CITY OF FORT LAUDERDALE

CONCEPTUAL STREETSCAPE DESIGN FOR LAS OLAS BOULEVARD

Existing Conditions • Traffic Operational Analysis (Synchro Base)

APRIL 8, 2020

THE CORRADINO GROUP

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1.0 – INTRODUCTION:

The City of Fort Lauderdale commissioned this Streetscape Corridor Analysis along Las Olas Boulevard to further identify opportunities and challenges to provide key components of a vision that will ground the future development of the area. The City of Fort Lauderdale is committed to promoting safe, accessible, multi-modal travel evidenced by its implementation of Complete Streets and Vision Zero policy. As the major thoroughfare connecting Downtown Fort Lauderdale and Central Beach, the Las Olas Boulevard corridor must balance moving people efficiently through a balance of transportation needs, inclusive of pedestrian, bicycling, vehicular, and transit modes, with space programmed to safely accommodate other alternative modes of transportation such as scooters. A successful conceptual design as achieved through the scope of services will meet the following broad goals:

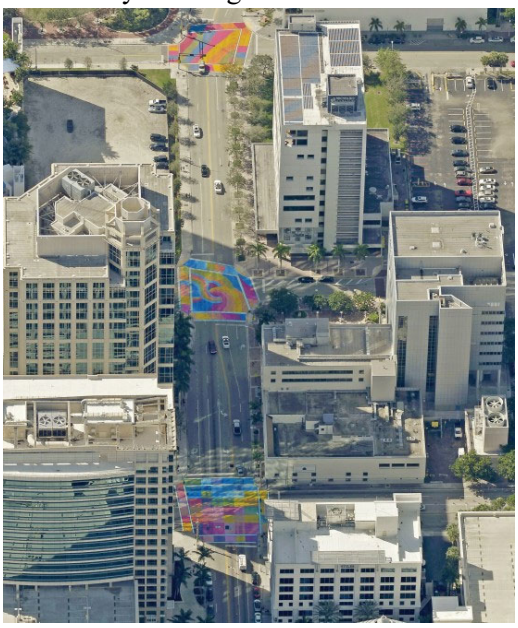

Figure 1 Las Olas Boulevard at SE 3rd Avenue

- Ensure a consensus vision that enhances the branding for the Boulevard and the City's branding as both an international destination and the place for live, work, and play in South Florida.
- Create a coordinated, iconic, context-sensitive design for the five distinct character areas.
- Strike a balance between the needs of drivers from the beach and the residential areas to the east, and the needs of retail, office, and public space and event uses along Las Olas Boulevard.
- Develop a safe, comfortable network for pedestrians and bicyclists through the entire 2.4-mile segment that connects with other existing and planned pedestrian and bicyclist networks, as well as provide for first and last mile connections to both land and water transit services.
- Coordinate a conceptual design with other planning initiatives that strive to address climate change.

A balance must be struck between the unique needs of people driving, people walking, people biking, and of special events while elevating the safety for all modes. This balance must also preserve the character of adjacent neighborhoods while also defining the future of this iconic boulevard. The design determined at the conclusion of this visioning process will ultimately inform the complete reconstruction of the Boulevard.

2.0 – ROADWAY CHARACTERISTICS:

The City of Fort Lauderdale established a Complete Streets typology and nomenclature as part of the Connecting the Blocks Multimodal Master Plan approved by the City Commission in 2012. The roadway corridors included within this Las Olas Corridor projects are defined by the functional roadway classification and the complete streets typology. Figure 2 depicts the complete streets roadway typology from the Connecting the Blocks Multimodal Master Plan Typology.

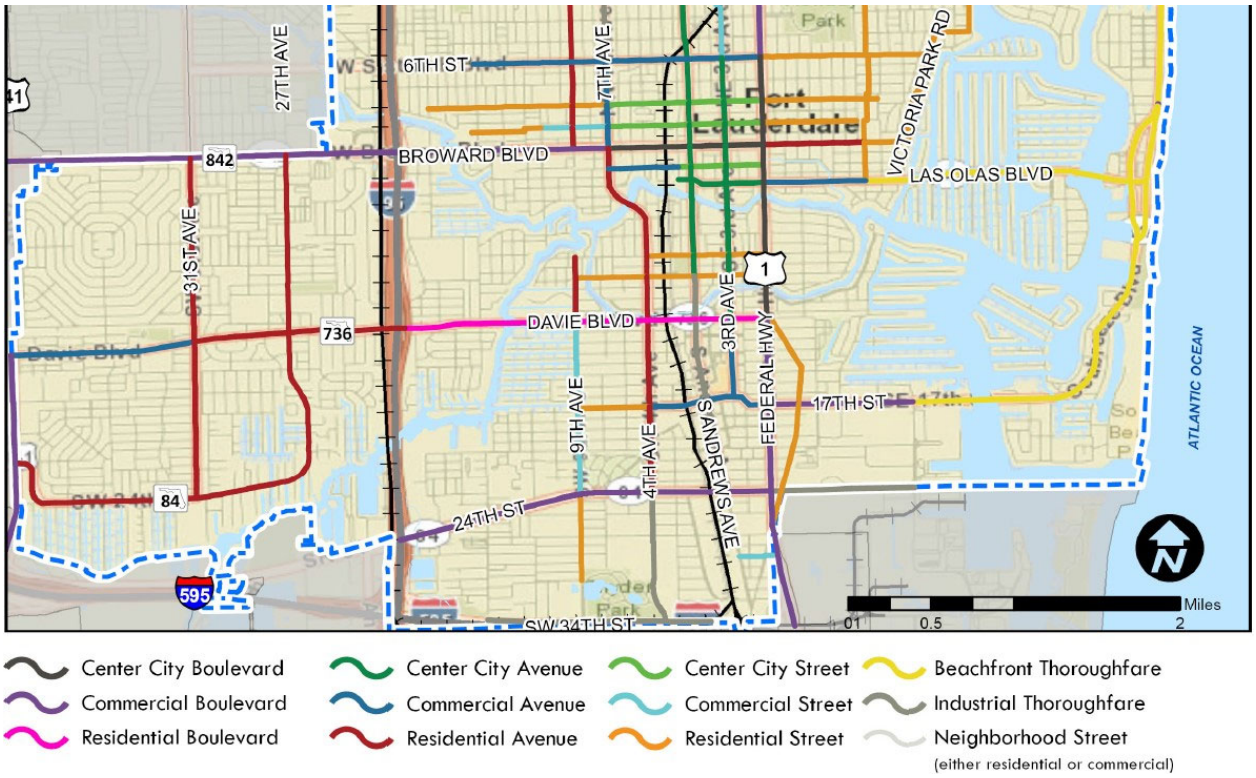

Figure 2 Connecting the Blocks Multimodal Master Plan Typology

- Las Olas Boulevard between Andrews Avenue and SE 6th Avenue- the functional classification is a City collector. The complete streets typology is a Center City Avenue which are generally located in Central Business Districts and possibly major employment centers.

Figure 3 Las Olas Boulevard between Andrews Avenue and SE 4th Avenue

- Las Olas Boulevard between SE 6th Avenue and NE/SE 15th Avenue- the functional classification is a City collector. The complete streets typology is Commercial Avenue which includes arterials and collectors in medium density areas that are significantly non-residential or mixed use.

Figure 4 Las Olas Boulevard between SE 6th Avenue and SE 15th Avenue

- Las Olas Boulevard between NE/SE 15th Avenue and Seabreeze Boulevard- the functional classification is a State minor arterial. The Complete Streets typology is Beachfront Thoroughfare which includes arterials and collectors near beaches with high levels of multimodal travel and a tourism focus.

Figure 5 Las Olas Boulevard between Poinciana Drive to NE/SE 15th Avenue

- Broward Boulevard between Andrews Avenue and US-1/Federal Highway- the functional classification is a State Principal Arterial. The Complete Streets typology is a City Center Boulevard which includes arterials in central business districts (CBDs) and possibly major employment centers.
- Broward Boulevard between US-1/Federal Highway to NE/SE 15th Avenue- the functional classification is a County collector. The Complete Streets typology is a Residential Avenue which includes some arterials and collectors in areas that are significantly residential but have lower volumes of traffic.
- SE 3rd Avenue between Broward Boulevard and Las Olas Boulevard- the functional classification is a County minor arterial. The Complete Streets typology is a City Center Avenue which includes collectors in CBDs and possibly major employment centers.

- Andrews Avenue between Broward Boulevard and Las Olas Boulevard- the functional classification is a County minor arterial. The Complete Streets typology is a City Center Avenue which includes collectors in CBDs and possibly major employment centers.

Figure 6 Andrews Avenue between Broward Boulevard and Las Olas Boulevard

- SE 15th Avenue between Broward Boulevard and Las Olas Boulevard- the functional classification is a City collector. The Complete Streets typology is a residential street which includes local streets in areas that are significantly residential.

Figure 7 SE 15th Avenue between Broward Boulevard and Las Olas Boulevard

- SE 16th Avenue between Broward Boulevard and Las Olas Boulevard- The functional classification is a local street. The Complete Streets typology is a neighborhood street.

Figure 8 SE 16th Avenue between Broward Boulevard and Las Olas Boulevard

- SE 17th Avenue between Broward Boulevard and Las Olas Boulevard- The functional classification is a local street. The Complete Streets typology is a neighborhood street.

Figure 9 SE 17th Avenue between Broward Boulevard and Las Olas Boulevard

- SE 4th Street between SE 6th Avenue and SE 11th Avenue- the functional classification is local street. The Complete Streets typology is neighborhood street.

Figure 10 SE 4th Street between SE 11th Avenue and SE 6th Avenue

In addition, Tarpon Drive, SE 2nd Court, SE 1st Avenue, SE 8th Avenue, SE 11th Avenue and SE 12th Avenue have functional classification as local streets and a Complete Streets typology of neighborhood street.

Figure 11 Las Olas Boulevard at Tarpon Drive

3.0 - TRAFFIC DATA COLLECTION:

The City of Fort Lauderdale provided peak hour manual turning movement counts that were collected during the morning (9:00-11:00 a.m.), midday (11:00 a.m.-1:00 p.m.) and afternoon (4:00-6:00 p.m.) peak hour on Wednesday, March 20, 2019, Thursday, March 21, 2019 and Saturday, March 23, 2019.

- Andrews Ave. and Las Olas Blvd. (signalized)
- Andrews Ave. and Broward Blvd. (signalized)
- SE 3rd Ave. and Las Olas Blvd. (signalized)
- SE 3rd Ave. and Broward Blvd. (signalized)
- US-1/SE 6th Ave. and Las Olas Blvd. (signalized)
- US-1/SE 6th Ave. and Broward Blvd. (signalized)
- SE 8th Ave. and Las Olas Blvd. (signalized)
- SE 8th Ave. and Broward Blvd. (signalized)
- SE 9th Ave. and Las Olas Blvd. (signalized)
- SE 25th Ave. and Las Olas Blvd. (signalized)
- Las Olas Blvd. and Seabreeze Blvd. (signalized)
- Las Olas Blvd. and Seven Isles Drive (stop control)
- Coral Way and Las Olas Blvd. (stop control)
- SE 19th and Las Olas Blvd. (stop control)
- SE 17th Ave. and Las Olas Blvd. (stop control)
- SE 16th Blvd. and Las Olas Blvd. (stop control)
- SE 15th Ave. and Las Olas Blvd. (signalized)
- SE 15th Ave. and Broward Blvd. (signalized)
- SE 15th Ave. and SE 2nd Court (stop controlled)
- SE 8th Ave. and SE 2nd Court (stop controlled)
- SE 3rd Ave. and SW 2nd Street (signalized)
- Andrews Ave. and SW 2nd Street (signalized)
- SE 1st Ave. and Las Olas Blvd. (signalized)
- SE 2nd Ave. and Las Olas Blvd. (stop controlled)
- SE 4th Ave. and Las Olas Blvd. (signalized)
- SE 5th Ave. and Las Olas Blvd. (stop controlled)
- New River Drive and Las Olas Blvd. (stop controlled)
- SE 11th Ave. and Las Olas Blvd. (stop controlled)
- Tarpon Drive and Las Olas Blvd. (stop controlled)
- SE 13th Ave. and Las Olas Blvd. (stop controlled)

The volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. The traffic data was collected during typical traffic conditions on a weekday during normal school operation and outside of any holiday or special event. In addition, the City of Fort Lauderdale provided Bidirectional traffic speed and volume tube counts at the following roadway segments during the week of 03/18/2019 to 03/24/2019 and the week of 04/16/2019 to 04/22/2019.

- Las Olas Blvd between SE 1st Ave and SE 2nd Ave (04/16/19-04/22/19)
- Las Olas Blvd between SE 4th Ave and SE 5th Ave (03/18/19-03/24/19)
- Las Olas Blvd between SE 6th Ave and SE 8th Ave (04/16/19-04/22/19)
- Las Olas Blvd between SE 10th Terrace and SE 11th Ave (03/18/19-03/24/19)
- Las Olas Blvd between SE 13th Ave and SE 15th Ave (03/18/19-03/24/19)
- Las Olas Blvd between SE 16th Ave and SE 17th Ave (04/16/19-04/22/19)
- Las Olas Blvd between SE 17th Ave and Isle of Capri Dr (04/16/19-04/22/19)
- Las Olas Blvd between Isle of Palms Dr and Seven Isles Dr (03/18/19-03/24/19)
- Las Olas Blvd between Poinciana Dr and Plaza Las Olas (03/18/19-03/24/19)
- SE 2nd Ct between SE 9th Ave and SE 10th Terrace (03/18/19-03/24/19)
- SE 2nd Ct between SE 15th Ave and SE 16th Ave (03/18/19-03/24/19)
- Broward Blvd between SE 7th Ave and SE 8th Ave (03/18/19-03/24/19)
- Broward Blvd between SE 11th Ave and SE 12th Ave (03/18/19-03/24/19)
- SE 8th Ave between SE 2nd Ct and SE 2nd St (03/18/19-03/24/19)
- SE 12th Ave between SE 2nd St and SE 1st St (03/18/19-03/24/19)
- SE 13th Ave between SE 2nd St and SE 1st St (03/18/19-03/24/19)
- SE 15th Ave between SE 2nd St and SE 1st St (03/18/19-03/24/19)
- SE 16th Ave between SE 2nd St and SE 1st St (03/18/19-03/24/19)
- SE 17th Ave between SE 2nd St and SE 1st St (03/18/19-03/24/19)
- SE 4th St between SE 6th Ave and SE 8th Ave (03/18/19-03/24/19)
- SE 4th St between SE 9th Ave and SE 11th Ave (03/18/19-03/24/19)
- SE 4th St between Tarpon Dr and SE 15th Ave (03/18/19-03/24/19)
- SE 4th St between SE 16th Ave and SE 17th Ave (03/18/19-03/24/19)
- Tarpon Dr between Las Olas Blvd and SE 4th St (03/18/19-03/24/19)
- Las Olas Blvd between Seabreeze Blvd and Fort Lauderdale Beach Blvd (03/18/19-03/24/19)
- Broward Blvd between SE 16th Ave and SE 17th Ave (03/18/19-03/24/19)
- Broward Blvd between SE 3rd Ave and SE 6th Ave (04/16/19-04/22/19)
- SE 3rd Ave between Broward Blvd and SE 2nd St (03/18/19-03/24/19)
- Broward Blvd between SE 1st Ave and SE 3rd Ave (04/16/19-04/22/19)
- Andrews Ave between Broward Blvd and SE 2nd St (03/18/19-03/24/19)

Appendix A includes the traffic data collection sheets including the manual turning movement counts and the speed and volume ADT tube counts.

4.0 – TRAFFIC OPERATIONAL ANALYSIS (EXISTING)

The FDOT peak season conversion factor was applied to the manual turning movement counts to adjust the traffic to peak season volumes. The FDOT peak season factor category reports are included in Appendix A. In addition, committed trips from approved but unbuilt development projects were added to the peak season adjusted traffic volumes to establish the existing plus committed traffic volumes for the existing conditions traffic operational analysis. The committed trips from the approved but unbuilt development projects were taken from the available traffic studies provided by the City of Fort Lauderdale. The intersection volume worksheets and committed trip information from the approved but unbuilt development projects have been included in Appendix B.

Intersection capacity/level of service analysis was conducted for the thirty (30) intersections using software based on the Highway Capacity Manual (HCM) methodology. The analyses will be performed for morning, midday and afternoon peak hour conditions following capacity analysis/level of service procedures outlined in the 2010 Highway Capacity Manual (HCM) using Synchro 10 software. The analysis scenario includes the existing plus background conditions (2020). The results of the existing plus background capacity analyses are summarized in Tables 1, 2 and 3 below.

Table 1 AM Peak Hour Capacity Analysis

Intersection Level of Service- AM Peak Hour Scenario		
Intersection	**E+C LOS (Delay)-2020**	**Approach Delay 95th % Queue**
Andrews Ave. and Las Olas Blvd.	B (15.9 s)	C (25.7 s) EBL 72 LF
Andrews Ave. and Broward Blvd.	D (54.6 s)	F (85.6 s) SBL 328 LF
SE 3rd Ave. and Las Olas Blvd.	E (57.8 s)	F (84.7 s) WBL 388 LF
SE 3rd Ave. and Broward Blvd.	E (67.0 s)	F (84.2 s) SBL 208 LF
US-1/SE 6th Ave. and Las Olas Blvd.	C (27.4 s)	D (38.3 s) WBL 94 LF
US-1/SE 6th Ave. and Broward Blvd.	E (56.2 s)	E (65.5 s) WBL 231 LF
SE 8th Ave. and Las Olas Blvd.	B (10.0 s)	B (12.2 s) WBL 4 LF
SE 8th Ave. and Broward Blvd.	A (8.9 s)	D (35.3 s) NBL 152 LF
SE 9th Ave. and Las Olas Blvd.	A (9.7 s)	B (10.2 s) EBL 13 LF
SE 25th Ave. and Las Olas Blvd.	A (9.0 s)	C (22.0 s) NBL 77 LF
Las Olas Blvd. and Seabreeze Blvd.	B (17.1 s)	C (28.0 s) EBT 94 LF
Las Olas Blvd. and Seven Isles Drive	C (15.6 s)	D (31.2 s) SBL 10 LF
Coral Way and Las Olas Blvd.	C (15.8 s)	C (15.8 s) NBL 3 LF
SE 19th and Las Olas Blvd.	E (42 s)	E (42 s) NBL 8 LF
SE 17th Ave. and Las Olas Blvd.	E (42 s)	E (42 s) NBL 8 LF
SE 16th Blvd. and Las Olas Blvd.	C (15.1 s)	C (15.1 s) NBL 3 LF
SE 15th Ave. and Las Olas Blvd.	B (19.3 s)	D (37.3 s) SBL 396 LF
SE 15th Ave. and Broward Blvd.	C (24.2 s)	C (30.8 s) WBL 77 LF
SE 15th Ave. and SE 2nd Court	C (15.1 s)	C (15.1 s) EBL 8 LF
SE 8th Ave. and SE 2nd Court	B (11.9 s)	B (11.9 s) EBL 5 LF
SE 3rd Ave. and SW 2nd Street	E (58.6 s)	E (68.0 s) NBL 13 LF
Andrews Ave. and SW 2nd Street	D (35.5 s)	D (37.6 s) WBL 37 LF
SE 1st Ave. and Las Olas Blvd.	A (8.6 s)	C (26.2 s) NB 80 LF
SE 2nd Ave. and Las Olas Blvd.	A (9.0 s)	A (9.8 s) WBL 30 LF
SE 4th Ave. and Las Olas Blvd.	B (12.5 s)	B (17.2 s) EBL 201 LF
SE 5th Ave. and Las Olas Blvd.	B (14.5 s)	C (19.5 s) SBL 15 LF
New River Drive and Las Olas Blvd.	B (13.5 s)	C (18.0 s) NBL 13 LF
SE 11th Ave. and Las Olas Blvd.	C (18.9 s)	C (18.9 s) SBL 10 LF
Tarpon Drive and Las Olas Blvd.	B (11.7 s)	B (11.7 s) 8 LF
SE 13th Ave. and Las Olas Blvd.	B (10.4 s)	B (10.4 s) 5 LF
LOS Delay provided in seconds for Signalized intersections. LOS Control Delay provided in seconds for Unsignalized intersections.		

Table 2 Midday Peak Hour Capacity Analysis

Intersection Level of Service- Midday Peak Hour Scenario		
Intersection	**E+C LOS (Delay)-2020**	**Approach Delay 95th % Queue**
Andrews Ave. and Las Olas Blvd.	B (17.3 s)	C (26.4 s) EBL 61 LF
Andrews Ave. and Broward Blvd.	E (55.4 s)	F (83.3 s) SBL 182 LF
SE 3rd Ave. and Las Olas Blvd.	E (60 s)	F (86.2 s) WBL 325 LF
SE 3rd Ave. and Broward Blvd.	E (68.1 s)	D (38.6 s) WBL 98 LF
US-1/SE 6th Ave. and Las Olas Blvd.	C (30 s)	D (38.6 s) WBL 98 LF
US-1/SE 6th Ave. and Broward Blvd.	E (56.3 s)	E (66.2 s) WBL 230 LF
SE 8th Ave. and Las Olas Blvd.	B (10.7 s)	B (13.1 s) WBL 10 LF
SE 8th Ave. and Broward Blvd.	B (10.8 s)	D (35.7 s) NBL 183 LF
SE 9th Ave. and Las Olas Blvd.	A (9.8 s)	B (10.4 s) EBL 13 LF
SE 25th Ave. and Las Olas Blvd.	A (9.5 s)	C (21.8 s) NBL 82 LF
Las Olas Blvd. and Seabreeze Blvd.	B (17.5 s)	C (26.9 s) EBT 137 LF
Las Olas Blvd. and Seven Isles Drive	C (18.3 s)	E (39.1 s) SBL 25 LF
Coral Way and Las Olas Blvd.	D (25.2 s)	D (25.2 s) NBL 10 LF
SE 19th and Las Olas Blvd.	E (49.3 s)	E (49.3 s) NBL 10 LF
SE 17th Ave. and Las Olas Blvd.	F (72.4 s)	F (72.4 s) NBL 15 LF
SE 16th Blvd. and Las Olas Blvd.	C (16.2 s)	C (16.2 s) NBL 3 LF
SE 15th Ave. and Las Olas Blvd.	C (21.8 s)	D (44.2 s) SBL 452 LF
SE 15th Ave. and Broward Blvd.	D (37.9 s)	E (56.7 s) SBL 815 LF
SE 15th Ave. and SE 2nd Court	C (22.9 s)	C (22.9 s) WBL 8 LF
SE 8th Ave. and SE 2nd Court	B (13.5 s)	B (13.5 s) EBL 5 LF
SE 3rd Ave. and SW 2nd Street	E (60.6 s)	E (72.6 s) NBL 15 LF
Andrews Ave. and SW 2nd Street	C (34.1 s)	D (41.3 s) WBL 50 LF
SE 1st Ave. and Las Olas Blvd.	A (5.5 s)	C (25.6 s) NBL 25 LF
SE 2nd Ave. and Las Olas Blvd.	A (9.3 s)	B (10.2 s) WBL 33 LF
SE 4th Ave. and Las Olas Blvd.	B (11.3 s)	B (15.1 s) EBT 162 LF
SE 5th Ave. and Las Olas Blvd.	C (15.5 s)	C (19.6 s) SBL 18 LF
New River Drive and Las Olas Blvd.	B (12.6 s)	C (15.6 s) NBL 10 LF
SE 11th Ave. and Las Olas Blvd.	B (13.0 s)	B (13.0 s) NBL 13 LF
Tarpon Drive and Las Olas Blvd.	B (12.5 s)	B (12.5 s) NBL 8 LF
SE 13th Ave. and Las Olas Blvd.	B (11.3 s)	B (11.3 s) WBR 10 LF
LOS Delay provided in seconds for Signalized intersections. LOS Control Delay provided in seconds for Unsignalized intersections.		

Table 3 PM Peak Hour Capacity Analysis

Intersection Level of Service- PM Peak Hour Scenario		
Intersection	**E+C LOS (Delay)-2020**	**Approach Delay 95th % Queue**
Andrews Ave. and Las Olas Blvd.	C (34.7 s)	D (53.9 s) EBL 222 LF
Andrews Ave. and Broward Blvd.	E (63.3 s)	F (88.4 s) NBL 255 LF
SE 3rd Ave. and Las Olas Blvd.	E (62.7 s)	F(78.9 s) EBL 190 LF
SE 3rd Ave. and Broward Blvd.	F (90.2 s)	F (110.3 s) NBL 416 LF
US-1/SE 6th Ave. and Las Olas Blvd.	C (23.9 s)	D (41.8 s) WBL 140 LF
US-1/SE 6th Ave. and Broward Blvd.	E (66 s)	E (69.7 s) SBL 273 LF
SE 8th Ave. and Las Olas Blvd.	A (9.8 s)	B (12.0 s) WBL 9 LF
SE 8th Ave. and Broward Blvd.	B (12.5 s)	C (33.1 s) NBL 209 LF
SE 9th Ave. and Las Olas Blvd.	A (9.6 s)	B (10.1 s) EBL 11 LF
SE 25th Ave. and Las Olas Blvd.	A (9.2 s)	C (22.5 s) NBL 71 LF
Las Olas Blvd. and Seabreeze Blvd.	B (18.0 s)	C (27.6 s) WBL 72 LF
Las Olas Blvd. and Seven Isles Drive	C (18.2 s)	E (36 s) SBL 20 LF
Coral Way and Las Olas Blvd.	C (23 s)	C (23 s) NBL 8 LF
SE 19th and Las Olas Blvd.	E (36.6 s)	E (36.6 s) NBL 8 LF
SE 17th Ave. and Las Olas Blvd.	F (69 s)	F (69 s) NBL 15 LF
SE 16th Blvd. and Las Olas Blvd.	B (13.4 s)	B (13.4 s) SBL 8 LF
SE 15th Ave. and Las Olas Blvd.	C (20.4 s)	D (41.3 s) SBL 412 LF
SE 15th Ave. and Broward Blvd.	E (64.4 s)	F (109.1 s) SBL 924 LF
SE 15th Ave. and SE 2nd Court	C (22.5 s)	C (22.5 s) WBL 13 LF
SE 8th Ave. and SE 2nd Court	B (13.2 s)	B (13.2 s) EBL 5 LF
SE 3rd Ave. and SW 2nd Street	D (42.7 s)	D (49.7 s) NBL 28 LF
Andrews Ave. and SW 2nd Street	D (36.5 s)	D (45.8 s) WBL 93 LF
SE 1st Ave. and Las Olas Blvd.	A (7.1 s)	C (25.4 s) NBL 59 LF
SE 2nd Ave. and Las Olas Blvd.	B (11.7 s)	B (14.4 s) WBL 73 LF
SE 4th Ave. and Las Olas Blvd.	B (13.9 s)	B (15.6 s) EBT 169 LF
SE 5th Ave. and Las Olas Blvd.	B (12.5 s)	B (17.2 s) SBL 10 LF
New River Drive and Las Olas Blvd.	B (12.8 s)	C (19.4 s) NBL 13 LF
SE 11th Ave. and Las Olas Blvd.	C (24.4 s)	C (24.4 s) SBL 3 LF
Tarpon Drive and Las Olas Blvd.	B (13.5 s)	B (13.5 s) WBL 3 LF
SE 13th Ave. and Las Olas Blvd.	B (11.3 s)	B (11.3 s) SBL 8 LF
LOS Delay provided in seconds for Signalized intersections. LOS Control Delay provided in seconds for Unsignalized intersections.		

Exhibits that depict the traffic volumes at the intersections for the existing plus background traffic scenario have been provided in Appendix B. A copy of the Synchro reports for each peak hour period for this scenario has been provided in Appendix C.

5.0 – ROAD SEGMENT LINK ANALYSIS (EXISTING)

In addition to the intersection analysis, a road segment link analysis was evaluated to determine if there is enough capacity along the key Las Olas Roadway Corridor segments to accommodate the traffic volumes in the existing plus background scenario. The peak hour two-way traffic volumes were calculated from the collected speed/volume tube counts. Table 4 depicts the level of service based on the current FDOT 2012 Level of Service Handbook Peak Hour Two Way Volumes for Florida's Urbanized Areas. A copy of the most current FDOT LOS Handbook Tables have been provided in Appendix D.

Table 4 Peak Hour Road Segment Analysis

Peak Hour Road Segment Level of Service Analysis				
Roadway Segment	Roadway Type	Existing 2 Way Peak Hour Volumes	Peak Hour LOS D Volume	Level of Service
Seven Isles Drive to Seabreeze Blvd.	4 Lanes Undivided	1665	2482	C
Isles of Capri to Seven Isles Drive	4 Lanes Divided	2007	2628	C
SE 15th Avenue to Isles of Capri	4 Lanes Undivided	2308	2482	C
SE 11th Avenue to SE 15th Avenue	2 Lanes Undivided	1044	1197	C
SE 6th Avenue to SE 11th Avenue	2 Lanes Divided	1177	1264	C
Andrews Avenue to SE 6th Avenue	4 Lanes Undivided	1189	2482	C

The current peak hour road segment level of service along Las Olas Boulevard is level of service C for the various roadway segments as identified in Table 4. As previously identified in Section 2, the speed and volume tube counts for the roadway segments can be found in Appendix A.

6.0 – SPEED EVALUATION AND CONTEXT CLASSIFICATION

The 2018 FDOT Speed Zoning for Highways, Roads and Streets in Florida Manual, provides guidance concerning the relationship between posted speed limits and actual speed profiles along roadways. The 85th percentile speed represents the speed at, or below which 85% of the vehicles travel. The mean speed is the summation of measured speeds divided by the number of vehicles observed and is a common measure of central tendency for speed. The 10-MPH pace represents the 10 MPH range in which the highest percentage of vehicles are traveling.

The posted speed limit shall be rounded to the nearest multiple of 5 MPH of the observed 85th percentile speed or upper limit of the 10 MPH pace, whichever is less. Speed limits of 4 to 8 MPH less than the 85th percentile speed shall be authorized if supported by a supplemental investigation, that identifies the support of a context classification target speed. The target speed is influenced by elements of roadway design that are governed by design speed, as well as the form and function of the adjacent land uses beyond the right-of-way. When determining the speed limit based on this target speed, consideration should be given to the land use context classification and allowable speed range as provided in chapter 201 of the 2019 FDOT Florida Design Manual (FDM). A copy of the relevant FDOT Complete Streets context classification and FDM design criteria is provided in Appendix D.

The use of context classifications to determine criteria for roadway design elements is consistent with national best practices and direction. The National Cooperative Highway Research Program (NCHRP) informs Federal Highway Administration (FHWA) and American Association of State Highway Transportation Officials (AASHTO) regarding key elements of this guidance. FDOT established a Complete Streets Policy which establishes the context classification of a roadway corridor which is used to determine criteria in the FDM. Based on FDOT's description of each context classification and the City's planned strategic objectives to improve the safety and mobility of all road users along the subject corridor, it is our opinion that the subject project corridor falls within a C5 Urban Center context with allowable design speeds of 25 to 35 MPH. C5-Urban context is defined by the FDM as general mix of uses that are set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of the civic or economic center of a community, town, or city. There are portions of the western limits of the Las Olas Boulevard corridor that fall within the C-6 Urban Core classification.

The speed data collection produced 50th percentile (mean) and 85th percentile speed volumes for each of the study corridors. Standard traffic engineering principles call for the 85th percentile speed volume to be considered the free flow speed (FFS) for which the posted speed limit is set. Table 5 includes a summary of the speed/volume tube counts for each of the road segment corridors. Appendix A has the traffic data collection for each corridor. Detailed Figures that depict the directional 85th percentile speeds as outlined in Table 5 have been provided in Appendix D.

Table 5 Speed/Volume Count Summary

Street Name	Direction	Percentiles				
		85th	Average	Median	Mode	ADT
Las Olas Boulevard						
Las Olas Blvd between SE 1st Ave and SE 2nd Ave	Eastbound	23	18	18	18	3334
	Westbound	26	21	21	23	3231
Las Olas Blvd between SE 4th Ave and SE 5th Ave	Eastbound	22	14	14	8	4646
	Westbound	21	13	13	8	7242
Las Olas Blvd between SE 6th Ave and SE 8th Ave	Eastbound	19	12	12	8	5431
	Westbound	19	11	11	8	5348
Las Olas Blvd between SE 10th Terr and SE 11th Ave	Eastbound	21	13	13	8	6158
	Westbound	21	12	12	8	5607
Las Olas Blvd between SE 13th Ave and SE 15th Ave	Eastbound	23	15	15	8	5620
	Westbound	24	15	15	8	4821
Las Olas Blvd between SE 16th Ave and SE 17th Ave	Eastbound	35	30	30	33	11142
	Westbound	33	25	25	28	11350
Las Olas Blvd between SE 17th Ave and Isle of Capri Dr	Eastbound	38	32	32	33	11694
	Westbound	34	29	29	33	11386
Las Olas Blvd between Isle of Palm Dr and Seven Isles Dr	Eastbound	39	33	33	33	10165
	Westbound	41	34	34	33	9909
Las Olas Blvd between Poinciana Dr and Plaza Las Olas	Eastbound	38	31	31	33	8229
	Westbound	39	33	33	33	8421
Las Olas Blvd between Seabreeze Blvd and Lauderdale Beach Blvd	Eastbound	22	16	16	8	4187
	Westbound	23	17	17	18	4938
SE 2nd Court						
SE 2nd Ct between SE 9th Ave and SE 10th Terr	Eastbound	26	21	21	23	566
	Westbound	23	19	19	18	1103
SE 2nd Ct between SE 15th Ave and SE 16th Ave	Eastbound	23	16	16	8	308
	Westbound	22	16	16	18	338
Broward Boulevard						
Broward Blvd between SE 7th Ave and SE 8th Ave	Eastbound	31	25	25	28	13573
	Westbound	28	19	19	18	11481
Broward Blvd between SE 11th Ave and SE 12th Ave	Eastbound	37	28	28	28	11591
	Westbound	37	31	31	33	11819
Broward Blvd between SE 16th Ave and SE 17th Ave	Eastbound	32	27	27	28	4293
	Westbound	32	27	27	28	2981
Broward Blvd between SE 3rd Ave and SE 6th Ave	Eastbound	37	29	29	33	13283
	Westbound	37	30	30	33	10809
Broward Blvd between SE 1st Ave and SE 3rd Ave	Eastbound	38	27	27	8	12127
	Westbound	39	31	31	33	10795
SE 8th Avenue						
SE 8th Ave between SE 2nd Ct and SE 2nd St	Northbound	24	18	18	18	3748
	Southbound	23	18	18	18	3233
SE 12th Avenue						
SE 12th Ave between SE 2nd St and SE 1st St	Northbound	26	21	21	23	971
	Southbound	28	23	23	23	1901
SE 13th Avenue						
SE 13th Ave between SE 2nd St and SE 1st St	Northbound	25	20	20	10	1028
	Southbound	27	21	21	10	984
SE 15th Avenue						
SE 15th Ave between SE 2nd St and SE 1st St	Northbound	28	22	22	23	6319
	Southbound	28	21	21	23	5891
SE 16th Avenue						
SE 16th Ave between SE 2nd St and SE 1st St	Northbound	37	23	23	10	384
	Southbound	24	20	20	10	1287
SE 17th Avenue						
SE 17th Ave between SE 2nd St and SE 1st St	Northbound	23	15	14	10	163
	Southbound	26	20	20	10	246
SE 4th Street						
SE 4th St between SE 6th Ave and SE 8th Ave	Eastbound	23	13	12	10	1449
	Westbound	22	13	13	10	1390
SE 4th St between SE 9th Ave and SE 11th Ave	Eastbound	24	20	19	10	1144
	Westbound	23	15	14	10	989
SE 4th St between Tarpon Dr and SE 15th Ave	Eastbound	23	16	15	10	340
	Westbound	23	15	14	10	325
SE 4th St between SE 16th Ave and SE 17th Ave	Eastbound	26	20	20	10	151
	Westbound	22	14	14	10	191
Tarpon Drive						
Tarpon Dr between Las Olas Blvd and SE 4th St	Eastbound	20	16	16	18	792
	Westbound	15	9	9	8	582
SE 3rd Avenue						
SE 3rd Ave between Broward Blvd and SE 2nd St	Northbound	30	24	24	28	8811
	Southbound	31	23	23	8	6815
Andrews Avenue						
Andrews Ave between Broward Blvd and SE 2nd St	Northbound	29	23	23	23	7340
	Southbound	31	24	24	28	5880

The 85th percentile speed along Las Olas Boulevard varies between 19 MPH between SE 6th and SE 8th Avenues to 41 MPH between Isle of Palm Drive and Seven Isles Drive.

7.0 – SAFETY REVIEW/CRASH ANALYSIS

A review of the most recent 5-year crash data at each studied intersection/driveway along the project corridors was also completed. The crash data was obtained using Signal Four Analytics for the period between January 1, 2015 through December 31, 2019. A brief summary of the documented crash data for the 5-year review period along the road segments and intersections within the project limits is summarized the following figures. Figure 2 depicts the project limits and identifies the extents of the crash summaries shown in Figures 3 and 4.

Figure 12 Crash Summary Figure Limits

Figure 3 depicts the 5-year crash summary for the project corridor limits west of Isle of Capri Drive. Figure 4 depicts the 5-year crash summary for the project corridor limits east of Isle of Capri Drive.

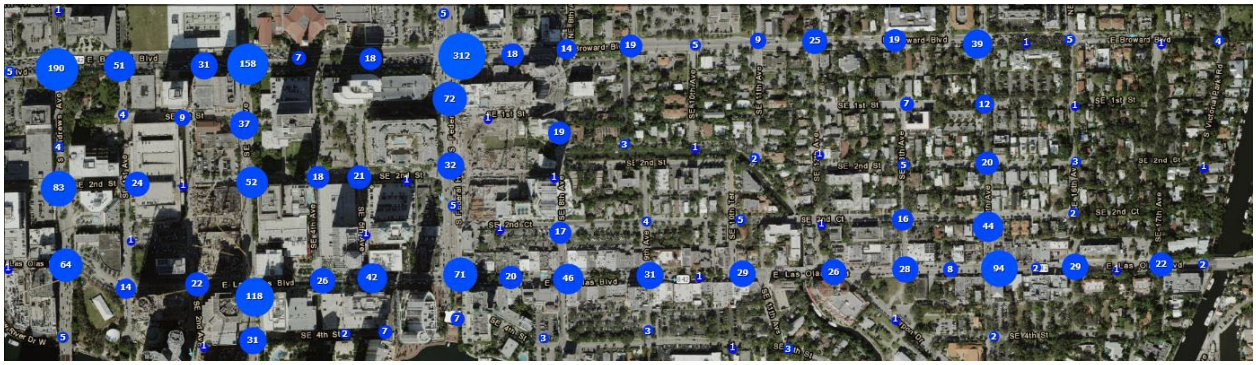

Figure 14 Five Year Crash Summary (West of Isle of Capri Drive)

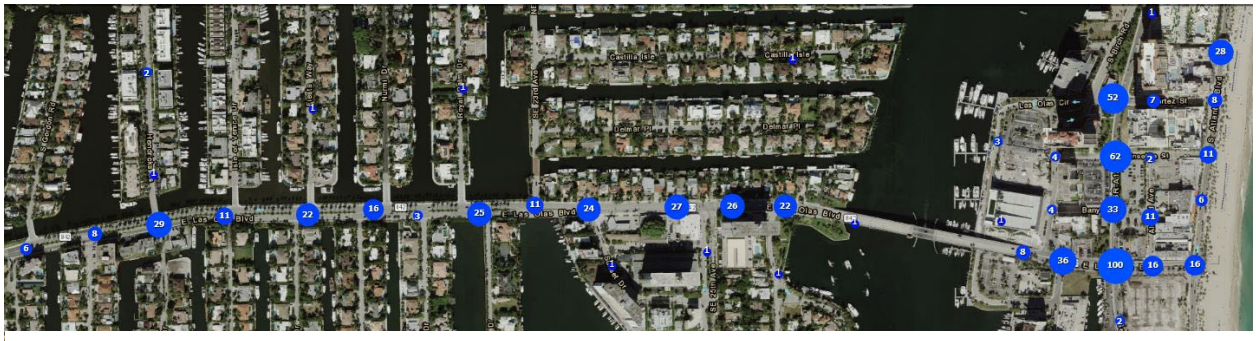

Figure 13 Five Year Crash Summary (East of Isle of Capri Drive)

More detailed metrics regarding the crash type, annual crashes, monthly crashes, day of week crashes and specific time of day for each crash has been summarized in Figures 5, 6 ,7, 8 and 9.

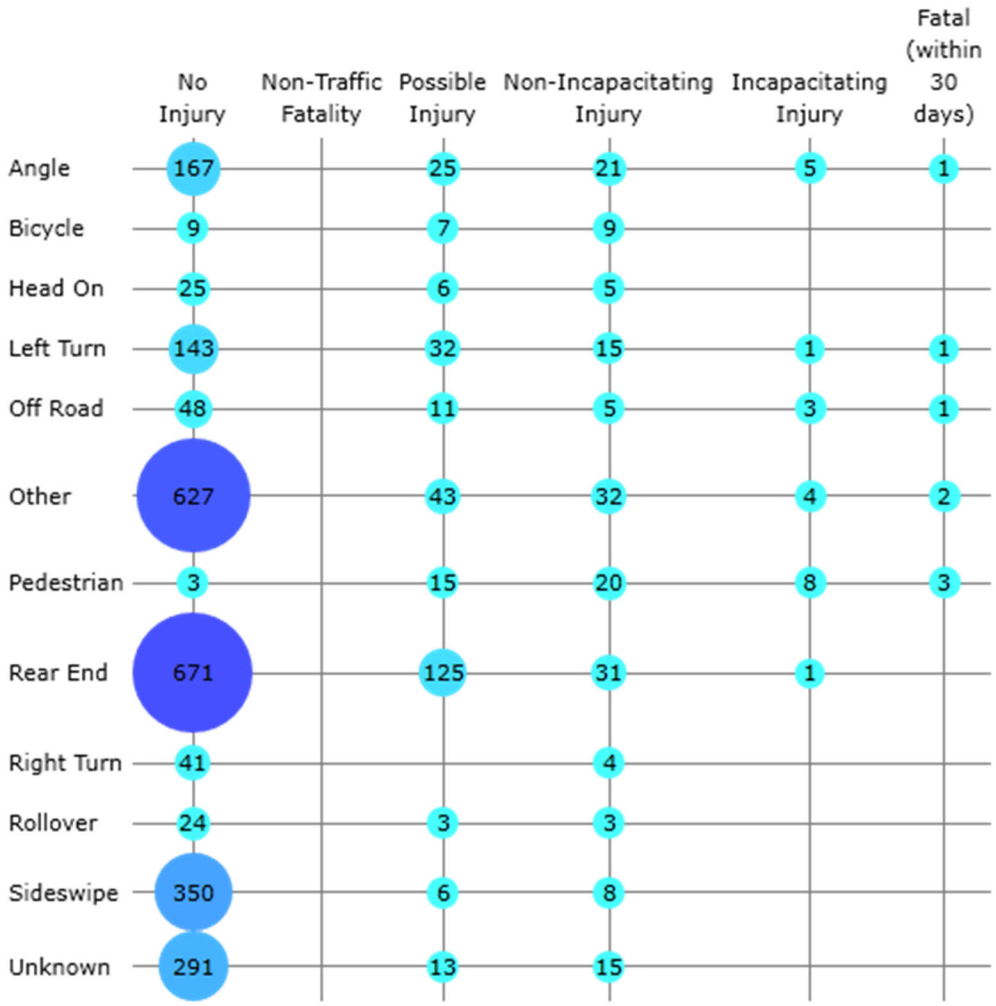

Figure 15 Five Year Crash History by Type of Crash

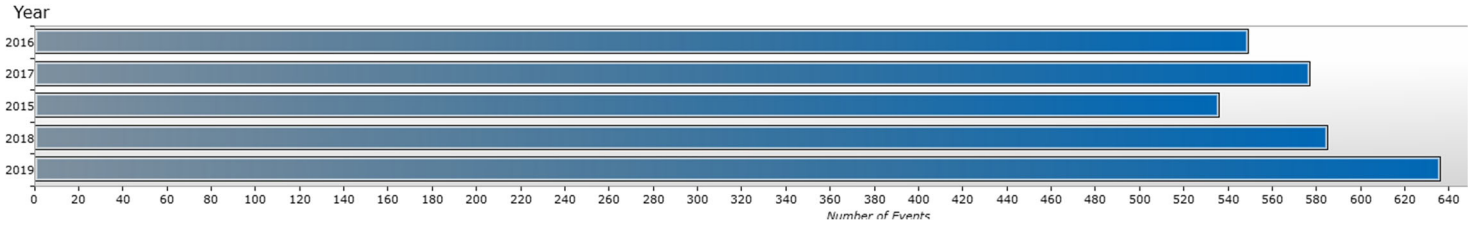

Figure 16 Five Year Crash History by Year

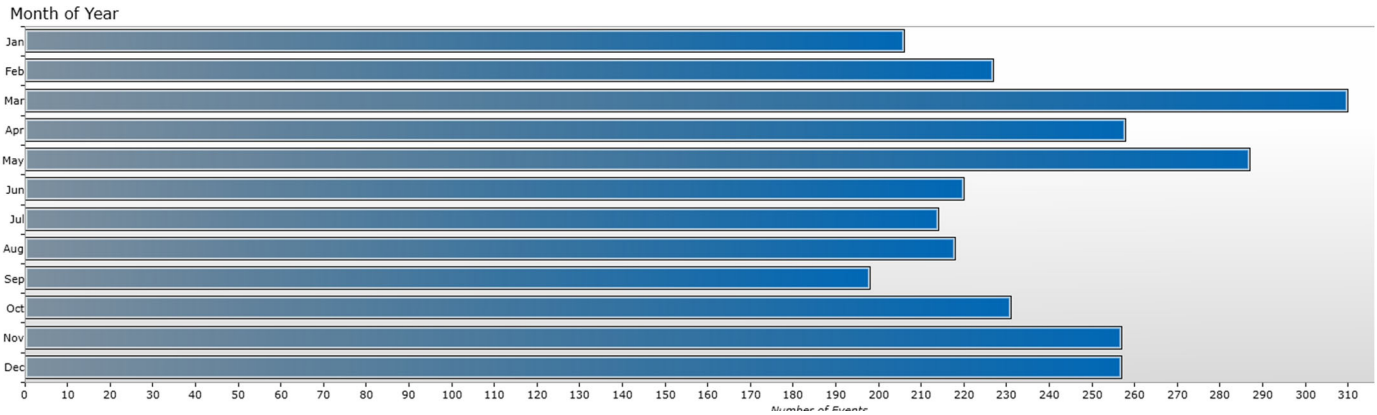

Figure 17 Five Year Crash History by Month of Year

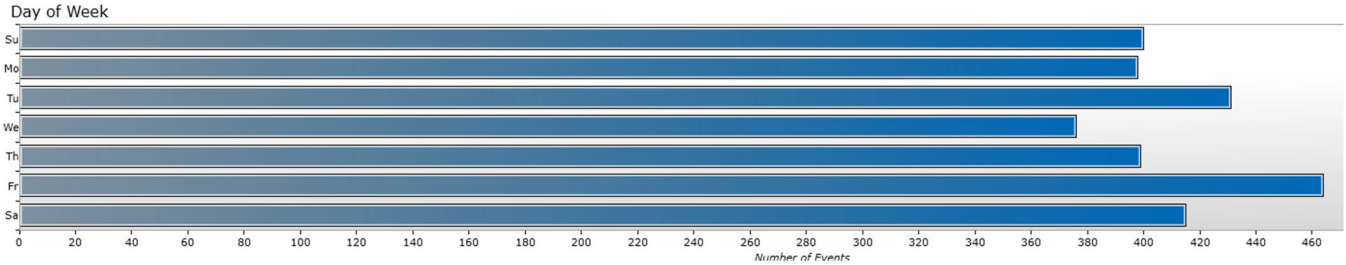

Figure 18 Five Year Crash History by Day of the Week

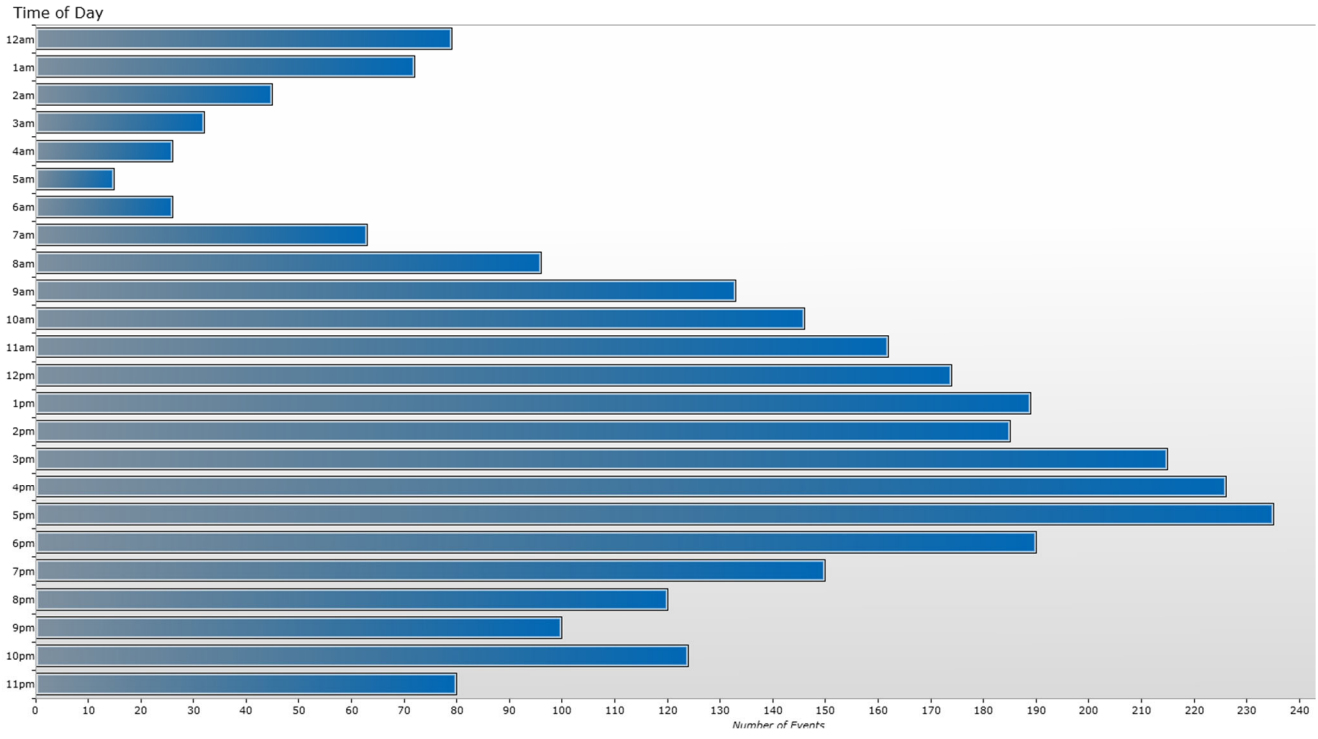

Figure 19 Five Year Crash History by Time of Day

The following are a quick summary of the key metrics taken from the prior Crash Analysis Figures:

- The highest number of crashes at Las Olas Boulevard intersections within the 5 Year period occurred at SE 3rd Avenue, Seabreeze Boulevard, NE/SE 15th Avenue and US-1/Federal Highway.
- The predominant crash pattern in the project limits is rear end crashes followed by sideswipe and angle crash types.
- The number of total crashes annually have increased each year since 2015.
- March saw the highest number of historical crashes followed by the month of May.
- Friday saw the highest number of historical crashes followed by Tuesday.
- The evening peak hour time of 5:00 p.m. saw the highest number of historical crashes followed by 4:00 p.m. and 3:00 p.m. hours.

A detailed crash summary table of the historical crashes within the project limits identified in Signal Four Analytics can be found in Appendix E.

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