



# Southwest Florida LEPC District IX Commodity Flow Study Final Report



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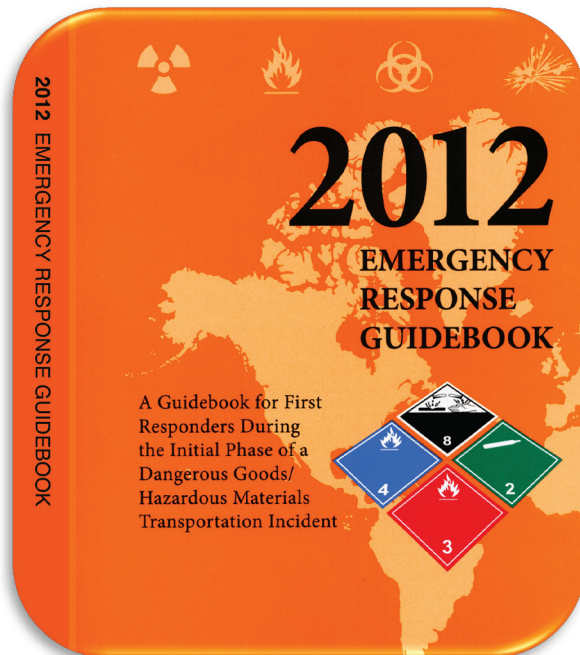
## Forward

Under a U.S. Department of Transportation (USDOT) Hazardous Materials Emergency Preparedness (HMEP) planning grant, the District IX LEPC conducted a Highway Commodity Flow Study for the six counties within its jurisdiction. This study consisted of a placard survey of the highways and major roads on twelve corridors within the district.

## Purpose

### Background

The purpose of this study is to examine the movement of hazardous materials on the highways and major roads associated with twelve major corridors that transverse the district. The study utilized trained spotters to gather information at specific locations within the corridors throughout a three-month period. The information that was gathered for each hazardous material vehicle includes: the DOT (Department of Transportation) hazard class, Placard number, commodity, carrier, corridor, and the direction of travel. All data was captured in a consistent format that can be viewed in Appendix C. Each corridor was separately analyzed and quantitatively reviewed. The data was then compiled to show regional conclusions.



### Mission

The mission of the Commodity Flow Study is to assess, through a placard survey, the types and quantities of hazardous materials, hazardous substances, and hazardous wastes traveling via the highways and major roadways through the District IX LEPC region.

### Goals and Objectives

- 1) Collect information to increase awareness for preparation, prevention, and response capabilities for hazardous materials responders.
- 2) Identify placard types and classes of hazardous materials, the proper shipping names, the motor carrier names, direction of travel, and the types of vehicles.
- 3) Describe through maps and reports the results of the commodity flow study.
- 4) Provide results and conclusions to all Emergency Management Directors, and any additional interested persons, in the LEPC region.

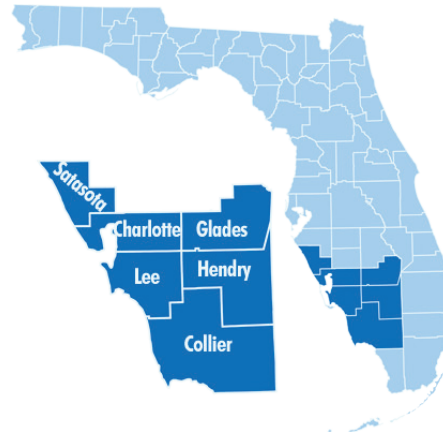
## LEPC District IX Profile

### Socioeconomic Information

The LEPC District IX Region has a significant level of vulnerability for residential populations, which include full-time residents, seasonal residents, and winter residents; as well as tourists that could potentially be subject to a hazardous materials incident. The District IX LEPC is made up of six counties; Charlotte, Collier, Glades, Hendry, Lee, and Sarasota. The region currently has a population of approximately 1.8 million people. As of 2015, there are fourteen municipalities within the District. The region has recently seen an increase in population growth that may continue as economic activities continue to expand.

Table 1: LEPC District IX Population by County

County	Population
Lee	756,681
Sarasota	436,124
Collier	406,262
Charlotte	183,340
Hendry	43,847
Glades	12,093



The region is heavily dependent on tourism, construction, and agriculture as its economic foundation; this has contributed to population growth and sprawl throughout the 6-county region. As a result, Southwest Florida has a variety of different cultures, habitats, and identities. The western coastal communities and interior agricultural lands are patchwork of vibrant coastal cities; suburban communities, and rural farm towns linked together by a central urban corridor (SWFRPC CEDS Plan).

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## Transportation Network<sup>1</sup>

### *Charlotte County*

U.S. Highway 41 is the main north/south route through the county. The barrier islands and beach communities are served by County Roads 775 and 776, as County Road 771 serves the central Cape Haze and Rotunda areas.

Interstate 75 runs through the central portion of the county and through Lee and Sarasota Counties. U.S. Highway 17 provides an alternate route to DeSoto County. County Road 74 is the County's major west/east artery. State Road 31 runs north/south through the eastern portion of the County.

The Seminole Gulf Railroad line runs in close proximity to U.S. 41 from North Fort Myers to Punta Gorda. Other lines in the County are not in use and have been abandoned.

The Intracoastal Waterway provides for passage of vessels of less than 12 foot draft, and runs north and south the full length of the county. Gasparilla Island and Manasota Key are served by drawbridges and causeway connections. Charlotte County possesses no major port facility, but contains many private marina facilities. These bridges could critically impact evacuation and emergency response time.

Residents of Charlotte County are vulnerable to the harmful effects of accidental release of hazardous materials. A large volume of hazardous materials is transported throughout the county by railroad, highways, air traffic, water and pipelines daily. Within Charlotte County there are a number of private and public facilities which produce, store or use hazardous materials and substances.

### *Collier County*

U.S. Interstate 75 is the main north/south and east/west transportation routes through Collier County. There are currently five off-on ramps from I-75 within the County: Exit 111 (Immokalee Road), Exit 107 (Pine Ridge Road), Exit 105 (Golden Gate), Exit 101 (CR 951), and Exit 80 (SR 29).

US 41 from East Naples to the Lee County line is generally local truck and automobile traffic. There are several arterial roads within the densely populated areas of the county that routinely carry chlorine, anhydrous ammonia, petroleum products, fungicides, pesticides, and other hazardous materials on a daily basis. Within Collier County there are a number of private and public facilities which produce, store, or use hazardous materials and substances.

### *Glades County*

The primary inter-County/City transportation route is U.S. 27, which has four lanes. U.S. 27 traverses the entire peninsula of Florida and connects cities such as: Tallahassee, Sebring, Clewiston, and Miami; US-27 intersects, from north to south, major highways I-75, the Florida Turnpike, I-4, and I-95. Other roads include State Road 78, which extends north along the

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<sup>1</sup> 2015 District IX LEPC HazMat Plan

eastern edge of the County to Okeechobee, and State Road 80, which runs in an east/west direction along part of the southern border of the County.

Glades County is traversed by the South Central Express Railroad, whose tracks parallel U.S. 27 from Highlands County to Palmdale, where it diverges, with one tract continuing south, and the other heading southeast, through Moore Haven. The proximity of population to the rail lines and highways can cause reason for concern. Large volumes of hazardous materials are transported through Glades County both by highway and rail. The population in the vicinity of transportation routes would be especially vulnerable to the harmful effects of a hazardous materials release should there be an accident. The County has a number of facilities which produce, store, or use hazardous materials and substances.

### *Hendry County*

The primary roads penetrating the County are: State Road 80 (east/west), State Road 29 (north/south) LaBelle area, and US 27 (east/west) Clewiston. The Caloosahatchee River is an intercostal waterway running (east-west) from Lake Okeechobee to the Gulf of Mexico.

Rail transportation service is provided by South Central Express (freight) in the western portion of the County. Hazardous materials are transported through the County daily. There are a number of facilities in the county which routinely use, produce or store hazardous materials and substances. There are draw bridges in the County which could impact evacuation and response time.

### *Lee County*

U.S. 41 and Interstate 75 are the primary north-south access highways. These roads provide access to Lee County with Tampa and Miami. Other major highways providing access into Lee County are State Roads 31, 78, 80, and 82; and County Roads 765 and 887.

Lee County is served by the Seminole Gulf Railroad, a local tourist dinner service with limited freight. Rail facilities consist of approximately 50 miles of light rail line linked to the national rail network. Existing rail service extends north through DeSoto County and south into Collier County. Products transported out of the county include citrus, limestone, dolomite, coquina softwood, sand and gravel.

Products shipped into the county include newsprint, canned food, LP gas, fertilizer products, sandstone, and aggregate lumber. Within Lee County there are a number of private and public facilities which produce, store or use hazardous materials and substances.

### *Sarasota County*

The Intracoastal Waterway provides for passage of vessels of less than 12 foot draft, and runs north and south the full length of the county, dividing the beach area from the mainland. The beach area is served by causeway connections.

Seminole Gulf operates a railroad which runs north and south along the west coast of Sarasota County. Sarasota County has a limited coastal road network.

U.S. 41, the most traveled is a 4-lane/5-lane in the City of Sarasota; and is located, the entire north/south length of the coast just south of the City of Venice where it turns east to the City of

North Port and then to Charlotte County. It is used both as a trucking/commercial route and as a popular coastal tourist route.

Interstate 75, carrying the majority of north/south through traffic, and are located generally 10 miles to the east of US. 41. It is also well traveled by commercial and private vehicles. The County also has two east/west roads, which are State Roads 72 and 780. With the exception of Interstate 75, all federal, state, and county roads in Sarasota County are extremely susceptible to flooding due to their low elevation and potential storm surge generated by all categories of hurricanes.

*For more information on the transportation corridors within the region; please refer to the 2015 LEPC HazMat Plan, as well as the Florida Department of Transportation District 1 website at <http://www.swflroads.com>.*

## District Map with Observation Locations

The observation locations illustrated below were selected for various reasons including, but not limited to: proximity to major roadways/highways, clear visual of all hazardous material transportation vehicles traveling on the identified roadway/highway, personnel safety, and equal survey information gathered in each of the six counties within the Southwest Florida region. Additional information regarding these locations can be found in Appendix B.

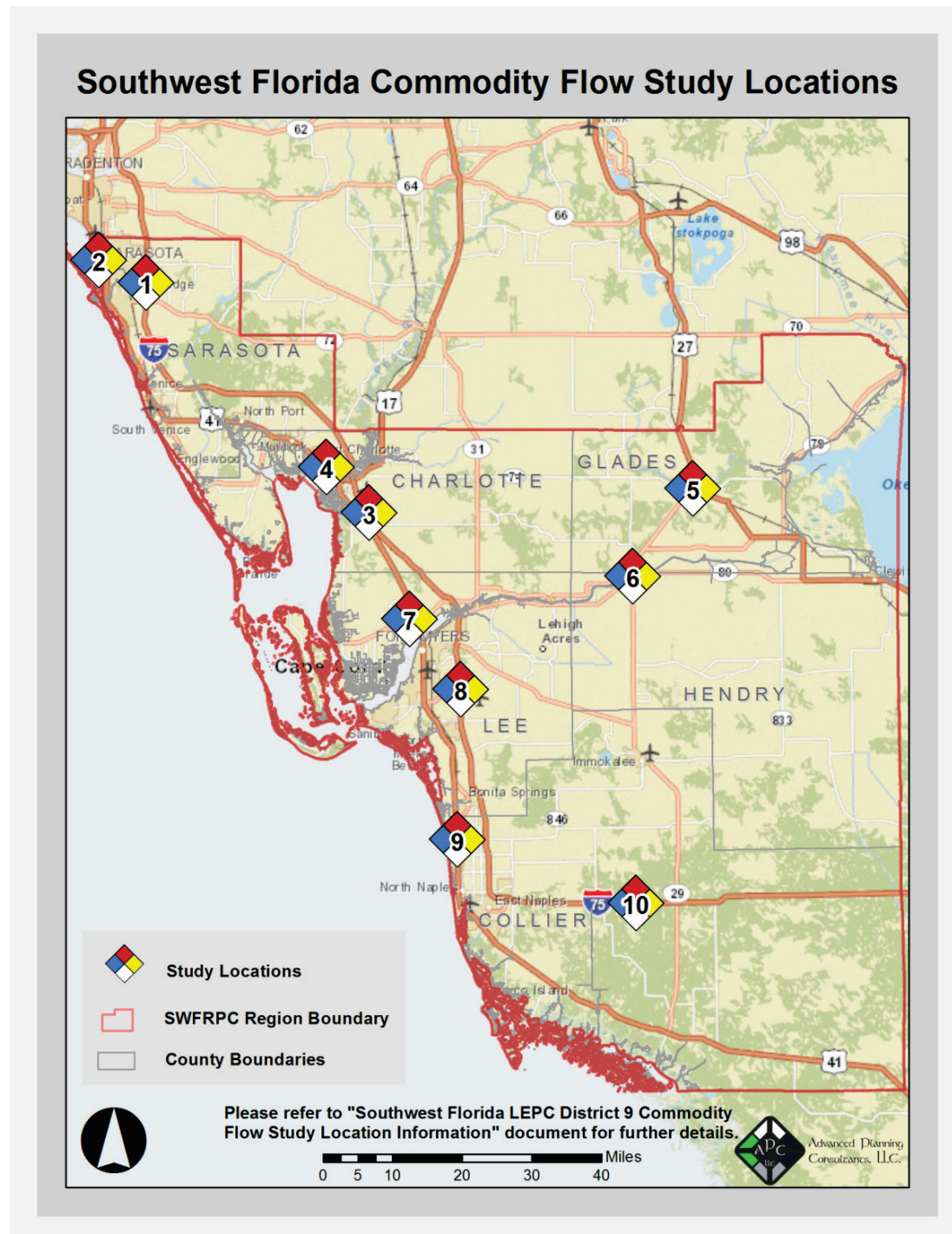


Figure 1: Commodity Flow Study Location Map

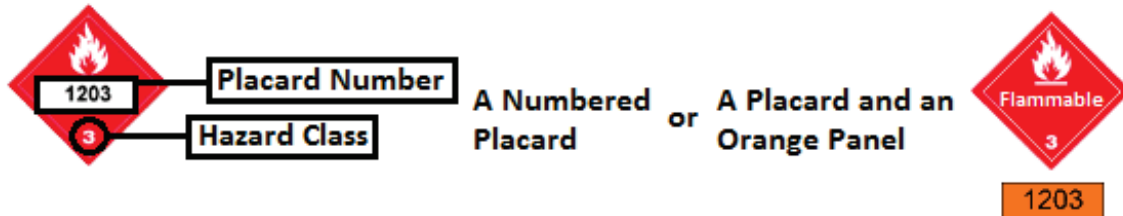
## Survey Description

### Identification Techniques

#### Placard Identification

To determine the type of commodity being carried within a vehicle, placards were examined. The 4-digit ID Number may be shown on the diamond-shaped placard or on an adjacent orange panel displayed on the ends and sides of a cargo tank, vehicle, or railcar (Figure 2 below).

Figure 2: Example of Placard and Panel with ID Number



\*For a complete table of placards see appendix A.

#### Identifying Hazard Class with the Hazard Classification System

Placards are also used to identify the class or division of a material. The hazard class of dangerous goods is indicated either by its class, (or division) number, or name. The class or division helps determine the type of hazard the commodity poses to the community.

#### Class 1 - Explosives

- Division 1.1 Explosives with a mass explosion hazard
- Division 1.2 Explosives with a projection hazard
- Division 1.3 Explosives with predominantly a fire hazard
- Division 1.4 Explosives with no significant blast hazard
- Division 1.5 Very insensitive explosives with a mass explosion hazard
- Division 1.6 Extremely insensitive articles

#### Class 2 - Gases

- Division 2.1 Flammable gases
- Division 2.2 Non-flammable, non-toxic gases
- Division 2.3 Toxic gases

#### Class 3 - Flammable liquids (and Combustible liquids [U.S.])

#### Class 4 - Flammable solids; spontaneously combustible materials; and Dangerous when wet Materials/Water-reactive substances

- Division 4.1 Flammable solids
- Division 4.2 Spontaneously combustible materials
- Division 4.3 Water-reactive substances/Dangerous when wet materials

**Class 5 - Oxidizing substances and Organic peroxides**

Division 5.1 Oxidizing substances

Division 5.2 Organic peroxides

**Class 6 - Toxic substances and Infectious substances**

Division 6.1 Toxic\*substances

Division 6.2 Infectious substances

**Class 7 - Radioactive materials**

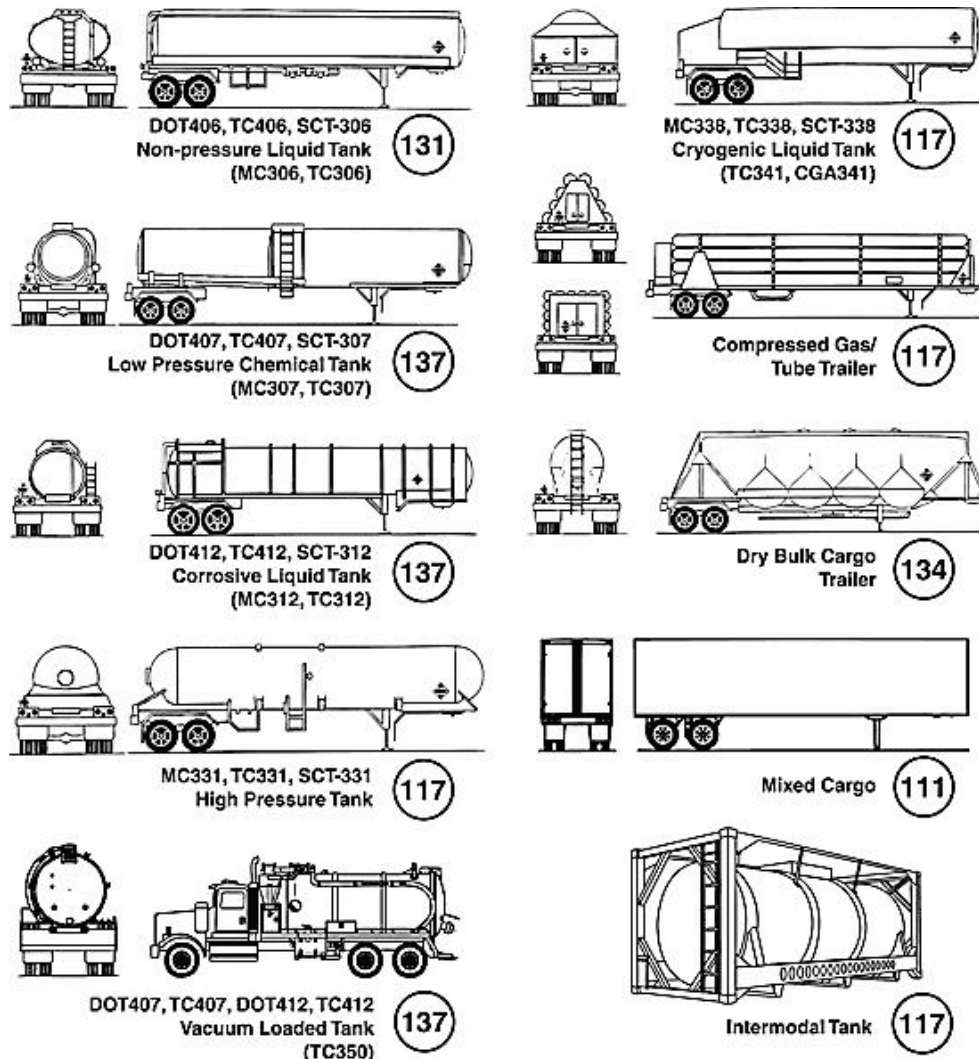
**Class 8 - Corrosive substances**

**Class 9 - Miscellaneous hazardous materials/Products, Substances or Organisms**

**Road Trailer Identification**

The identification of trailer types is an additional option for responders to use in determining the risk of a commodity if it cannot be identified by other means. Below are examples of general road trailer silhouettes:

Figure 3: General Road Trailers



## Survey Methods

### Survey Sites

The survey was conducted on 10 major roadway and highway corridors within the district from July to September of 2015. These survey sites included nine north/south corridors and two east/west corridors. Each of the major highway corridors had one or two observation points along its corridor. These observation points were located at rest stops or near major highway intersections. The total number of observation points/sites was eleven. The table below represents the survey locations<sup>2</sup>.

**Table 2: Observation Locations**

Site #	Major Road/Highway	Approximate Address or Mile Marker	County	Date	Time
1	Interstate 75	6010 Cattleridge Dr, Sarasota	Sarasota	September 2	1:10pm – 3:10pm
2	US-41	Centennial Park (1565 1st St, Sarasota)	Sarasota	September 2	10:00am – 12:00pm
3	Interstate 75	Punta Gorda Weigh Station/Rest Area	Charlotte	August 13	11:30am – 1:30pm
4	US-41	Intersection of US-41 and CR-776	Charlotte	August 13	8:30am – 10:30am
5	US-27 and US-29	Intersection of US-27 and US-29	Glades	July 27	10:20am – 12:20pm
6	SR-80 and US-29	Intersection of SR-80 and US-29	Hendry	July 27	1:05pm – 3:05pm
7a	US-41	Intersection of US-41 and State Road 78	Lee	July 28	8:45am – 9:45am
7b	US-41	Intersection of Business US-41 and State Road 78	Lee	July 28	9:50am – 10:50am
8	Interstate 75	Germain Arena Parking Lot (Mile Marker 123)	Lee	July 28	1:00pm – 3:00pm
9	US-41	Intersection of US-41 and State Road 846	Collier	July 29	9:08am – 11:08am
10	Interstate 75	Between Mile Marker 92 & Mile Marker 93	Collier	July 29	12:25pm – 2:25pm

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<sup>2</sup> A photo and description of each location is included in Appendix B.

### Data Collection

The information that was gathered for each hazardous material vehicle included the DOT classification number (placard number), vehicle type, hazard class, commodity, number of axles, carrier, direction of travel, location, and date. All data was captured in a consistent format using a standard observation form. The DOT classification numbers (four-digit numbers) were used to



identify hazardous substances. The vehicle types were used to determine if the placarded hazardous material was consistent with the vehicle category. The hazard class/division was used to identify the type of dangerous commodity classification. The axle count on the vehicle was recorded and can help with estimating the potential capacity of a vehicle. Carrier information was captured to further help identify the potential product carried. The location and direction of travel was recorded to help identify the actual roadway where the vehicle was observed. The date and time was also documented for identification purposes.

### Limitations

The contents of this survey only reflect a small percentage of the traffic crossing the observed corridors. The survey was limited on the number and duration of sessions. The data collected reflects a snapshot of the traffic at defined points-in-time. To truly define the actual traffic patterns of the corridors, more sessions and longer observation periods should be utilized.

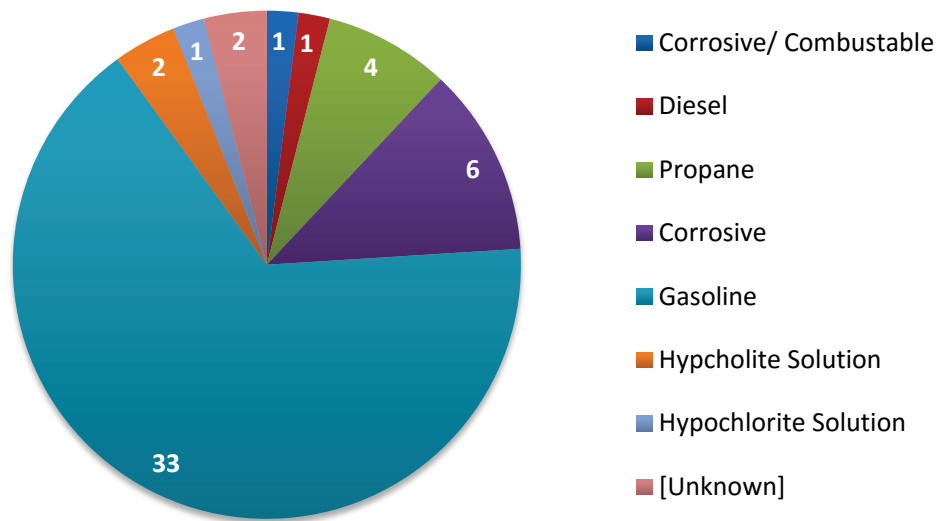
## Observations and Results

### Sarasota County

#### Interstate 75 North/South

The Interstate 75 corridor had one observation point within Sarasota County. This point included the northbound/southbound traffic from the parking lot of 6010 Cattleridge Drive. The site was observed for one, two hour period. During the observation period, fifty (50) vehicles transporting hazardous materials were recorded\*. Of the vehicles recorded, thirty three (33) were gasoline trucks, six (6) were transporting corrosive chemicals, and four (4) were transporting propane. The following chart shows the total observed commodity types for the site.

Figure 4: Sarasota County Interstate 75 - Total by Commodity Type



*\*All raw data for the survey can be found in Appendix C.*

#### US-41 North/South

The US-41 corridor included one observation point within Sarasota County. This included the northbound/southbound traffic at the 1<sup>st</sup> Street intersection near Centennial Park. The site was observed one, two hour period. During the observation period only two (2) vehicles carrying hazardous materials were observed. Of the vehicles recorded, one (1) vehicle was a box truck transporting an unmarked corrosive material; the second vehicle was transporting diesel fuel. For more information see the detailed report below. Additional information on the vehicles can be found in Appendix C.

Table 3: Sarasota County US-41 – Vehicle Report

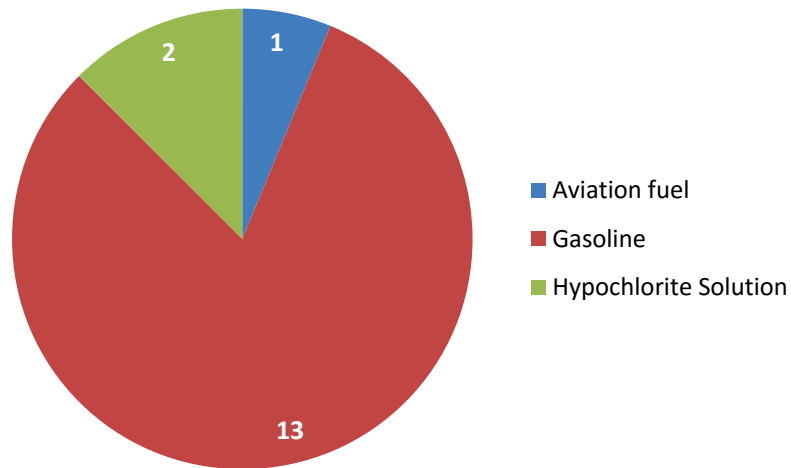
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Direction of Travel
1993	MC306	3	Diesel	3	[Unknown]	South
[Unknown]	Box Truck	8	Corrosive	2	[Unknown]	South

## Charlotte County

### Interstate 75 North/South

The I-75 corridor had one observation point within Charlotte County. This included the northbound/southbound traffic at Punta Gorda Weigh Station and Rest Area. This site was observed for one, two hour period. During the observation period, sixteen (16) vehicles transporting hazardous materials were recorded\*. Of the vehicles recorded, thirteen (13) were gasoline trucks, two (2) were transporting a hypochlorite solution, and one (1) was transporting aviation fuel. The following chart shows the total observed commodity types for the site.

Figure 5: Charlotte County Interstate 75 - Total by Commodity Type



*\*All raw data for the survey can be found in Appendix C.*

### US-41 North/South

The US-41 corridor had one observation point within Charlotte County. This included the northbound/southbound traffic for US-41 and eastbound/westbound traffic for CR-776. This site was observed for one, two hour period. During the observation period, four (4) vehicles transporting hazardous materials were recorded. Of the vehicles recorded, two (2) were gasoline trucks, one (1) was transporting oxygen, and one (1) was transporting propane. For more information see the detailed report below. Additional information on the vehicles can be found in Appendix C.

Table 4: Charlotte County US-41 – Vehicle Report

Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Direction of Travel
1073	MC307	2	Oxygen	5	PTI	South
1075	MC307	2	Propane	2	Amerigas	South
1203	MC306	3	Gasoline	5	Edison Oil	South
1203	MC306	3	Gasoline	5	Palmdale Oil	South

## Glades County

### US-27 North/South

The US-27 corridor had one observation point within Glades County. This included the northbound/southbound traffic at the intersection of US-27 and US-29. This site was observed for one, two hour period. During the observation period, five (5) vehicles transporting hazardous materials were recorded. Of the vehicles recorded, two (2) were transporting an unmarked/unknown corrosive material, one (1) was transporting a calcium hypochlorite solution, one (1) was transporting potassium hydroxide, and one (1) was transporting sulfuric acid. For more information see the detailed report below. Additional information on the vehicles can be found in Appendix C.

Table 5: Glades County US-41 – Vehicle Report

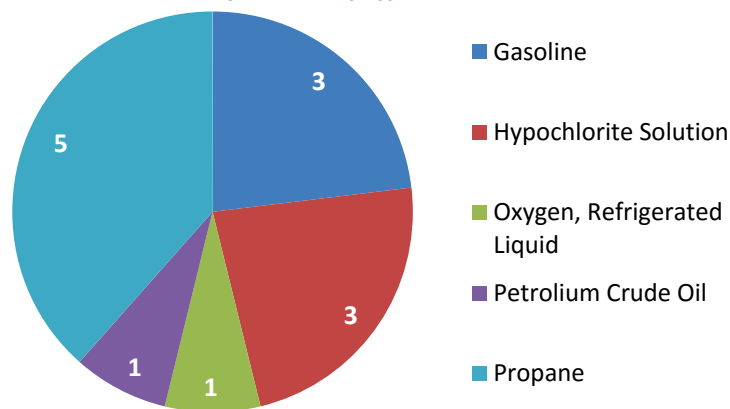
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Direction of Travel
2796	Flat Bed	8	Sulfuric Acid	2	[Unknown]	South
1813	MC312	8	Potassium Hydroxide	5	[Unknown]	North
2880	MC312	5.1	Calcium Hypochlorite	5	Skygrade	South
Corrosive	MC312	8	Corrosive	5	[Unknown]	North
Corrosive	MC312	8	Corrosive	5	[Unknown]	North

## Hendry County

### State Road 80 East/West and US-29 North/South

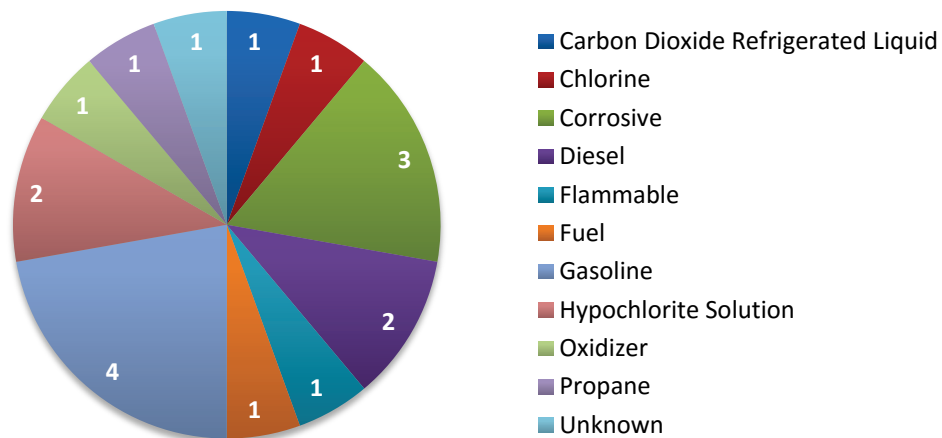
The intersection of State Road 80 and US-29 corridor had one observation point within Hendry County. This included the northbound/southbound US-29 traffic and the eastbound/westbound traffic of SR-80 at the intersection. This site was observed for one, two hour period. During the observation period, thirteen (13) vehicles transporting hazardous materials were recorded. Of the vehicles recorded, five (5) were transporting propane or propane cylinders, three (3) were transporting a hypochlorite solution, and three (3) were transporting gasoline. The following chart shows the total observed commodity types for the site.

Figure 6: Hendry County Interstate 75 - Total by Commodity Type



**Lee County****Interstate 75 North/South**

The Interstate 75 corridor had one observation point within Lee County. This included the northbound/southbound traffic at mile marker 123 in front of Germain Arena. This site was observed for one, two hour period. During the observation period, eighteen (18) vehicles transporting hazardous materials were recorded. Of the vehicles recorded, four (4) were transporting gasoline, three (3) were an unknown corrosive, two (2) were transporting diesel, and two (2) were transporting a hypochlorite solution. The following chart shows the total observed commodity types for the site. Additional information on the vehicles can be found in Appendix C.

**Figure 7: Lee County Interstate 75 - Total by Commodity Type****US-41 North/South**

The US-41 corridor had two observation points within Lee County. This included the northbound/southbound traffic and eastbound/westbound traffic at the intersection of US-41 and SR-78 as well as northbound/southbound and eastbound/westbound traffic at the intersection of Business US-41 and SR-78. Each site was observed once for one hour each. During the observation period, six (6) vehicles transporting hazardous materials were recorded. Of the vehicles recorded, two (2) were transporting gasoline, two (2) were transporting propane, one (1) was transporting unknown medical supplies, and one (1) from was transporting an unknown oxidizer 5.1 and flammable material. For more information see the detailed report below. Additional information on the vehicles can be found in Appendix C.

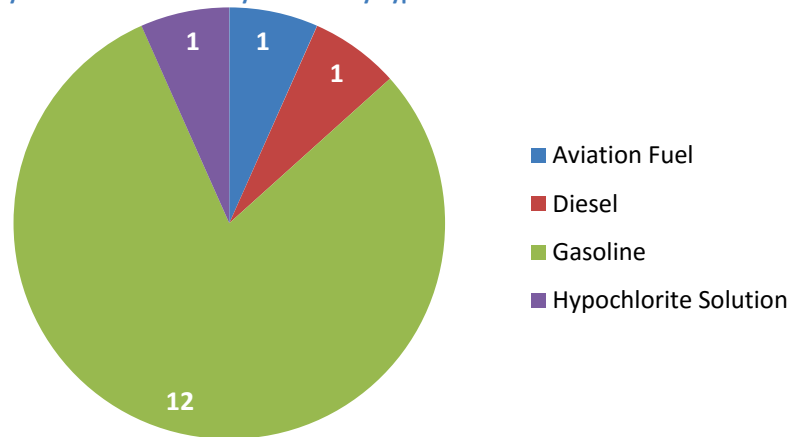
**Table 6: Lee County US-41 – Vehicle Report**

Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Direction of Travel
[Unknown]	Box Truck	[Unknown]	Medical Supplies	2	[Unknown]	West
1075	Box Truck	2	Propane	2	Amerigas	South
1075	MC 331	5	Propane	5	Ferralgas	East
1203	MC 306	2	Gasoline	2	Edison Oil	South
[Unknown]	Box Truck	5.1/3	Oxidizer 5.1/Flammable 3	5	Brentag	South

**Collier County****Interstate 75 North/South**

The Interstate 75 corridor had one observation point within Collier County. This included the eastbound/westbound traffic between mile marker 92 and mile marker 93. This site was observed for one, two hour period. During the observation period, fifteen (15) vehicles transporting hazardous materials were recorded. Of the vehicles recorded, twelve (12) were transporting gasoline, one (1) was transporting diesel, one (1) was transporting aviation fuel, and one (1) was transporting a hypochlorite solution. The following chart shows the total observed commodity types for the site. Additional information on the vehicles can be found in Appendix C.

Figure 8: Collier County Interstate 75 - Total by Commodity Type

**US-41 North/South**

The US-41 corridor had one observation point within Collier County. This included the northbound/southbound and eastbound/westbound traffic at the intersection of US-41 and SR-846. This site was observed for one, two hour period. During the observation period, two (2) vehicles transporting hazardous materials were recorded. The vehicles recorded included one (1) box truck transporting an unknown corrosive and one (1) vehicle transporting a hypochlorite solution. For more information see the detailed report below. Additional information on the vehicles can be found in Appendix C.

Table 7: Collier County US-41 – Vehicle Report

Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Direction of Travel
1791	MC 312	8	Hypochlorite Solution	5	N/A	North
[Unknown]	Box	8	Corrosive	2	Conway	South

## Conclusions and Recommendations

### Study Conclusions

After examining the data from this survey several conclusions emerged. First, by far the most frequently carried classification within the region is DOT Class 3 – Flammable Liquids, which was observed over 60 percent of the time (see figure 6). Second, the most common vehicle type observed transporting hazardous commodities was the MC 306 tanker representing non-pressure liquids. This was observed 59 percent of the time. Finally the most common commodities identified within the region were: gasoline (52.6%), propane (9.9%), unknown corrosives (9.9%), and hypochlorite solution(s) (9.2%).

Figure 9: District IX Conclusion - Percent (%) by Hazard Class

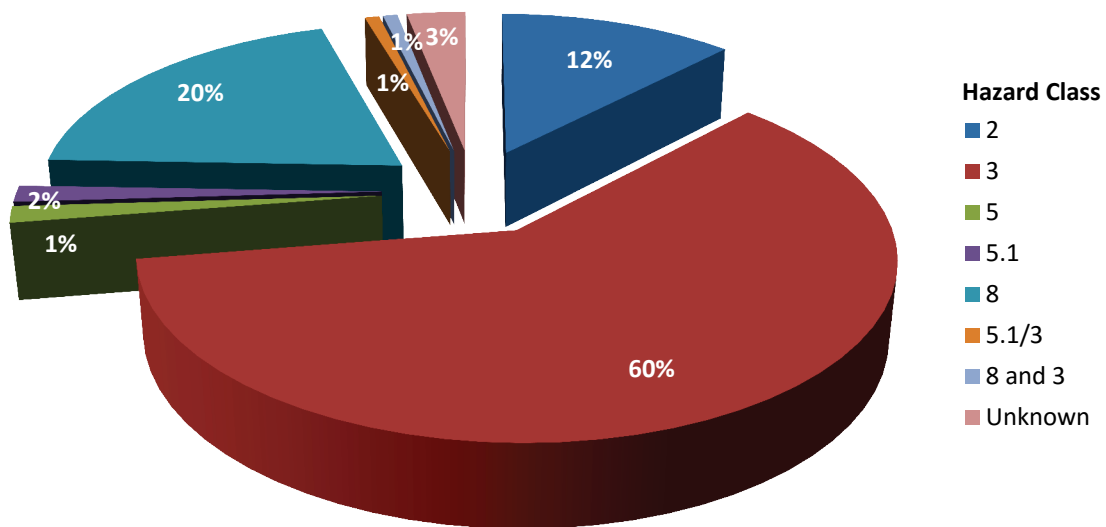


Figure 10: District IX Conclusion – Total by Vehicle Type

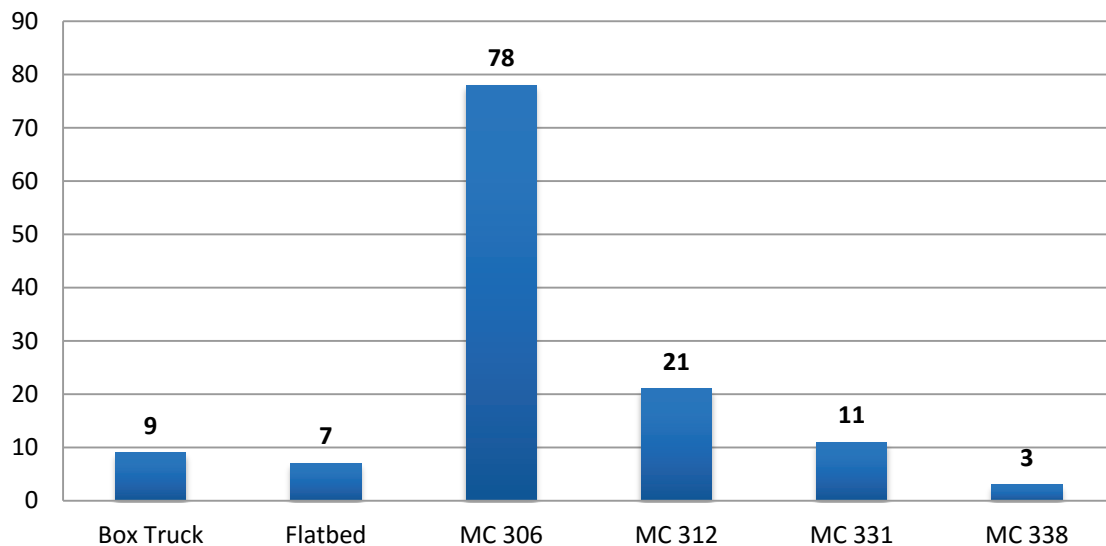


Figure 11: District IX Conclusion - Percent (%) of Observed Vehicles by County

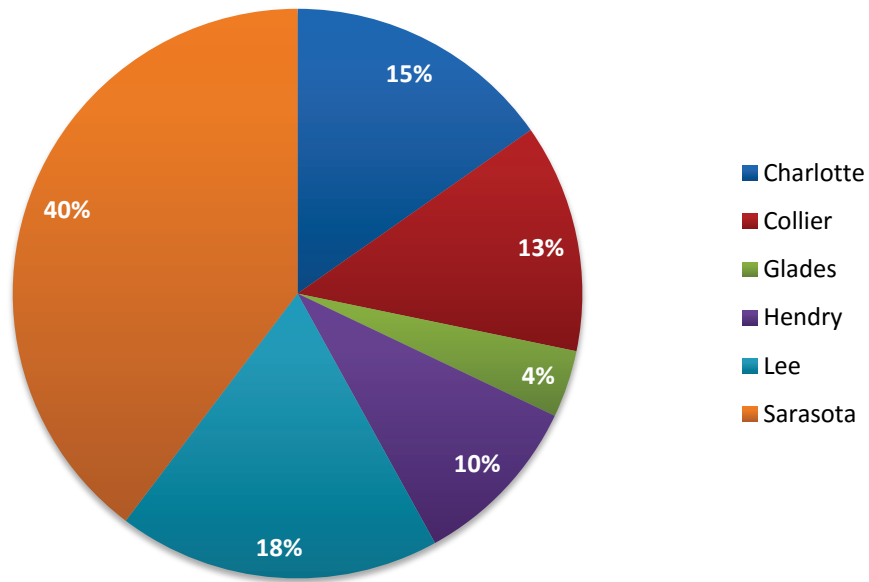
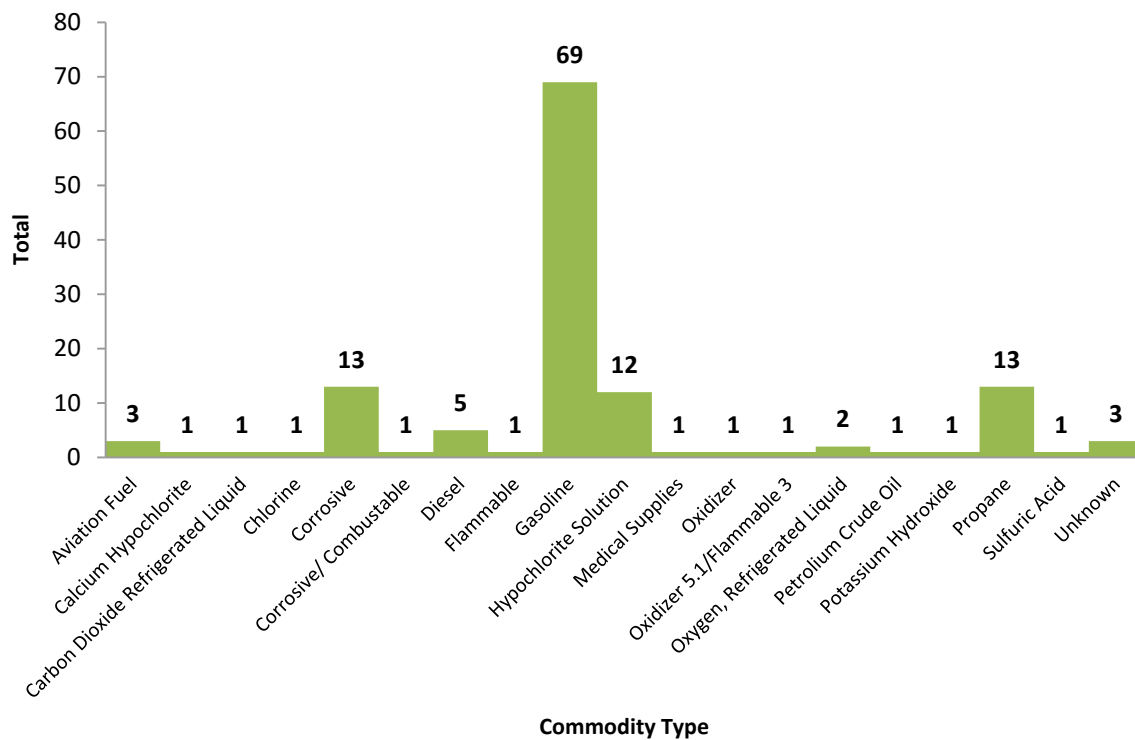


Figure 12: District IX Conclusion - Total by Commodity Type



### Additional Observations

During the course of the study, several additional observations were made:

- 1) Nearly all of the hazardous materials observed being transported on the eastern side of the region, specifically along US-27 were corrosive materials. Additionally, many of the trucks travelling north from Miami were transporting unmarked shipping containers.
- 2) It is difficult to read placard numbers on any vehicles traveling at a significant speed over 45mph. Also vehicles that are more than approximately 75 feet away become exceedingly difficult to read (black placards are even more difficult). This could be a hindrance to emergency personnel approaching a hazardous materials situation in which it is not clear what hazardous commodity is in the affected area.
- 3) Almost twice as many vehicles were noted traveling north through the region on Interstate 75 (62) than traveling south (37). Concluding that much of the hazardous materials were traveling through the region on Interstate 75 from the South Florida Region (Miami) and heading north.

### Survey Recommendations

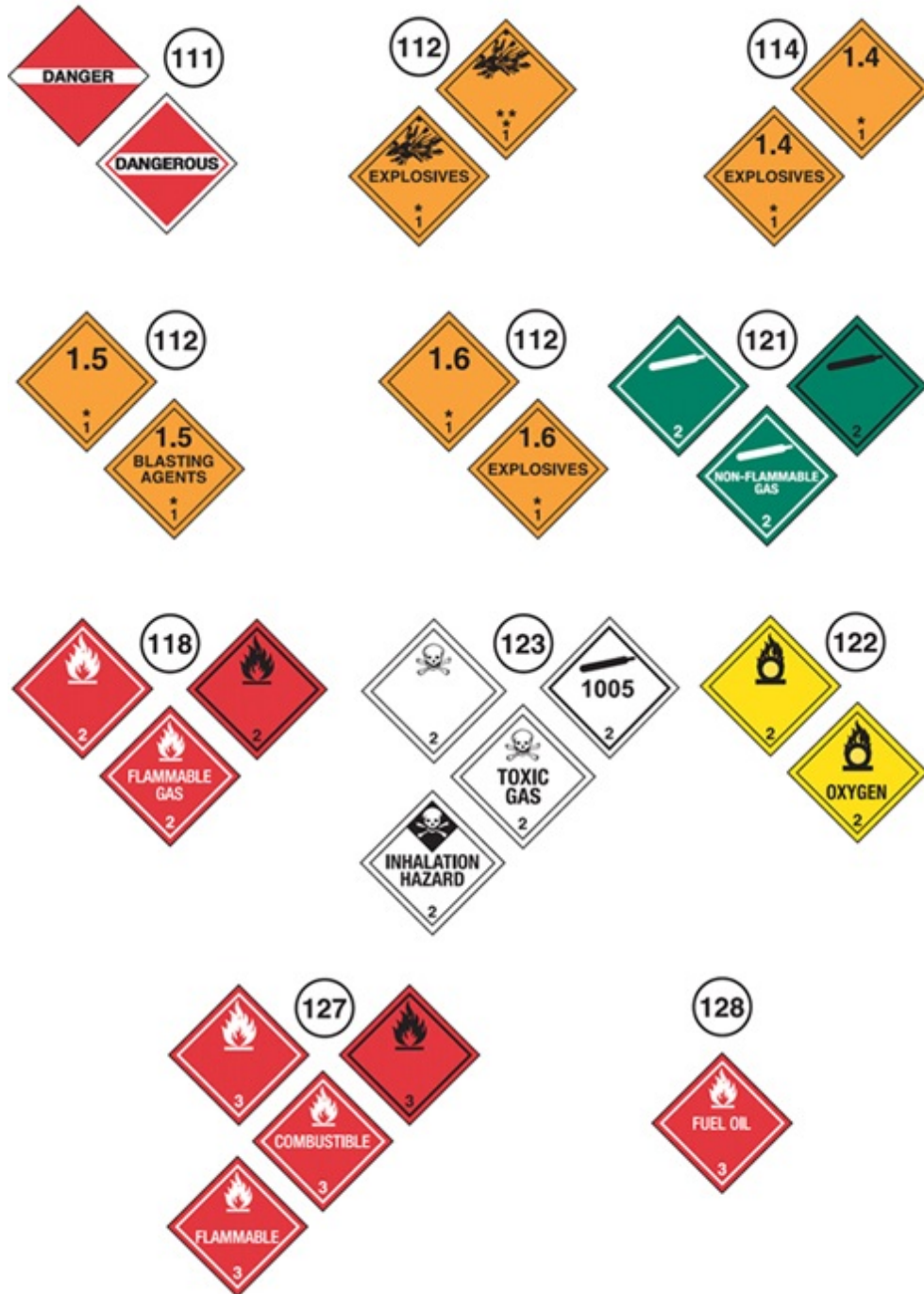
After reviewing the data from the surveyed corridors, the following recommendations are offered if additional surveys are to be undertaken in the future:

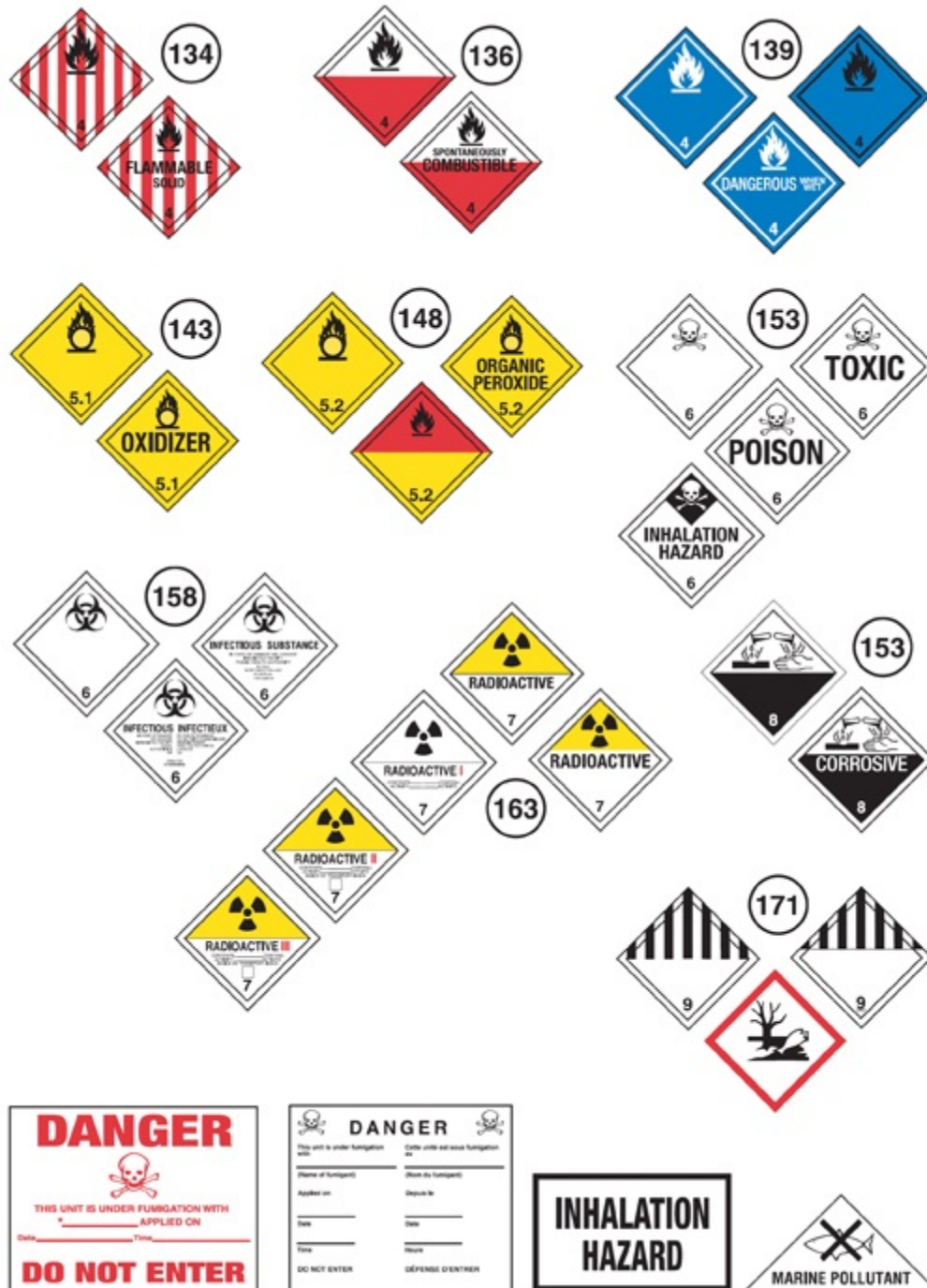
- 1) Studies of the corridors should span over a longer period of time in order to facilitate a broader cross section of the commodity traveling that corridor.
- 2) The surveys should be limited to two observation points. Each point should be located on the furthest end of the corridors within the district. Traffic that does not pass one of these two points would be considered local traffic. The traffic hazard commodity associated with the local traffic could be defined using other resources such as the Tier II reports.
- 3) Limit the study sites to include only two directions of travel. This will allow for more accurate data collection due to visibility.

All data recorded during the study is referenced in the enclosed appendices.

## Appendix A: Placards

Figure 13: Placards





## Appendix B: Study Locations

### Location 1: Sarasota County – Interstate 75 North/South

**Observation Location (Address/Mile Marker):** 6010 Cattleridge Dr, Sarasota

**Observation Date:** September 2, 2015

**Observation Time:** 1:10 pm to 3:10 pm



### Location 2: Sarasota County - US-41 North/South

**Observation Location (Address/Mile Marker):** Centennial Park (1565 1<sup>st</sup> St, Sarasota)

**Observation Date:** September 2, 2015

**Observation Time:** 10:00 am to 12:00 pm

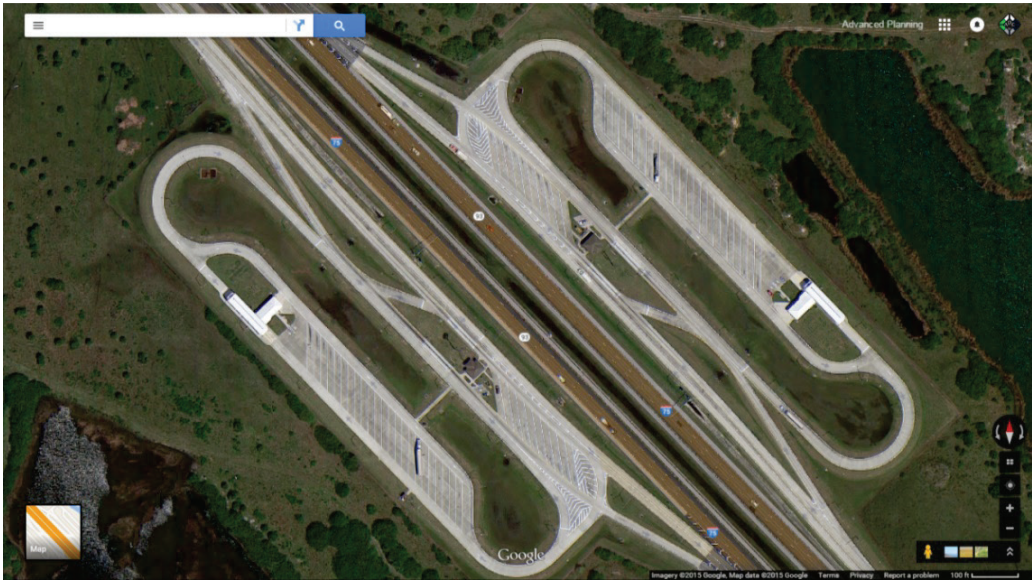


**Location 3: Charlotte County – Interstate 75 North/South**

**Observation Location (Address/Mile Marker):** Punta Gorda Weigh Station/Rest Area

**Observation Date:** August 13, 2015

**Observation Time:** 11:30 am to 1:30 pm

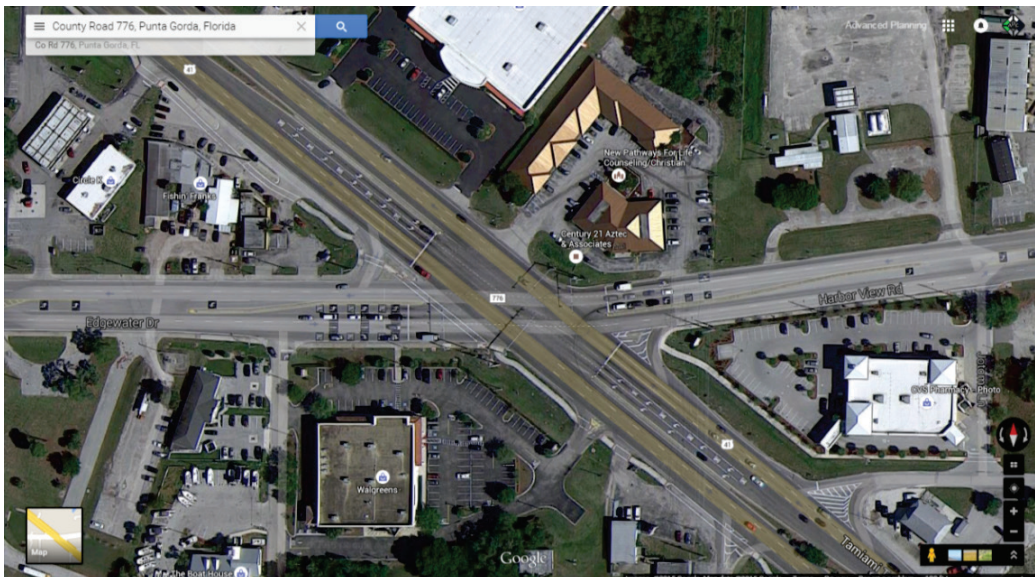


**Location 4: Charlotte County – US-41 North/South**

**Observation Location (Address/Mile Marker):** Intersection of US-41 and CR-776 in Punta Gorda

**Observation Date:** August 13, 2015

**Observation Time:** 8:30 am to 10:30 am



**Location 5: Glades County – US-27 North/South**

**Observation Location (Address/Mile Marker):** Intersection of US-27 and US-29

**Observation Date:** July 27, 2015

**Observation Time:** 10:20 am to 12:20 pm



**Location 6: Hendry County – State Road 80 East/West and US-29 North/South**

**Observation Location (Address/Mile Marker):** 45 Bridge St., Labelle

**Observation Date:** July 27, 2015

**Observation Time:** 1:05 pm to 3:05 pm



### Location 7a and 7b: Lee County – US-41 North/South

**Observation Location (Address/Mile Marker):** Intersection of US-41 and State Road 78 & Intersection of Business US-41 and State Road 78

**Observation Date:** July 28, 2015

**Observation Time:** 8:45 am to 9:45 and 9:50 am to 10:50 am (Business US-41)



### Location 8: Lee County – Interstate 75 North/South

**Observation Location (Address/Mile Marker):** Germain Arena Parking Lot (Mile Marker 123)

**Observation Date:** July 28, 2015

**Observation Time:** 1:00 pm to 3:00 pm

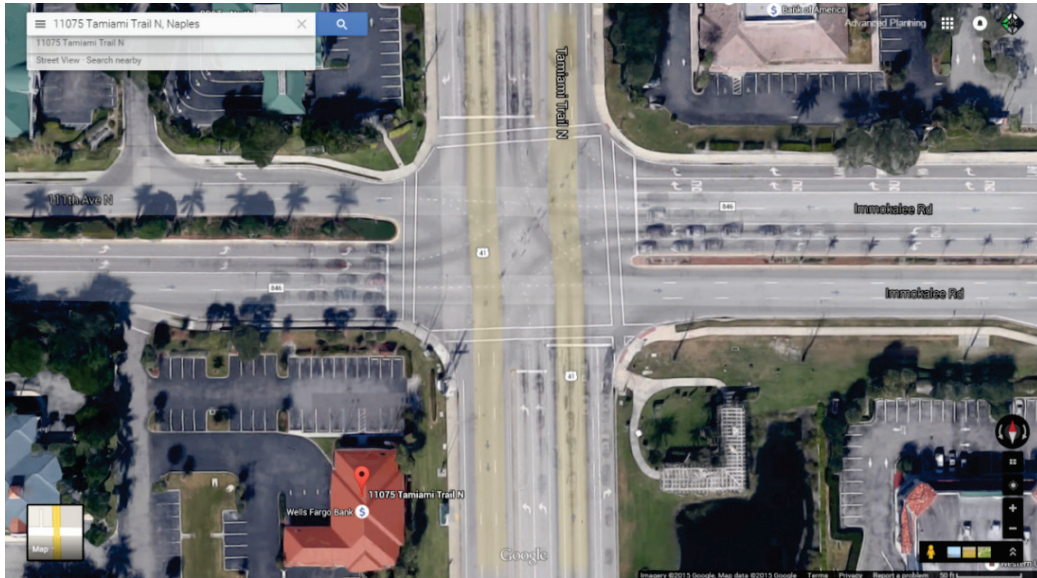


### Location 9: Collier County – US-41 North/South

**Observation Location (Address/Mile Marker):** Intersection of US-41 and State Road 846

**Observation Date:** July 29, 2015

**Observation Time:** 9:08 am to 11:08 am



### Location 10: Collier County – Interstate 75 North/South

**Observation Location (Address/Mile Marker):** Everglades Blvd Overpass on Interstate 75  
(Between Mile Marker 92 & Mile Marker 93)

**Observation Date:** July 29, 2015

**Observation Time:** 12:25 pm to 2:25 pm



**Appendix C: Field Data****Table 8: (Location 1) Sarasota County – Interstate 75 North/South Field Data**

Location 1: Sarasota County - I-75 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	South	9/2/2015	1:11 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	South	9/2/2015	1:11 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	South	9/2/2015	1:12 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	North	9/2/2015	1:14 PM
1203	MC 306	3	Gasoline	5	Florida Gas and Tanker	I-75	South	9/2/2015	1:16 PM
1075	Flat Bed	2	Propane	2	[Unknown]	I-75	North	9/2/2015	1:17 PM
1075	Flat Bed	2	Propane	5	Amerigas	I-75	South	9/2/2015	1:21 PM
1791	MC312	8	Hypochlorite Solution	5	[Unknown]	I-75	North	9/2/2015	1:26 PM
1791	MC312	8	Hypochlorite Solution	5	Kraft	I-75	North	9/2/2015	1:30 PM
[Unknown]	Box Truck	8 and 3	Corrosive/Combustible	5	Autozone	I-75	South	9/2/2015	1:33 PM
1075	Flat Bed (cylinders)	2	Propane	3	[Unknown]	I-75	North	9/2/2015	1:36 PM
1203	MC 306	3	Gasoline	5	CWC	I-75	North	9/2/2015	1:37 PM
[Unknown]	MC 331	[Unknown]	[Unknown]	5	[Unknown]	I-75	North	9/2/2015	1:39 PM
1203	MC 306	3	Gasoline	5	Edison Oil	I-75	South	9/2/2015	1:44 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	North	9/2/2015	1:45 PM

Location 1: Sarasota County - I-75 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1203	MC 306	3	Gasoline	5	Eagle	I-75	South	9/2/2015	1:45 PM
1203	MC 306	3	Gasoline	5	Palmdale	I-75	South	9/2/2015	1:50 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	North	9/2/2015	1:50 PM
1203	MC 306	3	Gasoline	5	Jet Star	I-75	South	9/2/2015	1:59 PM
[Unknown]	MC 312	8	Corrosive	5	[Unknown]	I-75	North	9/2/2015	2:00 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	South	9/2/2015	2:00 PM
1791	MC 312	8	Hypochlorite Solution	5	[Unknown]	I-75	South	9/2/2015	2:04 PM
[Unknown]	MC 312	8	Corrosive	5	[Unknown]	I-75	North	9/2/2015	2:08 PM
[Unknown]	[Unknown]	[Unknown]	[Unknown]	5	Sterling Transport	I-75	North	9/2/2015	2:14 PM
1203	MC 306	3	Gasoline	5	Racetrack	I-75	South	9/2/2015	2:14 PM
1203	MC 306	3	Gasoline	5	Love's	I-75	South	9/2/2015	2:16 PM
1203	MC 306	3	Gasoline	5	PTL	I-75	South	9/2/2015	2:19 PM
1203	MC 306	3	Gasoline	5	PTL	I-75	South	9/2/2015	2:21 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	North	9/2/2015	2:23 PM
[Unknown]	Box Truck	8	Corrosive	5	Autozone	I-75	North	9/2/2015	2:27 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	North	9/2/2015	2:30 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	South	9/2/2015	2:31 PM
[Unknown]	MC 312	8	Corrosive	5	[Unknown]	I-75	North	9/2/2015	2:33 PM
1203	MC 306	3	Gasoline	5	Racetrack	I-75	South	9/2/2015	2:36 PM

Location 1: Sarasota County - I-75 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1993	MC 306	3	Diesel	2	[Unknown]	I-75	North	9/2/2015	2:38 PM
1203	MC 306	3	Gasoline	3	[Unknown]	I-75	North	9/2/2015	2:40 PM
[Unknown]	MC 312	8	Corrosive	5	[Unknown]	I-75	North	9/2/2015	2:41 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	North	9/2/2015	2:42 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	North	9/2/2015	2:44 PM
1075	MC 331	2	Propane	5	Blue Rhino	I-75	South	9/2/2015	2:45 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	South	9/2/2015	2:45 PM
1203	MC 306	3	Gasoline	5	Florida Gas and Tanker	I-75	North	9/2/2015	2:48 PM
1203	MC 306	3	Gasoline	5	Eagle	I-75	North	9/2/2015	2:48 PM
[Unknown]	Box Truck	8	Corrosive	5	[Unknown]	I-75	North	9/2/2015	2:53 PM
1203	MC 306	3	Gasoline	5	Edison Oil	I-75	South	9/2/2015	2:53 PM
1203	MC 306	3	Gasoline	5	Racetrack	I-75	South	9/2/2015	2:54 PM
1203	MC 306	3	Gasoline	5	Keenan Advantage	I-75	North	9/2/2015	2:59 PM
1203	MC 306	3	Gasoline	5	Racetrack	I-75	South	9/2/2015	3:07 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	North	9/2/2015	3:08 PM
1203	MC 306	3	Gasoline	5	[Unknown]	I-75	North	9/2/2015	3:08 PM

Table 9: (Location 2) Sarasota County - US-41 North/South

Location 2: Sarasota County - US-41 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1993	MC306	3	Diesel	3	[Unknown]	US-41	South	9/2/2015	10:17 AM
[Unknown]	Box Truck	8	Corrosive	2	[Unknown]	US-41	South	9/2/2015	11:26 AM

Table 10: (Location 3) Charlotte County – Interstate 75 North/South

Location 3: Charlotte County – Interstate 75 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1791	MC312	8	Hypochlorite	5	[Unknown]	I-75	North	8/13/2015	11:40 AM
1203	MC306	3	Gasoline	5	Love's	I-75	North	8/13/2015	11:48 AM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	South	8/13/2015	12:03 PM
1203	MC306	3	Gasoline	5	Penn Tank Lines	I-75	North	8/13/2015	12:11 PM
1203	MC306	3	Gasoline	5	[Unknown]	I-75	South	8/13/2015	12:27 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	North	8/13/2015	12:49 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	North	8/13/2015	12:58 PM
1863	MC306	3	Aviation fuel	5	Stardust	I-75	North	8/13/2015	1:02 PM
1203	MC306	3	Gasoline	5	Palmdale Oil	I-75	South	8/13/2015	1:50 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	North	8/13/2015	1:15 PM
1203	MC306	3	Gasoline	5	[Unknown]	I-75	North	8/13/2015	1:18 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	South	8/13/2015	1:19 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	North	8/13/2015	1:19 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	South	8/13/2015	1:24 PM
1791	MC312	8	Hypochlorite	5	[Unknown]	I-75	North	8/13/2015	1:25 PM
1203	MC306	3	Gasoline	5	Keenan Advantage	I-75	North	8/13/2015	1:26 PM

Table 11: (Location 4) Charlotte County – US-41 North/South

Location 4: Charlotte County – US-41 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1073	MC307	2	Oxygen	5	PTI	US-41	South	8/13/2015	9:00 AM
1075	MC307	2	Propane	2	Amerigas	US-41	South	8/13/2015	9:20 AM
1203	MC306	3	Gasoline	5	Edison Oil	US-41	South	8/13/2015	10:21 AM
1203	MC306	3	Gasoline	5	Palmdale Oil	US-41	South	8/13/2015	10:28 AM

Table 12: (Location 5) Glades County – US-27 North/South

Location 5: Glades County – US-27 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
2796	Flat Bed	8	Sulfuric Acid	2	[Unknown]	US-27	South	7/27/2015	10:24am
1813	MC312	8	Potassium Hydroxide	5	[Unknown]	US-27	North	7/27/2015	10:45am
2880	MC312	5.1	Calcium Hypochlorite	5	Skygrade	US-27	South	7/27/2015	11:02am
Corrosive	MC312	8	Corrosive	5	[Unknown]	US-27	North	7/27/2015	11:17am
Corrosive	MC312	8	Corrosive	5	[Unknown]	US-27	North	7/27/2015	11:41am

Table 13: (Location 6) Hendry County – State Road 80 East/West and US-29 North/South

Location 6: Hendry County – State Road 80 East/West and US-29 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1203	MC 306	3	Gasoline	2	Howell Oil	SR-80	East	7/27/2015	1:05pm
1267	MC 312	3	Petroleum Crude Oil	5	Mckenze	SR-80	West	7/27/2015	1:34pm
1075	MC 331	2	Propane	2	Balgas	SR-80	West	7/27/2015	1:55pm
1791	MC 312	8	Hypochlorite Solution	5	[Unknown]	SR-80	East	7/27/2015	2:06pm
1203	MC 306	3	Gasoline	5	Merrit Petroleum	SR-80	West	7/27/2015	2:19pm
1075	MC 331	2	Propane	2	PTI	SR-80	West	7/27/2015	2:24pm
1075	MC 331	2	Propane	2	Balgas	SR-80	East	7/27/2015	2:35pm
1073	MC 338	2	Oxygen, Refrigerated Liquid	5	Matheson Trigas	SR-80	West	7/27/2015	2:45pm
1075	MC 331	2	Propane	2	Balgas	SR-80	East	7/27/2015	2:48pm
1791	MC 312	8	Hypochlorite Solution	5	[Unknown]	SR-80	East	7/27/2015	2:52pm
1203	MC 306	3	Gasoline	2	Porterfield	SR-80	West	7/27/2015	2:55pm
1791	MC 312	8	Hypochlorite Solution	5	[Unknown]	SR-80	West	7/27/2015	2:57pm
1075	MC 331	2	Propane	2	Balgas	US-29	South	7/27/2015	2:57pm

Table 14: (Location 7) Lee County – US-41 North/South

Location 7: Lee County – US-41 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
[Unknown]	Box Truck	[Unknown]	Medical Supplies	2	[Unknown]	SR-78	West	7/28/2015	9:07am
1075	Box Truck	2	Propane	2	Amerigas	US-41 (Business)	South	7/28/2015	10:01am
1075	MC 331	5	Propane	5	Ferralgas	SR-78	East	7/28/2015	10:03am
1203	MC 306	2	Gasoline	2	Edison Oil	US-41 (Business)	South	7/28/2015	10:12am
[Unknown]	Box Truck	5.1/3	Oxidizer 5.1/Flammable 3	5	Brentag	US-41 (Business)	South	7/28/2015	10:30am

Table 15: (Location 8) Lee County – Interstate 75 North/South

Location 8: Lee County – Interstate 75 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1993	MC 306	3	Diesel	3	[Unknown]	I-75	North	7/28/2015	1:03pm
[Unknown]	Box Truck	5.1	Oxidizer	2	Apria Health	I-75	South	7/28/2015	1:04pm
1017	MC 331	2	Chlorine	5	[Unknown]	I-75	North	7/28/2015	1:15pm
1203	MC 306	3	Gasoline	5	PTI	I-75	North	7/28/2015	1:25pm
1863	MC 306	3	Fuel	5	Tri-Star	I-75	North	7/28/2015	1:28pm
1791	MC 312	8	Hypochlorite Solution	5	[Unknown]	I-75	South	7/28/2015	1:32pm
[Unknown]			Corrosive	5	[Unknown]	I-75	North	7/28/2015	1:42pm
1993	MC 306	3	Diesel	5	Pilot	I-75	North	7/28/2015	1:57pm
1791	MC 312	8	Hypochlorite Solution	5	[Unknown]	I-75	North	7/28/2015	1:59pm
[Unknown]	Flatbed	8	Corrosive	5	[Unknown]	I-75	North	7/28/2015	2:15pm
1203	MC 306	3	Gasoline	3	Palmdale	I-75	North	7/28/2015	2:22pm
2187	MC 338	2	Carbon Dioxide Refrigerated Liquid	2	[Unknown]	I-75	North	7/28/2015	2:27pm
1203	MC 306	3	Gasoline	3	Palmdale	I-75	North	7/28/2015	2:32pm
1075	MC 331	3	Propane	2	Thompson Gas	I-75	North	7/28/2015	2:40pm
[Unknown]	Flatbed	8	Corrosive	5	[Unknown]	I-75	South	7/28/2015	2:41pm
[Unknown]	Flatbed	3	Flammable	2	[Unknown]	I-75	South	7/28/2015	2:53pm
1203	MC 306	3	Gasoline	5	Port Consolidated	I-75	South	7/28/2015	2:54pm
[Unknown]	MC 306	3	Unknown	5	Chevron	I-75	North	7/28/2015	2:58pm

Table 16: (Location 9) Collier County – US-41 North/South

Location 9: Collier County – US-41 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1791	MC 312	8	Hypochlorite Solution	5	N/A	US-41	North	7/29/2015	9:09am
[Unknown]	Box	8	Corrosive	2	Conway	Us-41	South	7/29/2015	9:36am

Table 17: (Location 10) Collier County – Interstate 75 North/South

Location 10: Collier County – Interstate 75 North/South									
Placard #	Type of Vehicle	Hazard Class	Type of Commodity	# of Axles	Carrier Name	Roadway Name	Direction of Travel	Study Date	Study Time
1203	MC 306	3	Gasoline	5	N/A	I-75	North	7/29/2015	12:25pm
1863			Aviation Fuel	5	Jet Star	I-75	North	7/29/2015	12:33pm
1203	MC 306	3	Gasoline	5	N/A	I-75	North	7/29/2015	12:33pm
1993	MC 306	3	Diesel	5	Piolet	I-75	North	7/29/2015	12:34pm
1203	MC 306	3	Gasoline	5	Palmdale	I-75	North	7/29/2015	12:35pm
1203	MC 306	3	Gasoline	5	Kennan Advantage	I-75	North	7/29/2015	12:37pm
1203	MC 306	3	Gasoline	5	N/A	I-75	South	7/29/2015	12:38pm
1203	MC 306	3	Gasoline	2	Pure	I-75	North	7/29/2015	12:43pm
1203	MC 306	3	Gasoline	5	Askar Energy	I-75	North	7/29/2015	12:45pm
1203	MC 306	3	Gasoline	5	N/A	I-75	South	7/29/2015	1:06pm
1791	MC 312	8	Hypochlorite Solution	5	N/A	I-75	North	7/29/2015	1:07pm
1203	MC 306	3	Gasoline	5	Askar Energy	I-75	North	7/29/2015	1:42pm
1203	MC 306	3	Gasoline	2	Askar Energy	I-75	North	7/29/2015	1:43pm
1203	MC 306	3	Gasoline	5	N/A	I-75	South	7/29/2015	1:50pm
1203	MC 306	3	Gasoline	5	Kennan Advantage	I-75	South	7/29/2015	2:21pm

## Appendix D: Acronyms

Table 18: Acronyms

Acronym	Meaning
CEDs	Comprehensive Economic Development Strategy
DOT	Department of Transportation
HMEP	Hazardous Materials Emergency Preparedness
LEPC	Local Emergency Planning Committee
MM	Mile Marker
S.R.	State Road
SWFRPC	Southwest Florida Regional Planning Council
U.S.	United States Highway
USDOT	United States Department of Transportation





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