Lowcountry Distribution/Logistics Center Cluster Study

Lowcountry Council of Governments

September 2008

Table of Contents

Tables

Maps

Introduction and Background

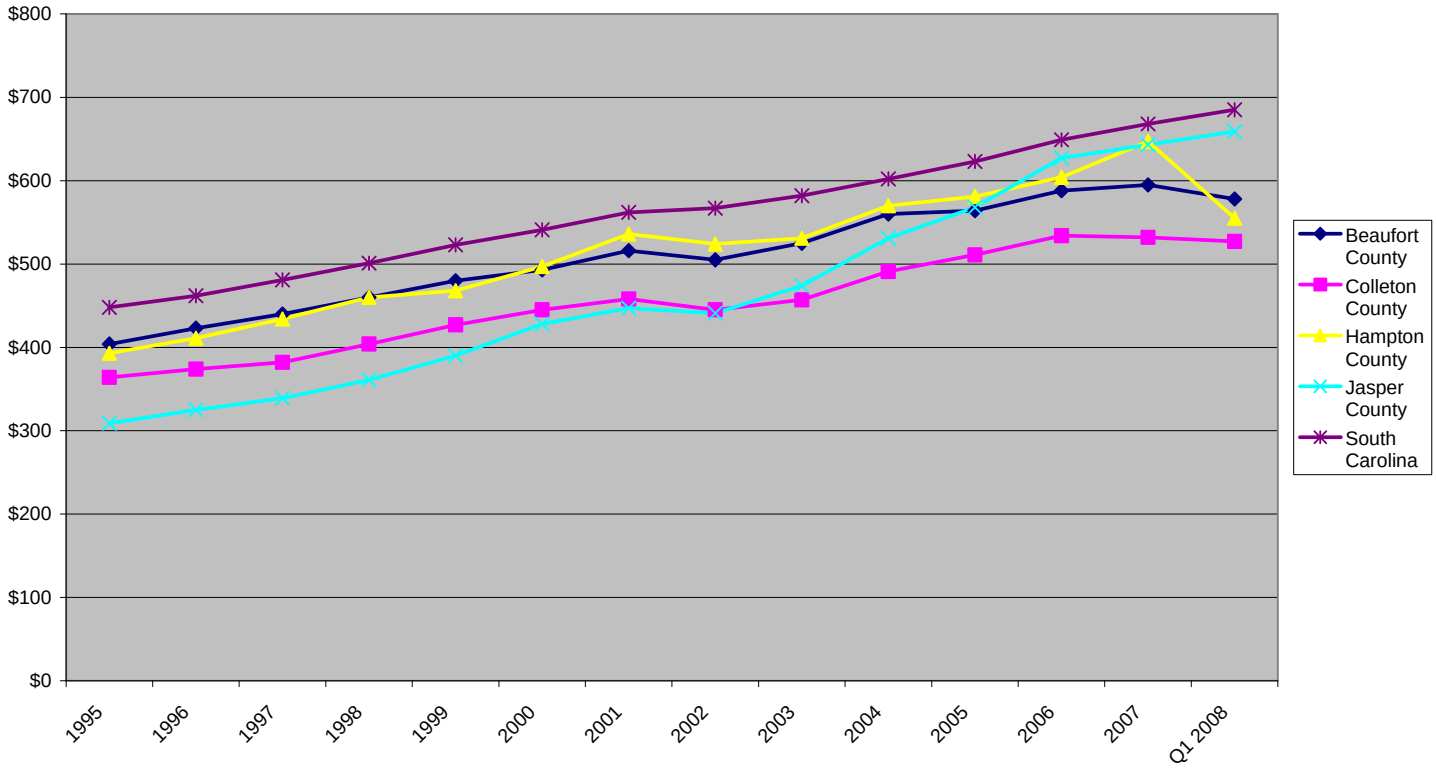
The Lowcountry Distribution/Logistics Center Cluster Study started as an outgrowth of the *Lowcountry Economic Diversification Plan* completed in September 2005. During the study period it also became a response to major related economic development projects announced during 2007 that are likely to be implemented during the next ten years. After years of legal wrangling, South Carolina and Georgia are working together to develop a new ocean port on the Savannah River in Jasper County to handle the larger ships that will be coming through the expanded Panama Canal. Outside the four-county Lowcountry region, but in close interstate highway proximity near Orangeburg, Jafza (a major Middle Eastern developer and supplier of international logistics facilities and services) will be constructing an international distribution center on more than 1000 acres of land and a second logistics center in that area is also being planned.

This study was funded by the US Economic Development Administration, SCANA, Palmetto Electric Coop. and the Lowcountry Council of Governments.

The *Lowcountry Economic Diversification Plan* was funded by the Office of Economic Adjustment of the Department of Defense (90 percent) in concert with the local economic development agencies in Beaufort, Hampton, Colleton and Jasper counties (10 percent). Is goal was to develop a strategy for diversifying the regional economy to lessen the dependence of the economy on the local military installations. Currently 14% of Lowcountry jobs are military jobs and the military is the second largest employer of the region. As well, Parris Island Marine Corps Recruit Depot, the Marine Corps Air Station and the Beaufort Naval Hospital together provide a large number of civilian jobs that pay very well.

A further objective was to concentrate on economic development potential outside the tourism industry. Although that sector has created a large number of jobs for Lowcountry residents during the past 30 years, the majority of the jobs are relatively low-paying (that is, below the state average wage level) service positions with limited or no benefits or potential for upward mobility. In fact, after many years of increases, the average weekly wage in the four counties of the Lowcountry has actually started to decrease. The chart on the next page demonstrates this economic problem.

Private Sector Average Weekly Wages



A focus on the development of Logistics and Distribution Centers in the Lowcountry was the keystone recommendation of the Plan, based on the Lowcountry Region's locational, transportation and other infrastructure strengths, including:

- The presence of several major freight transportation thoroughfares, namely I-95; US-17, US-21 and US-321;
- Undeveloped property at several uncongested I-95 interchanges;
- Proximity to educational institutions (including University of South Carolina at Beaufort, Technical College of the Lowcountry, MUSC in Charleston and SCAD, Savannah Tech and Georgia Tech in Savannah);
- A strategic location between two major ports (Savannah, GA and Charleston, SC) and two international airports (Savannah and Charleston), mainline rail lines (CSX service), local airports connected by a major interstate (I-95) with a number of uncongested interchanges (see details in section below);
- Willingness of Lowcountry utility providers to expand service to new areas in the region.

While the Lowcountry has these advantages, they have not to date been utilized to the region's best potential. Therefore, the fundamental goal of the present study has been to determine how the Lowcountry can use the geographic strengths of the region to better position

itself to facilitate the development of distribution and logistics centers, while identifying what the area lacks and how those deficiencies can be addressed. The underlying emphasis has been to position the Lowcountry to take advantage of the region's proposed new port and the nearby international logistics center.

Project Structure

The study has several components, as follow:

- General discussion of logistics centers and their economic role in the US
- Overview of freight transportation, especially ports, serving the Lowcountry
- Summary of distribution and logistics center requirements
- Assessment of the Lowcountry's ability to meet those requirements
- Action Plan for the Lowcountry to meet the needs of future facilities

Logistics Center Potential and their Growing Economic Function

North American companies of all types are increasingly trying to apply what is defined as "a total systems concept to managing the entire flow of information, materials and services from raw materials suppliers through factories and warehouses to the end customer." The objectives are to both gain a competitive advantage and to reduce costs. Almost ten years ago, in June 1999, Benchmarking Partners found that supply chain management expenses (inventory holding, transportation, order management and related information technology) averaged 25 percent of US corporate budgets. With the huge increase in fuel costs since that time, supply chain management costs have increased. In practice this means that location of operations is more important than ever before as manufacturers, distributors, retailers and others try to position themselves as strategically as possible in relation to both suppliers and customers to save operations and travel time and money.

As manufacturers become more focused on reducing costs, increasing customer satisfaction, and optimizing their supply chain to resources, suppliers and customers, they are paying much more attention to the number and location of their distribution facilities and the functions they perform. In the U.S., manufacturer downsizing and outsourcing over the past decade have created major growth opportunities for distribution operations, logistics providers, and more recently, e-commerce fulfillment centers.

Historically, typical distribution functions were shipping and receiving, storage, order picking, breakbulk, freight consolidation and containerization. Today, many distribution operations are computerized, automated, and equipped with state-of-the-art material handling equipment and information systems. This enables them to receive from and deliver overnight to a widening geographic market. As a result, many distribution operations have added a number of value-added services, including total logistics management, inventory control and tracking, packaging, labeling and bar coding, procurement and vendor management, and customer service functions, such as returns, repair, rework and even assembly of customized goods such as computers.

Information systems and the Internet are improving the operations management of distribution centers, which has also led to the growth of logistics operations and e-commerce fulfillment centers.

As an approach to economic development, developing such facilities has excellent potential for the Lowcountry region. First there are the locational advantages outlined above. Also the field of operations management, both academically and in practice, now emphasizes supply chain management as an area of "growth and opportunity, and an area undergoing rapid change due to information technology advances," according to Syracuse University's Scott Webster. An example of this is that one of the mainstay university textbooks was called *Operations Management for Competitive Advantage* through 11 editions; this year, the 12th edition has been rechristened *Operations and Supply Management*. Similarly, research group IDC predicted that the market for supply chain services would grow by more than nine percent annually to $40.5 billion by 2007. Deloitte Consulting surveyed North American manufacturers and found that 91 percent of them rank supply chain management as critical or very important.

The four-county Lowcountry Region, with neither major manufacturers nor materials suppliers, can take advantage of this business strategy through the importing activities of the two existing ports and the one now being planned.

Freight Transportation Infrastructure Overview

It is now widely recognized that freight transportation and economic development are closely related. Since ports and import trade will be the foundation for the development of

distribution and logistics facilities in the Lowcountry, the other modes of freight transportation will also play very important roles in the economic development of the region.

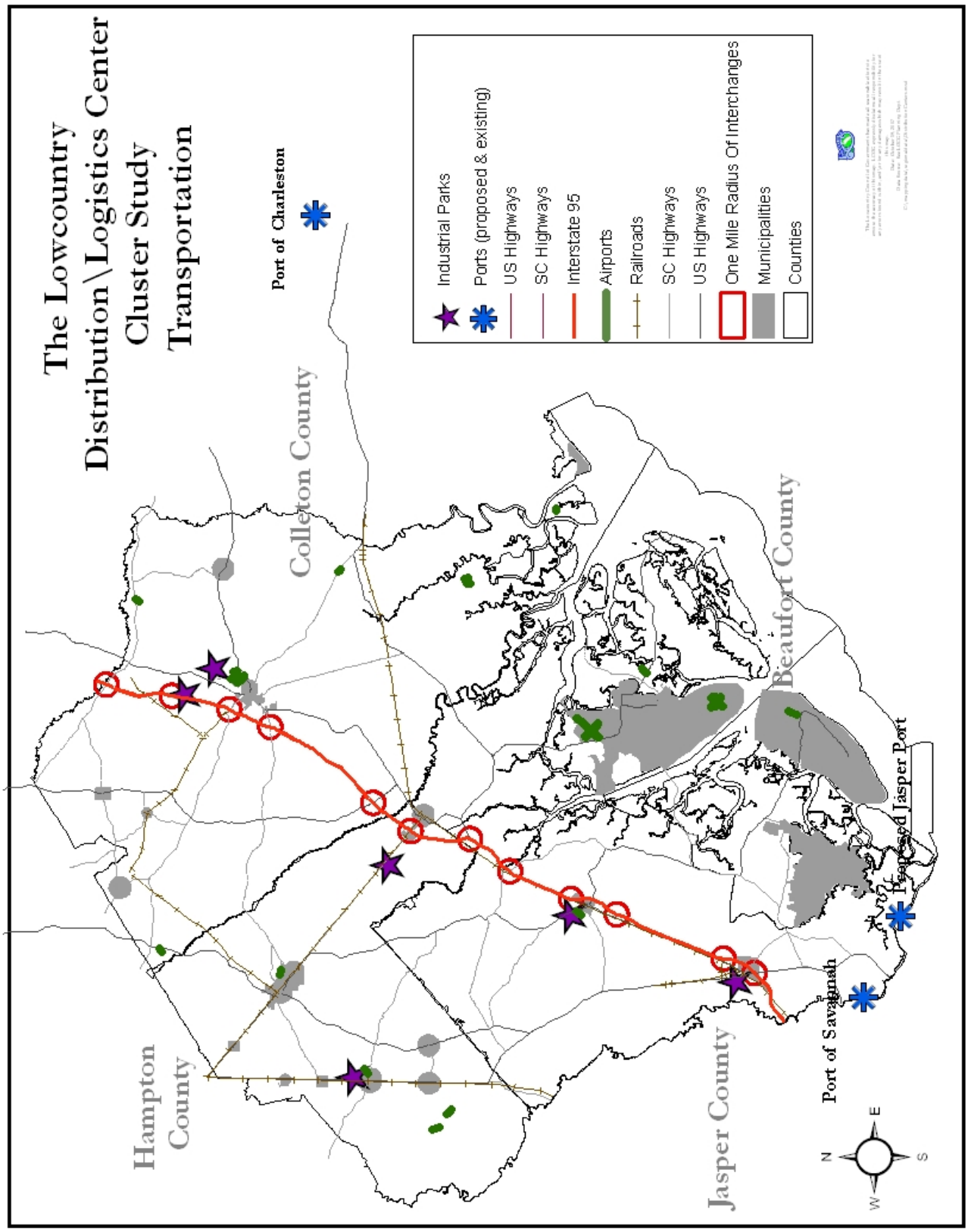
The map on the following page locates the transportation facilities discussed in this section.

Existing Ports

The major, and growing, ports at Charleston and Savannah already provide import and export shipping services to the Region and also opportunities for new business operations.

In 2006 the Port of Charleston ranked fourth busiest nationally, handling 1.97 million TEUs, or 20-ft equivalent units, but volume declined in 2007 to 1.75 TEUs. Shippers in 24 states use Charleston to access foreign customers and suppliers, but about 45 percent of the tonnage of containers is related to South Carolina firms, the majority in the Upstate. The State Ports Authority (SPA) estimates that spin-off enterprises include 131 truck lines and 51 customs house brokers and freight forwarders. Very recently, though, Maersk Line, one of the largest ocean shipping companies in the world, announced that it will be closing its customer service center in the Charleston area, eliminating 140 jobs. SPA is in the process of adding improvements and equipment to its existing Charleston terminals and also for a new three-berth marine terminal at the former Charleston Naval Base.

The Port of Savannah presently provides more opportunities for the development of logistics and distribution facilities in the Lowcountry than does the Port of Charleston. It is located closer and more conveniently—via Interstate 95—to more of the Lowcountry than is the Port of Charleston and the goods shipped into Savannah are more likely to be from Asian manufacturers and destined for major US retailers and need to be unloaded from containers, processed and reshipped elsewhere in the US. The Port of Savannah is also seeing an increasing amount of export activity, with goods being shipped out to the Far East, the Mediterranean and India.



Map 1: Transportation Overview

The Port of Savannah has now pulled ahead of Charleston to fourth place, with annual tonnage increasing from 1.53 million TEUs in FY 2003 to 1.76 in FY 2005 and 2.04 million TEUs in FY 2006 and 2.6 million in 2007—or 77 percent growth over a four-year period. About 75 percent of the tonnage is containerized. The potential spin-off impact is quite relevant to attracting new operations in the Lowcountry because containers have to first be trucked to an "import distribution center" that is as close to the port as possible before the goods can be taken to a second "regional distribution" center for forwarding to individual stores. In addition to trucking companies, freight forwarders and customs house brokers, the Port of Savannah has spawned more than 16 million square feet in 19 distribution and logistics centers for major retailers in the Savannah region. Target, Wal-Mart, IKEA and Lowes have all located import distribution centers near the port and Wal-Mart and Target have located second centers that serve as regional distribution centers within about a half-hour's interstate travel time from their import centers. The market is now so well developed that major industrial developers from all over the US have been buying land and building distribution center facilities, including "spec" projects of a million or more square feet. A national real estate broker specializing in distribution centers observed that by mid-2006 almost all "viable industrial sites were tied up," and "In one year, industrial land prices had more than doubled."

At this time, according to Lynn Pitts, senior vice president of the Savannah Economic Development Authority (SEDA), "There is no need to market the port" for logistics and distribution centers. "If you're in port-related businesses you know about Savannah." This did not happen accidentally, though; it was a key component of the port's marketing program: to attract additional major retail distribution centers. Then, states Pitts, "we started getting a developer a week."

It is expected that the volume of imported goods into the Port of Savannah will continue to increase for the foreseeable future—as long as major US retailers continue to import such a large percentage of their merchandise from Asian countries. The expansion of the Panama Canal, expected to double the waterway's capacity and ability to handle larger ships, should be completed by about 2015. It will further increase the number of freight vessels coming to the East Coast of the US, providing a market for the new port in Jasper County.

Planned Ports

When this study began it seemed as if a proposed port on the Savannah River in southern Jasper County was not likely to become a reality in time to influence the results of this project. At the time there were multiple lawsuits involving federal, state and local government agencies in both South Carolina and Georgia. However, in March of 2007 the governors of the two states entered into an agreement to develop the port together. Since that time a bi-state taskforce has been working to fast track the planning and environmental phases of development to move the project ahead as quickly as possible. The two states have also begun to discuss the transportation infrastructure that will be needed to serve both the new and the existing ports.

The objective of the two states together is to ensure that they have a large, integrated port facility available to handle the expected increase in shipping and the larger vessels forecast to arrive on the US East Coast with the completion of the massive expansion of the Panama Canal.

The Jasper port will provide a wide range of logistics and distribution center development opportunities for the Lowcountry, given related infrastructure improvements (see discussion in next sections of this report) and availability of land for these purposes.

The second new port will be an inland facility to be built at Orangeburg, on Interstate 26 at US 301. In September of 2007 Jafza International of Dubai announced that, as part of its global logistics strategy, it was acquiring 1300 acres to "set up a world-class logistics and business park comprising light manufacturing, warehousing, distribution facilities," stated the company in its news release. This facility is also being developed to meet the opportunities of the Panama Canal expansion and to serve not only the ports in this area but also Wilmington and Norfolk.

Another large-scale logistics/distribution center for the Orangeburg area is also in the planning phases.

These projects, located about 50 highway miles from the Colleton Commerce Center (Exit 62 on Interstate 95), may also provide spin-off opportunities for the Lowcountry.

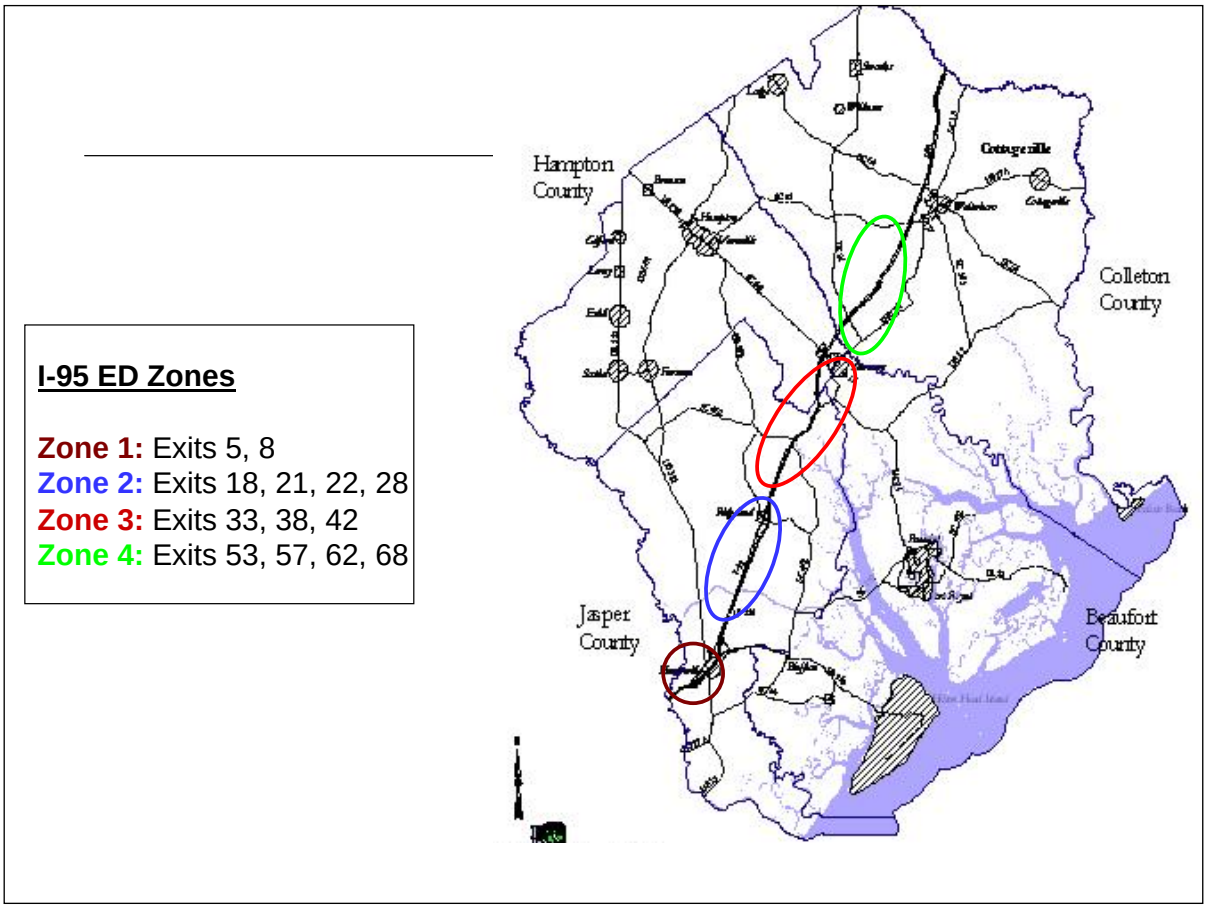
Trucking

Interstate 95 is the major freight spine through the Lowcountry, as it is along most of the East Coast of the US. To date in this area, though, economic development has not taken strategic advantage of the potential offered; for the most part the interchanges have attracted only lower to

medium-level tourism facilities such as fast food restaurants, lower-price chain motor hotels, gas stations and fireworks stores.

The consultants who prepared the *Lowcountry Economic Diversification Plan* were specific in their recommendations that a number of interchanges along I-95 should serve as focal points for prospective logistics and distribution facilities (see following map).

Map 2: Interstate 95 Economic Development Zones



The volume of large truck traffic has been increasing on I-95 (as the table below shows, with the most recent data available). Additional development, and related motor freight movements will likely result in the need for widening and/or other improvements along I-95 in the Lowcountry. Specific interchanges may also need to be improved. Individual interstate interchanges with development potential will be analyzed in more detail in subsequent sections of this report.

Table 1: Truck Traffic Volumes on I-95

Truck AADT Interstate I-95: 1999-2003							
Colleton County							
Station	Route	Location	1999 Total	1999 Truck	2003 Total	2003 Truck	Truck Increase
2377	95	S-34 TO S.C. 61	35,400	8,850	39,100	9,775	10.45%
2375	95	S.C. 64 TO S-34	35,500	8,875	39,000	9,750	9.86%
2373	95	S.C. 63 TO S.C. 64	36,400	9,100	39,100	9,775	7.42%
2371	95	U.S. 21 (Colleton) To S.C.63	35,400	8,850	39,500	9,875	11.58%
Hampton County							
Station	Route	Location	1999 Total	1999 Truck	2003 Total	2003 Truck	Truck Increase
2369	95	(Jasper) U.S. 17 TO S.C. 68	35,500	8,875	39,900	9,975	12.39%
2367	95	S-39 TO Augusta Rd	34,100	8,525	40,300	10,075	18.18%
Jasper County							
Station	Route	Location	1999 Total	1999 Truck	2003 Total	2003 Truck	Truck Increase
2365	95	S.C. 462 TO U.S. 17	38,800	9,700	46,700	11,675	20.36%
2363	95	U.S. 17 TO S.C. 462	37,000	9,250	44,600	11,150	20.54%
2361	95	SC 336 TO U.S. 17	36,200	9,050	43,600	10,900	20.44%
2359	95	S-13 TO SC 336	37,400	9,350	44,700	11,175	19.52%
2357	95	U.S. 279 TO S-13	38,800	9,700	45,900	11,475	18.30%
2355	95	U.S. 17/321 To U.S. 279	41,600	10,400	48,000	12,000	15.38%
2353	95	Ga. State Line To U.S. 17/321	40,400	10,100	45,900	11,475	13.61%

Note: I95 does not run through Beaufort County.

US highways in the Region, especially US 17 also carry a relatively large amount of freight traffic as well. For instance, US 17 carries a larger percentage of heavy truck traffic than is typical in the rest of the State. The South Carolina Trucking Association estimates that "medium and large trucks account for less than 3% of all vehicles." On the other hand 20% of the vehicles were trucks and 15% were heavy trucks on US 17 in Colleton County, according to SCDOT counts in 2005. The Average Annual Daily Traffic (AADT) count at that location in 2005 was 16,000 vehicles (compared to 13,300 in 2000); approximately 2400 were heavy trucks.

As a result, the Lowcountry is presently experiencing some passenger and freight (trucks making deliveries to retail and hospitality operations) conflicts and congestion on US 278 in southern Beaufort County and serious transport truck-passenger vehicle collisions on the two-lane section of US 17 (trucks traveling between Savannah and Charleston, especially between the

ports) in northern Beaufort County. Fortunately, though, this Region is in the position of undertaking planning ahead of expected economic development that is likely to bring increased truck and train freight movement, and the resulting increased conflicts, to the Lowcountry. The proposed new port in Jasper County, continued growth of the existing ports in Savannah and Charleston and the potential for such new businesses as major distribution centers means that freight traffic in the Lowcountry will probably grow by 2020 at the 92 percent forecast South Carolina rate (on the following page), or even faster.

Table 2: SC Freight Shipments

Freight Shipments To, From, and Within South Carolina 1998, 2010, and 2020						
	Tons (millions)			Value (billions $)		
	1998	2010	2020	1998	2010	2020
State Total	287	433	552	271	526	865
By Mode						
Air	<1	<1	<1	8	21	36
Highway	237	361	465	250	481	790
Other [a]	1	3	4	<1	<1	1
Rail	46	64	78	12	23	35
Water	3	4	5	<1	1	2
By Destination / Market						
Domestic	269	401	505	237	452	729
International	19	32	47	35	74	136

Air Freight in the Lowcountry

Within the Lowcountry there is a small commercial airport on Hilton Head; its future as a commercial facility is uncertain because residents are not in favor of expansion. At the present time it is served by commuter contractors to Delta and US Airways. There is also a general aviation airport on Lady's Island (near the City of Beaufort), a small general aviation field in Ridgeland and a general aviation Regional airport in Walterboro that has recently been upgraded

to handle jet traffic, which could include freight planes, and Jasper County is undertaking a study to assess the feasibility of developing a Regional airport within its boundaries.

Additionally, the Region has easy access to the international airports at Charleston and Savannah for freight and passenger travel. In the US at present 70 to 80 percent of air cargo comes in on passenger planes, and it is expected this will be a fast growing segment (in terms of value if not necessarily as a percent of total freight volume). Currently there are nearly 80 commercial passenger flights a day into and out of Charleston International Airport. To show that it serves not just the Georgia side of the river, the Savannah Airport changed its name about two years ago to the Savannah/Hilton Head International Airport, includes a Foreign Trade Zone and averages more than 100 flight operations per day. For commercial passenger traffic, "enplanements" increased from 960,795 in 2004 to 1,017,634 in 2007—a 5.9 percent increase. During the same period, air cargo increased from 8,721 tons to 10,783 tons—a 23.6 percent increase.

Rail Freight

CSX Transportation owns, maintains, and operates the majority of rail lines in the Lowcountry . In 1999, the Division of Public Railways listed CSX's traffic density in 1997 as 31.3 million gross ton-miles per mile (mgtm/m) between the Georgia line and Yemassee; 9.8 mgtm between Yemassee and a point just west of Brunson where the north-south rail line intersects with the east-west line; 25.1 mgtm between the Georgia line and west of Brunson; and 41.0 mgtm between Yemassee and Charleston, partially beyond the Lowcountry borders. [**Note:** The data is not recent because railroads are reluctant to provide information about the how much freight they haul.]

Throughout the Lowcountry, Interstate 95 and/or US 17 parallel the CSX mainline.

The South Carolina Ports Authority owns and used to maintain the 26 miles between the Port of Port Royal and the Town of Yemassee, with CSX operating the line. With the closure of the port, the tracks are no longer being used or maintained, and the rail corridor may become a pedestrian and bicycle facility.

The Hampton & Branchville Railroad Company (H&B) was chartered in 1891 and currently operates over 36 miles of track in Hampton and Colleton counties, interchanging rail traffic with CSX in the Town of Hampton.

Summary of Distribution/Logistics Centers Requirements

Information-Gathering Methodology

Owners/managers of distribution and logistics facilities were apparently reluctant to discuss their operations and requirements; none returned telephone calls and emails that carefully explained the purpose and nature of this project. [**Note:** The engineering consultants who did the analysis of the candidate intersections experienced similar responses.] As a result, a different approach was used to collect data than that outlined in the proposal for this study.

More specifically, the study team assessed the reasons for success in Savannah, conducting interviews with an executive of the Savannah Economic Development Authority (SEDA) and with two major developers from Atlanta who have been responsible for large-scale projects distribution and logistics center projects in Savannah and other US metropolitan areas. The one logistics facility success story in the Lowcountry was also reviewed: the local branch of a major US trucking firm signified its approval of the location (and available infrastructure) by an expansion that involves literally moving up the road from its initial location here.

As well, the results of a similar study completed for the state of New York in 2006 was consulted to ensure that the information gathered in this way is representative of broader trends in the industry. *Dorey's Atlanta Industrial Guide*'s 3rd Quarter 2007 issue: "Savannah Market Focus," was relevant and useful since it was about port-related commercial and industrial development, especially import distribution centers; interviews with additional national developers working in Savannah were featured.

Site Requirements

It is very much a real estate cliché, but the opinion seems to be widely held that only three things really count in the selection of sites for distribution and logistics centers: location, location and location.

1. Location

More specifically, to be an **import center**, the site must be within a radius of **10 miles from the port**. This is because minimizing the costs of "drayage" (meaning transportation of containerized cargo by trucks to distribution centers) for inexpensive consumer items is very important for retailers as they work to keep their total costs down. As the Savannah example

clearly demonstrates, proximity to the port is so important that what might be considered major obstacles are overlooked by developers and trucking companies as well. For example, to get to new purpose-designed logistics/distribution center parks, trucks have to drive on crowded urban streets with frequent stoplights.

A location within less than a mile of an interstate highway interchange is ideal; such sites should be no further than one or two exits from where the truck enters the interstate. There should be a minimum of three left turns between the gates of the port and the distribution center.

Sites that are **20-30 miles away** from the port are, however, potential sites for **regional distribution centers**—the second step along the way to the final markets/stores. Consequently, these centers must be on the route to, and no more than a **one-day drive** from, the cities for which the freight is finally destined. For instance, while Target has an import center near the Port of Savannah, its North Florida distribution center is about 30 miles south of the port at the Midway, GA exit of Interstate 95.

2. Minimum Site Size

Distribution and logistics facilities are generally located in substantial buildings (ranging from 250,000 to more than 1,000,000 square feet) that require large sites.

The New York state study concluded that the smallest feasible site possible is 50 acres. Although there is now a shortage of available land in the Savannah area, 1,000,000 square feet in two buildings were built recently on 65 acres, but developers find larger sites are more viable, especially in a new area because of the need to create a "critical mass." Therefore, a minimum of **100 to 200 acres** is preferable and 600 to 700 acres is ideal because, as a developer explained, "We want to create a large enough park so that we can grow tenants and move them within the park as they grow."

3. Transportation

Transportation is the reason distribution/logistics centers exist, so the availability of adequate freight transportation facilities is of paramount importance. While the ideal situation would be direct four-lane divided limited-access highways from the port's gate to the distribution/logistics facility, in practice, proximity to the port overrides other considerations.

The availability of rail freight service is considered a benefit as intermodal freight movement increases in the US. Rail service is particularly advantageous when freight is to be shipped more than a few hundred miles.

Proximity (less than an hour's drive) to an airport that can handle corporate jets also is more important to developers than are air freight facilities.

4. Utilities and Telecommunications

Developers are willing to purchase "raw" sites in favorable locations, assuming that services will be available. Compared to other industrial uses, distribution and logistics facilities are relatively small consumers of water and sewer services and electricity and natural gas, due to the nature of their operations.

Their **utilities** needs below are optimums. In practice, developers can be flexible, especially about such things as water and sewer distribution line sizes, if the site's location meets their needs:

Electricity (services on site should be underground).
- Kilowatt (kW) Demand: 1,350 kW
- Monthly Kilowatt Hour (kWh) Usage: 1,000,000 kWh
- Should be on a 15 kVA line, or preferably larger
- Should be within 3 miles of a substation with minimum available capacity of 25mVa
- Potential for dual feed from a substation is preferred.

Natural Gas
- Demand: 8,300 CF/Hr.
- Usage: 175,000 Therms/year
- Minimum available capacity: 4-6 inch high pressure line within 3 miles

Water
- Minimum: 2,500–4,000 gallons per minute potable existing available capacity, for up to 4 hours with 8 hour recovery for fire flow
- Water distribution line serving the site should be a minimum of 10 inches in diameter.
- Municipal system preferred

Sewer/Wastewater
- Minimum available capacity: 20,000 gallons per day (gpd) at site boundary
- Municipal system preferred

The key **telecommunications** infrastructure needed as of mid-2008 is for fiber optics services. As technology changes, though, other types of networks may become essential.

The availability of **wireless phone and data service** is now taken for granted and **satellite tracking** is also a given.

5. Environmental and Other Site Considerations

To minimize site and construction costs, developers prefer that the topography of the sites not have much elevation change and that they not be in flood plains or wetlands. They also favor sites with good soil conditions for buildings.

Environmental assessments, mitigation and permitting can add both time and costs to projects. Consequently, sites without ecological, historical, cultural or archaeological resources on them are preferred.

The sites should already be zoned to permit warehousing and distribution activities, so that the developers do not have to face a potentially lengthy and costly rezoning process with an uncertain outcome.

6. Workforce

The operations of distribution and logistics centers are not labor-intensive; even the largest facilities may employ only 100 to 150 persons. Since operations now rely heavily on technology, rather than physical strength, specific skills are required for employees.

7. Support Services

Distribution and logistics centers, and their transportation providers, need a variety of firms nearby to supply them with operational goods and services. These businesses include, but are not limited to, trucking companies, truck dealerships, truck mechanics and trucking centers; technology, computer, and telecom service providers and technicians; temporary staffing services; office and industrial supply warehouses; and courier services.

Meeting the Requirements of Logistics/Distribution Centers in the Lowcountry

The study team compared the requirements outlined above with what is currently available in the Lowcountry and then identified deficiencies between what is needed and what is currently available.

1. Location.

- **Import Centers.** Only the southernmost part of the Lowcountry, in Jasper County, is within the 10-mile radius of either of the existing ports. There is little or no suitable land available there either on US 17 or on I-95. Much of it is wetlands, including 50 of the 141 acres in the City of Hardeeville's industrial park at Exit 5. Exit 8 in Hardeeville has only 35 developable acres, but they are planned for tourism accommodations and services.

  The new port to be built on the Savannah River in Jasper County, however, will mean that more land in southern Jasper County will be within 10 miles of the port. Candidate sites will include buildable land along the one or more new access routes that will be built to connect the port with US 17 and I-95. The exact location is not yet known.

- **Regional Distribution Centers.** There is more buildable land in the Lowcountry within 20 to 30 miles of a port and within a day's drive of major consumer and business markets not served by centers in and around Savannah (including Columbia, Greenville and Spartanburg in South Carolina and Charlotte and Raleigh-Durham in North Carolina). Sites at Interstate exits 18 and 22 are candidates now.

  The construction of the new port will open up sites further north along and no more than one mile from I-95 interchanges to be developed as regional centers, including exits 28, 33 and 38.

  With the development of the inland port at Orangeburg, the criteria will be different and the Colleton County interchanges (53, 57 and 62) will also become candidates.

2. Sites of 100 or More Buildable Acres

To be considered for inclusion, sites also have to meet the locational criteria discussed above. Some land could be made available relatively quickly and easily; other land could be made available over the longer term.

Smaller sites in good locations and with necessary services can be developed as centers for the ancillary businesses and suppliers needed to support logistics and distribution centers.

While exit 5 in Hardeeville is well located in terms of both the Port of Savannah and the new Jasper County port, the serviced 141-acre business park there has only 91 buildable acres and, as result of the tourist-related and other service businesses at the exit, there are no other large scale parcels there. As mentioned above, exit 8 has no available sites for distribution/logistic centers.

There is only limited development, mostly rural and residential, now in the four quadrants of exit 18. Some very large parcels have been or are in the process of being assembled by developers on the eastern side of I-95, while there are a number of smaller parcels owned by various individuals, families or businesses on the other side of the highway.

At exit 22 there are approximately 800 undeveloped acres owned by one party; they are zoned industrial and could be provided with sewer and water services by the Town of Ridgeland.

Exit 28 has large amounts of unutilized or underutilized land, but the site is (and likely will be for the foreseeable future) too far from existing municipal sewer and water services to be a feasible candidate for development.

While the land closest to the interchange at exit 33 (Point South) has been developed to serve the tourism market, a major planned development site along US 17 about one-half mile from the exit includes approximately 150 upland acres zoned for about 1,000,000 square feet of commercial/light industrial development. Services are already available here. There is another site of more than 800 acres (which includes a significant amount of wetlands) about a further mile away on US 17A that has been selected by the Lowcountry Economic Network for similar development, but the owner has other objectives for his land, according to the planning consultant working on a community growth plan for the area.

Exit 38 is already the location of the one logistics success story in the Lowcountry. R & L Carriers, a large and growing trucking firm (which was recently awarded the 2007 Logistics Management Quest for Quality Award for multi-regional carriers) , has for several years occupied an older warehouse building in the southwest quadrant of the interchange. The location has worked well for them, the proof being that they are now expanding into a new 30-acre site approximately two miles from the interchange westward on the newly-widened highway SC 68. Between the new R & L site and the I-95 interchange are approximately 1700 acres in the

possession of the same person who owns the 800 acres on US 17A discussed above. Services have not yet been extended to the new R & L site.

Although Exit 42 is surrounded by undeveloped land, its distance from all services and infrastructure prevents it from being a candidate location at the present time.

To the east of exit 53 there are no large parcels of land available, but to the west there is only limited tourism-related development, providing longer-term potential; services could be extended there. At exit 57 the situation is the same to the east of I-95, and to the west there is a growing commercial cluster, anchored by a Wal-Mart.

Exit 62 is the location of the serviced 261-acre Colleton County Commerce Center, which has approximately 160 acres available specifically for manufacturing and distribution centers at this time.

In addition to the existing interchanges, the development of the port will very likely require the construction of a new interchange on I-95, at approximately mile 3, which will be connected to the port by a new access highway. Since transportation infrastructure planning for the port is in the preliminary stages, appropriate sites both at the proposed interchange and along the new road can be reserved for logistics/distribution center development.

3. Transportation

The Lowcountry region is well served by transportation.

All of the sites discussed in the section above are at or near Interstate 95 interchanges, since they represent one of the Lowcountry's most valuable and underutilized resources. As a result, a significant development constraint could be ability of the interchanges to accommodate the heavy truck traffic that will be generated by distribution/logistics centers.

The Upstate of South Carolina serves as an example of this. At lightly used exit 9 on Interstate 385. a Wal-Mart regional distribution center was built. [**Note:** The 2007 estimate of Annual Average Daily Traffic volume (AADT) past there of about 26,000 is lower than that past any of the Lowcountry I-95 interchanges.]. The interchange had to be rebuilt not many years after the center opened.

In the absence of any existing analyses of their present capacity compared to potential usage, LCOG engaged the firm of BP Barber to do a preliminary assessment of the capability of each interchange to handle increased truck traffic associated with the addition of distribution and/or logistics centers and the types of improvements needed.

I-95 Interchange Assessment

This is a summary of the consultants' findings. The complete report is attached as Appendix A. This sub-study is not a substitute for the detailed analyses that will be needed as the basis for future infrastructure planning. The purpose and limitations were stated by BP Barber:

> "This assessment is a high-level, conceptual evaluation of the subject interchanges intended to assist in paring down the number of interchanges under consideration; more detailed analyses should be performed to more fully understand interchange characteristics and the impacts associated with location of distribution/logistics centers."

One of the key findings of the BP Barber team was that additional freight traffic related to the operations of distribution and logistics centers would be relatively evenly spread out with limited peak traffic times. As a result, the emphasis of this assessment was on the special needs of trucks hauling large containers: geometrics (namely turning radii for large container trailers) and access (especially deceleration lengths) instead of on accommodating large new peak volumes of traffic. Based on that information and engineering standards, the following baseline requirements were developed by the consultants and used to evaluate the I-95 intersections in the Lowcountry:

- Ramp Radii at 20 mph = 107 feet
- Ramp Radii at 40 mph = 468 feet
- Deceleration Length = 750-880 feet
- Minimum Cross Route Cross Section = 3 lanes

Utilizing existing data provided by the South Carolina Department of Transportation (SCDOT) and other sources, the consultants evaluated the existing available capacity of each interchange. A number of factors were considered, including cross section, traffic volumes, geometrics, safety, and bridge rating. These are summarized in Table 3 (on the following pages):

Table 3: Interchange Characteristics									
Interchange	5	8	18	22	33	38	53	57	62
Cross Street	US 17	US 278	SR 13	US 17	US 17	SC 68	SC 63	SC 64	SC 34
Classification (Assumed)	Principal Arterial	Principal Arterial	Minor Arterial	Principal Arterial	Principal Arterial	Minor Arterial	Minor Arterial	Collector	Minor Arterial
Cross Section	4-lane	4-lane	2-lane	4-lane	4-lane	2-lane (E) 4-lane (W)	4-lane (E) 2-lane (W)	4-lane (E) 2-lane (W)	2-lane
Access	TWTL	Divided	Undivided	Divided	Divided	Undiv. (E) TWTL (W)	TWTL (E) Undiv. (W)	TWTL (E) Undiv. (W)	Undivided
ADT of Cross Street 1	10,100	25,300	950	3,600	9,800	4,000	9,500	3,600	600
ADT of Cross Street 2	11,800								850
Maximum at LOS A	14,308	16,464	5,292	16,464	16,464	5,292	12,152	4,214	5,292
Maximum at LOS B	21,608	24,864	7,992	24,864	24,864	7,992	18,352	6,364	7,992
Maximum at LOS C	29,200	33,600	10,800	33,600	33,600	10,800	24,800	8,600	10,800
Maximum at LOS D	33,580	38,640	12,420	38,640	38,640	12,420	28,520	9,890	12,420
ADT of I-95 1	49,800	52,200	49,800	43,100	45,600	39,600	39,100	38,100	39,100
ADT of I-95 2	52,200	46,800	45,000	49,800	39,600	39,500	38,100	39,100	39,500
Maximum at LOS A	28,714	28,714	28,714	28,714	28,714	28,714	28,714	28,714	28,714
Maximum at LOS B	43,364	43,364	43,364	43,364	43,364	43,364	43,364	43,364	43,364
Maximum at LOS C	58,600	58,600	58,600	58,600	58,600	58,600	58,600	58,600	58,600
Maximum at LOS D	67,390	67,390	67,390	67,390	67,390	67,390	67,390	67,390	67,390
Ramp Radii – 1	220′	N/A	140′	190′	200′	220′	N/A	200′	N/A
Ramp Radii – 2	200′	N/A	N/A	200′	N/A	250′	N/A	220′	N/A
Max at 20 mph	107′	107′	107′	107′	107′	107′	107′	107′	107′
Max at 40 mph	468′	468′	468′	468′	468′	468′	468′	468′	468′
Deceleration Length – 1	500′	250′	◆	◆	400′	450′	450′	300′	330′
Deceleration Length – 2	300′	230′	150′	◆	250′	650′	400′	350′	380′
Approx. Requirement	845′-880′	750′	800′-850′	750′	750′	800′-845′	800′	750′-845′	750′
Crashes									
Per Mill Entering Vehicles	7.88	1.85	2.44	3.79	2.20	1.32	3.34	1.51	1.96
Fatalities	6	10	10	6	10	2	5	2	5
Injuries	68	54	54	56	54	26	107	35	28
PDO	570	95	95	186	95	53	106	71	75

Interchange	5	8	18	22	33	38	53	57	62
Delay > 30									
Movement	95N-17S	95S-278E	N/A	N/A	N/A	95N-68W	95N-63W	95N-64E	N/A
Delay	79	new signal	N/A	N/A	N/A	40	31	new signal	N/A
Movement	N/A	95N-278W	N/A	N/A	N/A	95S-68W	95S-63E	95S-64E	N/A
Delay	N/A	65	N/A	N/A	N/A	32	71	new signal	N/A
Sufficiency Rating	83.1	97.5	88.5	83.7	90.2	79	79	79.3	91
	83.7					81		80.3	91
	90.2					Deck repair scheduled			
Fobs?				Yes					
Comments	Frontage road intersects ramp		US 17 is 4-lane w/2,600-3,600 ADT		Frontage road intersects ramp	68 to W is 4-lane undivided w/4,400 ADT	63 to W is 2-lane w/4,000 ADT; 2-lane bridge		

Because distribution/logistics center truck traffic is dispersed over a 24-hour period, no peak hour demand exists. Combine this with reasonable existing traffic volumes on cross routes, and it was determined that level of service (LOS) is not a primary issue (i.e., contrasting is I-95 itself, which appears to have potential LOS issues). Therefore, capacity was evaluated on the ability of the interchange to safely and efficiently accommodate truck traffic.

In their present design, none of the interchanges is ideal for large truck volumes; therefore, no dramatic distinction between the interchanges emerged as to which one (or ones) are the preferred choices at this time. However, when compared against one another, general capacity groupings are possible (see Table 4 below). These groupings are based solely on available transportation data and are not necessarily reflective of other factors including distance from port, availability of land, and access to utilities. While they are not rankings, the interchanges with the fewer "cons" will require the fewest improvements.

Table 4: Interchange Comparison

Group	Interchanges	Pros	Cons
1	Exit 5: I-95 at US 17	4-lane cross route; moderate cross route ADT; 200'-220' ramp radii; 300'-500' deceleration	Frontage road intersects northbound ramps
	Exit 38: I-95 at SC 68	4-lane cross route to west; low cross route ADT; 220'-250' ramp radii; 450'-650' deceleration; bridge deck repair scheduled	2-lane cross route to east
	Exit 53: I-95 at SC 63	4-lane cross route to east; moderate cross route ADT; no ramp radii; 400'-450' deceleration	2-lane cross route to west
2	Exit 57: I-95 at SC 64	4-lane cross route to east; low cross route ADT; 200'-220' ramp radii; NB/SB signalized	2-lane cross route to west; 300'-350' deceleration
	Exit 62: I-95 at SC 34	Low cross route ADT; no ramp radii	2-lane cross route; 330'-380' deceleration
3	Exit 8: I-95 at US 278	4-lane cross route; no ramp radii; SB signalized	High cross route ADT; 230'-250' deceleration
	Exit 18: I-95 at SR 13 to US 17	US 17 is 4-lane to north; Low cross route ADT	US 17 is 2-lane to south; 140' ramp radii; 150' deceleration
	Exit 22: I-95 at US 17	4-lane cross route; moderate cross route ADT	190'-200' ramp radii
	Exit 33: I-95 at US 17	4-lane cross route; 250'-400' deceleration	High cross route ADT; 200' ramp radii; frontage road intersects NB/SB ramps

Without detailed traffic analyses and specific information on the siting, size, and number of distribution/logistics centers at each interchange, the consultants feel that it is not appropriate to make detailed recommendations for improvements at this time. However, some general

observations were made for each interchange. These are included in Table 5. Table 6 on the following page shows "order of magnitude" estimated costs for improvements for all the interchanges below; Table 7 shows the improvements and costs for those interchanges most likely to be locations for logistics and distributions centers (except for the proposed Exit 3, which is still in the very preliminary stages of discussion).

Table 5: Potential Improvements

Interchange	Potential Improvements
Exit 5: I-95 at US 17	Separate frontage road from ramps; lengthen deceleration to reflect requirements of current truck operations
Exit 8: I-95 at US 278	Lengthen deceleration to reflect requirements of current truck operations; add signalization
Exit 18: I-95 at SR 13 to US 17	Improve US 17 to south to minimum 3-lane cross section; improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations
Exit 22: I-95 at US 17	Improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations
Exit 33: I-95 at US 17	Separate frontage road from ramps; improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations; add signalization
Exit 38: I-95 at SC 68	Improve SC 68 to east to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations
Exit 53: I-95 at SC 63	Improve SC 63 to west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations
Exit 57: I-95 at SC 64	Improve SC 64 to west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations
Exit 62: I-95 at SC 34	Improve SC 34 to east and west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations

Table 6: Estimated Interchange Improvement Costs

Interchange	Potential Improvements	Estimated Cost
Exit 5: I-95 at US 17	Separate frontage road from ramps; lengthen deceleration to reflect requirements of current truck operations	$715,000
Exit 8: I-95 at US 278	Lengthen deceleration to reflect requirements of current truck operations; add signalization	$906,000
Exit 18: I-95 at SR 13 to US 17	Improve US 17 to south to minimum 3-lane cross section; improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations	$3,366,000
Exit 22: I-95 at US 17	Improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations	$5,734,000
Exit 33: I-95 at US 17	Separate frontage road from ramps; improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations; add signalization	$3,128,000
Exit 38: I-95 at SC 68	Improve SC 68 to east to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$1,921,000
Exit 53: I-95 at SC 63	Improve SC 63 to west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$1,880,000
Exit 57: I-95 at SC 64	Improve SC 64 to west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$1,907,000
Exit 62: I-95 at SC 34	Improve SC 34 to east and west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$3,145,000
TOTAL ESTIMATED COSTS		$22,702,000

Table 7: Estimated Interchange Improvement Costs--Candidate Logistics Center Locations

Interchange	Potential Improvements	Estimated Cost
Exit 5: I-95 at US 17	Separate frontage road from ramps; lengthen deceleration to reflect requirements of current truck operations	$715,000
Exit 8: I-95 at US 278	Lengthen deceleration to reflect requirements of current truck operations; add signalization	$906,000
Exit 22: I-95 at US 17	Improve ramp radii to reflect requirements of current truck operations; lengthen deceleration to reflect requirements of current truck operations	$5,734,000
Exit 38: I-95 at SC 68	Improve SC 68 to east to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$1,921,000
Exit 53: I-95 at SC 63	Improve SC 63 to west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$1,880,000
Exit 57: I-95 at SC 64	Improve SC 64 to west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$1,907,000
Exit 62: I-95 at SC 34	Improve SC 34 to east and west to minimum 3-lane cross section; lengthen deceleration to reflect requirements of current truck operations	$3,145,000
TOTAL ESTIMATED COSTS		$16,208,000

Although none of the interchange bridge structures has a sufficiency rating lower than 50 (the threshold for replacement), the consultants noted that all structures are original and exceed 30 years in age. Their discussions with SCDOT personnel indicate that these structures are capable of supporting existing traffic volumes; however, should multiple distribution/logistics centers be accessed via the same interchange, the bridge structures would most certainly become

structurally deficient and require replacement. Such replacement is not recommended by this assessment, but should be kept in mind as future analyses are conducted.

The consultants assume that SCDOT and/or local governments will require that detailed traffic impact assessments (TIAs) be completed prior to approval of distribution/logistic centers/parks. However, they recommend an intermediate planning phase between the preliminary assessment and conceptual effort undertaken here and the detailed effort of a TIA that would better identify where large truck traffic generators can currently be accommodated and/or what improvements would be required. The more detailed analyses of selected interchanges should consider the following:

- Corner radii
- Sign type and placement
- Sight distance
- Grade
- Curbing
- Acceleration lanes
- Pavement friction

Other Transportation Topics

Because I-95 and US 17 were built parallel to what is now the CSX mainline through the Lowcountry, sites at interchanges 5 through 38 can all be provided readily with rail freight service.

As discussed in the "Freight Transportation Infrastructure Overview" section, the airports both within and just outside the Lowcountry already provide ample facilities and opportunities for commercial air travel, general aviation/corporate aircraft and air freight for the region. Planned and future improvements will add further capacity and services.

4. Utilities and Telecommunications

Services are either already available at or could be extended to almost all of the I-95 interchanges assessed in this project, with the exception of exit 28, which is too far from existing water treatment or sewage treatment plants to be practical at this time. Table 8, on the following

two pages, provides an overview of what services are available at each interchange and the agencies or corporations that provide them.

Table 8: Utility Fact Sheet

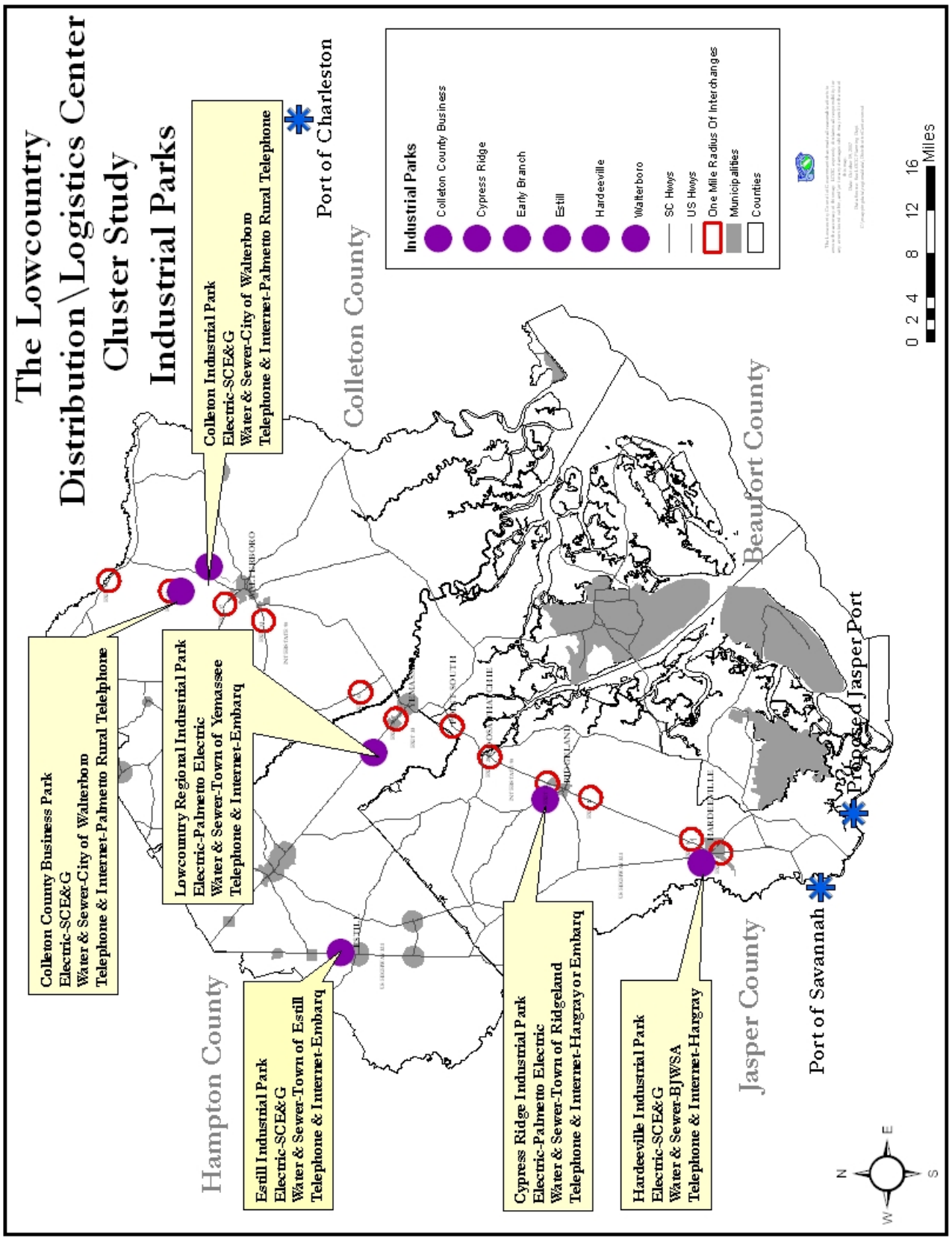
			Electric	Water	Sewer\Wastewater	
Exit	Jurisdiction(s)	Service Provider	Provider	Line Size Available	20k gal Capacity	Comments
5	Hardeeville	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	BJWSA		8"	
		Water	BJWSA	8"		
		Telecommunications	EMBARQ			
8	Hardeeville	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	BJWSA		6"	
		Water	BJWSA	8"		
		Telecommunications	EMBARQ			
18	Switzerland	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	NONE			
		Water	NONE			
		Telecommunications	NONE			
22	Ridgeland	Electric	SCE&G			
		Natural Gas	SCE&G			
		Sewer	BJWSA		10"	
		Water	BJWSA	8"		
		Telecommunications	EMBARQ			
	Cypress Ridge	Electric	PALMETTO			
		Natural Gas	NONE			
		Sewer	TOWN		8"	
		Water	TOWN	8"		
		Telecommunications	EMBARQ			
28	Coosawhatchie	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	NONE			
		Water	NONE			
		Telecommunications	EMBARQ			
33	Point South	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	BJWSA		6"	
		Water	BJWSA	8"		
		Telecommunications	EMBARQ			

Exit	Jurisdiction(s)	Service Provider	Provider	Line Size Available	20k gal Capacity	Comments
38	Yemassee	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	TOWN		6"	
		Water	TOWN	10"		
		Telecommunications	EMBARQ			
	Early Branch	Electric	SCE&G			
		Natural Gas	NONE			
		Sewer	TOWN		10"	
		Water	TOWN	8"		
		Telecommunications	EMBARQ			
	Estill	Electric	SCE&G			
		Natural Gas	SCE&G			
		Sewer	TOWN		10"	
		Water	TOWN	10"		
		Telecommunications	EMBARQ			
42	Colleton County	Electric	SCE&G			
		Natural Gas	SCE&G			
		Sewer	NONE			
		Water	TOWN	12"		
		Telecommunications	PRTC			
53	Walterboro	Electric	SCE&G			
		Natural Gas	SCE&G			
		Sewer	TOWN		6 & 8"	
		Water	TOWN	8"		
		Telecommunications	PRTC			
57	Walterboro	Electric	SCE&G			
		Natural Gas	SCE&G			
		Sewer	TOWN		8"	
		Water	TOWN	10"		
		Telecommunications	PRTC			
62	Colleton County		SEE COMMENTS			No service to the exit, but services to nearby Commerce Park
	Colleton County Commerce Park	Electric	SCE&G			
		Natural Gas	SCE&G			
		Sewer	NONE			
		Water	TOWN	12"		
		Telecommunications	PRTC			

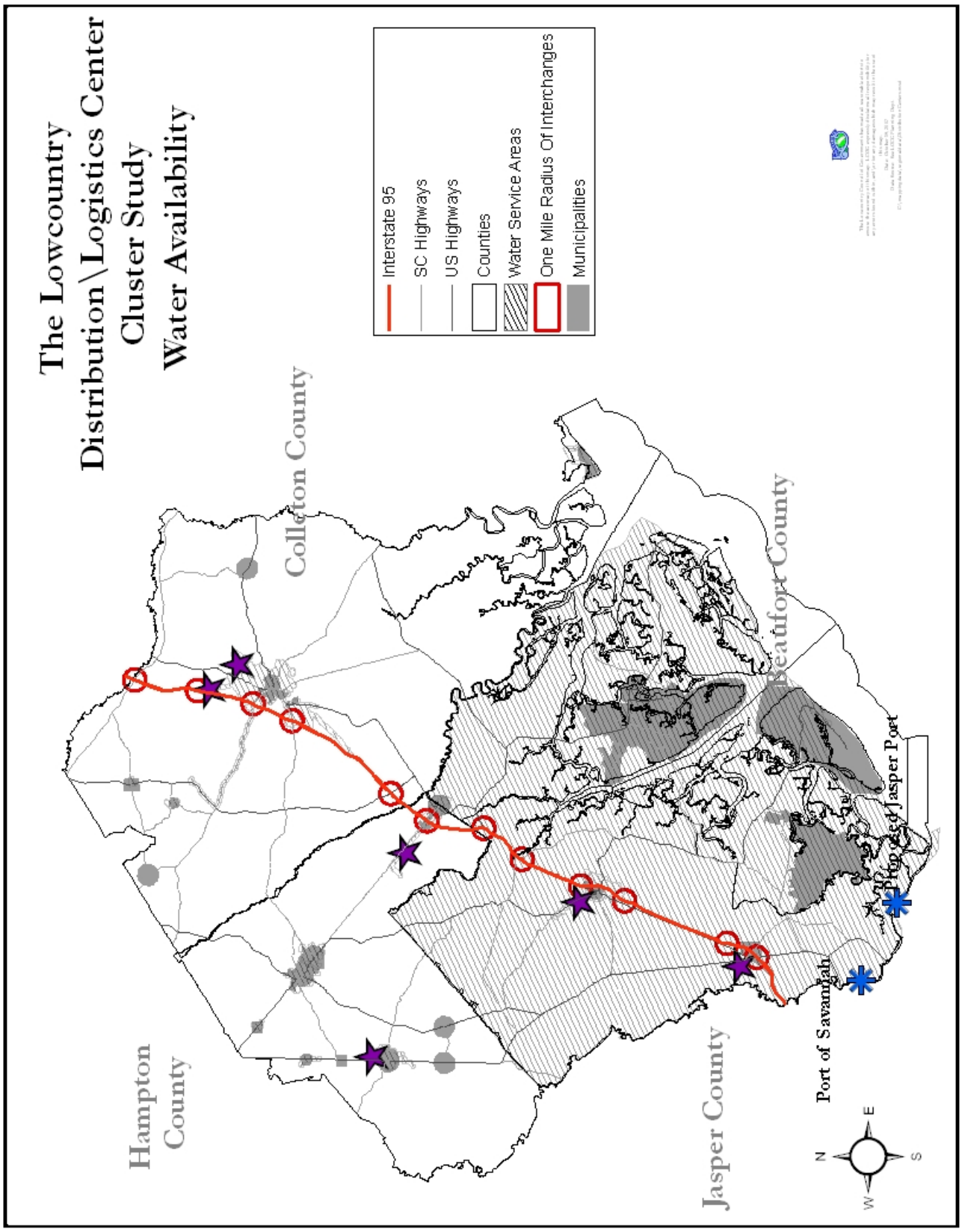
Map 3, on the following page, provides an overview of water, sewer, electric, natural gas and telecommunications services (and providers) available at both existing industrial parks and in a one-mile radius surrounding each of the interchanges. A larger version of the map is available upon request. Due to Homeland Security concerns detailed information, such as location and capacity of utility substations, cannot be shown. The study team has gathered the data, and it is also available upon request.

Map 4, on page 32, shows the location of water service areas; Map 5, on page 33, shows waste water (sewer system) service areas and the location and size of mains. Larger versions of the maps are likewise available upon request.

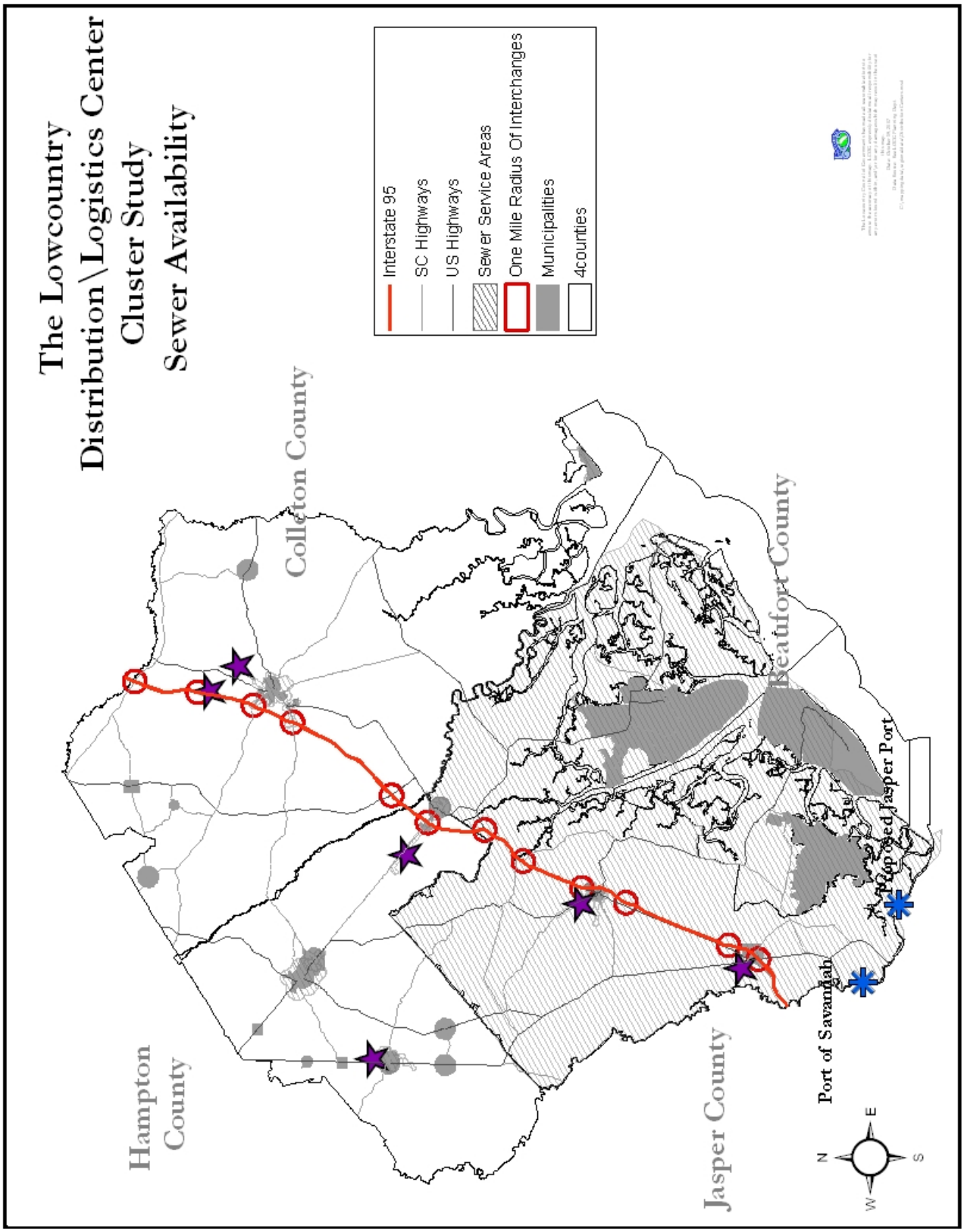
All the sites are not uniformly served and may not quite meet the precise criteria outlined. As noted, though, developers may be flexible, given other factors. At the same time, area electric, natural gas, water, sewer and telecom service providers are recognized nationally as being willing to cooperate, wherever feasible, to meet the needs of new businesses.



Map 3: Services Overview



Map 4: Water Services



Map 5: Waste Water System Services

5. Environmental and Other Site Considerations

The Lowcountry is characterized by creeks, rivers, wetlands and wetlands, which limit the amount of buildable land, as shown in Table 9 (below).

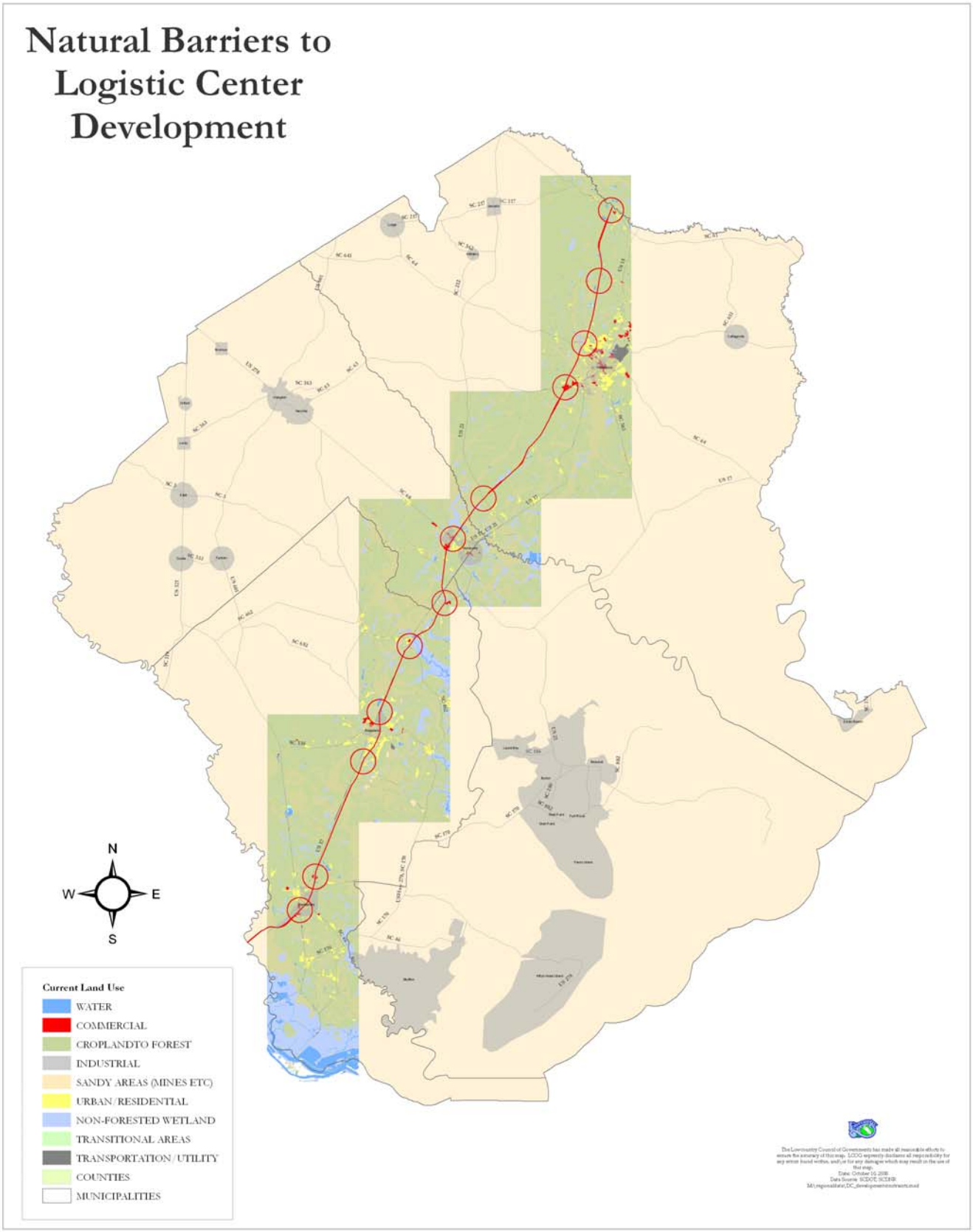
Table 9: Land and Water Areas in the Lowcountry

County	Total Area	Land Area	Water Area	% Land Area	% Water Area
Beaufort	922.88	535.27	387.61	58.00%	42.00%
Colleton	1,133.21	1068.61	64.61	94.30%	3.70%
Hampton	562.63	523.24	39.39	93.00%	7.00%
Jasper	699.79	680.89	18.9	97.30%	2.70%
Lowcountry	3,318.51	2857.23	461.28	86.10%	13.90%
South Carolina	32,020.20	30,109.47	1,910.73	94.03%	5.97%

As a result, building sites of all types in the area may have some environmental limitations. However, some of the land near the subject I-95 exits is relatively free of these potential problems. Local economic development, planning and other government officials in the Lowcountry are knowledgeable about the land conditions within their jurisdictions and any measures needed to work with those situations to develop practical solutions. Map 6, on the following page, delineates the locations of major wetlands.

Working with such wetland and soil conditions is considered part of doing business in the larger Savannah coastal region, according to a variety of logistics/ distribution center developers. One commented, "Site development costs in the coastal regions are expensive due to the soil content…In some cases in the Savannah area, the cost to prepare a pad-ready site can be as costly as the site itself." Another explained, referencing Savannah, but the same is true across the river in South Carolina, "The biggest challenge to developing in Savannah is the prevalence of wetlands." A third developer was pleased about finding 900 acres 25 miles south of Savannah "on a sandy ridge that provides development cost savings versus some competing sites" closer to the port.

The other important site consideration is ensuring that candidate sites for distribution and logistics facilities are zoned and maintained for those and related uses. At the present time, not all potential locations are zoned for these purposes. That becomes a problem when tourism-



Map 6: Environmental Constraints

oriented developments are proposed at I-95 interchanges and jurisdictions and their citizens are tempted to favor a short-term economic development result, producing a relatively small number of low-paying jobs quickly rather than waiting for a better longer term outcome. Some tourism services may be compatible with distribution and logistics center development clusters; traffic and other impacts may effectively remove the value of the remaining land for anything other than similar building projects. Consequently, all or parts of some strategically located interstate interchanges are, practically speaking, already unavailable for the construction of distribution and logistics centers. The following table outlines the current planning and zoning status at the interchanges being evaluated.

Table 8: Land Use Designations

Interchange	Specific Comp Plan and/or Zoning Provisions for Large Scale Sites to be Used for Logistics Centers
5	No
8	No
18	Newly annexed to town; recommended in Comp Plan.
22	Yes
33	No
38	Hampton Comp Plan and Zoning Ordinance being revised to include
53	Colleton County and City of Walterboro Comp Plans and Zoning Ordinances being revised to include
57	Colleton County and City of Walterboro Comp Plans and Zoning Ordinances being revised to include
62	Colleton County Commerce Park—designated and zoned

6. Workforce

Because the logistics and distribution center industry is presently extremely limited in the Lowcountry there is not a trained work force standing ready to take potential jobs at this time. Such an employee pool could be created, though, with adequate notice, according to the director of the Lowcountry Workforce Investment Act (WIA) program, which is the agency responsible for job training and retraining in the region. She estimates that it would take about eight weeks to get a program up and running, with most of that time spent on outreach, recruiting the most appropriate job candidates, from both inside and outside the immediate four counties.

The training time itself will depend upon the skills needed and whether the employer wants employees trained to do jobs at the beginning level, with further on-the-job-training, or whether a higher level of instruction is needed. Locally, employees can be trained and prepared for up to mid-range technical positions at the Technical College of the Lowcountry and/or Savannah Technical College. For engineering positions, R & D staff and other professional jobs, arrangements for training can be made with University of South Carolina and Clemson.

7. Support Services

Again, because there are no logistics/distribution centers clusters to support at this time, there are few services specifically—except for one trucking company—to support these businesses in the Lowcountry. They are readily available in Savannah, and there are local businesses, such as temporary employment agencies and computer repair services, that can be adapted for the new markets. Many opportunities for new enterprises will be present in the Lowcountry due to the increasing importance and value of timely delivery. It is a proverbial "chicken and egg" situation: support services are needed to attract logistics and distribution businesses, but support services, some of which will be small companies, will not find it financially feasible to locate in the Lowcountry until their customer base is here.

The development of the new port, however, will be a definite attractor as it comes closer to actual construction.

Action Plan

The Lowcountry is already in a good position to become a focal point for distribution and logistics center clusters. Several key measures should be undertaken, though, as soon as possible to ensure that such development takes place to the advantage of the Lowcountry Region. There is a possibility that, given the locational advantages of the area, logistics facilities may locate here on their own. However, the southeastern commercial and industrial market is highly competitive and the US economic and financial climate is currently not in a growth mode. Consequently, development should not be taken for granted. The fact that the only on-the-ground implementation of the well-publicized recommendations of the 2005 *Lowcountry Economic Diversification Plan* has been the upcoming R & L Carriers expansion in Hampton County demonstrates this.

Recommendations:

1. All of the jurisdictions in which candidate I-95 interchanges are located (Exits 62, 53, 38, 22, 18 and the new port-related exit) should ensure that large parcels (100 or more acres) and contiguous parcels of land are zoned for "Industrial" use to protect them from other less economically-beneficial forms of development. In some cases it may be necessary for the land to be annexed into nearby municipalities; both Colleton and Jasper counties have made it a planning and development policy to encourage such annexations to accommodate economic and urban growth and development.
2. Transportation planning for infrastructure for the new port and for improvements to the existing I-95 interchanges to accommodate the development of logistics/distributions centers should begin immediately. It should be a cooperative effort among SCDOT, the Lowcountry counties, the municipalities with I-95 interchanges, the bi-state port development organization and relevant private sector landowners and developers.
3. Encourage private investors and/or developers to assemble smaller parcels of land at these locations into large buildable cluster/business park sites.
4. Where possible, the counties and/or municipalities should apply to grant funding programs to provide sewer and water services to the sites.
5. A Lowcountry regional comprehensive marketing and promotional strategy should be prepared and implemented. The goal will be to attract distribution and logistics facilities developers—who will then market to their own client base of potential tenants and owners—as well as the necessary support service businesses.

Conclusion

Although the proposed port in Jasper County is not likely to be operational for at least six or seven years from this time, and the inland port/international distribution/logistics centers in Orangeburg County are still in the engineering design phases, waiting should not be an option for the Lowcountry. At the present time, even without the proposed massive new generators of shipping and trade, this Region already has significant features and benefits to offer to both developers and owners/managers of distribution and logistics centers. To reiterate, they are proximity to two existing busy ports and the ready availability of freight transportation networks. These invaluable advantages can and should be utilized as soon as possible.