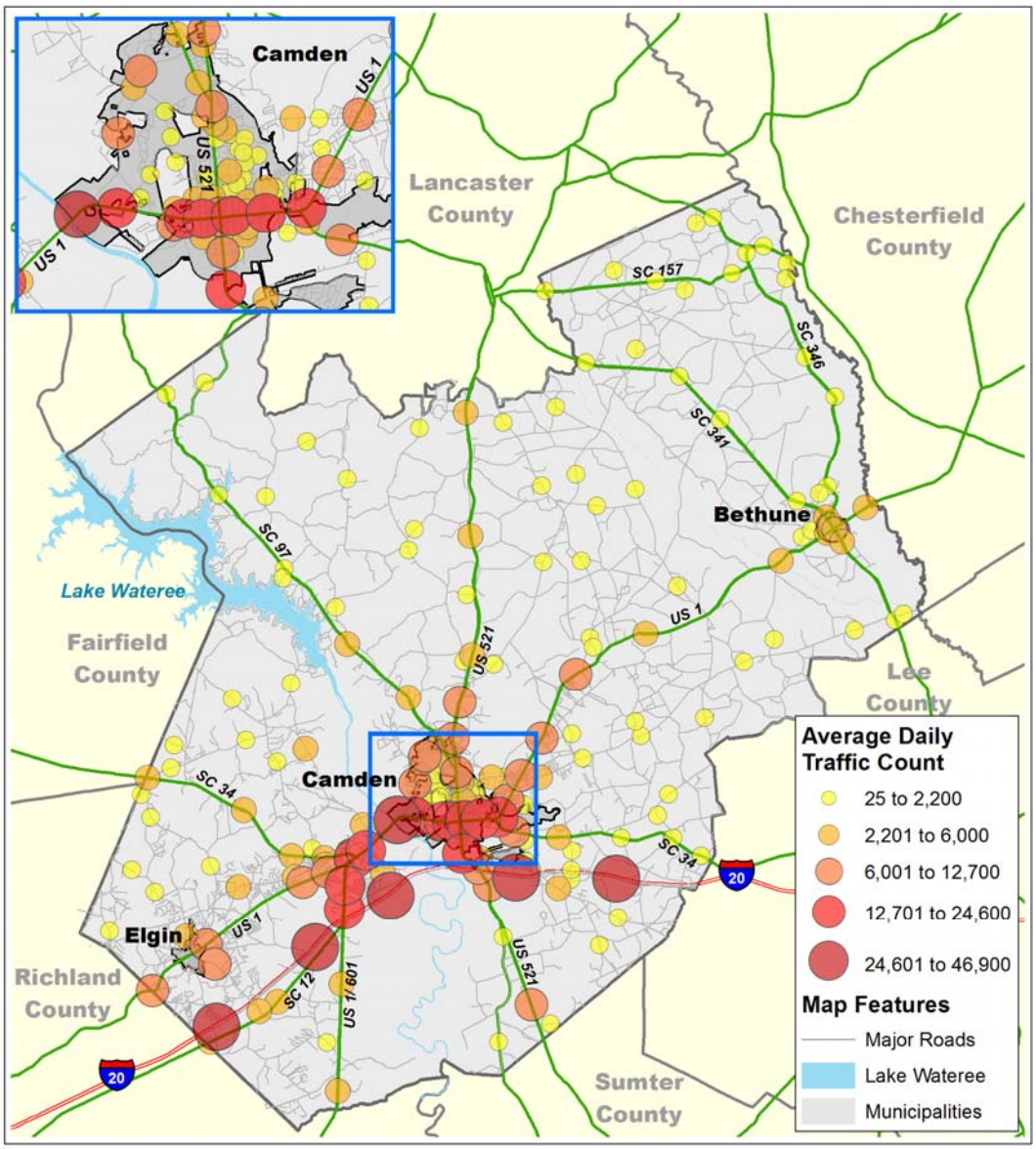
Table 8-2. Kershaw County Road Segments with Highest Average Daily Traffic Count (AADT)

Route Number	Station Number	Route Location	Jurisdiction	2006 AADT	2011 AADT	2015 AADT
I-20	2053	Spears Creek Church Road (Richland County) to White Pond Road	Kershaw	44,000	43,500	46,900
	2055	White Pond Road to U.S. Hwy. 601 S	Kershaw	40,700	39,800	43,700
	2056	U.S. Hwy 601 S to U.S. Hwy 521	Kershaw	35,000	34,000	37,300
	2058	U.S. Hwy 521 to Dr. Humphries Road	Kershaw	27,800	27,000	30,000
	2061	Dr. Humphries Road to S-31 (Lee County)	Kershaw	26,800	26,000	28,900
U.S. Hwy 1	113	Longtown Road to Springdale Drive	Camden	26,200	28,000	27,800
	110	S.C. Hwy 34 , S-38 to Longtown Road	Camden	23,400	23,900	24,600
	109	U.S. Hwy 601 to S.C. Hwy 34, S-38	Camden	22,200	22,100	23,800
	115	Springdale Drive to S-45	Camden	22,100	23,500	22,600
	121	U.S. Hwy 521 to Mill Street	Camden	17,700	18,600	17,800
	117	S-45 to Wylie Street	Camden	16,300	19,300	17,100
	123	Mill Street to S.C. Hwy 34	Camden	17,500	17,200	16,200
	119	Wylie Street to U.S. Hwy 521	Camden	16,800	20,400	15,100
	120	S.C. Hwy 34 to Mcrae Road	Camden	---	14,600	14,000
	122	Mcrae Road to Haile Street	Camden	13,400	13,500	12,500
	101	Richland County Line to Church Street	Kershaw	11,100	10,800	12,000
	103	Church Street to Whitehead Road	Kershaw	11,600	11,600	11,600
	107	Richardson Blvd. to U.S. Hwy 601	Camden	11,100	11,800	11,100
U.S. Hwy 601	163	I-20 to Medfield Road	Camden	17,000	17,200	16,900
	165	Medfield Road to U.S. Hwy 1	Camden	15,000	14,900	16,300
U.S. Hwy 521	141	Black River Road to Bull Street	Camden	14,400	14,700	14,100
	139	I-20 to Black River Road	Camden	13,800	13,300	12,700
	143	Bull Street to York Street	Camden	10,700	10,100	10,100
Springdale Dr	357	U.S. Hwy 1 to Knights Hill Road	Camden	9,500	9,400	10,000

Source: SCDOT, Average Daily Traffic Counts for Kershaw County, 2015

Map 8-3 illustrates the location of the County's busiest roads, with most located in the Camden area.

Map 8-3. Average Daily Traffic Counts, 2015



Source: SCDOT, Average Daily Traffic Counts for Kershaw County, 2015

D. ROADWAY SAFETY

Traffic collisions are responsible for billions of dollars in economic losses in South Carolina each year in the form of property damage, medical costs, and lost productivity. Data compiled by the Office of Highway Safety of the S.C. Department of Public Safety (SCDPS) indicates a traffic crash occurs in the State every 4.4 minutes, with an injury due to a traffic crash occurring every

15.4 minutes. Every 11.6 hours one or more persons die in South Carolina due to injuries sustained in a traffic crash *(2014 SC Traffic Collision Fact Book, SCDPS)*.

There are 62,400 registered vehicles and 50,984 licensed drivers in Kershaw County *(SC Department of Motor Vehicles, December 2015)*. Among South Carolina's 46 counties, Kershaw County ranked 28th highest in number of traffic collisions and in collisions resulting in injury, and 16th highest in fatalities caused by traffic accidents in 2014 *(2014 SC Traffic Collision Fact Book, SCDPS)*. While less than one percent of crashes resulted in fatalities, injuries were reported in nearly half (48.2%) of collisions in the County.

Collisions on secondary routes accounted for nearly one-third (31.4%) of all reported collisions statewide (Table 8-3). This trend is mirrored in Kershaw County, where 34.5% of all crashes occurred on secondary routes. Only 12 persons were killed as a result of traffic collisions in the County in 2014 – six on I-20, four on secondary roads, one on a U.S. primary road and one on a S.C. primary road.

Table 8-3. Collisions by Route Type, 2014

	Collision Type						Persons	
	Fatal		Injury		Total Collisions			
Road Type	**#**	**%**	**#**	**#**	**%**	**#**	**Killed**	**Injured**
Kershaw County								
Interstate	4	*40.0%*	47	*11.7%*	185	*14.6%*	6	74
U.S. Primary	1	*10.0%*	150	*37.4%*	495	*39.2%*	1	231
S.C. Primary	1	*10.0%*	29	*7.2%*	87	*6.9%*	1	47
Secondary	4	*40.0%*	151	*37.7%*	436	*34.5%*	4	222
County	0	*0.0%*	24	*6.0%*	61	*4.8%*	0	35
Totals	**10**	***100.0%***	**401**	***100.0%***	**1,264**	***100.0%***	**12**	**609**
South Carolina								
Interstate	96	*12.7%*	2,627	*7.7%*	12,374	*10.4%*	117	4,125
U.S. Primary	182	*24.1%*	9,490	*27.9%*	32,186	*27.0%*	199	15,224
S.C. Primary	168	*22.2%*	7,960	*23.4%*	26,448	*22.2%*	174	12,587
Secondary	271	*35.8%*	11,471	*33.7%*	37,382	*31.4%*	292	17,608
County	39	*5.2%*	2,514	*7.4%*	10,783	*9.0%*	41	3,485
Totals	**756**	***100.0%***	**34,062**	***100.0%***	**119,173**	***100.0%***	**823**	**53,029**

Source: SC Department of Public Safety, South Carolina Traffic Collision Fact Book, 2014

Safety is a serious concern for cyclists on roadways. South Carolina ranks among the top five nationwide for the highest cyclist fatality rate at 21% (*Alliance for Biking and Walking, 2016 Benchmarking Report*). There were 43 traffic fatalities in South Carolina related to cyclists from 2010 to 2013, comprising 2% of all traffic fatalities statewide. While prevention of accidents while cycling depends largely on individual safety practices, local governments can incorporate a number of measures that will help to keep cyclists safe. The development of bicycle paths and trails that are separate from roadways, as well as the provision of protected bicycle lanes on roadways, help to protect cyclists from unsafe interactions with motor vehicles.

Initiatives such as road diets, which balance street space among all modes of travel including vehicles, pedestrians, cyclists and transit, can improve mobility and access and reduce crashes and injuries (*U.S. Department of Transportation, Safer People, Safer Streets, September 2014*). Road diets typically convert existing road four-lane road segments to three-lane segments (two through lanes and a turn lane), allowing the remaining space to be allocated to other uses such as bike lanes and sidewalks. The City of Camden embarked on a road diet project in 2011 that, when completed, will reduce travel lanes on a section of Broad Street between York and Dekalb streets from four 11-foot lanes to two 12-foot lanes with parking on both sides of the street. Sidewalk widths will be expanded and medians provided in some locations, while streetscape and landscape design will be incorporated to encourage pedestrian and street-level retail activity. Funding for the road diet project has not been secured to date.

An associated project, the Camden Truck Route, will provide improvements to sections of Ehrenclou Drive, York Street, and Springdale Drive that will reduce delays, improve safety and encourage trucks to use the improved route instead of traveling through downtown Camden via Broad Street. Improvements include adding a 15-foot, center two-way turn lane, increased lane widths, sidewalks, bike lanes, and curb and gutter. Completion of the Truck Route is necessary before work on the City's road diet project can begin. As of May 2017, two sections of the truck route have been completed, with the third and final section underway.

E. COMMUTING PATTERNS

A lower percentage of Kershaw County residents both live and work in their county than in the State and nation. More than half of Kershaw County resident workers aged 16 and older (53.3%) are employed in Kershaw County, while nearly 46% of County workers travel outside of the County to work (Table 8-4). The remaining 1% travel outside the state for employment. By comparison, more than 71% of workers statewide and 72% of workers nationwide are employed in their county of residence. Nearly 42% of workers living in the City of Camden work within the City, and 64% of City residents work within Kershaw County.

When compared with the percentages statewide and nationally at 28% and 27%, respectively, a smaller percentage of Kershaw County residents have relatively short commutes of less than 15 minutes at less than 23%. Mean travel time to work for County workers is 28.2 minutes – higher than for workers statewide at 23.8 minutes and throughout the nation at 25.7 minutes. While mean travel time was shorter for City of Camden residents at 24.6 minutes, 12.6% of City residents travel an hour or more to work each day. This segment of City workers with longer commutes is larger than the percentage both countywide and nationwide at 8.3% and more than double the statewide percentage of 5.5%. However, commute times are longer for Bethune and Elgin residents at 34.8 minutes and 29.4 minutes, respectively.

Personal vehicles are the primary travel mode for most Kershaw County residents. Less than 1% of County workers travel to work on public transportation or bike to work and less than 3% walk to work. Among workers living in Kershaw County, 84% drive solo to work, while 10.2%

participate in carpools. Only 2.9% of County residents in the workforce work at home, which is low compared to the statewide percentage of 3.6% and the national rate of 4.4%. Limited local access to public transportation contributes to the low overall transit usage by County workers.

Table 8-4. Journey to Work, 2014

Workers 16 and Older	Town of Bethune	City of Camden	Town of Elgin	Kershaw County	South Carolina	United States
Place of Work						
Worked in Place of Residence*	13.7%	41.5%	9.8%	8.2%	16.2%	31.4%
Worked in County of Residence	54.0%	64.0%	26.4%	53.3%	71.1%	72.4%
Worked Outside County of Residence	40.3%	35.5%	73.6%	45.5%	23.7%	23.8%
Worked Outside State of Residence	5.6%	0.5%	0.0%	1.2%	5.2%	3.8%
Means of Transport to Work						
Car, Truck or Van – Drove Alone	95.2%	79.2%	96.1%	84.0%	82.7%	76.4%
Car, Truck or Van – Carpooled	88.7%	11.0%	80.4%	10.2%	9.3%	9.6%
Public Transportation	6.5%	0.4%	15.7%	0.2%	0.6%	5.1%
Walked	0.0%	1.7%	0.1%	1.1%	2.1%	2.8%
Bicycle	4.0%	0.0%	0.4%	0.5%	0.3%	0.6%
Other Means - Taxi, Motorcycle, etc.	0.0%	1.9%	0.0%	1.0%	1.3%	1.2%
Worked at Home	0.8%	5.7%	0.8%	2.9%	3.6%	4.4%
Travel Time to Work						
14 minutes or less	19.3%	38.8%	15.7%	22.8%	28.0%	27.4%
15 - 29 minutes	21.8%	24.8%	35.1%	31.8%	40.2%	36.5%
30 to 59 minutes	49.2%	23.7%	42.1%	37.1%	26.6%	27.9%
60 or more minutes	9.7%	12.6%	7.1%	8.3%	5.5%	8.3%
Mean Travel Time to Work (minutes)	**34.8**	**24.6**	**29.4**	**28.2**	**23.8**	**25.7**

* For those living in a place (city or town)

Source: U.S. Census Bureau, 2010-2014 American Community Survey

Geographic data on worker commuting patterns is provided in Table 8-5. More than half of the County's workforce lives and works in the County. The statewide average for residents who live and work in the same county is 71%. However, only 1% of Kershaw County residents work outside the State, compared to 5% of all South Carolinians. For the more than 12,590 Kershaw County residents who travel outside the County for work, more than two-thirds commute to Richland County employers, followed by workers commuting to Lexington, Lancaster, and Sumter Counties. These outgoing commuters offer a potential labor pool for new and expanding industries and businesses as additional or better job opportunities are created closer to home.

More than 5,340 workers from surrounding counties travel to employers in Kershaw County. Richland County residents lead the influx of in-commuters, followed by workers from Lee, Sumter, Lancaster, and Darlington Counties. Table 8-5 lists the county of origin for workers commuting into Kershaw, as well as the destination of local commuters.

Table 8-5. Top 10 Counties - Workers Commuting into/from Kershaw County

Commuters into County		Commuters out of County	
County of Residence	**Commuters**	**County of Employment**	**Commuters**
Kershaw County	13,099	Kershaw County	13,099
Richland County	1,484	Richland County	8,594
Lee County	867	Lexington County	971
Sumter County	724	Lancaster County	884
Lancaster County	558	Sumter County	703
Darlington County	443	Chesterfield County	234
Lexington County	291	Darlington County	212
Florence County	257	Lee County	182
Fairfield County	245	Fairfield County	125
Chesterfield County	173	Florence County	122
Total	**18,443**		**25,690**

Source: U.S. Census Bureau, 2009-2013 American Community Survey

Estimates provided by the US Census Bureau reveal that the population of Kershaw County decreases by almost 10% during the daytime due to workers commuting from the County to neighboring areas. Similarly, county populations statewide collectively decrease by 0.8% during the daytime. These trends are in sharp contrast to the City of Camden, where the population increases by 60% due to an influx of workers from neighboring communities (Table 8-6).

Table 8-6. Daytime Population, 2014

Employment-Residence Ratio Factor	City of Camden	Kershaw County	South Carolina
Total resident population	6,931	62,342	4,727,273
Total workers working in area	7,087	19,372	1,986,242
Total workers living in area	2,927	25,474	2,022,019
Estimated daytime population	11,091	56,240	4,691,496
Daytime population change due to commuting	4,160	-6,102	-35,777
% Daytime population change due to commuting	*60.0%*	*-9.8%*	*-0.8%*
Workers who lived and worked in same area	4,103	13,575	1,438,243
% Workers who lived and worked in same area	*140.2%*	*53.3%*	*71.1%*

Source: U.S. Census Bureau, 2010-2014 American Community Survey

F. TRANSPORTATION PLANNING

Planning for sound infrastructure is also a primary goal of the *South Carolina Priority Investment Act of 2007*. The *Priority Investment Act* amends *Section 6-29-1130* of the *South Carolina Code of Laws* and requires that local government comprehensive plans include a Transportation Element. Before the Act, transportation issues were typically addressed in the Community Facilities Element. The Act requires that the Transportation Element be developed in coordination with the Land Use Element to ensure transportation efficiency for existing and planned development. The Act also requires comprehensive plans to include a Priority

Investment Element, which must include an analysis of likely Federal, State and local funds available for public infrastructure and facilities, including transportation systems. The Priority Investment Element must also recommend projects for expenditure of these funds over the next ten years, with recommendations coordinated with adjacent and relevant jurisdictions and agencies.

1. Statewide Transportation Planning

The *Department of Transportation Reform Bill* (*Act 114*) was signed into State law in June 2007. *Act 114* is intended to encourage sound infrastructure investment decisions made within the context of the statewide planning process. Specifically, *Act 114* requires SCDOT to establish a priority list of projects to be undertaken through the *Statewide Transportation Improvement Program* (STIP) and in consultation with metropolitan planning organizations using the following criteria:

1. Financial viability including a life cycle analysis of estimated maintenance and repair costs over the expected life of the project;
2. Public safety;
3. Potential for economic development;
4. Traffic volume and congestion;
5. Truck traffic;
6. Pavement quality index;
7. Environmental impact;
8. Alternative transportation solutions; and
9. Consistency with local land use plans.

In recent years, the State of South Carolina and SCDOT have demonstrated their commitment to meeting the on-going challenge of providing better and safer accommodations for people who choose walking or biking instead of using motor vehicles to reach their destinations or for recreation. In February 2003, the SCDOT Commission approved a resolution affirming that bicycling and walking accommodations should be a routine part of the Department's planning, design, construction and operating activities, and will be included in the everyday operations of its transportation system.

2. Regional Transportation Planning

Transportation planning for the non-urbanized area of Kershaw County is conducted by the ***Santee Lynches Regional Council of Governments*** (SLRCOG). However, proximity to the expanding Columbia metropolitan region increasingly impacts the western areas of Kershaw County. 2010 Census data revealed that the urbanized area around the City of Columbia now extends to U.S. Highway 1, including Camden. While the City of Camden opted to remain with SLRCOG for transportation planning, the Elgin area was added to the ***Central Midlands Council of Governments*** (CMCOG) region for transportation planning at that time. Amid the continued pressures of metro growth in the Capital region, the City of Camden and Kershaw County will

likely revisit the benefits of a move to the CMCOG region for transportation planning after the 2020 Census.

The Santee Lynches Regional Council of Governments is responsible for transportation planning in the rural portion of the Santee-Lynches Region, including Clarendon and Lee Counties and the rural portions of Kershaw and Sumter Counties. Transportation planning for the Elgin area in Kershaw County is provided by the Columbia Area Transportation Study (COATS) as the designated Metropolitan Planning Organization (MPO) for the region. In addition to the Elgin area in Kershaw County, the COATS area boundary also includes large portions of Richland and Lexington County and a small portion of Calhoun County.

Transportation planning efforts for the SLRCOG and CMCOG were carried out during Fiscal Years 2013 and 2014 under the guidance of the Federal *Moving Ahead for Progress for the 21st Century*, or MAP-21. In 2016, the *Fixing America's Surface Transportation Act* (FAST) was signed into law, providing a five-year funding program through 2022. The FAST Act replaces MAP-21 for future federal-aid transportation planning and projects.

MAP-21 included provisions to make Federal surface transportation planning more streamlined, performance-based, and multimodal, and to address challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing traffic congestion, improving system efficiency and freight movement, protecting the environment, and reducing delays in project delivery. The FAST Act builds on the changes initiated under MAP-21 by improving mobility on America's highways, creating jobs and supporting economic growth, and accelerating project delivery and promoting innovation.

Under the FAST Act, States are required to establish performance targets that reflect each of the performance measures established by the U.S. Department of Transportation (USDOT). FAST provides performance measures under eight national goal areas including safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, reduced project delivery delays, and public transit infrastructure condition.

The primary responsibilities of all designated transportation planning agencies are to: 1) develop a *Long Range Transportation Plan* (LRTP), which is, at a minimum, a 25-year transportation vision for the metropolitan area; 2) develop a *Transportation Improvement Program* (TIP), which is the agreed-upon list of specific projects for which federal funds are anticipated; and 3) develop a *Unified Planning Work Program* (UPWP), which identifies in a single document the annual transportation planning activities that are to be undertaken in support of the goals, objectives, and actions established in the Long-Range Transportation Plan.

a. Santee Lynches Regional Transportation Planning

The Santee-Lynches Regional COG is responsible for the development of a multi-modal *Long Range Transportation Plan* (LRTP) for the non-urbanized portions of the region. The LRTP serves as a guide for the investment of local, state and federal resources and serves as a component of the South Carolina Statewide Transportation Improvement Program (STIP). The LRTP is updated every five years. The 2040 LRTP was adopted in June 2014 and most recently revised in April 2017.

Development, rating and ranking of transportation projects in the region is undertaken through a process that involves multiple agencies, as well as key stakeholders and the general public. Public outreach includes a variety of small and large group meetings and the use of outreach media including surveys. The Regional Transportation Advisory Committee (RTAC) provides locally-based input and recommendations to the SLRCOG Transportation Committee. The RTAC includes representatives from County and City planning, law enforcement, and economic development; interagency/advocacy groups; the Chamber of Commerce; business and industry; Santee Wateree Regional Transit Agency (SWRTA); Columbia Area Transportation Study (COATS); Sumter Area Transportation Study (SATS); and Shaw Air Force Base. Recommended projects developed through the RTAC review process are rated and ranked in accordance with Act 114 before forwarding to the SLRCOG Transportation Committee for consideration and recommendation to the full COG Board. The SLRCOG Board is the regional policymaking body for the four-county region, and includes representatives from the member counties and major municipalities. The Transportation Committee is comprised of twelve members appointed from the full 29-member SLRCOG Board.

The 2040 LRTP identified a number of transportation improvement projects for which cost estimates and potential funding sources have been determined, including 18 projects in Kershaw County (Table 8-7). All transportation infrastructure projects identified and prioritized in the LRTP, including the projects in Kershaw County, are considered “fiscally constrained” with funding based on allocated Guideshare program funds as well as any local funds that are designated for transportation improvements. The regional LRTP also lists potential projects for which funding cannot yet be identified. While these projects are not officially part of the LRTP, they could be considered if additional funding becomes available. Included in the current listing for Kershaw County are two intersection improvement projects, five system improvement projects, two road widening projects, and eight active transportation (trails, greenways, sidewalks, etc.) projects, as well as transit projects that would add fixed-route service in the Camden area and a SWRTA satellite office in Kershaw County.

Table 8-7. SLRCOG LRTP 2040 Prioritized List of Transportation Improvement Projects

LRTP Rank	Segment/Description	Length (miles)	Purpose and Need
Intersection Improvements			
4	U.S. Hwy. 1 at Springdale Drive	---	Alleviate traffic congestion
5	U.S. Hwy. 1 at Market Street and Little Street	---	Access reconfiguration, add two-way turn land, revise pavement marking on U.S. Hwy. 1
5	U.S. Hwy. 1 at Fair Street	---	Add left turn lanes on US 1
7	U.S. Hwy. 1 and Mill Street	---	Safety improvements
8	U.S. Hwy. 521 and Black River Road	---	Safety improvements
14	U.S. Hwy. 521 and Liberty Hill Road	---	Roundabout
System Improvements			
1	U.S. Hwy. 1 segments from SR-45 to Wateree River; SR-115 to SR-79; and S.C. Hwy. 34 to Academy Drive	5.87	Make corridor uniform with appropriate turn lanes, connect bike lanes along the corridor
2	U.S. Hwy. 1 from S.C. Hwy. 34 to Town of Bethune	18.80	Improve/add shoulders
3	U.S. Hwy. 521 from City of Camden to Lancaster County Line	17.40	Improve/add shoulders
Safety Projects			
1	Pedestrian safety measures at U.S. Hwy. 1 at Jackson Elementary	---	Reduce pedestrian safety concerns at crossing
2	Black River Road from U.S. Hwy. 521 to SR-189	2.75	Improve safe access for vehicles and pedestrians along Black River Road and at intersection of US-521 from Black River Road
Active Transportation Projects			
1	Sidewalk installation on Haile Street from Roberts Street to U.S. Hwy. 1	1.6	Sidewalks with shared land markings/bike lane (2013 Kershaw County Bicycle/ Pedestrian/Greenway Master Plan)
Transit Projects			
1	Right-size SWRTA fleet and replace vehicles at end of useful life	---	
Corridor/Project Feasibility Study Projects			
1	U.S. Hwy. 1 (Wateree River to Woodward Airport)	7.30	US-1 is the most heavily traveled corridor in the SL region; several proposed projects along the corridor are identified in the LRTP
2	I-20 Exit 98 and Black River Road	4.20	Existing transportation network taxed by increased development and traffic flow at I-20 Exit 98; flow of vehicles at I-20 exit ramps is inconsistent; safety concerns on commercial access along the U.S. Hwy. 521 exit corridor
3	Black River Road from U.S. Hwy. 521 to Cleveland School Road	2.00	
6	S.C. Hwy 97 (Camden to Lake Wateree)	8.20	
9	U.S. Hwy. 601 (U.S. Hwy 1 to Richland County line)	7.40	

Source: SLRCOG LRTP, April 2017

The SLRCOG *Transportation Improvement Program* (TIP) is the agreed-upon multi-year list of specific projects for which federal funds are anticipated. Required by federal and state law, the TIP translates recommendations of the Long Range Transportation Plan into a short-term program of prioritized, tangible transportation improvements for the Santee Lynches region. The TIP outlines the planning objectives, priority status, and funding sources for all projects scheduled for construction over a five-year period. Projects included in the TIP must be financially constrained, meaning that the amount of funding programmed must not exceed the amount of funding estimated to be available. The projects proposed by the TIP for each COG or Metropolitan Planning Organization (MPO) are evaluated and incorporated into the Statewide TIP by the SCDOT Commission. The 2017-2022 TIP for the Santee Lynches region was adopted in January 2017. Kershaw County projects included in the TIP are listed in Table 8-8. Project descriptions reflect SCDOT highway system categories: interstate, non-interstate, non-interstate national highway system (NHS), non-NHS primary (U.S. highways and S.C. designated routes), federal aid (FA), and non-FA secondary highways.

Table 8-8. SLRCOG 2017-2022 TIP Kershaw County Projects

Project Description	Budgeted Funds and Status by Fiscal Year
System Upgrade - Guideshare	
Camden Truck Route, Segment 3	▪ $9,250,000 in FY 2017 for construction
Intersection Improvements	
U.S. Hwy. 521 at Century Blvd.	▪ $750,000 in FY 2017 for construction
Pavement Preservation	
Federal Aid (FA) Secondary	▪ $347,000 in FY 2017, 2018, 2019, 2020, 2021 and 2022 for construction
Non-Interstate National Highway System (NHS)	▪ $457,000 in FY2017; $284,000 in 2018; $303,000 in 2019, $355,000 in 2020, $356,000 in 2021, $401,000 in 2022 for construction
Non-NHS Primary	▪ $597,000 in FY 2017, $427,000 in 2018, $456,000 in 2019, $565,000 in 2020, $536,000 in 2021, $604,000 in 2022 for construction
Pavement Rehabilitation	
FA Secondary	▪ $987,000 in FY 2017, 2018, 2019, 2020, 2021 and 2022 for construction
Non-Interstate NHS	▪ $941,000 in FY 2017 for construction
Non-NHS Primary	▪ $701,000 in FY 2017; $501,000 in 2018; $535,000 in 2019; $628,000 in 2020; $629,000 in 2021; $709,000 in 2022 for construction
Bridge Projects	
I-20 east bound and west bound over Wateree Swamp Overflow and Wateree River	▪ $3,549,000 in FY 2018 for planning & engineering
U.S. Hwy. 1 at S.C.L. Railroad	▪ $50,000 in FY 2017 for right-of-way acquisition ▪ $5,880,000 in FY 2020 for construction
U.S. Hwy. 521 over old railroad bed	▪ $50,000 in FY 2018 for right-of-way acquisition ▪ $800,000 in FY 2020 for construction
U.S. Hwy. 521 over Big Pine Tree Creek bridge replacement	▪ $1,578,000 in FY 2017 for planning; $113,000 in FY 2019 for right-of-way acquisition; $7,133,000 in FY 2020 for construction

Table 8-8. SLRCOG 2017-2022 TIP Kershaw County Projects, *Continued*

Project Description	Budgeted Funds and Status by Fiscal Year
Transit	
Kershaw County COA/FTA Vehicle Replacement - enhanced rural senior mobility	▪ $59,000 in FY 2017 for transit vehicle acquisition

Source: SLRCOG 2017-2022 Transportation Improvement Program, 2017

The most recent SLRCOG Rural Planning Work Program for FY 2015-2017 (RPWP) was adopted in August 2015 and describes the various tasks to be performed in Fiscal Years 2015-2016 and 2016-2017 by objective to develop, administer, and carry out associated transportation planning functions. Program areas include general administration, geographic information systems (mapping) support, freight and rail planning, general transportation related projects, public transit, livability initiatives, accessible transportation alternatives, and research. Individual projects listed in the TIP are included under these general program areas, with budgeted funds listed by resource including SCDOT, other State resources, and local allocations. Budget and resources are provided for the entire region rather than specified by individual counties. The total budget for the 2015-2017 RWTP is $106,250, of which $85,000 is expected to be provided by the SCDOT and $21,250 by local match funding.

b. COATS Transportation Planning

As the transportation MPO for the Central Midlands region, the CMCOG is responsible for the development of a multi-modal *Long Range Transportation Plan (LRTP)*. The CMCOG Board serves as a forum for cooperative decision-making on issues of regional significance, including transportation. The transportation planning process is conducted under the oversight of the Transportation Subcommittee, which is an ongoing forum for policy development and adoption related to urban transportation planning, programming and operation. A Technical Committee serves as an advisory group to the Transportation Subcommittee and provides technical expertise related to development of urban transportation plans and programs.

The LRTP is the MPO's primary transportation planning policy document and serves as the comprehensive plan for transportation investment to support the safe and efficient movement of people and goods within the Columbia urbanized area through the plan horizon year of 2040. In accordance with Federal planning regulations, the 2040 LRTP reflects the latest available land use, population and employment, travel and economic activity assumptions. It identifies long range transportation goals and specific long- and short-range investment strategies across all modes of transportation to support meeting those goals. The Plan is fiscally constrained, and supports regional land use and economic development policies and plans.

The LRTP addresses a number of recommended improvements to transportation facilities including bridges, intersections, safety measures, maintenance and resurfacing, signalization, and highways. The current recommended improvements program was developed in 2015. The 2040 LRTP for the Central Midlands region identified three widening projects for road segments

in Kershaw County (Table 8-9). Funding has been identified for one of these projects – the widening of U.S. Highway 1 from Steven Campbell Road to Session Road. This project is ranked 13th among all road widening projects in the region. Two additional road widening projects were included in the LRTP aspirations list for road widening projects indicating that a need for each project has been identified, but funding has not yet been secured. Funding has been secured for three intersection improvement projects in Kershaw County, with rankings of 18, 21 and 31. Seven additional projects were included in the aspirations list for intersection improvement projects. A new SLRCOG 2045 LRTP will be developed in 2018-2019, with anticipated adoption in June 2019.

Table 8-9. COATS 2035 Prioritized LRTP List - Kershaw County Projects

COATS Rank	Route Name	Length (miles)	Purpose and Need
Road Widening			
13	U.S. Hwy. 1 (Steven Campbell Road to Sessions Road)	1.95	Improve traffic flow and safety, widen from 2-lane to 5-lane roadway with paved median, sidewalks and bike lanes
*	U.S. Hwy. 1 (Sessions Road to Watts Hill Road)	1.76	---
*	White Pond Road	2.10	---
Intersection Improvements			
18	*Major route* - Church Street/Sessions Road, *Minor route* – Smyrna Road	---	Traffic signal and/or possible re-design
21	*Major route* - Main Street, *Minor route* – Pine Street	---	Left turn land on U.S. Hwy. 1
31	*Major route* – Blaney Road, *Minor route* – Forest Drive/ Church Street/Dogwood Ave.	---	Traffic signal and/or possible re-design

* On the Aspirations List, funding not secured
Source: CMCOG 2040 LRTP, August 2015

CMCOG completed the *Elgin/Richland Sub-area Plan* in June 2010 for the 37 square mile area. The plan was undertaken to address concerns about rising growth pressures in the study area that have led to delays during peak hours. Modeling of future traffic conditions indicates that the present road system will be inadequate to meet future traffic volume demands. Additionally, while improvement to the functionality of the transportation network is important, preservation and enhancement of the character of the community is also essential. The Plan emphasizes and identifies key connections between transportation facilities and existing and future land uses within the study area, and identifies and analyzes a range of multimodal transportation alternatives and land use strategies for implementation. Guided by input from the community and an advisory group comprised of municipal and county officials, and local business leaders, CMCOG and SCDOT identified three guiding principles – balance transportation improvements, plan for growth, and enhance community identity. The Sub-area Plan includes a number of recommendations that range from near term of two years or less to

long-term with a ten to twenty year horizon. Actions include overlay zoning districts for roadway corridors, intersection improvements, sidewalk additions, and improvements to collector and arterial roads. More specific information on the sub-area plan recommendations can be found on the CMCOG website at: http://www.centralmidlands.org/pdf/ERNE%20Sub-Area%20Plan%20-%20Final%20Report%20JUNE%202010.o.pdf.

The growth pressures of the West Wateree area of Kershaw County impact both transportation and land use. In cooperation with Kershaw County, CMCOG completed the W*est Wateree Transportation Study* in March 2017. The multi-modal transportation plan analyzes existing transportation and land use concerns and conditions and provides recommendations based on best practices, existing plans, and citizen input. The West Wateree study area covers approximately 90 square miles in the southwestern area of Kershaw County, bounded by Richland County to the west and including both the Town of Elgin and the Lugoff community. The Study proposes long and near term road improvements to White Pond Road, U.S. Highway 1, and U.S. Highway 601; construction of a connector road and corresponding intersections between U.S. Highway 601 and U.S. Highway 1; and the extension of Townlee Lane and the addition of two connectors to facilitate economic development opportunities in the area. Full details of the West Wateree Transportation Study can be found on the CMCOG website at: http://centralmidlands.org/wp-content/uploads/WWTP-DRAFT-Final-Report-29MAR17o.pdf.

The *2013-2019 Transportation Improvement Program* for the COATS region was adopted in June 2013 and was most recently revised in September 2015. The TIP is a seven-year program of transportation capital projects accompanied by a seven-year estimate of transit capital and maintenance requirements. Although the TIP is usually approved triennially, the document may be amended throughout the year. As of May 2017, there are no projects in Kershaw County included in the 2013-2019 TIP.

The COATS *Unified Planning Work Program* for FY 2015-2017 (UPWP) was adopted in June 2015 and incorporates all transportation planning and directly supporting comprehensive planning activities in the Columbia Metropolitan Area into a single document. As a mechanism for the coordination of planning efforts by local, state, and regional agencies through the Columbia Area Transportation Study, the UPWP identifies transportation planning activities that are to be undertaken in the COATS study area in support of the goals, objectives, and actions established in the 2035 LRTP. The four transportation goals of mobility, safety, environment, and facilities were identified in the 2035 LRTP. Detailed objectives and action recommendations were also identified for each goal area. The basis of the work program is focused on three broad areas:

- Maintenance of a TIP that identifies projects and/or programs to receive various sources of Federal funds covering highway, transit, and intermodal facilities and programs.
- Maintenance and implementation of the LRTP that identifies priority transportation system deficiencies and feasible/appropriate methods for addressing them in a fiscally constrained environment.

- Recognition of requirements established by the Federal Highway Administration regarding the national planning priorities included in the 2016 FAST Act and National Highway System legislation.

Tasks within the work program are organized into major categories including program administration and support, short-range transportation planning, long-range transportation planning, the TIP, and other activities. The total budget for the 2015-2017 UPWP is $2,584,719.50, of which $2,102,406 is projected to be provided through federal transportation funding programs and $482,313.50 through local matching funds.

G. TRANSPORTATION FUNDING OPPORTUNITIES

Securing funding for needed transportation improvements is a top priority for South Carolina communities. Amid tightening budgets at the local level as state and federal funding dwindles, communities must seek alternative funding resources for much needed transportation projects including road maintenance, paving, bridge repair, transit, sidewalks, greenbelts, connecting trails, and mitigating traffic issues. The following sections discuss options available to local governments in the Palmetto State.

1. SCDOT Transportation Alternative Program

Kershaw County and its municipalities are eligible for transportation enhancement funding under the *Transportation Alternative Program* (TAP), formerly known as the Transportation Enhancement Project Program, administered by SCDOT. TAP projects are federally-funded, community-based projects that provide opportunities for local governments to pursue non-traditional transportation related activities such as pedestrian and bicycle facilities and pedestrian streetscaping projects that might not otherwise be possible.

The TAP grant program provides funding on a reimbursement basis as part of the Federal-aid Highway Program funded through the FAST initiative. Costs are eligible for reimbursement only after a project has been approved by the State Department of Transportation or a Metropolitan Planning Organization and the FHWA division office. Eligible project areas authorized in FAST for the Transportation Alternatives Program and the SCDOT Commission include pedestrian and bicycle facilities and streetscaping projects. Eligible costs include preliminary and final engineering work such as project development, environmental work, cost estimates, construction plans, utility relocations, construction engineering, construction costs, and right-of-way acquisition. TAP funds generally account for 80% of the total project cost, with local governments required to provide a 20% match.

Available SCDOT program funding is provided in two population-based divisions. Urbanized areas with a population of more than 200,000, also known as a Transportation Management Area (TMA), are eligible to compete for a share of nearly $3 million designated for urbanized areas of the State. Areas of the State with a population greater than 5,000 other than urban areas, known as Non-Transportation Management Areas (NTMA), have a designated funding

pool of $1.83 million. The SCDOT has also designated $2.6 million for NTMAs with a population of less than 5,000. Kershaw County and the City of Camden, with populations of 62,342 and 6,931, respectively, are currently eligible in the second category, while the towns of Bethune and Elgin are eligible under the third category.

Projects proposed by governmental bodies located in areas outside of Transportation Management Areas, such as Kershaw County and its municipalities, are considered under the statewide program, with distribution of funds determined by the SCDOT Commission. Such projects are limited to a maximum of $400,000.

2. Penny Sales Tax

Section 4-37-30 of the *South Carolina Code of Laws* empowers counties to levy, by ordinance, a special sales and use tax as a source of revenue for highways, roads, streets, bridges, mass transit systems, greenbelts, and other transportation-related facilities including, but not limited to, drainage relating to highways, roads, streets, bridges, and other transportation-related projects. The tax must not exceed one percent, which equates to an additional penny on every dollar spent, and the tax must be approved by the public through a referendum. A number of South Carolina counties including Aiken, Berkeley, Charleston, Dorchester, Florence, Horry, Newberry, Orangeburg, Richland, Sumter, and York have implemented a penny sales tax to address capital projects and transportation needs. The key advantage to such a tax is that out-of-county workers and residents and tourists who shop in the receiving county also contribute to the tax revenues through their purchases, helping to offset the costs of roads and other facilities.

Under the legislation, counties that implement a one cent sales tax must share the proceeds with their municipalities using a formula based on population, must specify a period of time to collect a set amount of money for the identified projects (not to exceed 25 years or the length of payment for the specified projects), must appoint a commission to consider proposals for funding capital projects, and must formulate the referendum question for public vote. The commission must include three representatives appointed by the county council and three members appointed by the county's municipalities, using population to determine the formula for municipal appointments. In addition to funding transportation facilities, revenue from the one cent tax may also be used for civic, educational, and cultural facilities; water and sewer projects; flood control and storm water projects; and dredging, dewatering, and constructing spoil sites.

Kershaw County voters approved a one percent sales tax in 2016 to pay for school improvements in the Kershaw County School District. The tax will be levied for 15 years to pay for the $129 million bond referendum adopted in tandem with the sales tax. Funds from this tax will not be used for transportation facilities or projects.

3. Exactions

An exaction is a form of land use regulation that requires a developer to donate something for the public good in exchange for the right to develop property. Exactions aid in protecting the community from the costs of providing additional infrastructure associated with growth by sharing the cost with the new residents. Exactions provide a way for jurisdictions to pass a portion of the cost of public facilities on to a developer at the time the development begins, rather than later through the collection of tax revenues or service charges from new residents. Exactions are formal cost-sharing agreements between the developer and the local government to fund the additional community infrastructure needed to serve the new development.

There are several types of exactions that may be used by local governments for transportation facilities. A ***dedication*** requires that a developer donate land and/or facilities for public use. For example, a developer may be required to dedicate land for use as a trail or greenway for the residents of the development and connection to existing or future facilities outside of the development. A ***fee-in-lieu*** requires the developer to pay a fee instead of providing a public facility on-site. For example, the developer can choose to pay a fee rather than dedicate land for an on-site greenway or trail. This type of exaction provides greater flexibility to local governments to place facilities where they are most needed and appropriate. ***Impact fees*** are scheduled charges applied to new development to generate revenue for the construction or expansion of capital facilities located off-site of the new development, but that benefit the contributing development.

The *1999 South Carolina Development Impact Fee Act (SC Code § 6-1-910, et seq.)* allows counties and municipalities to impose by ordinance a requirement for payment of development impact fees by a land developer as a condition of development approval. The Act defines a development impact fee as "a payment of money imposed as a condition of development to pay for a proportionate share of the cost of system improvements needed to serve the people utilizing the improvements." System improvements are capital improvements to public facilities which are designed to provide service to a service area. Public facilities include water, wastewater, solid waste and stormwater services, roads, public safety, street lighting, capital equipment, and parks and recreation. Impact fee amounts must be based on actual improvement costs or reasonable estimates of the costs, as supported by sound engineering studies and generally accepted accounting principles. The process for adopting an impact fee ordinance begins with a resolution by council that directs the planning commission to conduct the necessary studies and recommend an impact fee ordinance developed in accordance with the *Impact Fee Act*. The Act requires detailed calculations to determine impact fees, maximum impact fees, and the developer's proportionate share.

Several court cases have provided guidance in establishing exactions that are reasonable and defendable. First, there must be an "essential nexus," or reasonable connection, between the infrastructure need and the new development *(Nollan v. California Coastal Commission, 1987)*. This extends to the establishment of a reasonable connection between the expenditure of the fee collected and the benefits received by the development. Second, there must be a "rough

proportionality" in both the nature and extent of the exaction and the impact of the proposed development *(Dolan v. Tigard, 2005)*.

H. PUBLIC TRANSPORTATION

Affordable and reliable transportation is a necessity for all residents. However, the lower incomes and limited mobility common among special needs populations can magnify the importance of affordable and reliable transit options to maintain employment, receive support services, and access health care and other needed support programs.

Public transit is provided in a number of ways in South Carolina communities. ***Fixed-route transit service*** utilizes passenger vehicles operating on fixed routes and schedules. ***Route deviation services*** operate as conventional fixed-route bus services that allow buses to deviate from the route alignment to serve destinations within a prescribed distance of the route. Passengers use the service by calling to request a pickup, or by telling the bus operator if they need to be taken off-route. A ***demand response service*** is a transit mode that includes passenger cars, vans, or small buses that operate in response to calls from passengers or their agents to the transit operator, who dispatches a vehicle to pick up the passengers and transport them to their destinations. The vehicles generally do not operate over a fixed route or on a fixed schedule and may be dispatched to pick up several passengers at different pick-up points before taking them to their respective destinations. ***Complementary paratransit services*** are required by the *Americans for Disabilities Act* for individuals with disabilities who are unable to use fixed-route transportation systems. These services must be origin-to-destination (demand response) or on-call demand response (DR) to an accessible fixed route. ***Commuter bus systems*** primarily connect outlying areas with a central city through bus service that operates with at least five miles of continuous closed-door service. Such services usually operate using motor coaches and feature peak scheduling, multi-trip tickets, and multiple stops in outlying areas with limited stops in the central city.

1. SmartRide

The *SmartRide* Commuter-Focused Transit Program is a partnership between SCDOT, the Santee Wateree Regional Transit Authority (SWRTA), the Kershaw County Council on Aging, and local communities, businesses, and commuters seeking a viable alternative to the traditional single-occupant vehicle commute. The Santee-Wateree RTA Camden/Lugoff *SmartRide* service was initiated in 2008. Camden/Lugoff *SmartRide* routes originate in four locations – the United Way/One Stop offices on Dekalb Street, the Camden Post Office at the corner of Dekalb and Broad streets, the Springdale Plaza on Springdale Drive, and the Sunrise Inn on U.S. Highway 601 in Lugoff. The route includes eleven destinations (or stops) at key locations throughout the downtown Columbia area, including the Statehouse, Fontaine Business Center, Palmetto Richland Memorial Hospital, the Central Midlands RTA Transfer Station, and the SCDSS, SCCHEC, SCDOT and SCDNR headquarters. Riders leave the Camden area between 6:00 a.m. and 7:00 a.m. and begin the return trip from the Capitol area stops just after 4:00 p.m. and 5:00 p.m. The fare for the Camden/Lugoff *SmartRide* is $2 per one-way trip or $20 for a weekly pass.

2. Midlands Rideshare

Camden commuters also have access to *Midlands Rideshare* – a web-based program designed to provide a suite of transportation alternatives for residents of the Midlands region, including: 1) Matching prospective riders for car pools; 2) Potential to expand travel options by vanpool based on the number of interested participants; and 3) Providing an option to bike from SWRTA bus stops to individual destinations (buses are equipped with bicycle racks).

Midlands Rideshare is available for use by Camden and Kershaw County residents who regularly travel to destinations in the Midlands, and also by organizations to match co-workers traveling from similar destinations. Users create an online commuting profile to find carpool matches and smart commute options. The program provides matches along a corridor, between origin and destination, or within a set distance from each end of the trip. The service produces maps, directions, and customizable email correspondence templates that assist users in making travel arrangements.

3. Other Transportation Options

In past years, transportation options for Kershaw County residents with specialized needs were also provided by SWRTA, including curb-to-curb ***Demand Response*** transportation to and from medical appointments for individuals with disabilities and special needs. The ***Kershaw County Board of Disabilities and Special Needs*** (BDSN) contracted with SWRTA to provide transportation to the Kershaw County Activity Center for qualified persons with disabilities and special needs. Transportation was also provided to ***Kershaw County Council on Aging*** Senior Center participants in Camden and Bethune. Unfortunately, SWRTA and the non-profit agencies that contracted with them for transportation services had to discontinue these services because they were no longer cost-effective. Although FY 2010-2011 ridership through SWRTA and contracted agencies exceeded 47,200, it dropped to only 10,727 in FY 2014-2015.

The *2017 West Wateree Transportation Study* noted recent efforts to reinstate mobility options for the elderly and persons with disabilities. SWRTA future plans include adding public transit routes in the rural area, installing bus stop signs and shelters, and re-establishing partnerships with agencies to provide affordable transportation services. These plans are dependent on funding availability from the Federal Transit Administration, the SCDOT Office of Public Transit, and local governments.

The ***Assisted Rides Program*** provides transportation to medical appointments, pharmacies, grocery stores, and other places of importance for senior adults (age 60 or older) and for adults aged 21 or older with a disability between the weekday hours of 8:30 a.m. and 5:00 p.m. The free service is coordinated by SLRCOG and provided primarily by volunteers who drive their personal vehicles.

I. BICYCLE AND PEDESTRIAN

Well-designed systems of walkways and trails can provide residents with safe, inexpensive transportation alternatives to access jobs, education, and services. Alternative modes of travel can also help to improve air quality and reduce energy use. According to the 2011-2015 American Community Survey, 260 Kershaw County residents, or only 1% of commuters, reported walking to work, and only 33 reported riding a bicycle to work. Among commuters in the County's municipalities, 1.1% (32 persons) in Camden, four in Bethune, and four in Elgin walked to work. No residents of the County's municipalities reported riding a bicycle to work.

Information provided by SCDHEC lists multiple benefits of cycling or walking to destinations. In addition to reduced (or no) transportation cost, health benefits include a reduced risk of cancer, diabetes, stroke, and heart attack, along with weight loss and control (*Benefits of Alternative Transportation, 2010).* The sedentary lifestyle of Americans is largely attributed to the fact that "walking and cycling have been replaced by automobile travel for all but the shortest distances" *(Journal of the American Medical Association, October 1999).* The U.S. Surgeon General reports that "being physically active is one of the most important steps that people of all ages and abilities can take to improve their health" *(Step it Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities, 2015).* Adults can gain significant health benefits by getting at least 150 minutes of moderate intensity physical activity such as walking or biking each week *(Physical Activity Guidelines for Americans, 2008*).

1. Kershaw County Bicycle, Pedestrian and Greenways Plan

Since 2009, Kershaw County has worked with the City of Camden, the local chapter of South Carolina's *Eat Smart Move More* (ESMMKC), and other partners to promote a healthy lifestyle for local residents. The mission of the nonprofit group is "to coordinate collaborative and sustainable efforts to support healthy eating and active living where Kershaw County residents live, learn, work, and play" with a vision "to have a community in which there are mixed use neighborhoods focused on health, wellness, and sustainable living." In 2012, ESMMKC received a grant from the *Healthy South Carolina Initiative* (HSCI) to develop a ***Bicycle, Pedestrian, and Greenways Plan*** for Kershaw County. The purpose of the HSCI grant program is to support community implementation efforts that work to eliminate health disparities and achieve health equity for all South Carolinians. A key goal of the Plan is to reduce pedestrian and cyclist fatality rates.

The *Kershaw County Bicycle, Pedestrian, and Greenways Plan* combines past planning efforts with new research and public input. The Plan envisions a connected network of routes that provide safe and family-friendly access between neighborhoods and community destinations for all ages and abilities. The Plan includes recommended policies and programs that encourage usage of the bikeway, walkway, and trail network and promote safe bicycling, walking, and driving practices. Specific Plan goals include:

- Create a community network of on- and off-street walkways, bikeways, and trails designed for all ages, abilities, and user groups;
- Capitalize on existing scenic natural resources, including the Wateree River, recreation and historical amenities, and the attractiveness of downtown Camden;
- Improve the safety and comfort of bicycling and walking routes to destinations such as schools, parks, and libraries;
- Ensure that bikeways, walkways, and trails are clean, inviting, and family-friendly;
- Establish a connected network of primary bicycling and walking routes and spur trails that link to community destinations;
- Promote bicycling, walking, and trail usage for both recreation and transportation;
- Improve bicycle and pedestrian access between neighborhoods and outlets for healthy food.

In 2011, Kershaw County was one of five communities in South Carolina to receive a *Balancing Intake and Expenditure* (BITE) grant from *Eat Smart Move More South Carolina* to plan and implement community-based physical activity and nutrition efforts. The Kershaw County BITE project identified bike routes throughout the County and identified areas where *Share the Road* signs and bike racks were needed. The Kershaw County Chapter worked with the S.C. Department of Transportation and participating local governments to install 46 *Share the Road* signs along key bicycle routes throughout the County.

2. <u>Wildwood Lane Active Living and Pedestrian Master Plan</u>

Lugoff was one of 16 communities statewide selected to participate in SCDHEC's three-year South Carolina Prevention and Health Across Systems and Environments (SC PHASE) Pedestrian Master Planning Project. Key elements of the program are equity-based planning, community engagement, and safe pedestrian access to healthy foods. Funding for the Lugoff project was provided by SCDHEC.

The ***Wildwood Lane Active Living and Pedestrian Master Plan*** was completed in April 2017 for an area in the Lugoff community identified as a need in the *Kershaw County Bicycle, Pedestrian and Greenways Plan*. Key goals for the Wildwood Lane project include connecting neighborhoods to parks and schools, improving pedestrian connectivity between local destinations, increasing public awareness of safe places to walk, and identifying near-term capital improvements that will positively impact the walking and biking environment. Specific Plan recommendations include the development of a shared use path that will connect four parks and four schools to nearby residential neighborhoods as well as healthy food options; improvements to intersections and park entrances to create safe pedestrian and bicycle crossings along the shared use path route; and the addition of wayfinding signs to indicate the direction of travel, location of access points and destinations such as parks, schools, and businesses. The Plan incorporates an examination of existing conditions, recommendations for

potential implementation partners, input from stakeholders and the public, applicable design guidelines, and cost estimates. Kershaw County is currently seeking funding for implementation of the Plan recommendations.

3. Sidewalks

Because sidewalks are generally found in more urbanized settings, most of the sidewalks in Kershaw County are within the downtown areas of the municipalities and near schools. However, the Kershaw County *Unified Code of Zoning and Land Development* requires sidewalks, paths, trails, and/or greenways designed to accommodate pedestrian, bicycle, and other non-automotive traffic to be provided in all major residential subdivisions, major group developments, and Planned Development Districts. The Code further requires that such a system of sidewalks, paths, trails, and/or greenways be designed so that every lot or building has access to the system, and that connectivity to nearby schools, businesses, institutions, and other facilities be provided as practicable. While sidewalks are not required in new subdivisions or developments in the City of Camden, the City's *Land Development Regulations* give the Planning Commission the authority to require sidewalks for safety or access to recreational, educational or other facilities.

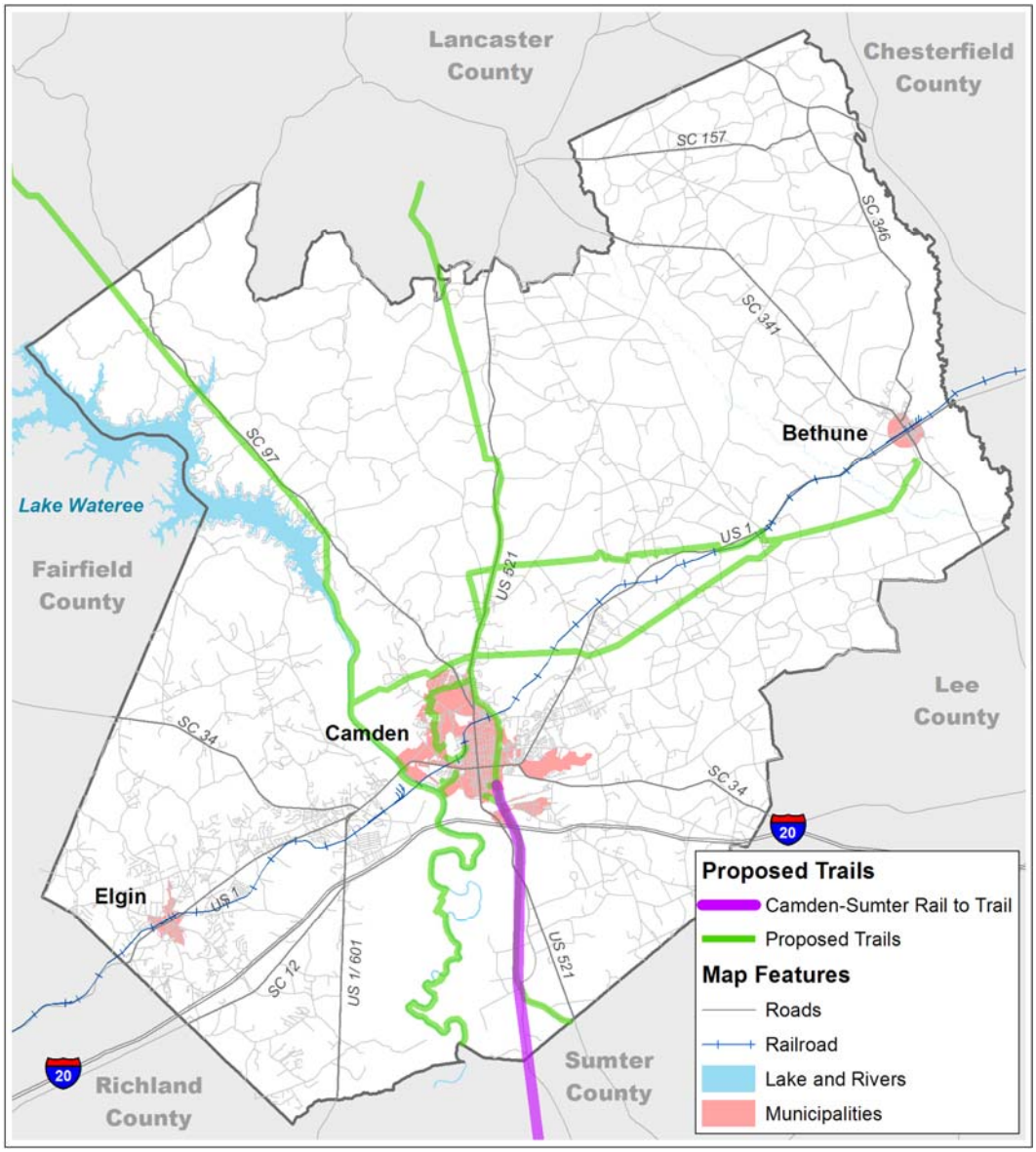
Outside of major subdivisions and group developments and Planned Development Districts and downtown areas, most of the sidewalks in the County do not connect with other residential, commercial, and recreation areas or employment centers. Stakeholder interviews conducted as part of the *Kershaw County Bicycle, Pedestrian and Greenways Plan* indicated that the County's existing sidewalk infrastructure is inadequate. Survey respondents identified a lack of, or deficient or unmaintained connected greenway, sidewalk and bicycle facilities as the top reasons why they do not bike or walk more often. The Plan notes that "the existing sidewalk network is inconsistent and has significant gaps, as well as challenging intersections." The Plan lists a lack of sidewalks and narrow existing sidewalks as constraints to the development of connectivity for pedestrians and recommends infilling deficient or nonexistent sidewalks. An additional 27 miles of sidewalks are proposed as priority projects in multiple locations throughout the County including the towns of Bethune and Elgin, the City of Camden, and unincorporated areas of Kershaw County. As noted previously, Kershaw County is seeking funding for the development of a shared use path in the Lugoff area as recommended in the *Wildwood Lane Active Living and Pedestrian Master Plan*.

4. Trails and Greenways

Trails are important recreational resources that can also provide alternatives to travel by car. While some trails provide access to parks or natural resources such as water bodies or scenic views, others provide linkages between residential areas and destinations such as work, shopping, entertainment, recreation, or other residential areas. Kershaw County currently has more than ten miles of trails that range in length from a quarter of a mile for the Mt. Pisgah trail to the three mile trail at the Battle of Camden National Historic Monument. A listing of the existing trails in Kershaw County is found in Table 7-15 in the *Community Facilities Element*.

Analyses provided in the *Kershaw County Parks and Recreation Master Plan* indicate that the most critical need is for greenways and trails. The Plan noted that stakeholder interviews also supported the need for additional trails in the County and calls for an additional 15 miles of greenways and trails. The Santee Lynches Regional Council of Governments incorporated trails proposed in the *Kershaw County Bicycle, Pedestrian, and Greenways Plan* into its *Green Infrastructure Plan*. A 9.5 mile segment of a proposed 36.7 mile Camden to Sumter Rail-to-Trail conversion is proposed for the Norfolk Southern Railroad line that is no longer in use. Additional proposed trail locations including proposed trails, connectors, and greenways are provided in Map 8-4.

Map 8-4. Proposed Trails

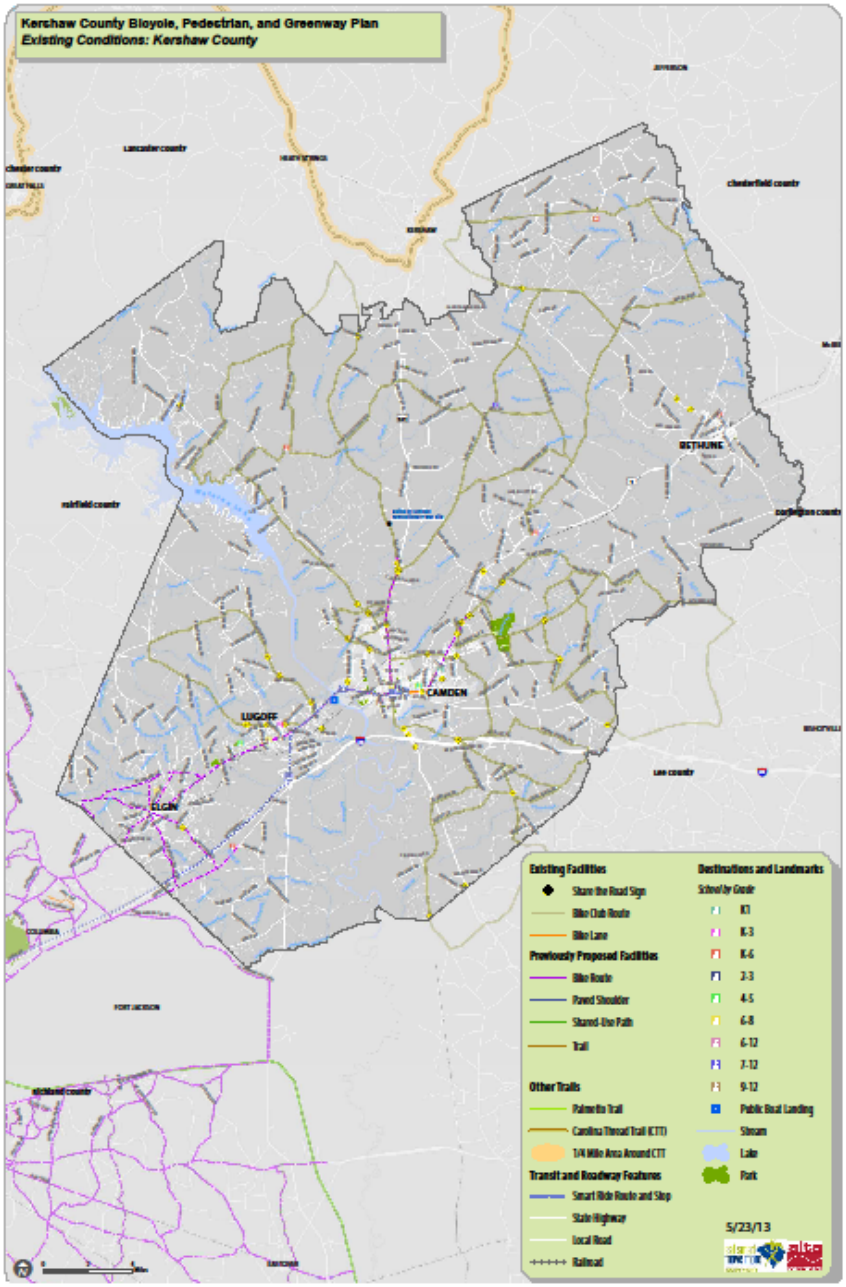


Source: SLRCOG, May 2017

5. Bicycle Routes and Facilities

Though few Kershaw County residents ride bicycles to work, recreational cycling is very popular in the County. Local cyclists worked with ESMMKC and others to map cycling routes for the *Kershaw County Bicycle, Pedestrian and Greenways Plan*. These identified cycling routes extend throughout the County into more rural areas. However, dedicated bike lanes are extremely limited in the County and cyclists generally compete with motorized vehicles when traveling public roads (Map 8-5).

Map 8-5. Kershaw County Bicycle Routes



Source: Kershaw County Bicycle, Pedestrian and Greenways Plan, 2013

The *Bicycle, Pedestrian and Greenways Plan* proposed the addition of more than 316 miles of paved road shoulders, 50 miles of bicycle lanes, and 21 miles of bicycle routes in Kershaw County. The Plan also recommended that bicycle parking be provided at all publicly owned buildings and facilities and that the County partner with local land owners to encourage parking at destinations for cyclists. Other plans and studies have echoed cyclist needs and provided recommendations for facilities to meet those needs. The *Elgin/Richland Sub-area Plan* recommended the establishment of a system of pedestrian and bicycle facilities, including shared use paths, bike lanes, shared travel lanes, and paved road shoulders. The shared use path recommended for the Lugoff area in the *Wildwood Lane Active Living and Pedestrian Master Plan* would provide a safe route for cyclists to school, recreation, work, and shopping.

6. <u>Complete Streets</u>

The S.C. Department of Transportation Commission passed a *Complete Streets Resolution* in 2003. The resolution noted that bicycle and pedestrian projects are eligible for funding through nearly all of major federal aid funding programs, and that South Carolina jurisdictions are required to make bicycle and pedestrian improvement an integral part of their transportation programs where State and federal funding is utilized. Further, the resolution stated the strong commitment by SCDOT to improving conditions for walking and cycling, and that planning for walking and cycling should be a routine part of SCDOT's planning, design, construction, and operating activities.

The City of Camden adopted a ***Complete Streets*** policy in 2011, based on the principal that roadways should be consistently designed with the needs and safety of users in mind. In addition to motor vehicles, roadways should also accommodate pedestrians, bicyclists, wheelchairs, and transit vehicles. The Camden Complete Streets resolution acknowledges that public health experts encourage walking and bicycling to mitigate the epidemic of obesity in South Carolina. Creating walkable streets and lowering automobile speeds on roads also improves economic conditions for residents and business owners. The integration of sidewalks, bike facilities, transit amenities, and safe crossings into the initial design of street projects avoids the expense of retrofitting streets in the future.

Specific actions included in the Camden Complete Streets policy include:

1. Revision of established regulations, policies and operating practices, as deemed appropriate and feasible, so that transportation systems are planned, designed, constructed and operated to make bicycling and pedestrian movements an integral part of the City's transportation planning and programming while promoting safe operations for all users.
2. Plan for, design, construct and operate all City transportation improvement projects, unless a construction contract has been executed prior to the date of the resolution, to provide appropriate accommodation for pedestrians, bicyclists, transit riders, and

persons of all abilities, while promoting safe operation for all users, as deemed appropriate and feasible.

3. Implementation of Complete Streets in a context-sensitive way to ensure that the character of the project area, values of the community, and needs of all users are fully considered.
4. Working with the SCDOT to incorporate a Complete Streets philosophy with projects that are completed within the City of Camden.
5. Completion of an evaluation of the Land Development Regulations relative to Complete Streets and propose revisions as soon as possible.

A number of initiatives have been undertaken to date that implement the actions outlined in the policy, including:

- The *Broad Street Road Diet* project, currently under development, is designed to slow traffic and provide for safe pedestrian travel along a high traffic road in the heart of the downtown area. Also under concurrent development, the associated *Camden Truck Route* project is intended to encourage trucks to use the alternative route, instead of traveling through the downtown via Broad Street, facilitated by improvements that will reduce delays and improve safety.
- *Eat Smart Move More Kershaw County* (ESMMKC) purchased bicycle racks that were installed in 14 locations throughout the City and worked with SCDOT to install 46 *Share the Road* signs along identified bicycle routes throughout the City and the County. The signs include Quick Response (QR) bar codes that link to a mobile website that provides mapped bicycle routes (explorekershawcounty.com).
- ESMMKC received a 2012 grant from the Healthy South Carolina Initiative to develop a *Bicycle, Pedestrian, and Greenways Master Plan* for Kershaw County. A draft of the Plan has been completed and presented to Kershaw County and the City of Camden.
- The Camden City Planner has been included in plan review for transportation projects to ensure that Complete Streets techniques are incorporated where appropriate.

The adoption and implementation of Complete Streets policies by Kershaw County and the towns of Bethune and Elgin would further the concept of Complete Streets, ensure eligibility for state and federal transportation funding, and maintain consistency among the County jurisdictions.

7. <u>Safe Routes to School</u>

South Carolina is the only state in which the State Department of Education owns, operates and maintains the fleet of school buses that serve all public schools. However, pick-up and drop-off services for students within a 1.5 mile radius of schools is not required. Students living within this radius must rely on transportation provided by parents or friends or walk or ride their

bicycles to school. If sidewalks, trails, or bike lanes are unavailable or inadequate, the trip to and from school can be a challenge, or even dangerous, for students.

Safe Routes to School (SRTS) is a growing national movement that brings together parents, schools, and community leaders to encourage students, including those with disabilities, to walk and bike to school. SRTS activities and resources focus on improving walking and biking conditions around schools while building healthy habits and safety skills. The S.C. Department of Transportation created the Safe Routes to School Resource Center in the fall of 2010 to help schools, school districts, and communities throughout South Carolina to build and sustain SRTS programs. SRTS Resource Center partners receive technical assistance and program support at no cost, with individualized plans developed for each partner school based on a safety assessment. The safety assessment is an interactive assessment of the physical environment with regard to school transportation and is a partnership between the S.C. DHEC Office of Healthy Schools and Division of Injury and Violence Prevention, the S.C. Safe Routes to School Resource Center, and the S.C. Department of Transportation. The assessment is conducted on a single day during a 1.5 hour time period to: 1) Assess the current infrastructure for walkers, bikers and car riders; 2) Identify potential recommendations for safety improvements; and 3) Observe school dismissal and discuss the safety of pick-up procedures.

Camden Elementary School and Camden Middle School became partners in the ***Safe Routes to School*** program in FY 2012-2013. Camden Middle School is in the initial stages of the SRTC program and has not yet conducted any related events or activities. Camden Elementary School activities to date include participation in the *Walk to School Day* and completion of a safety assessment in the spring of 2013. Safety assessment recommendations for Camden Elementary include measures such as enforcement of school speed zones and no left turn areas, restriping of crosswalks, updating signage, repaving of sidewalks to meet ADA standards, updating the bicycle rack, recruiting volunteers to serve as “corner captains,” removal of brush and tree limbs along Lyttleton Street, and development of safety programs to raise awareness of child passenger safety, child pedestrian safety, and bicycle safety.

J. AIRPORTS

General aviation services are provided at ***Woodward Field***, located three miles northwest of the City. Originally dedicated in 1929, the Airport includes 396 acres and is owned and operated by Kershaw County (Map 8-6). Woodward Field has two paved runways – a lighted 5,000’ by 100’ runway and a 2,998’ by 100’ crosswind runway. Available services at the Field include charter service, jet and 100 LL fuel, Unicom, aircraft repair, and tiedowns. While there are no scheduled airline operations at the Field, it is a very active facility. Located in the terminal building, the Camden Jet Center is a fixed-base operator (FBO) providing fuel services, flight planning, weather services, and a courtesy car. Aircraft Maintenance Services is also located on the property and is a full-service aviation maintenance facility providing inspection and repair work for aircraft ranging from small planes to executive business jets and turboprop aircraft, as well as restoration and repairs for vintage planes. The field is also home to LifeNet, a commercial emergency helicopter transport operation that serves residents of Kershaw County.

The ***Columbia Metropolitan Airport*** (CAE) is located 33 miles and 45 minutes southeast of Camden in Lexington County. CAE serves more than one million passengers and 1.3 million tons of cargo annually through four scheduled passenger carriers and numerous freight carriers. CAE offers 30 non-stop flights to nine major airports daily and is the site of a United Parcel Service (UPS) southeast regional air cargo hub. Air operations are conducted on an 8,600' x 150' runway and an 8,000' x 150' runway. A 108-acre duty-free, quota-free Foreign-Trade Zone (FTZ 127) is also located at the airport. Both domestic and foreign goods can be brought to the FTZ for assembly, manufacture, display, storage or processing without formal Customs entry, with duty payments not required until the merchandise leaves the zone for domestic consumption.

The ***Charlotte Douglas International Airport*** (CLT), located 85 miles north of Camden, is one of the nation's top ten busiest airports, providing international and domestic flights to more than 44 million passengers each year. CLT opened in 1936 and processes approximately 130,000 tons of cargo a year through 25 carriers, including nine passenger carriers *(U.S. Bureau of Transportation Statistics, 2017)*. Air operations are conducted on four runways that are all 150 feet in width with lengths that range from 7,501 feet to 10,000 feet. The Airport announced plans in 2012 to build a new 12,000-foot runway that will enable nonstop departures to Europe and the Pacific Rim as a component of its *Destination CLT Master Plan*. The project is scheduled to begin in 2020.

Access to large cargo and commercial facilities is also available approximately two hours northwest at the ***Greenville-Spartanburg International Airport*** (GSP). GSP began operation in 1962 and serves more than 1.8 million passengers and handles more than 30,000 tons of cargo annually. Six major airlines offer 49 non-stop average daily departures to 15 major cities and 18 airports across the nation. Air operations are conducted on an 11,001 foot x 150 foot runway. The north end of the airport is home to a 120,000 square foot FedEx facility completed in 2001.

K. RAIL AND SHIPPING

In today's global economy, commercial transportation is critical to a region's potential for business and industrial development. Time sensitive transportation services are increasingly important to gaining a competitive advantage in manufacturing and service-based industries. Transportation options for the mass transport of passengers are also growing in importance, as travelers seek alternatives to travel by individual automobile, whether for short commutes or long trips. Convenient and efficient connectivity to areas nationwide and overseas is attractive to businesses and industries and is therefore an incentive for economic development and also contributes to the quality of life for area residents.

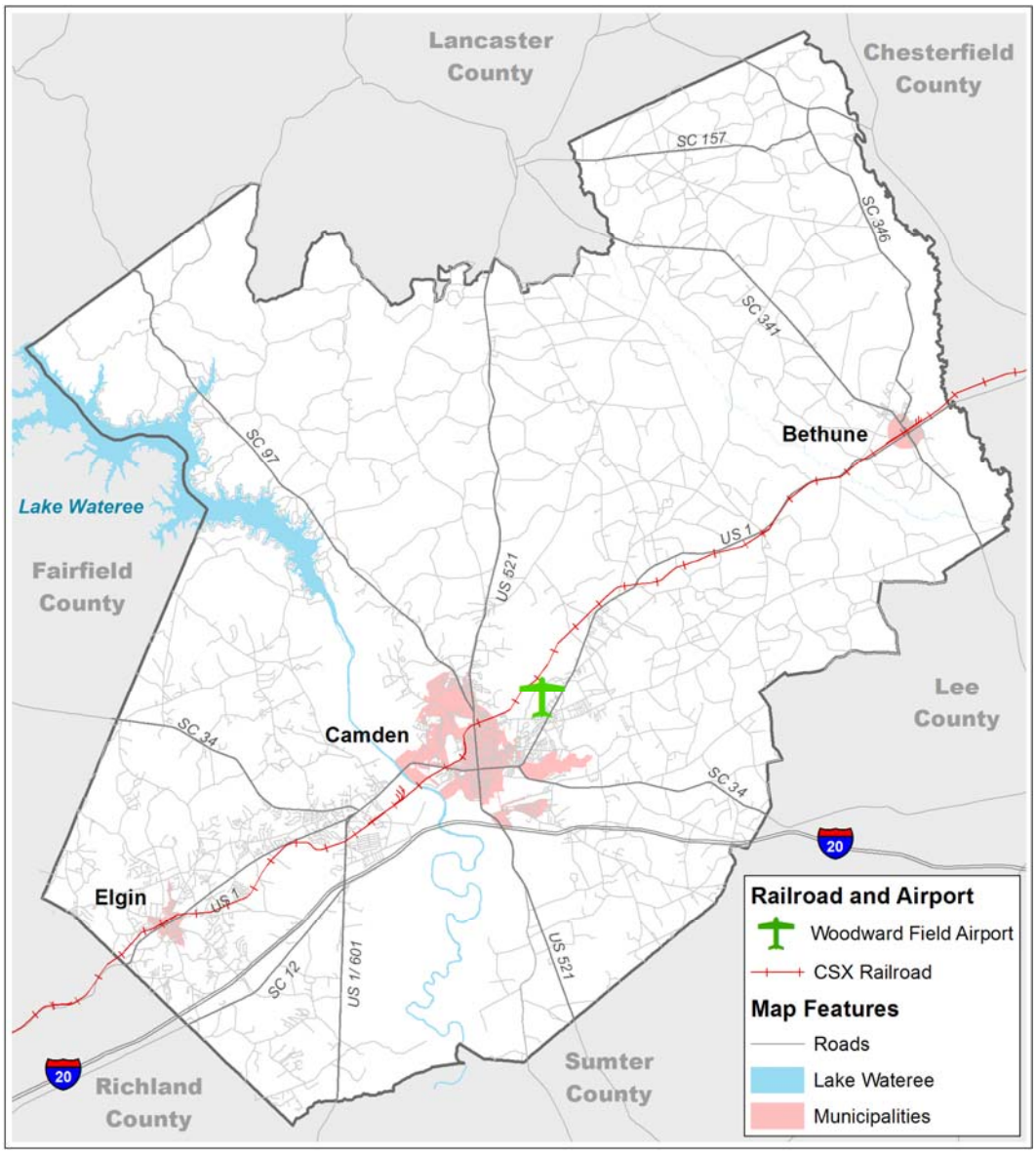
1. Railroads

When completed in 1833, the South Carolina Railroad stretched 136 miles from the Port of Charleston to Augusta, Georgia. The Camden branch was completed in 1848, becoming a key

factor in the early expansion of tourism in the area and the development of the area as a popular winter destination for wealthy northerners.

Rail service in Kershaw County is provided by the CSX Railroad. A Norfolk Southern Railroad line that ran north to south in the eastern area of the City was abandoned in 1935. As shown in Map 8-6, the CSX rail line bisects the County from northeast to southwest, generally paralleling U.S. Highway 1 and traveling through all three of the County's municipalities.

Map 8-6. Railroads and Airport



Source: Kershaw County Information Services Department, May 2017

The CSX rail line that runs through the City of Camden and the towns of Bethune and Elgin is part of the "Hamlet Subdivision" of the larger Florence service lane, which is a strategic corridor

for the southern freight market area. The route provides connections to Columbia and Florence in South Carolina; Raleigh, North Carolina; the S.C. Inland Port in Greer; and major port facilities in Wilmington, Charleston and Savannah. The County is also served by Amtrak passenger service on its Silver Service/Palmetto line. The historic Camden Depot built in 1937 and located on West Dekalb Street provides limited services to passengers.

Unfortunately, rail lines can pose potential conflicts with motor vehicle traffic at grade crossings. The Federal Railroad Administration's (FRA) Office of Safety reports that there are 31 at-grade roadway-railroad crossings in the Kershaw County, of which 24 cross publicly-owned roads and seven are private rail crossings. Private highway-rail grade crossings are on roadways not open to use by the public or maintained by a public authority. Examples of private crossings include farm or industrial crossings that provide access between tracts of land or facilities lying on both sides of the railroad and residential access crossings from another road to a private residence. For at-grade crossings, vehicles must go directly over the railway.

The type of safety crossing warning device used at rail crossings is based on a Federal Railroad Administration formula that includes highway and rail traffic volume. In more urbanized areas with higher traffic volumes, most crossings are public and include some type of safety warning system such as flashers and/or gates. Private crossings in urban areas typically serve manufacturing or large businesses and generally incorporate passive warning systems such as railroad crossbucks or stop signs. In more rural areas where crossings serve lower traffic volumes generated by farms and residential properties, warning equipment is often limited to signs or flashers.

Railroad safety is an important issue in transportation planning. There have been only two railway accidents reported in Kershaw County in the past decade, one in 2007 and another in 2015 *(FRA Office of Safety, 2015)*. Both of these accidents involved a CSX Railroad crossing. In 2007, a freight train struck and killed a pedestrian who was attempting to cross tracks at the Chestnut Street crossing. In 2015, an Amtrak passenger train struck an occupied logging truck at the Robert Reynolds Road crossing, injuring seven people.

2. <u>Trucking</u>

Truck transport "is a cornerstone to the national freight transportation system," with trucks transporting 70% of all the tonnage in the United States to and from rail, water and air transportation hubs, as well as providing direct service between destinations for the transport of goods and materials *(South Carolina Statewide Freight Plan, 2014).* Lower operating costs and a higher level of service customization can make shipping by truck a cost effective and attractive alternative to shipping by rail or air. Truck movements in South Carolina totaled more than 300 million tons valued at $506.2 billion in 2011. Primary freight corridors include the State's five interstates (I-20, I-26, I-77, I-85, and I-95), with major U.S. and State highways also accommodating significant freight flows.

Kershaw County's strategic location along I-20 and near other major transportation corridors provides an attractive intermodal freight network to a number of industries. Interstates 26 and 77 are close by and accessible within 33 miles and 40 miles, respectively, via I-20. Access to I-95 is 46 miles west of the County. The portion of I-20 within Kershaw County was used to transport between 10 and 25 million tons of freight in 2011. The portion of U.S. Highway 1 from I-20 north through the County was used to transport from one to five million tons of freight, and S.C. Highways 97 and 34 and U.S. Highways 521 and 1/601 in Kershaw County were used to transport up to one million tons of freight in 2011.

3. Ports

The South Carolina State Ports Authority (SPA) was established by the South Carolina Legislature in 1942. SPA facilities handled 1.12 million containers and moved one million tons of non-containerized cargo at its seaport terminals in Charleston and Georgetown and the inland port in Greer in 2015. The SPA and the State of South Carolina plan to invest $2 billion in ports and port-related infrastructure in the coming decade.

Port service for Kershaw County is available less than three hours southeast (125 miles) through the Port of Charleston – one of the busiest container ports along the Southeast and Gulf coasts and ranking consistently among the top ten container ports nationwide. The Port of Charleston is the fastest growing major port in the United States. The Charleston Customs district ranks as the nation's 6th largest in cargo value, with $75.8 billion in imports and exports traded across the docks in 2015. The Port hosts shipping service by more than 30 of the world's top carriers.

The infrastructure plan for Charleston includes construction of the new 280-acre Hugh H. Leatherman, Sr. container terminal, with opening of the 171-acre first phase anticipated for FY 2019. Other improvements include upgrades to the S.C. Inland Port, infrastructure and technology upgrades, a new dual access intermodal railhead, and a port access road to I-26. While the Port currently has the deepest channels in the region, plans are also underway by the U.S. Army Corps of Engineers to deepen the Charleston Harbor channel from 45 feet to 52 feet by 2024, a move that will make the Port even more attractive to freight carriers as the deepest port on the eastern coast. Each additional foot of water equals the ability to place 100 additional loaded containers on board an ocean carrier, enabling the vessel to maximize the ship's carrying capacity. This expansion will accommodate the larger cargo vessels that will utilize the newly expanded Panama Canal after work is completed in 2020.

The South Carolina Inland Port opened in 2013 less than two hours northwest of Kershaw County in Greer, extending the Port of Charleston's reach by providing an inland area connected by rail from which goods could be distributed to the Southeast. Norfolk Southern serves the inland port through its main rail line, and the facility is positioned along the Interstate 85 corridor between Charlotte and Atlanta, where Norfolk Southern operates additional rail yards. Rail service maximizes tonnage moved per gallon of fuel for importers and exporters, helping them save costs and lower their carbon footprint. The Port services 19 top

shipping container lines and handled one million containers from July 2016 through April 2017 – a growth rate of more than 10% over the previous fiscal year. The inland port adds an additional benefit – access to empty containers – for regional shippers, who can send trucks to Greer for the containers they need to move their goods (*S.C. Ports Authority, 2017*).

L. TRANSPORTATION ENERGY

Of all the economic sectors within the Kershaw region, the transportation sector offers the greatest opportunity for significant reduction of energy consumption. State, regional and local governments have wide-ranging legal and financial powers to influence transportation. They directly supply or regulate the supply of most transportation infrastructure including roadways, sidewalks, transit, bike paths, and parking. If improvements and additions to transportation systems are designed with energy conservation in mind, significant energy savings can be realized. The transportation sector consists of all vehicles with a primary purpose to transport people and/or goods from one physical location to another. Included are automobiles, trucks, buses and motorcycles. Vehicles with a primary purpose other than transportation, such as tractors and construction equipment, are excluded.

The transportation sector is a major energy consumer in South Carolina, accounting for 28.2% of total energy consumption *(U.S. Energy Information Administration (EIA), State Energy Data System, 2015)*. This is in large part due to the nation's dependence on the automobile. Nationally, travel by private automobile is the dominant form of transportation to work and other destinations, with 86% of all workers commuting to work by private vehicle, either alone or in a carpool *(U.S. Census, ACS, 2010-2014)*. This continuing dependence on the automobile is mirrored in Kershaw County, where 94.2% of residents travel to work by car, truck, or van – 2.2% more than the State average and 8.2% higher than the national average *(Table 8-4)*. Census data also reveals that the average trip to work is comparatively longer for Kershaw County residents. Mean travel time to work at 28.2 minutes is higher than the statewide mean travel time of 23.8 minutes and the national mean of 25.7 minutes. Nearly half of County workers travel 30 minutes or longer to work and 8.3% have a commute of an hour or more *(Table 8-4)*.

1. Transportation Energy Overview

South Carolina ranks 24th highest nationwide in transportation energy consumed *(U.S. EIA, State Energy Data System, 2014)*. Per capita consumption in the State's transportation sector ranks 22nd highest in the nation at 92 million Btu (MMBtu), higher than the national per capita consumption rate of 84.8 MMBtu. The majority (94.8%) of energy consumed by the nation's transportation sector is provided by fossil fuels. Petroleum accounts for more than 97% of fossil fuels consumed by the transportation sector, with the remainder provided by natural gas *(U.S. EIA, Monthly Energy Review, 2017)*.

South Carolina ranks 23rd nationwide in vehicle miles traveled at 51,726 million miles *(US EIA, State Energy Data System, 2017)*. A decline in transportation sector energy consumption is projected through 2030, primarily as a result of improvement in light-duty vehicle fuel economy with the implementation of corporate average fuel economy (CAFE) standards and greenhouse emissions standards *(U.S. EIA, 2015)*. While passenger vehicles fueled by motor gasoline currently account for 83% of new sales, this percentage is projected to drop to 46% by 2040 due to increased sales of alternative fuel vehicles and vehicles with hybrid technologies, including gasoline vehicles equipped with micro-hybrid systems, E85 flex-fuel vehicles, full hybrid electric vehicles, diesel vehicles, and plug-in hybrid vehicles and electric vehicles.

Energy intensive automobiles and light trucks are responsible for a large portion of the total energy used within the transportation sector. Cars and trucks consume more energy per mile than all other modes of ground transportation. Local bus systems use less than one-fourth of the energy of automobiles and light trucks and less than one-sixth of the energy of larger passenger trucks *(Table 8-10)*.

Table 8-10. Energy Consumption by Mode of Transportation, 2016

Transportation Mode	Energy Consumption (Btu per passenger mile)
Light Duty Vehicles, long wheel base (2 axle, 4 wheels, including trucks)	5,453
Cars and Light Duty Vehicles, short wheel base (passenger cars)	3,843
Motorcycle	2,665
Bus	823

Source: U.S. Department of Transportation, Nation Transportation Statistics, April 2016

2. Opportunities for Transportation Energy Conservation and Sustainability

During the past century, no single force has had a greater impact on the pattern of land development in American cities than transportation. Improved roadways and affordable cars have enabled families to relocate from housing near their workplaces to homes in the suburbs that provide more housing per dollar in the form of larger lots, detached units, and cleaner environments. In turn, retailers and service providers followed their customers to the suburbs. Subsequently, businesses that serve retailers and service providers also moved to the suburbs to be closer to their customers. In short, transportation improvements have been a major factor in the exodus of households and businesses from urban areas to the suburbs.

Substantial energy savings can be realized if improvements and additions to transportation systems are designed with energy conservation in mind and implemented in conjunction with effective land use policies. Options for reducing transportation energy consumption include:

1. Shifting traffic to more efficient modes, by lowering the Btu per seat miles from auto to buses, mass transit, and human powered sources;
2. Increasing load factor, by raising the passenger mile per seat with carpooling and vanpooling;

3. Reducing demand, by reducing passenger miles through land use planning, telecommunications, and other methods;
4. Increasing energy conversion efficiency, by lowering the Btu per seat mile using smaller and more efficient vehicles; and
5. Improving use patterns, by lowering seat miles through traffic design and control.

The U.S. Department of Energy estimates that 61% of the energy usage in the transportation sector is expended by passenger modes of travel. Cars and light duty vehicles (including SUVs and small trucks) are very energy intensive and responsible for a large portion of the total energy used, while bus systems use considerably less energy *(Table 8-10)*. Additional energy savings can be realized per person when the mode of travel is capable of transporting larger numbers of people (buses or rail systems), or even when an automobile or light truck transports more than one person per trip. Energy savings are even more dramatic when residents walk or bike to destinations instead of traveling by motor vehicle.

The fuel efficiency of light duty vehicles has improved substantially in recent decades, achieving gains in both fuel economy and performance. Fuel economy has risen steadily from 19.3 miles per gallon (MPG) in 2004 to 24.7 MPG in 2015 *(U.S. Environmental Protection Agency, 2015)*. Since 2005, new automotive technology has improved both fuel economy and power, while keeping vehicle weight relatively constant – enabling drivers to continue to find larger passenger vehicles with increasingly higher fuel economy.

Alternative fuel vehicles (AFVs) are designed to operate on at least one alternative in place of gasoline and diesel fuel made from petroleum and include any dedicated, flexible-fuel, or dual-fuel vehicle. Use of these vehicles is increasing as appropriate fuel becomes more readily available. The U.S. Department of Energy currently recognizes the following as alternative fuels – pure methanol, ethanol, and other alcohols; blends of 85% or more alcohol with gasoline; natural gas; propane; coal-derived liquid fuels; hydrogen; electricity; pure biodiesel (B100); fuels other than alcohol, derived from biological materials; and P-Series fuels (renewable, non-petroleum, liquid fuels).

There are a number of alternative fuels in production for use in AFVs and advanced vehicles. While most are in use by government and private sector vehicle fleets, consumer interest is growing. *Ethanol* is a renewable, domestically produced transportation fuel that is most commonly used to increase octane and improve the emissions quality of gasoline. Ethanol is produced by fermenting and distilling starch crops such as corn, barley, and wheat that have been converted into simple sugars or from "cellulosic biomass" such as trees and grasses. *Biodiesel* is a domestically produced, renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled cooking grease for use in diesel vehicles. *Natural gas* is a domestically abundant gaseous fuel that can have significant cost advantages over gasoline and diesel fuel. *Propane* is also a readily available gaseous fuel that has been widely used in vehicles throughout the world for decades. *Hydrogen* is a potentially emissions-free alternative fuel that can be produced from domestic resources for use in fuel cell powered vehicles.

Electricity can also be used as a primary or secondary power source for vehicles. *Hybrid Electric Vehicles* (HEV) are primarily powered by an internal combustion engine that runs on conventional or alternative fuel and an electric motor that uses energy stored in a battery. The battery is charged through regenerative braking and by the internal combustion engine. *Plug-in Hybrid Electric Vehicles* are powered by an internal combustion engine that can run on conventional or alternative fuel and an electric motor that uses energy stored in a battery. The vehicle can be plugged into an electric power source to charge the battery. *All-Electric Vehicles* use a battery to store the electric energy that powers the motor, and are charged by plugging the vehicle into a power source.

a. Fleet Efficiency

Many local governments and institutions operate and maintain a fleet of vehicles. Although these fleets vary greatly in size and composition, they present a prime opportunity to institute energy saving measures. Local governments and institutions can save significant amounts of energy and money by increasing the fuel efficiency of individual vehicles, operating vehicles more efficiently, and improving overall fleet management practices. Many of these procedures are relatively simple and inexpensive to implement. Opportunities for local governments and institutions to make fleet operations more energy efficient include:

- Implement a management information system to closely track maintenance schedules, fuel consumption, mileage, fuel costs and other related information.
- Assign vehicles appropriate to the task.
- Purchase fuel-efficient and appropriately-sized vehicles.
- Practice preventative maintenance, such as keeping tires properly inflated.
- Train maintenance staff in practices that improve fuel economy.
- Train drivers in fuel-efficient driving techniques.
- Centralize fleet operations to achieve an economy of scale, improve maintenance efficiency, and more effectively implement fuel efficiency programs.
- Automate fueling stations to track fuel efficiency, schedule preventative maintenance, and discourage excessive personal use of fleet vehicles.
- Explore the use of alternative fuel vehicles.

b. Street Design

The evolution of street design in the United States has primarily been a product of a growing population's increasing dependence on the automobile. As traffic volumes increased, road design standards were modified to make auto travel more safe and efficient, often at the expense of the character of residential areas. Standards required streets wide enough to accommodate increased traffic, turning radii large enough for service and emergency vehicles to negotiate cul-de-sacs, and T-configured intersections that minimized traffic conflicts.

Traditional grid systems fell out of favor because they allowed through traffic on residential streets, while cul-de-sacs were encouraged because they prevented such traffic. In addition, parking standards were designed to accommodate the maximum number of automobiles needed for each land use category, with little consideration for shared parking, carpooling or alternative methods of travel, shift changes, number of employees, or the unique needs of individual businesses or industries.

Many of these practices, while providing solutions to some problems, have created or contribute to others. Unnecessarily wide streets encourage faster speeds, discourage walking or biking, increase impervious surface area, and raise ambient temperatures. Poor connectivity often restricts the viability of other transportation modes, making driving the most attractive travel option. Cul-de-sacs lengthen distances for travelers, discourage pedestrian travel, and make transit service more difficult to operate and use, while placing an added financial burden on local governments for emergency, safety and maintenance services. Wide intersections and the placement of sidewalks adjacent to travel lanes make negotiation by pedestrians and cyclists difficult. Expansive parking lots increase impervious surfaces, make walking prohibitive, increase ambient temperatures, and often remain underutilized.

Automobiles are most efficient when operated at steady, relatively low speeds (35-45 mph) with no stops. Optimizing the timing of existing signals and installing advanced control equipment can significantly reduce traffic congestion and fuel use. Conversely, increasing the number of stops and slow-downs or decreasing the average speed below optimal levels will increase energy consumption. Substantial energy savings can also be realized by sizing streets to accommodate their use. Retaining higher speed street designs and capacities outside intensively developed neighborhoods and developments allows driving speeds to be sustained where they will not endanger residents. A system of interconnecting streets of varying designs can provide multiple routes that diffuse traffic congestion by keeping local traffic off regional roads and diverting through traffic away from local streets.

The problems associated with conventional street and parking design ultimately result in increased energy usage. Street design that encourages and enables alternative modes of travel not only saves energy, but can also enhance the overall character and livability of an area. Alternative means of transportation can be made safer and more attractive by redesigning streets and intersections within intensively developed areas to give equal priority to pedestrians, cyclists, buses, and automobiles.

c. Multi-modalism

Most modern development patterns maximize convenience and safety for the automobile driver, but not for the pedestrian or cyclist. Sensible development practices encourage people to use alternative modes of travel – biking, walking, or public transit – by providing safe routes to destinations. Interconnected streets reduce distances between points and make destinations easily accessible by multiple travel methods. Although the option of driving to a destination still exists, better connections make the choice of an alternative mode for shorter trips much more

appealing. Connections between adjacent commercial buildings and areas can be so poor that patrons are forced to return to their cars, drive back out to an arterial road, travel a few hundred feet to the adjacent parking lot and park again to reach a neighboring building.

Today's suburban pedestrian must often travel a route five times longer than the direct distance to their destination. For people to choose to walk or bike on neighborhood streets they must feel as welcome and safe as those who choose to drive. Streets designed with many different users in mind encourage non-vehicular travel. Without a comfortable and safe environment for all users, people will continue to rely on the car for trips to and from home. The key principle to follow in designing successful multi-modal road systems is balance – ensuring the safety and quality of the street environment for all users.

South Carolina's mild winters and moderate temperatures throughout most of the year make walking a popular activity among residents. There is substantial evidence that if safe and adequate facilities are provided, many people will choose to walk to work, to run errands, and to obtain personal services. In addition to safety factors, field studies have shown that the level of aesthetic interest is a critical factor in choosing a walking route. People are generally unwilling to walk farther than 600 feet through a parking lot to reach a desired destination, yet they will walk much further along a street of storefronts.

Bikeways are most successful in reducing automobile travel in communities where development is compact and a mixture of land uses is encouraged. Although cycling for transportation and recreation is widespread, it is most popular in areas with relatively gentle terrain and in areas with a large student population such as a college or university. Bicycle paths should be physically separated from roadways whenever possible, and clearly marked by striping and signage when located adjacent to automobile travel lanes. Intersections and bridges should be designed to safely accommodate bicycle access where needed. To be effective, pedestrian walkways and bike paths should be continuous, linking areas and activities on the site and connecting to locations and paths adjacent to the site.

Most Kershaw County residents commute by car because it is convenient and provides reliable on-demand, door-to-door service, usually in a timely manner. However, public transit can provide a viable alternative to car travel if it provides a similar service. Many factors can encourage transit use, including traffic congestion, close proximity to home and work, ease of use, safety, reliability, timely delivery, and affordability. Transit systems are most convenient and yield the greatest energy and environmental benefits when a rider's origin and destination are located within walking distance of the transit station or stop. By placing housing and employment centers near existing and planned transit stations and stops, more people are likely to use transit. At present, Kershaw County residents have limited access to public transit as detailed previously in section *H – Public Transportation*.

d. Travel Alternatives

Advances in technology have resulted in new ways to reduce vehicular traffic and conserve energy. While 751 Kershaw County residents reported working from their homes *(ACS, 2010-2014)*, improvements in communications and technology have the potential to produce significantly more home-based workers in the future. Although many of these workers operate their own businesses from their homes, a number of companies utilize telecommuting as an employee work option. Telecommuting is a practice in which employees work at home and communicate with the office by telephone and through the internet. Some telecommuters do all of their work from their home, while others work part of the week at home and part at their place of business. Each day an employee telecommutes or works at home eliminates at least one round trip.

Teleconferencing can also reduce work-related travel by removing the need to travel for meetings and training. Participants use phone and internet video conferencing technology to hear and view other participants and to view presentations or other materials and exchange data and documents. The benefits of teleconferencing for employers include higher meeting attendance and increased participation, elimination of costly trips, less time away from the job for participants, and greater scheduling flexibility. These technologies can be effectively utilized by individual companies, businesses, agencies, educational institutions, hospitals, and local governments.

Many communities are also encouraging employers to develop work schedule strategies that will help reduce traffic congestion. Traffic congestion leads to reduced travel speeds, which results in excessive energy consumption. Alternative work schedules can reduce traffic congestion and energy consumption by shifting commuters out of the peak travel periods and eliminating commuter trips. With “compressed work weeks” employees work more than eight hours a day for four days in order to take the fifth day off – resulting in the elimination of one round trip per week. “Flex-time” scheduling allows workers to set their schedules depending upon their needs, with certain core hours when they must be at work. “Staggered work hours” can be used to reduce peak congestion by staggering start times of employees. Although such programs may limit ridesharing opportunities, both flex-time and staggered work hour programs can reduce the number of workers commuting during peak travel times.

M. GOALS, OBJECTIVES AND STRATEGIES FOR IMPLEMENTATION

The goals, objectives and strategies for implementation (GOIS) table summarizes the actions that will be undertaken in the coming decade to achieve to achieve the goals and objectives identified in the element. Element goals are broad based ideals that are intended to guide the future of the community, while an objective is a more specific elaboration of a goal that also provides direction. Together the goals and objectives outline the framework for the element and provide the basis for the more detailed and specific plan strategies. Each implementation strategy includes a listing of the agencies that will be accountable for the implementation of the strategy, as well as a time frame for the completion of the strategy.

Goals/Objectives/Strategies	Accountable Agencies	Time Frame for Completion
Goal 8.1. Plan the location and development of transportation infrastructure to accommodate present and future needs.		
Objective 8.1.1. Develop and implement plans to guide decision-making on transportation issues.		
Strategy 8.1.1.1. Continue regional coordination with Santee Lynches Regional COG, Central Midlands COG, municipalities and neighboring counties, and with other public and private agencies in matters related to transportation and transit planning and prioritization.	Kershaw County, Municipalities, SLRCOG, CMCOG, Neighboring Counties, Related Public and Private Organizations	On-going
Strategy 8.1.1.2. Develop a multi-year Comprehensive Transportation Plan for Kershaw County that fully incorporates multi-modal transportation options as recommended by previous plans and studies.	Kershaw County, Municipalities, SCDOT, SLRCOG, CMCOG	2019
Strategy 8.1.1.3. Update existing traffic studies and/or commission new studies for major transportation corridors such as I-20, U.S. Highways 1, 521, and 601 to benchmark existing conditions.	Kershaw County, Municipalities, SLRCOG, CMCOG, SCDOT	2023
Goal 8.2. Invest in quality transportation infrastructure.		
Objective 8.2.1. Meet current and future need for quality transportation facilities throughout the County.		
Strategy 8.2.1.1. Utilize all available funding sources to build and maintain quality roads and safe bridges to accommodate all modes of transportation.	Kershaw County, SCDOT, SLRCOG, CMCOG	On-going
Strategy 8.2.1.2. Evaluate and improve infrastructure around each of the County's four interstate road interchanges to ensure efficient and safe travel.	Kershaw County, SCDOT, SLRCOG, CMCOG	2026
Strategy 8.2.1.3. Seek organizational partnerships to improve, beautify and maintain key County gateways, including highways, airports, industrial parks, and railroad entry ways.	Kershaw County, SCDOT, SLRCOG, CMCOG, Municipalities, Kershaw County Airport	2023
Strategy 8.2.1.4. Expand and maintain key roadways including I-20, U.S. Highway 1, and S.C. Highway 601 to meet current and future capacity needs.	Kershaw County, SCDOT, SLRCOG, CMCOG	On-going
Strategy 8.2.1.5. Focus transportation resources to support adequate density and growth and proactively improve roads where traffic volume is increasing.	Kershaw County, SCDOT, SLRCOG, CMCOG	On-going
Strategy 8.2.1.6. Plan an effective commuter transportation system that connects County population centers with adjoining metropolitan areas for needed services.	Kershaw County, SCDOT, SLRCOG, CMCOG, SWRTA	On-going
Strategy 8.2.1.7. Expand regular transit service routes to jobs, services, and healthcare centers.	Kershaw County, SWRTA, Employers, Service Providers	2026

Goals/Objectives/Strategies	Accountable Agencies	Time Frame for Completion
Objective 8.2.1. Meet current and future need for quality transportation facilities throughout the County.		
Strategy 8.2.1.8. Enhance bicycle and pedestrian infrastructure to include bicycle lanes and bike racks.	Kershaw County, ESMMKC, SCDOT, Municipalities, SLRCOG, CMCOG	7-10 years
Strategy 8.2.1.9. Design and build *Complete Streets* accessible to pedestrians, bicyclists, motorists, and transit users to the greatest extent feasible.	Kershaw County, Municipalities, Developers, SCDOT, SLRCOG, CMCOG	On-going
Objective 8.2.2. Develop the County Airport as a Gateway Industrial Park.		
Strategy 8.2.2.1. Identify Federal and/or State funds for investment in airport enhancements.	Kershaw County, Kershaw County Airport Commission	On-going
Strategy 8.2.2.2. Accommodate future demand and incorporate new aviation technology.	Kershaw County, Kershaw County Airport Commission	On-going
Strategy 8.2.2.3. Extend the airport runway and upgrade hangers.	Kershaw County, Kershaw County Airport Commission	7-10 years
Strategy 8.2.2.4. Market airport facilities to attract corporate headquarters operations.	Kershaw County, Kershaw County Airport Commission, KCEDO	3-6 years
Strategy 8.2.2.5. Seek public/private partnerships to fund airport operations and expansions.	Kershaw County, Kershaw County Airport Commission	3-6 years
Goal 8.3. Provide a safe, efficient, and accessible multi-modal transportation system.		
Objective 8.3.1. Provide a safe and efficient roadway network that supports land use goals.		
Strategy 8.3.1.1. Continue to acquire and allocate C-funds and leverage in-kind resources to maintain and enhance the County road network and supporting infrastructure.	Kershaw County, SCDOT, County Transportation Committee	On-going
Strategy 8.3.1.2. Encourage connected street systems within new developments and between new and existing developments.	Kershaw County, Municipalities	On-going
Strategy 8.3.1.3. Maximize the connectivity of local, connector and arterial components of the County's roadway network.	Kershaw County, Municipalities	On-going
Strategy 8.3.1.4. Evaluate road design standards to determine if updates are needed to accommodate current and future needs and reflect changes in the transportation industry.	Kershaw County	2023
Strategy 8.3.1.5. Assist CSX and SCDOT in their efforts to prevent rail crossing collisions.	Kershaw County, Municipalities, SCDOT, CSX	On-going
Strategy 8.3.1.6. Adopt and implement appropriate *Complete Streets* policies countywide and encourage adoption by municipalities.	Kershaw County, Towns of Bethune and Elgin	On-going
Strategy 8.3.1.7. Improve street function and provide sufficient emergency access by amending Zoning and Land Development Regulations (ZLDR) to require the appropriate number of exterior connections to streets based on the number of units served.	Kershaw County	2019
Strategy 8.3.1.8. Discourage the use of dead-end streets and cul-de-sacs in developments that can discourage bicycle and pedestrian travel and increase vehicle miles traveled.	Kershaw County, Developers	2023
Objective 8.3.2. Improve the comprehensive multi-modal transportation network.		
Strategy 8.3.2.1. Continue to actively seek funding and partnerships to improve and enhance roadways and corridors within the County.	Kershaw County, Municipalities	On-going
Strategy 8.3.2.2. Explore incentives or requirements that would increase vehicular, pedestrian, and bicycle connectivity between existing subdivisions, commercial areas, public facilities, and employment centers.	Kershaw County, Municipalities, Developers, Employers, Greenway and Trail Organizations	On-going

Goals/Objectives/Strategies	Accountable Agencies	Time Frame for Completion
Objective 8.3.2. Improve the comprehensive multi-modal transportation network.		
Strategy 8.3.2.3. Implement the recommendations of the *West Wateree Transportation Study* and other relevant transportation studies, as feasible.	Kershaw County, CMCOG, SLRCOG, SCDOT	On-going
Strategy 8.3.2.4. Seek Transportation Alternatives Program funding for planned bicycle and pedestrian facilities, streetscaping projects, and *Safe Routes to School* programs.	Kershaw County, Kershaw School District, Municipalities, SLRCOG, CMCOG, SCDOT	On-going
Strategy 8.3.2.5. Explore the incorporation of exactions such as impact fees to fund the cost of infrastructure associated with new development.	Kershaw County	2023
Objective 8.3.2. Improve the comprehensive multi-modal transportation network.		
Strategy 8.3.2.6. Consider amending the Zoning and Land Development Regulations (ZLDR) to establish policies and standards for the construction of sidewalks in residential subdivisions.	Kershaw County	2026
Strategy 8.3.2.7. Consider incorporating bicycle infrastructure requirements into County development standards.	Kershaw County	2026
Objective 8.3.3. Support transit options to increase mobility and accessibility for residents and visitors.		
Strategy 8.3.3.1. Conduct a comprehensive long-range transit study for Kershaw County.	Kershaw County, Municipalities, SLRCOG, CMCOG, SCDOT, Public/Private Organizations	2019
Strategy 8.3.3.2. Plan an effective commuter transportation system that connects County population centers with adjoining metropolitan areas.	Kershaw County, SCDOT, SLRCOG, CMCOG, SWRTA	7-10 years
Strategy 8.3.3.3. Expand regular transit service routes to jobs, services, and healthcare centers.	Kershaw County, Employers, SWRTA	7-10 years
Strategy 8.3.3.4. Promote reliable, safe and cost effective transportation to meet the needs of vulnerable and underserved residents.	Kershaw County, Service Providers	On-going
Strategy 8.3.3.5. Facilitate and encourage the use of alternative modes of travel by County employees.	Kershaw County	On-going
Goal 8.4. Create an interconnected network of trails, sidewalks, and greenways that promotes active access to live, work, and recreation destinations for a wide range of non-motorized users.		
Objective 8.4.1. Provide and maintain adequate, safe and accessible trails, sidewalks and greenways in appropriate areas to encourage the use of alternative modes of travel by residents and visitors.		
Strategy 8.4.1.1. Implement the *Kershaw County Bicycle, Pedestrian, and Greenways Plan* and update as needed.	Kershaw County	On-going
Strategy 8.4.1.2. Explore additional opportunities to provide pedestrian and bicycle connectivity between existing and planned parks, recreation areas, subdivisions, trails, and greenways.	Kershaw County, Developers, Municipalities, Greenway and Trails	On-going
Strategy 8.4.1.3. Prioritize the construction of sidewalks, bike lanes, trails, and greenways that will create connectivity between existing facilities.	Kershaw County, SLRCOG, SCDOT, CMCOG, Municipalities	2026
Strategy 8.4.1.4. Explore opportunities to provide bicycle and pedestrian connections between residential, public facilities, commercial, and industrial uses that will enable alternative transportation opportunities, to include the dedication of rights-of-way to accommodate future connections.	Kershaw County, Municipalities	On-going
Strategy 8.4.1.5. Encourage residential and industrial developers to incorporate connected greenways and trails into new developments throughout the County.	Kershaw County	On-going
Strategy 8.4.1.6. Work with the School District to maximize opportunities for walking and biking to school when selecting new school sites.	Kershaw County, Municipalities, School District	On-going

Goals/Objectives/Strategies	Accountable Agencies	Time Frame for Completion
Objective 8.4.1. Provide and maintain adequate, safe and accessible trails, sidewalks and greenways in appropriate areas to encourage the use of alternative modes of travel by residents and visitors.		
Strategy 8.4.1.7. Work with the School District and SCDOT to include enhanced bicycle and pedestrian facilities in the design of new roads and improvements to existing roads within close proximity to existing and planned schools.	Kershaw County, Municipalities, School District	On-going
Strategy 8.4.1.8. Evaluate the efficiency of bicycle and pedestrian efforts and programs through measures that include an inventory of bicycle and pedestrian facilities, review of traffic counts, surveys of cyclists and pedestrians at key	Kershaw County, Municipalities, SLRCOG, CMCOG	2026
Strategy 8.4.1.9. Review and revise parking standards to encourage bicycle and pedestrian access, accommodate cyclists at park and ride facilities, and provide bicycle parking.	Kershaw County, Municipalities	2026
Strategy 8.4.1.10. Develop a mapped inventory of sidewalks in the County and municipalities and update the inventory on a regular basis.	Kershaw County, Municipalities	2023
Strategy 8.4.1.11. Encourage the inclusion of pedestrian protection measures at intersections.	Kershaw County	On-going
Goal 8.5. Reduce energy used for transportation.		
Objective 8.5.1. Reduce energy use through street and parking design.		
Strategy 8.5.1.1. Discourage the use of cul-de-sacs in developments.	Kershaw County, Developers	2026
Strategy 8.5.1.2. Incorporate traffic signal optimization.	Kershaw County, SCDOT	On-going
Strategy 8.5.1.3. Encourage connection between parking areas within adjacent development when possible.	Kershaw County, Developers	2026
Objective 8.5.2. Provide a multi-modal transportation system.		
Strategy 8.5.2.1. Encourage integration of alternative modes of transportation in new developments.	Kershaw County, Developers	On-going
Objective 8.5.3. Provide and promote travel alternatives.		
Strategy 8.5.3.1. Promote telecommuting and home occupations as a way to reduce the need for travel.	Kershaw County, Employers, Chamber of Commerce	On-going
Strategy 8.5.3.2. Support economic development and job creation efforts that attract employers to the County to reduce the need for residents to commute outside of the County to work.	Kershaw County, Kershaw County Economic Development Office	On-going
Strategy 8.5.3.3. Promote the use of video conferencing for local and out of town meetings to reduce the need for travel.	Kershaw County, Employers, Education and Service Providers	On-going
Strategy 8.5.3.4. Explore the use of compressed work weeks, flex-time, and staggered work hours to reduce traffic congestion at peak times.	Kershaw County, Employers	On-going