FDOT District One

Freight Mobility and Trade Study

Technical Memo 2
Freight Data Collection and Analysis (Final)

prepared for: FDOT

May 2015

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1 INTRODUCTION AND PURPOSE OF TECHNICAL MEMO 2

The Florida Department of Transportation (FDOT) District One Office was tasked to conduct a districtwide Freight Mobility and Trade Study. This study will define an integrated and connected regional freight transportation network, identify regional freight investment priorities needed to sustain economic growth in the region, provide input to the Florida Freight Mobility and Trade Plan Investment Element, and may be used to petition and secure federal and state funding for enhancements to the existing regional freight network system. In completing the study, District One is undertaking multiple smaller tasks for which results will be documented in a series of memoranda.

As part of the initial work effort for this study, freight-related data was collected on a districtwide level. The freight data collected included highway-related information involving freight movement via trucks because of the availability of this type of data. Other modes, such as rail, airport, and seaport, had limited available information but are discussed further in Section 4.0 under commodities. The collection of data establishes a baseline condition of existing freight mobility and goods movement throughout District One in order to understand existing freight flow, concerns such as hotspot areas, and needs/challenges of the region. The data collected included total daily traffic volumes, truck volumes and percentages, truck crash data, pavement conditions, rail-highway crossings, and level of service/operating conditions for both existing and future years for each county in the district. In addition, a review of commodities and potential freight hot spots or bottlenecks was undertaken as well as a summary of the results of stakeholder surveys and interviews. The compilation and summary of this information is documented within this memo titled Technical Memo 2.

To provide a clear understanding of conditions affecting freight, this memo is divided into different sections. The front section is a general discussion of data collection methodology techniques, assumptions, etc. as well as highlight specific districtwide information, including commodity flows. The back section provides a county-by county summary of the data collected, including the results of these findings, including commodity flows, hot spots, and stakeholder surveys/interviews. The results provided in this memo will be incorporated in later tasks as building blocks for freight movement evaluation within the region.

2 DATA COLLECTION METHODOLOGY

As stated above, this section provides information regarding the methodology and sources used in the data collection activities of traffic and roadway-related data for the public roadway system within District One.

2.1 Average Annual Daily Traffic

One of the most significant items collected in this task involves existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways. This information is divided into total vehicular counts and heavy vehicle (i.e. truck) counts. As part of the truck counts, the percent of trucks on the roadway system was also collected. These three types of information are found in the most recent 2013 Florida Traffic Information (FTI) database as provided by FDOT. The 2013 AADT volumes are illustrated on individual county maps, while the truck AADT volumes and the percent trucks are combined into one map per county. These maps are provided in later sections of this memo.

2.2 Crash Data

Safety considerations are pivotal in the evaluation of freight movement, particularly truck operations. Safety issues are usually identified by a higher percentage of crashes at certain locations than at other locations along a corridor. To understand current safety issues that exist within District One, crash data was obtained from the FDOT Crash Analysis Reporting System (CARS). For the purposes of this review, the analysis focused on crashes involving trucks. The CARS program indicated truck crash data from 2010 to 2012, with 2012 being the most recent year of available data. The total number of truck crashes for the three-year period is provided on individual county maps as shown in later sections of this memo.

2.3 Pavement Conditions

Another important consideration involves the condition of pavement of travel lanes throughout the roadway system. Information regarding pavement conditions was based upon the FDOT inventory database and provided a preliminary review on whether current conditions are acceptable or not (i.e. poor) which would likely trigger a need for resurfacing improvements, at a minimum. The pavement conditions along those roadways which are in poor state of condition are provided on individual county maps as described in later sections of this memo.

2.4 Rail-Highway Crossings

As part of the data collection effort, rail-highway crossings for District One were identified through the FDOT Statewide Rail-Highway Crossing Inventory (RHCI) database. This database summarizes the characteristics of active rail-highway intersections and will identify critical rail-highway conflicts on primary freight corridors and truck routes and, ultimately, will help identify and prioritize funding investment priorities for improvements at critical sections of the freight network in District One. It should be noted that the active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads. Maps identifying this information by each county are provided in later sections of this memo.

2.5 Roadway Level of Service/Operating Conditions

Another key component of the data collection activities is the determination of existing and future level of service (LOS) or operating conditions of both state and non-state roadways throughout District One. The operating conditions were reviewed on a daily basis by using the ratio of AADT volumes to daily service volumes or capacities for each roadway segment. To simplify matters, and to minimize differences of adopted LOS standards between/within each county, only three categories were chosen to illustrate: below capacity (typically < 0.90 ratio); approaching capacity (typically between 0.90 and 1.00 ratio); and over capacity (typically > 1.00 ratio). These categories focus only on operating conditions as related to capacity instead of typical LOS letter grades (i.e. A through F).

For existing (2013) AADT volumes, the daily volumes discussed in Section 2.1 were used. For the future year, 2035 was considered the design or horizon year because many long-range transportation plans (LRTPs) for communities within Florida use 2035 as the currently adopted future year scenario. The 2035 AADT volumes were derived from the LRTPs of each county within District One based upon the results of the transportation models for each affected county or region.

The service volumes or capacities used are based upon FDOT's most recent (2012) generalized service volume tables, and current and future lane geometry. Excerpts of these tables are provided in Appendix A. Since most of these tables do not include an LOS E service volume (which is considered at capacity) for arterials, LOS D service volumes were considered as the maximum volume prior to reaching capacity levels. This method is typically applied to major facilities within each county. In addition, unless documented otherwise, major county facilities with direct connection to state limited access facilities (such as I-75) were considered to have similar service volumes or capacities as similar state road connectors. Also, the 2035 operating conditions analysis considered existing lane geometry plus any roadway improvement scheduled and funded for construction within FDOT's current 5-Year Work Program for each county as well as programmed county projects within a county's current Capital Improvement Program (CIP). It should be noted that the review of operating conditions on county roads were restricted to only those roads that currently have or will continue to have a reasonable amount of truck traffic utilizing them, with specific emphasis to interstate connector facilities. The maps associated with the operating conditions for 2013 and 2035 are provided in later sections of this memo.

3 System Performance of Truck Movements

A review of the system performance regarding truck movements was also undertaken as part of the data collection activities. This performance system review is conducted to determine key areas of freight activity so as to determine preliminary hot spots or bottlenecks. This review focused on six major factors: volume to capacity ratio, total daily traffic volume, total daily truck volume, truck percent, warehouse employment, and warehouse sales volume. As previously indicated, the most recent transportation models developed for the counties/regions within District One provide the volume to capacity ratios, total traffic and truck volumes, and truck percent in the future year network. The following models, as available from the Systems Planning Office online, were used and identified below.

- Lee County/Collier County MPOs Model
- Polk County TPO Model
- Sarasota/Manatee/Charlotte MPOs Model
- DeSoto County Model
- Glades County Model
- Hardee County Model
- Hendry County Model
- Highlands County Model
- Okeechobee County Model

InfoUSA data was used to obtain information related to the remaining two factors: warehouse employment and warehouse sales volume. With data for the six factors, the top 10 percent of roadway links meeting these criteria in each model were initially identified as first-cut hot spots. Of the top 10 percent selection, those that had a single factor contributing to more than 50 percent of the total score for that roadway segment were removed. A further detail regarding the methodology and calculations is provided in Appendix B, including an example of a complete evaluation for one county.

4 Commodity Flow Analysis

A commodity flow analysis was conducted which involved different freight information. To better understand commodity flows both within the State of Florida, particularly in different regions around the state, FDOT purchased the 2011 IHS Transearch data at both a county and traffic analysis zone (TAZ) level. Transearch provides commodity flow data that includes a variety of information such as origin, destination, commodity type, mode, value, and tonnage. Although a majority of commodity and tonnage data is publicly available through other sources for the major hubs within the District One region, such as Southwest Florida International Airport and Port Manatee, the data is primarily utilized to give insight on truck and railway movements throughout District One. In addition, information associated with air and water has also been incorporated into this section although detailed data regarding these other travel modes is not readily available.

4.1 Truck Movement of Goods

Table 4-1 details the tonnage volumes moving by truck into, out of, and within each of the counties in District One. This information is also illustrated in Figure 4-1 at a county level and at a TAZ level in Figure 4-2. Polk County by far has the highest tonnage at 20.5 million tons, or about 28 percent of the total tonnage in District One and 35 percent of originating tonnage. It was noted that Polk County has a high concentration of the warehousing and distribution industries when compared to the remaining counties within District One.

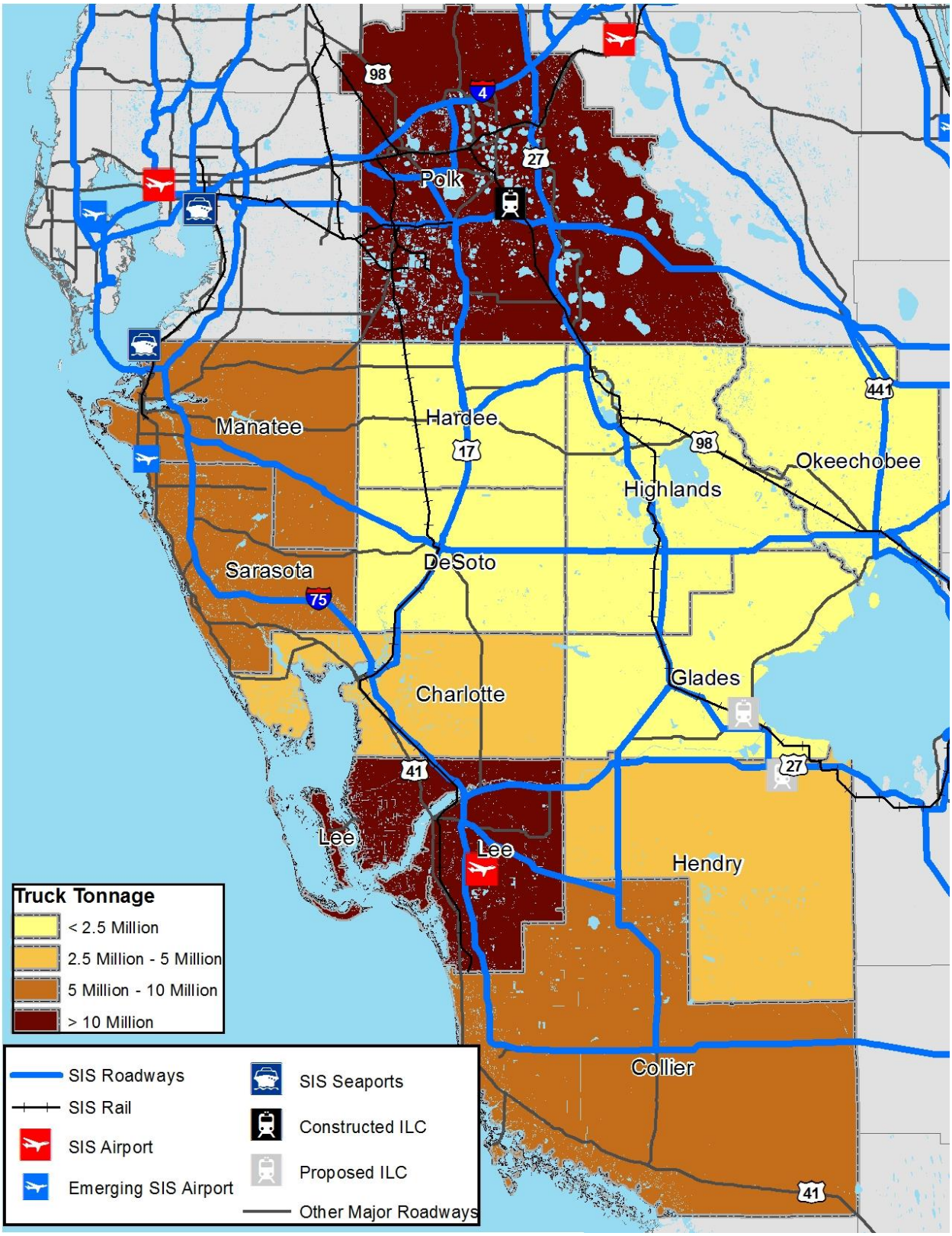
The other more urbanized counties of Lee, Sarasota, Manatee, and Collier are more heavily weighted towards tonnage entering (imports) the county in order to serve the people living or visiting there. Including Polk County, the five most populous counties in District One comprise roughly 85 percent of the overall population and approximately 90 percent of all tonnage bound for the region. The remaining counties were noted to have more outbound movement of goods (exports) which are likely fueled by the production of field crops, citrus fruits, and stone.

Table 4-1: Truck Tons by County, 2011 (in millions)

County	*Originates in*	*Destined for*	*Remains in*	*Total*
Polk	13.61	8.50	1.60	***20.50***
Lee	6.43	8.46	1.83	***13.05***
Sarasota	2.29	6.40	0.11	***8.58***
Manatee	2.89	4.57	0.04	***7.41***
Collier	1.93	5.50	0.16	***7.26***
Hendry	4.23	0.54	0.02	***4.75***
Charlotte	2.27	1.49	0.04	***3.72***
Highlands	1.52	0.97	0.02	***2.47***
DeSoto	1.04	0.44	0.00	***1.47***
Glades	1.10	0.10	0.00	***1.21***
Okeechobee	0.60	0.46	0.00	***1.06***
Hardee	0.68	0.26	0.00	***0.94***
Total	***38.57***	***37.68***	***3.83***	***72.43***

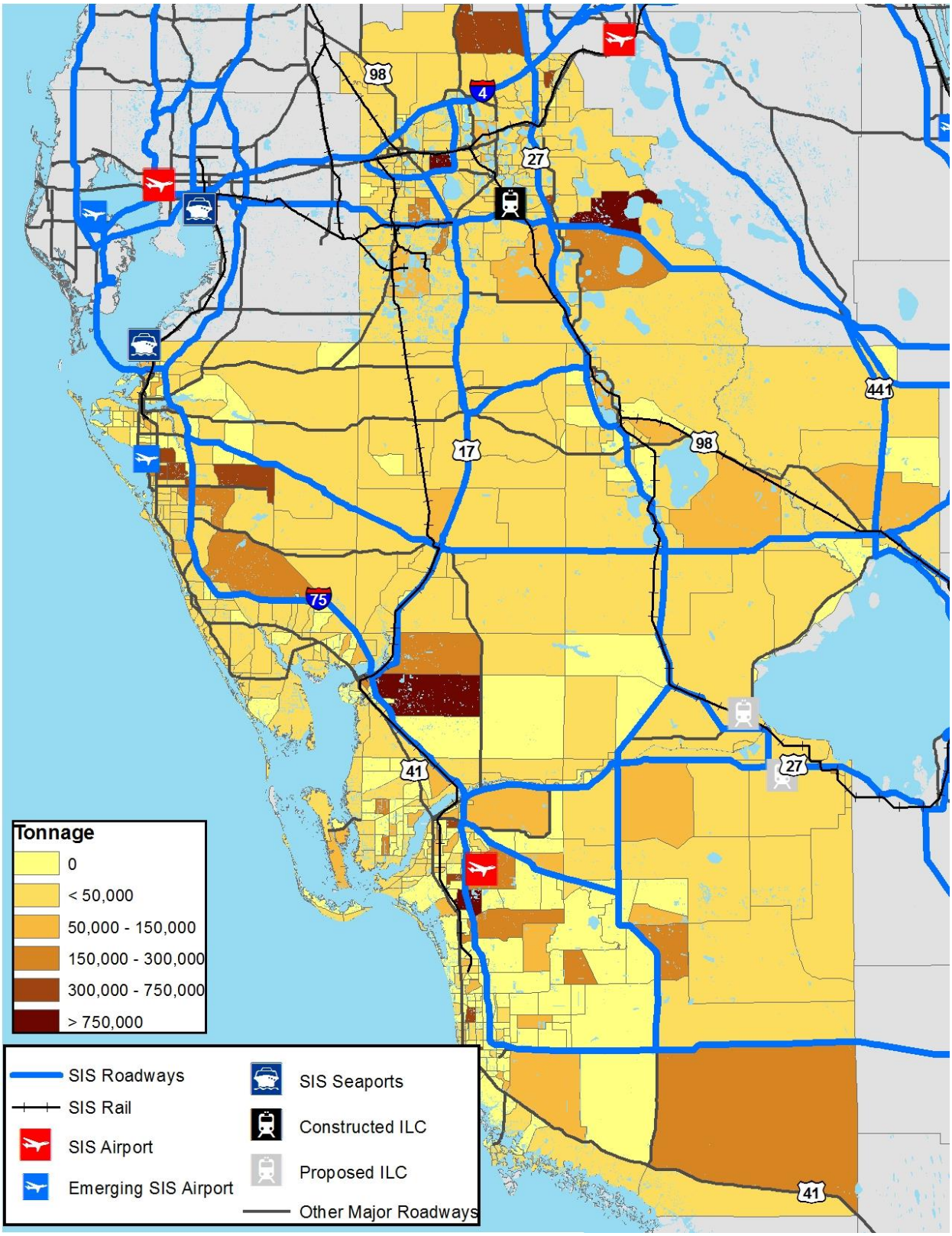
Source: 2011 IHS Transearch.

Figure 4-1: Total Truck Tons by County, 2011



Source: 2011 IHS Transearch.

Figure 4-2: Total Truck Tons by TAZ, 2011



Source: 2011 IHS Transearch.

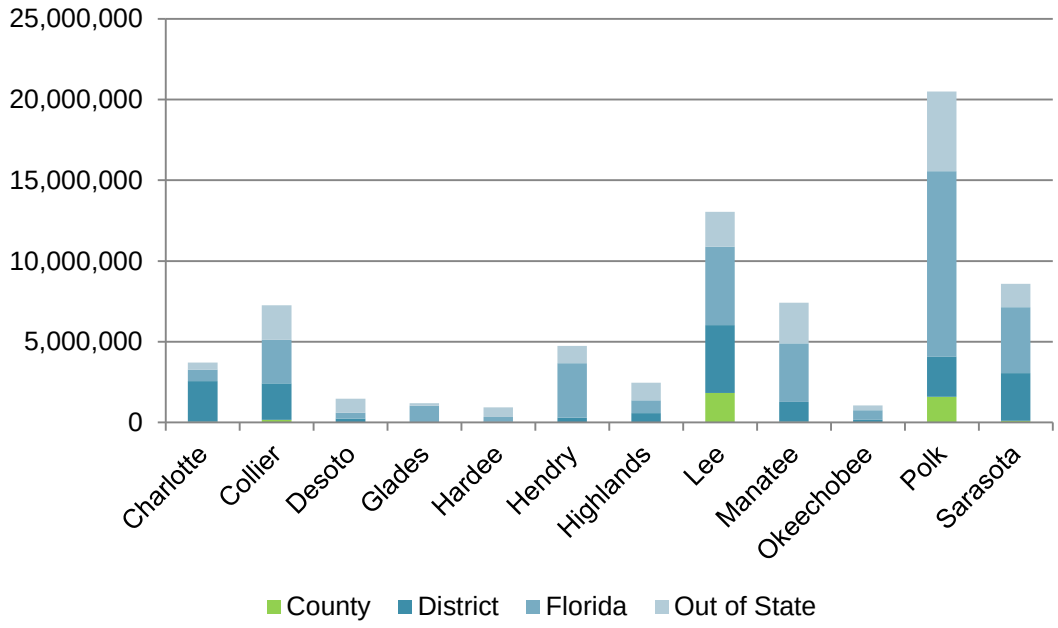
Of these goods, a large portion are originating or terminating outside of District One as detailed in Table 4-2 and shown in Figure 4-3. About 17 percent (10.4 of 62.0 million tons) of this tonnage stays within District One while the remaining 83 percent arrives from or departs to other locations. The largest trading partners outside of District One for each county, with the exception of Desoto, Hardee, and Highlands Counties, is the rest of the State of Florida. This information signifies how reliant District One is on the remainder of the state for its goods and its role that it plays to supply goods to both Florida and remainder of the United States.

Table 4-2: Truck Tons by Trading Partner by County, 2011 (in millions)

	County	*District*	*Florida*	*Out of State*	*Total*
Charlotte	0.04	2.56	0.72	0.44	***3.72***
Collier	0.16	2.42	2.70	2.14	***7.26***
Desoto	0.00	0.24	0.37	0.86	***1.47***
Glades	0.00	0.04	1.00	0.17	***1.21***
Hardee	0.00	0.08	0.27	0.60	***0.94***
Hendry	0.02	0.30	3.37	1.08	***4.75***
Highlands	0.02	0.58	0.80	1.09	***2.47***
Lee	1.83	6.03	4.85	2.17	***13.05***
Manatee	0.04	1.27	3.63	2.52	***7.41***
Okeechobee	0.00	0.16	0.59	0.30	***1.06***
Polk	1.60	4.09	11.47	4.94	***20.50***
Sarasota	0.11	3.06	4.08	1.44	***8.58***
Total	***3.83***	***10.41***	***33.84***	***17.76***	***62.01***

Source: 2011 IHS Transearch.

Figure 4-3: Truck Tons by Trading Partner by County, 2011



Source: 2011 IHS Transearch.

Of the commodities moved by truck, the largest majority, about 12.4 million tons, are attributed to non-metallic minerals, which are primarily comprised of Broken Stone or Riprap and Gravel or Sand. As shown in Table 4-3, these low-value goods mostly stay within the region with the largest movements seen within Lee County (1.5 million tons), from Charlotte County to Sarasota County (1.4 million tons), and within Polk County (1.4 million tons). The second largest commodity group with 17 percent of all tonnage is Secondary Traffic reflecting movements between distribution centers and retail establishments and other points of consumption. In fact, this single commodity is 99 percent of this secondary traffic and is the single largest commodity classification in the region. The third largest commodity group and highest volume of originating traffic is attributed to Farm Products. This is mostly due to Miscellaneous Field Crops and Citrus Fruits. Hendry County is the largest single producer of such goods with over 3 million tons. The top commodities are listed in Table 4-4.

Table 4-3: Top Non-Metallic Mineral Movements by Truck Tonnage, 2011 (in millions)

Origin	Destination	Tonnage	Percent of Total
Lee	Lee	1.51	12%
Charlotte	Sarasota	1.42	11%
Polk	Polk	1.37	11%
Lee	Collier	1.08	9%
Polk	Hillsborough	0.93	8%
Hernando	Manatee	0.41	3%
Lee	Manatee	0.37	3%
Polk	Lee	0.34	3%
Polk	Sarasota	0.32	3%
Lee	Charlotte	0.29	2%
All Others		**4.35**	**35%**
Total		**12.39**	**100%**

Source: 2011 IHS Transearch.

Table 4-4: Major Commodities Moving by Truck in District 1, 2011 (in millions)

Name	Originates in (tons)	Destined for (tons)	*Remains in (tons)*	*Total*
Nonmetallic Minerals	2.48	1.61	8.31	***12.39***
Secondary Traffic	3.09	7.41	0.48	***10.98***
Farm Products	9.36	1.26	0.25	***10.88***
Food or Kindred Products	4.08	3.48	0.13	***7.69***
Petroleum or Coal Products	2.44	3.57	0.88	***6.89***
Clay, Concrete, Glass, or Stone	2.61	1.98	1.63	***6.22***
Waste or Scrap Materials	0.22	0.88	0.45	***1.55***
Chemicals or Allied Products	0.15	1.28	0.01	***1.44***
Lumber or Wood Products	0.40	0.69	0.14	***1.22***
Printed Matter	0.35	0.42	0.01	***0.77***
All Others	1.07	2.78	0.04	***3.89***
Total	***26.25***	***25.35***	***12.33***	***63.93***

Source: 2011 IHS Transearch.

4.2 Rail Movement of Goods

In conjunction with Transearch, the Carload Waybill Sample from the Surface Transportation Board (STB) was also utilized. This is a sample of carload waybills for U.S. rail traffic, encompassing rail carriers terminating 4,500 or more revenue carloads annually. Due to the sensitive nature of this information, access to this information is restricted as well as the types of information that may be publicly released. Thus, permission to use this data was obtained prior to the compilation of this information. A summary of the information provided by Transearch is provided below.

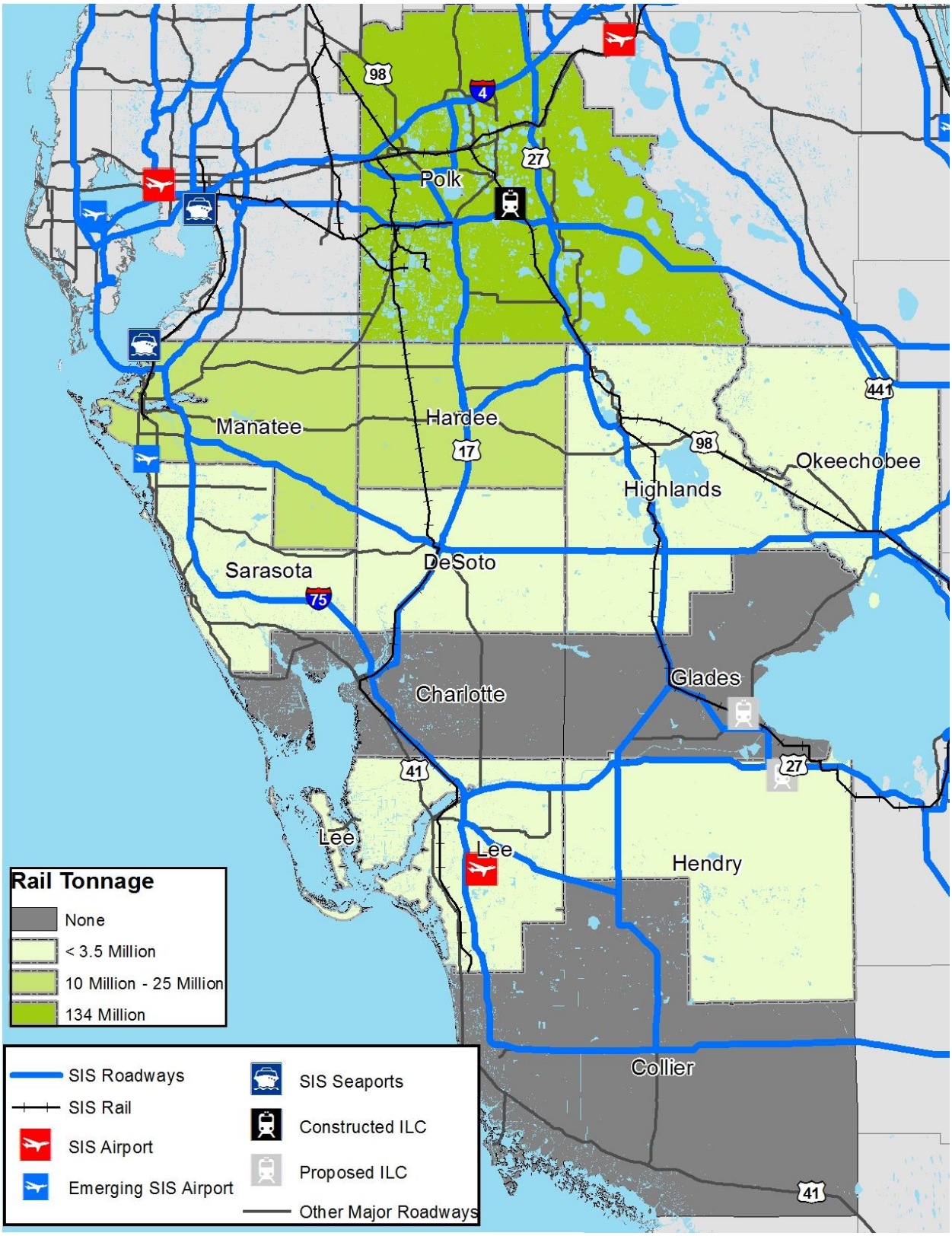
Table 4-5 details the cargo tonnage moving out of, into, and within District One by county which is illustrated in Figure 4-4. Please note that the only movements that occur internally to the region are focused in Polk County, which are likely driven by the phosphate mining activity. Except for some carload bulk movements, freight traffic moving short distances are typically less economical by rail than truck. Recent developments will likely impact rail flows in District One and Polk County in particular. For example, Polk County is the home of CSX's new Central Florida Intermodal Logistics Center located in Winter Haven. The impact of this development has yet to be reflected in rail tonnage data. In addition, 2014 saw the closing of the last remaining Hookers Prairie phosphate mine in Polk County. Future rail and truck movements will shift as future mines are considered in Manatee, DeSoto, and Hardee Counties. Overall, Polk County currently processes 74 percent of all rail movements within District One. Hardee County comprises a further 13 percent of these movements, and Manatee County ranks third with 8 percent. The remaining counties handle 2 percent or less of the total rail tonnage in District One. Charlotte, Collier, and Glades Counties do not report any rail tonnage, likely due to limited rail infrastructure in the area.

Table 4-5: Rail Tons by County and Direction, 2011 (in millions)

County	Originates in (tons)	Destined for (tons)	*Remains in (tons)*	*Total*
Polk	111.72	70.61	48.33	***134.00***
Hardee	23.86	0.00	0.00	***23.86***
Manatee	6.52	8.13	0.00	***14.65***
Hendry	3.45	0.00	0.00	***3.45***
Okeechobee	0.09	2.10	0.00	***2.19***
Highlands	0.07	1.11	0.00	***1.18***
Lee	0.72	0.00	0.00	***0.72***
Sarasota	0.49	0.00	0.00	***0.49***
DeSoto	0.03	0.00	0.00	***0.03***
Charlotte	0.00	0.00	0.00	***0.00***
Collier	0.00	0.00	0.00	***0.00***
Glades	0.00	0.00	0.00	***0.00***
Total	***146.96***	***81.95***	***48.33***	***180.58***

Source: 2011 IHS Transearch.

Figure 4-4: Rail Tons by County, 2011



Source: 2011 IHS Transearch.

Of this rail tonnage, 105.7 million tons or 61 percent is attributed to non-metallic minerals as shown in Table 4-6. Another significant commodity is from Chemical or Allied Products such as Fertilizer Minerals with 43.2 million tons. Similar to the truck movements seen in the region, this amount is unsurprising given the location of the employer, Mosaic, within the region as well as the importance of the agricultural industry. As indicated above, the phosphate/fertilizer mining activity in the region is significant and will continue to control truck and rail movements. As old mines close and new mines come online, how these flows are handled and planned for will dictate the impact on the road and rail networks. Another large volume commodity includes Food or Kindred Products with 14.6 million tons. The remaining commodity groups comprise about 11.3 million tons, or 6 percent of the total tonnage.

Table 4-6: Rail Commodities by Direction, 2011 (in millions)

Commodity	Originates in (tons)	Destined for (tons)	*Remains in (tons)*	*Total*
Non-Metallic Minerals	95.92	58.06	48.26	***105.72***
Chemicals or Allied Products	38.49	10.55	5.89	***43.16***
Food or Kindred Products	10.35	4.21	0.00	***14.55***
Coal	0.00	4.15	0.00	***4.15***
Clay, Concrete, Glass or Stone	0.64	1.47	0.00	***2.11***
Pulp, Paper, or Allied Products	0.00	1.71	0.00	***1.71***
Waste or Scrap Materials	1.40	0.00	0.00	***1.40***
Farm Products	0.06	0.86	0.00	***0.92***
Lumber or Wood Products	0.09	0.51	0.00	***0.60***
Petroleum or Coal Products	0.00	0.19	0.00	***0.19***
Primary Metal Products	0.00	0.12	0.00	***0.12***
Transportation Equipment	0.00	0.13	0.06	***0.07***
Total	***146.96***	***81.95***	***54.21***	***174.70***

Source: 2011 IHS Transearch.

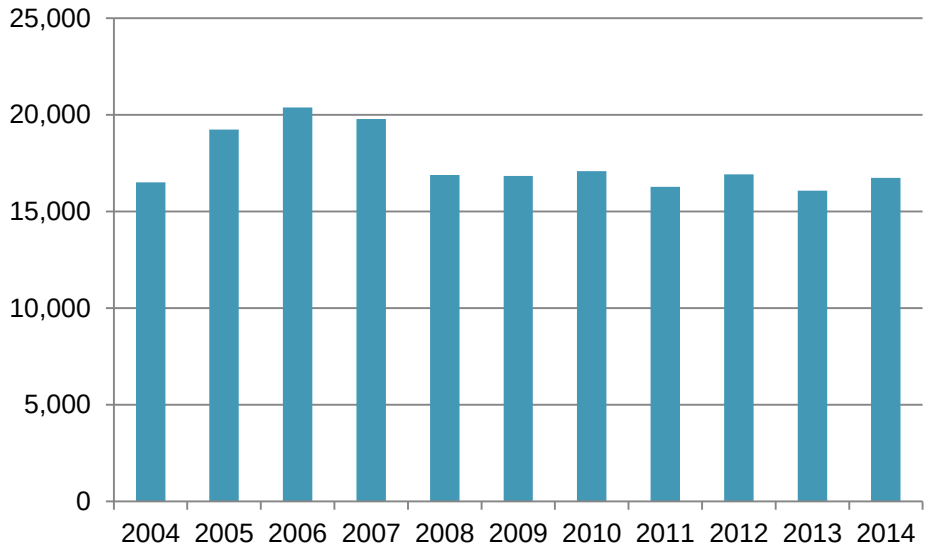
4.3 Air Movement of Goods

Domestic air movement of goods was also provided by Transearch. However, since the primary air-related hub in District One is Southwest Florida International Airport (RSW), air information was focused on this facility alone. For the purpose of this regional analysis, statistics from this airport were collected and summarized, which provides both domestic and international operations.

Comparisons were conducted to help validate the information. For air cargo movements, Transearch is relatively consistent with regard to volume. RSW reported roughly 32.5 million pounds of cargo in 2011, or 16,270 tons. Transearch reports a volume of 16,464 tons for this same year, a difference of only 1 percent. Based on historic data from RSW, cargo volumes have remained relatively steady since 2008, ranging by only a few hundred tons from year to year. Cargo handled at RSW primarily consists of courier services and mail (Federal Express, UPS, etc.) which is

primarily domestic. The limitation in international flights may account for limited belly cargo. Figure 4-5 summarizes the historic movement of cargo through RSW.

Figure 4-5: Historic Cargo Movements at Southwest Florida International Airport (tons)

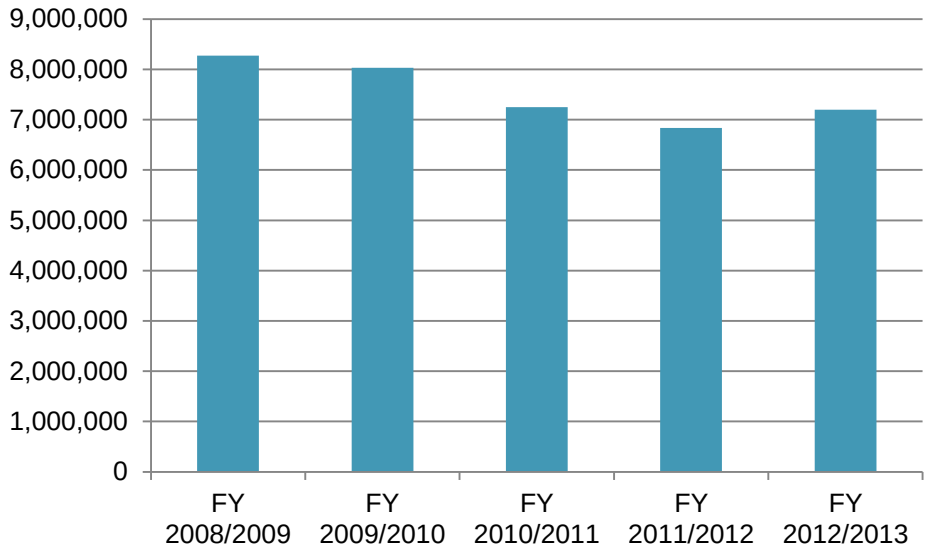


Source: Southwest Florida Regional Airport Monthly Statistics.

4.4 Water Movement of Goods

Data for water movement was collected similar to methods collected for air cargo. Since the primary seaport for District 1 is Port Manatee, water information was focused on this facility alone. In the case of Port Manatee, cargo volumes are estimated significantly higher in Transearch than reported conditions. For example, Transearch estimates a total of just over 9 million tons (domestic) of waterway movements in District One in 2011, while the Florida Ports Council's annual Five-Year Florida Seaport Mission Plan shows a volume of about 7.2 million tons (domestic and international) in FY 2010/2011. The difference between both sources is almost 25 percent. Figure 4-6 shows the past five years of cargo trends at Port Manatee as reported by this plan. Port Manatee predominately handles imported goods, which account for 84 percent of its total tonnage. Some of the primary imports include tropical fruits and vegetables, citrus juices and beverages, forestry products, and refined petroleum products.

Figure 4-6: Historic Cargo Movements at Port Manatee (tons)



Source: The Five-Year Florida Seaport Mission Plan.

5 Stakeholder Interviews and Surveys

As part of the process in collecting information, key stakeholders were identified and engaged to gain a first-person point of view on how the District One freight network is working for its users. A list of stakeholders involved in this study can be found in the project's Public Information Plan (PIP). Two strategies were employed to gain stakeholder input. First, an online freight survey was made available to the entire stakeholder list with the ability to share the link with additional staff or interested participants. The second strategy for stakeholder input included face-to-face interviews with a small sample of private and public stakeholders throughout District One. The face-to-face interviews included a variety of entities, such as trucking companies, manufacturers and distributors, local metropolitan planning organizations (MPOs), Port Manatee, Southwest Florida International Airport, and Sarasota-Bradenton International Airport. These interviews were undertaken to gain a better understanding of what the preferred freight routes in the region were and how is the network performing from a user standpoint. In conjunction with the face-to-face interviews, field reviews were periodically undertaken to verify hot spot locations identified in the interviews. Each county section summarizes the key findings of this task. It should be noted that it was the intention of this task to reach out to all the counties, urban and rural alike. This method was undertaken to ensure that a reasonable cross section of District One was included in the dialogue of freight issues and concerns.

6 County Summaries

As discussed in earlier sections of this memo, detailed summaries of the data collected and the resulting analyses and findings are provided below on a county-by-county basis.

6.1 Charlotte County

Charlotte County is 859 square miles in area with an estimated current population of approximately 160,000 as reported by the Charlotte County Economic Development office. The top five growing industries within the County include:

- Administrative, Support, Waste Management, and Remediation Services;
- Professional, Scientific and Technical Services;
- Finance and Insurance;
- Wholesale Trade; and
- Transportation and Warehousing.

Similarly, the top five major private sector employers include:

- Wal-Mart Associates, Inc.;
- Peace River Regional Medical Center;
- Charlotte Regional Medical Center;
- Publix Supermarkets; and
- Fawcett Memorial Hospital, Inc.

6.1.1 Average Annual Daily Traffic

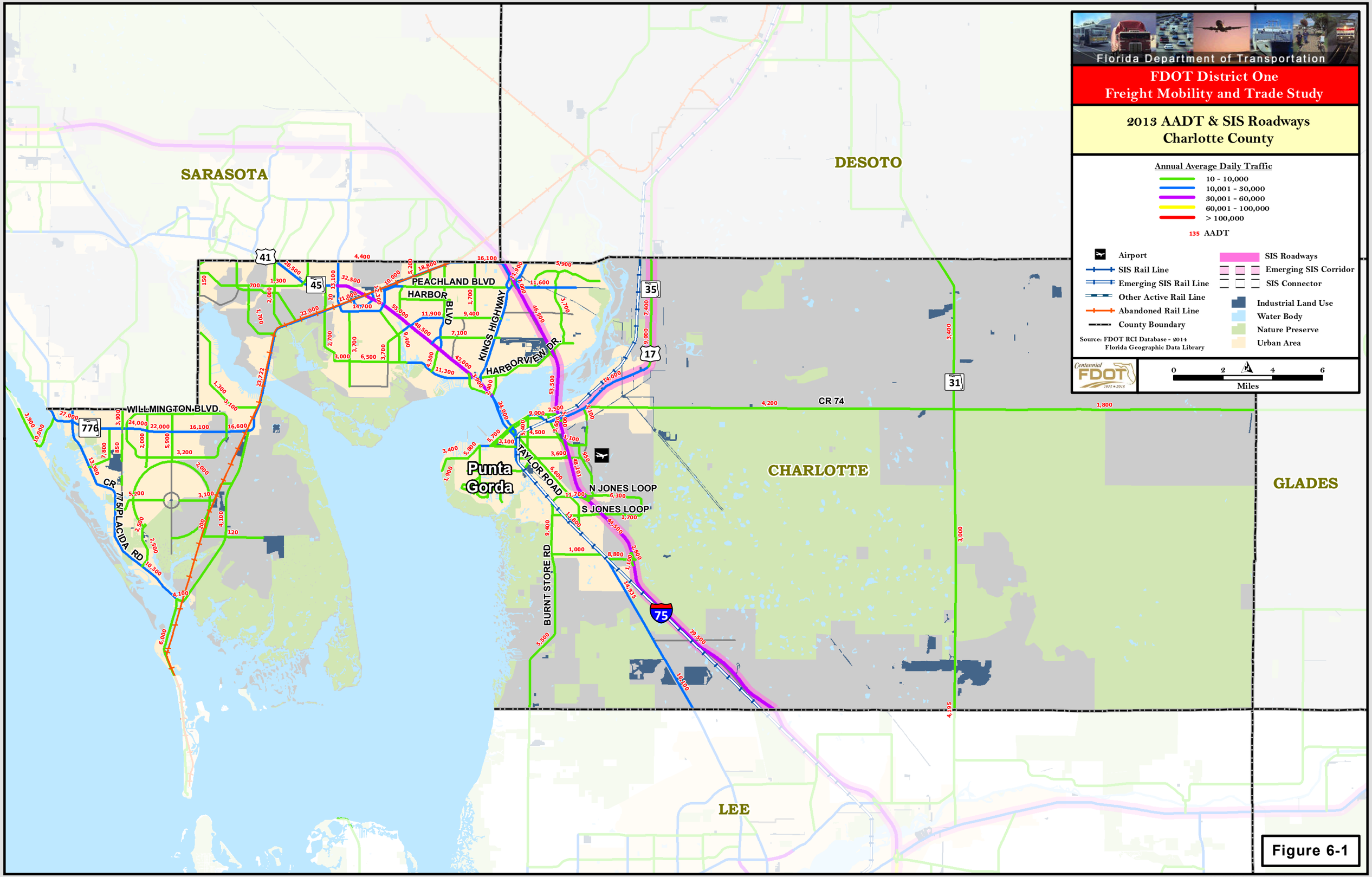
The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-1. As indicated in this figure, the highest volumes are found along U.S. 41 at approximately 55,000 vehicles per day (vpd). In addition, the truck AADT volumes within this county are shown in Figure 6-2 and the peak traffic volumes are found along I-75 at nearly 7,400 vpd or 16 percent of all traffic.

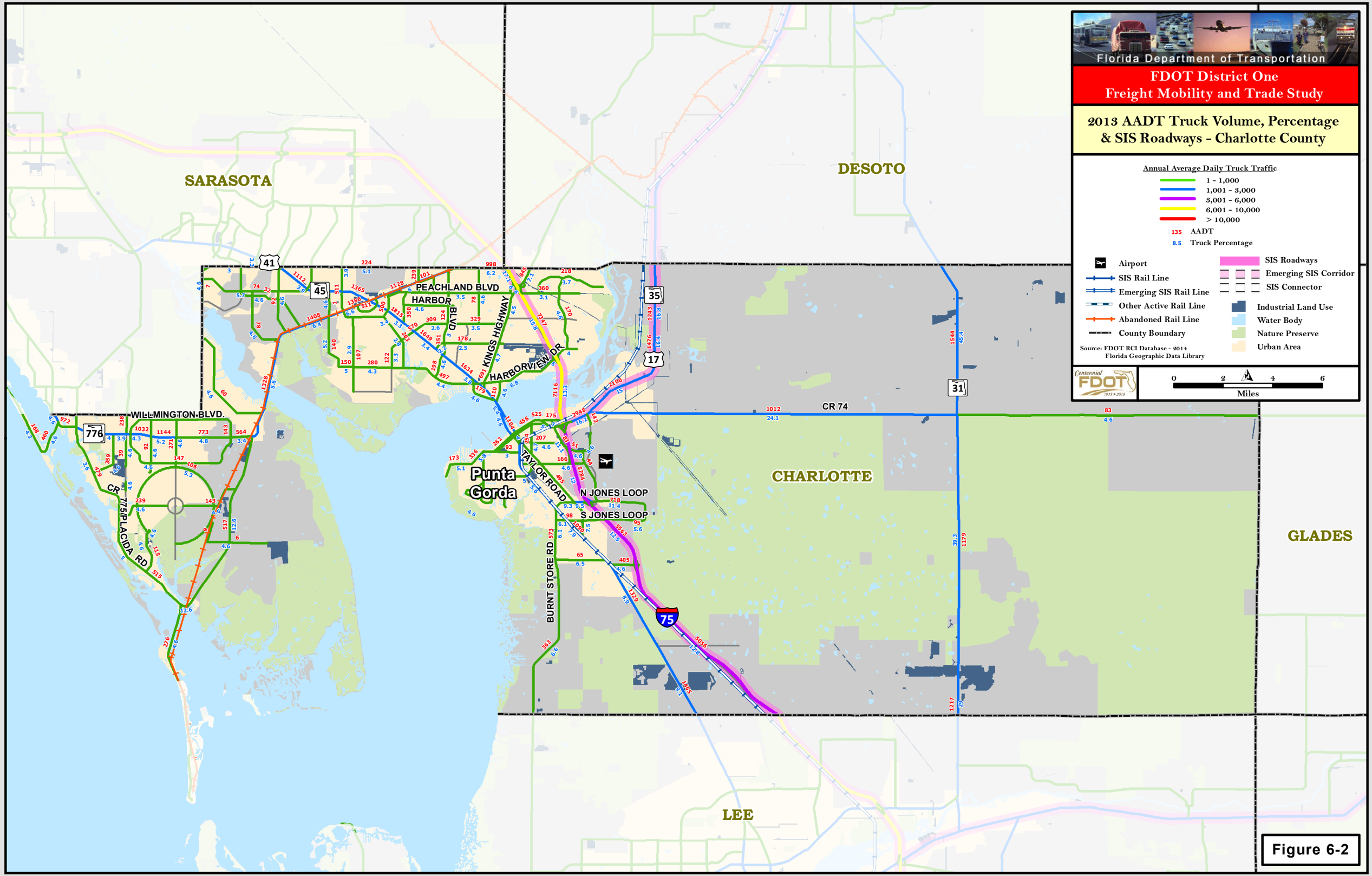
6.1.2 Crash Data

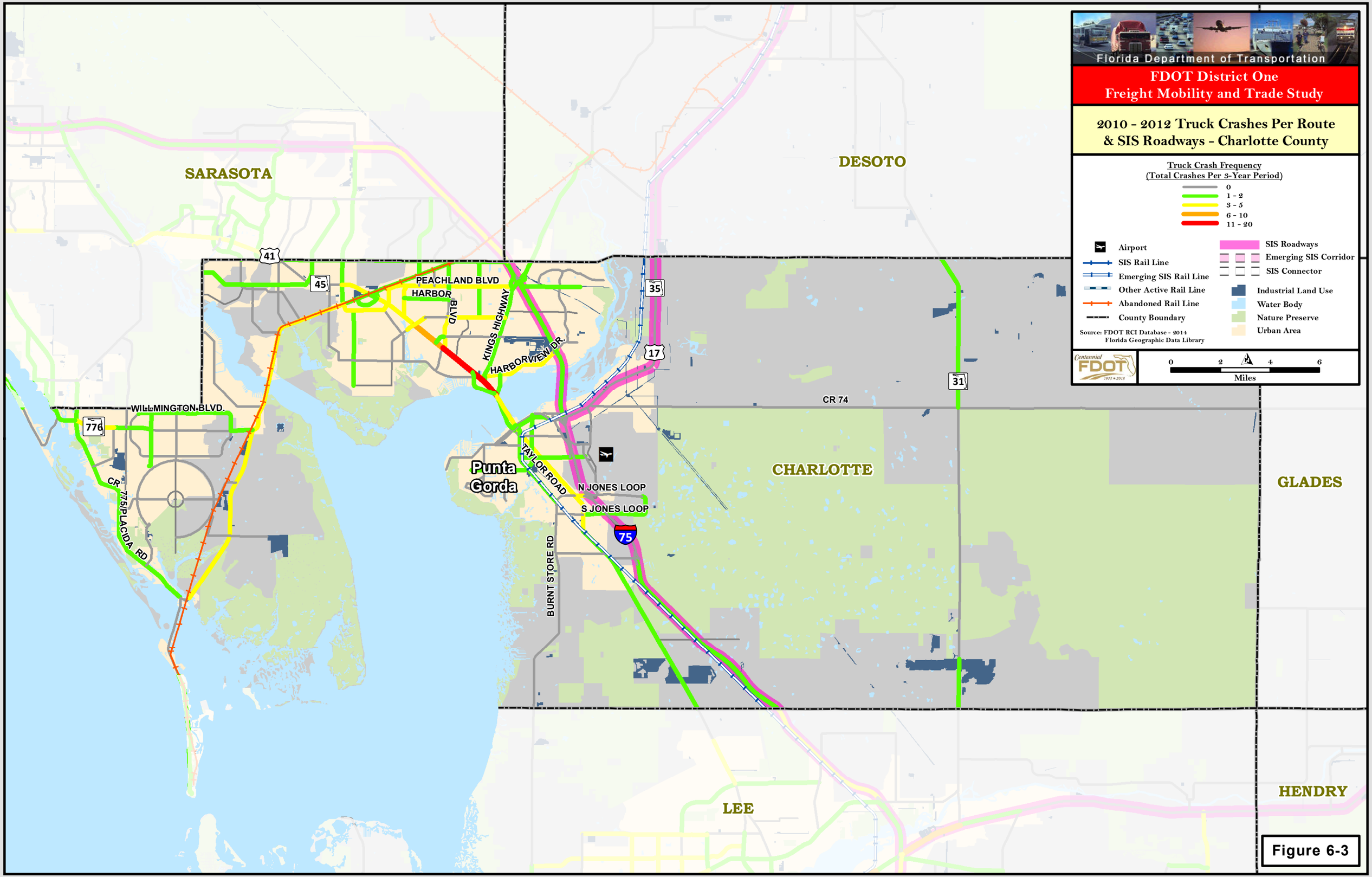
Truck crash data for the past three-year period within this county is illustrated in Figure 6-3. As shown in this figure, the highest number of truck-related crashes (up to 20 crashes per three-year period) can be found along the section of U.S. 41 from the Peace River to Harbor Boulevard. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.1.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-4. As shown in this figure, there are no roadways which were identified as in "poor" condition.


Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 AADT & SIS Roadways
Charlotte County
Annual Average Daily Traffic
10 - 10,000
10,001 - 30,000
30,001 - 60,000
60,001 - 100,000
> 100,000
135 AADT
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 2 4 6
Miles
SARASOTA
DESOTO
CHARLOTTE
GLADES
LEE
PEACHLAND BLVD
HARBOR BLVD
KINGS HIGHWAY
HARBORVIEW DR.
WILLMINGTON BLVD.
CR 775/PLACIDA RD
TAYLOR ROAD
N JONES LOOP
S JONES LOOP
BURNT STORE RD
CR 74
Punta Gorda
41
45
35
17
31
776
75
Figure 6-1


Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 AADT Truck Volume, Percentage & SIS Roadways - Charlotte County
Annual Average Daily Truck Traffic
1 - 1,000
1,001 - 3,000
3,001 - 6,000
6,001 - 10,000
> 10,000
135 AADT
8.5 Truck Percentage
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 2 4 6
Miles
SARASOTA
DESOTO
CHARLOTTE
GLADES
LEE
PEACHLAND BLVD
HARBOR BLVD
KINGS HIGHWAY
HARBORVIEW DR
WILLMINGTON BLVD.
CR 775/PLACIDA RD
Punta Gorda
TAYLOR ROAD
N JONES LOOP
S JONES LOOP
BURNT STORE RD
CR 74
41
45
35
17
31
776
75
Figure 6-2


Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2010 - 2012 Truck Crashes Per Route
& SIS Roadways - Charlotte County
Truck Crash Frequency
(Total Crashes Per 3-Year Period)
0
1 - 2
3 - 5
6 - 10
11 - 20
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 2 4 6
Miles
SARASOTA
DESOTO
CHARLOTTE
GLADES
HENDRY
LEE
41
45
35
17
31
776
75
PEACHLAND BLVD
HARBOR BLVD
KINGS HIGHWAY
HARBORVIEW DR.
CR 74
WILLMINGTON BLVD.
CR 775/PLACIDA RD
Punta Gorda
TAYLOR ROAD
N JONES LOOP
S JONES LOOP
BURNT STORE RD
Figure 6-3
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Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Pavement Conditions
Charlotte County

Legend

- Poor Pavement Condition
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

SARASOTA

DESOTO

CHARLOTTE

GLADES

LEE

41

45

35

17

31

776

75

PEACHLAND BLVD

HARBOR BLVD

KINGS HIGHWAY

HARBORVIEW DR.

CR 74

WILLMINGTON BLVD.

CR 775/PLACIDA RD

Punta Gorda

TAYLOR ROAD

N JONES LOOP

S JONES LOOP

BURNT STORE RD

Figure 6-4

Document Path: E:\Data\FDOT_Dist-1_Freight_Study\Map_Docs\2015\Pavement_Conditions\Charlotte_Pavement_Conditions_2013_11x17.mxd

6.1.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-5. As indicated in this figure, there are approximately 25 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.

6.1.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-6 and 6-7. For existing conditions, no roadways are operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, several sections of U.S. 41 and CR 775 are expected to exceed capacity. Further investigation of these locations will be conducted in a later stage of this freight study to verify the need for any potential improvements.

6.1.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated that only one hot spot or bottleneck was identified, the U.S. 41 and Veterans Boulevard intersection, in Charlotte County. A map showing the location of this hot spot is provided in Appendix B.

Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-1 summarizes the major commodities by truck mode through Charlotte County.

Table 6-1: Top Commodities by Truck Tonnage, Charlotte County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Nonmetallic Minerals	1,715,895	457,315	30,570	2,142,640	58%
Clay, Concrete, Glass or Stone	222,024	184,237	5,159	401,102	11%
Secondary Traffic	8,571	346,553	357	354,767	10%
Petroleum or Coal Products	116,959	134,334	858	250,434	7%
Farm Products	133,487	40,669	151	174,004	5%
Food or Kindred Products	8,201	93,565	0	101,766	3%
Waste or Scrap Materials	11,940	60,195	415	71,720	2%
Printed Matter	19,195	20,980	0	40,175	1%
Primary Metal Products	25,954	13,359	0	39,313	1%
Chemicals or Allied Products	0	30,066	0	30,066	1%
All Others	11,532	104,300	3	115,829	3%
Total	**2,273,758**	**1,485,572**	**37,512**	**3,721,818**	**100%**

Source: 2011 IHS Transearch.

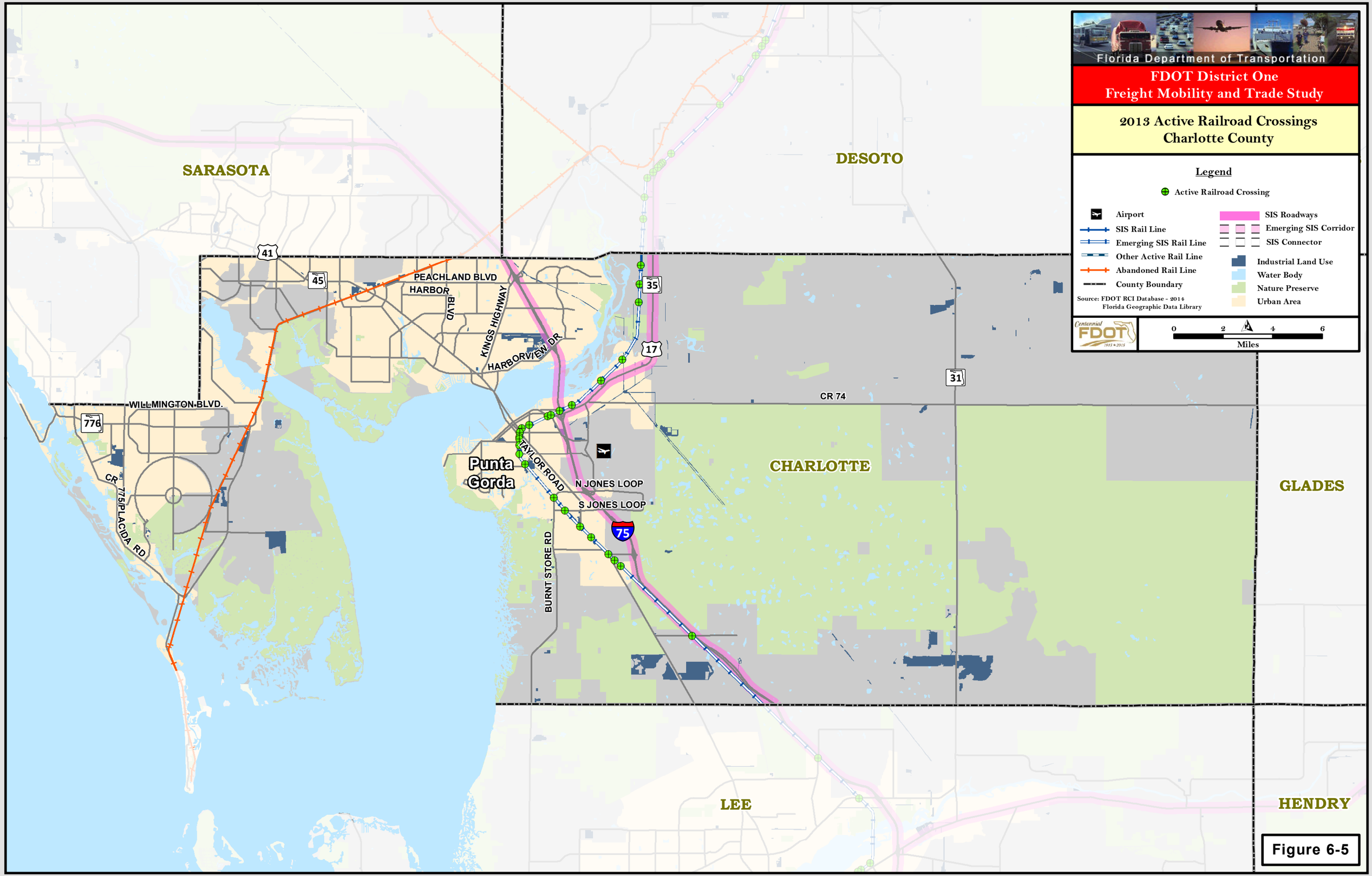
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Active Railroad Crossings
Charlotte County
Legend
Active Railroad Crossing
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
0 2 4 6
Miles
SARASOTA
DESOTO
CHARLOTTE
GLADES
LEE
HENDRY
41
45
35
17
31
75
776
PEACHLAND BLVD
HARBOR BLVD
KINGS HIGHWAY
HARBORVIEW DR.
WILLMINGTON BLVD.
CR 74
TAYLOR ROAD
Punta Gorda
N JONES LOOP
S JONES LOOP
BURNT STORE RD
CR 775/PLACIDA RD

Figure 6-5

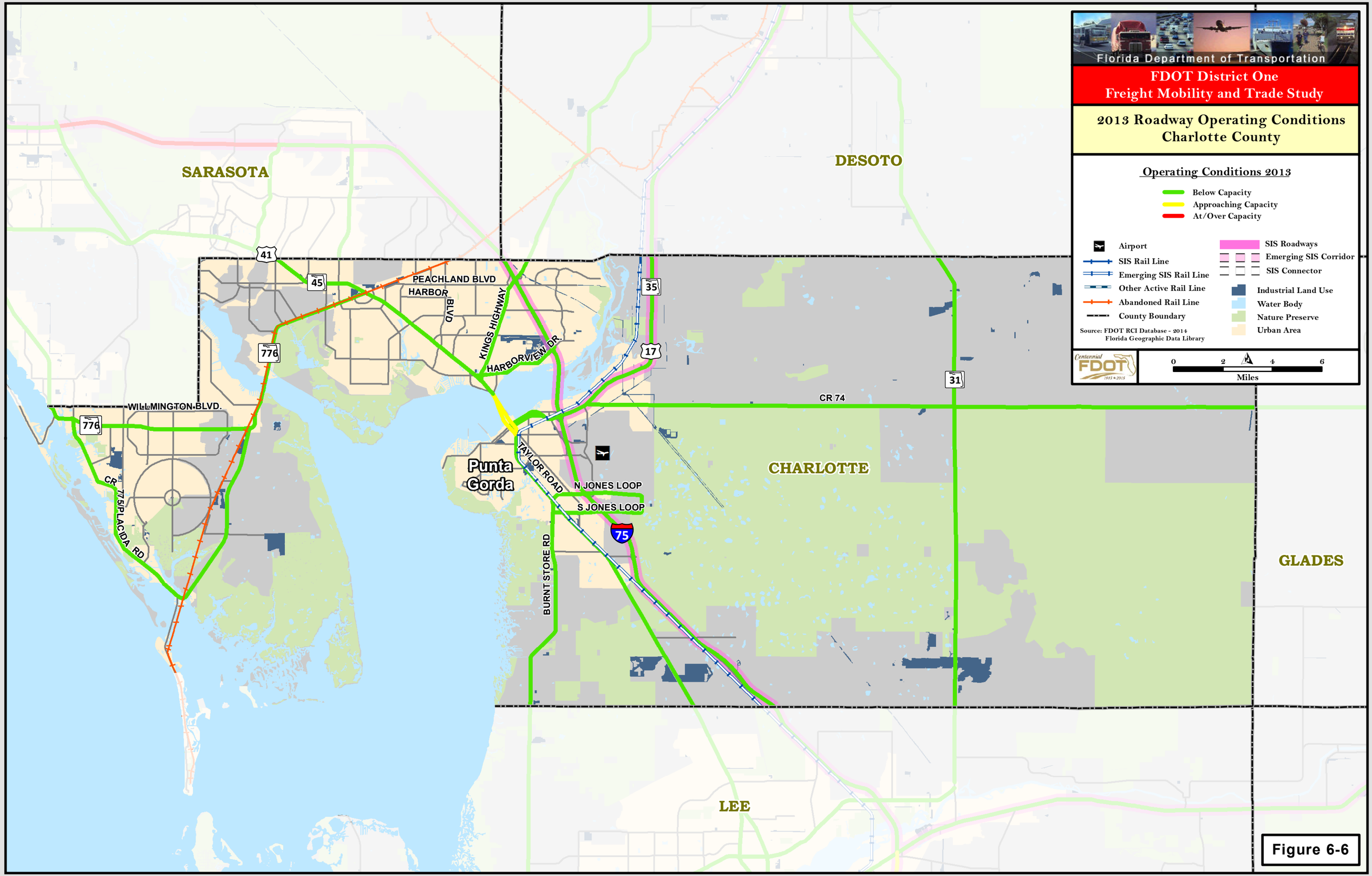
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Roadway Operating Conditions
Charlotte County
Operating Conditions 2013
Below Capacity
Approaching Capacity
At/Over Capacity
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 2015
0 2 4 6
Miles
SARASOTA
DESOTO
CHARLOTTE
GLADES
LEE
Punta Gorda
PEACHLAND BLVD
HARBOR BLVD
KINGS HIGHWAY
HARBORVIEW DR.
WILLMINGTON BLVD.
CR 775/PLACIDA RD
TAYLOR ROAD
N JONES LOOP
S JONES LOOP
BURNT STORE RD
CR 74
41
45
776
35
17
31
75

Figure 6-6

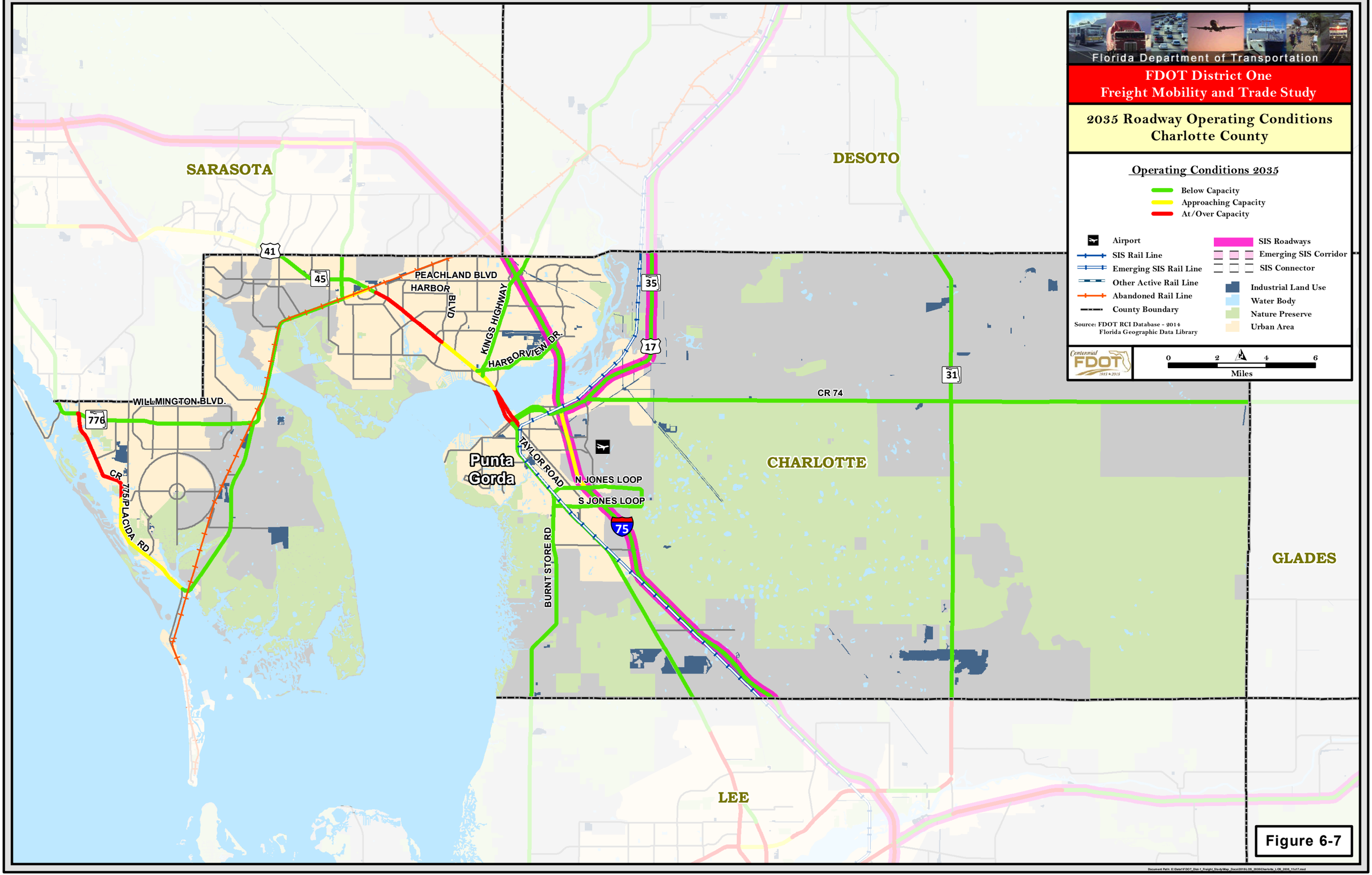

Figure 6-7

6.1.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, four (4) were associated with Charlotte County. The following roadways were identified as key facilities for freight movement through the county.

- I-75
- U.S. 17
- U.S. 41
- SR 31

Public agency respondents identified the following corridors as possible truck route designations.

- I-75
- U.S. 17
- U.S. 41
- SR 31
- SR 776
- CR 74 / Bermont Rd.

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- Congestion
- Turning radii
- Pavement condition (moderately contributes)
- Poor signage (moderately contributes)
- Distance to make a lane change (moderately contributes)
- Stop lights at interchanges

A similar question was asked regarding bottleneck causes on delivery or pick up sites. The following issues were highlighted by this question.

- Driveway access
- Gate queues
- Docking bays
- Availability of truck parking

Stakeholder Interviews

To gain a better understanding of the freight conditions in Charlotte County, face-to-face interviews were conducted with the Charlotte County Economic Development office and Charlotte County-Punta Gorda Metropolitan Planning Organization (MPO) in July 2014. During the interviews, the following key points were identified.

Charlotte County Metropolitan Planning Organization (MPO):

- The Charlotte County MPO staff expressed the need to extend Piper Rd, northbound to U.S. 17. This road extension would serve as a major freight connector to a newly expanding commerce park located adjacent to the Punta Gorda Airport.
- In conjunction with the Piper Road extension, U.S.17 was also discussed as a critical element for freight movement, including the I-75 interchange. There are safety concerns regarding vehicles attempting to navigate onto/off of U.S. 17 at this interchange and can be considered a potential bottleneck area.

- Primary state freight routes discussed were I-75, U.S.17, and U.S. 41. In addition, CR 74 was discussed as another important east/west freight route, as well as SR 31, which connects with CR 74. The need to complete the four-laning of Burnt Store Road is another issue.

Charlotte County Economic Development Organization (EDO):

- The staff expressed the need to extend Piper Rd northbound to U.S.17, which would serve as a major connector to a newly expanding commerce park located adjacent to the airport.
- Extension is of major significance for the future growth of the rapidly developing commercial area adjacent to the Punta Gorda Airport.
- Primary freight routes discussed were I-75, U.S. 17, and U.S. 41.
- There were some weaknesses within the regional freight transportation system. Specifically, the truck freight along U.S. 41 does not have a way to enter onto I-75, between Kings Highway and Toledo Blade Boulevard. The need for an additional interchange would minimize bottlenecks along U.S. 41.
- An additional weakness to the current roadway network is its limited access to the rural areas located on the periphery of the county.

A detailed set of interview notes are provided in Appendix C.

6.2 Collier County

Collier County is 2,305 square miles with an estimated population of 321,500 as reported by the Naples Chamber of Commerce. The top five growing industries within the County include:

- Accommodation and Food Services;
- Retail Trade;
- Professional, Scientific and Technical Services;
- Healthcare and Social Assistance; and
- Agriculture, Forestry, Fishing and Hunting.

Similarly, the top five major private sector employers include:

- Naples Community Hospital, Inc.;
- Publix Supermarket;
- Wal-Mart;
- Marriott; and
- Fifth Third Bank.

6.2.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-8. As indicated in this figure, the highest volumes are found along I-75 at approximately 87,000 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-9 and the peak traffic volumes are found along I-75 at nearly 8,200 vpd or 9 percent of all traffic.

6.2.2 Crash Data

Truck crash data for the past three-year period within this county is illustrated in Figure 6-10. As shown in this figure, the highest number of truck-related crashes (up to 10 crashes per three-year period) can be found along sections of Immokalee Road east of I-75. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.2.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-11. As shown in this figure, there are no roadways which were identified as in "poor" condition.

6.2.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-12. As indicated in this figure, there is only one crossing located south of the Lee County line. As previously indicated, any active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.

FDOT District One
Freight Mobility and Trade Study

2013 AADT & SIS Roadways
Collier County

Annual Average Daily Traffic

- 10 - 10,000
- 10,001 - 30,000
- 30,001 - 60,000
- 60,001 - 100,000
- > 100,000

135 AADT

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3.5 7 10.5
Miles

LEE
HENDRY
PALM BEACH
COLLIER
BROWARD
MIAMI-DADE
MONROE
Naples
Marco Island
IMMOKALEE RD/CR 846
RANDALL BLVD
GOLDEN GATE BLVD
CR858/OIL WELL RD
CR 846
CR 858
CR31/AIRPORT RD
COLLIER BLVD
ISLE OF CAPRI ROAD
SR-29
ALLIGATOR ALLEY
CR-92
CR-29
41
75
29
82
45
84
951
93

Figure 6-8

FDOT District One
Freight Mobility and Trade Study

2013 AADT Truck Volume, Percentage & SIS Roadways - Collier County

Annual Average Daily Truck Traffic

- 1 - 1,000
- 1,001 - 3,000
- 3,001 - 6,000
- 6,001 - 10,000
- > 10,000

135 AADT

8.5 Truck Percentage

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3.5 7 10.5
Miles

LEE
HENDRY
PALM BEACH
COLLIER
BROWARD
MIAMI-DADE
MONROE
Naples
Marco Island
IMMOKALEE RD/CR 846
CR 846
CR858/OIL WELL RD
CR 858
RANDALL BLVD
GOLDEN GATE BLVD
CR31/AIRPORT RD
COLLIER BLVD
ISLE OF CAPRI ROAD
ALLIGATOR ALLEY
SR 29
CR 92
CR-29
29
82
41
75
45
951
90
93

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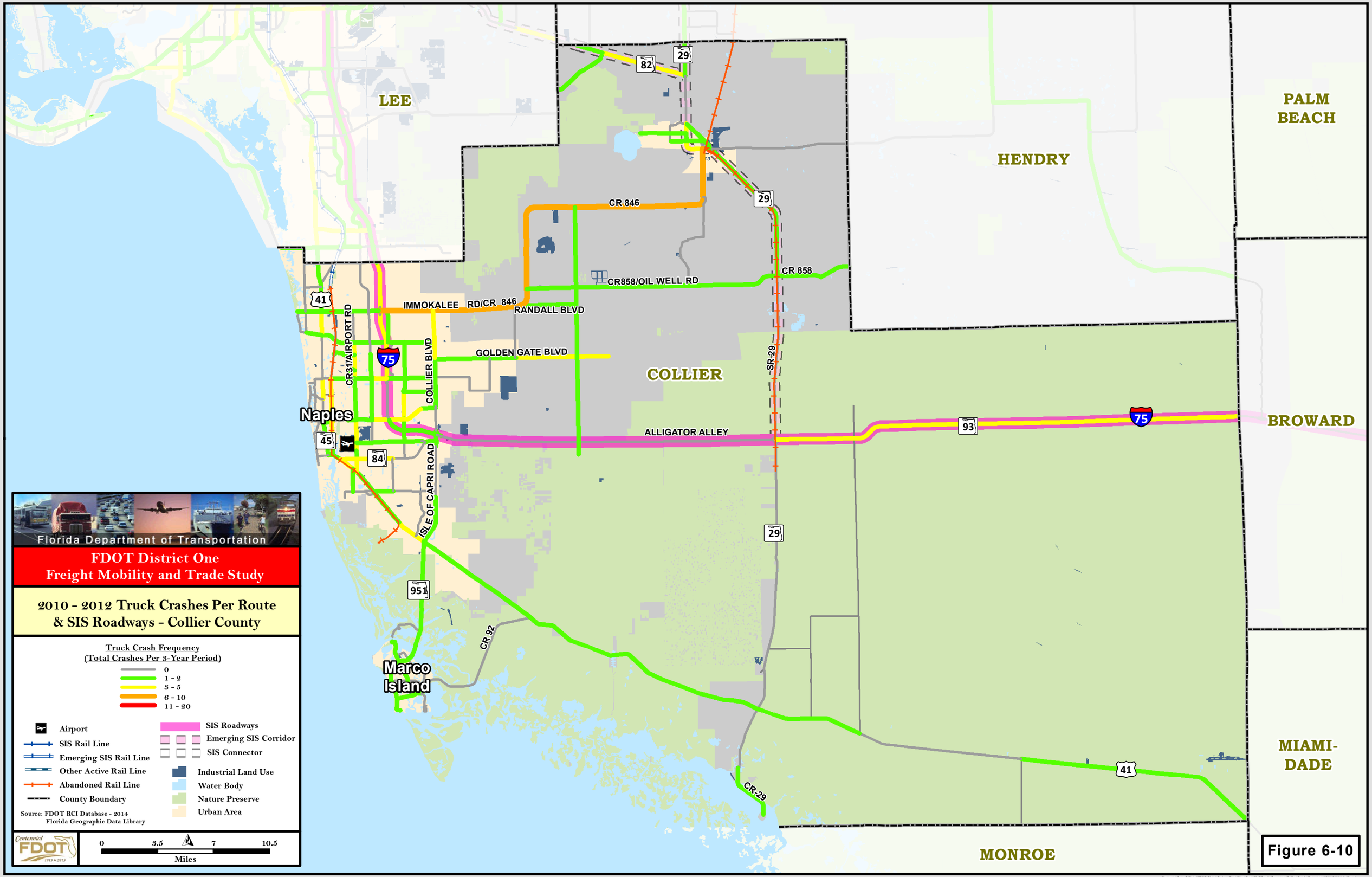
Figure 6-9



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2010 - 2012 Truck Crashes Per Route & SIS Roadways - Collier County

Truck Crash Frequency
(Total Crashes Per 3-Year Period)

- 0
- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

0 3.5 7 10.5
Miles

Figure 6-10

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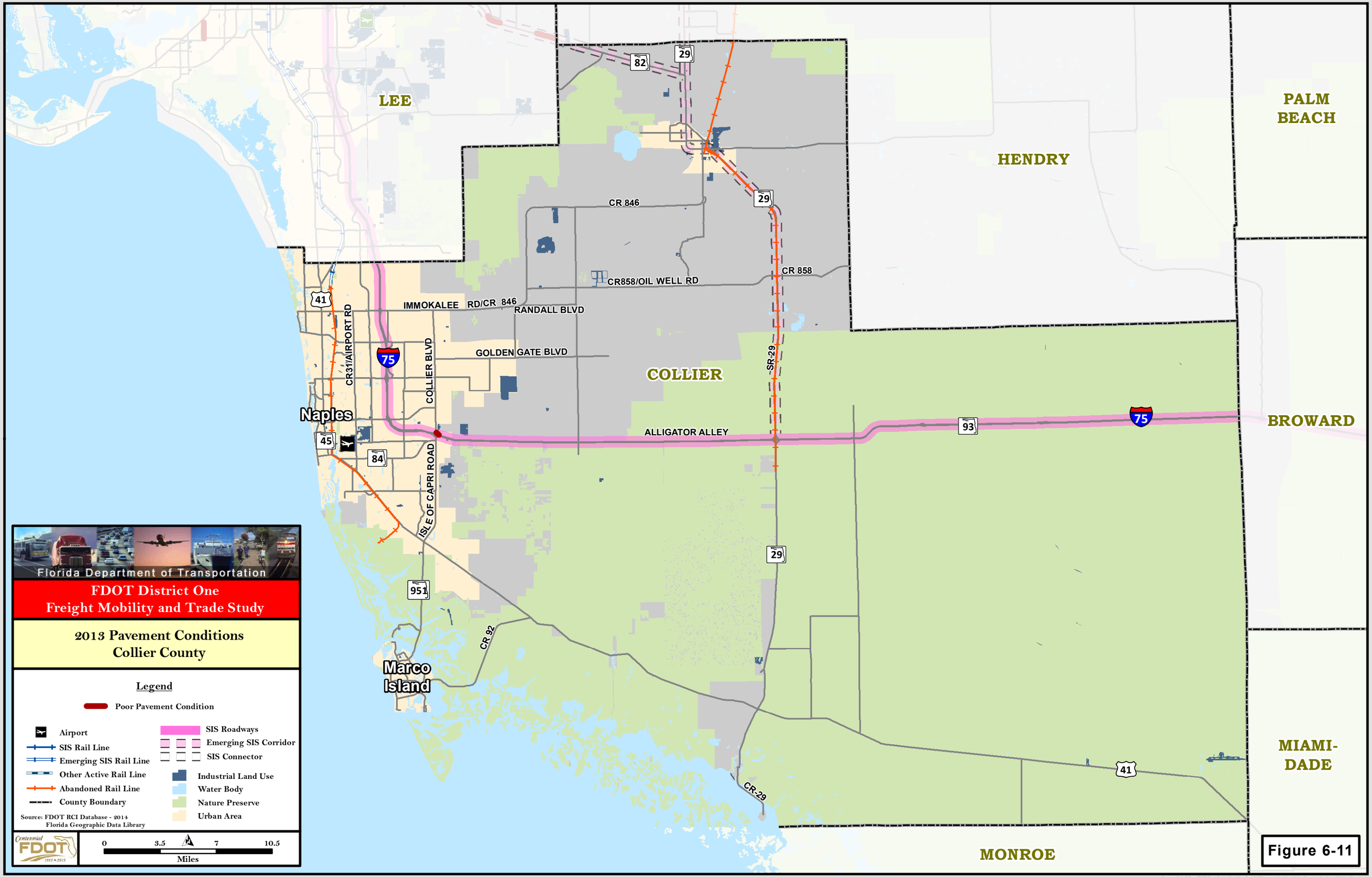


Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Pavement Conditions
Collier County

Legend

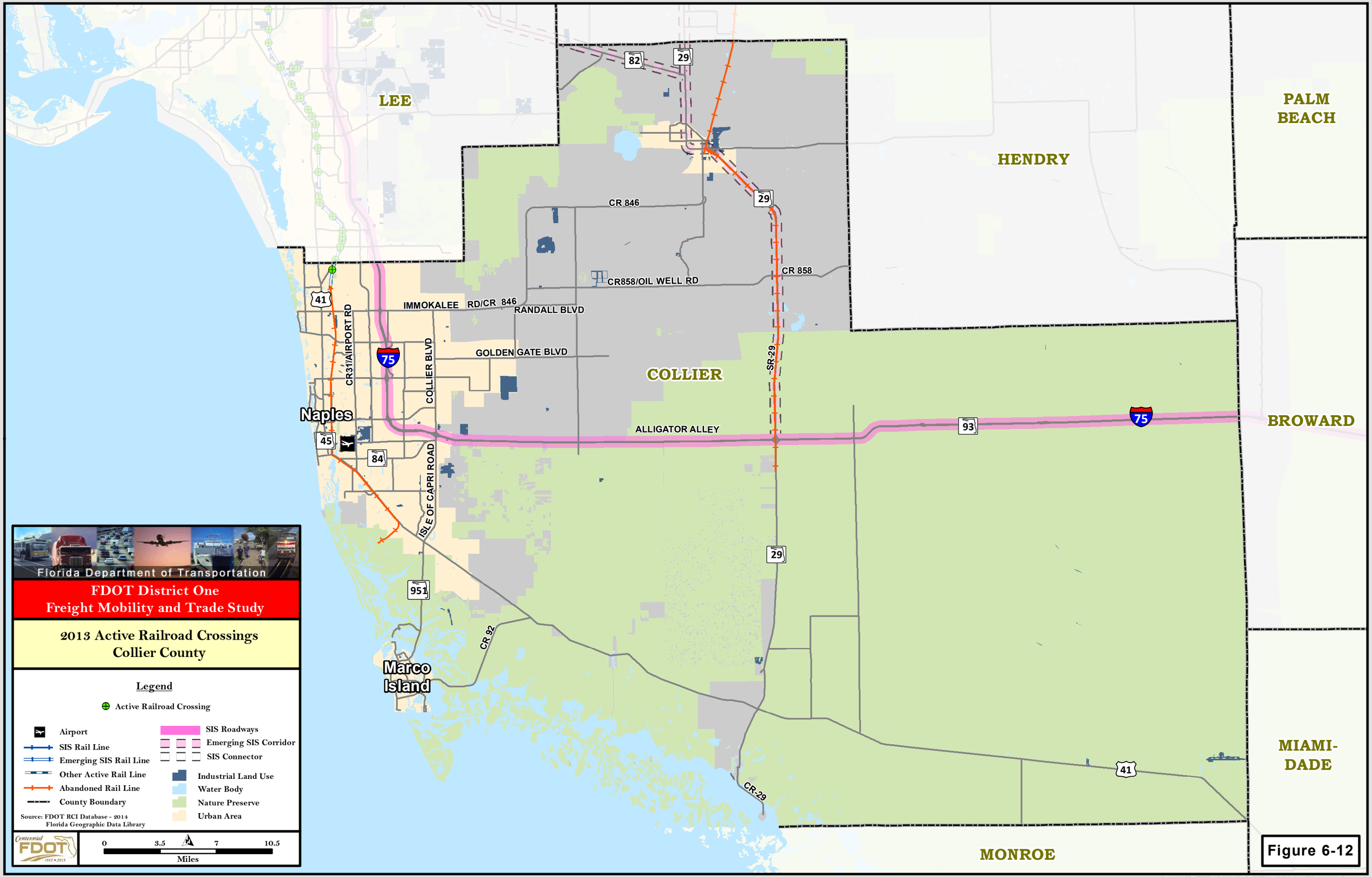
- Poor Pavement Condition
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3.5 7 10.5
Miles

Figure 6-11



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Active Railroad Crossings
Collier County

Legend

- Active Railroad Crossing
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3.5 7 10.5
Miles

Figure 6-12

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6.2.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-13 and 6-14. For existing conditions, several segments of Airport Road are currently exceeding capacity. For 2035 conditions, several segments of U.S. 41, Airport Road, I-75, and SR 29 are expected to exceed capacity. Further investigation of these locations will be conducted in a later stage of this freight study to verify the need for any potential improvements.

6.2.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated the following hot spots or bottlenecks on the state system were identified in Collier County. A map showing the location of these hot spots is provided in Appendix B.

- U.S. 41/SR 45 north and south of CR 486
- SR 90 east of Airport Pulling Rd.
- I-75 east of Collier Blvd.

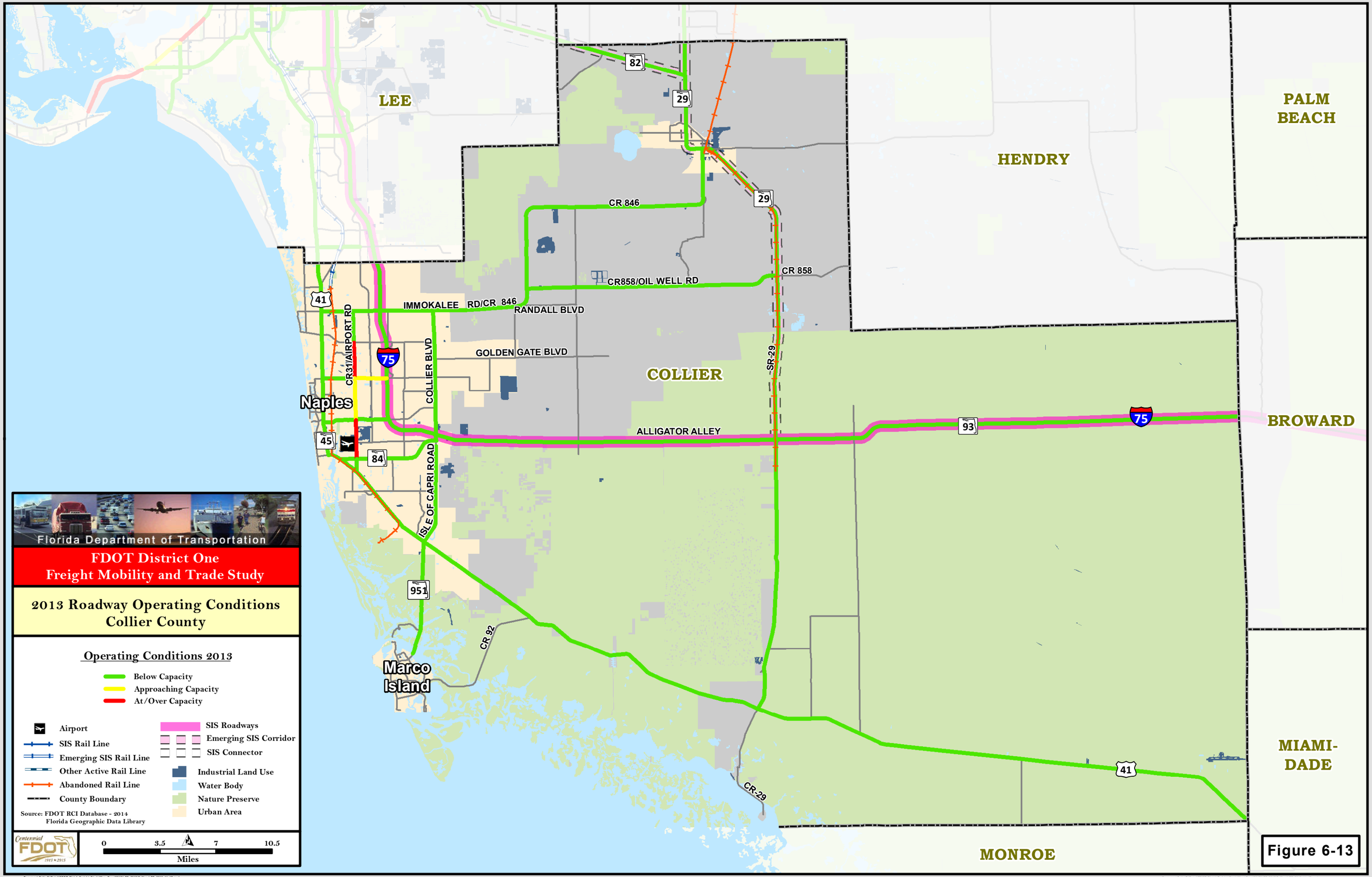
Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-2 summarizes the major commodities by truck mode through Charlotte County.

Table 6-2: Top Commodities by Truck Tonnage, Collier County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Secondary Traffic	670,283	1,186,464	11,807	1,844,939	25%
Nonmetallic Minerals	242,969	1,268,064	101,242	1,409,790	19%
Petroleum or Coal Products	18,142	885,700	499	903,343	12%
Clay, Concrete, Glass or Stone	291,688	384,159	40,254	635,593	9%
Lumber or Wood Products	36,195	565,135	331	600,999	8%
Farm Products	508,231	93,344	1,673	599,903	8%
Chemicals or Allied Products	5,362	336,822	6	342,179	5%
Waste or Scrap Materials	16,752	201,683	3,975	214,461	3%
Lumber or Wood Products	29,127	134,448	667	162,908	2%
Printed Matter	57,841	69,374	3	127,212	2%
All Others	50,140	373,495	111	423,524	6%
Total	**1,926,730**	**5,498,689**	**160,569**	**7,264,850**	**100%**

Source: 2011 IHS Transearch.



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Roadway Operating Conditions
Collier County

Operating Conditions 2013

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3.5 7 10.5
Miles

Figure 6-13

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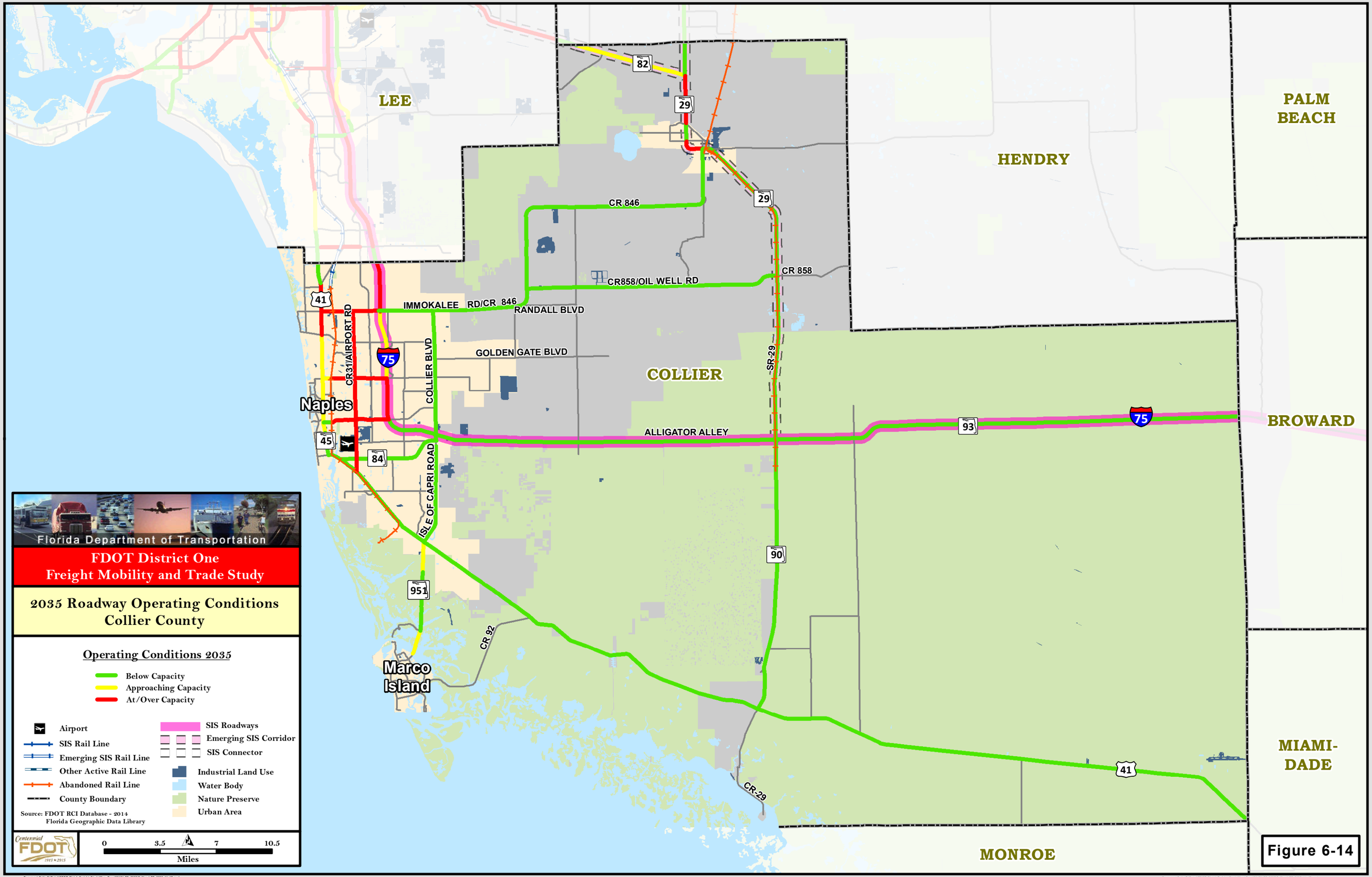


Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Collier County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3.5 7 10.5
Miles

Figure 6-14

Document Path: E:\Data1\FDOT_Dist-1_Freight_Study\Map_Docs\2015\LOS_2035\Collier_LOS_2035_11x17.mxd

6.2.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, responses, four (4) were associated with Collier County. The following roadways were identified as key facilities for freight movement through the County.

- I-75
- U.S. 41
- SR 29
- SR 82

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- Congestion
- Turning radii
- Pavement condition (moderately contributes)
- Poor signage (moderately contributes)
- Distance to make a lane change (moderately contributes)
- Stop lights at interchanges

A similar question was asked regarding bottleneck causes on delivery or pick up sites. The following issues were highlighted by this question.

- Driveway access
- Gate queues
- Docking bays
- Availability of truck parking

Stakeholder Interviews

To obtain a better understanding of the freight conditions in Collier County, face-to-face interviews were conducted with the Collier County Metropolitan Planning Organization (MPO) in September 2014. During the interview, the following key points were identified.

Collier County Metropolitan Planning Organization (MPO):

- Immokalee is the primary opportunity for development in Collier County; there is also some amount of light industrial space around the MPO and the airport; the airport does have foreign trade zone status and is looking for ways to take advantage of it. In addition, the town of Ave Maria is also seeking to expand its industrial footprint to help support new growth.
- There are plans to widen SR 29 from 2 to 4 lanes. This would be split into two segments: from the Lee County line to Oil Well and from Oil Well to I-75. SR 29 passes through the Immokalee region. The PD&E for this first segment is almost complete.
- Roundabouts are being considered to streamline traffic flows, particularly in the Immokalee area; the communities are resistant.
- Collier relies on trucks for all freight deliveries; there are no major terminals so trucks are moving into and out of the county to serve a consuming residential and business community. There are no dedicated truck routes or formalized truck restrictions.

A detailed set of interview notes are provided in Appendix C.

6.3 DeSoto County

DeSoto County is 640 square miles in area with an estimated current population of approximately 34,900 as reported by the DeSoto County Economic Development office. The top five growing industries within the County include:

1 Retail Trade;
2 Transportation and Food Services;
3 Accommodation and Food Services;
4 Wholesale Trade; and
5 Information.

Similarly, the top five major private sector employers include:

1 Wal-Mart Distribution Center;
2 Wal-Mart;
3 DeSoto Memorial Hospital;
4 Peace River Citrus; and
5 Bethel Farms.

6.3.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-15. As indicated in this figure, the highest volumes are found along SR 70 in the City of Arcadia at approximately 16,800 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-16 and the peak traffic volumes are found along SR 70 at nearly 2,320 vpd or 14 percent of all traffic.

6.3.2 Crash Data

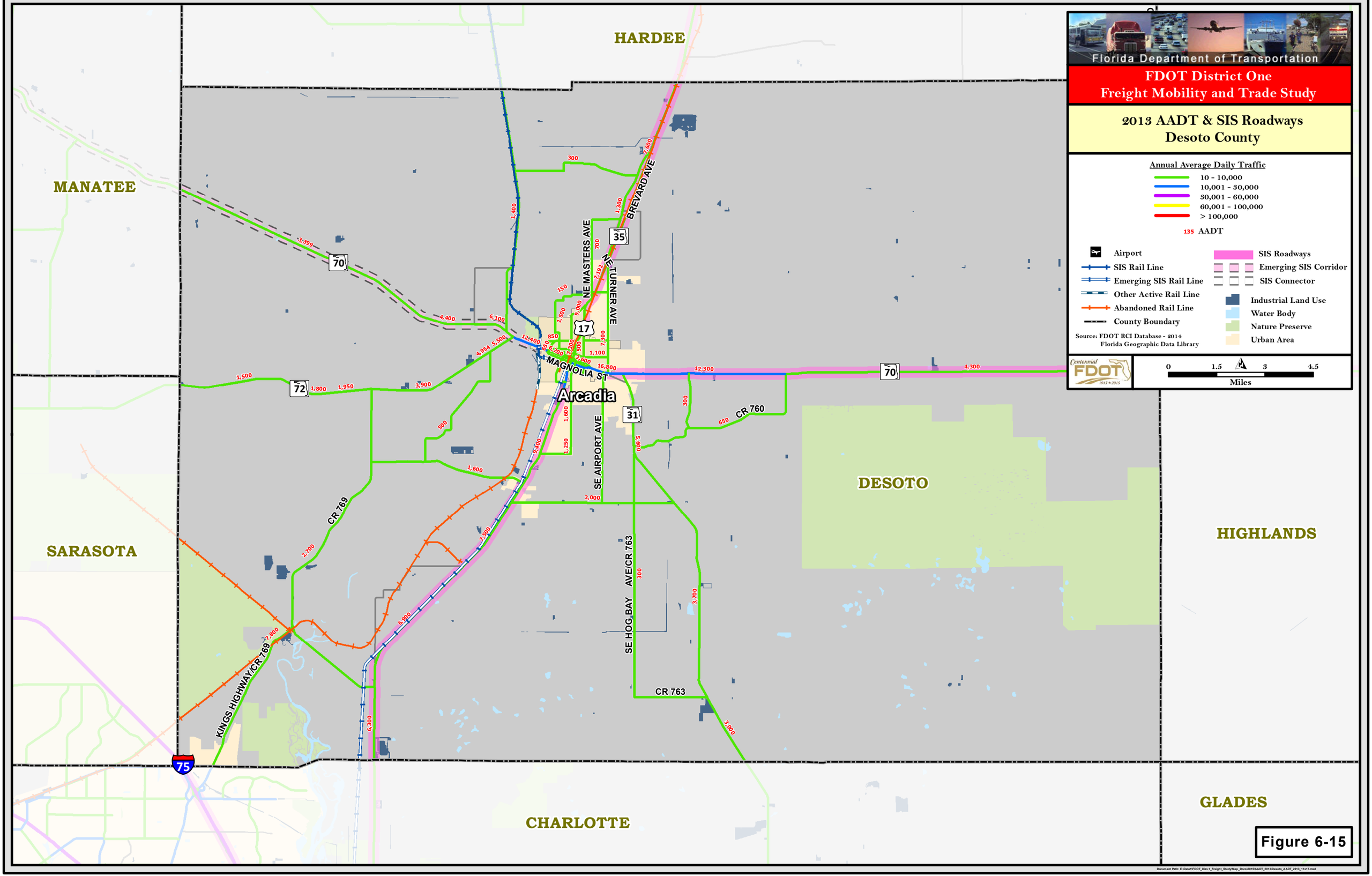
Truck crash data for the past three-year period within this county is illustrated in Figure 6-17. As shown in this figure, the highest number of truck-related crashes (up to 2 crashes per three-year period) can be found along the section of SR 70 west of U.S. 17. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.3.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-18. As shown in this figure, there are no roadways which were identified as in "poor" condition.

6.3.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-19. As indicated in this figure, there are approximately 20 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.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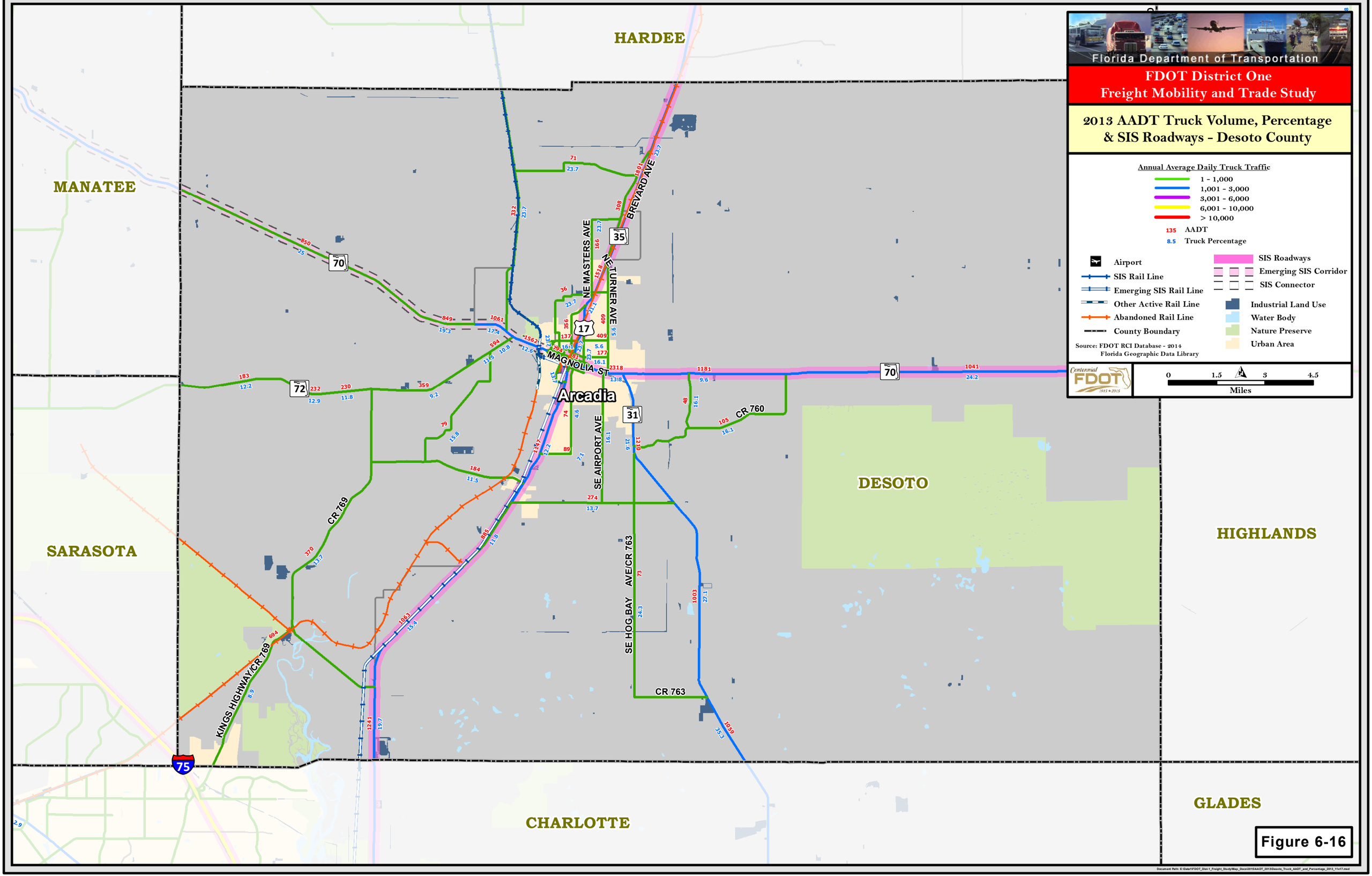
SARASOTA
CHARLOTTE
DESOTO
HIGHLANDS
GLADES
Arcadia
MAGNOLIA ST
NE MASTERS AVE
NE TURNER AVE
BREVARD AVE
SE AIRPORT AVE
SE HOG BAY AVE/CR 763
CR 763
CR 769
KINGS HIGHWAY/CR 769
CR 760
70
17
35
31
72
75
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 AADT & SIS Roadways
Desoto County
Annual Average Daily Traffic
10 - 10,000
10,001 - 30,000
30,001 - 60,000
60,001 - 100,000
> 100,000
135 AADT
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 1.5 3 4.5
Miles
Figure 6-15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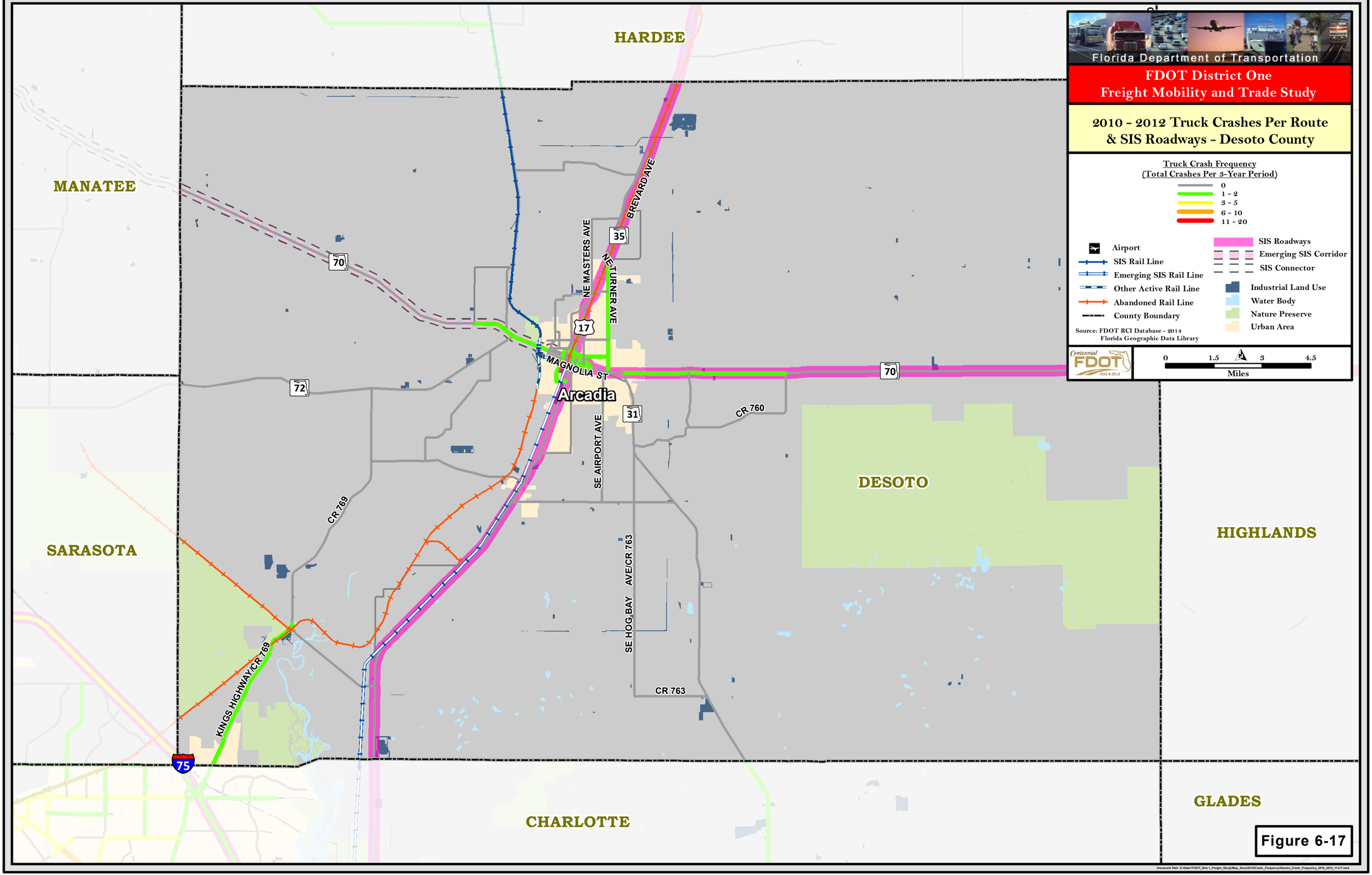
BREVARD AVE
SE AIRPORT AVE
SE HOG BAY AVE/CR 763
CR 763
CR 769
KINGS HIGHWAY/CR 769
CR 760
70
72
17
35
31
75
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 AADT Truck Volume, Percentage & SIS Roadways - Desoto County
Annual Average Daily Truck Traffic
1 - 1,000
1,001 - 3,000
3,001 - 6,000
6,001 - 10,000
> 10,000
135 AADT
8.5 Truck Percentage
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 1.5 3 4.5
Miles
Figure 6-16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Arcadia
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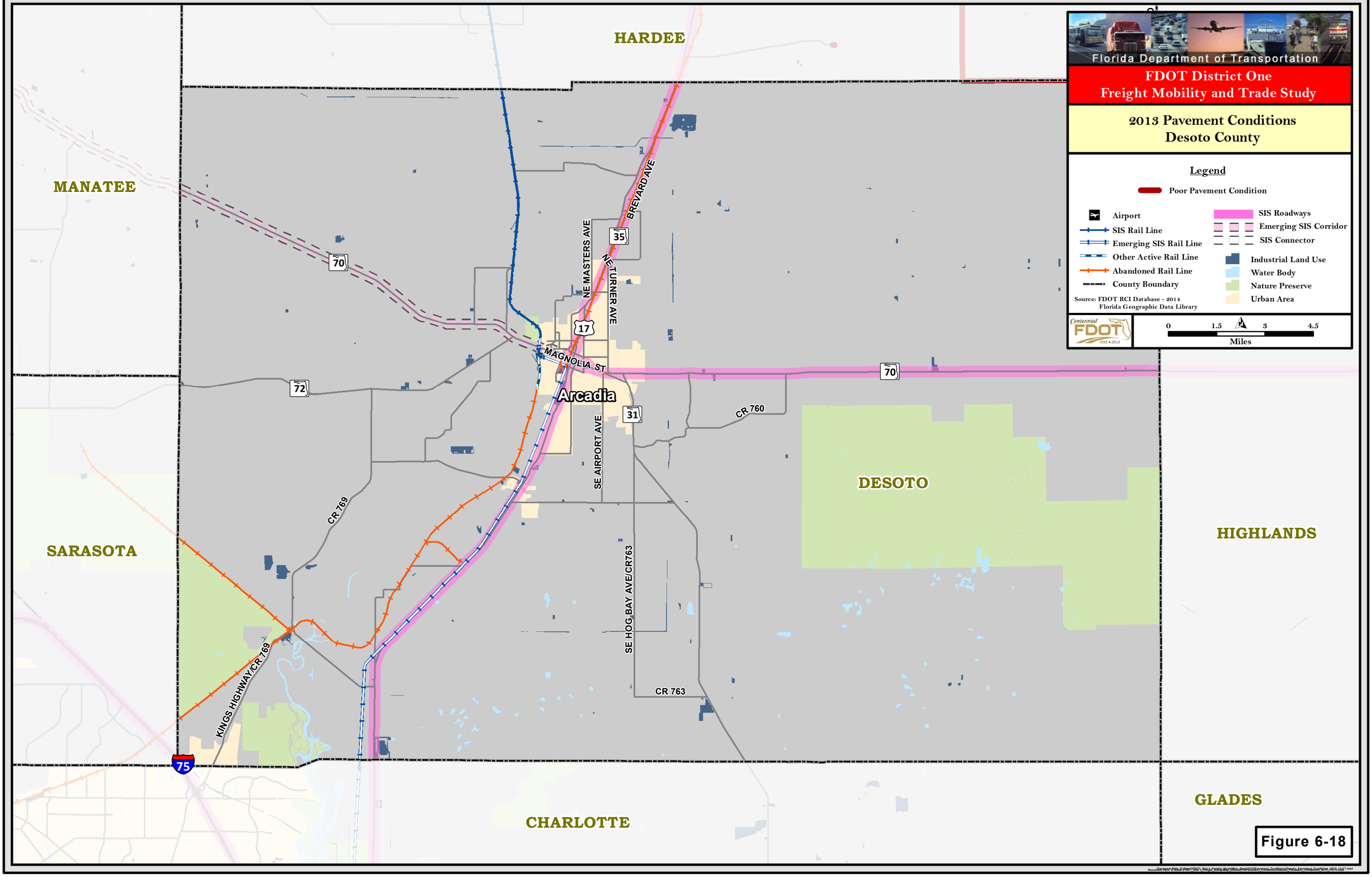
NE TURNER AVE
MAGNOLIA ST
SE AIRPORT AVE
CR 760
CR 769
SE HOG BAY AVE/CR 763
CR 763
KINGS HIGHWAY/CR 769
35
17
70
72
31
75
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2010 - 2012 Truck Crashes Per Route
& SIS Roadways - Desoto County
Truck Crash Frequency
(Total Crashes Per 3-Year Period)
0
1 - 2
3 - 5
6 - 10
11 - 20
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 2015
0
1.5
3
4.5
Miles
Figure 6-17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HIGHLANDS
GLADES
Arcadia
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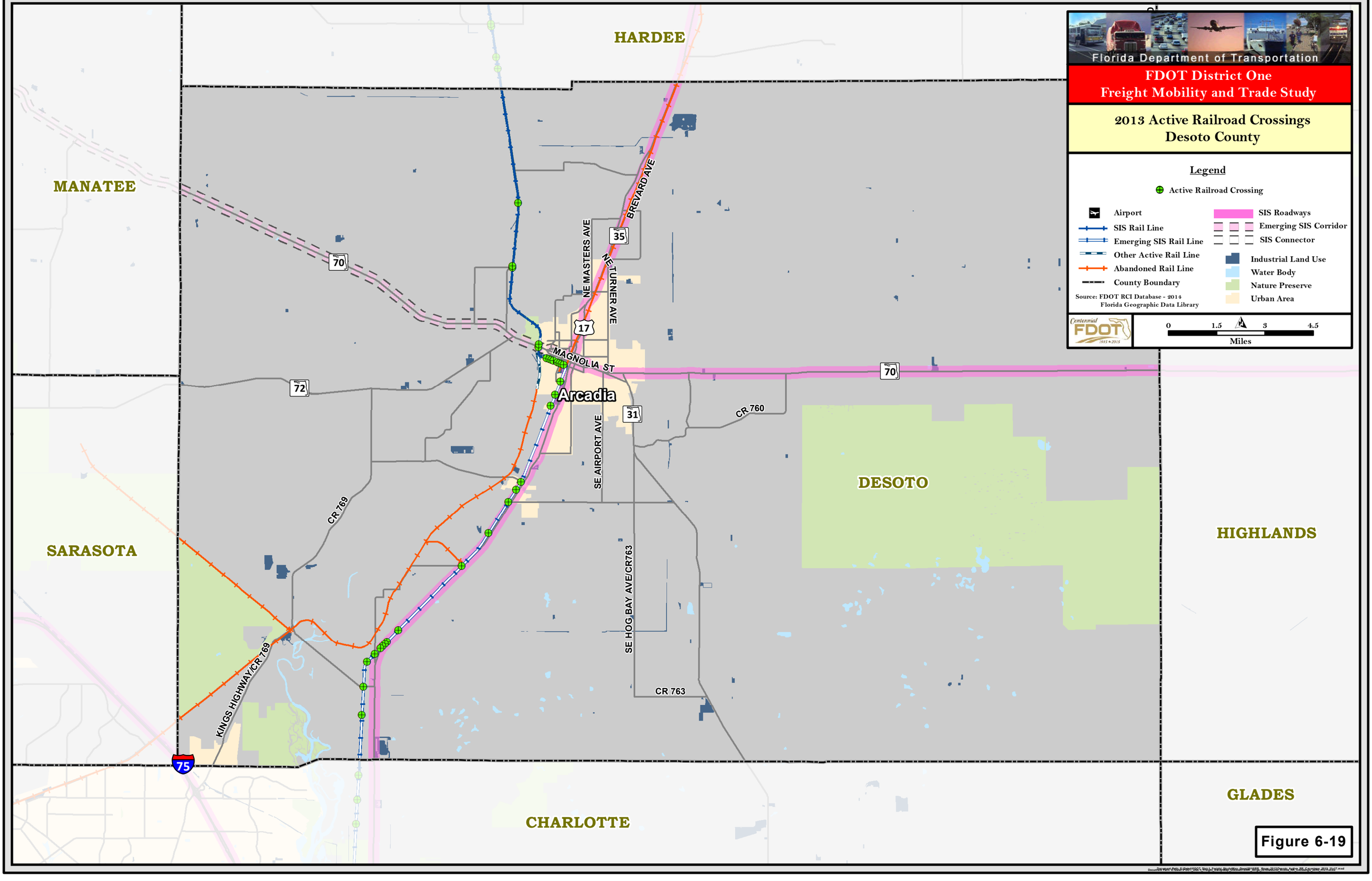
NE TURNER AVE
MAGNOLIA ST
SE AIRPORT AVE
CR 760
CR 769
SE HOG BAY AVE/CR763
CR 763
KINGS HIGHWAY/CR 769
70
72
35
17
31
75
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Pavement Conditions
Desoto County
Legend
Poor Pavement Condition
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 1.5 3 4.5
Miles

Figure 6-18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NE TURNER AVE
MAGNOLIA ST
SE AIRPORT AVE
CR 760
CR 769
SE HOG BAY AVE/CR763
CR 763
KINGS HIGHWAY/CR 769
70
72
35
17
31
75
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Active Railroad Crossings
Desoto County
Legend
Active Railroad Crossing
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 1.5 3 4.5
Miles

Figure 6-19

6.3.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-20 and 6-21. For existing conditions, no roadways are operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, no roadways are expected to exceed capacity.

6.3.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated the following hot spots or bottlenecks on the state system were identified in DeSoto County. A map showing the location of these hot spots is provided in Appendix B.

- SR 70 west of SR 31 and south of SR 72
- U.S. 17 south of SR 70 and north of SW 20th St.

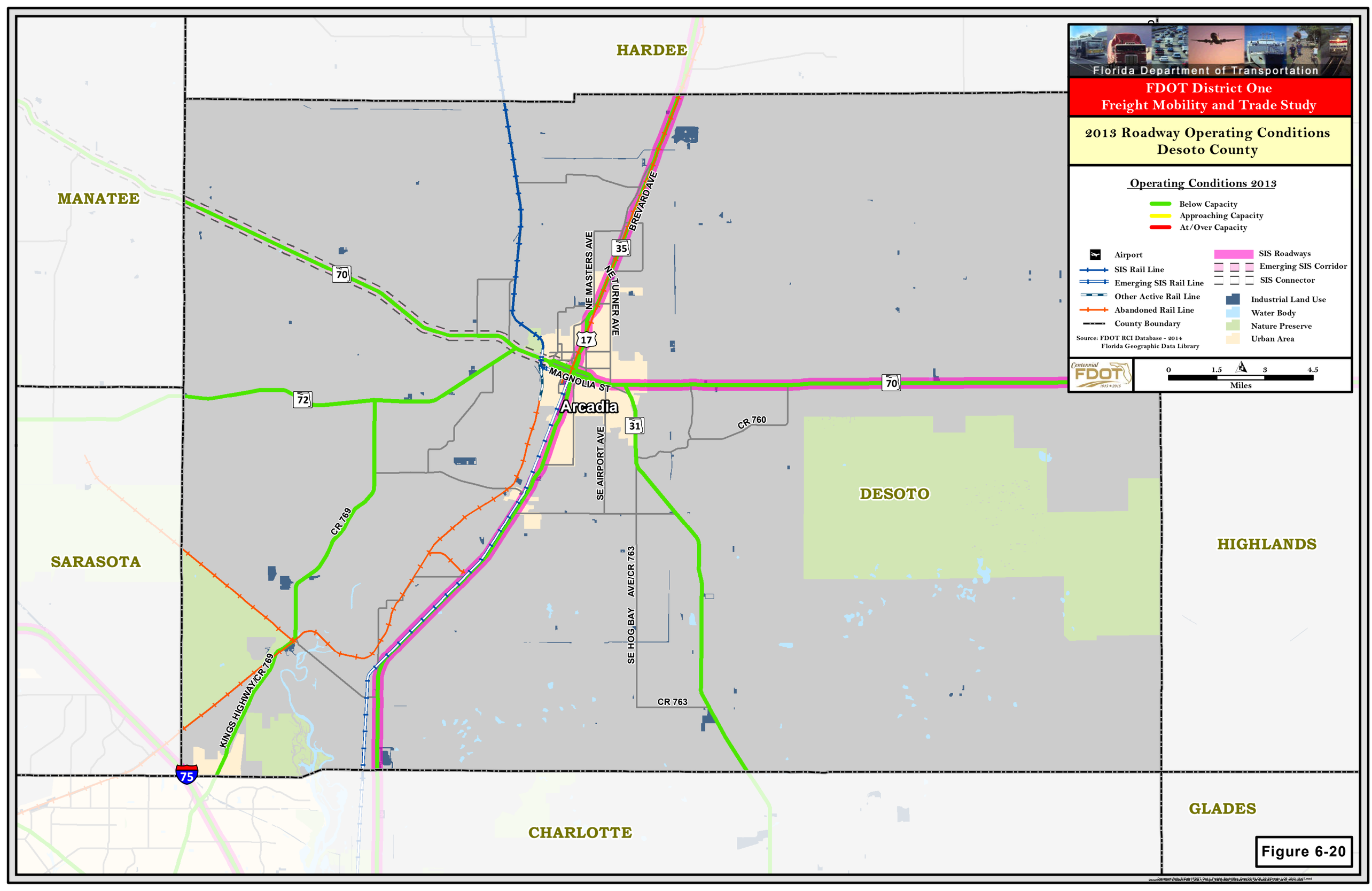
Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-3 summarizes the major commodities by truck mode through Charlotte County.

Table 6-3: Top Commodities by Truck Tonnage, DeSoto County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Farm Products	833,008	45,097	2,390	875,716	59%
Food or Kindred Products	123,299	83,230	7	206,521	14%
Nonmetallic Minerals	27,514	122,976	259	150,231	10%
Secondary Traffic	82	89,978		90,060	6%
Lumber or Wood Products	37,379	13,911	513	50,777	3%
Clay, Concrete, Glass or Stone	11,416	17,459	29	28,846	2%
Petroleum or Coal Products	2,355	25,031	1	27,385	2%
Waste or Scrap Materials		12,519		12,519	1%
Chemicals or Allied Products		6,903		6,903	0%
Pulp, Paper or Allied Products		4,564		4,564	0%
All Others	2,957	16,011		18,967	1%
Total	**1,038,008**	**437,680**	**3,199**	**1,472,488**	**100%**

Source: 2011 IHS Transearch.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NE TURNER AVE
NE MAGNOLIA ST
SE AIRPORT AVE
SE HOG BAY AVE/CR 763
CR 760
CR 763
CR 769
KINGS HIGHWAY/CR 769
35
17
70
72
31
75
Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Roadway Operating Conditions
Desoto County
Operating Conditions 2013
Below Capacity
Approaching Capacity
At/Over Capacity
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0
1.5
3
4.5
Miles

Figure 6-20

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Desoto County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 1.5 3 4.5
Miles

HARDEE
MANATEE
SARASOTA
CHARLOTTE
DESOTO
HIGHLANDS
GLADES
Arcadia
BREVARD AVE
NE MASTERS AVE
NE TURNER AVE
SE AIRPORT AVE
SE HOG BAY AVE/CR 763
MAGNOLIA ST
CR 760
CR 763
CR 769
KINGS HIGHWAY/CR 769
35
17
31
70
72
75

Figure 6-21

6.3.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, six (6) were associated with DeSoto County. The following roadways were identified as key facilities for freight movement through the County.

- U.S. 17
- SR 70
- SR 31
- SR 72

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- Congestion
- Turning radii
- Roadway slope
- Pavement Condition

A similar question was asked regarding bottleneck causes on delivery or pick up sites. The following issues were highlighted by this question.

- Availability of refueling

Stakeholder Interviews

To obtain a better understanding of the freight conditions in DeSoto County, a face-to-face interview was conducted with the Desoto County Economic Development Council (EDC) in June 2014. During the interview, the following key points were identified.

Desoto County Economic Development Council (EDC):

- Overall, the staff interviewed expressed a need for new pavement throughout the city.
- It was addressed that there are signal issues at the intersection of CR 760/Wells Ave and SR 35/U.S. 17.
- There is need for a traffic signal at the intersection of SR 70 and Magnolia St.
- The Wal-Mart Distribution center opened in 2004. This site generates a lot of truck traffic.

A detailed set of interview notes are provided in Appendix C.

6.4 Glades County

Glades County is 986 square miles in area with an estimated current population of approximately 12,900 as reported by the Glades County Economic Development office. The top growing industries within the County include:

1 Transportation and Warehousing;
2 Arts, Entertainment, and Recreation;
3 Accommodation and Food Services; and
4 Educational Services.

Similarly, the top five major private sector employers include:

1 Moore Haven Correctional Facility;
2 Lykes Bros;
3 Brighton Seminole Bingo;
4 Glades Electric Co-Op; and
5 A Duda.

6.4.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-22. As indicated in this figure, the highest volumes are found along the section of U.S. 27 near CR 720 at approximately 9,500 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-23 and the peak traffic volumes are found along U.S. 27 at nearly 3,700 vpd or 39 percent of all traffic.

6.4.2 Crash Data

Truck crash data for the past three-year period within this county is illustrated in Figure 6-24. As shown in this figure, the highest number of truck-related crashes (up to 2 crashes per three-year period) can be found along one section of U.S. 27. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.4.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-25. As shown in this figure, there are no roadways which were identified as in "poor" condition.

6.4.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-26. As indicated in this figure, there are 13 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT & SIS Roadways
Glades County

Annual Average Daily Traffic

- 10 - 10,000
- 10,001 - 30,000
- 30,001 - 60,000
- 60,001 - 100,000
- > 100,000

135 AADT

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

OKEECHOBEE
HIGHLANDS
MARTIN
GLADES
CHARLOTTE
PALM BEACH
LEE
HENDRY

CR 721
E SR 78 NE
CR 74
TOWER RD/CR 731
US 27
SR 78
CR 720
Moore Haven

Figure 6-22

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT Truck Volume, Percentage & SIS Roadways - Glades County

Annual Average Daily Truck Traffic

- 1 - 1,000
- 1,001 - 3,000
- 3,001 - 6,000
- 6,001 - 10,000
- > 10,000

135 AADT

8.5 Truck Percentage

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

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0 2 4 6
Miles

HIGHLANDS

OKEECHOBEE

MARTIN

GLADES

CHARLOTTE

PALM BEACH

LEE

HENDRY

CR 721

E SR 78 NE

CR 74

TOWER RD/CR 731

US 27

SR 78

CR 720

Moore Haven

LaBelle

25

27

29

78

Figure 6-23

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2010 - 2012 Truck Crashes Per Route & SIS Roadways - Glades County

Truck Crash Frequency
(Total Crashes Per 3-Year Period)

- 0
- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

HIGHLANDS
OKEECHOBEE
MARTIN
PALM BEACH
GLADES
CHARLOTTE
LEE
HENDRY
CR 721
E SR 78 NE
CR 74
US 27
TOWER RD/CR 731
25
29
27
SR 78
78
CR 720
Moore Haven
LaBelle

Figure 6-24

Document Path: E:\Data1\FDOT_Dist-1_Freight_Study\Map_Docs\2010\Crash_Frequency\Glades_Crash_Frequency_2010_2012_11x17.mxd

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Pavement Conditions
Glades County

Legend

- Poor Pavement Condition
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

DESOTO
HIGHLANDS
OKEECHOBEE
MARTIN
PALM BEACH
GLADES
CHARLOTTE
LEE
HENDRY
CR 721
E SR 78 NE
CR 74
TOWER RD/CR 731
US 27
25
78
29
27
SR 78
Moore Haven
CR 720
LaBelle

Figure 6-25

FDOT District One
Freight Mobility and Trade Study

2013 Active Railroad Crossings
Glades County

Legend

- Active Railroad Crossing
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

DESOTO
HIGHLANDS
OKEECHOBEE
MARTIN
PALM BEACH
GLADES
CHARLOTTE
LEE
HENDRY
CR 721
E SR 78 NE
CR 74
TOWER RD/CR 731
US 27
SR 78
CR 720
Moore Haven
LaBelle
29
27
78

Figure 6-26

6.4.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-27 and 6-28. For existing conditions, no roadways are operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, no roadways are expected to exceed capacity.

6.4.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated that there is no hot spot or bottleneck identified in Glades County.

Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-4 summarizes the major commodities by truck mode through Charlotte County.

Table 6-4 Top Commodities by Truck Tonnage, Glades County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Farm Products	1,058,795	5,124	1	1,063,919	88%
Clay, Concrete, Glass or Stone	26,550	7,282	3	33,829	3%
Nonmetallic Minerals		25,280		25,280	2%
Secondary Traffic	455	24,246		24,700	2%
Nonmetallic Minerals		20,183		20,183	2%
Lumber or Wood Products	10,645	5,837	1	16,481	1%
Chemicals or Allied Products	6,489	4,692	12	11,169	1%
Petroleum or Coal Products		2,974		2,974	0%
Waste or Scrap Materials		2,965		2,965	0%
Printed Matter		812		812	0%
All Others	374	3,022	0	3,396	0%
Total	**1,103,308**	**102,417**	**18**	**1,205,708**	**100%**

Source: 2011 IHS Transearch.

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Roadway Operating Conditions
Glades County

Operating Conditions 2013

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

OKEECHOBEE
HIGHLANDS
CR 721
E SR 78 NE
MARTIN
GLADES
CR 74
78
US 27
CHARLOTTE
TOWER RD/CR 731
29
27
PALM BEACH
SR 78
78
Moore Haven
CR 720
LaBelle
LEE
HENDRY

Figure 6-27

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Glades County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

HIGHLANDS
OKEECHOBEE
GLADES
MARTIN
CHARLOTTE
PALM BEACH
LEE
HENDRY
CR 721
E SR 78 NE
CR 74
TOWER RD/CR 731
US 27
SR 78
CR 720
Moore Haven
LaBelle
78
29
27

Figure 6-28

6.4.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, one (1) was associated with Glades County. However, the respondent did not fill out the information.

Stakeholder Interviews

To gain a better understanding of the freight conditions in Glades County, a face-to-face interview was conducted with and the Glades County Economic Development Council (EDC) in July 2014. During the interviews, the following key points were identified:

Glades County Economic Development Council (EDC):

- This interview mostly focused on the new Americas Gateway ILC that is scheduled to break ground in the near future. Intersections into the ILC are needed in the short term. Once the intersections are improved, two investors are on board to start construction of their sites within the ILC. Improvements needed:
- SR 78 at U.S. 27
- At the main ILC entrance and secondary entrance
- A long term need is the 4-laning of SR 78 (east). This need has environmental challenges.
- Immediate maintenance is needed with ILC development maintenance.
- New industrial zone, 194 acres north-east of CR 720/Canal Rd and SR 78 and also in-between SR 25 and Langdale Rd.

U.S. 27, SR 29, and SR 70 were identified to carry many freight vehicles and are currently classified as SIS Highway Corridors. The Herbert Hoover Dike and Caloosahatchee Canal are classified as Emerging SIS Waterways. The interview identified the following freight corridors that are not currently designated on the SIS:

- SR 78 from SR 29 to U.S. 27
- SR 78 from Okeechobee County Line to US 27 (seasonal traffic)
- CR 74 from SR 29 to U.S. 17
- The following freight challenges and/or bottlenecks were identified:
- Dirt road used for truck access to Ortona Sand Mine and trucks were observed to use the entire road for a left turn
- SR 29 at CR 74 intersection needs radii improvements
- U.S. 27 has pavement cracking, gouges present, and dead-ends at Port Everglades
- U.S. 27 at SR 78 intersection needs improvements
- U.S. 27 at 10th St. needs radii improvements
- Riverside Drive has elevation site distance problems

- SCXF RR Bridge will need improvements
- SCXF RR may be shifted to follow U.S. 27

A detailed set of interview notes are provided in Appendix C.

6.5 Hardee County

Hardee County is 638 square miles in area with an estimated current population of approximately 27,700 as reported by the Hardee County Economic Development office. The top five growing industries within the County include:

1 Agriculture, Forestry, Fishing, and Hunting;
2 Manufacturing;
3 Retail Trade;
4 Administrative Support, Waste Management, and Remediation Services; and
5 Educational Services.

Similarly, the top five major private sector employers include:

1 Florida Institute for Neurological Rehabilitation;
2 Wal-Mart;
3 Mosaic;
4 CF Industries; and
5 Peace River Electric Cooperative.

6.5.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-29. As indicated in this figure, the highest volumes are found along U.S. 17 at approximately 18,000 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-30 and the peak traffic volumes are found along U.S. 17 at nearly 1,900 vpd or 11 percent of all traffic.

6.5.2 Crash Data

Truck crash data for the past three-year period within this county is illustrated in Figure 6-31. As shown in this figure, the highest number of truck-related crashes (up to 5 crashes per three-year period) can be found along several sections of U.S. 17, north of SR 64. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.5.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-32. As shown in this figure, there are no roadways which were identified as in "poor" condition.

6.5.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-33. As indicated in this figure, there are approximately 15 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT & SIS Roadways
Hardee County

Annual Average Daily Traffic

- 10 - 10,000
- 10,001 - 30,000
- 30,001 - 60,000
- 60,001 - 100,000
- > 100,000

135 AADT

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 1.5 3 4.5
Miles

POLK

HIGHLANDS

MANATEE

HARDEE

DESOTO

Wauchula

Zolfo Springs

E CO LINE RD/CR664

DR COIL RD

LAKE BRANCH RD

CENTER HILL RD

US HWY 17 NORTH

OLD TOWN CREEK ROAD

E MAIN ST

GRIFFIN RD

S FLORIDA AVE

VANDOLAH RD

PARNELL RD/CR 671

CR 636/STEVE ROBERTS

HAMMOCK RD

S HAMMOCK RD

FLORIDA CRACKER TRL

SWEETWATER RD

CREWSVILLE ROAD SE

CR 665

CR 663

64 636 66 35 17

Figure 6-29

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT Truck Volume, Percentage & SIS Roadways - Hardee County

Annual Average Daily Truck Traffic

- 1 - 1,000
- 1,001 - 3,000
- 3,001 - 6,000
- 6,001 - 10,000
- > 10,000

135 AADT

8.5 Truck Percentage

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 1.5 3 4.5
Miles

POLK

MANATEE

HARDEE

HIGHLANDS

DESOTO

E CO LINE RD/CR664

DR COIL RD

LAKE BRANCH RD

CENTER HILL RD

US HWY 17 NORTH

OLD TOWN CREEK ROAD

PARNELL RD/CR 671

E MAIN ST

GRIFFIN RD

Wauchula

S FLORIDA AVE

VANDOLAH RD

CR 636/STEVE ROBERTS

Zolfo Springs

HAMMOCK RD

S HAMMOCK RD

FLORIDA CRACKER TRL

SWEETWATER RD

CREWSVILLE ROAD SE

CR 665

CR 663

62 64 636 64 66 35 17

Figure 6-30

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2010 - 2012 Truck Crashes Per Route & SIS Roadways - Hardee County

Truck Crash Frequency
(Total Crashes Per 3-Year Period)

- 0
- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 1.5 3 4.5
Miles

POLK
MANATEE
HARDEE
DESOTO
HIGHLANDS

E CO LINE RD/CR664
DR COIL RD
LAKE BRANCH RD
CENTER HILL RD
US HWY 17 NORTH
OLD TOWN CREEK ROAD
62
64
636
E MAIN ST
GRIFFIN RD
Wauchula
VANDOLAH RD
S FLORIDA AVE
PARNELL RD/CR 671
CR 636/STEVE ROBERTS
Zolfo Springs
HAMMOCK RD
66
FLORIDA CRACKER TRL
S HAMMOCK RD
35
17
SWEETWATER RD
CREWSVILLE ROAD SE
CR 665
CR 663

Figure 6-31

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Pavement Conditions
Hardee County

Legend

- Poor Pavement Condition
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 ★ 2015

0 1.5 3 4.5
Miles

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MANATEE
HARDEE
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HIGHLANDS
Wauchula
Zolfo Springs
E CO LINE RD/CR664
DR COIL RD
LAKE BRANCH RD
CENTER HILL RD
US HWY 17 NORTH
OLD TOWN CREEK ROAD
PARNELL RD/CR 671
E MAIN ST
GRIFFIN RD
VANDOLAH RD
S FLORIDA AVE
CR 636/STEVE ROBERTS
HAMMOCK RD
S HAMMOCK RD
FLORIDA CRACKER TRL
SWEETWATER RD
CREWSVILLE ROAD SE
CR 665
CR 663
62
64
636
66
35
17

Figure 6-32

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Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Active Railroad Crossings
Hardee County

Legend

- Active Railroad Crossing
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 ★ 2015

0 1.5 3 4.5
Miles

Document Path: E:\Data\FDOT_Dist-1_Freight_Study\Map_Docs\2015\RR_Xings_2013\Hardee_Active_RR_Crossings_2013_11x17.mxd

POLK
MANATEE
HARDEE
DESOTO
HIGHLANDS
Wauchula
Zolfo Springs
E CO LINE RD/CR664
DR COIL RD
LAKE BRANCH RD
CENTER HILL RD
US HWY 17 NORTH
OLD TOWN CREEK ROAD
PARNELL RD/CR 671
E MAIN ST
GRIFFIN RD
S FLORIDA AVE
VANDOLAH RD
CR 636/STEVE ROBERTS
HAMMOCK RD
S HAMMOCK RD
FLORIDA CRACKER TRL
SWEETWATER RD
CREWSVILLE ROAD SE
CR 665
CR 663
62
64
636
66
35
17

Figure 6-33

6.5.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-34 and 6-35. For existing conditions, no roadways are operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, no roadways are expected to exceed capacity.

6.5.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated the following hot spots or bottlenecks on the state system were identified in Hardee County. A map showing the location of these hot spots is provided in Appendix B.

- SR 35 south of Myrtle Dr. and north of Will Duke Rd.
- SR 636 east of Ohio Ave. and west of Riverside Dr.

Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-5 summarizes the major commodities by truck mode through Hardee County.

Table 6-5: Top Commodities by Truck Tonnage, Hardee County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Farm Products	588,192	24,989	203	612,977	65%
Food or Kindred Products	57,501	72,336		129,837	14%
Secondary Traffic	194	62,636		62,830	7%
Lumber or Wood Products	28,822	15,829	136	44,514	5%
Nonmetallic Minerals		26,611		26,611	3%
Petroleum or Coal Products		13,631		13,631	1%
Chemicals or Allied Products		12,418		12,418	1%
Waste or Scrap Materials		10,683		10,683	1%
Clay, Concrete, Glass or Stone		9,549		9,549	1%
Printed Matter	836	2,557		3,393	0%
All Others	915	12,808	0	13,723	1%
Total	**676,460**	**264,046**	**340**	**940,167**	**100%**

Source: 2011 IHS Transearch.

FDOT District One
Freight Mobility and Trade Study

2013 Roadway Operating Conditions
Hardee County

Operating Conditions 2013

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 1.5 3 4.5
Miles

POLK
MANATEE
HARDEE
DESOTO
HIGHLANDS

E CO LINE RD/CR664
DR COIL RD
LAKE BRANCH RD
CENTER HILL RD
US HWY 17 NORTH
OLD TOWN CREEK ROAD
62
64
636
E MAIN ST
GRIFFIN RD
Wauchula
VANDOLAH RD
S FLORIDA AVE
PARNELL RD/CR 671
CR 636/STEVE ROBERTS
Zolfo Springs
HAMMOCK RD
66
FLORIDA CRACKER TRL
S HAMMOCK RD
35
17
SWEETWATER RD
CREWSVILLE ROAD SE
CR 665
CR 663

Figure 6-34

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Hardee County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 1.5 3 4.5
Miles

POLK
MANATEE
HARDEE
DESOTO
HIGHLANDS

Wauchula
Zolfo Springs

E CO LINE RD/CR664
DR COIL RD
LAKE BRANCH RD
CENTER HILL RD
US HWY 17 NORTH
OLD TOWN CREEK ROAD
E MAIN ST
GRIFFIN RD
VANDOLAH RD
S FLORIDA AVE
PARNELL RD/CR 671
CR 636/STEVE ROBERTS
HAMMOCK RD
S HAMMOCK RD
FLORIDA CRACKER TRL
SWEETWATER RD
CREWSVILLE ROAD SE
CR 665
CR 663

62
64
636
64
66
35
17

Figure 6-35

6.5.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, two (2) were associated with Hardee County. However, no key facilities for freight movement through the County were identified in the survey.

Public agency respondents did identify the following corridors as possible truck route designations.

- U.S. 17
- SR 62
- SR 64
- SR 66

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- Congestion
- Turning radii (moderately contributes)
- Distance between signals
- Mid-block site distance clearance (moderately contributes)

A similar question was asked regarding bottleneck causes on delivery or pick up sites. The following issues were highlighted by this question.

- Driveway access (moderately contributes)
- Docking bays

Stakeholder Interviews

- No interviews were conducted for Hardee County due to lack of response from public and private agencies.

6.6 Hendry County

Hendry County is 1190 square miles in area with an estimated current population of approximately 34,900 as reported by the Hendry County Economic Development office. The top five growing industries within the County include:

1 Educational Services;
2 Agriculture, Forestry, Fishing, and Hunting;
3 Administrative Support, Waste Management, and Remediation Services;
4 Professional, Scientific and Technical Services; and
5 Leisure and Hospitality.

Similarly, the top five major private sector employers include:

1 US Sugar Corp;
2 Southern Glades;
3 A Duda & Sons;
4 Hendry County Hospital Authority; and
5 Alico, Inc.

6.6.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-36. As indicated in this figure, the highest volumes are found along SR 80 at approximately 12,000 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-37 and the peak traffic volumes are found along SR 80 at nearly 1,750 vpd or 15 percent of all traffic.

6.6.2 Crash Data

Truck crash data for the past three-year period within this county is illustrated in Figure 6-38. As shown in this figure, the highest number of truck-related crashes (up to 5 crashes per three-year period) can be found along one section of SR 80. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.6.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-39. As shown in this figure, there are no roadways which were identified as in "poor" condition.

6.6.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-40. As indicated in this figure, there are approximately 10 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.

CHARLOTTE

GLADES

LEE

HENDRY

PALM BEACH

BROWARD

LaBelle

Clewiston

RIVER RD/CR 78

US 27/SR 80

CHURCH RD

KERI ROAD/CR 832

N PINE CONE

FLAGHOLE RD

CR 833/JOSIE BILLIE

CR 835

CR 846

80

29

27

25

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT & SIS Roadways
Hendry County

Annual Average Daily Traffic

- 10 - 10,000
- 10,001 - 30,000
- 30,001 - 60,000
- 60,001 - 100,000
- > 100,000

135 AADT

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5
Miles

Figure 6-36

CHARLOTTE

GLADES

LEE

HENDRY

PALM BEACH

BROWARD

LaBelle

Clewiston

US 27/SR 80

RIVER RD/CR 78

CHURCH RD

KERI ROAD/CR 832

N PINE CONE

FLAGHOLE RD

CR 833/JOSIE BILLIE

CR 835

CR 846

80

29

27

25

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT Truck Volume, Percentage & SIS Roadways - Hendry County

Annual Average Daily Truck Traffic

- 1 - 1,000
- 1,001 - 3,000
- 3,001 - 6,000
- 6,001 - 10,000
- > 10,000

135 AADT

8.5 Truck Percentage

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5

Miles

Figure 6-37

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CHARLOTTE

GLADES

LEE

HENDRY

COLLIER

PALM BEACH

BROWARD

LaBelle

Clewiston

80

29

27

25

US 27/SR 80

RIVER RD/CR 78

N

FLAGHOLE RD

N PINE CONE

KERI ROAD/CR 832

CHURCH RD

CR 833/JOSIE BILLIE

CR 835

CR 846

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2010 - 2012 Truck Crashes Per Route & SIS Roadways - Hendry County

Truck Crash Frequency
(Total Crashes Per 3-Year Period)

- 0
- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5
Miles

Figure 6-38

Document Path: E:\Data1\FDOT_Dist-1_Freight_Study\Map_Docs\2015\Crash_Frequency\Hendry_Crash_Frequency_2010_2012_11x17.mxd

CHARLOTTE

GLADES

LEE

PALM BEACH

HENDRY

BROWARD

LaBelle

Clewiston

80

29

27

25

RIVER RD/CR 78

N

US-27/SR-80

FLAGHOLE RD

N PINE CONE

KERI ROAD/CR 832

CHURCH RD

CR 833/JOSIE BILLIE

CR-835

CR-846

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Pavement Conditions
Hendry County

Legend

- Poor Pavement Condition
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5
Miles

Figure 6-39

Document Path: E:\Data1\FDOT_Dist-1_Freight_Study\Map_Docs\2015\Pavement_Conditions\Hendry_Pavement_Conditions_2013_11x17.mxd

CHARLOTTE

GLADES

LEE

PALM BEACH

HENDRY

BROWARD

LaBelle

Clewiston

80

29

27

25

RIVER RD/CR 78

N

US 27/SR 80

FLAGHOLE RD

N PINE CONE

KERI ROAD/CR 832

CHURCH RD

CR 833/JOSIE BILLIE

CR 835

CR 846

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Active Railroad Crossings
Hendry County

Legend

- Active Railroad Crossing
- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5

Miles

Figure 6-40

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6.6.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-41 and 6-42. For existing conditions, no roadways are operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, no roadways are expected to exceed capacity.

6.6.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated the following hot spots or bottlenecks on the state system were identified in Hendry County. A map showing the location of these hot spots is provided in Appendix B.

- SR 80 east of Lewis Rd. and west of SR 832 (multiple sections)
- SR 29 south of SR 80 and north of Cowboy Way

Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-6 summarizes the major commodities by truck mode through Hendry County.

Table 6-6: Top Commodities by Truck Tonnage, Hendry County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Farm Products	3,145,508	37,492	982	3,182,018	67%
Food or Kindred Products	480,114	159,807	10,869	629,052	13%
Nonmetallic Minerals	512,900	99,907	8,492	604,316	13%
Secondary Traffic	64	130,945		131,009	3%
Clay, Concrete, Glass or Stone	78,180	31,878	134	109,924	2%
Waste or Scrap Materials	11,633	16,264	150	27,748	1%
Petroleum or Coal Products		16,256		16,256	0%
Chemicals or Allied Products		15,622		15,622	0%
Pulp, Paper or Allied Products		8,043		8,043	0%
Fabricated Metal Products	2,541	2,910		5,451	0%
All Others	1,337	21,709	0	23,046	0%
Total	**4,232,278**	**540,833**	**20,627**	**4,752,485**	**100%**

Source: 2011 IHS Transearch.

CHARLOTTE

GLADES

LEE

PALM BEACH

HENDRY

BROWARD

LaBelle

Clewiston

80

29

27

25

RIVER RD/CR 78

N

FLAGHOLE RD

N PINE CONE

KERI ROAD/CR 832

CHURCH RD

CR 833/JOSIE BILLIE

CR 835

CR 846

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Roadway Operating Conditions
Hendry County

Operating Conditions 2013

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5
Miles

Figure 6-41

Document Path: E:\Data1\FDOT_Dist-1_Freight_Study\Map_Docs\2015\L08_2013Hendry_LOS_2013_11x17.mxd

CHARLOTTE

GLADES

LEE

PALM BEACH

HENDRY

BROWARD

LaBelle

Clewiston

80

29

27

25

US 27/SR 80

RIVER RD/CR 78

N

FLAGHOLE RD

N PINE CONE

KERI ROAD/CR 832

CHURCH RD

CR 833/JOSIE BILLIE

CR 835

CR 846

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Hendry County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2.5 5 7.5
Miles

Figure 6-42

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6.6.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, five (5) were associated with Hendry County. However, no key facilities for freight movement through the County were identified in the survey.

Public agency respondents did identify the following corridors as possible truck route designations.

- U.S. 27
- SR 29
- SR 80

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- Congestion
- Turn pocket storage
- Turning radii (moderately contributes)
- Pavement condition

A similar question was asked regarding bottleneck causes on delivery or pick up sites. The following issues were highlighted by this question.

- Availability of refueling

Stakeholder Interviews

- No interviews were conducted for Hendry County due to lack of response from private and public agencies.

6.7 Highlands County

Highlands County is 1106 square miles in area with an estimated current population of approximately 98,800 as reported by the Highlands County Economic Development office. The top five growing industries within the County include:

1 Administrative Support, Waste and Remediation Services;
2 Health Care and Social Assistance;
3 Manufacturing;
4 Retail Trade; and
5 Utilities.

Similarly, the top five major private sector employers include:

1 Florida Hospital Heartland Division;
2 Highlands Regional Medical Center;
3 Cross County Automotive Services;
4 Medical Data Systems; and
5 Delray Plants/Highlands Greenhouse.

6.7.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-43. As indicated in this figure, the highest volumes are found along U.S. 27 at approximately 36,000 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-44 and the peak traffic volumes are found along U.S. 27 at nearly 2,400 vpd or 7 percent of all traffic.

6.7.2 Crash Data

Truck crash data for the past three-year period within this county is illustrated in Figure 6-45. As shown in this figure, the highest number of truck-related crashes (up to 20 crashes per three-year period) can be found along the section of U.S. 27 near Lake Jackson in Sebring. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.7.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-46. As shown in this figure, there are a few segments of several county roads near or connecting to U.S. 27 in the Avon Park area which were identified as in "poor" condition.

6.7.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-47. As indicated in this figure, there are over 50 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.

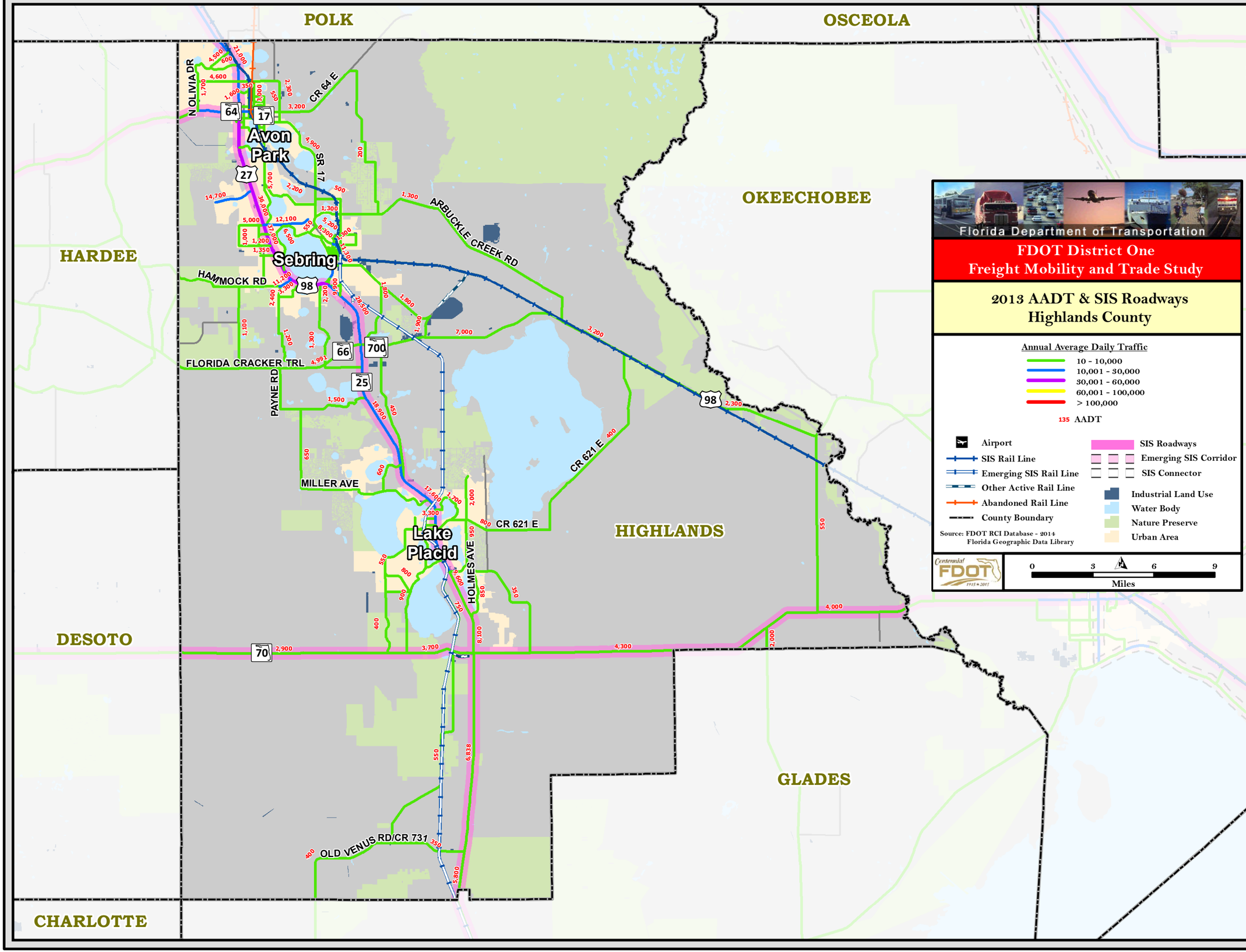

Figure 6-43

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POLK

OSCEOLA

INDIAN RIVER

OKEECHOBEE

HARDEE

ST. LUCIE

HIGHLANDS

DESOTO

GLADES

MARTIN

CHARLOTTE

Avon Park

Sebring

Lake Placid

N OLIVIA DR

CR 64 E

SR 17

ARBUCKLE CREEK RD

HAMMOCK RD

FLORIDA CRACKER TRL

PAYNE RD

MILLER AVE

CR 621 E

HOLMES AVE

OLD VENUS RD/CR 731

64 17 27 98 66 700 25 70

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT Truck Volume, Percentage & SIS Roadways - Highlands County

Annual Average Daily Truck Traffic

- 1 - 1,000
- 1,001 - 3,000
- 3,001 - 6,000
- 6,001 - 10,000
- > 10,000

135 AADT

8.5 Truck Percentage

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 2015

0 3 6 9

Miles

Figure 6-44

Document Path: E:\Data\FDOT_Dist-1_Freight_Study\Map_Docs\2015\AADT_2013\Hig\Hland s_Truck_AADT_and_Percentage_2013_11x17.mxd

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HARDEE
ST. LUCIE
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DESOTO
GLADES
MARTIN
CHARLOTTE

NOLIVIA DR
CR 64 E
SR 17
Avon Park
Sebring
ARBUCKLE CREEK RD
HAMMOCK RD
FLORIDA CRACKER TRL
PAYNE RD
MILLER AVE
CR 621 E
Lake Placid
HOLMES AVE
OLD VENUS RD/CR 731

64
17
27
98
66
700
25
70

FDOT District One
Freight Mobility and Trade Study

2010 - 2012 Truck Crashes Per Route & SIS Roadways - Highlands County

Truck Crash Frequency
(Total Crashes Per 3-Year Period)
- 0
- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

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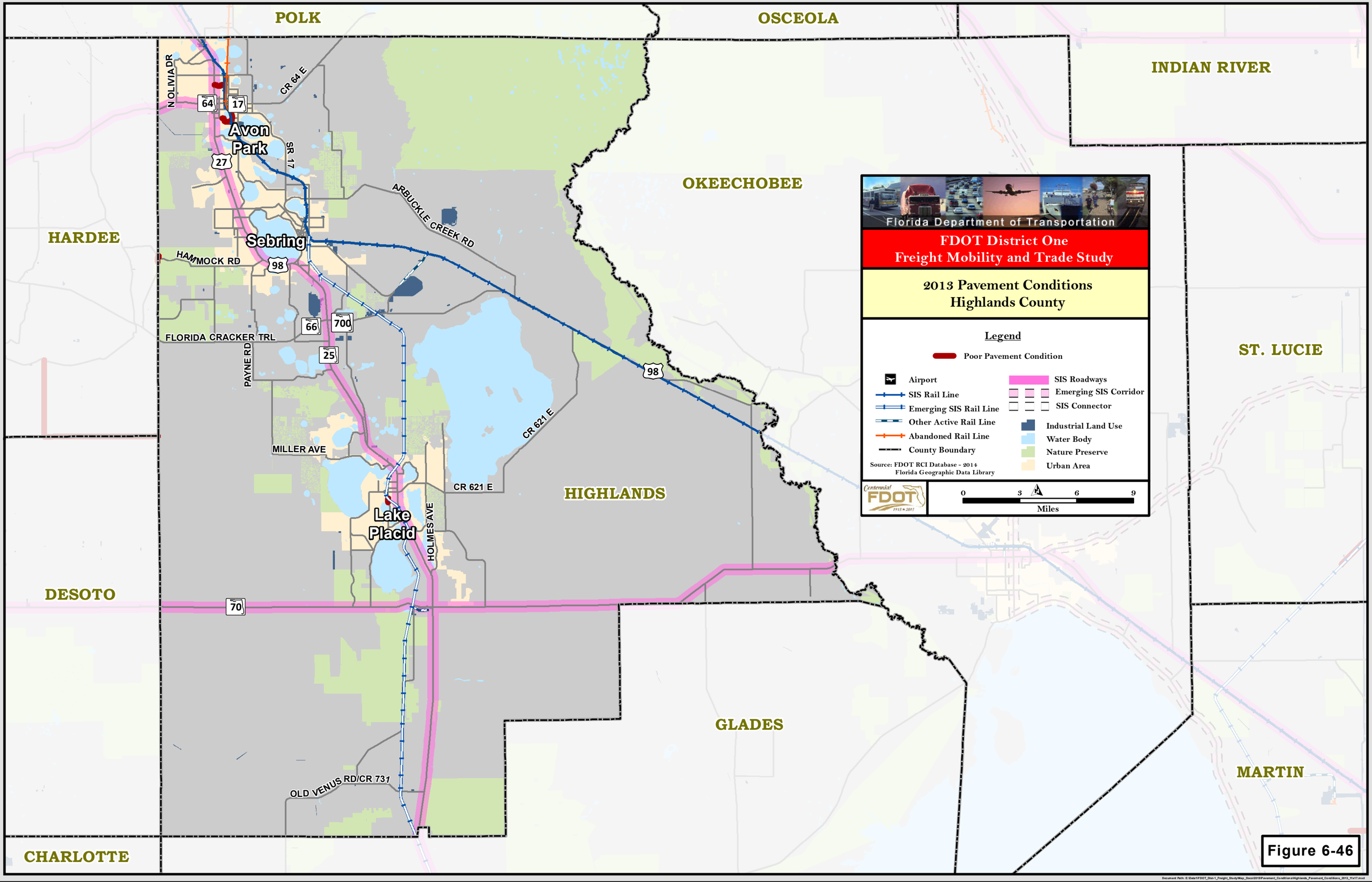
0 3 6 9
Miles

Figure 6-45

Document Path: E:\Data\FDOT_Dist-1_Freight_Study\Map_Docs\2010\Crash_Frequency\Highlands_Crash_Frequency_2010_2012_11x17.mxd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HAMMOCK RD
FLORIDA CRACKER TRL
PAYNE RD
MILLER AVE
CR 621 E
HOLMES AVE
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Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Pavement Conditions
Highlands County
Legend
Poor Pavement Condition
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 2015
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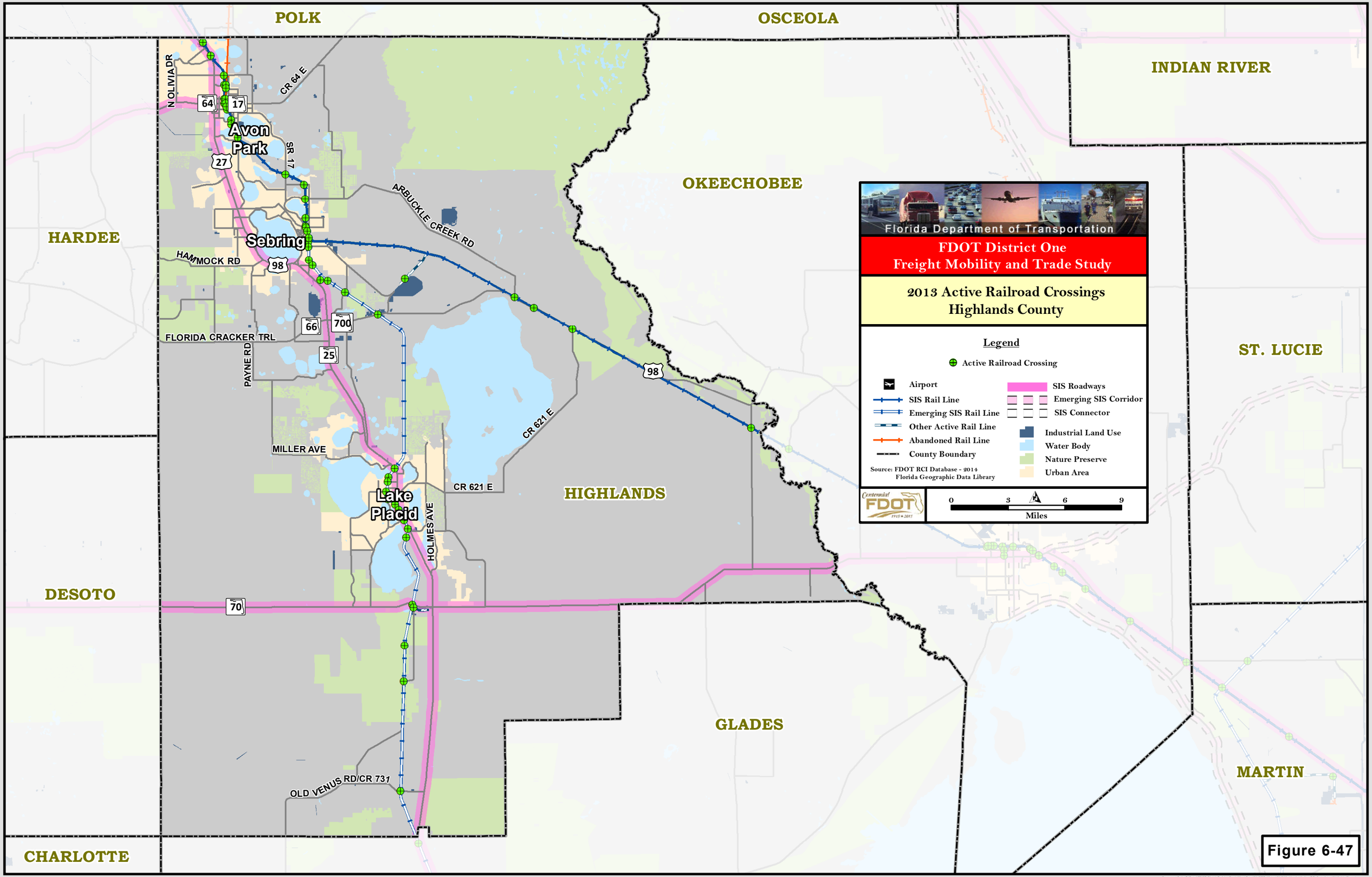
Miles

Figure 6-46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HAMMOCK RD
FLORIDA CRACKER TRL
PAYNE RD
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CR 621 E
HOLMES AVE
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Florida Department of Transportation
FDOT District One
Freight Mobility and Trade Study
2013 Active Railroad Crossings
Highlands County
Legend
Active Railroad Crossing
Airport
SIS Rail Line
Emerging SIS Rail Line
Other Active Rail Line
Abandoned Rail Line
County Boundary
SIS Roadways
Emerging SIS Corridor
SIS Connector
Industrial Land Use
Water Body
Nature Preserve
Urban Area
Source: FDOT RCI Database - 2014
Florida Geographic Data Library
Centennial FDOT 1915 • 2015
0 3 6 9
Miles
Figure 6-47

6.7.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-48 and 6-49. For existing conditions, no roadways are operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, no roadways are expected to exceed capacity.

6.7.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated the following hot spots or bottlenecks on the state system were identified in Highlands County. A map showing the location of these hot spots is provided in Appendix B.

- U.S. 27 south of SR 17 and north of CR 700
- SR 17 south of Manatee Dr. and north of U.S. 27 (multiple sections)

Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-7 summarizes the major commodities by truck mode through Highlands County.

Table 6-7: Top Commodities by Truck Tonnage, Highlands County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Farm Products	933,544	47,254	698	980,100	40%
Clay, Concrete, Glass or Stone	488,388	107,988	2,745	593,631	24%
Nonmetallic Minerals	25,488	244,516	12,149	257,855	10%
Secondary Traffic	8,847	213,233	50	222,030	9%
Food or Kindred Products	21,625	140,319		161,944	7%
Petroleum or Coal Products		61,141		61,141	2%
Waste or Scrap Materials	9,257	35,510	179	44,588	2%
Chemicals or Allied Products	4,068	30,263	2	34,329	1%
Lumber or Wood Products	4,925	17,389	6	22,309	1%
Printed Matter	8,631	10,937		19,568	1%
All Others	11,079	57,922	7	68,995	3%
Total	**1,515,854**	**966,472**	**15,836**	**2,466,491**	**100%**

Source: 2011 IHS Transearch.

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OSCEOLA
INDIAN RIVER
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OKEECHOBEE
ST. LUCIE
HIGHLANDS
DESOTO
GLADES
MARTIN
CHARLOTTE

NOLIVIA DR
CR 64 E
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Avon Park
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SR 17
ARBUCKLE CREEK RD
Sebring
HAMMOCK RD
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700
FLORIDA CRACKER TRL
PAYNE RD
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CR 621 E
MILLER AVE
CR 621 E
Lake Placid
HOLMES AVE
70
OLD VENUS RD/CR 731

Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Roadway Operating Conditions
Highlands County

Operating Conditions 2013

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 2015

0 3 6 9
Miles

Figure 6-48

POLK
OSCEOLA
INDIAN RIVER
OKEECHOBEE
HARDEE
ST. LUCIE
HIGHLANDS
DESOTO
GLADES
MARTIN
CHARLOTTE

Avon Park
Sebring
Placid Lakes

N OLIVIA DR
CR 64 E
SR 17
ARBUCKLE CREEK RD
HAMMOCK RD
FLORIDA CRACKER TRL
PAYNE RD
MILLER AVE
CR 621 E
HOLMES AVE
OLD VENUS RD/CR 731

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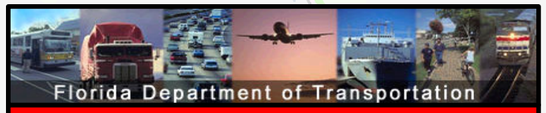

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Highlands County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 3 6 9
Miles

Figure 6-49

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6.7.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey responses, three (3) were associated with Highlands County. However, no key facilities for freight movement through the County were identified in the survey.

Public agency respondents did identify the following corridors as possible truck route designations.

- U.S. 27
- U.S. 98
- SR 17
- SR 64
- SR 66
- SR 70

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- No responses provided

A similar question was asked regarding bottleneck causes on delivery or pick up sites. However, no response was given.

Stakeholder Interviews

To gain a better understanding of the freight conditions in Highlands County, face-to-face interviews were conducted with the Sebring Regional Airport and the Highlands County IDA/EDC, Avon Park, in June 2014.

Sebring Regional Airport of Highlands County:

- Following the meeting with the Highlands County EDC, Mr. Weeks arranged for us to meeting with the airport. We were given a presentation of the airport's operations and future plans which include a runway extension to support a move to accept commercial freight air traffic within 5 years.
- Following the presentation, we were given a full tour of the site so we could see the rail connection, existing industrial/commercial companies on site, and the existing layout of the airport.

Highlands County Economic Development Commission and International Development Association, Avon Park

- There is concern that the speed limit drops as you come down U.S. 27. Along this road, the speed limit varies greatly and should be analyzed for improvement.
- The widening of Rest Ave. north of SR 64 is completed.
- The traffic lights on U.S. 27 through Sebring are not synchronized in the PM peak hour. This causes delays and bottlenecks to occur during the peak demand in the evening.
- There is some pavement cracking on U.S. 27/SW Lakeview Dr.
- SR 66 is evacuation route (west of DeSoto City). It is important this road be kept in good condition.
- Another contributor to the congestion in Sebring could be the three schools (with designated school zones) right on Sebring Parkway south of Kennilworth Rd.

A detailed set of interview notes are provided in Appendix C.

6.8 Lee County

Lee County is 1212 square miles in area with an estimated current population of approximately 618,800 as reported by the Lee County Economic Development office. The top five growing industries within the County include:

1 Administrative Support, Waste and Remediation Services;
2 Wholesale Trade;
3 Professional, Scientific, and Technical Services;
4 Retail Trade; and
5 Real Estate, Rental and Leasing.

Similarly, the top five major private sector employers include:

1 Publix Supermarket;
2 Wal-Mart Super Center;
3 Chico's FAS, Inc.;
4 Bonita Bay Group; and
5 Goodwill Industries.

6.8.1 Average Annual Daily Traffic

The existing Average Annual Daily Traffic (AADT) volumes for both state and non-state roadways within the county are provided in Figure 6-50 As indicated in this figure, the highest volumes are found along I-75 at approximately 81,500 vpd. In addition, the truck AADT volumes within this county are shown in Figure 6-51 and the peak traffic volumes are found along I-75 at over 8,400 vpd or 11 percent of all traffic.

6.8.2 Crash Data

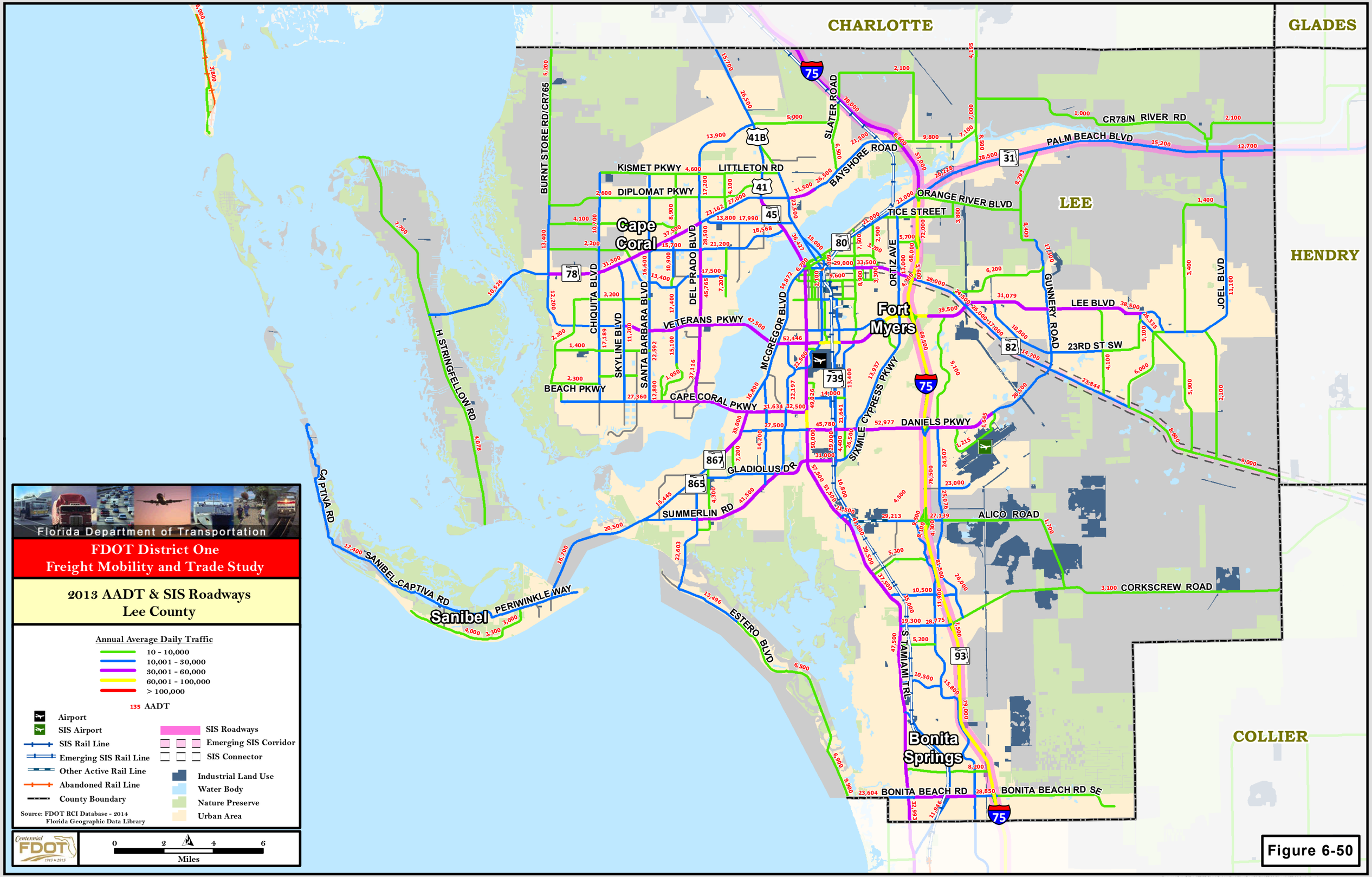
Truck crash data for the past three-year period within this county is illustrated in Figure 6-52. As shown in this figure, the highest number of truck-related crashes (up to 20 crashes per three-year period) can be found along sections of several county roads, Airport Road and Del Prado Boulevard. Please note that the number of crashes shown is based upon only those that are reported and documented in the state's database. Further investigation of these crashes will be done in a later stage of this freight study to determine if any potential improvements should be considered.

6.8.3 Pavement Conditions

Locations at where current pavement conditions are considered in the "poor" category are illustrated in Figure 6-53. As shown in this figure, there are several state roads (such as SR 82) and county roads which were identified as in "poor" condition.

6.8.4 Rail-Highway Crossings

The current active railroad crossings with roadways in the county are shown in Figure 6-54. As indicated in this figure, there are over 50 crossings. As previously indicated, these active crossings include those connecting both public and private roadways, which could also involve local streets and unimproved (dirt) roads.



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT & SIS Roadways
Lee County

Annual Average Daily Traffic

- 10 - 10,000
- 10,001 - 30,000
- 30,001 - 60,000
- 60,001 - 100,000
- > 100,000

135 AADT

- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 ★ 2015

0 2 4 6
Miles

Figure 6-50

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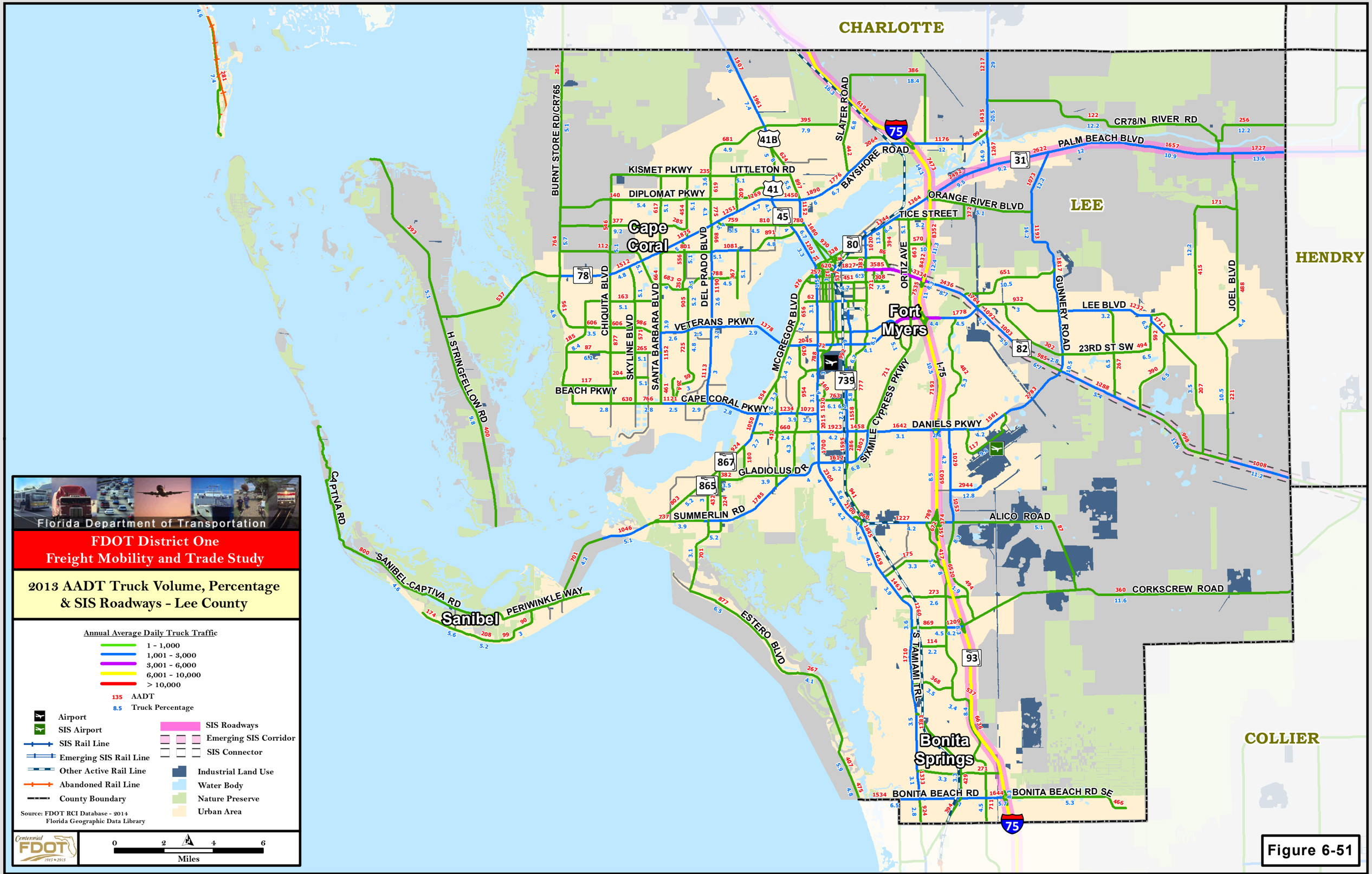


Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 AADT Truck Volume, Percentage & SIS Roadways - Lee County

Annual Average Daily Truck Traffic

- 1 - 1,000
- 1,001 - 3,000
- 3,001 - 6,000
- 6,001 - 10,000
- > 10,000

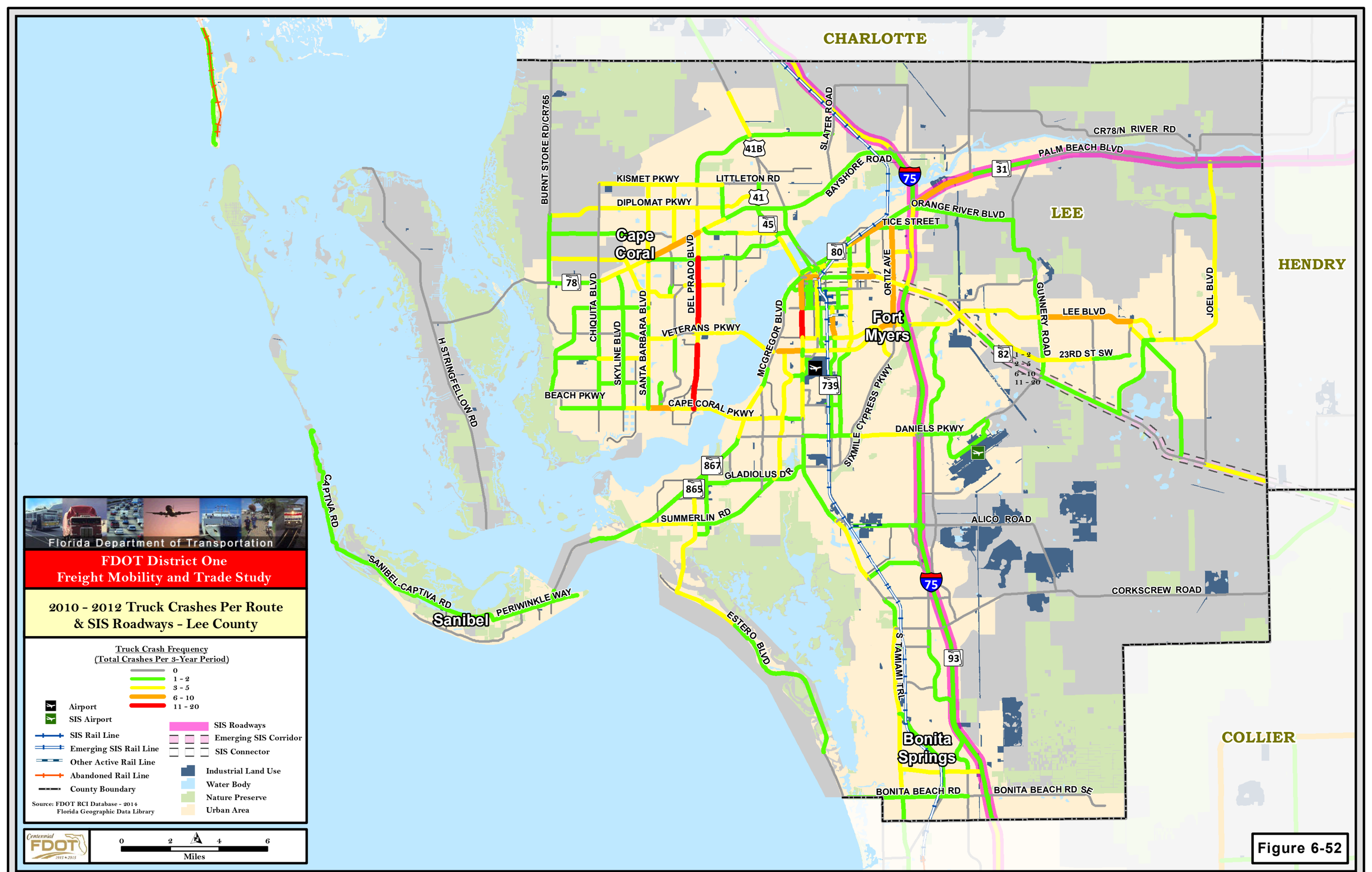
135 AADT
8.5 Truck Percentage

- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

0 2 4 6
Miles

Figure 6-51



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2010 - 2012 Truck Crashes Per Route & SIS Roadways - Lee County

Truck Crash Frequency
(Total Crashes Per 3-Year Period)

- 0
- 1 - 2
- 3 - 5
- 6 - 10
- 11 - 20

- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

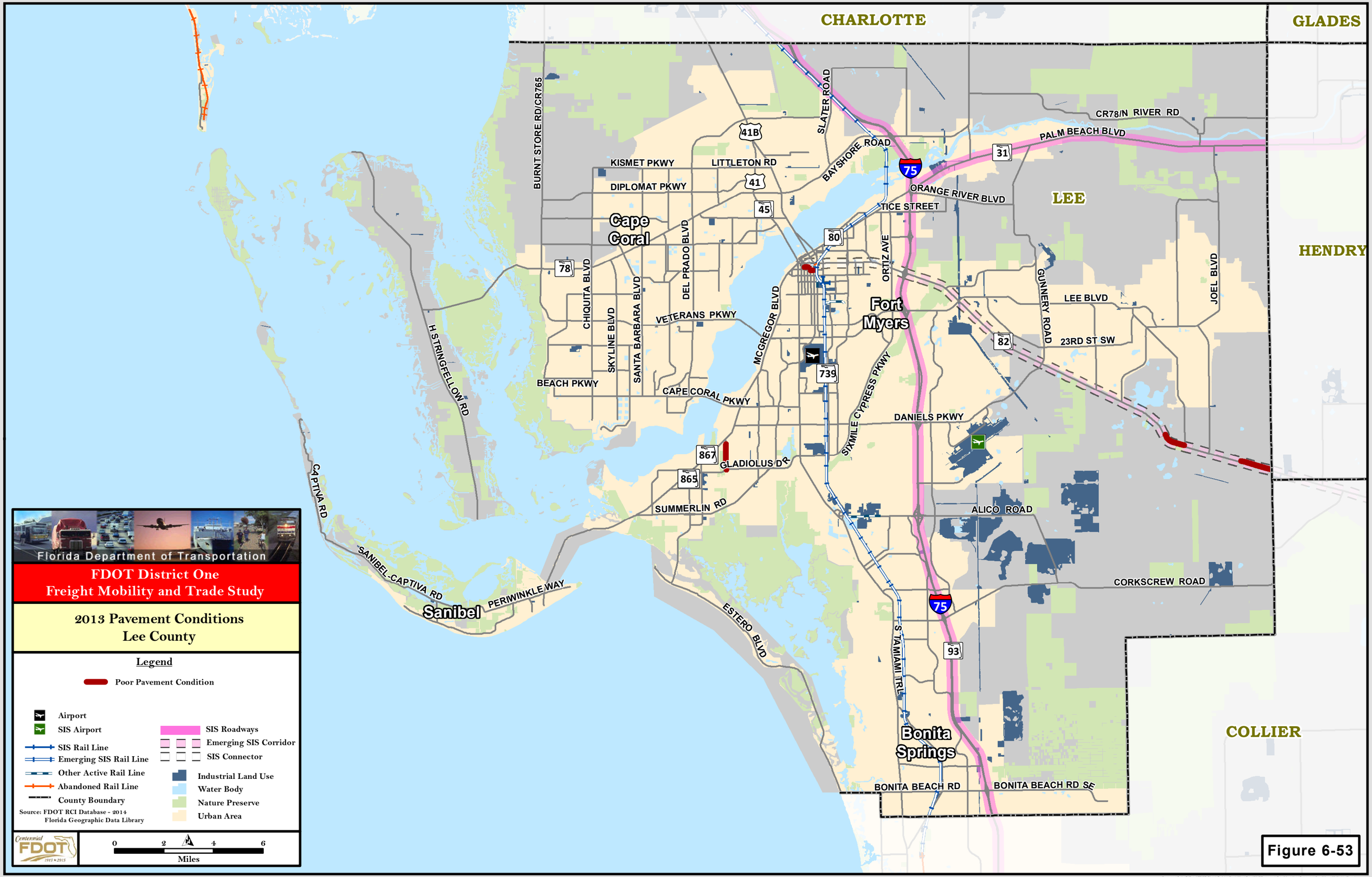
Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2915

0 2 4 6
Miles

Figure 6-52

Document Path: E:\Data\FDOT_Dist-1_Freight_StudyMap_Docs\2010\Crash_Frequency\Lee_Crash_Frequency_2010_2012_11x17.mxd



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Pavement Conditions
Lee County

Legend

- Poor Pavement Condition
- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 ★ 2015

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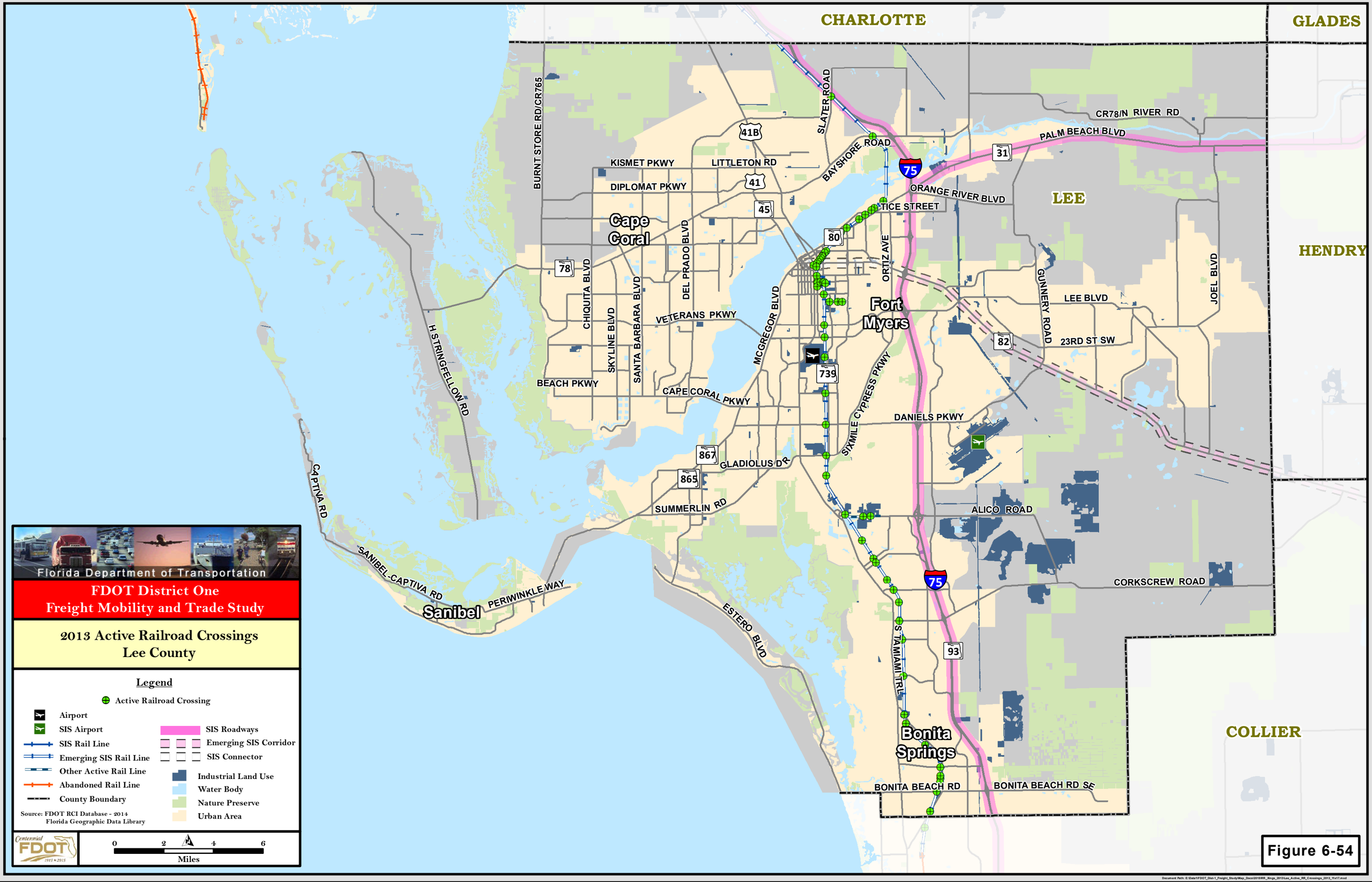
Figure 6-53



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Active Railroad Crossings
Lee County

Legend

- Active Railroad Crossing
- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

0 2 4 6
Miles

Figure 6-54

6.8.5 Roadway Level of Service/Operating Conditions

Existing 2013 and 2035 future operating conditions were undertaken for state facilities and those county facilities which have a reasonable amount of truck traffic utilizing them by comparing the daily volumes, as shown on previous figures, with current and future capacities for both state and non-state facilities. The results of this review are illustrated in Figures 6-55 and 6-56. For existing conditions, several segments of state roads (such as SR 82 or McGregor Boulevard) and county roads are currently operating above capacity (i.e. showing potential deficiencies). For 2035 conditions, many other segments, including most of I-75 through the county, are expected to exceed capacity. Further investigation of these locations will be conducted in a later stage of this freight study to verify the need for any potential improvements.

6.8.6 System Performance of Truck Movements

The performance of truck movements were evaluated using the hot spot analysis described earlier in this memo. The results of this analysis indicated the following hot spots or bottlenecks on the state system were identified in Lee County. A map showing the location of these hot spots is provided in Appendix B.

- SR 82 east of CR 687 and west of I-75
- U.S. 41 south of Colonial Blvd. and north of Estero Pkwy.
- Daniels Pkwy. east of McGregor Blvd. and west of I-75

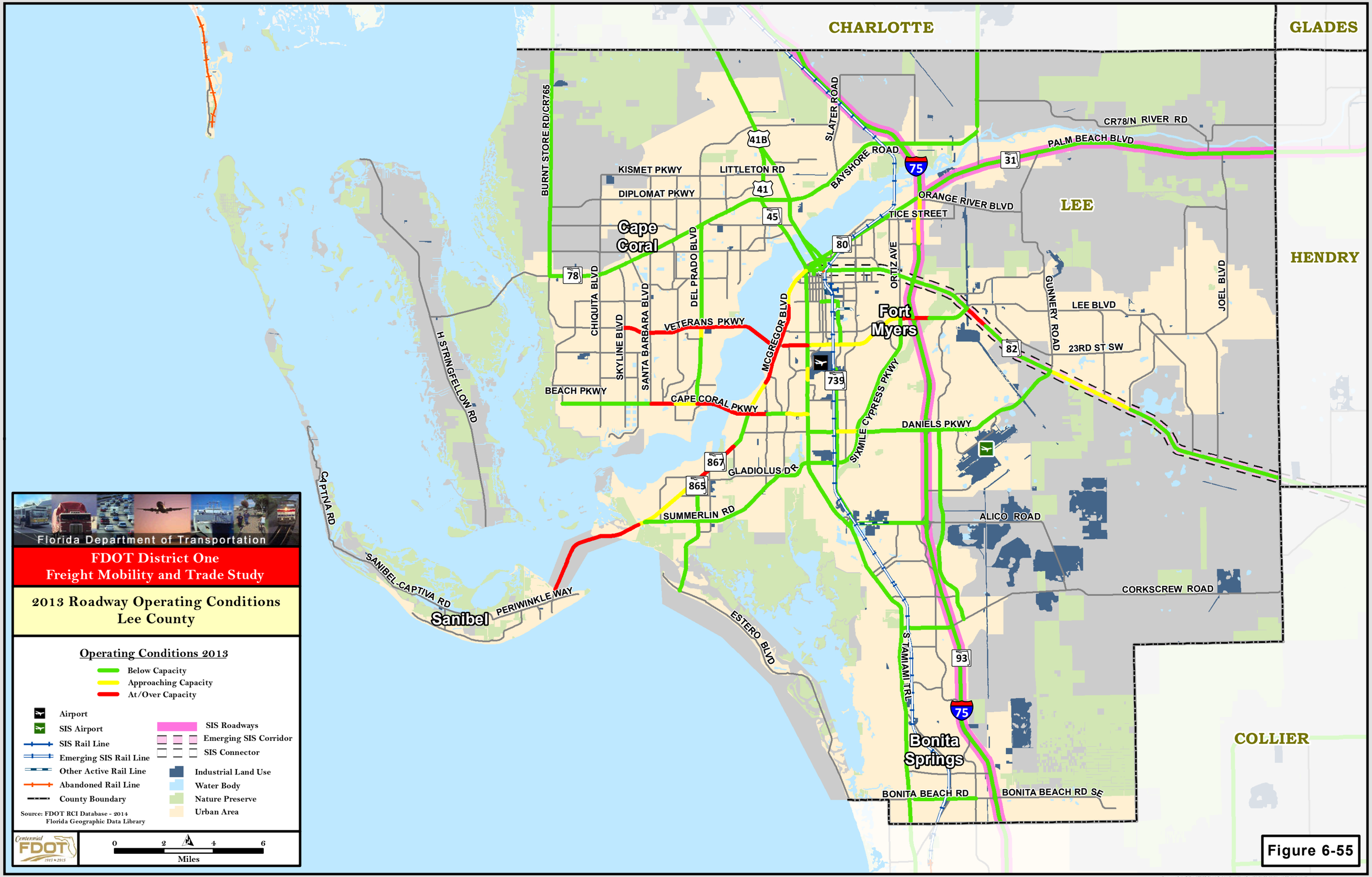
Commodity Flow Analysis

Using the commodity flow analysis previously described previously, Table 6-8 summarizes the major commodities by truck mode through Lee County.

Table 6-8: Top Commodities by Truck Tonnage, Lee County, 2011

Commodity	Origin	Destination	Internal	Total	Percent of Total
Nonmetallic Minerals	3,508,013	2,212,588	1,506,078	4,214,523	32%
Secondary Traffic	966,077	1,740,146	49,386	2,656,837	20%
Clay, Concrete, Glass or Stone	1,056,005	916,111	185,507	1,786,609	14%
Petroleum or Coal Products	18,141	1,357,896	325	1,375,713	11%
Food or Kindred Products	154,733	663,435	54	818,114	6%
Waste or Scrap Materials	215,799	296,589	84,297	428,092	3%
Farm Products	220,257	138,902	1,160	358,000	3%
Lumber or Wood Products	61,932	220,492	5,079	277,346	2%
Chemicals or Allied Products	2,848	211,471		214,319	2%
Printed Matter	106,932	103,566	6	210,492	2%
All Others	115,019	597,818	801	712,036	5%
Total	**6,425,759**	**8,459,014**	**1,832,692**	**13,052,081**	**100%**

Source: 2011 IHS Transearch.



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2013 Roadway Operating Conditions
Lee County

Operating Conditions 2013

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

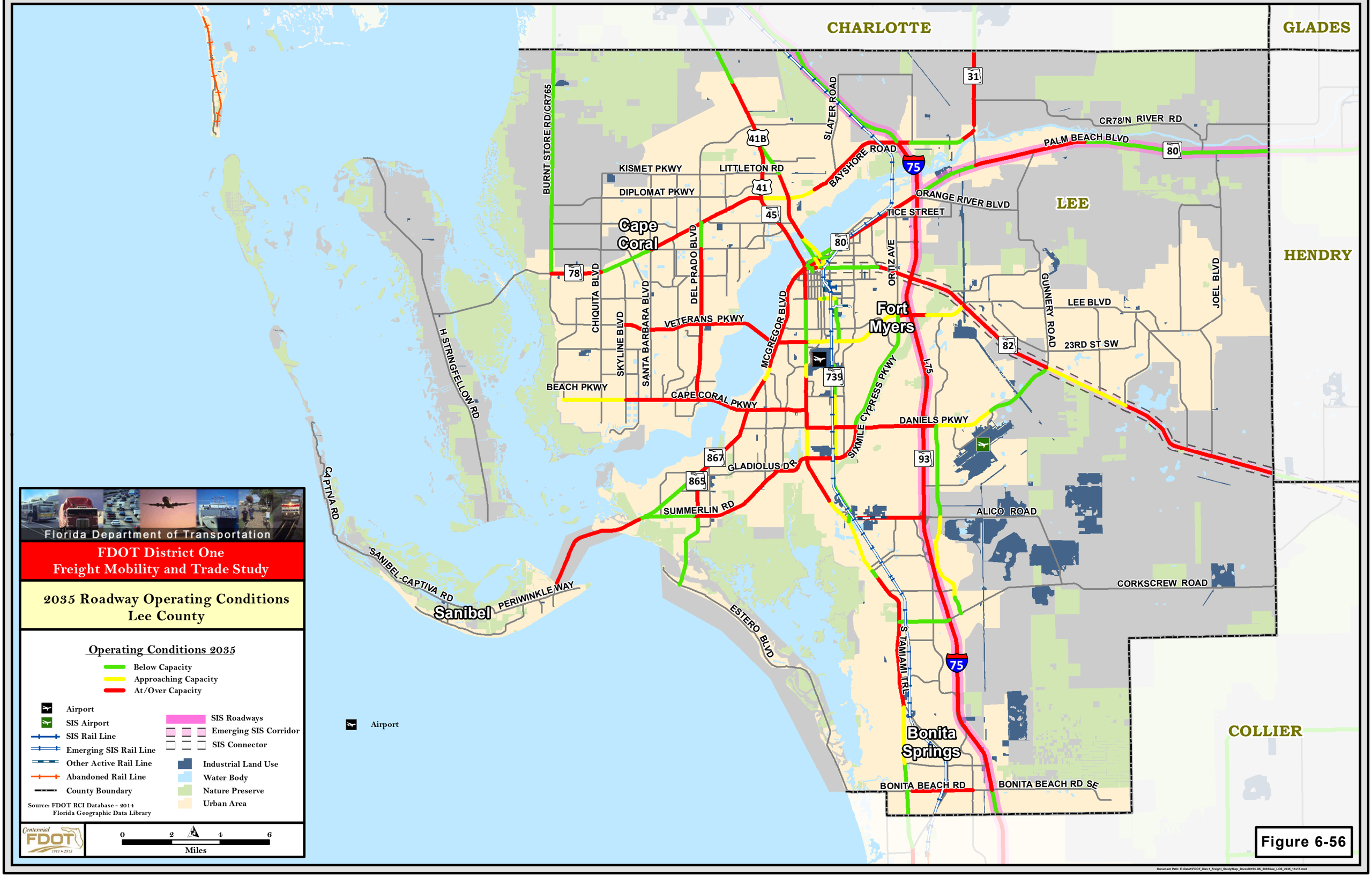
- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 • 2015

0 2 4 6
Miles

Figure 6-55



Florida Department of Transportation

FDOT District One
Freight Mobility and Trade Study

2035 Roadway Operating Conditions
Lee County

Operating Conditions 2035

- Below Capacity
- Approaching Capacity
- At/Over Capacity

- Airport
- SIS Airport
- SIS Rail Line
- Emerging SIS Rail Line
- Other Active Rail Line
- Abandoned Rail Line
- County Boundary

- SIS Roadways
- Emerging SIS Corridor
- SIS Connector
- Industrial Land Use
- Water Body
- Nature Preserve
- Urban Area

Source: FDOT RCI Database - 2014
Florida Geographic Data Library

Centennial FDOT 1915 ★ 2015

0 2 4 6
Miles

Figure 6-56

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6.8.7 Survey Results

Online Survey

An online survey was made available to all stakeholders within the study area and was conducted in early 2014. Of the 51 survey answers, nine (9) were associated with Lee County. However, no key facilities for freight movement through the County were identified in the survey.

Public agency respondents did identify the following corridors as possible truck route designations:

- I-75
- U.S. 41
- SR 31
- SR 78
- SR 80
- SR 82

When asked what the likely causes of freight bottlenecks on the roadway network were, the following issues were identified as major contributors.

- Capacity issues
- Turning radii (moderately contributes)
- Distance between signals

A similar question was asked regarding bottleneck causes on delivery or pick up sites. The following issues were highlighted by this question.

- Driveway access
- Turn pocket storage
- Docking bays
- Availability of truck parking

Stakeholder Interviews

To gain a better understanding of the freight conditions in Lee County, a face-to-face interview was conducted with the Lee County Metropolitan Organization (MPO) in September 2014. During the interview, the following key points were identified.

Lee County Metropolitan Organization (MPO):

- Seminole Gulf Railway provides minimum service in Lee County; it currently leases trackage rights from CSX. Much of its system operates at low speeds (10 to 15 mph) due to track conditions.
- The railroad has pursued federal grants (TIGER) to help with investment needs. Improvements to or replacement of the Caloosahatchee River bridge will require significant funding.
- A rail feasibility study was conducted that looked at freight, passenger, and trail opportunities. One opportunity includes a privately developed gas/fuel terminal in close proximity to the airport; a pipeline could be developed to provide jet fuel directly from the tank farm to the airport.
    - Other options could include state purchase of the CSX right of way; this would facilitate state investment decisions.

A detailed set of interview notes are provided in Appendix C.