FTO FORECASTING & TRENDS OFFICE

FINAL REPORT

2018 VEHICLE & FREIGHT BOTTLENECKS

DECEMBER 2019

FDOT

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CONTENTS

BACKGROUND

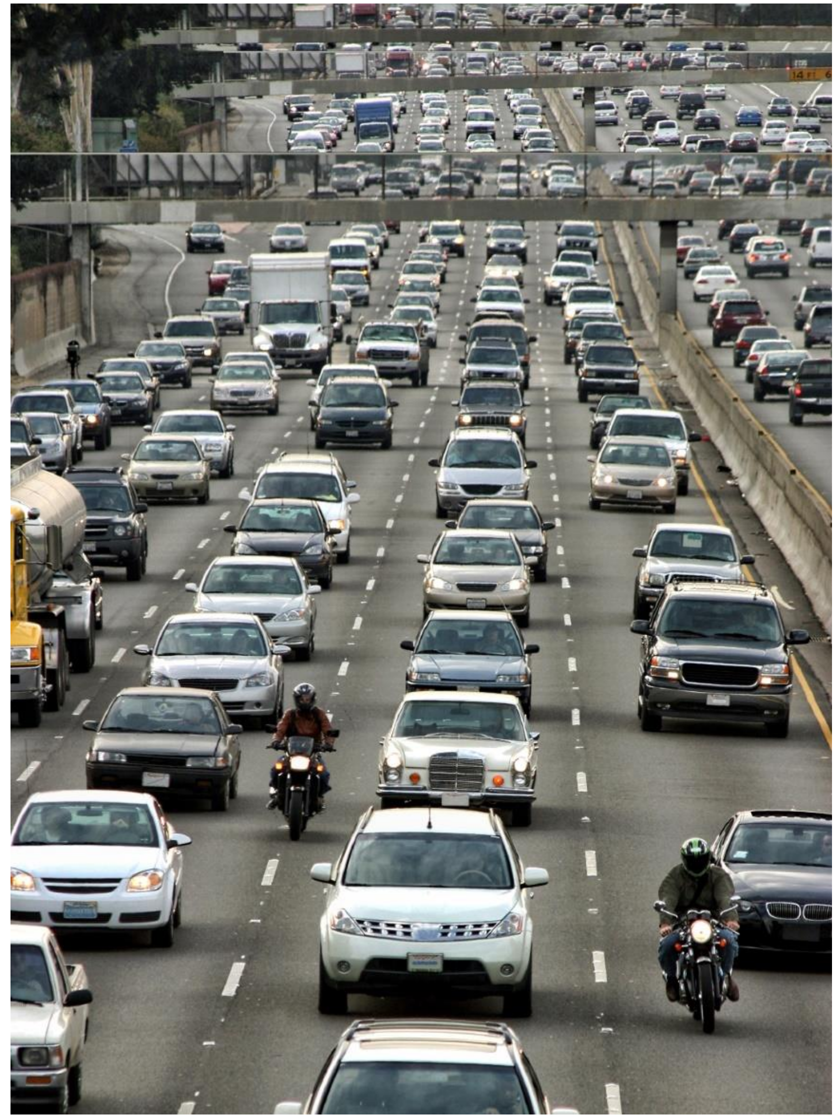
Under federal law (49 USC 70202), states are required to develop a state freight plan as part of the National Freight Strategic Plan. This plan should include "an inventory of facilities with freight mobility issues, such as bottlenecks." For those facilities that are state owned or operated, the plan must also include a description of the strategies the state is employing to address the freight mobility issues.

The performance management regulations define a ***truck freight bottleneck*** as "a segment of roadway identified by the State DOT as having constraints that cause a significant impact on freight mobility and reliability" (23 CFR 490.101). Bottlenecks may be determined based on a variety of mobility measures and data available to the Florida Department of Transportation (FDOT). Example measures include delay, reliability, and bottleneck length or duration. Identifying vehicle and freight bottlenecks is a first step in addressing critical mobility needs.

PURPOSE

The overall objective of this study is to identify and rank the top statewide bottlenecks, 20 for all vehicles and 10 for freight. A ranked list and maps of these top bottlenecks were made available to the Freight and Multimodal Operations Office, and the Forecasting and Trends Office. This report documents the methodology used to identify and rank these bottlenecks.

FDOT may use this information to supplement the bottleneck evaluations being done as part of the update of the Freight Mobility and Trade Plan (FMTP). Ultimately, an understanding of statewide bottlenecks can be used to plan for strategies to reduce their duration and severity.



INITIAL RANKING CRITERIA

Mobility measures for all segments of the State Highway System (SHS) were proposed as initial ranking criteria at the onset of this task. These measures include travel speed, vehicle delay, and vehicle miles traveled (VMT), as described below.

- **Vehicle miles traveled (VMT):** VMT is determined using vehicle traffic volume and segment length. Data sources include 2018 counts from traffic monitoring sites and GIS data on roadway segment length. VMT is equal to the product of the daily or hourly volume and the roadway's length in miles.
- **Average travel speed:** Average 2018 travel speeds through roadway segments were obtained from HERE, a traffic data vendor. HERE's data comes primarily from connected vehicles, cell phones, and fleet telematics. HERE data is reported at the segment level, also known as traffic message channels (TMC). Other sources of average travel speed data considered for this task include the FHWA's National Performance Measures Research Dataset (NPMRDS), which provides public agencies with data on the National Highway System free of charge. NPMRDS' data is currently sourced from INRIX, another traffic data vendor.
- **Vehicle delay:** The vehicle delay metric combines the VMT and average travel speed metric to produce a single number that quantifies the impact of lower speeds on motorists. Delay is generally computed by comparing the average travel speed against a desired travel speed, such as free-flow speed. The difference in speed is associated with a difference in travel time, or delay.

LITERATURE REVIEW

A literature review was conducted to understand the latest guidance and approaches in bottleneck identification. This understanding helped revise and confirm the selection of mobility measures considered as initial ranking criteria.

The National Cooperative Highway Research Program (NCHRP) *Report 398 Volume 1: Quantifying Congestion* presented methods to measure congestion on roadway systems. The report finds that while it is difficult to conceive of a single value that will describe all of the travelers' concerns about congestion, there are four components that interact in a congested roadway or system. These components are duration, extent, intensity and reliability:

- **Duration** – This is defined as the amount of time congestion affects the travel system.
- **Extent** – This is described by estimating the number of people or vehicles affected by congestion, and by the geographic distribution of congestion.
- **Intensity** – This is the severity of the congestion that affects travel. It is typically used to differentiate between levels of congestion on transportation systems and to define the total amount of congestion.
- **Reliability** – This key component of congestion estimation is described as the variation in the other three elements.

These concepts were used to identify bottlenecks on the Florida Strategic Intermodal System (SIS) in 2011 [1]. Bottlenecks were identified using a combination of planning time index (i.e., a common reliability metric) and frequency of congestion.

NCHRP 08-98 *Guide for Identifying, Classifying, Evaluating, and Mitigating Truck Freight Bottlenecks* provides guidance specific to freight bottlenecks [2]. Two methodologies are described: a travel speed-based delay methodology and a process or operation delay-based methodology. The guidance in this NCHRP report is meant to be scalable to different geographies and to be flexible with regards to input data needs.

Also specific to freight-specific bottlenecks, the American Transportation Research Institute (ATRI) conducted an in-depth analysis of 300 freight-significant highway locations using truck position and speed data derived from wireless onboard communications systems used by the trucking industry [3].

ATRI's ranking of freight bottlenecks was based on "total freight congestion value." This metric is calculated using a formula that measures the impact of congestion on average commercial truck speeds in each study area. This process assesses freight demand on each roadway segment in a monitored location by hour of the day. Truck speeds on each segment are collected and assigned to one of 24 one-hour time slots resulting in an average truck speed for each segment during each hour of the day. The total freight congestion value does not directly represent hours lost, or financial costs due to this delay, but is simply a means by which the researchers analyzed and compared the relative level of severity at each individual location.

The bottleneck on I-4 at I-275 in Tampa was the only Florida bottleneck to rank in the top 100 nationwide truck bottlenecks as defined by ATRI.

A similar effort to locate and quantify freight bottlenecks was conducted by the Washington State Department of Transportation (WSDOT) [4]. The authors selected reliability as the bottleneck indicator because it is critical in judging the performance of the transportation system, particularly for truck operators. The authors used the following two congestion measures in this research to evaluate roadway performance: average speed, and the frequency of severe congestion.

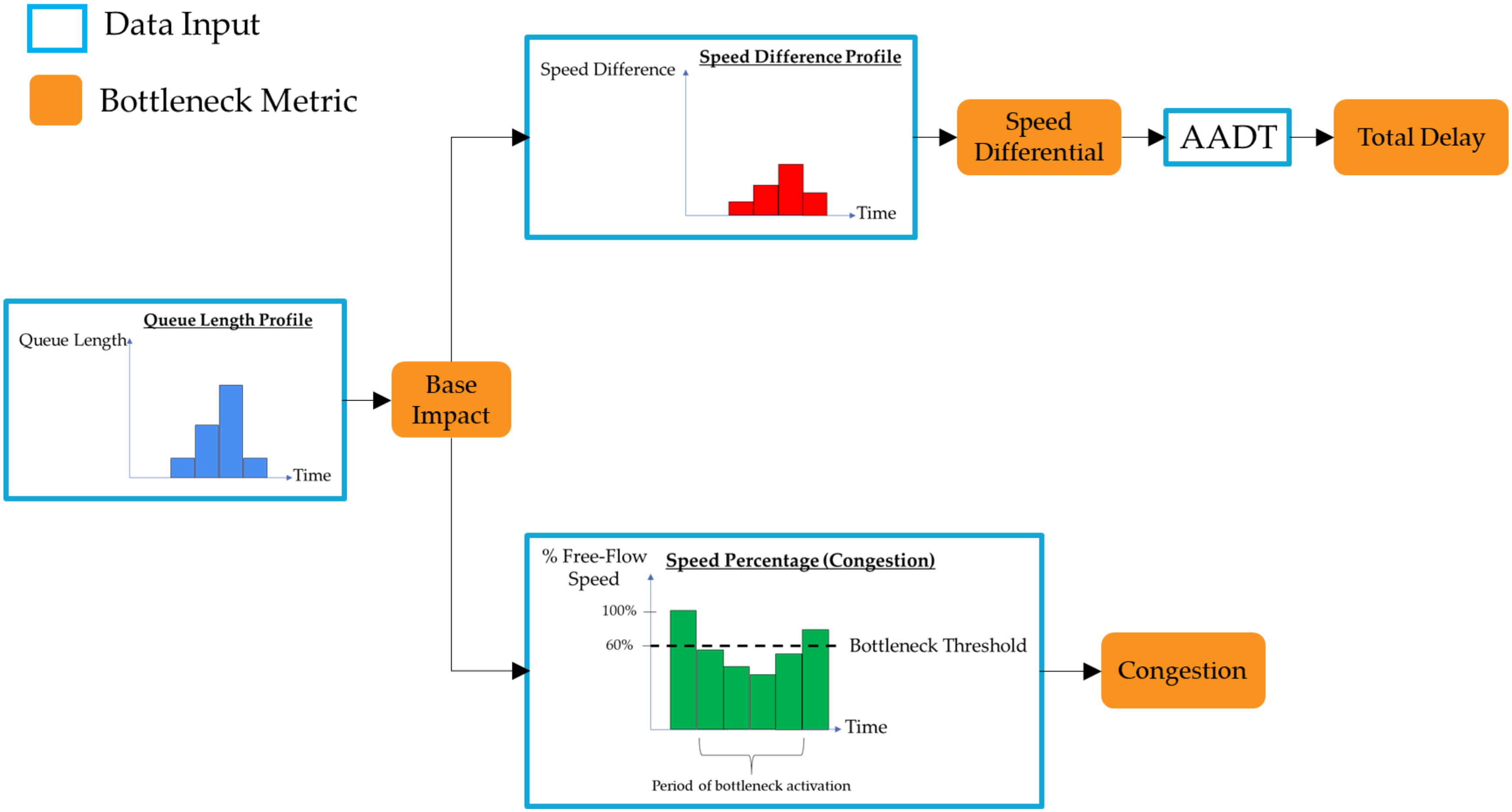
Cambridge Systematics, in association with the Battelle Memorial Institute, prepared a technical white paper in 2013 on the application of detailed interchange analysis for top freight bottlenecks [5]. The primary performance measures used in this study were travel time without queuing (hours per vehicle mile) and delay due to recurring queues (hours per vehicle using the bottleneck).

RITIS—a situational awareness, data archiving, and analytics platform at the University of Maryland—has a bottleneck ranking tool powered by probe data and accessible to FDOT staff. The *Bottleneck Ranking* tool helps identify bottleneck locations and resulting queues. Its ranking is performed using various performance measures:

- **Base Impact:** The sum of queue lengths over the duration of the bottleneck.
- **Magnitude of Speed Drops/Speed Differential:** Base impact weighted by the difference between free-flow speed and observed speed. This metric can be used to identify and rank bottlenecks from the individual vehicle perspective.
- **Severity of Congestion:** Base impact weighted by the measured speed as a percentage of free-flow speed. Similar to the speed differential metric, the congestion metric can be used to identify and rank bottlenecks from the individual vehicle perspective.
- **Estimated Total Delay:** Base impact weighted by the difference between free-flow speed and observed speed multiplied by the average daily volume. This metric should be used to rank and compare the estimated total delay from all vehicles within the bottleneck.

Figure 1 illustrates how these RITIS performance measures relate to each other. Additional detail is included as Appendix A.

Figure 1: RITIS Bottleneck Ranking Tool Flowchart

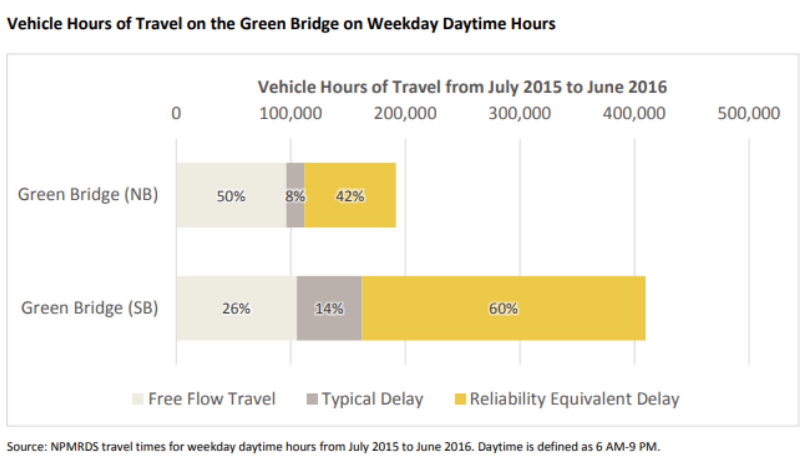


Source: RITIS.org (2019) https://pda.ritis.org/suite/help/#bottleneck-ranking

To capture the effects of reliability as part of a delay calculation, Kittelson & Associates, Inc. used a metric termed *reliability equivalent delay* as part of a local congestion study in central Manatee County, Florida [6]. This metric converts the impacts of variability into a delay equivalent (e.g., units of time).

The reliability equivalent delay metric applies a lateness penalty whenever travel times exceed the median travel time for that quarter of the year and hour of the day, and an earliness penalty whenever travel times are below the median. Figure 2 shows how reliability equivalent delay can be substantially larger than delay computed from average speeds.

Figure 2: Vehicle Hours of Travel using Reliability Equivalent Delay



METHODOLOGY

FDOT's goal of identifying top bottleneck locations at a statewide level to fulfill federal requirements is best served by a simple approach that relies on readily available data and tools.

All Vehicle Bottlenecks

As described in the *Literature Review* section, the RITIS "estimated total delay" metric captures the effects of a bottleneck on all vehicles traversing the bottleneck and its queue. Total delay was also the primary metric for most bottleneck identification studies reviewed, although there are various definitions of delay with different baselines. For example, some studies consider free-flow travel at the baseline, while others use a desired or expected travel speed.

The level of detail and accuracy of the RITIS metric is considered appropriate for a planning-level statewide effort such as this one. Additional detail on the RITIS methodology is included as Appendix A.

A future extension of the bottleneck identification effort could incorporate the effects of reliability for all vehicles using one or more of the approaches identified in the literature review.

Freight Bottlenecks

Based on existing FDOT performance measures processes and literature review, the following step-by-step methodology was developed and applied to identify the truck freight bottlenecks on Florida's National Highway System (NHS) and State Highway System (SHS) roadways.

Step 1: Collect data

The first step was to gather the following truck-specific data elements required for conducting a data-driven bottleneck identification:

- Commercial vehicle travel time data for the entirety of 2018, accessed from HERE Traffic Analytics Online Portal, downloaded at 15-minute resolution;
- 2018 (entire year) hourly truck volume data from Weigh-In-Motion (WIM) stations, collected by FDOT's Transportation Data and Analytics (TDA) Office; and
- Roadway and traffic characteristics information from TDA Office, specifically AADT, truck factors, segment length, mileposts, and facility type.

Step 2: Calculate truck hours of delay

Delay was estimated at a segment level for each 15-minute epoch of 2018 by determining the difference between a delay reference travel time and actual travel time along each segment. The reference travel time was based on the observed free-flow speed (FFS). Observed FFS is calculated using The FDOT Source Book methodology of the 85th percentile speed for each segment during weekend early morning periods (6-10 AM for Saturdays and Sundays) [7]. The delay threshold was established at 5 miles per hour below the observed FFS. As shown in the equation below, delay is calculated for each 15-minute epoch e in relation to the reference travel time.

Hourly truck volume factors were developed using hourly count data from the WIM stations where data was available for the entire year of 2018. These factors account for fluctuations based on seasonality, month of the year, day of the week and hour of day. The resulting hourly volumes are divided by four to obtain volume for each 15-minute epoch.

$$Delay_e = (TravelTime_e - Reference\ Travel\ Time) \times Volume_e$$

Truck hours of delay through a segment were aggregated for the entire year, as shown in the equation below:

$$Annual\ Delay = \sum_{e=1}^{4\ x\ 24\ x\ 365} Delay_e$$

Additionally, the delay measure was normalized to account for the varying roadway segment lengths by calculating the truck hours of delay per mile:

$$Annual\ Delay\ per\ Mile = \frac{Annual\ Delay}{Segment\ Length}$$

The annual delay per mile was then visualized geospatially to visually identify clusters of high-delay segments along the same facility—a sign of the presence of truck freight bottlenecks. These clusters were consolidated into bottlenecks and the top bottlenecks were selected based on total truck vehicle hours of delay.

Step 3: Identify top bottlenecks

Using the cluster analysis above, the project team identified the top freight bottleneck per district, and the top ten freight bottlenecks statewide based on vehicle hours of delay.

Consistent with The FDOT Source Book, the Planning Time Index was calculated for each bottleneck, defined as the ratio of the 95^{th} percentile travel time to the free-flow travel time. This measure reflects the additional time that a traveler should budget to ensure on-time arrival 95 percent of the time. Planning Time Index is a standard measure used in the industry to identify how reliable a road is.

FINDINGS

All Vehicle Bottlenecks

The top 20 all vehicle bottlenecks in the state in 2018 are listed in Table 1. The ranking of statewide bottlenecks will vary year to year with changes to infrastructure and demand, as well as the temporary impact of construction projects (e.g., I-4 in Orlando since 2015).

Table 1: Top 20 Statewide All Vehicle Bottlenecks in 2018

State Rank	Head Location (approximate)	District[1]
1	I-95 N @ FLORIDA'S TPKE/EXIT 12	6
2	SR-826 N @ 103RD ST	6
3	SR-836 W @ SR-959/RED RD	6
4	I-4 W @ SR-429-TOLL/EXIT 60	5
5	I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	6
6	I-95 S @ I-95 HOV LN (SOUTH)	6
7	I-4 E @ CR-532/EXIT 58	5
8	I-275 N @ SLIGH AVE/EXIT 48	7
9	SR-826 N @ 122ND ST	6
10	I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84	5
11	I-95 S @ 95TH ST/EXIT 8	6
12	I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42	4
13	I-95 S @ SR-818/GRIFFIN RD/EXIT 23	4
14	I-4 W @ I-275	7
15	FLORIDA'S TPKE S @ SR-826	6
16	2ND AVE N @ NE 12TH ST	6
17	SR-836 E @ 45TH AVE	6
18	I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47	7
19	I-275 N @ SR-60/CYPRESS ST/EXIT 39	7
20	SR-821 N @ 106TH ST/EXIT 34	6

[1] The District noted here corresponds to the location of the bottleneck head (a.k.a. “pinch point”). The bottleneck’s queue may extend into other Districts.

In addition to the statewide list, a list of the top three bottlenecks in each FDOT District in 2018 was prepared. The District list aims to guide efforts to provide congestion solutions in each District, in addition to the statewide efforts. This list is presented in Table 2.

Graphical summaries and maps of the all vehicle bottlenecks listed in Table 1 and Table 2 are included in Appendix B.

Table 2: Top 3 All Vehicle Bottlenecks in 2018 by District

District[1]	District Rank	Head Location (approximate)
1	1	I-75 N @ SR-70/EXIT 217
1	2	I-75 N @ SR-64/EXIT 220
1	3	I-75 S @ SR-70/EXIT 217
2	1	I-95 N @ FULLER WARREN BRG
2	2	I-295 CW @ BAYMEADOWS RD
2	3	I-295 CCW @ BAYMEADOWS RD
3	1	US-98 W @ CR-30F/AIRPORT RD
3	2	US-98 E @ CR-2378
3	3	SR-30 E @ CR-392A/HUTCHISON BLVD
4	1	I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42
4	2	I-95 S @ SR-818/GRIFFIN RD/EXIT 23
4	3	I-95 N @ SR-808/GLADES RD/EXIT 45
5	1	I-4 W @ SR-429-TOLL/EXIT 60
5	2	I-4 E @ CR-532/EXIT 58
5	3	I-4 E @ US-17/US-92/IVANHOE BLVD
6	1	I-95 N @ FLORIDA'S TPKE/EXIT 12
6	2	SR-826 N @ 103RD ST
6	3	SR-836 W @ SR-959/RED RD
7	1	I-275 N @ SLIGH AVE/EXIT 48
7	2	I-4 W @ I-275
7	3	I-275 S @ US-92/HILLSBOROUGH AVE

[1] The District noted here corresponds to the location of the bottleneck head. The bottleneck's queue may extend into other Districts.

Freight Bottlenecks

The top 10 freight bottlenecks in the state in 2018 are listed in Table 3. As with the all-vehicle bottleneck list, this ranking is subject to change each year.

Table 3: Top 10 Statewide Freight Bottlenecks in 2018

State Rank	Head Location (approximate)	District[1]
1	Palmetto Expressway, south of US 27	6
2	I-4 in Osceola County near Celebration	5
3	I-4 corridor in Orlando	5
4	US 27 in Miami-Dade County, between the Turnpike and Palmetto Expressway	6
5	I-95 in Jacksonville, from University Blvd to Riverside Ave.	2
6	NW 36 St from Palmetto Expressway to US 27	6
7	Sand Lake Road (SR 482) in Orange County	5
8	I-4 south of Orlando	5
9	I-4 from the Polk/Osceola county line to US 27	1
10	I-75 from US 301 to SR 60	7

[1] The District noted here corresponds to the location of the bottleneck head (a.k.a. "pinch point"). The bottleneck's queue may extend into other Districts.

In addition to the statewide list, the top freight bottleneck in each FDOT District in 2018 was identified. The District list aims to guide efforts to provide congestion solutions in each District, in addition to the statewide efforts. This list is presented in Table 4.

Graphical summaries and maps of the freight bottlenecks listed in Table 3 and Table 4 are included in Appendix C.

Table 4: Top Freight Bottleneck in 2018 by District

District[1]	Head Location (approximate)
1	I-4 from the Polk/Osceola county line to US 27
2	I-95 in Jacksonville, from University Blvd to Riverside Ave.
3	US 98 in Okaloosa County, from the Walton county line to Destin
4	I-95 in Broward County from Atlantic Blvd to Powerline Rd
5	I-4 in Osceola County near Celebration
6	Palmetto Expressway, south of US 27
7	I-75 from US 301 to SR 60

[1] The District noted here corresponds to the location of the bottleneck head. The bottleneck's queue may extend into other Districts.

REFERENCES

[1] Florida Deparment of Transportation, "Bottlenecks on Florida SIS," Tallahassee, Florida, 2011.

[2] D. Ahanotu, R. Margiotta, B. Eisele, M. Hallenbeck, A. Goodchild and E. McCormack, "NCHRP 08-98: Guide for Identifying, Classifying, Evaluating, and Mitigating Truck Freight Bottlenecks," National Academies of Science, Washington, DC, 2017.

[3] American Transportation Research Institute, "ATRI Bottleneck Methodology," 2 2019. [Online]. Available: https://truckingresearch.org/wp-content/uploads/2019/02/ATRI-Bottleneck-Methodology-2019.pdf. [Accessed May 7, 2019].

[4] W. Zhao, E. McCormack, D. J. Dailey and E. Schamhorst, "Using Truck Probe GPS Data to Identify and Rank Roadway Bottlenecks," *ASCE Journal of Transportation Engineering,* 2013.

[5] Cambridge Systematics, Inc., "Application of Detailed Interchange Analysis to Top Freight Bottlenecks," 19 3 2007. [Online]. Available: https://www.fhwa.dot.gov/policy/otps/bottlenecks2/fb.pdf. [Accessed May 7, 2019].

[6] J. Barrios and P. Hurd, "Travel Time Reliability Study," 12 2016. [Online]. Available: http://www.swflroads.com/study/CMNAA/pdf/April2019/1.pdf. [Accessed May 7, 2019].

[7] Florida Department of Transportation, "Methodologies for The FDOT Source Book," Forecasting and Trends Office, Tallahassee, Florida, 2018.

Appendix A: RITIS Methodology

Performance Measures

- **Base Impact:** The sum of queue lengths over the duration of the bottleneck, where:
$$Base\ Impact = duration\ (minutes) \times average\ maximum\ queue\ length \times \#\ of\ occurrences$$
- **Severity of Congestion:** Congestion is defined as being less than 60% of free-flow speed.
- **Estimated Total Delay:** Total delay is captured for the selected analysis period.
- **Average Daily Duration:** The average amount of time per day that the bottleneck's head location is congested.

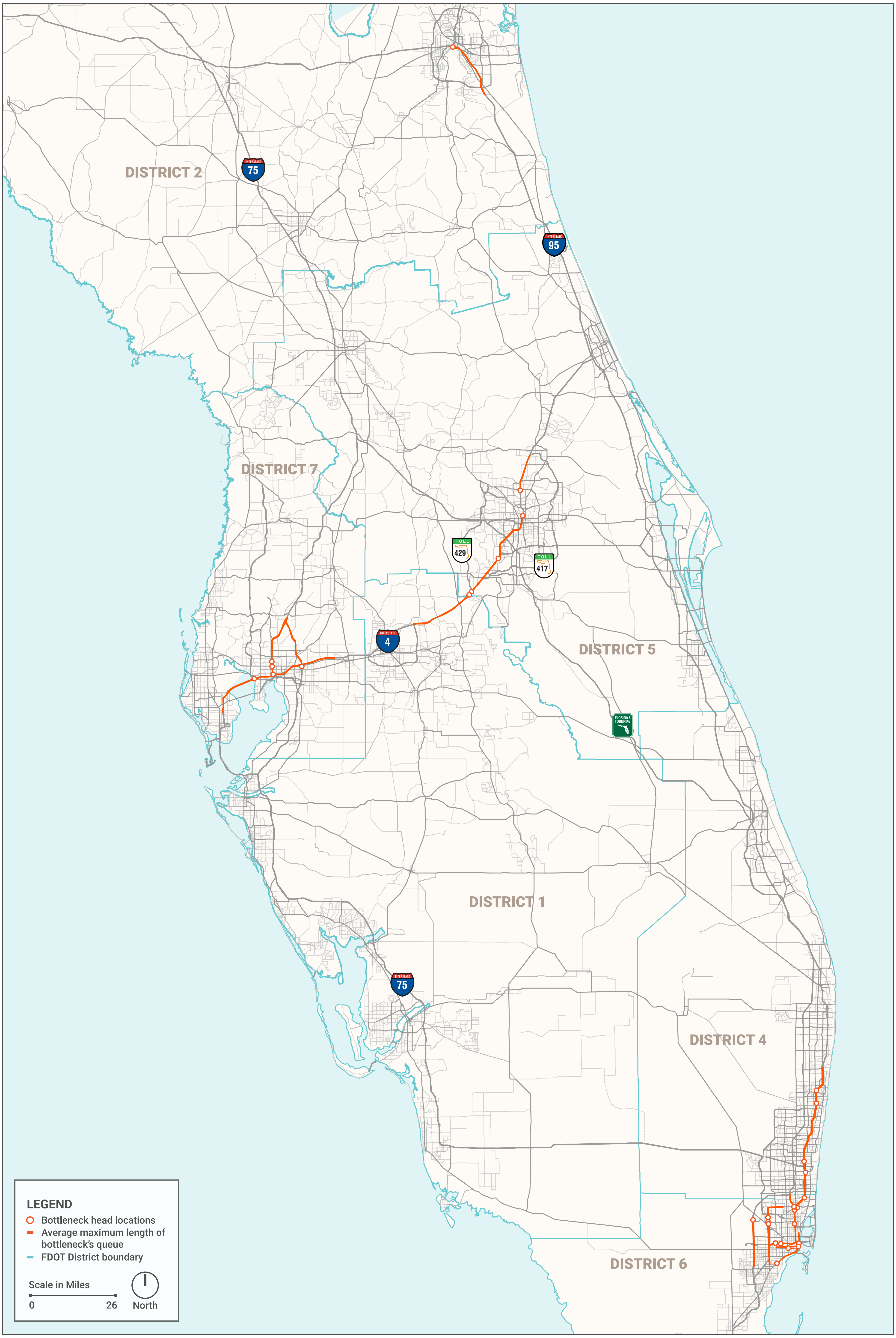
Bottleneck Ranking Methodology

The RITIS bottleneck methodology works by examining clusters of congested segments upstream of a "head location." The head location is defined as the congested segment for which its downstream segment is not congested.

Bottleneck impacts include the full queue upstream of a given head location. When a bottleneck's queue extends back far enough to overlap another bottleneck area, the longer queue is recorded, and the upstream head location is deemed to not be a bottleneck head at the same time period.

The RITIS Bottleneck Ranking tool's "elements graph" displays bottleneck data, including hours of congestion and number of days congested. The elements graph can be used to identify if upstream or downstream secondary bottlenecks happen at the same time period as the primary bottleneck. If so, the bottlenecks could be considered as the same bottleneck.

Appendix B: All Vehicle Bottleneck Summaries



FDOT

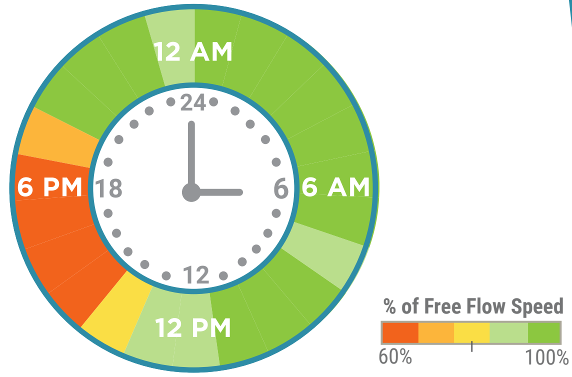
Top All-Vehicle Bottlenecks in 2018

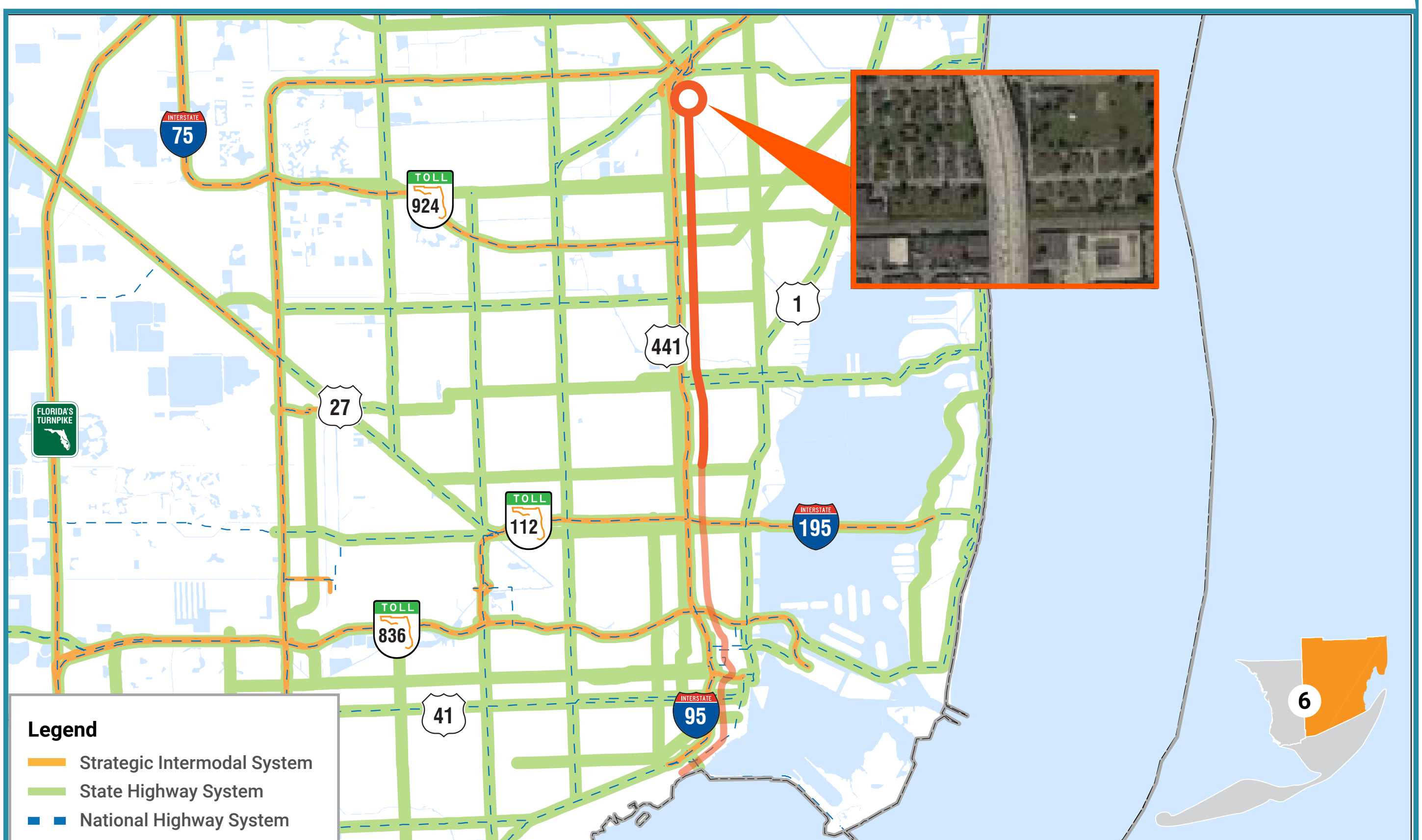
I-95 NB AT FLORIDA'S TURNPIKE/EXIT 12

Miami-Dade County (District Six)

Total Delay:
54k
veh-hr/day

Avg. Max. Length:
6.4
miles





DISTRICT SIX RANKING		STATEWIDE RANKING	
1	**I-95 N @ FLORIDA'S TPKE/EXIT 1**	**1**	**I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)**
2	SR-826 N @ 103RD ST	2	SR-826 N @ 103RD ST (D6)
3	SR-836 W @ SR-959/RED RD	3	SR-836 W @ SR-959/RED RD (D6)
4	I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	4	I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5	I-95 S @ I-95 HOV LN (SOUTH)	5	I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16 (D6)

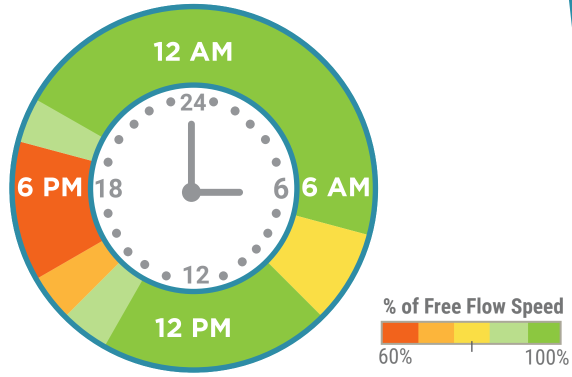
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

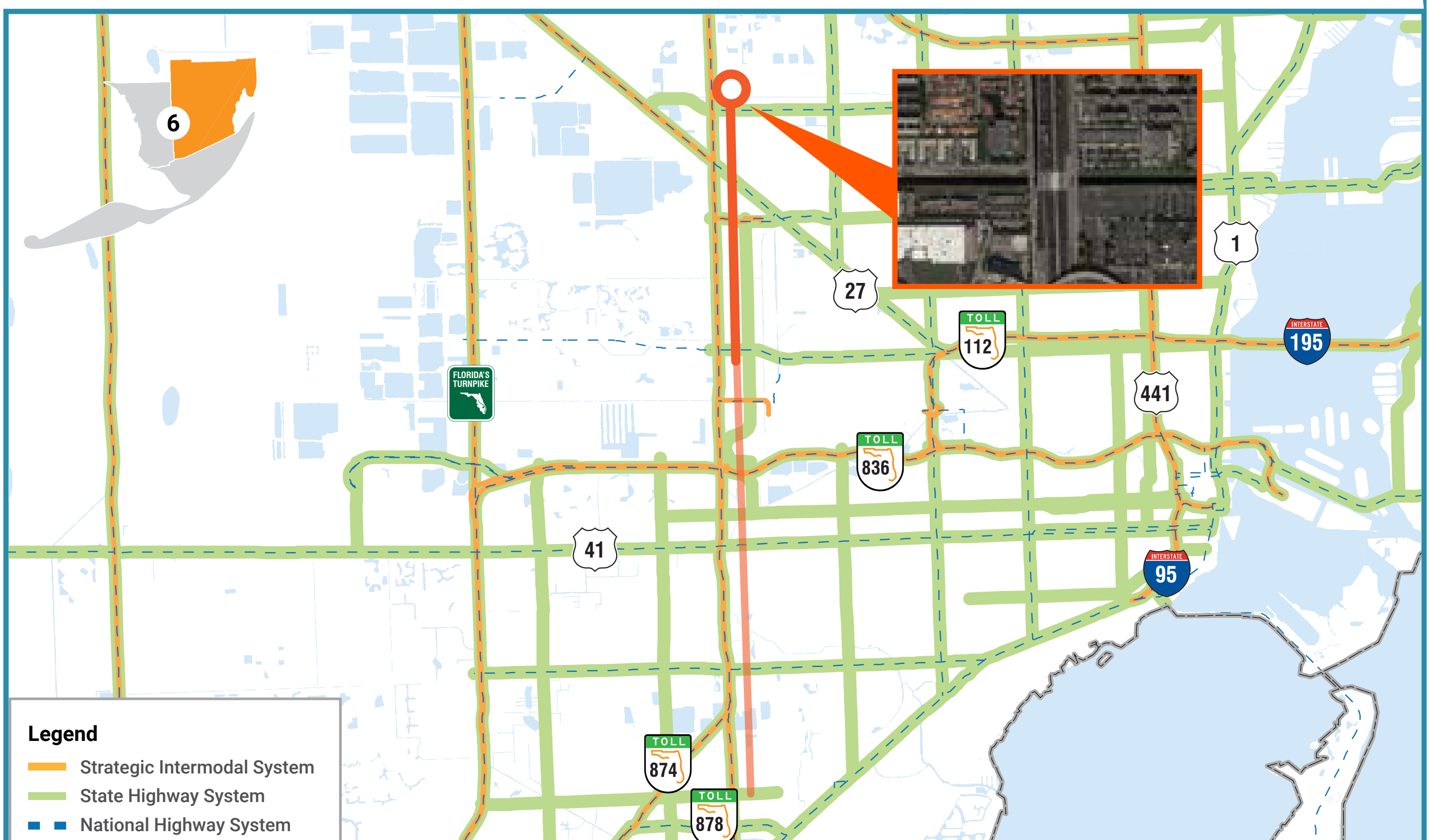
SR-826 NB AT 103RD STREET

Miami-Dade County (District Six)

Total Delay:
42k
veh-hr/day

Avg. Max. Length:
4.1
miles





DISTRICT SIX RANKING	STATEWIDE RANKING
1 I-95 N @ FLORIDA'S TPKE/EXIT 12	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 COMBINED (D6)
2 SR-826 N @ 103RD ST	**2 SR-826 N @ 103RD ST (D6)**
3 SR-836 W @ SR-959/RED RD	3 SR-836 W @ SR-959/RED RD (D6)
4 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 I-95 S @ I-95 HOV LN (SOUTH)	5 I-95 S @ IVES DAIRYRD/203RD ST/EXIT 16 (D6)

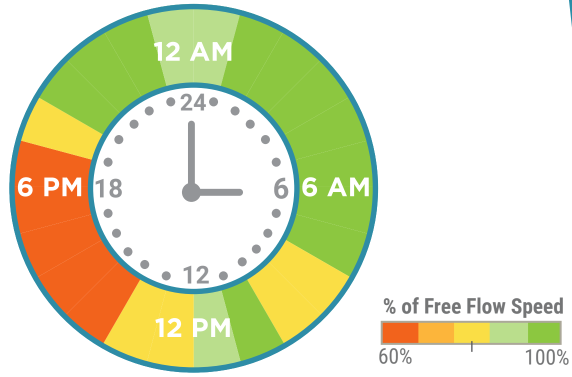
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

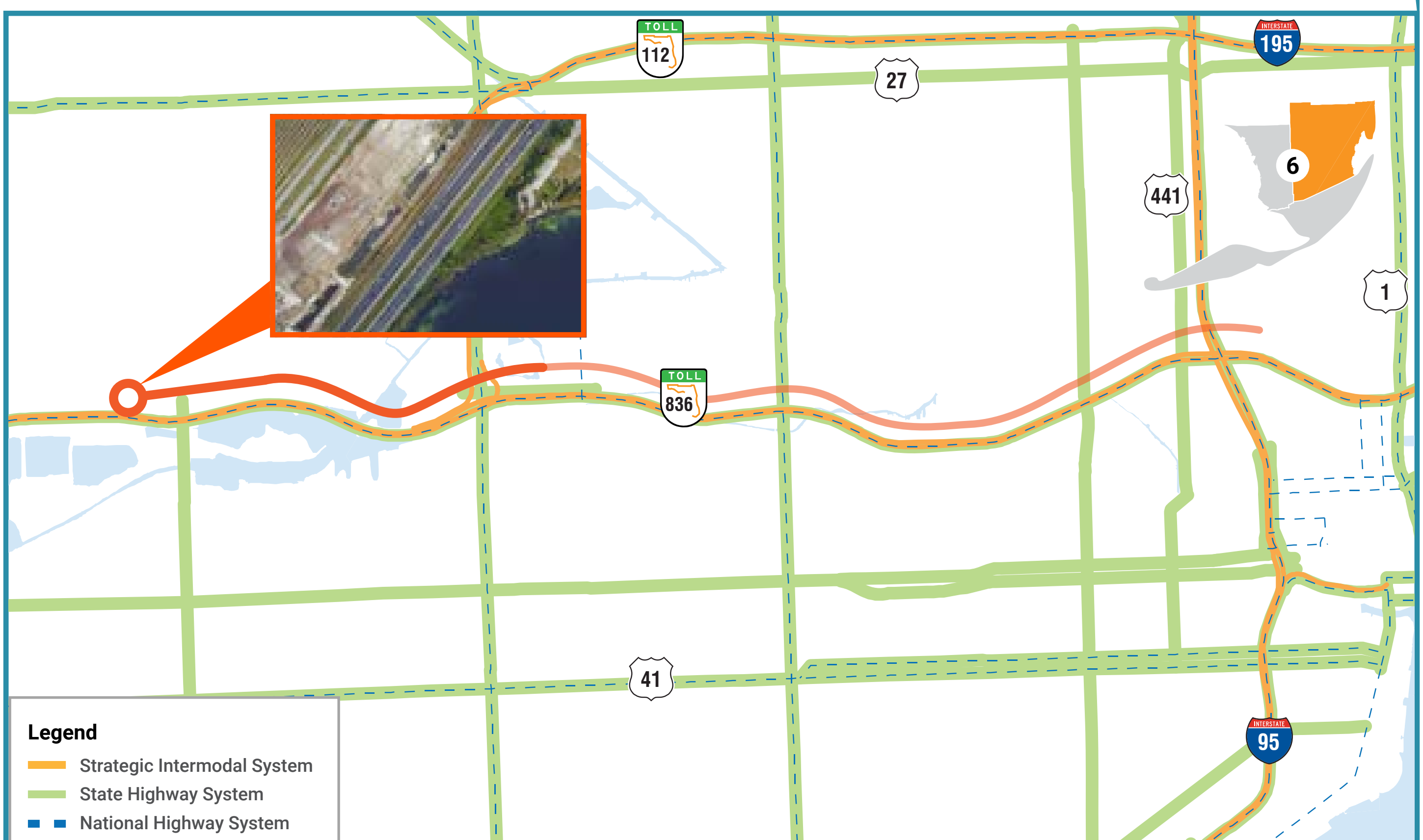
SR-836 WB AT SR-959/RED ROAD

Miami-Dade County (District Six)

Total Delay:
33k
veh-hr/day

Avg. Max. Length:
2.1
miles





DISTRICT SIX RANKING	STATEWIDE RANKING
1 I-95 N @ FLORIDA'S TPKE/EXIT 12	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2 SR-826 N @ 103RD ST	2 SR-826 N @ 103RD ST (D6)
3 SR-836 W @ SR-959/RED RD	**3 SR-836 W @ SR-959/RED RD (D6)**
4 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 I-95 S @ I-95 HOV LN (SOUTH)	5 I-95 S @ IVES DAIRYRD/203RD ST/EXIT 16 (D6)

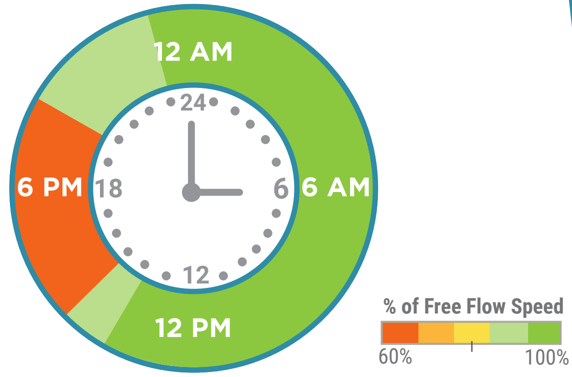
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

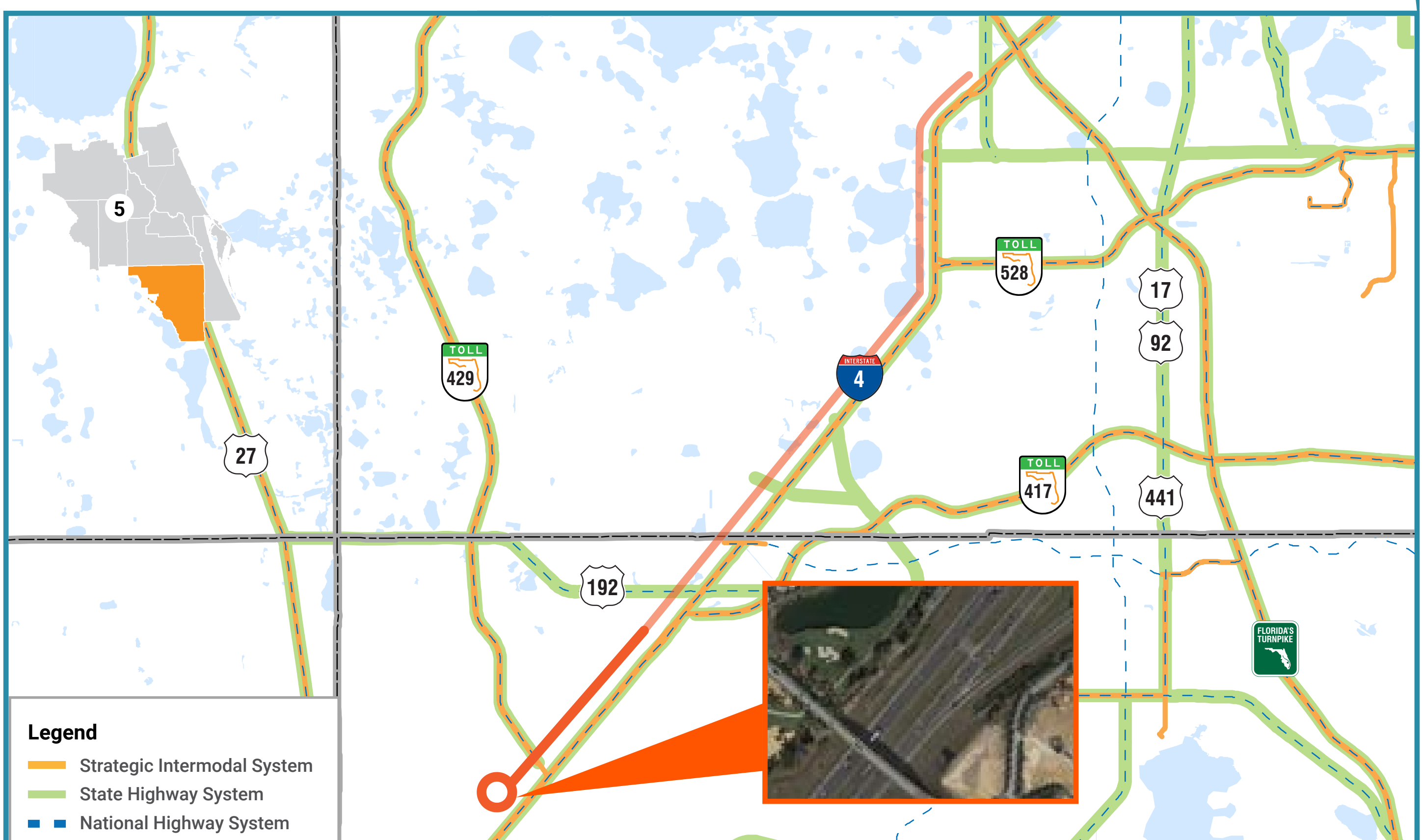
I-4 WB AT SR-429 TOLL EXIT 60

Osceola County (District Five)

Total Delay:
32k
veh-hr/day

Avg. Max. Length:
4.1
miles





DISTRICT FIVE RANKING	STATEWIDE RANKING
1 I-4 W @ SR-429-TOLL/EXIT 60 (D5)	2 SR-826 N @ 103RD ST (D6)
2 I-4 E @ CR-532/EXIT 58	3 SR-836 W @ SR-959/RED RD (D6)
3 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84	**4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)**
4 I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71	5 I-95 S @ IVES DAIRYRD/203RD ST/EXIT 16 (D6)
5 I-4 W @ SR-436/EXIT 92	6 I-95 S @ I-95 HOV LN (SOUTH) (D6)

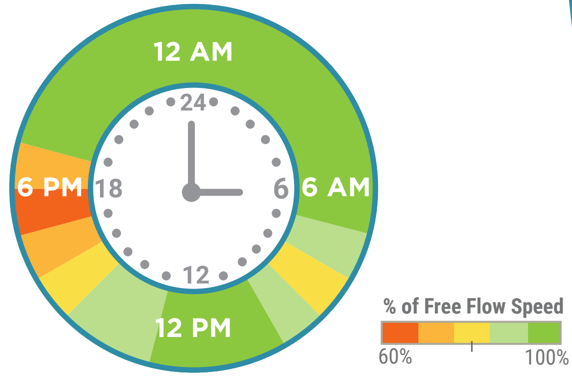
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

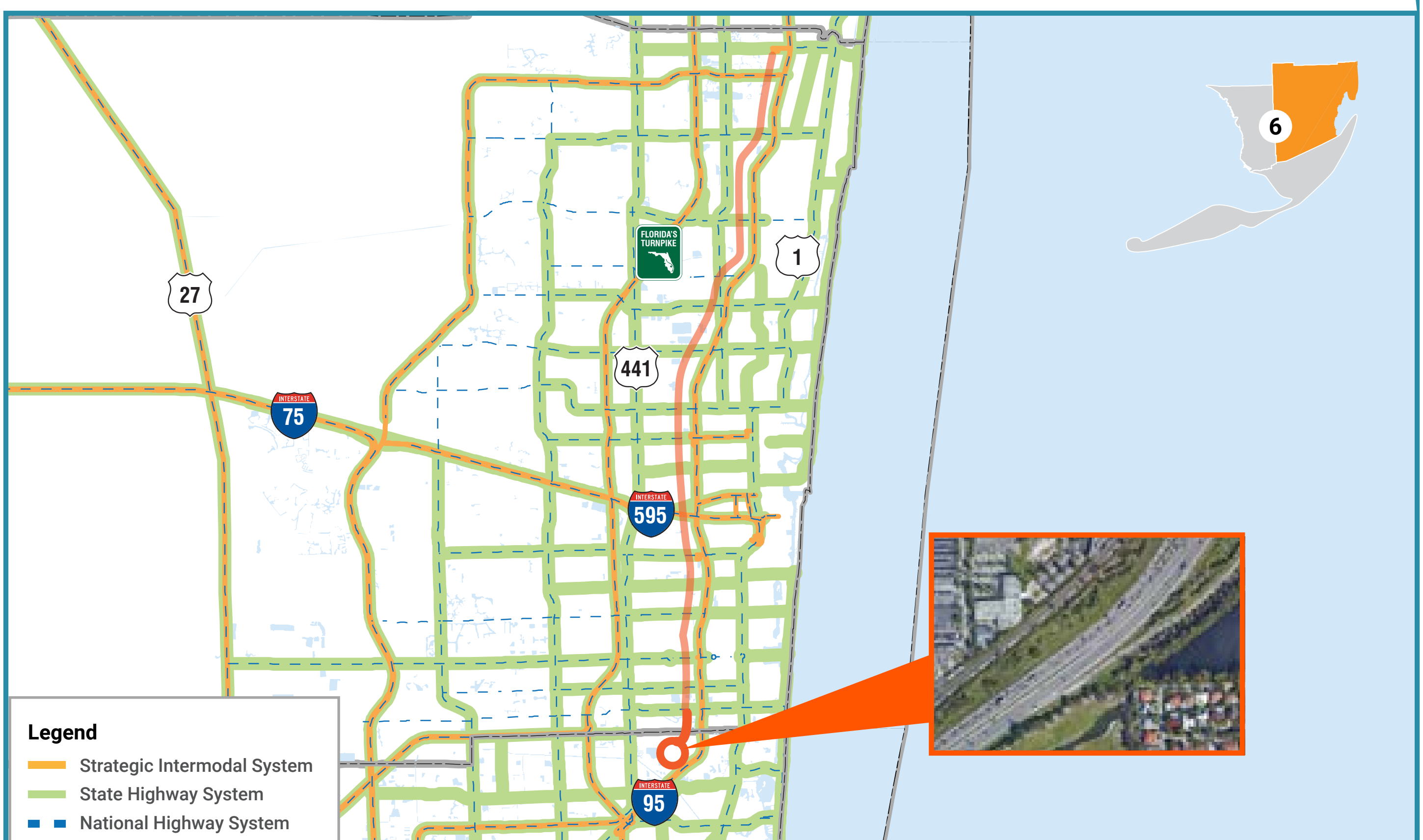
I-95 SB AT IVES DAIRY ROAD/ 203RD STREET/EXIT 16

Miami-Dade County (District Six)

Total Delay: **31k** veh-hr/day

Avg. Max. Length: **1.7** miles





DISTRICT SIX RANKING	STATEWIDE RANKING
2 SR-826 N @ 103RD ST	3 SR-836 W @ SR-959/RED RD (D6)
3 SR-836 W @ SR-959/RED RD	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
4 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	**5 I-95 S @ IVES DAIRYRD/203RD ST/EXIT 16 (D6)**
5 I-95 S @ I-95 HOV LN (SOUTH)	6 I-95 S @ I-95 HOV LN (SOUTH) (D6)
6 SR-826 N @ 122ND ST	7 I-4 E @ CR-532/EXIT 58 (D5)

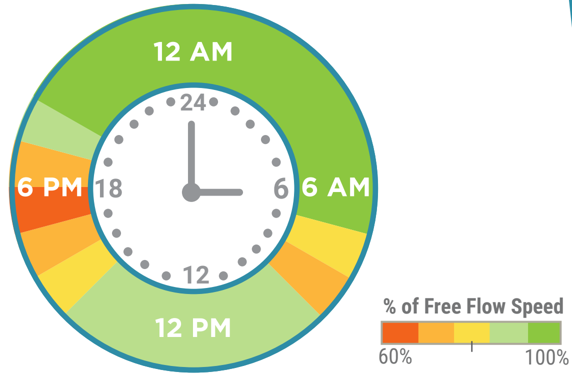
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

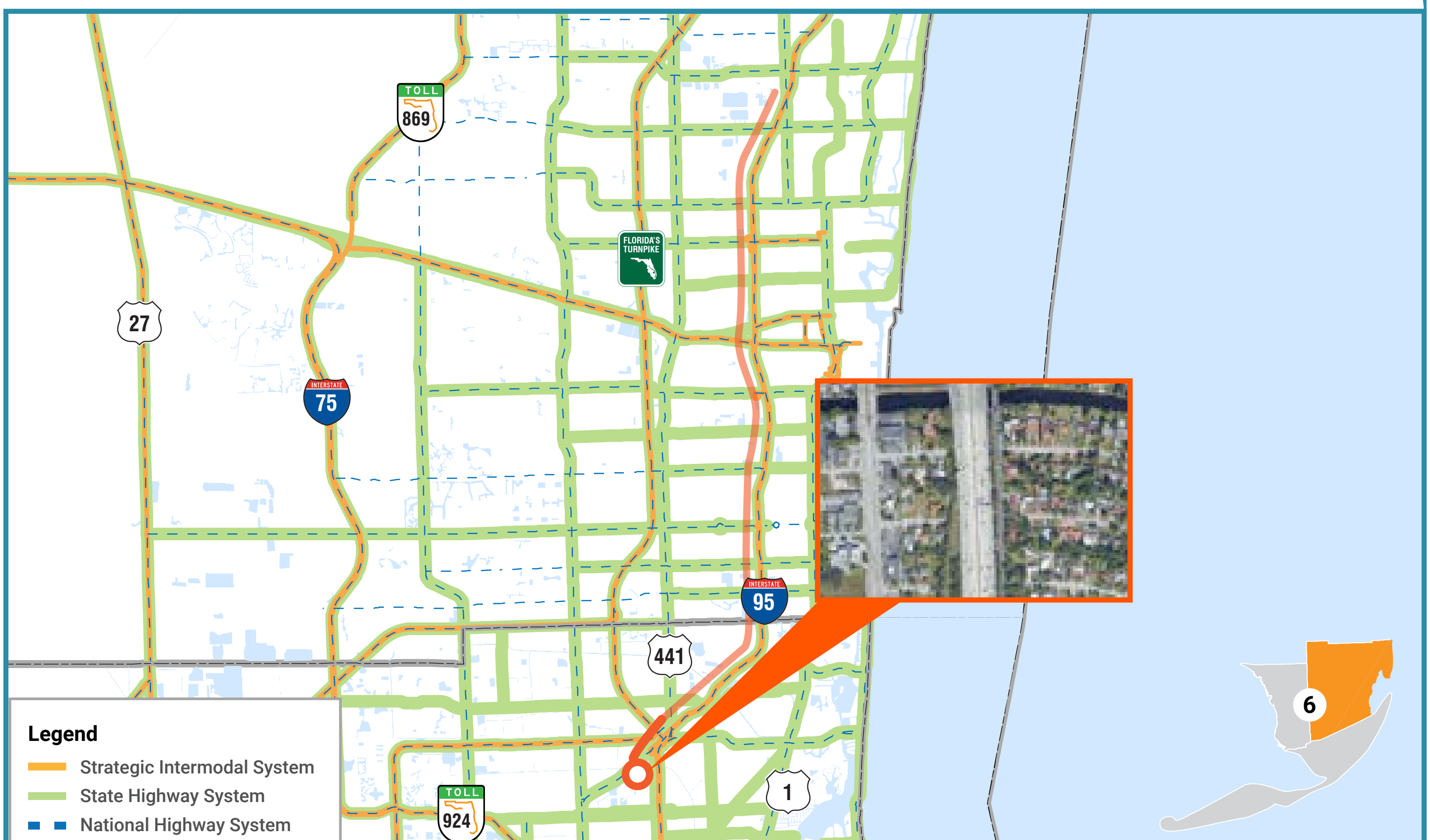
I-95 SB AT I-95 HOV LN (SOUTH)

Miami-Dade County (District Six)

Total Delay: **28k** veh-hr/day

Avg. Max. Length: **1.3** miles





DISTRICT SIX RANKING		STATEWIDE RANKING	
3	SR-836 W @ SR-959/RED RD	4	I-4 W @ SR-429-TOLL/EXIT 60 (D5)
4	I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	5	I-95 S @ IVES DAIRYRD/203RD ST/EXIT 16 (D6)
5	**I-95 S @ I-95 HOV LN (SOUTH)**	**6**	**I-95 S @ I-95 HOV LN (SOUTH) (D6)**
6	SR-826 N @ 122ND ST	7	I-4 E @ CR-532/EXIT 58 (D5)
7	I-95 S @ 95TH ST/EXIT 8	8	I-275 N @ SLIGH AVE/EXIT 48 (D7)

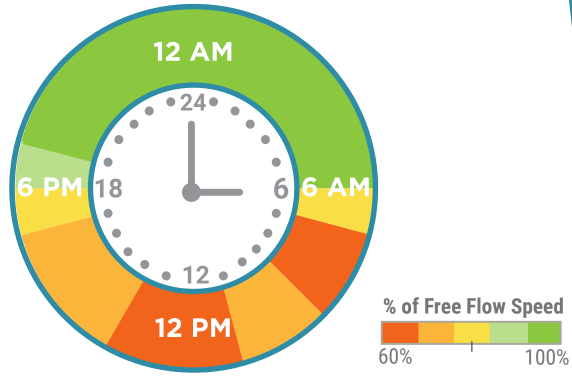
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

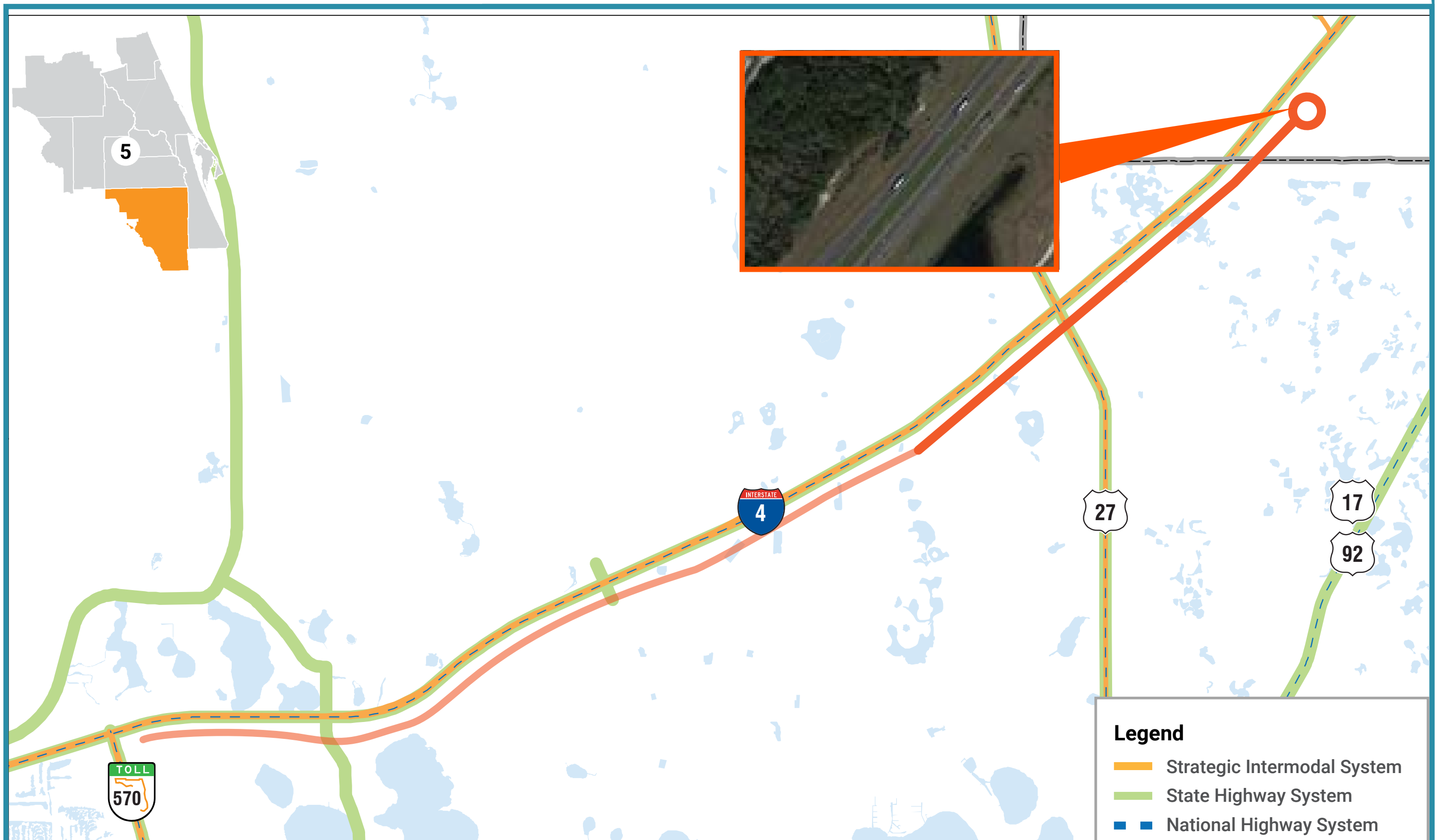
I-4 EB AT CR 532/EXIT 58

Osceola County (District Five)

Total Delay: **26k** veh-hr/day

Avg. Max. Length: **5.8** miles





DISTRICT FIVE RANKING	STATEWIDE RANKING
1 I-4 W @ SR-429-TOLL/EXIT 60	5 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16 (D6)
2 I-4 E @ CR532/Exit 58	6 I-95 S @ I-95 HOV LN (SOUTH) (D6)
3 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84	**7 I-4 E @ CR 532/Exit 58** (D5)
4 I-4 E @ SR 429 Toll/Exit 60	8 I-275 N @ SLIGH AVE/EXIT 48 (D7)
5 I-4 E @ SR 423/Lee Rd/Exit 98	9 SR-826 N @ 122ND ST (D6)

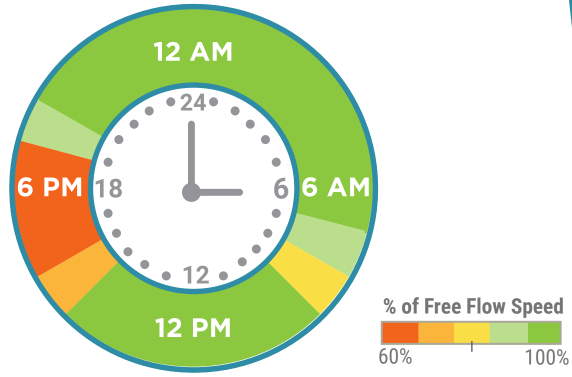
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

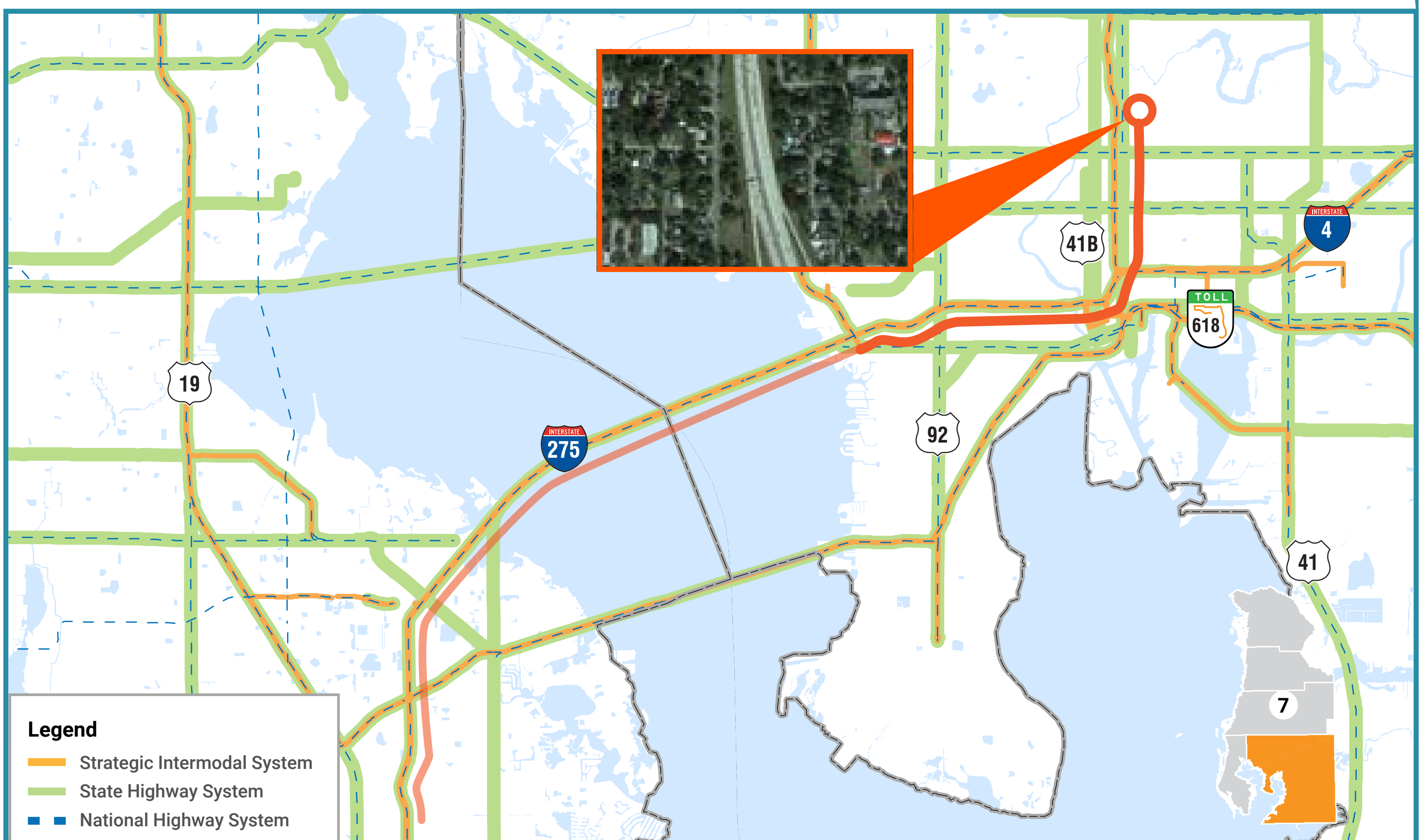
I-275 NB AT SLIGH AVE/EXIT 48

Hillsborough County (District Seven)

Total Delay:
23k
veh-hr/day

Avg. Max. Length:
8.7
miles





DISTRICT SEVEN RANKING	STATEWIDE RANKING
1 I-275 N @ SLIGH AVE/EXIT 48	6 I-95 S @ I-95 HOV LN (SOUTH) (D6)
2 I-4 W @ I-275	7 I-4 E @ CR-532/EXIT 58 (D5)
3 I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47	**8 I-275 N @ SLIGH AVE/EXIT 48 (D7)**
4 I-275 N @ SR-60/CYPRESS ST/EXIT 39	9 SR-826 N @ 122ND ST (D6)
5 I-75 S @ I-4/EXIT 261	10 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84 (D5)

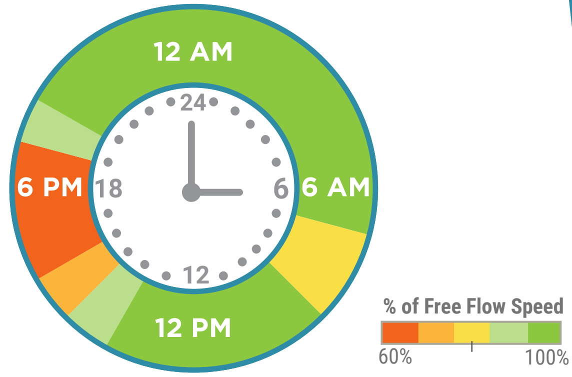
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

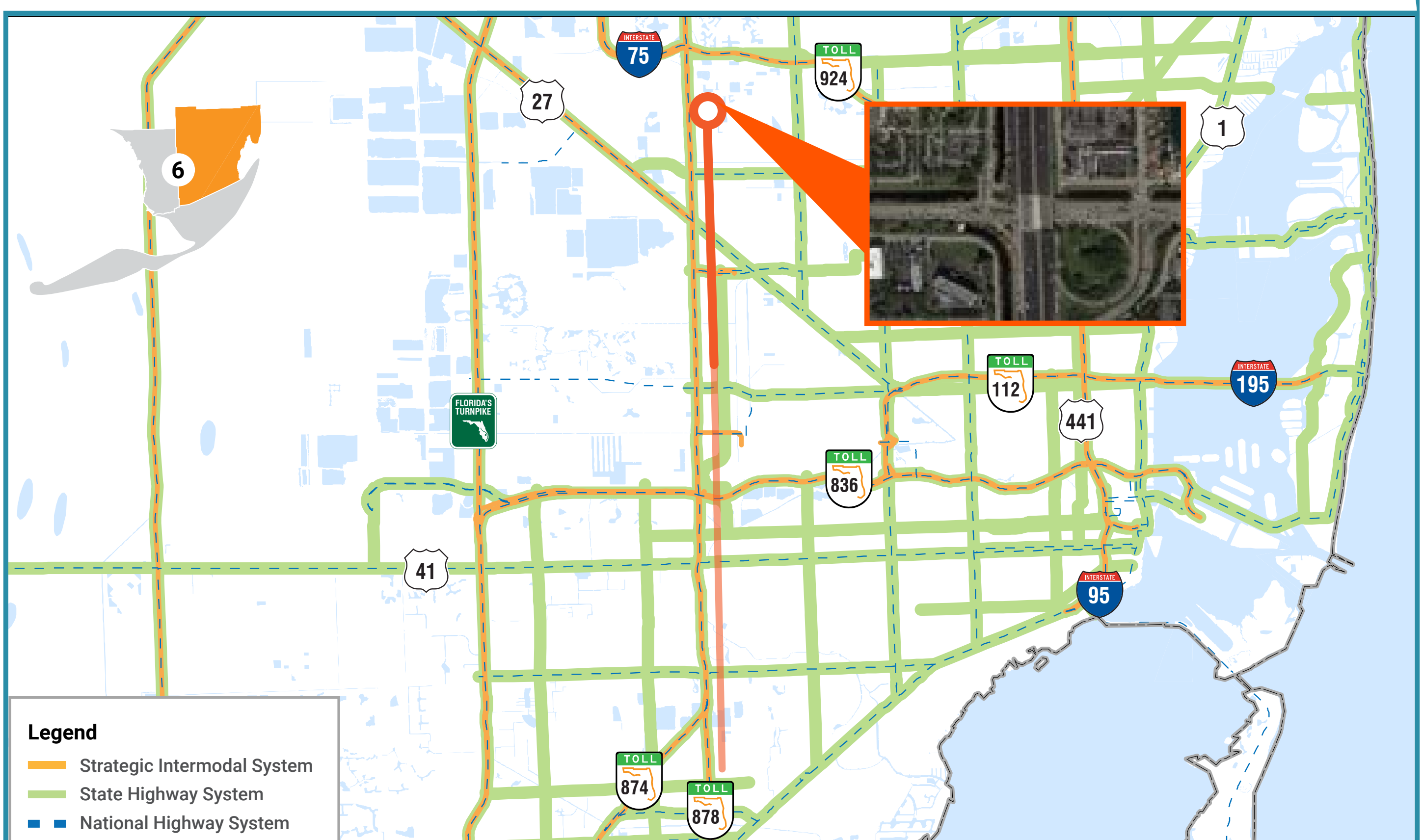
SR-826 NB AT 122ND STREET

Miami-Dade County (District Six)

Total Delay:
23k
veh-hr/day

Avg. Max. Length:
4.6
miles





DISTRICT SIX RANKING	STATEWIDE RANKING
4 I-275 N @ SLIGH AVE/EXIT 48	7 I-4 E @ CR-532/EXIT 58 (D5)
5 I-4 W @ I-275	8 I-275 N @ SLIGH AVE/EXIT 48 (D7)
6 I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47	**9 SR-826 N @ 122ND ST (D6)**
7 I-275 N @ SR-60/CYPRESS ST/EXIT 39	10 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84 (D5)
8 I-75 S @ I-4/EXIT 261	11 I-95 S @ 95TH ST/EXIT 8 (D6)

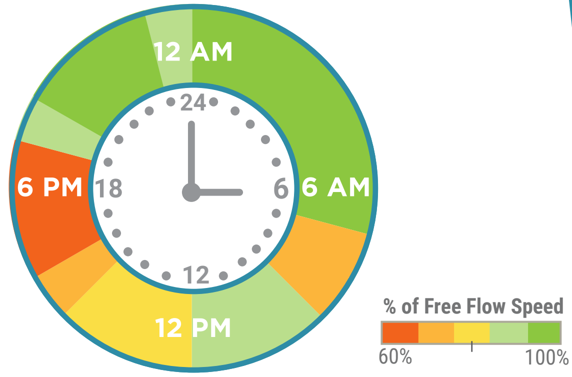
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

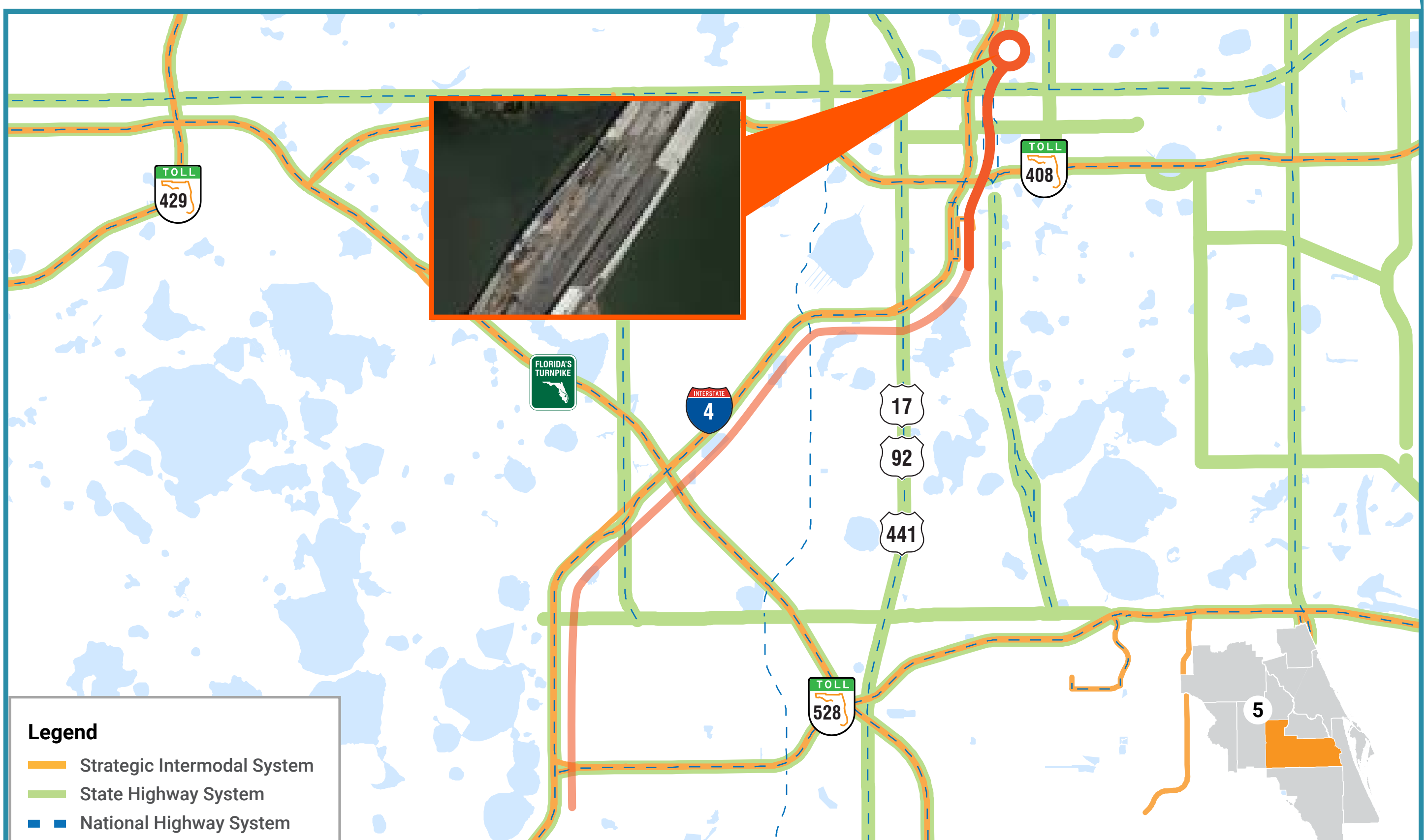
I-4 EB AT US-17/US-92 IVANHOE BLVD

Orange County (District Five)

Total Delay: **23k** veh-hr/day

Avg. Max. Length: **2.7** miles





DISTRICT FIVE RANKING	STATEWIDE RANKING
1 I-4 W @ SR-429-TOLL/EXIT 60	8 I-275 N @ SLIGH AVE/EXIT 48 (D7)
2 I-4 E @ CR-532/EXIT 58	9 SR-826 N @ 122ND ST (D6)
3 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84	**10 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84 (D5)**
4 I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71	11 I-95 S @ 95TH ST/EXIT 8 (D6)
5 I-4 W @ SR-436/EXIT 92	12 I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)

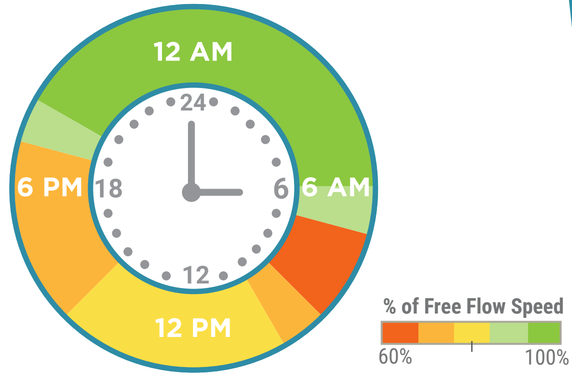
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

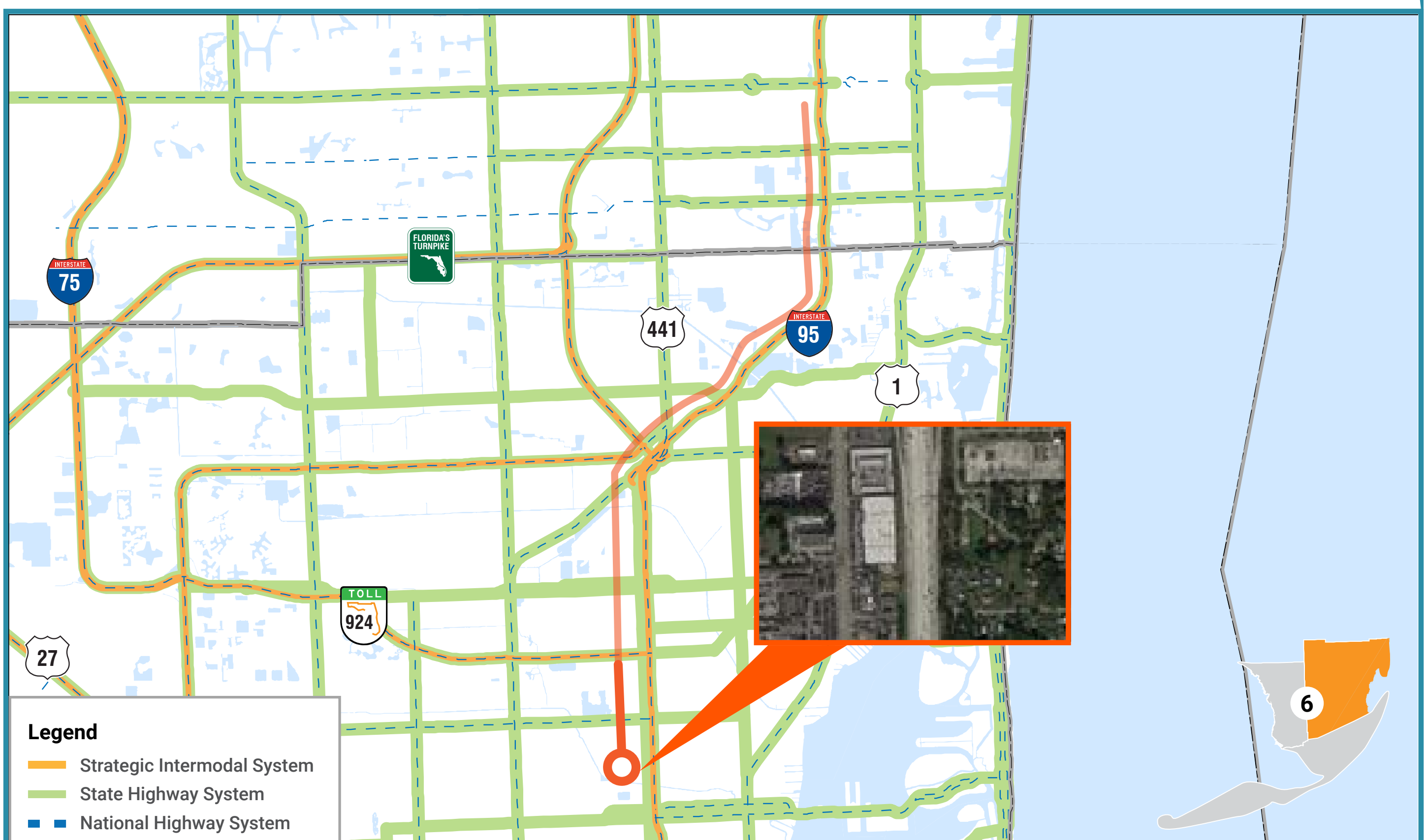
I-95 SB AT 95TH STREET/EXIT 8

Miami-Dade County (District Six)

Total Delay: **22k** veh-hr/day

Avg. Max. Length: **1.5** miles





DISTRICT SIX RANKING	STATEWIDE RANKING
5 I-95 S @ I-95 HOV LN (SOUTH)	9 SR-826 N @ 122ND ST (D6)
6 SR-826 N @ 122ND ST	10 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84 (D5)
7 I-95 S @ 95TH ST/EXIT 8	**11 I-95 S @ 95TH ST/EXIT 8 (D6)**
8 FLORIDA'S TPKE S @ SR-826	12 I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)
9 2ND AVE N @ NE 12TH ST	13 I-95 S @ SR-818/GRIFFIN RD/EXIT 23 (D4)

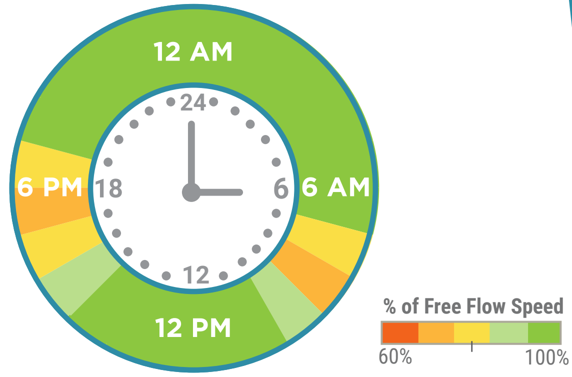
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

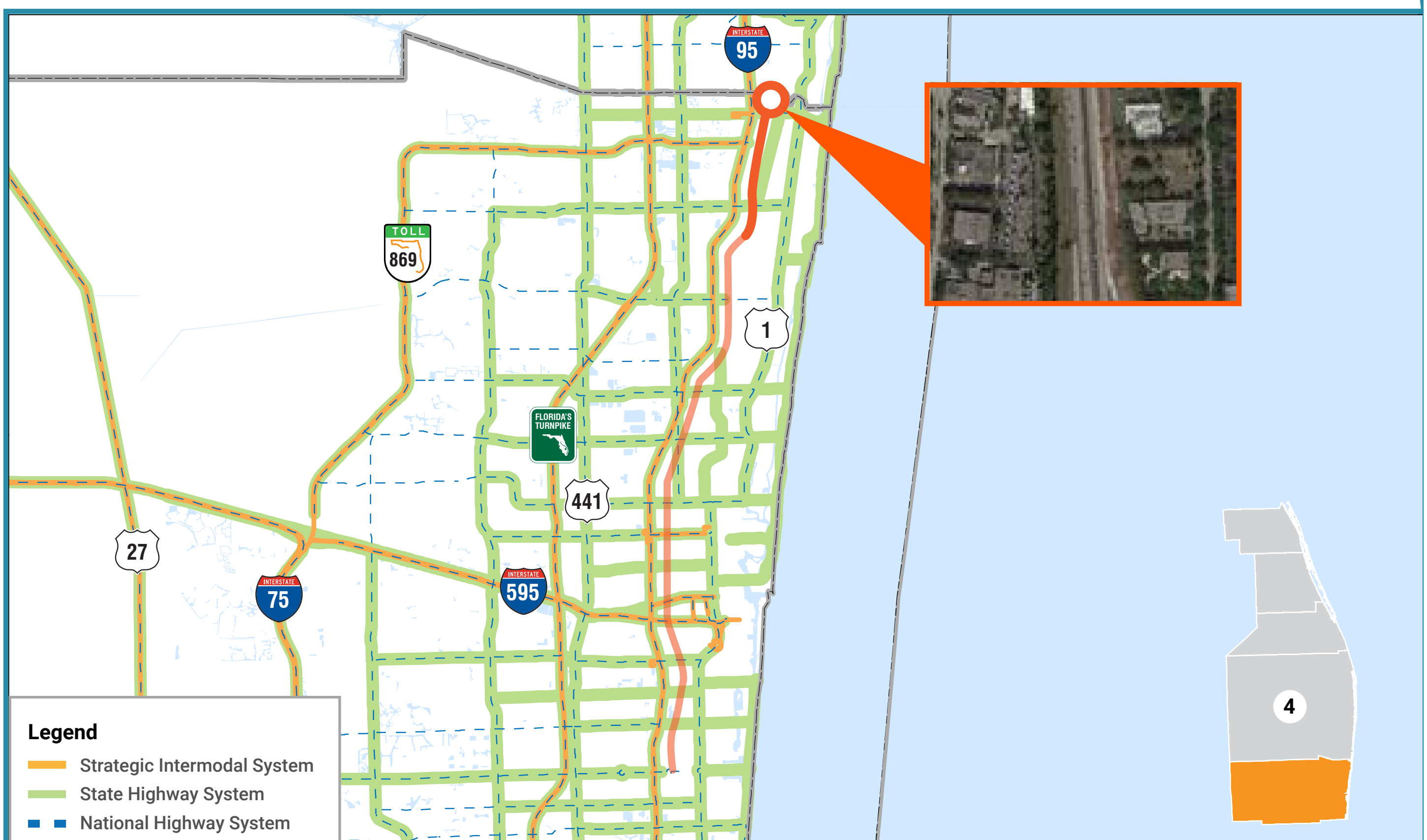
I-95 NB AT SR-810/HILLSBORO BLVD/EXIT 42

Broward County (District Four)

Total Delay: **22k** veh-hr/day

Avg. Max. Length: **4.1** miles





DISTRICT FOUR RANKING	STATEWIDE RANKING
1 I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42	10 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84 (D5)
2 I-95 S @ SR-818/GRIFFIN RD/EXIT 23	11 I-95 S @ 95TH ST/EXIT 8 (D6)
3 I-95 N @ SR-808/GLADES RD/EXIT 45	**12 I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)**
4 I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26	13 I-95 S @ SR-818/GRIFFIN RD/EXIT 23 (D4)
5 I-95 S @ 10TH ST/EXIT 41	14 I-4 W @ I-275 (D7)

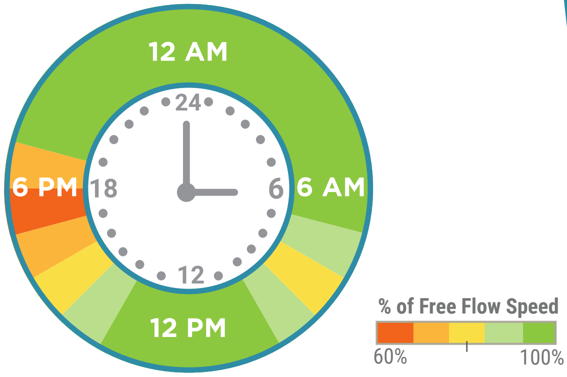
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

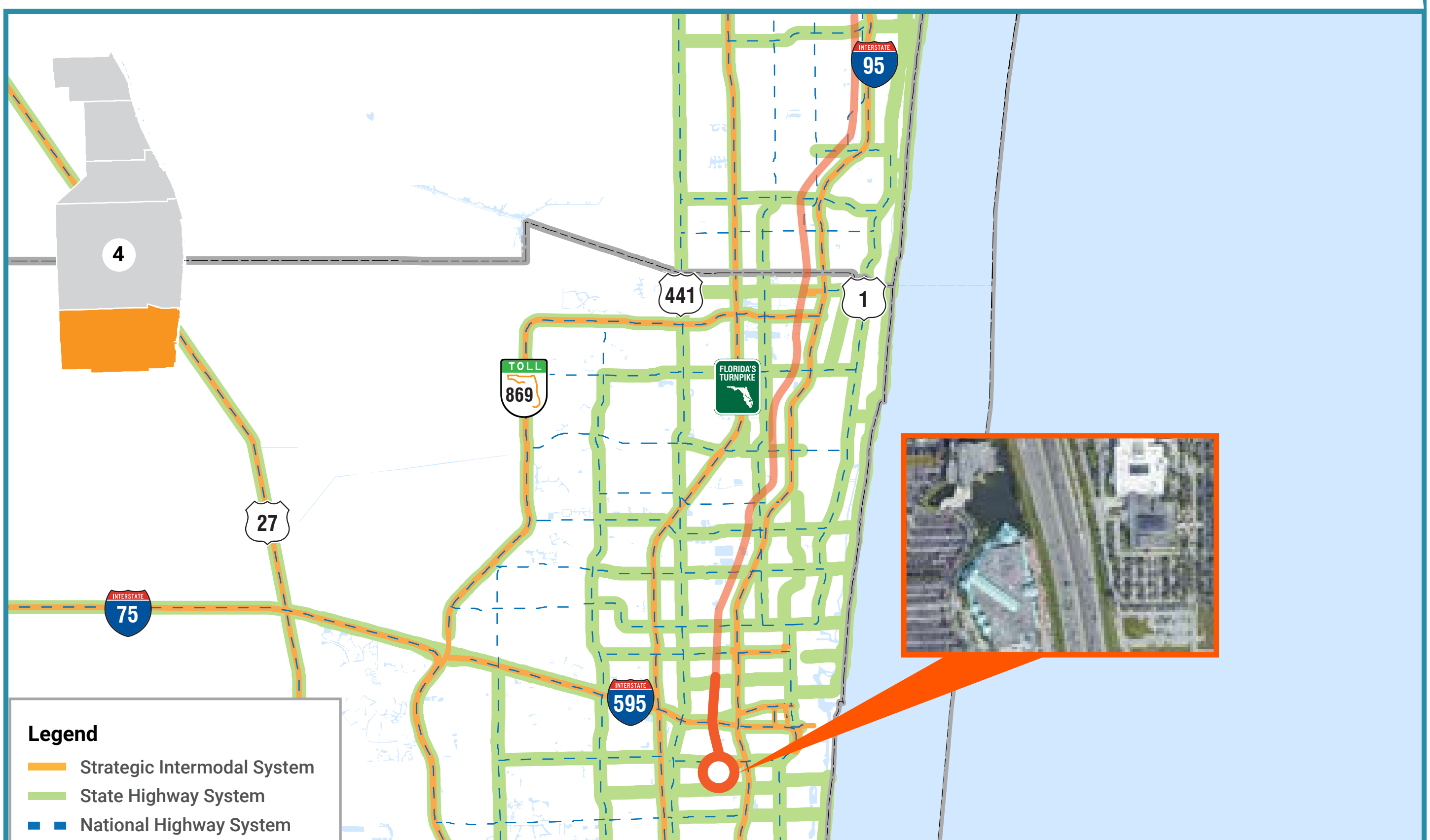
I-95 SB AT STATE ROAD-818/ GRIFFIN RD/EXIT 23

Broward County (District Four)

Total Delay: **20k** veh-hr/day

Avg. Max. Length: **3.3** miles





DISTRICT FOUR RANKING	STATEWIDE RANKING
1 I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42	11 I-95 S @ 95TH ST/EXIT 8 (D6)
2 I-95 S @ SR-818/GRIFFIN RD/EXIT 23	12 I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)
3 I-95 N @ SR-808/GLADES RD/EXIT 45	**13 I-95 S @ SR-818/GRIFFIN RD/EXIT 23 (D4)**
4 I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26	14 I-4 W @ I-275 (D7)
5 I-95 S @ 10TH ST/EXIT 41	15 FLORIDA'S TPKE S @ SR-826 (D6)

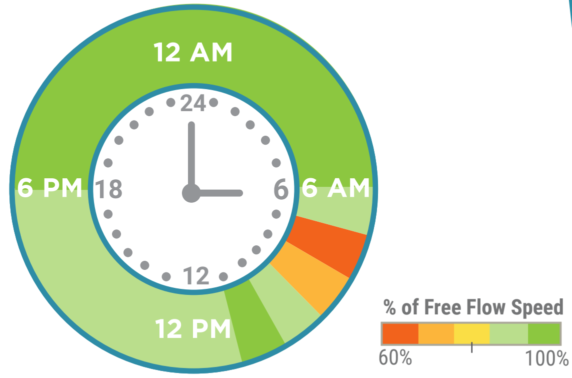
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

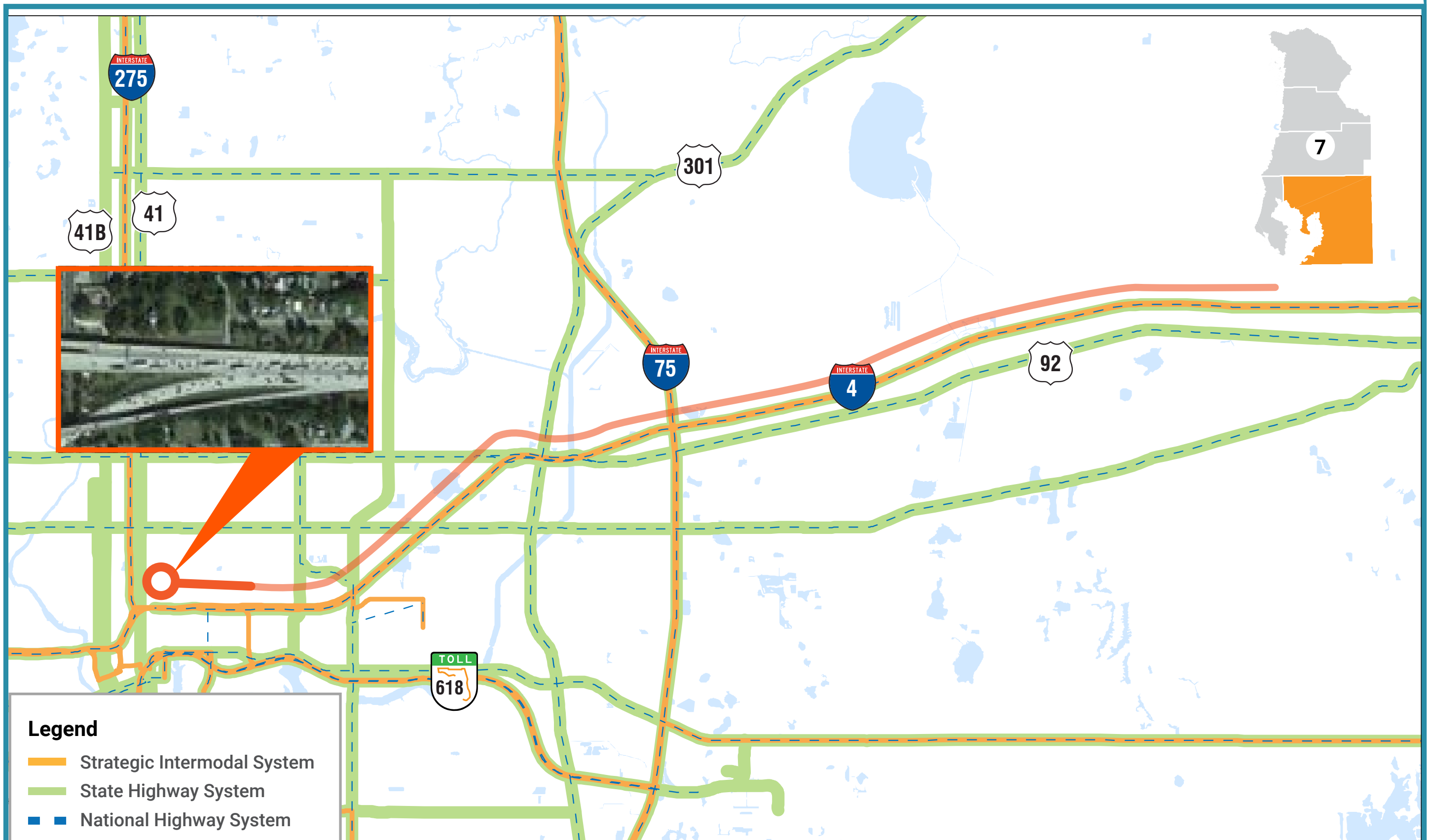
I-4 WB AT I-275

Hillsborough County (District Seven)

Total Delay:
20k
veh-hr/day

Avg. Max. Length:
1.1
miles





DISTRICT SEVEN RANKING		STATEWIDE RANKING	
1	I-275 N @ SLIGH AVE/EXIT 48	12	I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)
2	**I-4 W @ I-275**	13	I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)
3	I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47	**14**	**I-4 W @ I-275 (D7)**
4	I-275 N @ SR-60/CYPRESS ST/EXIT 39	15	FLORIDA'S TPKE S @ SR-826 (D6)
5	I-75 S @ I-4/EXIT 261	16	2ND AVE N @ NE 12TH ST (D6)

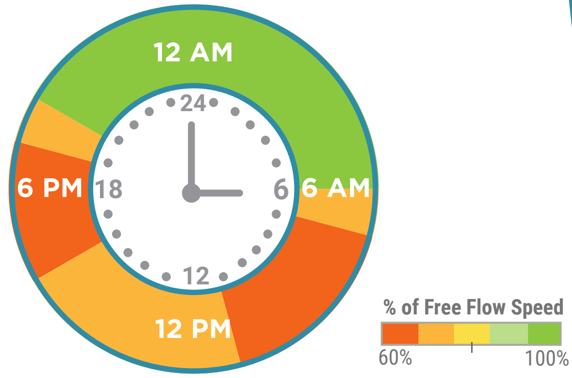
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

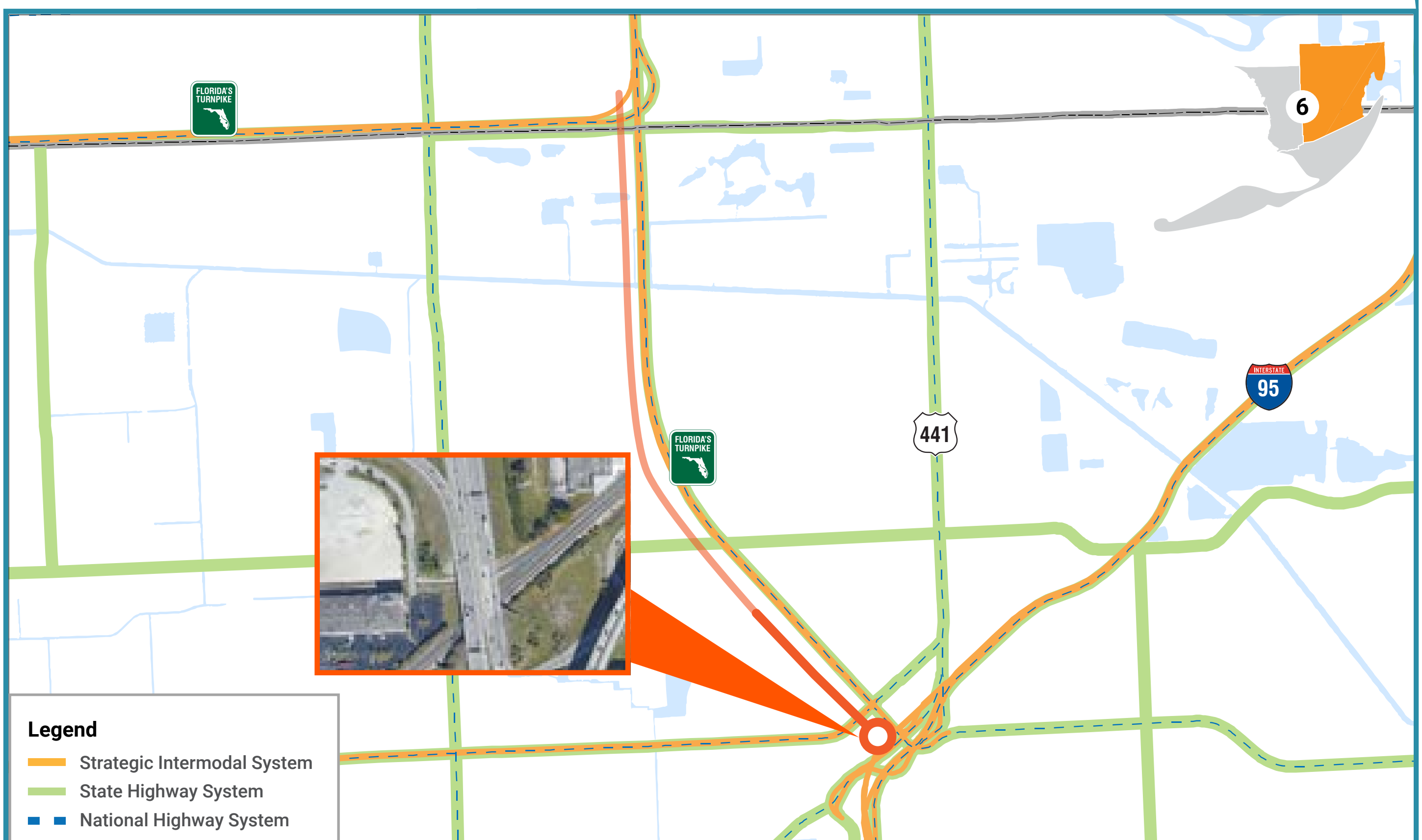
FLORIDA'S TURNPIKE S AT SR-826

Miami-Dade County (District Six)

Total Delay: **19k** veh-hr/day

Avg. Max. Length: **.65** miles





DISTRICT SIX RANKING		STATEWIDE RANKING	
6	SR-826 N @ 122ND ST	13	I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42 (D4)
7	I-95 S @ 95TH ST/EXIT 8	14	I-95 S @ SR-818/GRIFFIN RD/EXIT 23 (D4)
8	**FLORIDA'S TPKE S @ SR-826**	**15**	**FLORIDA'S TPKE S @ SR-826 (D6)**
9	2ND AVE N @ NE 12TH ST	16	2ND AVE N @ NE 12TH ST (D6)
10	SR-836 E @ 45TH AVE	17	SR-836 E @ 45TH AVE (D6)

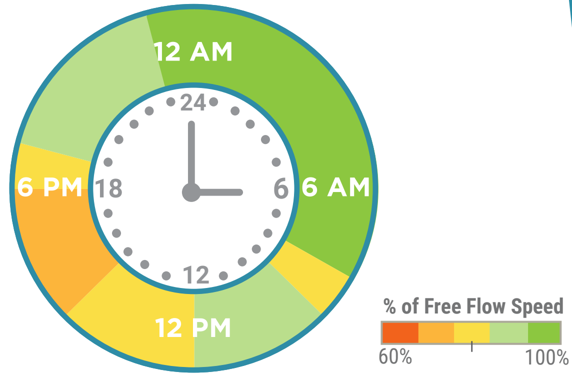
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

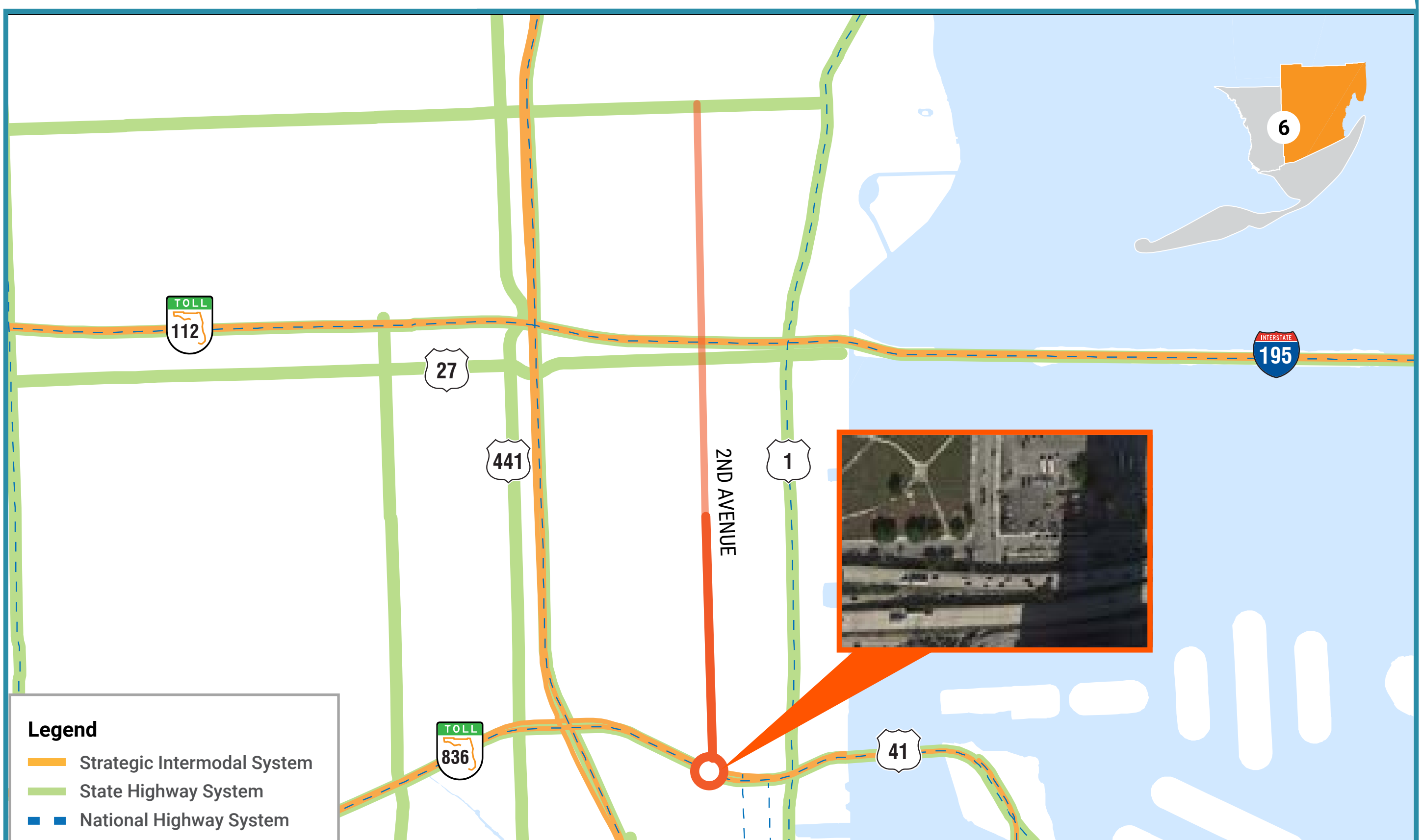
2ND AVE NB AT NE 12TH STREET

Miami-Dade County (District Six)

Total Delay:
18k
veh-hr/day

Avg. Max. Length:
.34
miles





DISTRICT SIX RANKING	STATEWIDE RANKING
6 SR-826 N @ 122ND ST	14 I-4 W @ I-275 (D7)
7 I-95 S @ 95TH ST/EXIT 8	15 FLORIDA'S TPKE S @ SR-826 (D6)
8 FLORIDA'S TPKE S @ SR-826	**16 2ND AVE N @ NE 12TH ST (D6)**
9 2ND AVE N @ NE 12TH ST	17 SR-836 E @ 45TH AVE (D6)
10 SR-836 E @ 45TH AVE	18 I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47 (D7)

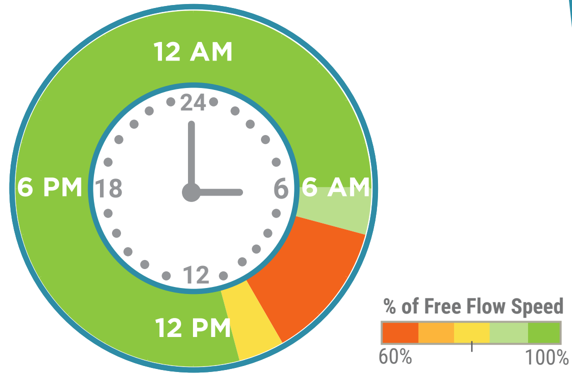
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

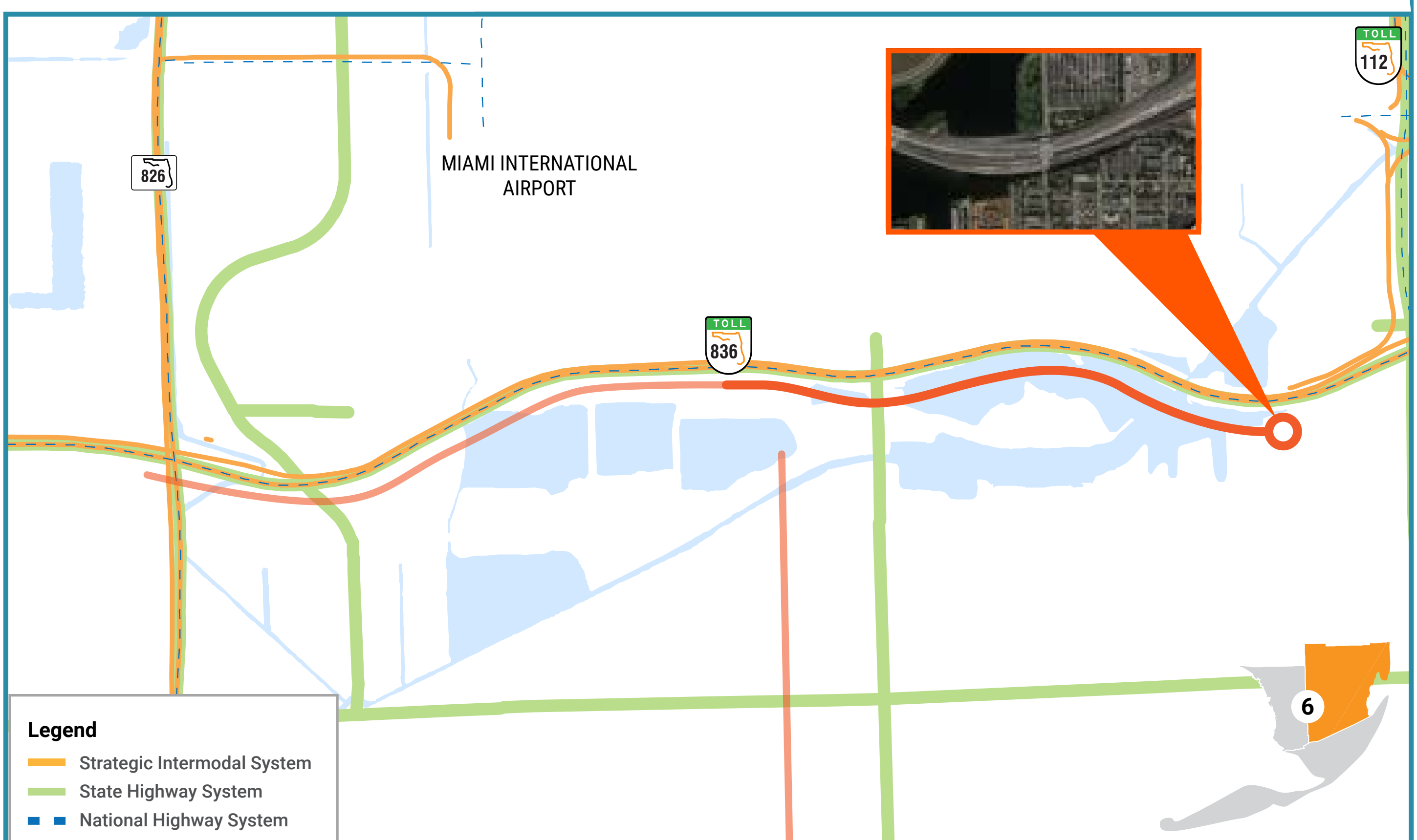
SR-836 EB AT 45TH AVE

Miami-Dade County (District Six)

Total Delay:
17k
veh-hr/day

Avg. Max. Length:
1.6
miles





DISTRICT SIX RANKING	STATEWIDE RANKING
6 SR-826 N @ 122ND ST	15 FLORIDA'S TPKE S @ SR-826 (D6)
7 I-95 S @ 95TH ST/EXIT 8	16 2ND AVE N @ NE 12TH ST (D6)
8 FLORIDA'S TPKE S @ SR-826	**17 SR-836 E @ 45TH AVE (D6)**
9 2ND AVE N @ NE 12TH ST	18 I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47 (D7)
10 SR-836 E @ 45TH AVE	19 I-275 N @ SR-60/CYPRESS ST/EXIT 39 (D7)

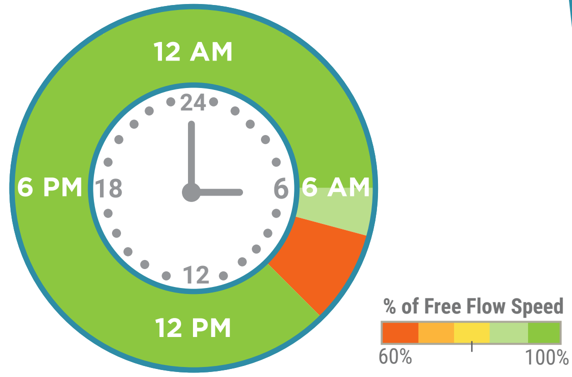
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

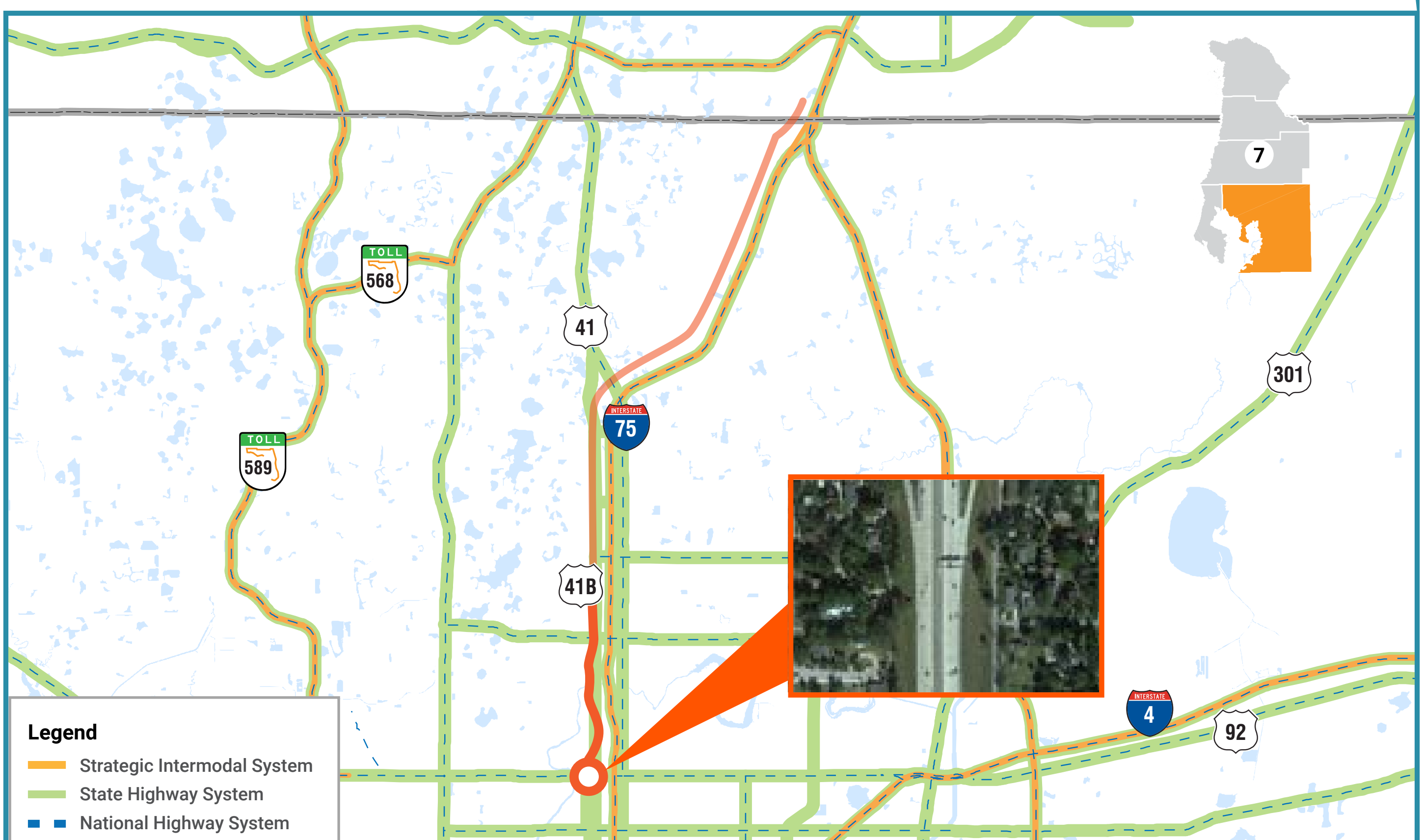
I-275 SB AT US-92/ HILLSBOROUGH AVE/EXIT 47

Hillsborough County (District Seven)

Total Delay: **16k** veh-hr/day

Avg. Max. Length: **3.1** miles





DISTRICT SEVEN RANKING		STATEWIDE RANKING	
1	I-275 N @ SLIGH AVE/EXIT 48	16	2ND AVE N @ NE 12TH ST (D6)
2	I-4 W @ I-275	17	SR-836 E @ 45TH AVE (D6)
3	**I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47**	**18**	**I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47 (D7)**
4	I-275 N @ SR-60/CYPRESS ST/EXIT 39	19	I-275 N @ SR-60/CYPRESS ST/EXIT 39 (D7)
5	I-75 S @ I-4/EXIT 261	20	FLORIDA'S TURNPIKE @ 106TH ST/EXIT 34 (D6)

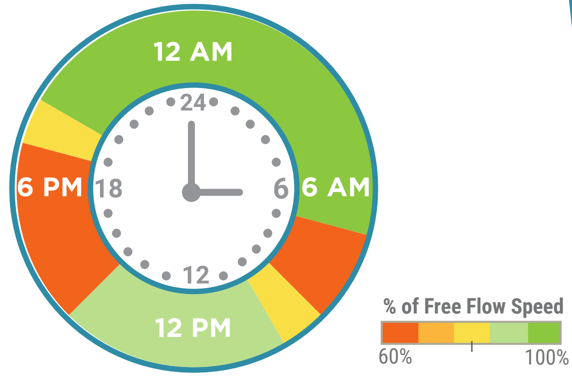
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

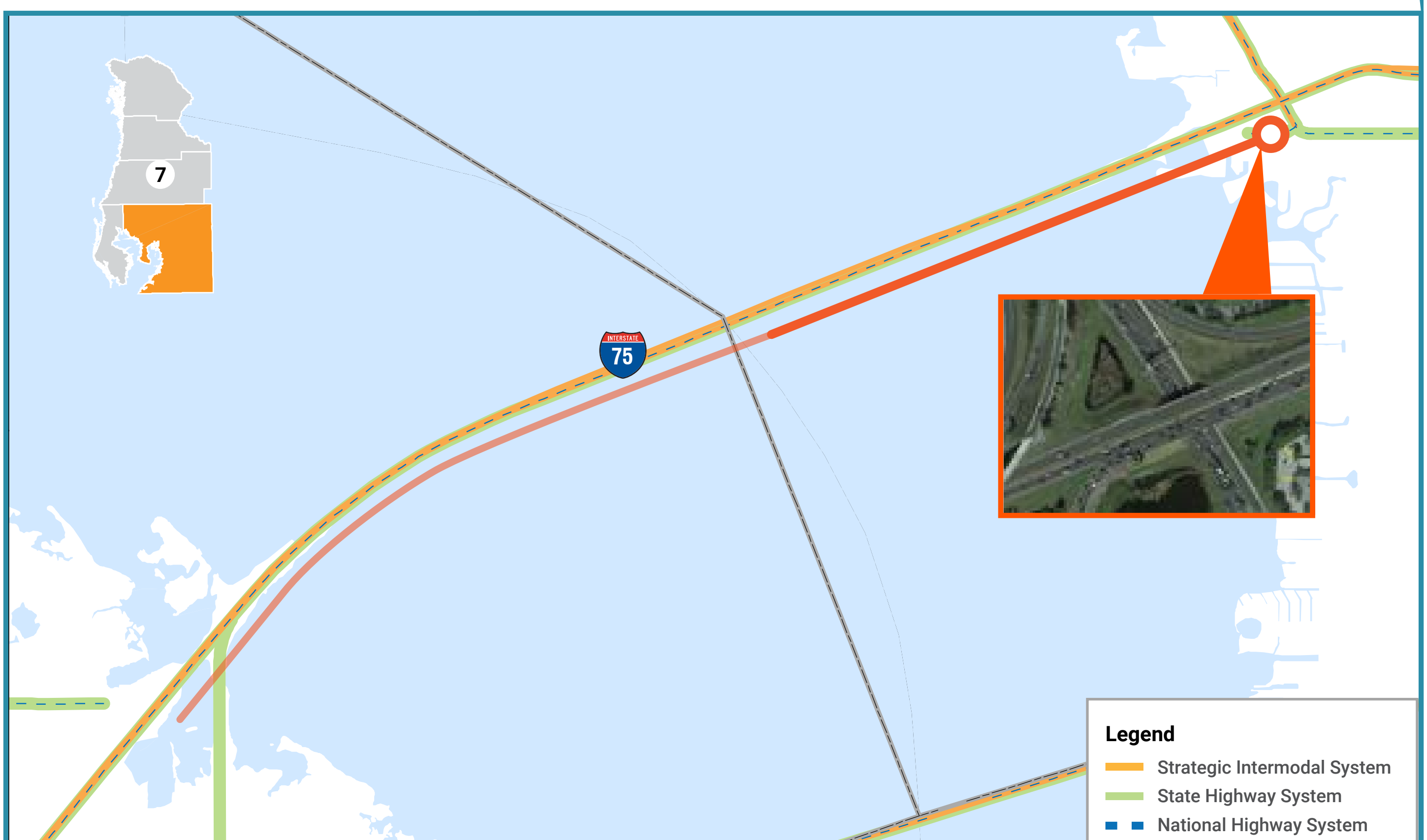
I-275 NB AT SR-60/CYPRESS ST/EXIT 39

Hillsborough County (District Seven)

Total Delay: **16k** veh-hr/day

Avg. Max. Length: **3.1** miles





DISTRICT SEVEN RANKING		STATEWIDE RANKING	
2	I-4 W @ I-275	17	SR-836 E @ 45TH AVE (D6)
3	**I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47**	18	I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47 (D7)
4	I-275 N @ SR-60/CYPRESS ST/EXIT 39	**19**	**I-275 N @ SR-60/CYPRESS ST/EXIT 39 (D7)**
5	I-75 S @ I-4/EXIT 261	20	FLORIDA'S TURNPIKE @ 106TH ST/EXIT 34 (D6)
6	I-275 N @ N WEST SHORE BLVD/EXIT 40	21	SR-968 E @ S MIAMI AVE (D6)

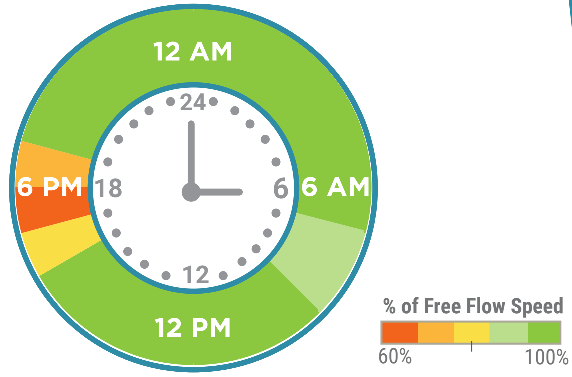
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

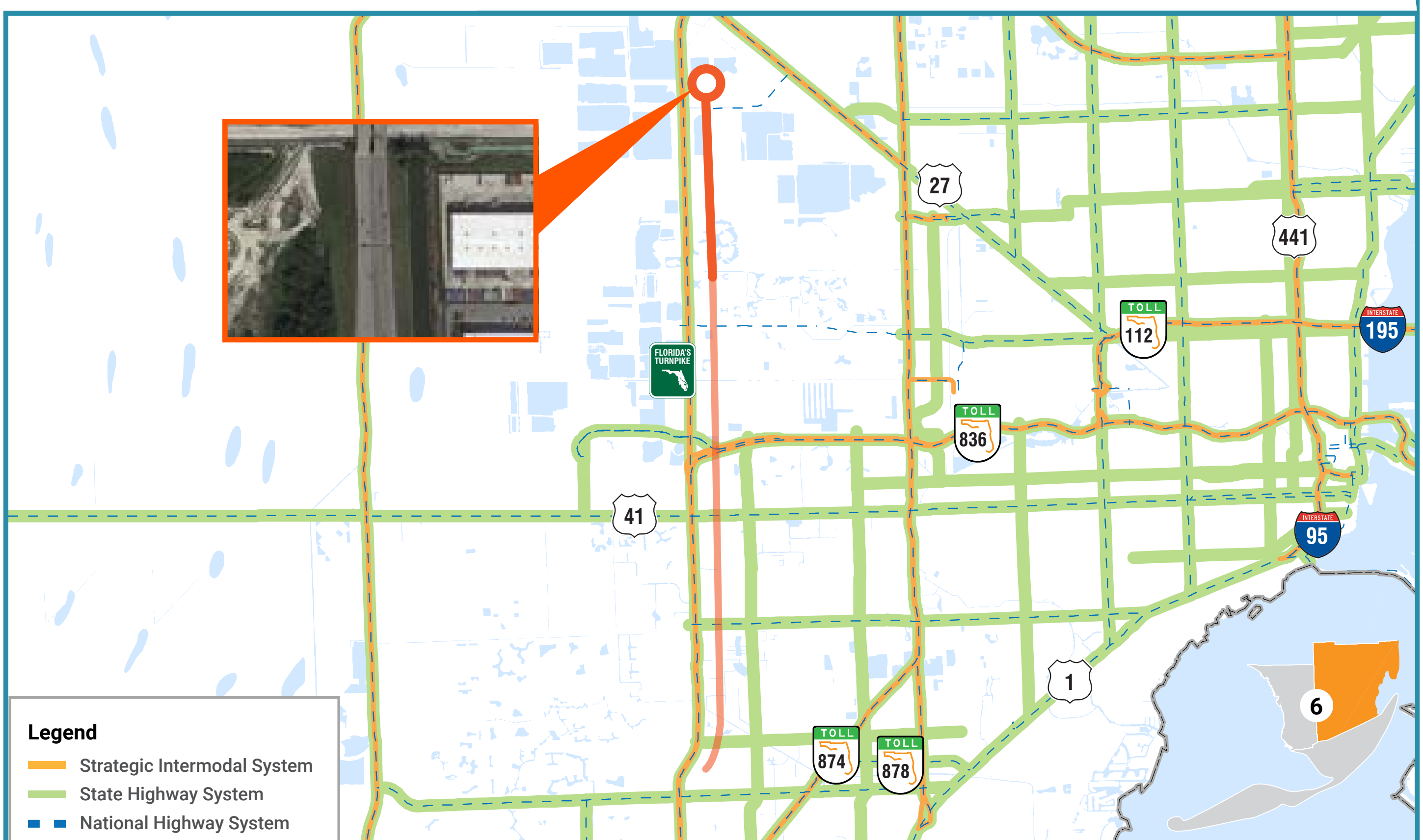
FLORIDA'S TURNPIKE NB AT 106TH STREET/EXIT 34

Miami-Dade County (District Six)

Total Delay: **16k** veh-hr/day

Avg. Max. Length: **3.5** miles





DISTRICT SIX RANKING	STATEWIDE RANKING
1 I-95 N @ FLORIDA'S TPKE/EXIT 1	18 I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47 (D7)
2 SR-826 N @ 103RD ST	19 I-275 N @ SR-60/CYPRESS ST/EXIT 39 (D7)
3 SR-836 W @ SR-959/RED RD	**20 FLORIDA'S TURNPIKE @ 106TH ST/EXIT 34 (D6)**
4 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	21 SR-968 E @ S MIAMI AVE (D6)
11 FLORIDA'S TURNPIKE @ 106TH ST/EXIT 34	22 I-75 S @ I-4/EXIT 261 (D7)

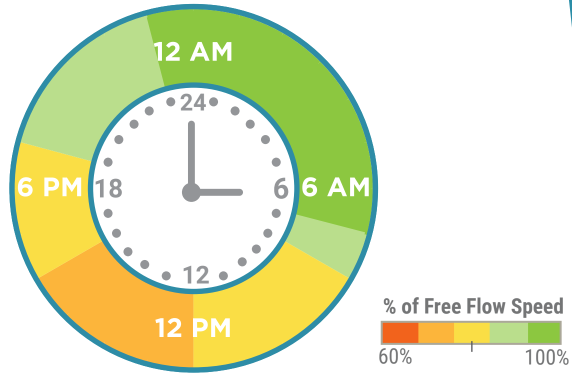
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

SR-968 EB AT S MIAMI AVE

Miami-Dade County (District Six)

Total Delay: **15k** veh-hr/day

Avg. Max. Length: **.81** miles



DISTRICT SIX RANKING	STATEWIDE RANKING
1 I-95 N @ FLORIDA'S TPKE/EXIT 1	19 I-275 N @ SR-60/CYPRESS ST/EXIT 39 (D7)
2 SR-826 N @ 103RD ST	20 FLORIDA'S TURNPIKE @ 106TH ST/EXIT 34 (D6)
3 SR-836 W @ SR-959/RED RD	**21 SR-968 E @ S MIAMI AVE (D6)**
4 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	22 I-75 S @ I-4/EXIT 261 (D7)
12 SR-968 E @ S MIAMI AVE	23 I-95 N @ SR-808/GLADES RD/EXIT 45 (D4)

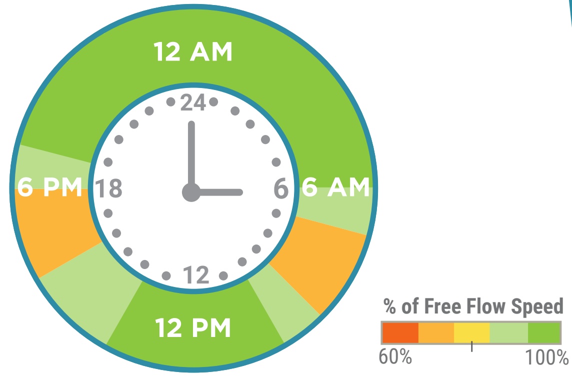
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

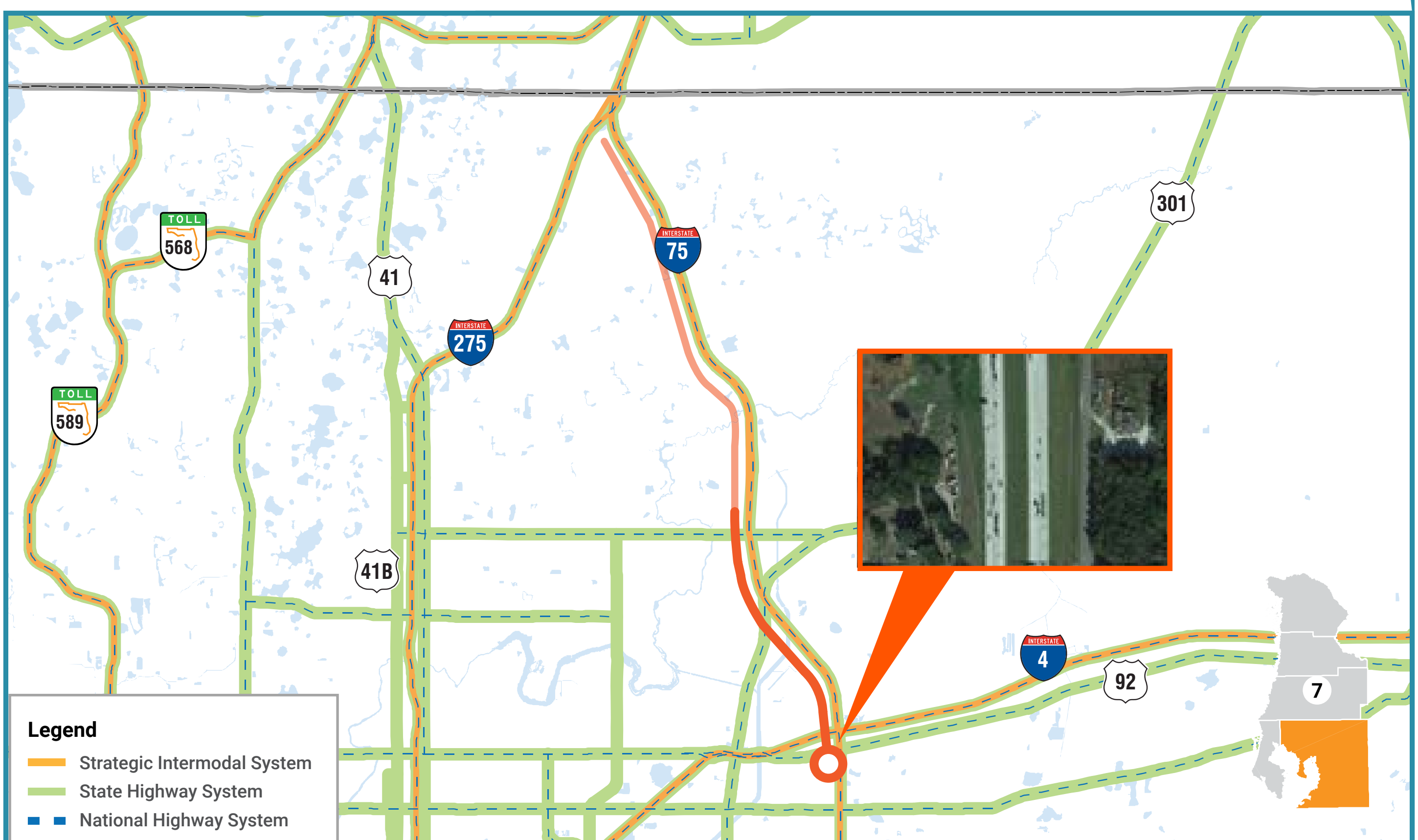
I-75 SB AT I-4/EXIT 261

Hillsborough County (District Seven)

Total Delay: **15k** veh-hr/day

Avg. Max. Length: **5.2** miles





DISTRICT SEVEN RANKING		STATEWIDE RANKING	
3	I-275 S @ US-92/HILLSBOROUGH AVE/EXIT 47	20	FLORIDA'S TURNPIKE @ 106TH ST/EXIT 34 (D6)
4	I-275 N @ SR-60/CYPRESS ST/EXIT 39 v	21	SR-968 E @ S MIAMI AVE (D6)
5	**I-75 S @ I-4/EXIT 261**	**22**	**I-75 S @ I-4/EXIT 261 (D7)**
6	I-275 N @ N WEST SHORE BLVD/EXIT 40	23	I-95 N @ SR-808/GLADES RD/EXIT 45 (D4)
7	I-75 S @ SR-574/EXIT 260	24	I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71 (D5)

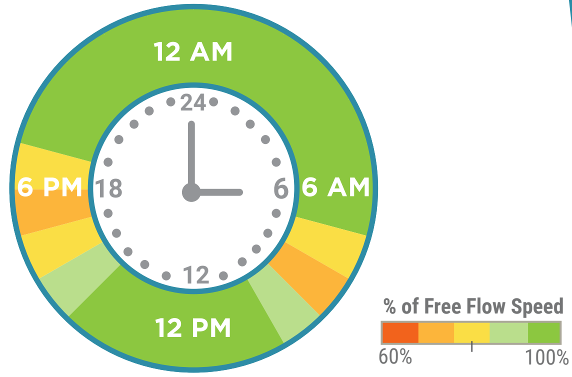
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

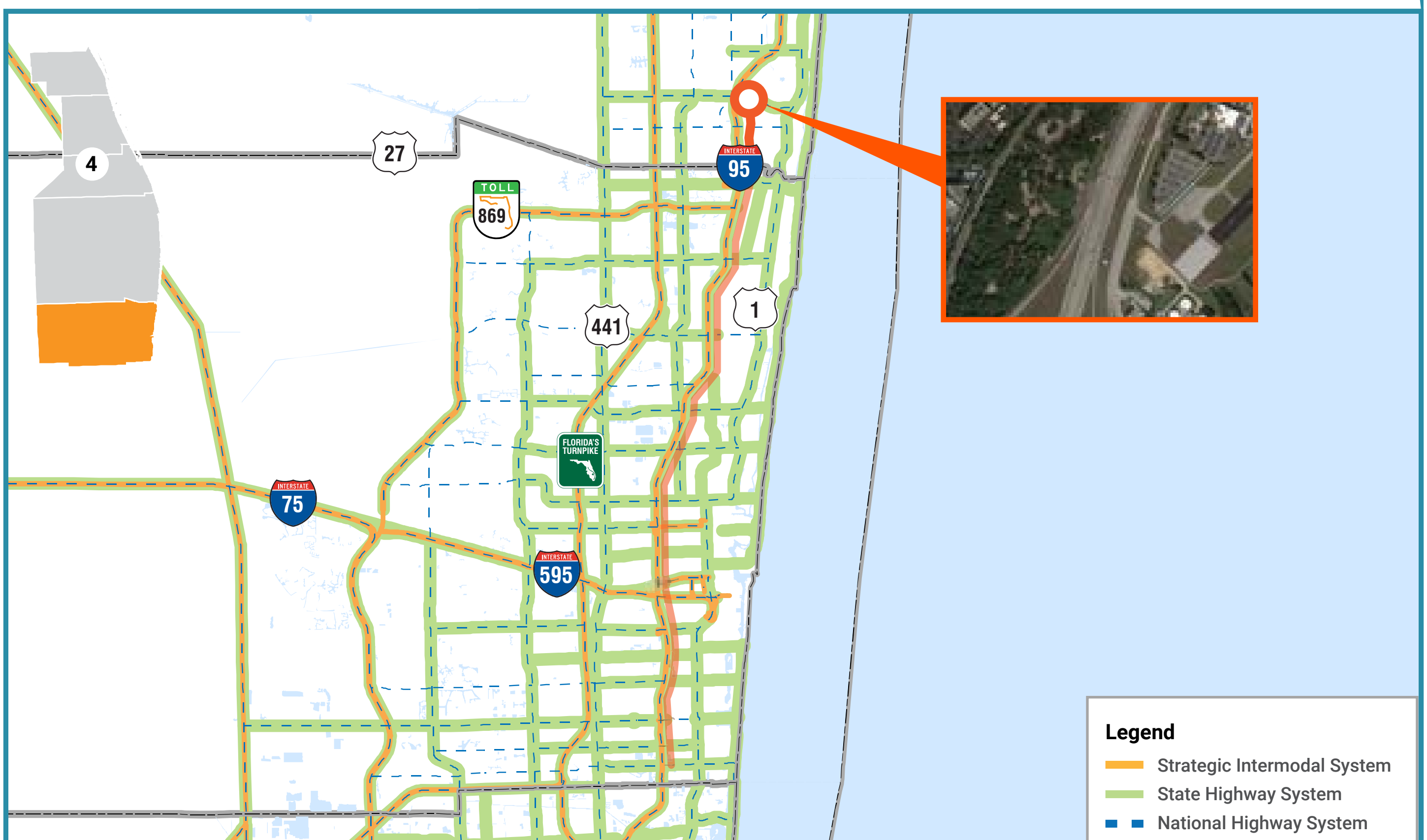
I-95 NB AT SR-808/GLADES ROAD/EXIT 45

Broward County (District Four)

Total Delay: **15k** veh-hr/day

Avg. Max. Length: **3.5** miles





DISTRICT FOUR RANKING		STATEWIDE RANKING	
1	I-95 N @ SR-810/HILLSBORO BLVD/EXIT 42	21	SR-968 E @ S MIAMI AVE (D6)
2	I-95 S @ SR-818/GRIFFIN RD/EXIT 23	22	I-75 S @ I-4/EXIT 261 (D7)
3	**I-95 N @ SR-808/GLADES RD/EXIT 45**	**23**	**I-95 N @ SR-808/GLADES RD/EXIT 45 (D4)**
4	I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26	24	I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71 (D5)
5	I-95 S @ 10TH ST/EXIT 41	25	US-41 W @ US-41/8TH ST/CALLE OCHO (D6)

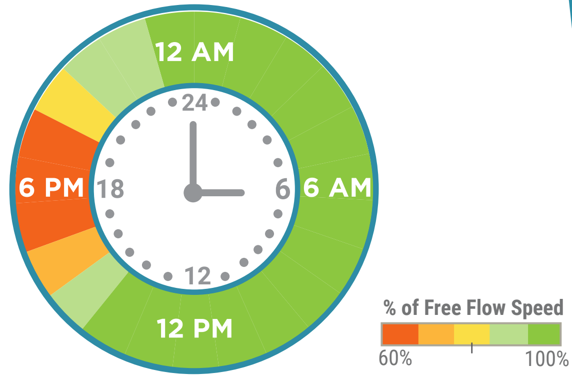
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

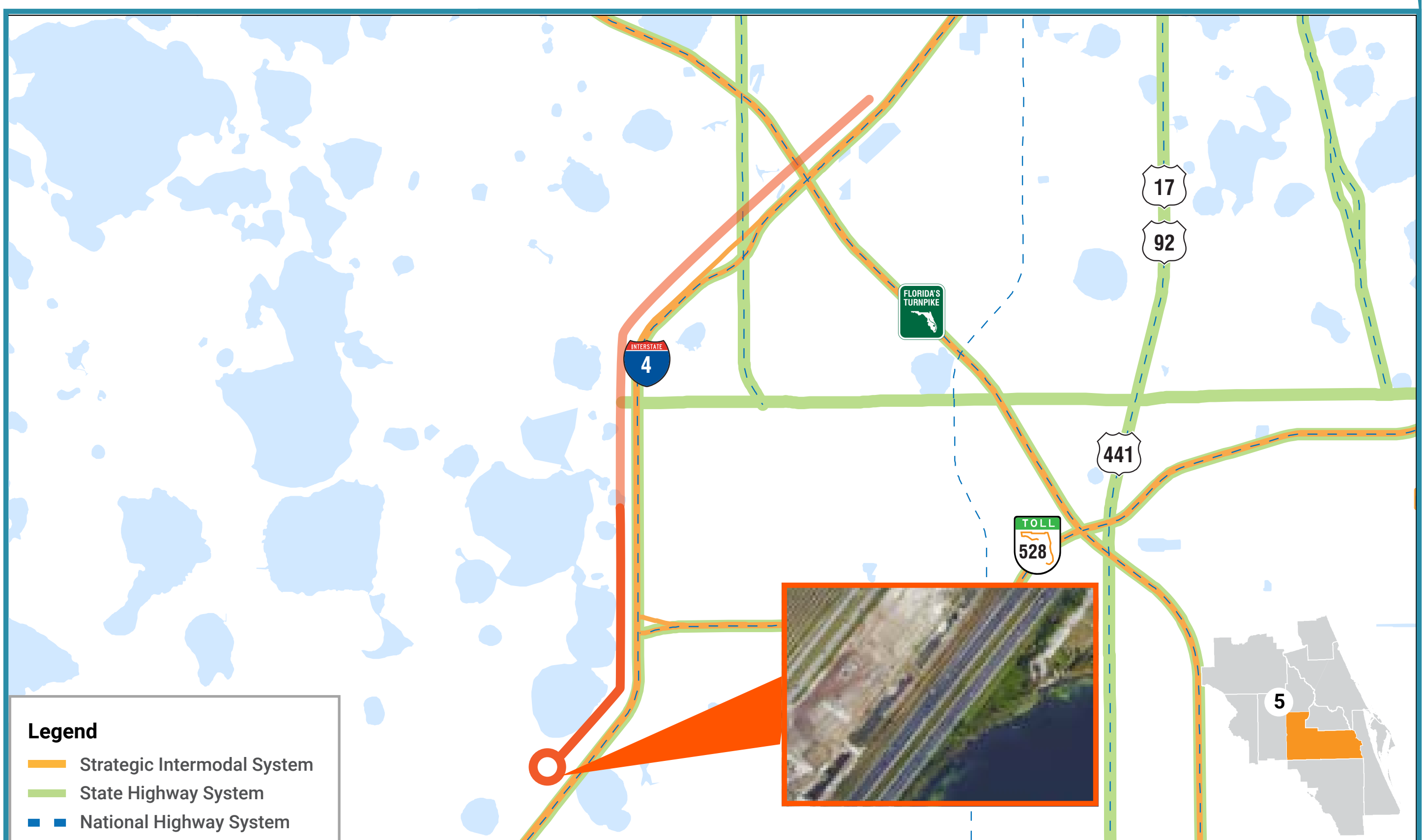
I-4 WB AT CENTRAL FLORIDA PARKWAY/ EXIT 71

Orange County (District Five)

Total Delay: **14k** veh-hr/day

Avg. Max. Length: **2.4** miles





DISTRICT FIVE RANKING		STATEWIDE RANKING	
2	I-4 E @ CR-532/EXIT 58	22	I-75 S @ I-4/EXIT 261 (D7)
3	I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84	23	I-95 N @ SR-808/GLADES RD/EXIT 45 (D4)
4	**I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71**	**24**	**I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71 (D5)**
5	I-4 W @ SR-436/EXIT 92	25	US-41 W @ US-41/8TH ST/CALLE OCHO (D6)
6	I-4 E @ SR-535/EXIT 68	26	I-4 W @ SR-436/EXIT 92 (D5)

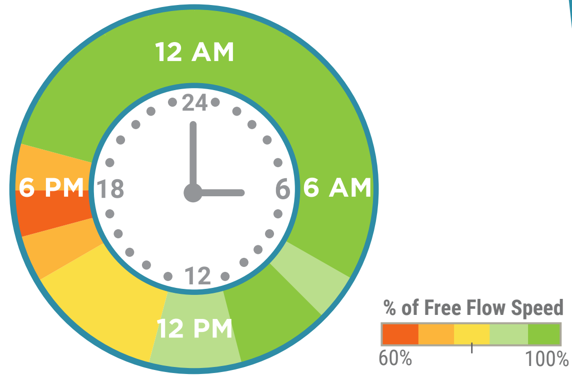
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

US-41 WB AT US-41/8TH ST/CALLE OCHO

Miami-Dade County (District Six)

Total Delay: **14k** veh-hr/day

Avg. Max. Length: **4.8** miles



DISTRICT SIX RANKING		STATEWIDE RANKING	
1	I-95 N @ FLORIDA'S TPKE/EXIT 1	23	I-95 N @ SR-808/GLADES RD/EXIT 45 (D4)
2	SR-826 N @ 103RD ST	24	I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71 (D5)
3	SR-836 W @ SR-959/RED RD	**25**	**US-41 W @ US-41/8TH ST/CALLE OCHO (D6)**
4	I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	26	I-4 W @ SR-436/EXIT 92 (D5)
13	**US-41 W @ US-41/8TH ST/CALLE OCHO**	27	SR-826 S @ 103RD ST (D6)

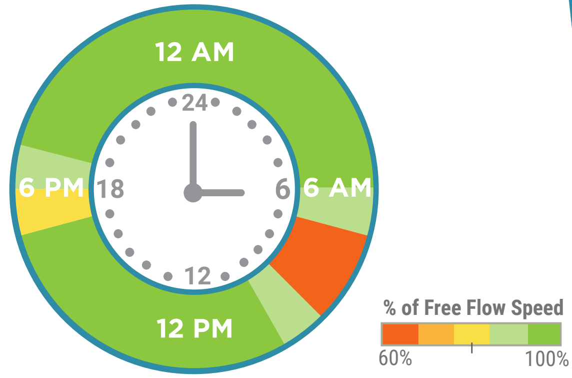
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

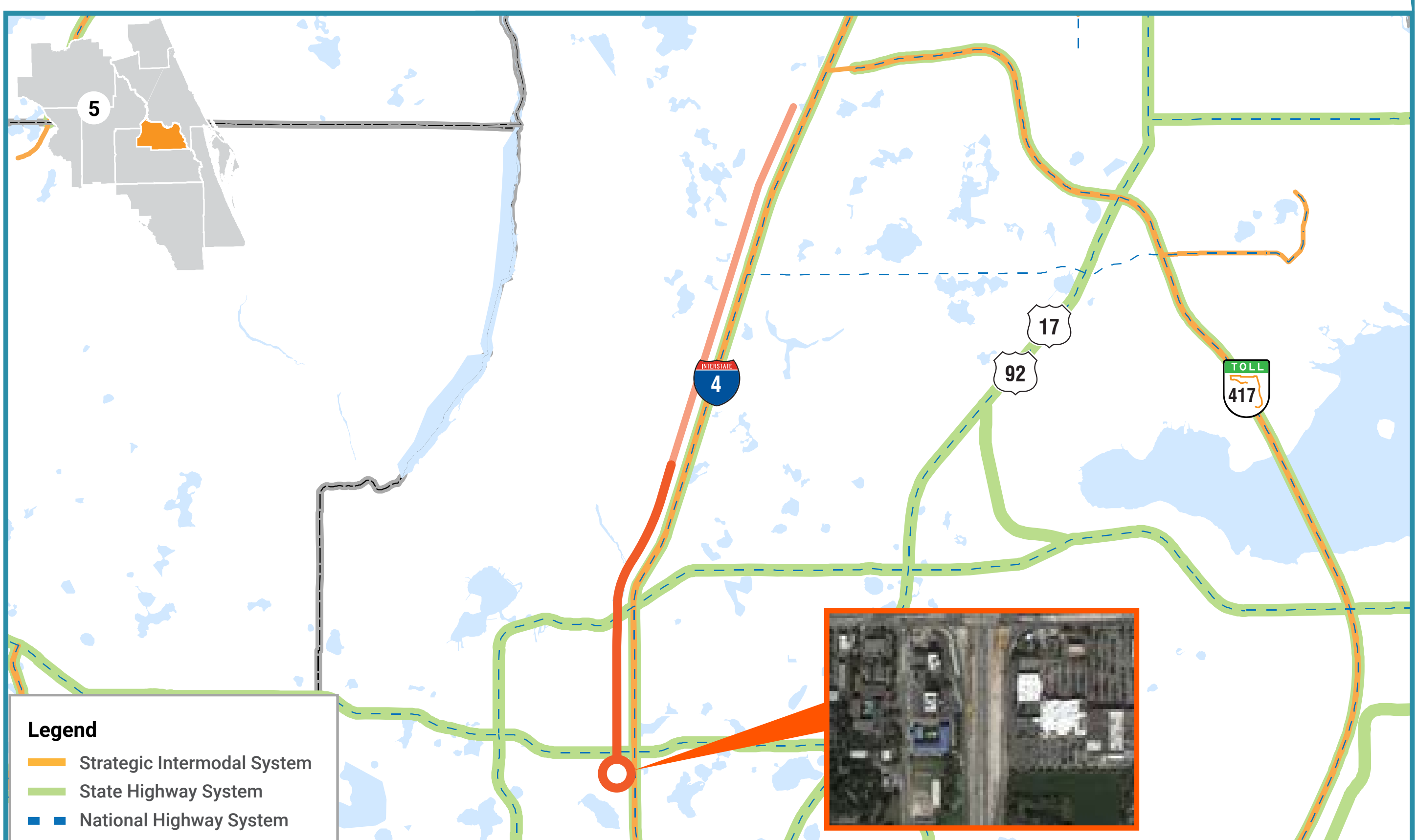
I-4 WB AT SR-436/EXIT 92

Seminole County (District Five)

Total Delay:
20k
veh-hr/day

Avg. Max. Length:
1.1
miles





DISTRICT FIVE RANKING	STATEWIDE RANKING
3 I-4 E @ US-17/US-92/IVANHOE BLVD/EXIT 84	24 I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71 (D5)
4 I-4 W @ CENTRAL FLORIDA PKWY/EXIT 71 t	25 US-41 W @ US-41/8TH ST/CALLE OCHO (D6)
5 I-4 W @ SR-436/EXIT 92	**26 I-4 W @ SR-436/EXIT 92 (D5)**
6 I-4 E @ SR-535/EXIT 68	27 SR-826 S @ 103RD ST (D6)
7 I-4 E @ SR-434/EXIT 94	28 US-1 S @ SR-959/RED RD/57TH AVE (D6)

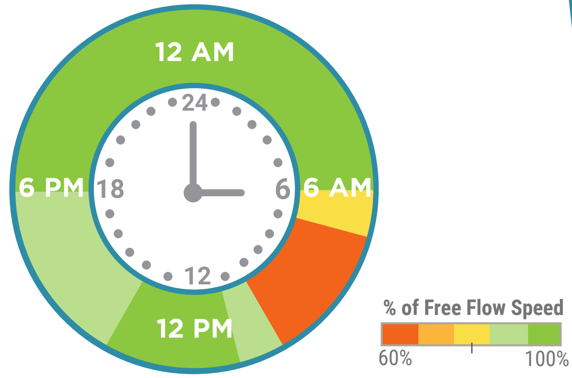
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

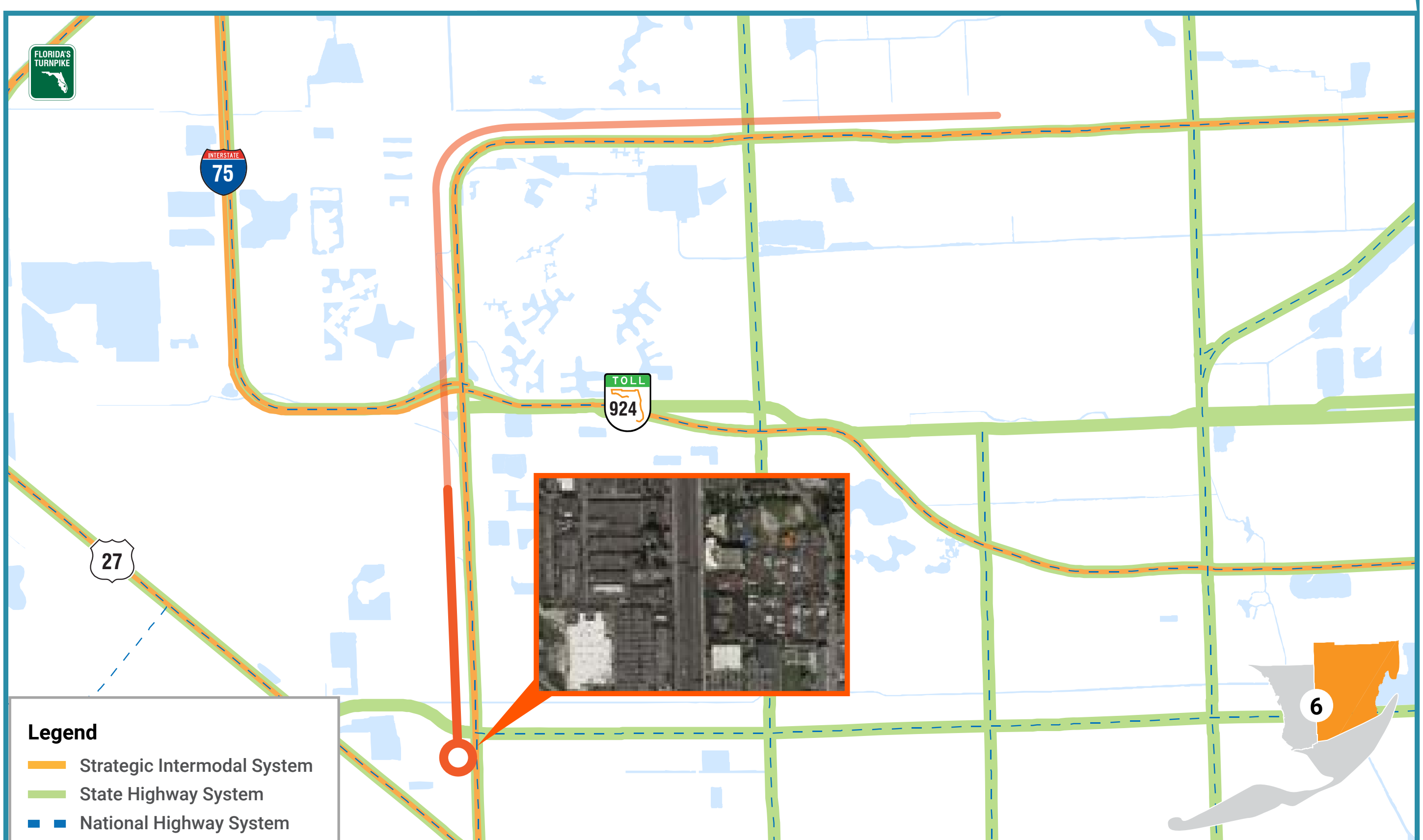
SR-826 SB AT 103RD STREET

Miami-Dade County (District Six)

Total Delay: **14k** veh-hr/day

Avg. Max. Length: **1.8** miles





DISTRICT SIX RANKING		STATEWIDE RANKING	
1	I-95 N @ FLORIDA'S TPKE/EXIT 1	25	US-41 W @ US-41/8TH ST/CALLE OCHO (D6)
2	SR-826 N @ 103RD ST	26	I-4 W @ SR-436/EXIT 92 (D5)
3	SR-836 W @ SR-959/RED RD	**27**	**SR-826 S @ 103RD ST (D6)**
4	I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	28	US-1 S @ SR-959/RED RD/57TH AVE (D6)
14	**SR-826 S @ 103RD ST**	29	I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26 (D4)

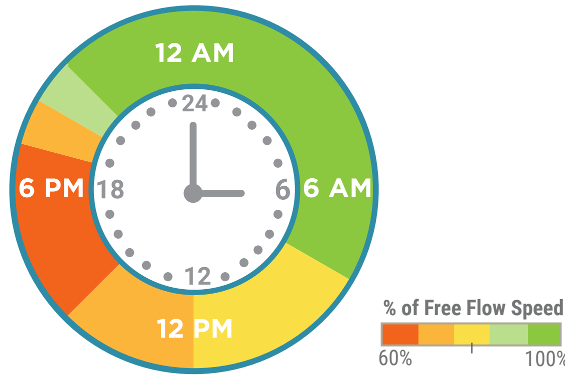
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

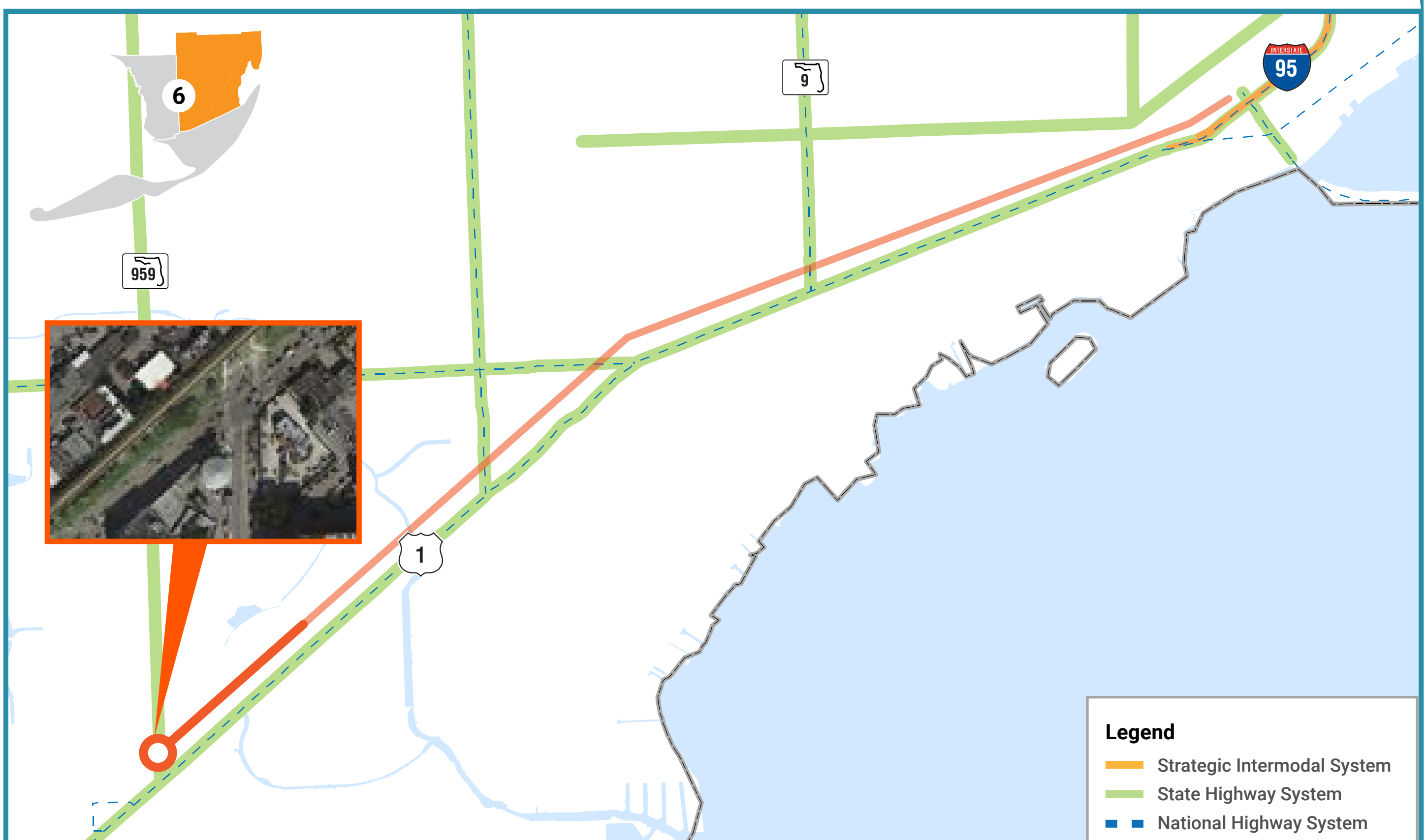
US-1 SB AT SR-959/RED ROAD/57TH AVE

Miami-Dade County (District Six)

Total Delay:
14k
veh-hr/day

Avg. Max. Length:
.69
miles





DISTRICT SIX RANKING	STATEWIDE RANKING
1 I-95 N @ FLORIDA'S TPKE/EXIT 1	26 I-4 W @ SR-436/EXIT 92 (D5)
2 SR-826 N @ 103RD ST	27 SR-826 S @ 103RD ST (D6)
3 SR-836 W @ SR-959/RED RD	**28 US-1 S @ SR-959/RED RD/57TH AVE (D6)**
4 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16	29 I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26 (D4)
15 US-1 S @ SR-959/RED RD/57TH AVE	30 I-95 N @ FULLER WARREN BRG (D2)

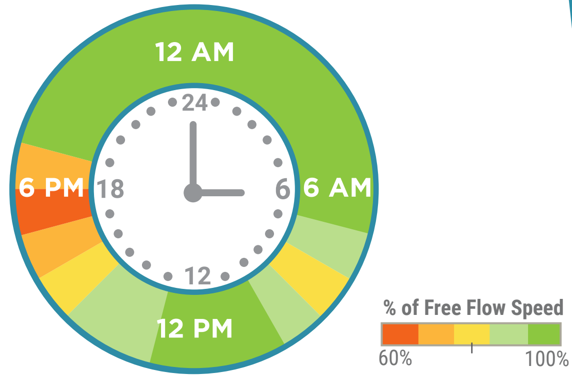
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

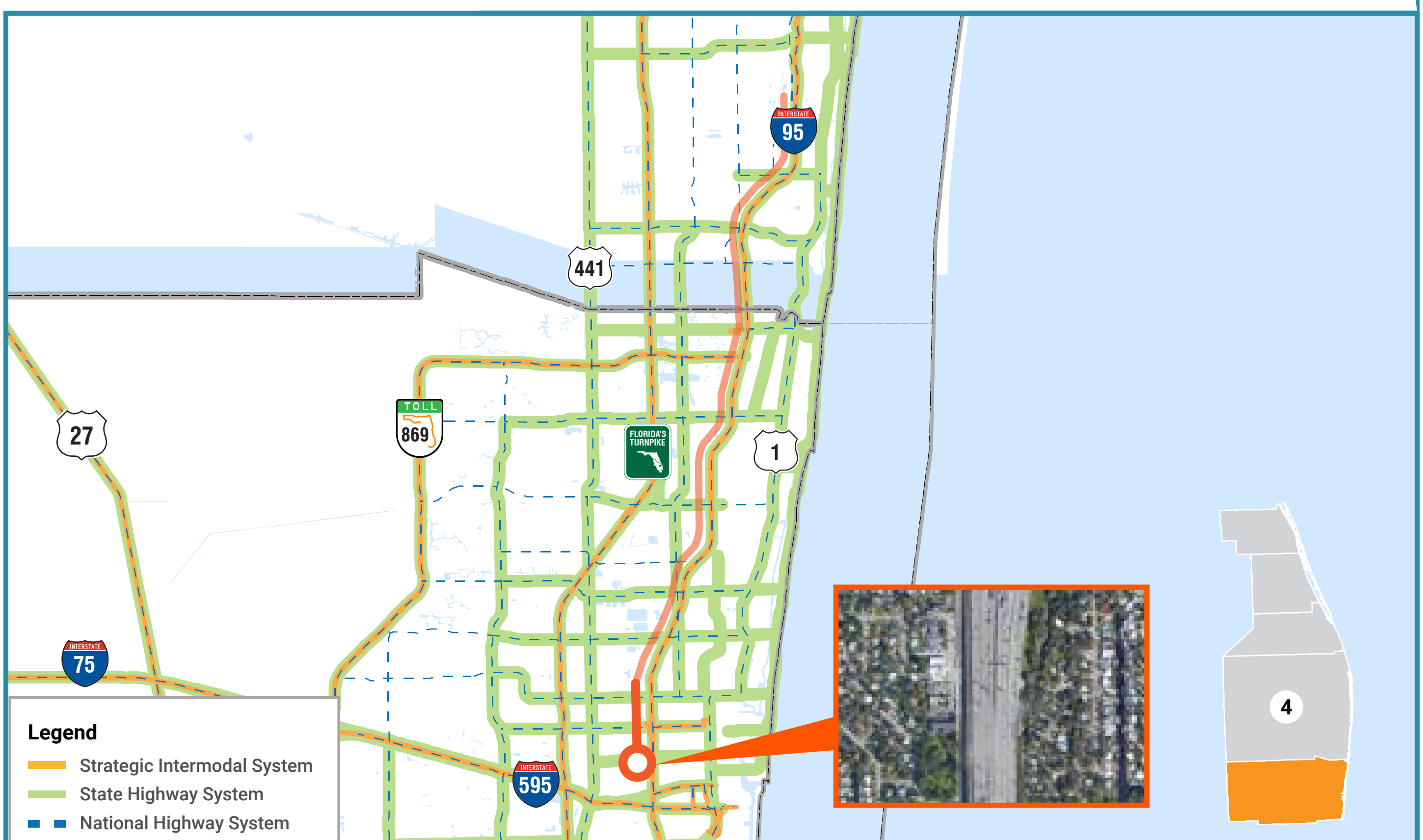
I-95 SB AT I-595/SR-736 DAVIE BLVD/EXIT 26

Broward County (District Four)

Total Delay: **13k** veh-hr/day

Avg. Max. Length: **2.5** miles





DISTRICT FOUR RANKING		STATEWIDE RANKING	
1	I-95 S @ SR-818/GRIFFIN RD/EXIT 23	26	I-4 W @ SR-436/EXIT 92 (D5)
2	I-95 N @ SR-808/GLADES RD/EXIT 45	27	SR-826 S @ 103RD ST (D6)
3	**I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26**	28	US-1 S @ SR-959/RED RD/57TH AVE (D6)
4	I-95 S @ 10TH ST/EXIT 41	**29**	**I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26 (D4)**
6	I-95 N @ SR-842/BROWARD BLVD/EXIT 27	30	I-95 N @ FULLER WARREN BRG (D2)

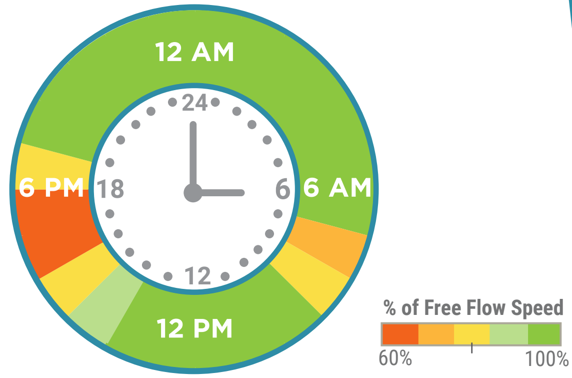
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

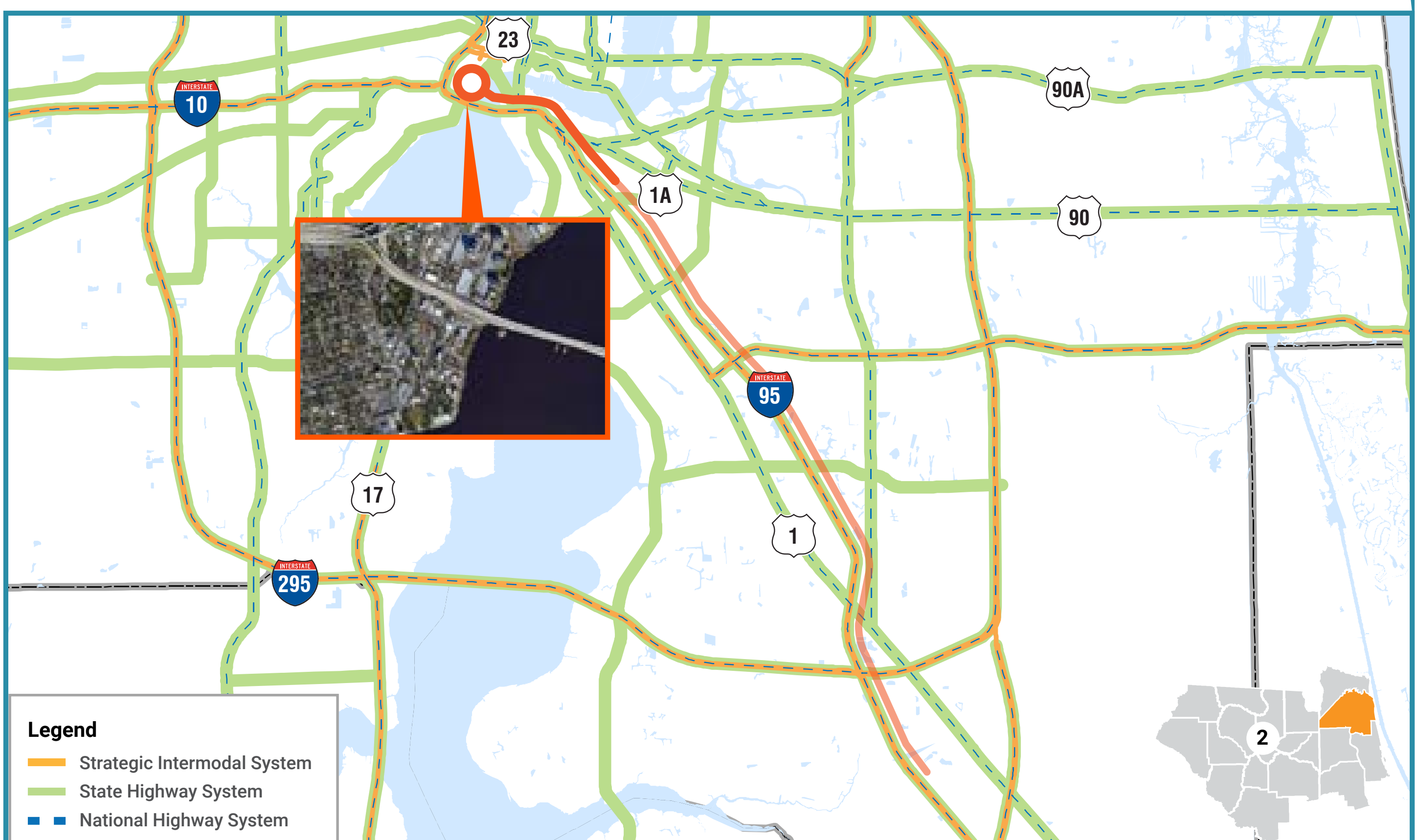
I-95 NB AT FULLER WARREN BRG

Duval County (District Two)

Total Delay: **13k** veh-hr/day

Avg. Max. Length: **3.3** miles





DISTRICT TWO RANKING		STATEWIDE RANKING	
1	I-95 N @ FULLER WARREN BRG	26	-4 W @ SR-436/EXIT 92 (D5)
2	I-295 CW @ BAYMEADOWS RD	27	SR-826 S @ 103RD ST (D6)
3	**I-295 CCW @ BAYMEADOWS RD**	28	US-1 S @ SR-959/RED RD/57TH AVE (D6)
4	I-10 E @ SR-129/MCDUFF AVE/EXIT 360	29	I-95 S @ I-595/SR-736/DAVIE BLVD/EXIT 26 (D4)
5	I-95 N @ SR-109/UNIVERSITY BLVD/EXIT 346	**30**	**I-95 N @ FULLER WARREN BRG (D2)**

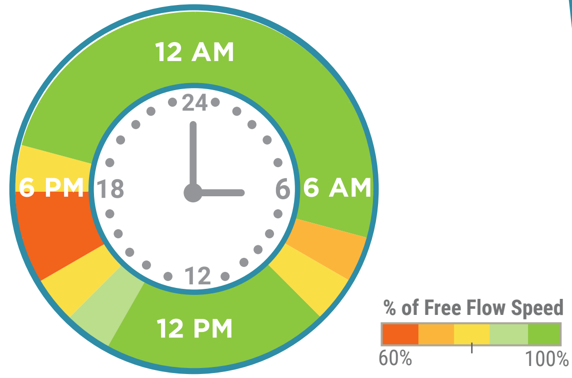
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

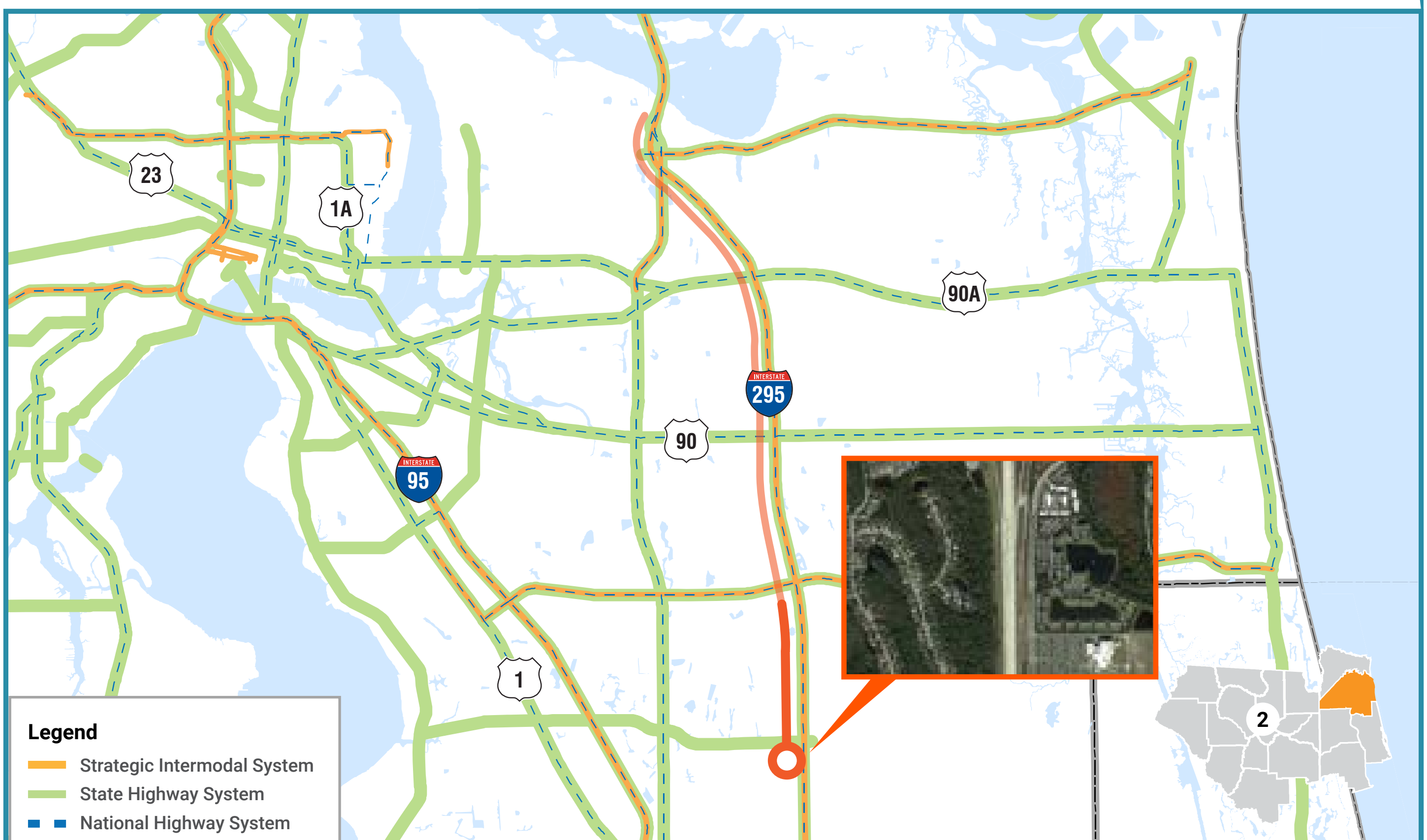
I-295 CW AT BAYMEADOWS ROAD

Duval County (District Two)

Total Delay:
12k
veh-hr/day

Avg. Max. Length:
2.6
miles





DISTRICT TWO RANKING		STATEWIDE RANKING	
1	I-95 N @ FULLER WARREN BRG	1	I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2	**I-295 CW @ BAYMEADOWS RD**	2	SR-826 N @ 103RD ST (D6)
3	I-295 CCW @ BAYMEADOWS RD	3	SR-836 W @ SR-959/RED RD (D6)
4	I-10 E @ SR-129/MCDUFF AVE/EXIT 360	4	I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5	I-95 N @ SR-109/UNIVERSITY BLVD/EXIT 346	**32**	**I-295 CW @ BAYMEADOWS RD (D2)**

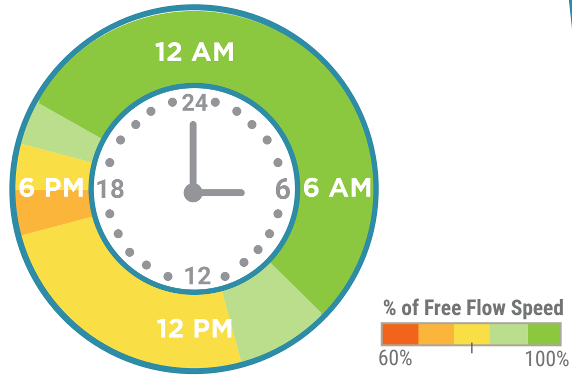
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

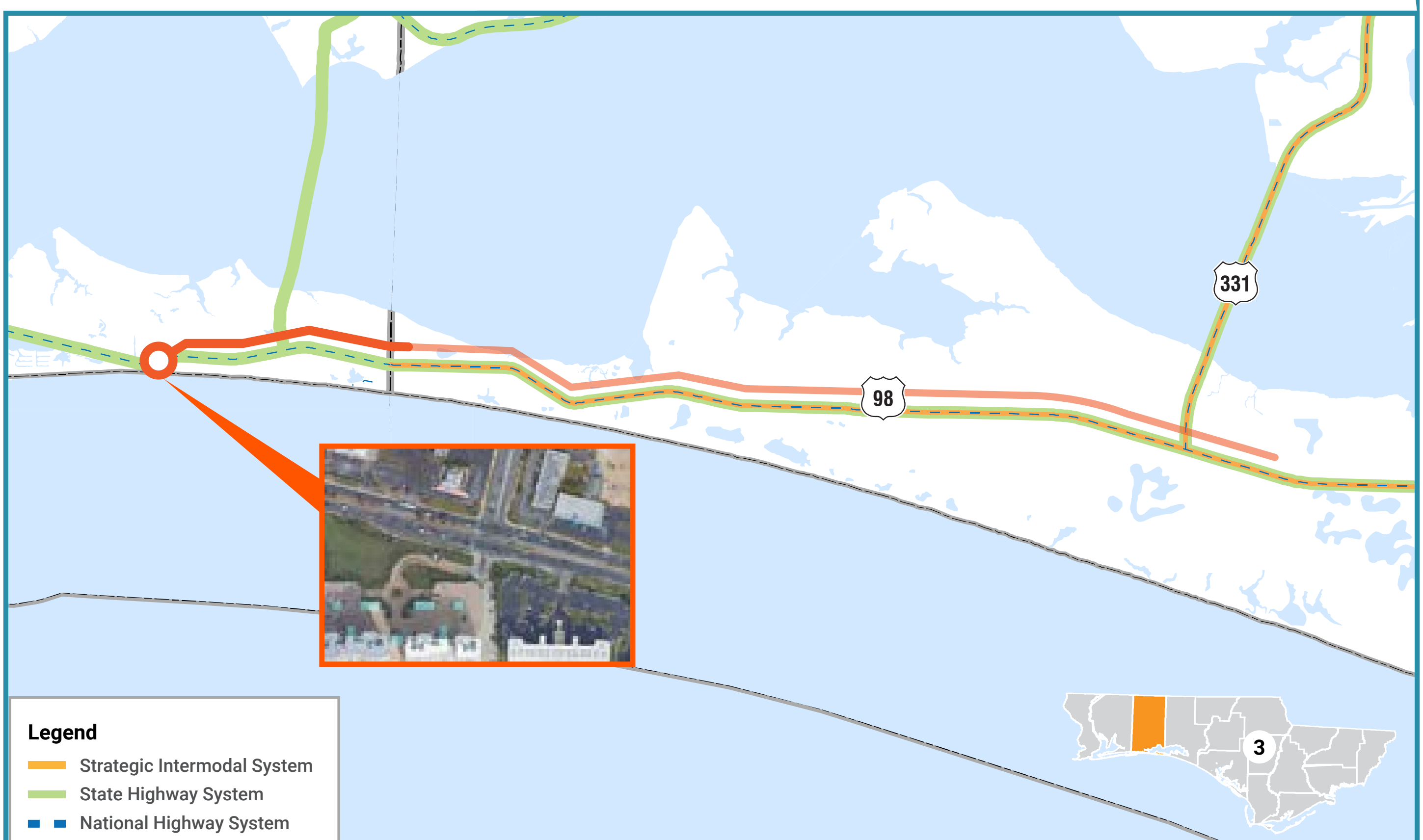
US-98 WB AT CR-30F/AIRPORT ROAD

Okaloosa County (District Three)

Total Delay: **7k** veh-hr/day

Avg. Max. Length: **4.2** miles





DISTRICT THREE RANKING		STATEWIDE RANKING	
1	**US-98 W @ CR-30F/AIRPORT RD**	1	I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2	US-98 E @ CR-2378	2	SR-826 N @ 103RD ST (D6)
3	SR-30 E @ CR-392A/HUTCHISON BLVD	3	SR-836 W @ SR-959/RED RD (D6)
4	US-98 E @ SR-368/SR-390-ALT/W 23RD ST	4	I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5	US-98 W @ CR-30A/CALHOUN AVE	**83**	**US-98 W @ CR-30F/AIRPORT RD (D3)**

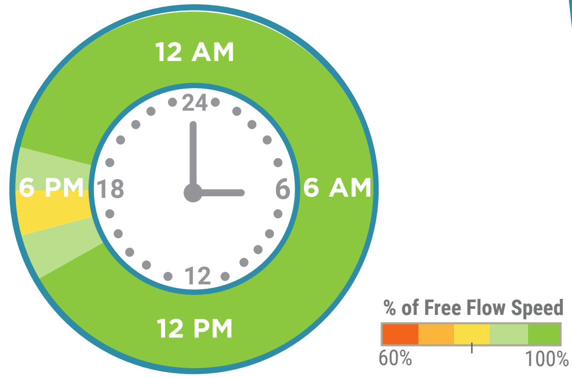
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

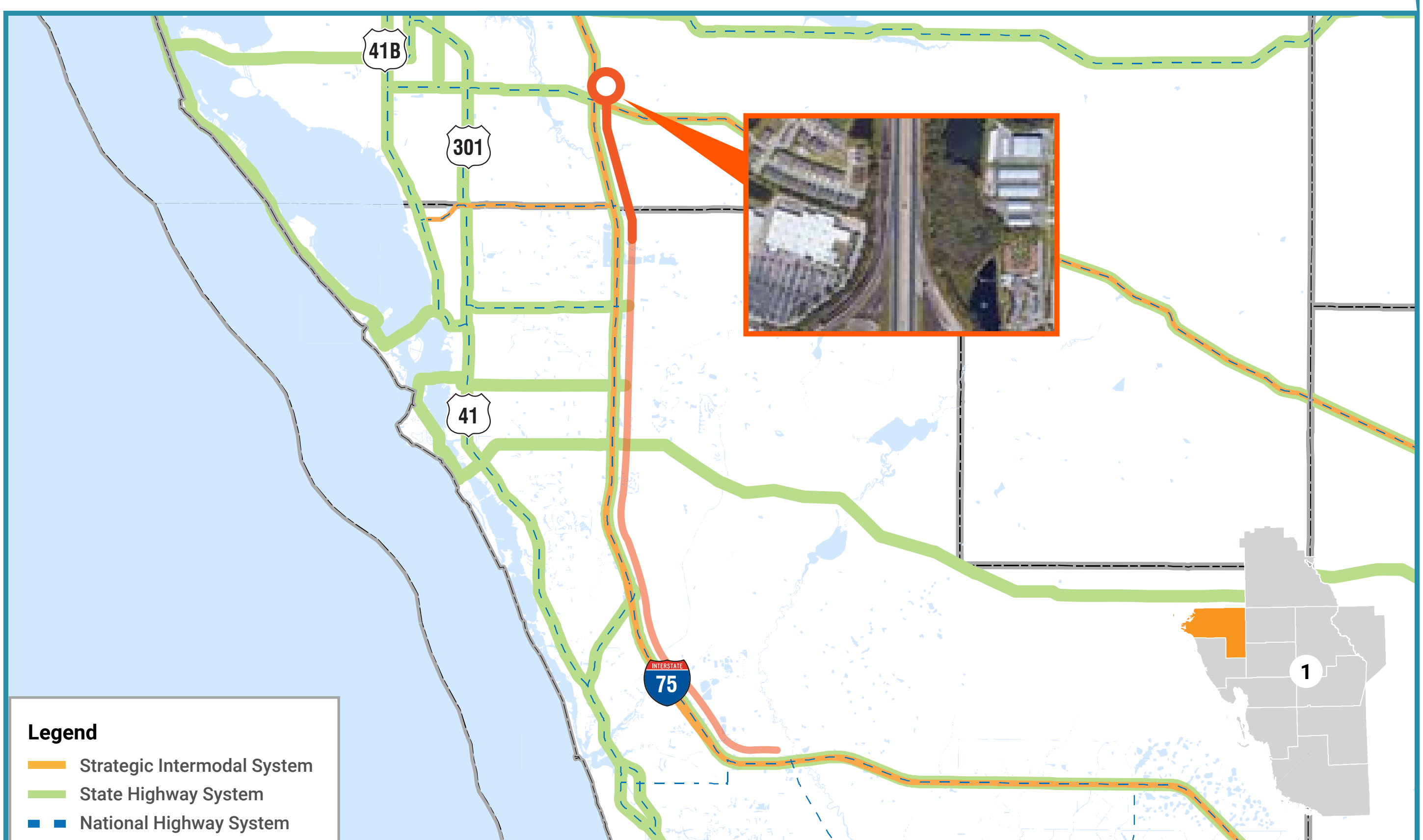
I-75 NB AT SR-70/EXIT 217

Manatee County (District One)

Total Delay:
7k
veh-hr/day

Avg. Max. Length:
6.3
miles





DISTRICT ONE RANKING		STATEWIDE RANKING	
1	**I-75 N @ SR-70/EXIT 217**	1	I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2	I-75 N @ SR-64/EXIT 220	2	SR-826 N @ 103RD ST (D6)
3	I-75 S @ SR-70/EXIT 217	3	SR-836 W @ SR-959/RED RD (D6)
4	CR-542 W @ US-98-BR/SR-37/FLORIDA AVE	4	I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5	I-75 N @ US-301/EXIT 224	**92**	**I-75 N @ SR-70/EXIT 217 (D1)**

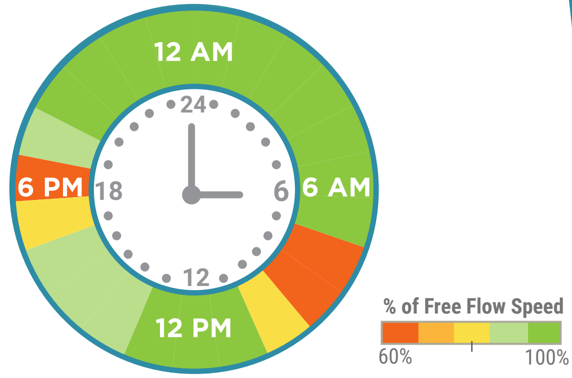
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

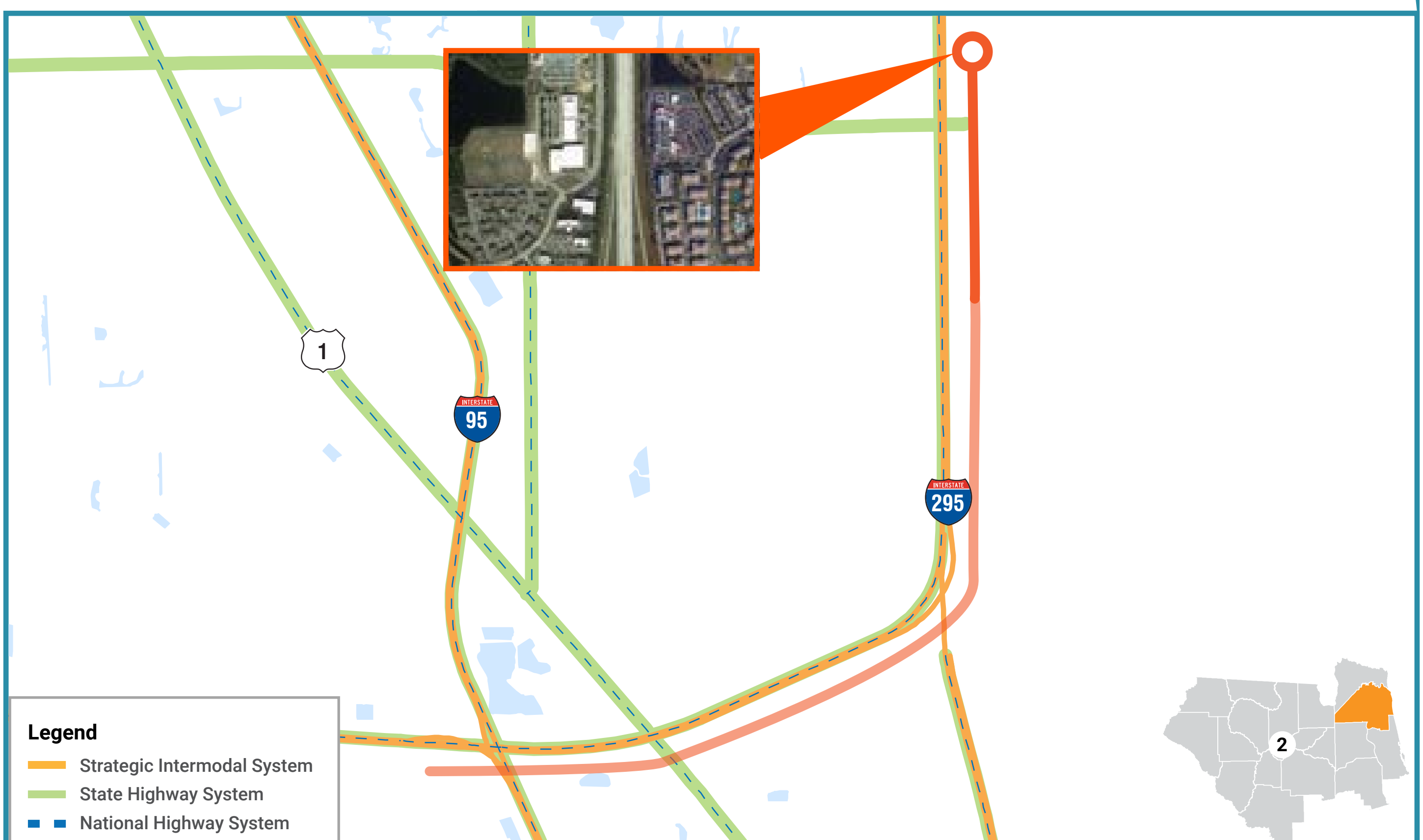
I-295 CCW AT BAYMEADOWS ROAD

Duval County (District Two)

Total Delay:
7k
veh-hr/day

Avg. Max. Length:
2.6
miles





DISTRICT TWO RANKING	STATEWIDE RANKING
1 I-95 N @ FULLER WARREN BRG	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2 I-295 CW @ BAYMEADOWS RD	2 SR-826 N @ 103RD ST (D6)
3 I-295 CCW @ BAYMEADOWS RD	3 SR-836 W @ SR-959/RED RD (D6)
4 I-10 E @ SR-129/MCDUFF AVE/EXIT 360	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 I-95 N @ SR-109/UNIVERSITY BLVD/EXIT 346	**97 I-95 S @ IVES DAIRY RD/203RD ST/EXIT 16 (D2)**

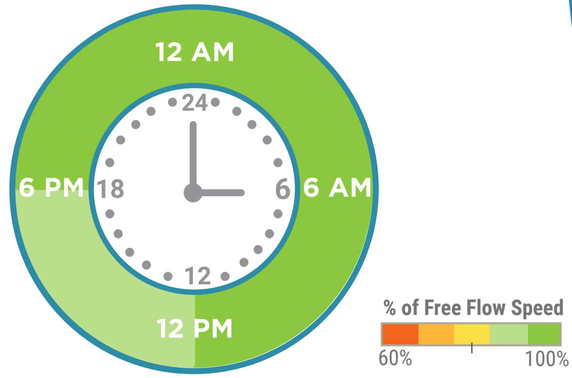
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

US-98 EB AT CR-2378

Walton County (District Three)

Total Delay:
6k
veh-hr/day

Avg. Max. Length:
2.3
miles



DISTRICT THREE RANKING	STATEWIDE RANKING
1 US-98 W @ CR-30F/AIRPORT RD	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2 US-98 E @ CR-2378	2 SR-826 N @ 103RD ST (D6)
3 SR-30 E @ CR-392A/HUTCHISON BLVD	3 SR-836 W @ SR-959/RED RD (D6)
4 US-98 E @ SR-368/SR-390-ALT/W 23RD ST	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 US-98 W @ CR-30A/CALHOUN AVE	**123 US-98 E @ CR-2378 (D3)**

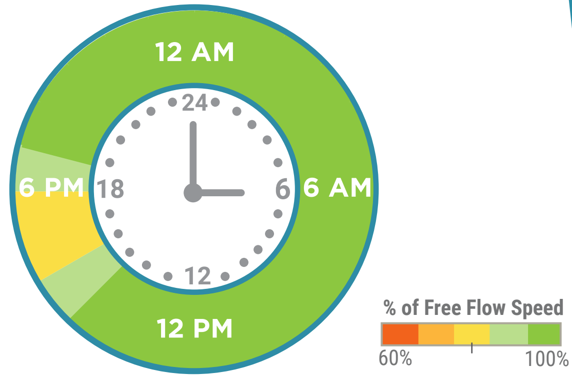
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

I-75 NB AT SR-64/EXIT 220

Manatee County (District One)

Total Delay: **5k** veh-hr/day

Avg. Max. Length: **7.4** miles



DISTRICT ONE RANKING	STATEWIDE RANKING
1 I-75 N @ SR-70/EXIT 217	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2 I-75 N @ SR-64/EXIT 220	2 SR-826 N @ 103RD ST (D6)
3 I-75 S @ SR-70/EXIT 217	3 SR-836 W @ SR-959/RED RD (D6)
4 CR-542 W @ US-98-BR/SR-37/FLORIDA AVE	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 I-75 N @ US-301/EXIT 224	**144 I-75 N @ SR-64/EXIT 220 (D1)**

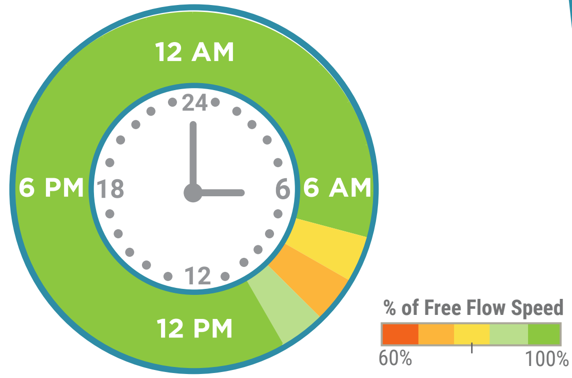
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

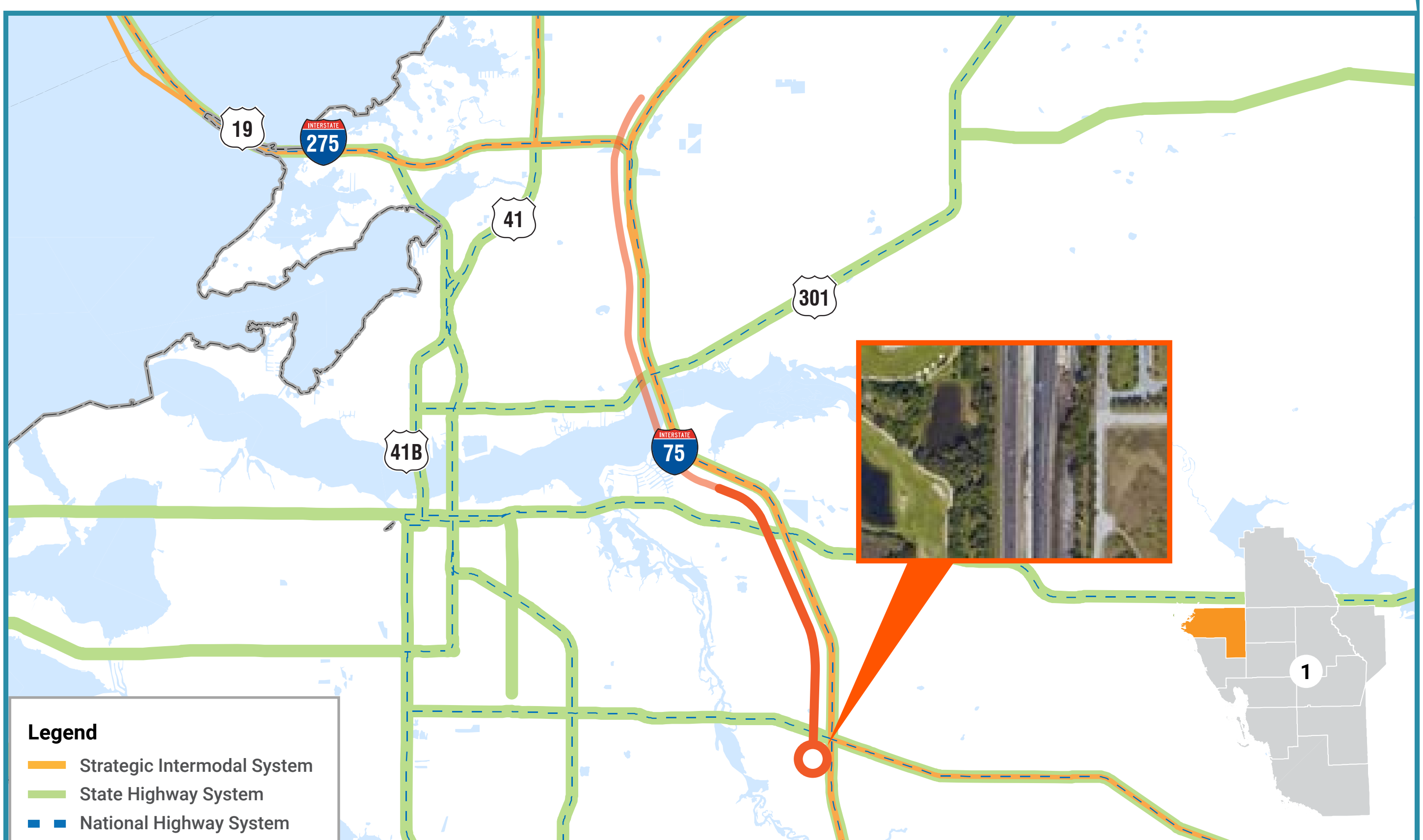
I-75 SB AT SR-70/EXIT 217

Manatee County (District One)

Total Delay: **5k** veh-hr/day

Avg. Max. Length: **5.2** miles





DISTRICT ONE RANKING	STATEWIDE RANKING
1 I-75 N @ SR-70/EXIT 217	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2 I-75 N @ SR-64/EXIT 220	2 SR-826 N @ 103RD ST (D6)
3 I-75 S @ SR-70/EXIT 217	3 SR-836 W @ SR-959/RED RD (D6)
4 CR-542 W @ US-98-BR/SR-37/FLORIDA AVE	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 I-75 N @ US-301/EXIT 224	**155 I-75 S @ SR-70/EXIT 217 (D1)**

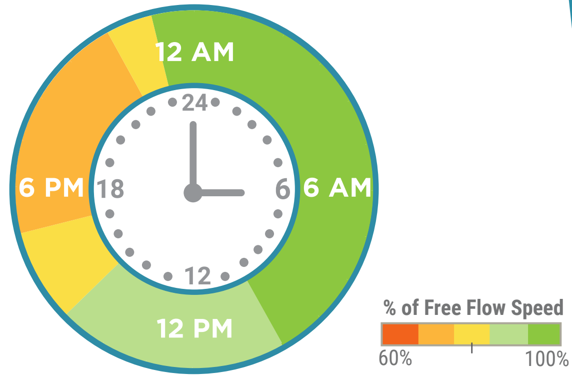
Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

SR-30 EB AT CR-392A/HUTCHISON BLVD

Bay County (District Three)

Total Delay:
5k
veh-hr/day

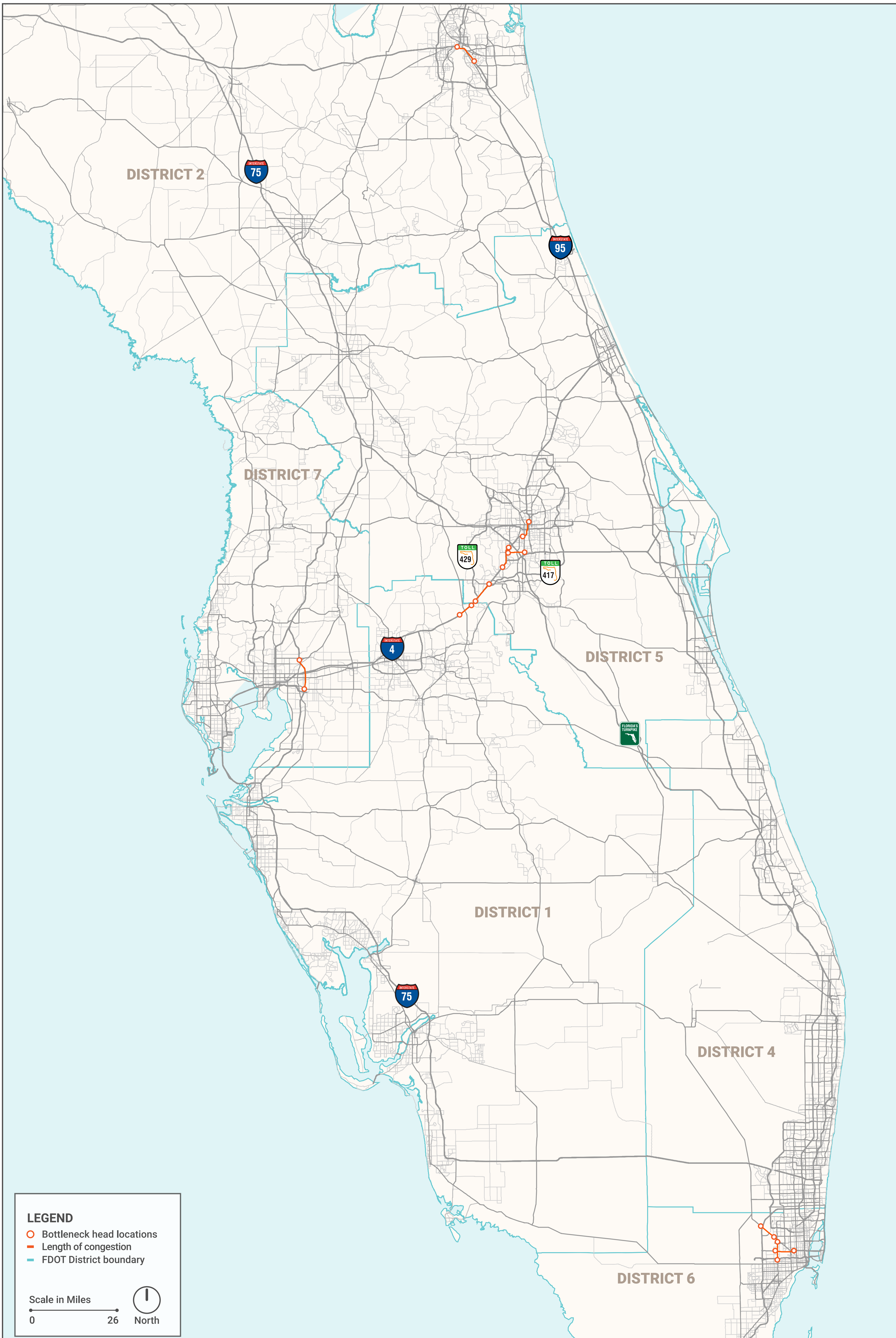
Avg. Max. Length:
3.1
miles



DISTRICT THREE RANKING	STATEWIDE RANKING
1 US-98 W @ CR-30F/AIRPORT RD	1 I-95 N @ FLORIDA'S TPKE/EXIT 12 (D6)
2 US-98 E @ CR-2378	2 SR-826 N @ 103RD ST (D6)
3 SR-30 E @ CR-392A/HUTCHISON BLVD	3 SR-836 W @ SR-959/RED RD (D6)
4 US-98 E @ SR-368/SR-390-ALT/W 23RD ST	4 I-4 W @ SR-429-TOLL/EXIT 60 (D5)
5 US-98 W @ CR-30A/CALHOUN AVE	**169 SR-30 E @ CR-392A/HUTCHISON BLVD (D3)**

Source: RITIS Bottleneck Ranking Tool using HERE data from 2018

Appendix C: Freight-Only Bottleneck Summaries



FDOT

Top Freight Bottlenecks in 2018

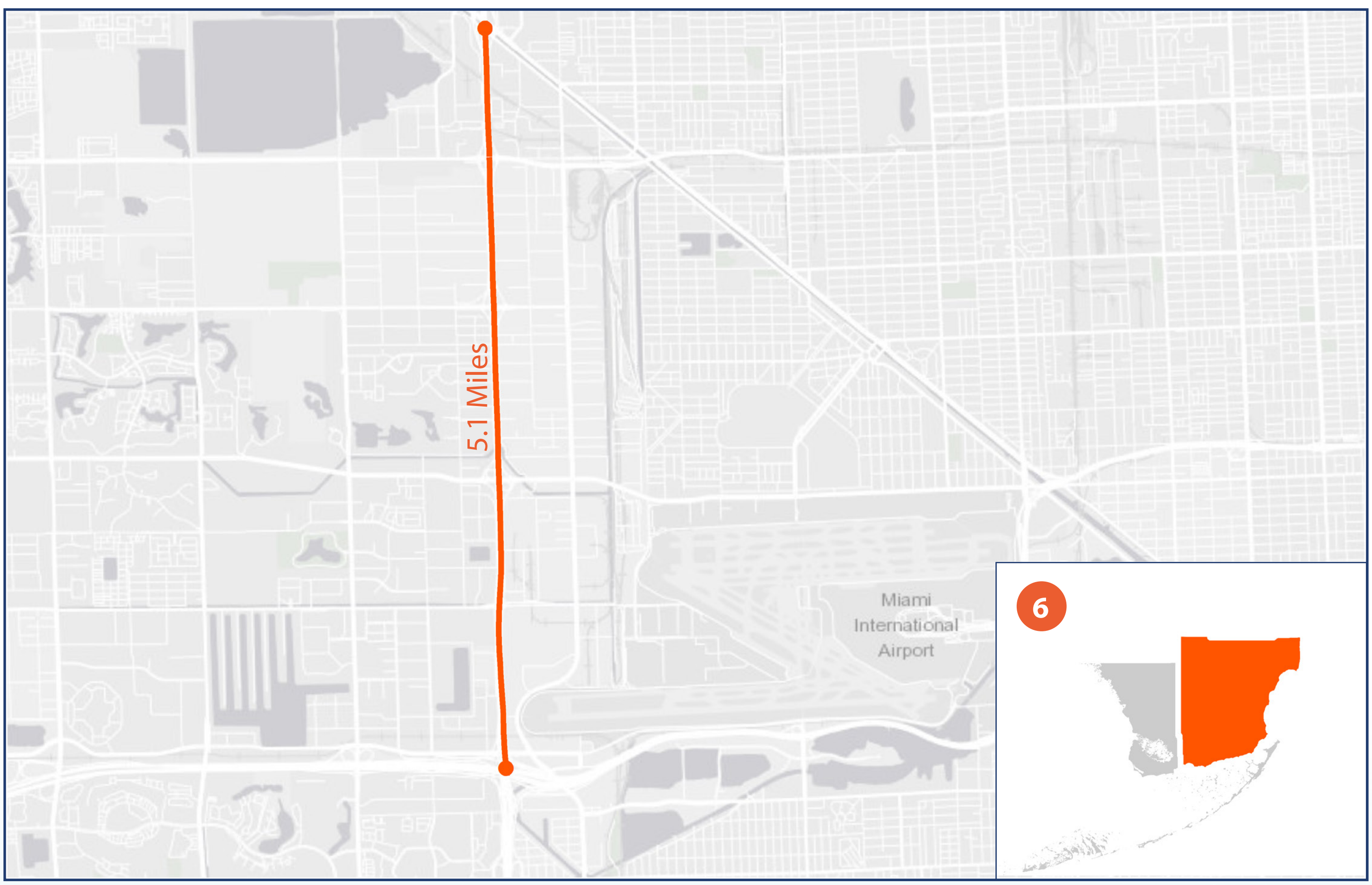
STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D6

Palmetto Expressway, south of US 27

Roadway ID: 87260000 (MP 7.224 to MP 12.311)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
335,335	3.60	1



Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

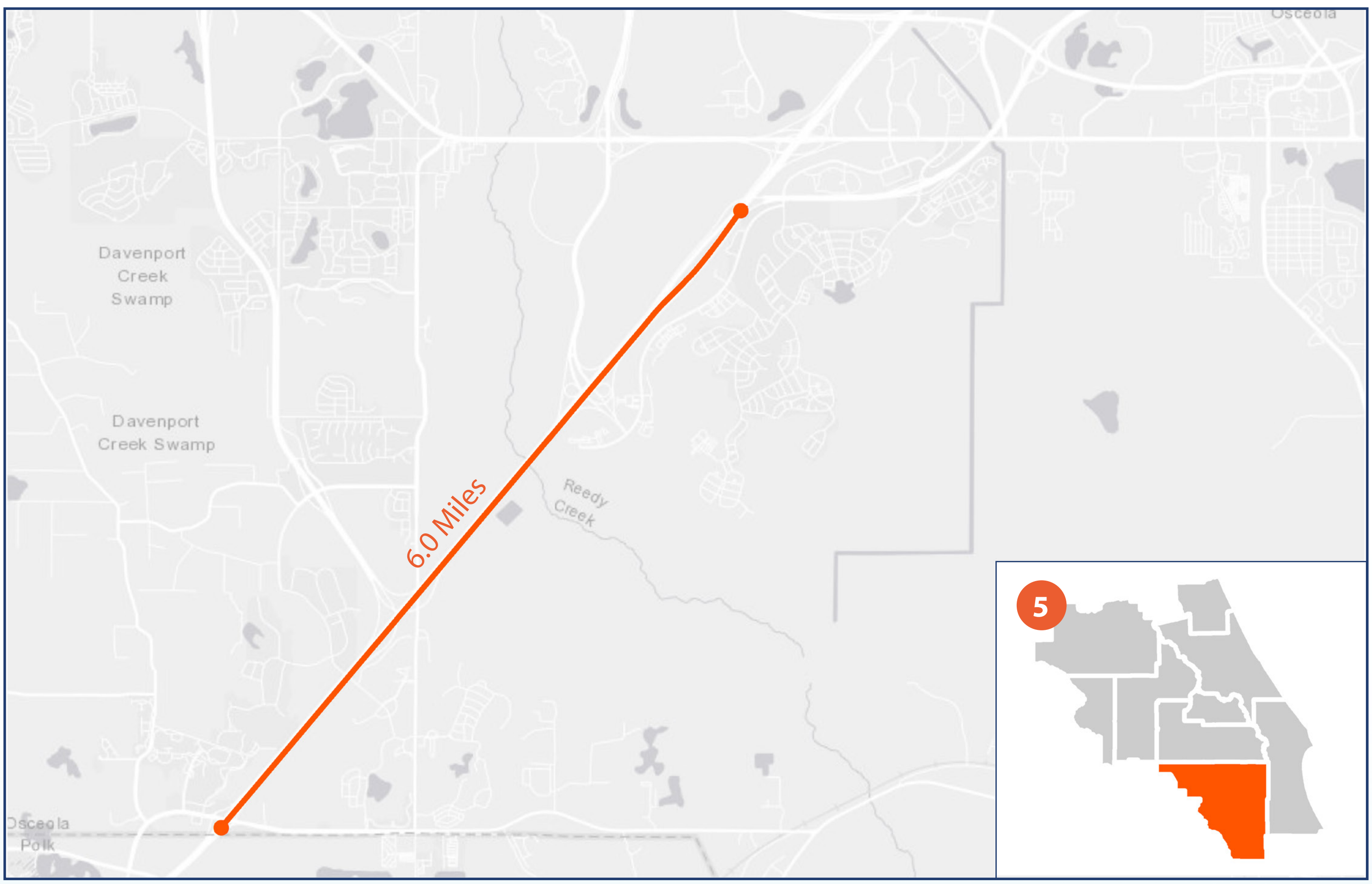
STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D5

I-4 in Osceola County near Celebration

Roadway ID: 92130000 (MP 0.013 to MP 5.966)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
167,792	2.52	2



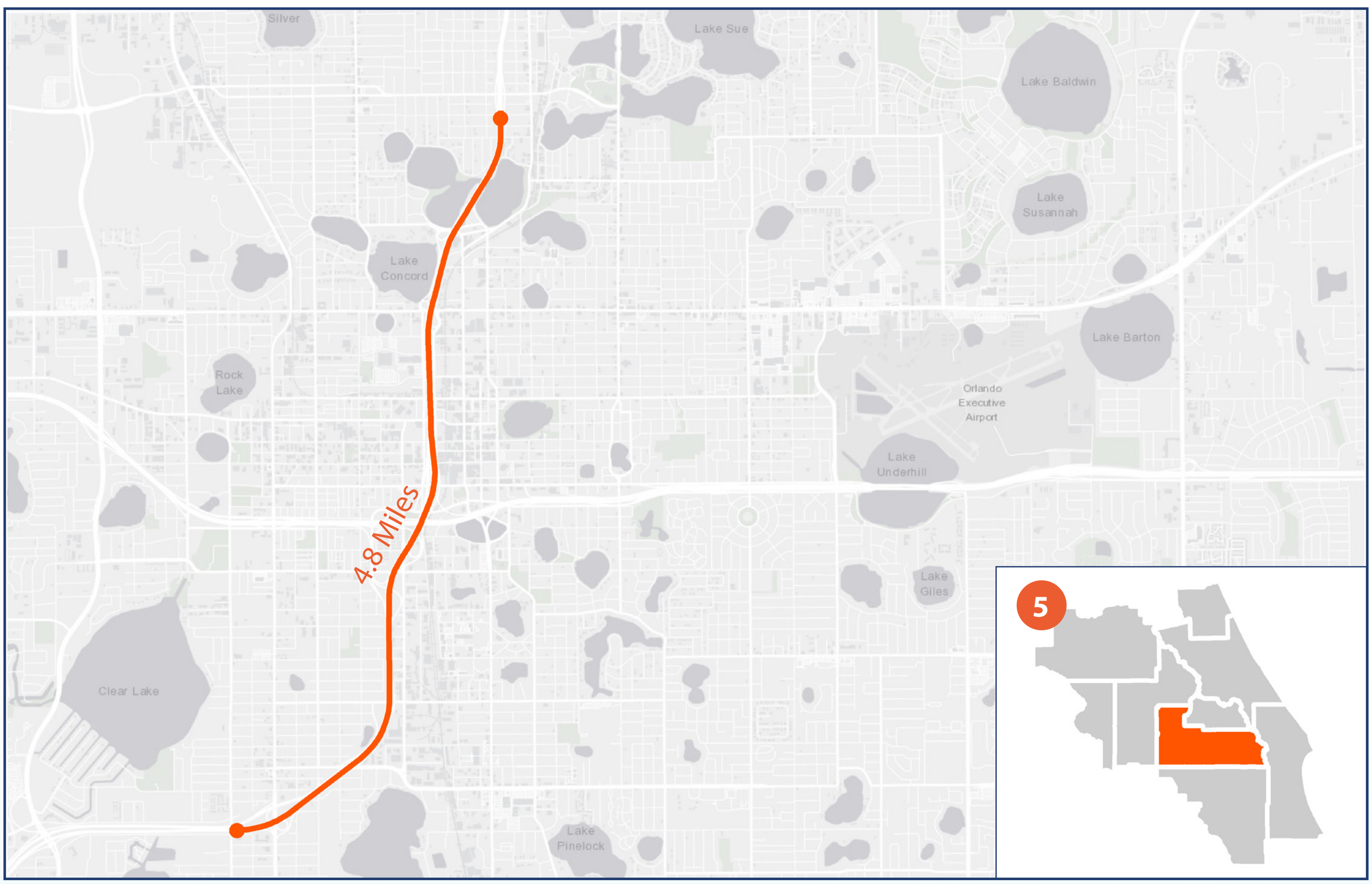
Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

I-4 corridor in Orlando

Roadway ID: 75280000 (MP 14.732 to MP 19.567)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
150,381	2.62	3



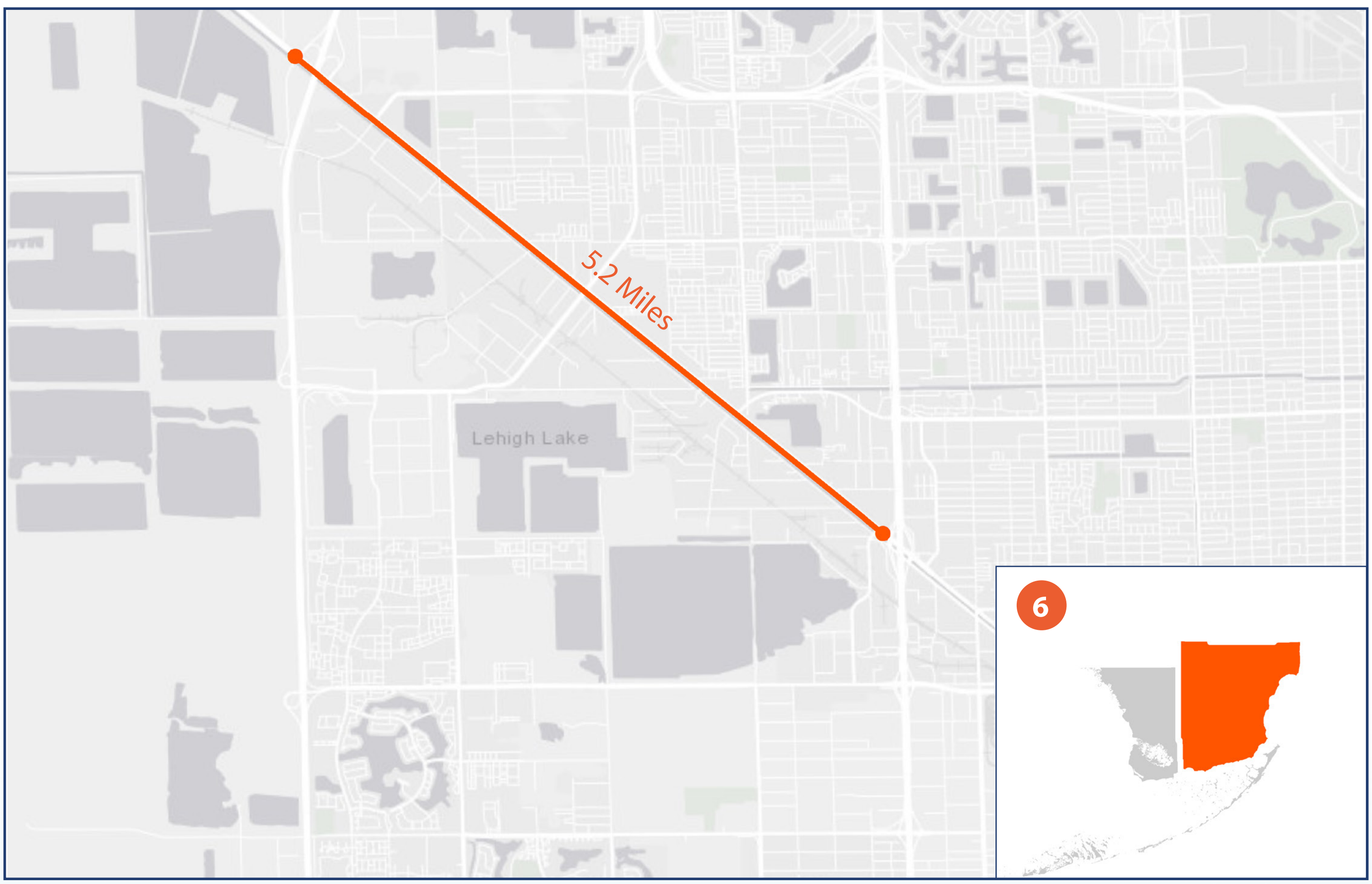
Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

US 27 in Miami-Dade County, between the Turnpike and Palmetto Expressway

Roadway ID: 87090000 (MP 4.945 to MP 10.132)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
112,065	1.98	4



Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

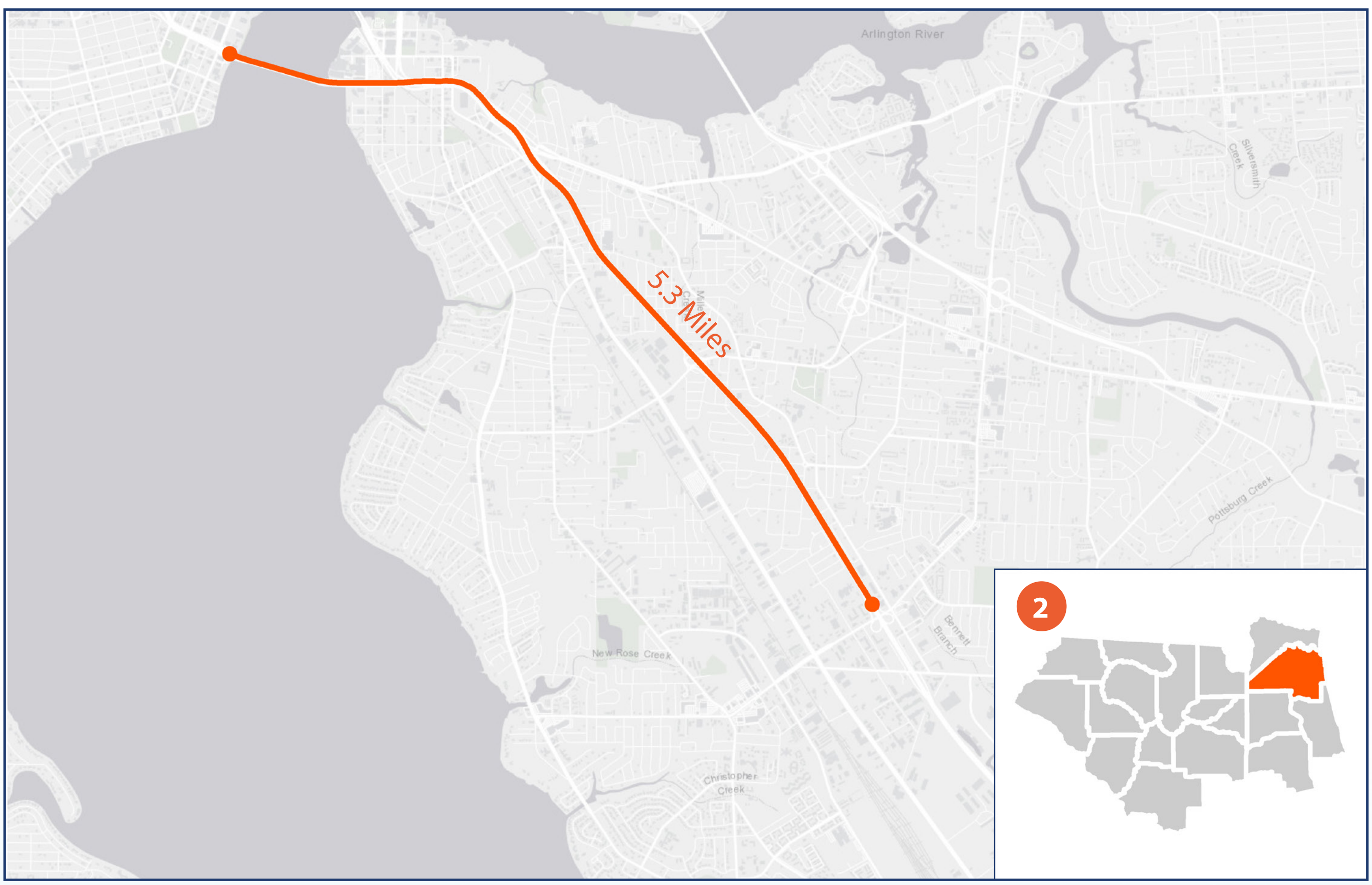
STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D2

I-95 in Jacksonville, from University Blvd to Riverside Ave.

Roadway ID: 72280000 (MP 13.500 to MP 16.793), 72020000 (MP 0.000 to MP 2.034)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
79,441	2.00	5



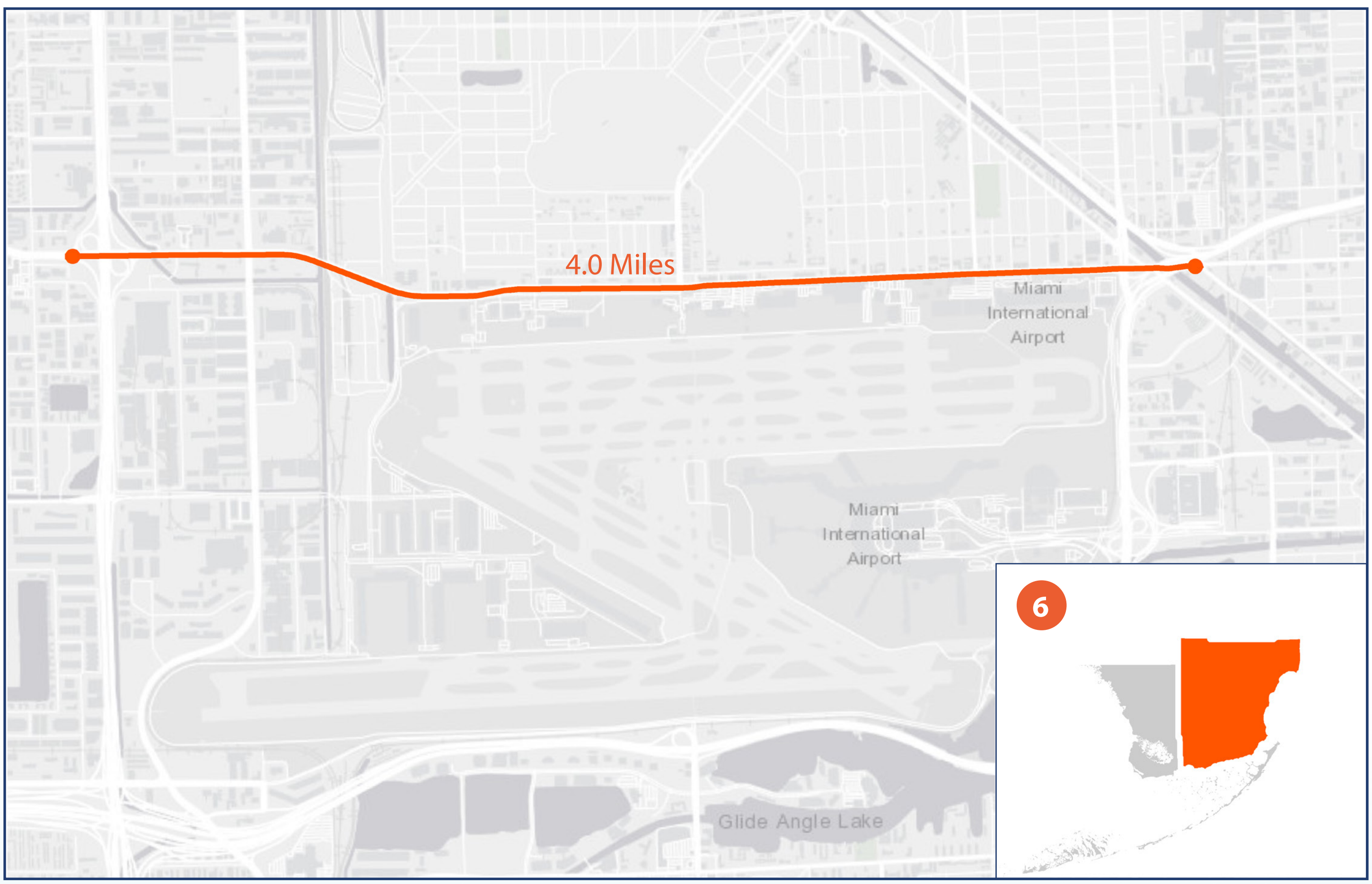
Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

NW 36 St from Palmetto Expressway to US 27

Roadway ID: 87220000 (MP 0.000 to MP 3.998)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
73,817	2.09	6



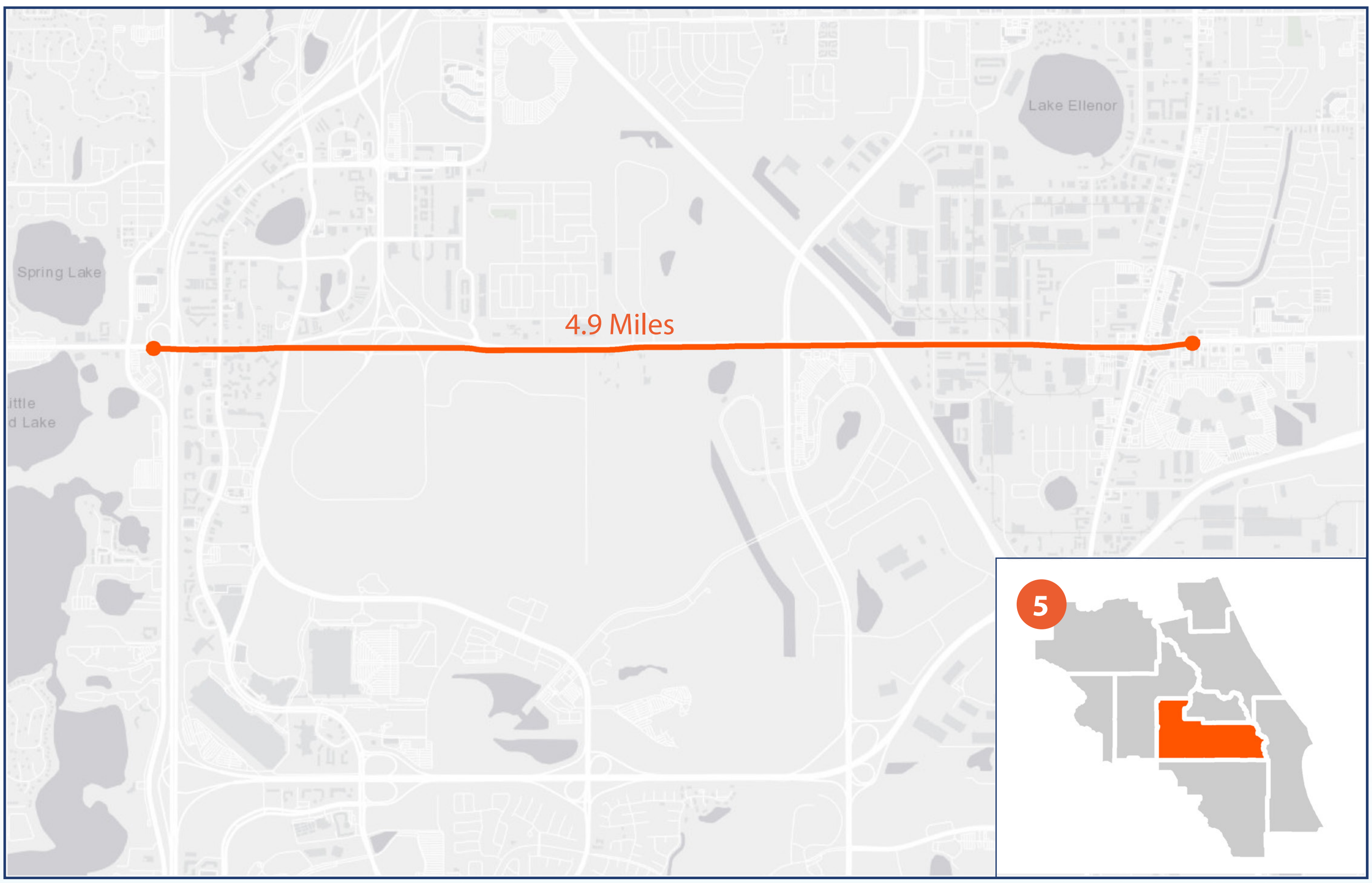
Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Lake Sand Rd (SR 482) in Orange County

Roadway ID: 75002000 (MP 0.000 to MP 4.894)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
71,361	2.04	7



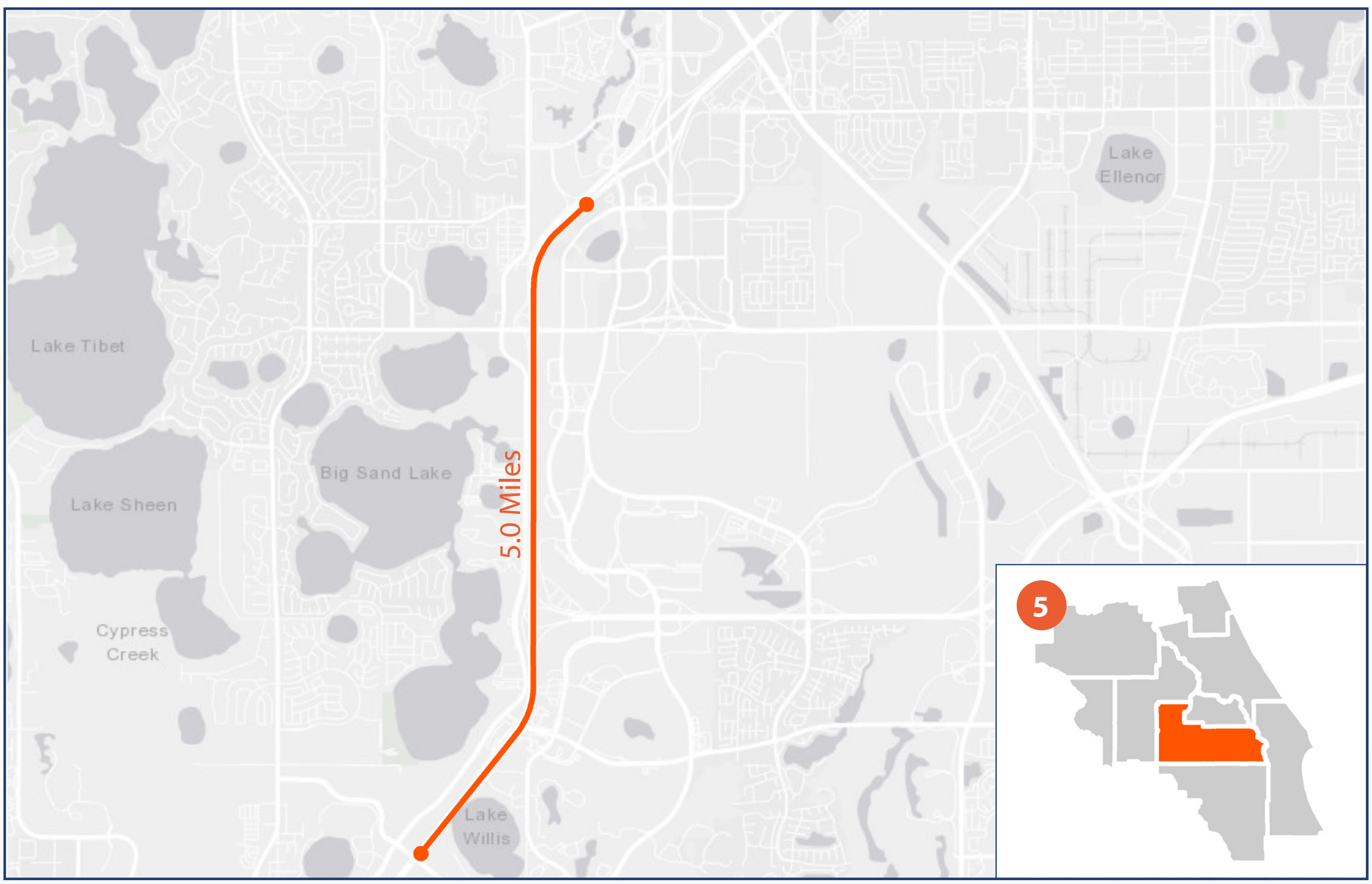
Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

I-4 south of Orlando

Roadway ID: 75280000 (MP 4.327 to MP 9.329)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
69,492	1.90	8



Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

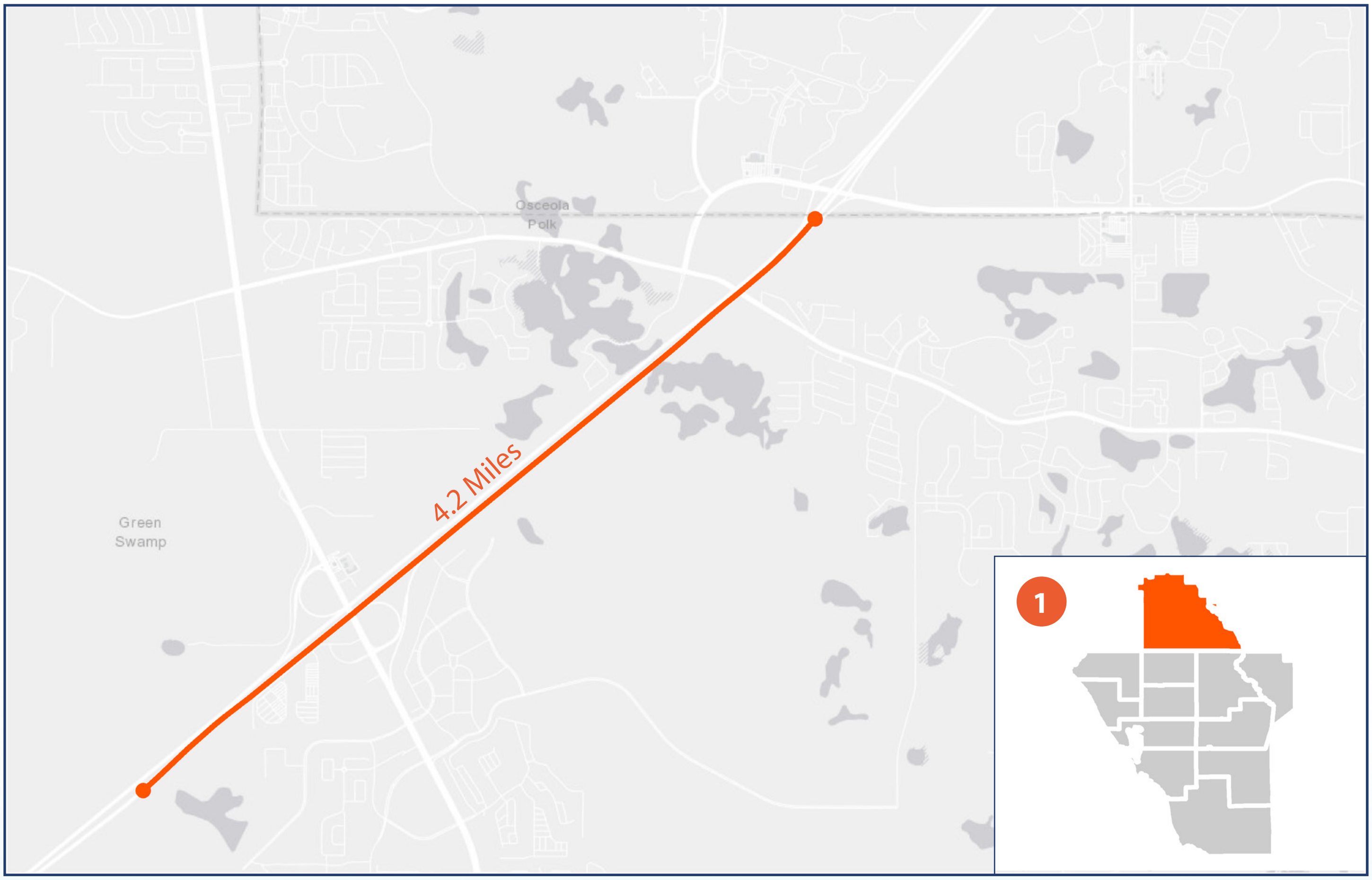
STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D1

I-4 from the Polk/Osceola county line to south of US 27

Roadway ID: 92130000 (MP 0.000 to MP 32.022)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
60,808	1.90	9



Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

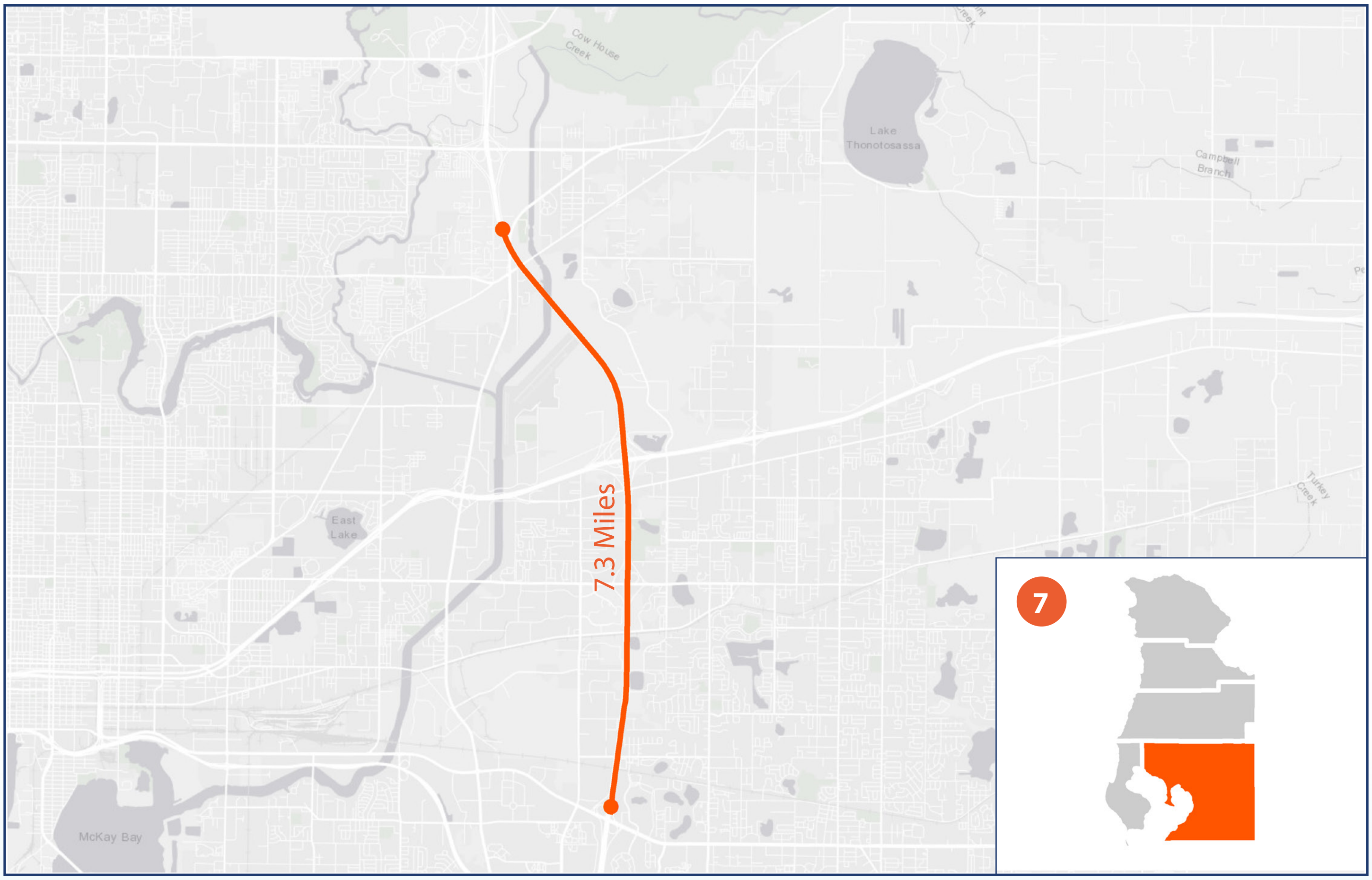
STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D7

US 75 from US 301 to SR 60

Roadway ID: 10075000 (MP 22.938 to MP 30.263)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	Statewide Bottleneck Rank
54,236	1.63	10



Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

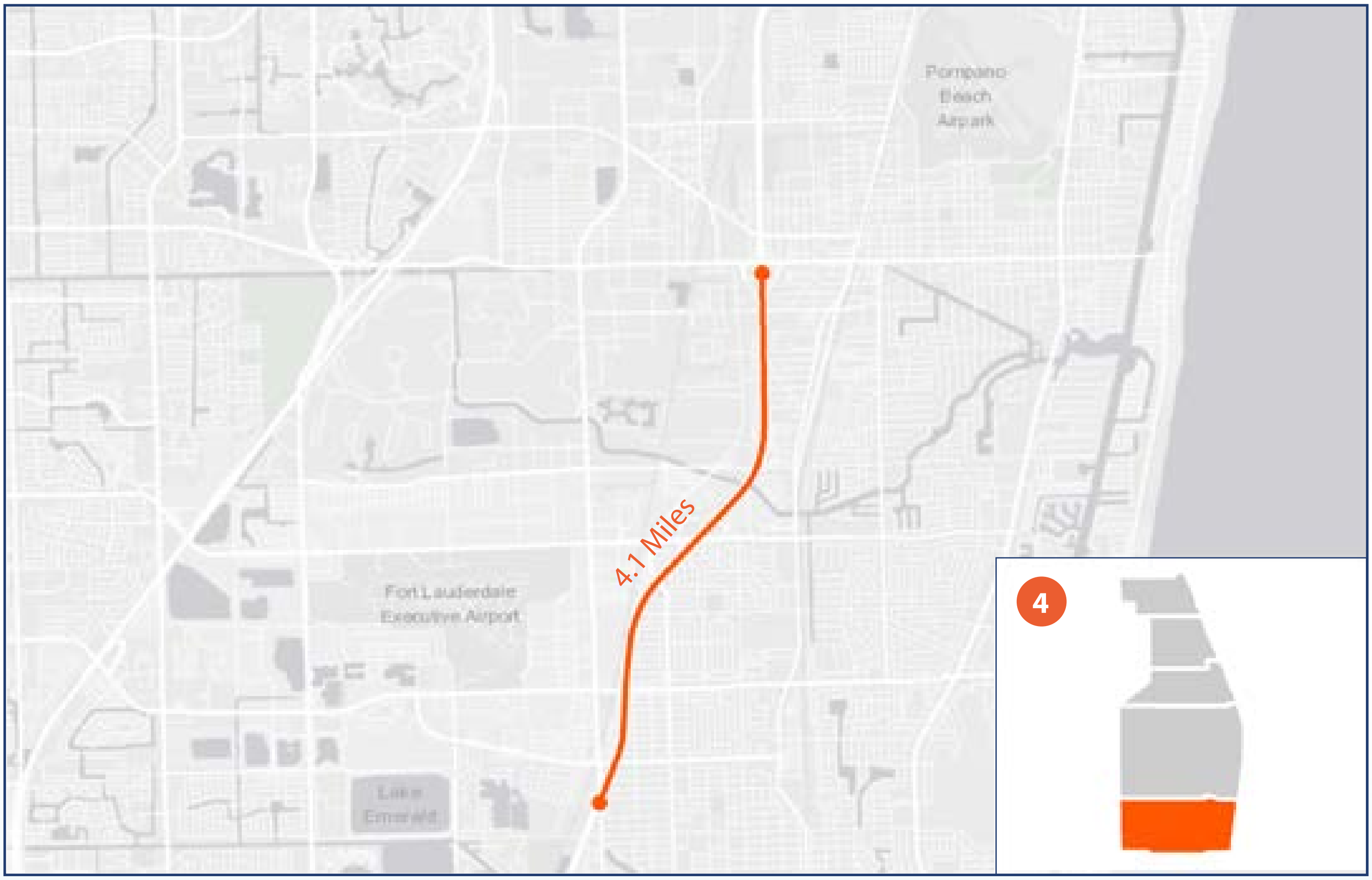
STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D4

I-95 in Broward County from Atlantic Blvd to Powerline Rd

Roadway ID: 86070000 (MP 14.232 to MP 18.372)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	District 4 Bottleneck Rank
53,292	1.86	1



Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies

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STATEWIDE TRUCK FREIGHT BOTTLENECKS (2018)

Top Bottleneck in D3

US 98 in Okaloosa Co., from the Walton county line to Destin

Roadway ID: 57030030 (MP 19.482 to MP 24.529)

Truck Vehicle Hours of Delay (yearly)	Planning Time Index	District 3 Bottleneck Rank
21,415	1.89	1

Data Source: FDOT Weigh-In Motion (WIM) data, FDOT Roadway Characteristics Inventory (RCI), HERE Technologies