

Traffic Impact Study

Las Olas Walk

S.E. 6th Avenue between S.E. 2nd Court & S.E. 1st Street
Ft. Lauderdale, Florida



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Prepared for
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Ft. Lauderdale, FL

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Introduction

This office has completed a traffic impact study for the proposed residential development, known as Las Olas Walk, to be located on the east side of U.S. 1, between S.E. 2nd Court and S.E. 1st Street in the City of Ft. Lauderdale, Florida, with primary access on S.E. 2nd Street. The site is located as shown in Figure 1, with the currently proposed site plan (prepared by Flynn Engineering Services, Inc., dated January 27, 2017) detailed in Appendix A. Although a drop off lane will be provided to the northern portion of the site, between S.E. 2nd Street and S.E. 1st Street, all access to the parking facilities will occur on both S.E. 2nd Court and S.E. 2nd Street.

The site has no frontage directly onto Federal Highway (US 1), but does front onto the frontage road that connects Las Olas Boulevard to U.S. 1. No driveway is proposed onto that roadway facility.

The proposed development will include a 456 unit multi-story apartment building. In support of this development, the site will include a garage, to be located on the southern portion of the property connecting to both S.E. 2nd Court and S.E. 2nd Street.

As this project is a re-development project, the amount of traffic expected to be generated by the proposed uses was compared to that which is generated by the existing uses and the net difference in traffic volumes was analyzed. The existing development on the property includes approximately 9,522 Square Feet of furniture store, supported by a 684 SF office.

A meeting was held with the staff of the City's Transportation & Mobility Department, including the assigned traffic engineering consultant to the City, on September 26, 2016, to discuss the study methodology. Minutes from that meeting were forwarded to the City for their approval. A copy of the agreed upon methodology memorandum is included as Appendix B. Additional comments were provided by the City staff and the traffic engineering consultant, with responses subsequently provided by this office.

This report includes the final response from the City's consultant, indicating that the methodology is acceptable.

As a result of this analysis, it is recommended that this project can be constructed without the need for any additional off-site roadway modifications. Traffic operating conditions on the surrounding roadways, after the traffic impacts from this development are realized, will be minimal and within acceptable levels.

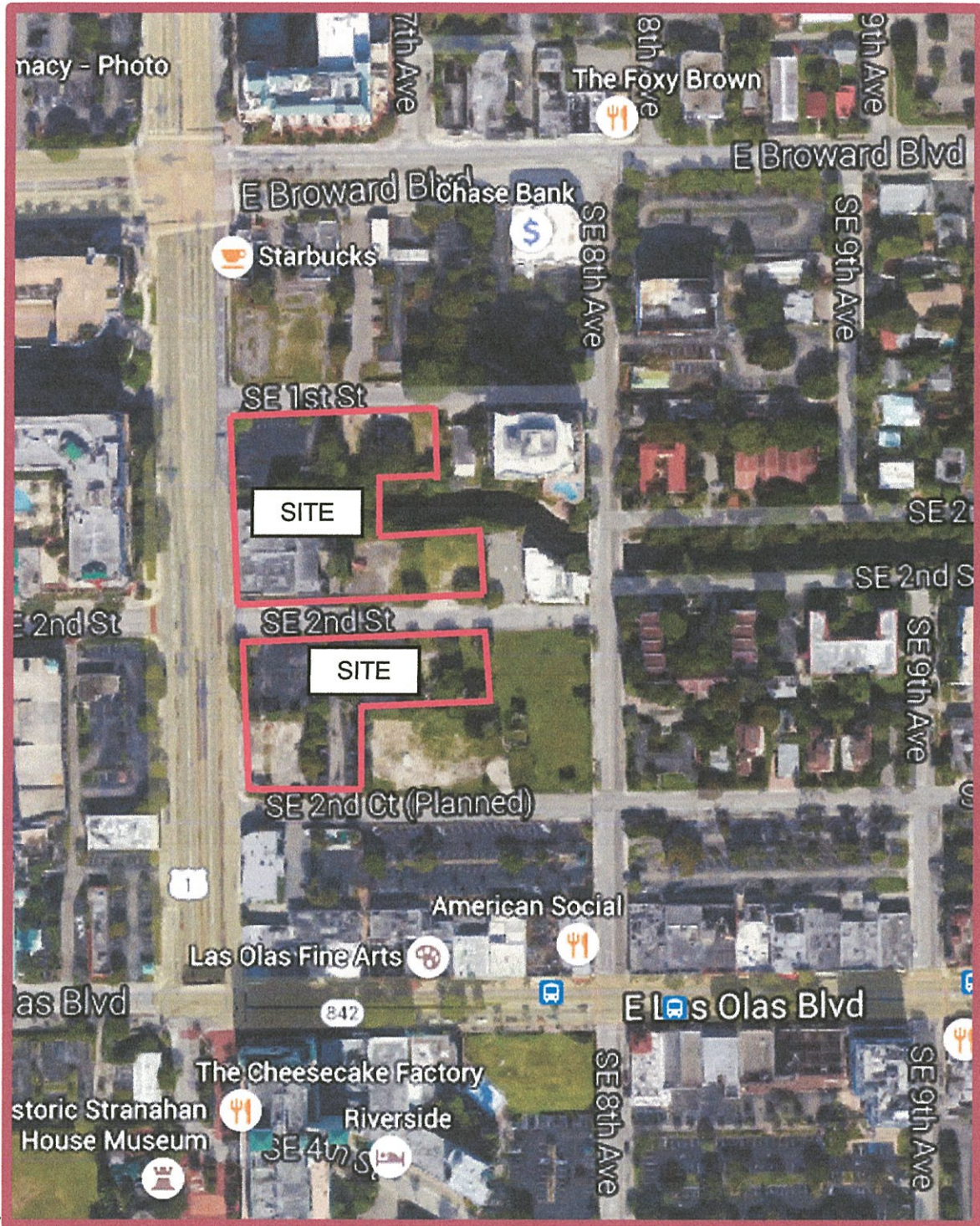


Figure 1
Site Location

Las Olas Walk

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Existing Traffic

AM and PM Peak Hour traffic counts were completed at the following intersections on June 2, 2016:

- 1) Las Olas Boulevard @ S.E. 6th Avenue
- 2) Las Olas Boulevard @ S.E. 8th Avenue
- 3) Broward Boulevard @ Federal Highway (U.S. 1)
- 4) Broward Boulevard @ S.E. 8th Avenue

Additional counts were completed at the following intersections on November 2, 2016:

- 1) Las Olas Boulevard @ S.E. 9th Avenue
- 2) Las Olas Boulevard @ S.E. 15th Avenue
- 3) Broward Boulevard @ S.E. 15th Avenue

All counts were completed during the school year to ensure that they accounted for the influence of nearby schools. The intersection counts were completed between the hours of 7:00 and 9:00 AM, as well as 4:00 and 6:00 PM, the typical highway peak periods. The data for both peak periods is included in Appendix C. In addition, between September 2013 and April 2016, the City completed three (3) different traffic studies on and around S.E. 15th Avenue between Las Olas Boulevard and Broward Boulevard. These documents were reviewed to insure that the results of this analysis are not in conflict with the conclusions of those reports.

All traffic counts were then adjusted to Peak Season using FDOT Seasonal Adjustment Factors for 2015, in the area of Broward County between A1A and U.S. 1. The FDOT document, included in Appendix D, showed that counts completed in the first week of June could be adjusted to peak season by applying a 1.18 factor to the actual data collected, and counts completed in the first week of November could be adjusted by a factor of 1.13 to represent peak season conditions. “Figure 2 – Existing Traffic – Intersections” and “Figure 3 – Existing Traffic – Roadway Segments” summarize the AM and PM Peak Hour traffic volumes adjusted to peak season.

As can be seen, Las Olas Boulevard, a four-lane divided highway within the study area (although functioning as a two lane divided roadway due to permitted on-street parking within the two outside lanes of the roadway), carries between 646 and 1,760

vehicles per hour (vph) during the AM Peak Hour and 815 to 2,084 vph during the PM Peak Hour. During these same peak periods, Broward Boulevard, a four- and six-lane divided highway, carries 1,895 – 2,619 vph and 2,139 – 3,130 vph, respectively. Federal Highway (U.S. 1), also a six-lane divided highway, carries higher traffic volumes during both peak periods (3,640 – 4,545 vph in the AM Peak Hour and 3,977 – 4,709 vph in the PM). S.E. 8th Avenue and S.E. 15th Avenue between Las Olas Boulevard and Broward Boulevard are both two-lane undivided roadways. The former carries 388 – 492 vph in the AM Peak Hour and 389 – 635 vph during the PM Peak Hour, while the latter roadway carries 1,043 vph in the AM Peak Hour and 1,195 vph during the PM Peak Hour.



Figure 2
Las Olas Walk
Existing Peak Hour Traffic Volumes – Intersections

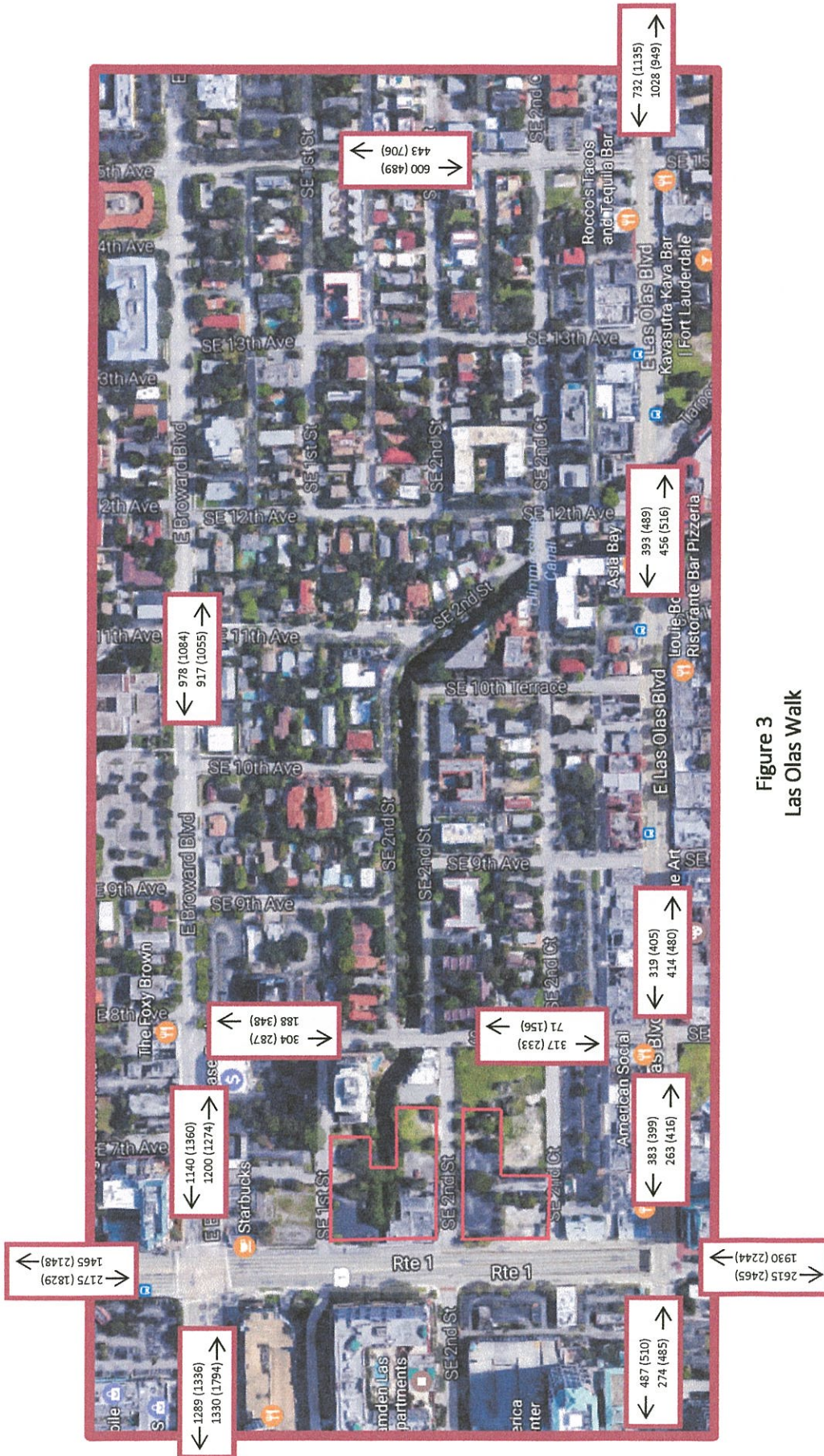


Figure 3
Las Olas Walk

Existing Peak Hour Traffic Volumes – Roadway Segments

LEGEND

xxx AM Peak Hour Traffic (veh. per hr.)
(yyy) PM Peak Hour Traffic (veh. per hr.)
(Traffic Counts Completed on 6/2/16 and 11/2/16
Adjusted to Peak Season (+18% & +13%))

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Background Traffic (without Site Traffic)

It is anticipated that the proposed development will be completed in 2019. Two factors will affect traffic between now and when the project is expected to be completed:

- 1) Growth in traffic volumes. In order to estimate this phenomenon, a review was made of historic traffic volumes on nearby roadways. The Florida Department of Transportation (FDOT) maintains records of traffic volumes on most roadway segments throughout the State. For this analysis, four (4) nearby roadway segment counts were reviewed and annual growth rates were calculated based on the past 10 years of data. The historical data for these four locations was obtained from the FDOT website. The segments and the calculated annual average, compound growth rates for the period 2005 to 2015 are shown in Table 1, below.

Table 1				
Las Olas Walk				
Annual Growth Rate (2005 - 2015) of Traffic on Surrounding Roaway Segments				
Roadway	Location	ADT		Annual Growth Rate
		2005	2015	
U.S. 1	South of Broward Blvd.	51,000	40,500	-2.28%
	North of Broward Blvd.	43,500	40,000	-0.84%
Broward Blvd.	West of U.S. 1	36,500	38,500	0.53%
Las Olas Blvd.	East of S.E. 9 Ave.	18,000	16,000	-1.17%
AVERAGE GROWTH RATE				-0.94%

For the purposes of this analysis, and as agreed at the time of the Methodology meeting, it was assumed that the minimum growth rate would be **0.5%** annually through the build-out date, anticipated to be 2019.

- 2) Impact from other proposed, unbuilt developments in the area around the proposed development. Based on information obtained from City staff at the Methodology Meeting, it was determined that there are two planned developments within the area surrounding this site that will impact future traffic volumes on the surrounding roadway network: (a) the 790 Broward mixed use project to be located northeast of the Las Olas Walk project and (b) the Fairfield Inn & Suites to be located north of the proposed Las Olas Walk project. Adjustment to the existing traffic counts related to this additional development were obtained from the City, with excerpts from the Traffic Impact Studies for those projects included in Appendix E.

These two factors (growth and other proposed development traffic) were therefore applied to the existing traffic data, as collected and shown in Figures 2 and 3, to estimate the projected conditions that will be experienced when the site is developed. The growth adjustment factor applied was 0.5% growth over a three year period (2016 when the counts were collected to 2019 the outside time period for the expected completion date of the project) = $1.005 \times 1.005 \times 1.005 = 1.015075$.

Appendix F shows details of the intersection traffic volume projections, including all factors described above. That data is detailed in “Figure 4 – Background Peak Hour Traffic Volumes (w/o Site Traffic) – Intersections” and “Figure 5 – Background Peak Hour Traffic Volumes (w/o Site Traffic) – Roadway Segments”.



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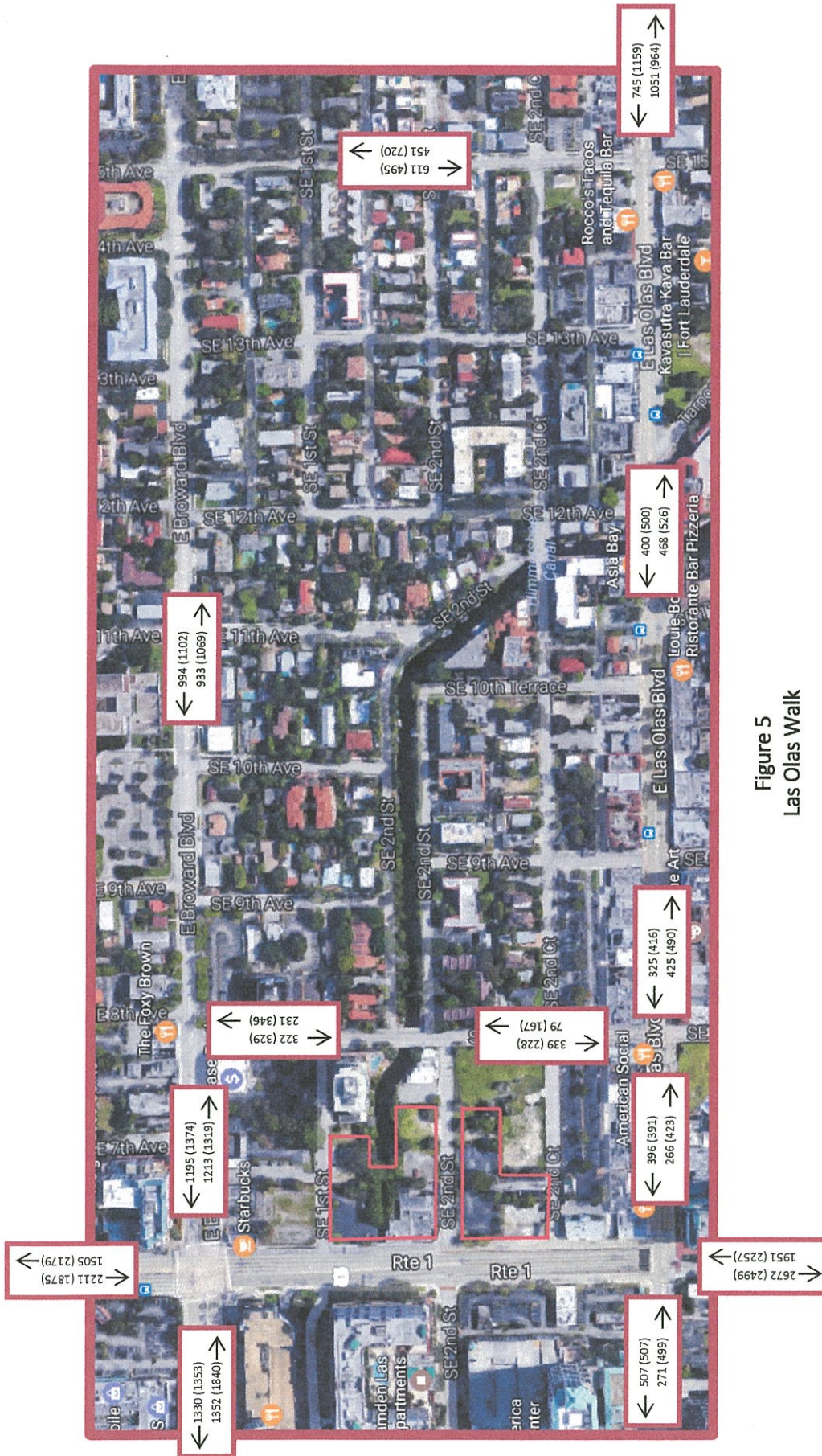


Figure 5
Las Olas Walk

Background Peak Hour Traffic Volumes (w/o Site Traffic) – Roadway Segments

LEGEND

xxx AM Peak Hour Traffic (veh. per hr.)
(yyy) PM Peak Hour Traffic (veh. per hr.)

(Existing Traffic Increased to Build-Out Year (2019) at
0.5% Increase per Year, plus Approved, Unbuilt
Development Traffic)

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Site Traffic Generation

In order to estimate the future net change in traffic volumes anticipated to be generated by the proposed development, the Institute of Transportation Engineers (ITE) "Trip Generation Manual", 9th Edition, was consulted. That document includes trip generation rates for a variety of land use types, including:

ITE Land Use Code "710 – General Office"

ITE Land Use Code "890 – Furniture Store"

ITE Land Use Code "222 – High Rise Apartments"

These are the most appropriate ITE Land Use Codes for the developments, both existing and proposed. The trip generation rates (which were reviewed and approved as appropriate by the City's Transportation & Mobility Department prior to the completion of this study) for Daily, AM and PM Peak Hour are included in "Tables 2 – Trip Generation – Existing Development" and "Table 3 – Trip Generation – Proposed Development". These tables also include information relative to the amount of traffic that will be entering and exiting the site to/from the various components of the development, both existing and proposed. A certain proportion of the furniture store traffic will be captured from the existing streams of traffic on roadways surrounding the site. Information relative to the "Pass-By" phenomenon was obtained from the ITE "Trip Generation Handbook", 3rd Edition.

The trip generating characteristics of the existing development were compared with the proposed scenario to determine the expected change in traffic volumes on the area roadways anticipated as a result of this re-development project. The anticipated change in traffic volumes is shown on "Table 4 – Trip Generation – Increase/Decrease"

During the AM Peak Hour, it is expected that 24.3% of the project traffic will be entering and 75.7% will be exiting the site. During the PM Peak Hour, it is expected that 61.8% of the overall site traffic will be entering and 38.2% will be exiting the site.

Table 2

Las Olas Walk

Based on Property Appraiser's Website

Trip Generation - Existing Development

<i>Daily</i>	ITE LUC	Units	Size	Daily Trip Generation Equation*	Site Traffic	Site Traffic Enter	Site Traffic Exit
Furniture Store	890	1000 sf	9,522	$T = 5.06 (X)$	48	24	24
Office	710	1000 sf	0,684	$T = 11.03 (X)$	8	4	4
Total Existing Trips					56	28	28
Pass-By (Furniture Store)**			53.00%		-26	-13	-13
Total Net Existing Trips					30	15	15

<i>A.M. Peak Hour</i>	ITE LUC	Units	Size	AM Peak Hour Trip Generation Equation*	Site Traffic	Site Traffic Enter	Site Traffic Exit
Furniture Store	890	1000 sf	9,522	$T = 0.17 (X)$	2	1	1
Office	710	1000 sf	0,684	$T = 1.56 (X)$	1	1	0
Total Existing Trips					3	2	1
Pass-By (Furniture Store)**			53.00%		-1	-1	0
Total Net Existing Trips					2	1	0

<i>P.M. Peak Hour</i>	ITE LUC	Units	Size	PM Peak Hour Trip Generation Equation*	Site Traffic	Site Traffic Enter	Site Traffic Exit
Furniture Store	890	1000 sf	9,522	$T = 0.45 (X)$	4	2	2
Office	710	1000 sf	0,684	$T = 1.49 (X)$	1	0	1
Total Existing Trips					5	2	3
Pass-By (Furniture Store)**			53.00%		-2	-1	-1
Total Net Existing Trips					3	1	2

* From Institute of Transportation Engineers "Trip Generation Manual", 9th Edition

** From ITE "Trip Generation Handbook", 3rd Edition

Table 3

Las Olas Walk

Based on Site Plan Prepared by Flynn Engineering (9/07/2016)

Trip Generation - Proposed Development

<i>Daily</i>	ITE LUC	Units	Size	Daily Trip Generation Equation*	Site Traffic	Site Traffic Enter	Site Traffic Exit
Apartments	222	D.U.	456	$\text{Ln}(T) = 0.83 \text{ Ln}(X) + 2.50$	<i>vpd</i>	<i>vpd</i>	<i>vpd</i>
Total Proposed Net Trips					1,962	981	981

<i>A.M. Peak Hour</i>	ITE LUC	Units	Size	AM Peak Hour Trip Generation Equation*	Site Traffic	Site Traffic Enter	Site Traffic Exit
Apartments	222	D.U.	456	$T = 0.30 (X)$	<i>vph</i>	<i>vph</i>	<i>vph</i>
Total Proposed Net Trips					137	34	103

<i>P.M. Peak Hour</i>	ITE LUC	Units	Size	PM Peak Hour Trip Generation Equation*	Site Traffic	Site Traffic Enter	Site Traffic Exit
Apartments	222	D.U.	456	$T = 0.35 (X)$	<i>vph</i>	<i>vph</i>	<i>vph</i>
Total Proposed Net Trips					160	97	62

* From Institute of Transportation Engineers "Trip Generation Manual", 9th Edition

Table 4
790 Broward
Based on Survey & Site Plan

Trip Generation - Increase/Decrease

	Difference In Site Traffic		
	Total	Enter	Exit
Daily	1,932	966	966
AM Peak Hour	135	33	102
PM Peak Hour	157	96	60

Site Traffic Distribution and Assignment

Consistent with the agreed upon methodology, it was assumed that traffic to/from the site would be distributed onto the area roadway network in the same ratios as the existing traffic volumes on the roadways around the site.

Existing two-way Daily traffic volumes on the surrounding roadways were obtained from the FDOT website for the latest year for which data is available (2015). The ratio of the individual link volume to the total link volumes was estimated to be the approximate distribution of the site traffic. In general, the estimated traffic distribution is:

<u>To/From</u>	<u>Percentage of Site Traffic</u>
North	20.83%
South	42.97%
East	8.33%
West	27.87%

This is shown in “Figure 6 – Site Traffic Distribution”.

Using the net change in site traffic volumes previously calculated and the distribution of site traffic identified in “Figure 6 – Site Traffic Distribution”, site traffic volumes for both the AM and PM Peak Hours were calculated for each of the impacted intersections within the study area, as well as at each roadway link around the site. Consideration was given to turn restrictions at the proposed access points, as shown on the latest Site Plan, and limitations on traffic movements at intersections around the site. Appendix G includes details of the percentage distribution of both the entering and exiting traffic assignment for the proposed development. The assigned net change in traffic volumes resulting from this proposed re-development of the site are shown in “Figure 7 – Additional Site Traffic – Intersections” and “Figure 8 – Additional Site Traffic – Roadway Segments”.



LEGEND

xx,xxx Daily Traffic*

xx.xx% Percent of Total

*From FDOT Website

Figure 6
Site Traffic Distribution
Las Olas Walk

Tinter Traffic, LLC



Figure 7
Las Olas Walk
Additional Site Traffic Volumes – Intersections

Tinter Traffic, LLC

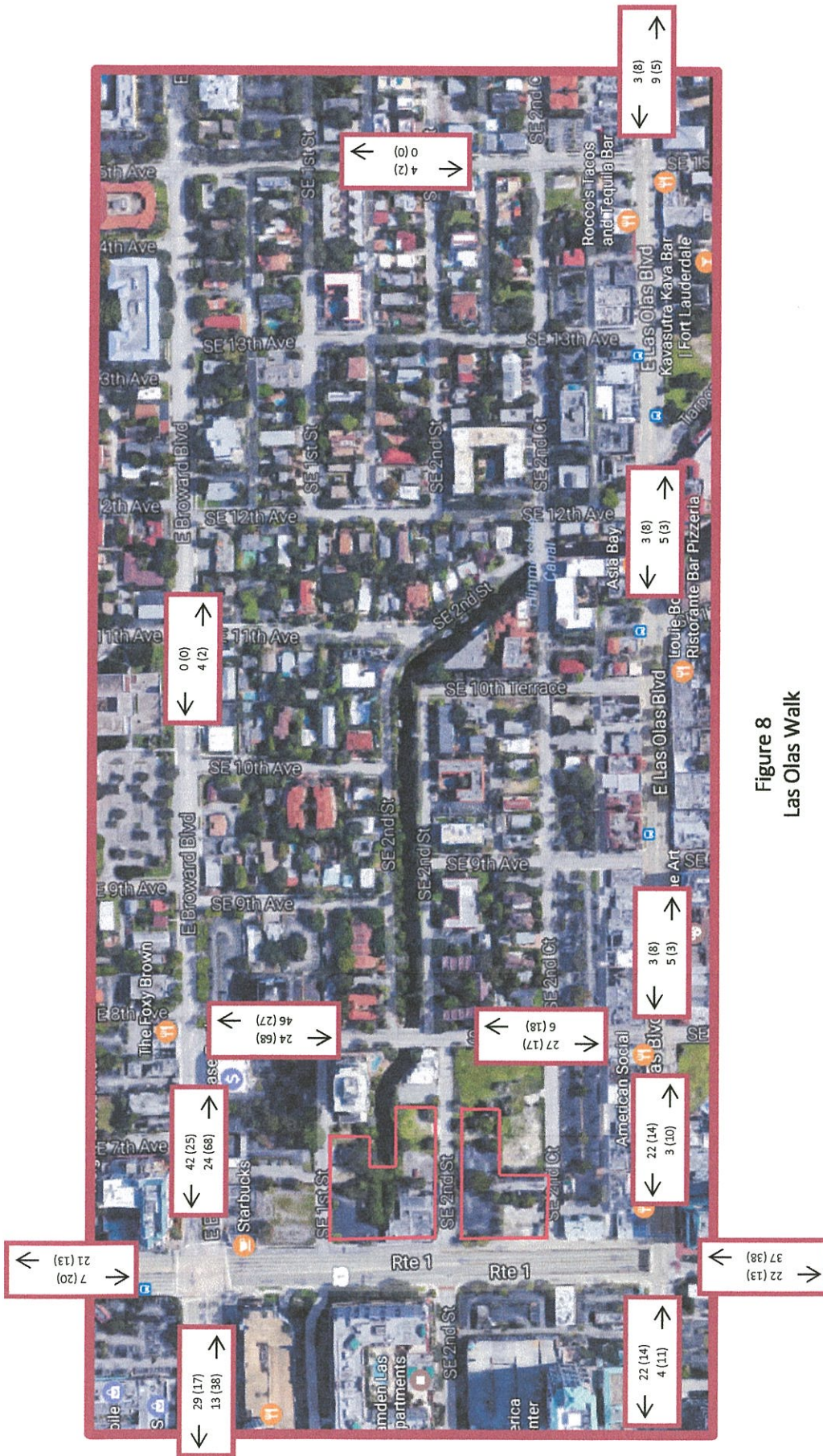


Figure 8
Las Olas Walk

Additional Site Traffic Volumes – Roadway Segments

LEGEND

xxx AM Peak Hour Traffic (veh. per hr.)
(yyy) PM Peak Hour Traffic (veh. per hr.)

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Future Traffic (with Site Traffic)

Combining the Peak Hour site traffic volumes (Figure 7 & 8) with the Background (2019) Peak Hour traffic volumes on the surrounding roadway network (Figure 4 & 5) yields the total future Peak Hour traffic volumes anticipated at the time of the build-out of the Las Olas Walk project. This is depicted on “Figure 9 – Future Peak Hour Traffic Volumes (w/ Site Traffic) – Intersections” and “Figure 10 – Future Peak Hour Traffic Volumes (w/ Site Traffic) – Roadway Segments”.



LEGEND

xxx AM Peak Hour Traffic (veh. per hr.)
 (yy) PM Peak Hour Traffic (veh. per hr.)
 (Background Traffic plus Additional Site Traffic)

Figure 9
Las Olas Walk
Future Peak Hour Traffic Volumes (w/ Site Traffic) – Intersections

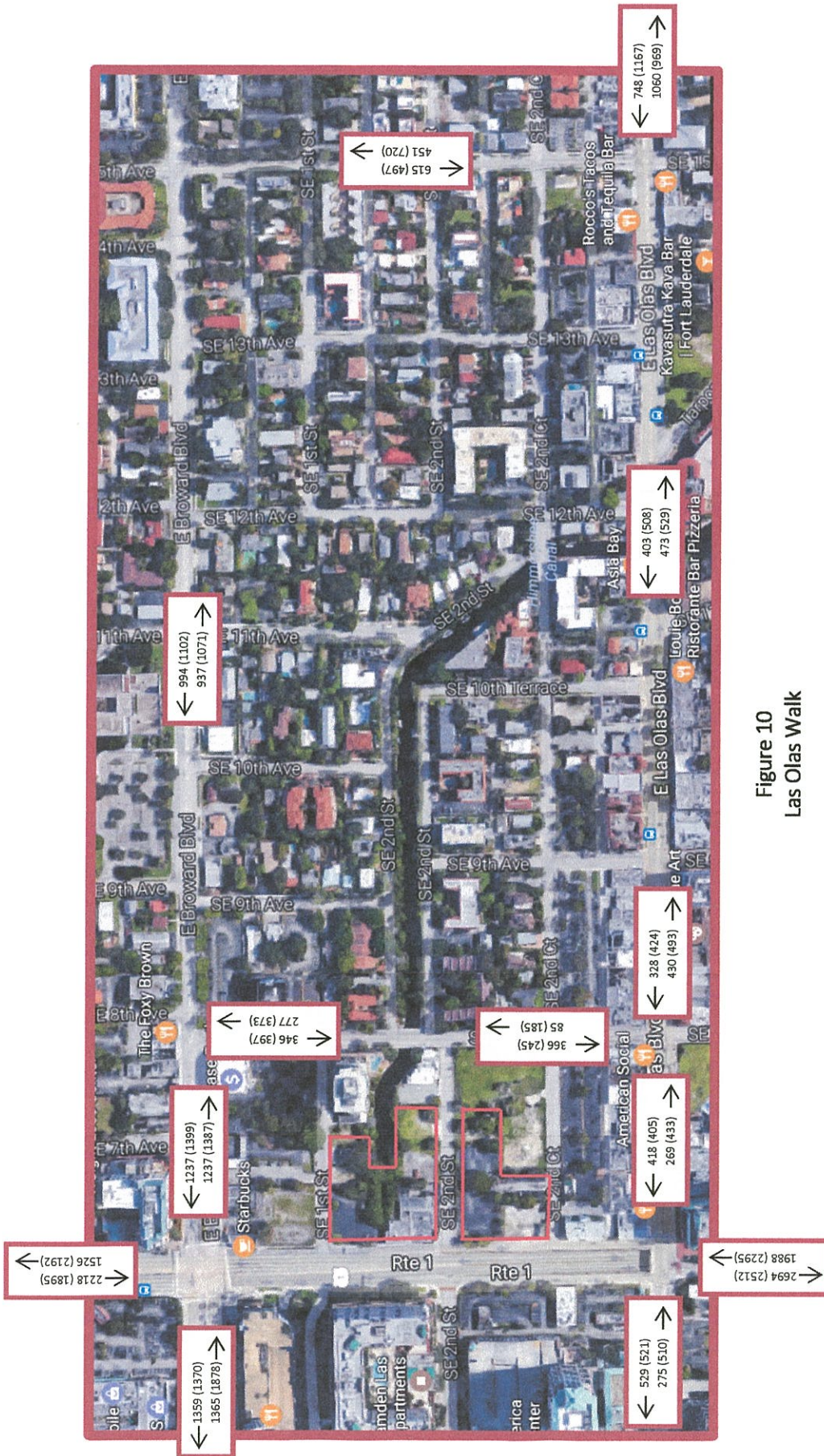


Figure 10
Las Olas Walk

Future Peak Hour Traffic Volumes (w/ Site Traffic) – Roadway Segments

LEGEND

xxx AM Peak Hour Traffic (veh. per hr.)
(yyy) PM Peak Hour Traffic (veh. per hr.)
(Background Traffic plus Additional Site Traffic)

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Analysis – Intersections

Intersection analyses were completed for all seven signalized intersections within the study area:

- (1) Las Olas Boulevard @ S.E. 6th Avenue
- (2) Las Olas Boulevard @ S.E. 8th Avenue
- (3) Las Olas Boulevard @ S.E. 9th Avenue
- (4) Las Olas Boulevard @ S.E. 15th Avenue
- (5) Broward Boulevard @ U.S. 1 (S.E. 6th Avenue)
- (6) Broward Boulevard @ S.E. 8th Avenue
- (7) Broward Boulevard @ S.E. 15th Avenue

The analyses were done using the Highway Capacity Manual 2010 (HCM 2010) module of the Synchro software (Version 8.0). Signal timing plans were obtained from Broward County Traffic Engineering for use in completing these analyses (see Appendix H). Six different analyses were done at each of the seven intersections: AM and PM for existing, background and future traffic conditions. The summary sheets for these analyses are included as Appendix I (Existing), J (Background –2019, w/o site traffic) and K (Future – 2019, with site traffic), with a summary of the overall intersection operating characteristics shown on Table 5.

As can be seen in this table, the operating characteristics, expressed as average delay per vehicle, at the seven signalized intersections will remain relatively unchanged from background (without site traffic) to future (with site traffic) conditions, although average delay per vehicle will increase very slightly. In 2019, the average delay at the impacted intersections will, as a result of this redevelopment, increase as follows:

<u>Intersection</u>	<u>Average Delay (Seconds per Vehicle)/Level of Service</u>			
	<u>Pk Hr</u>	<u>2019</u>	<u>w/ Site</u>	<u>Incr.</u>
Las Olas @ 6 th	AM	19.2/B	19.3/B	0.1
	PM	23.9/C	24.6/C	0.7
Las Olas @ 8 th	AM	16.6/B	17.2/B	0.6
	PM	13.9/B	14.2/B	0.3
Las Olas @ 9 th	AM	14.4/B	14.4/B	0.0
	PM	14.9/B	14.9/B	0.0
Las Olas @ 15 th	AM	168.8/F	170.9/F	2.1
	PM	119.8/F	121.7/F	1.9

<u>Intersection</u>	<u>Pk Hr</u>	<u>Average Delay (Seconds per Vehicle)/Level of Service</u>		
		<u>2019</u>	<u>w/ Site</u>	<u>Incr.</u>
Broward @ US 1	AM	104.7/F	108.0/F	3.3
	PM	116.2/F	122.1/F	5.9
Broward @ 8 th	AM	11.6/B	12.9/B	1.3
	PM	13.4/B	14.1/B	0.7
Broward @ 15 th	AM	35.8/D	35.9/D	0.1
	PM	108.5/F	108.5/F	0.0

As can be seen in both Table 5 and the above summary table, future operating characteristics, as defined by Level of Service (LOS), will not be altered as a result of the Las Olas Walk project. In 2019, the LOS at each intersection remains unchanged from the Background w/o Site Traffic condition to Future w/ Site Traffic scenario.

The following intersections will operate in all three study scenarios (existing, background and future) at LOS “F”:

- 1) Las Olas Boulevard @ S.E. 15th Avenue during AM & PM Peak Hours
- 2) Broward Boulevard @ U.S. 1 during AM & PM Peak Hours
- 3) Broward Boulevard @ S.E. 15th Avenue during the PM Peak Hour

It is important to note, however, that this condition will exist regardless of the development of Las Olas Walk project. Even though these intersections will experience minor increases in traffic volumes as a result of this redevelopment project, the average delay per vehicle at these locations will be minimally impacted by the project in the future, varying from 0.0 to 5.9 seconds per vehicle. The potential modification of these intersections is restricted as a result of right-of-way constraints. As a result, Broward County addresses these conditions through the Transit Oriented Concurrency program, i.e. improvements to operating conditions are developed through improvements to the County’s transit system.

Table 5 Las Olas Walk Peak Hour Intersection Analysis									
		Las Olas Boulevard @					Broward Boulevard @		
		SE 6 Ave	SE 8 Ave	SE 9 Ave	SE 15 Ave	US 1	SE 8 Ave	SE 15 Ave	
2016 Existing	AM	Delay LOS B	19.0 B	16.1 B	14.3 B	162.4 F	99.0 F	10.1 B	34.0 C
	PM	Delay LOS C	23.8 C	14.0 B	14.8 B	116.7 F	108.8 F	13.3 B	103.4 F
2019 Background	AM	Delay LOS B	19.2 B	16.6 B	14.4 B	168.8 F	104.7 F	11.6 B	35.8 D
	PM	Delay LOS C	23.9 C	13.9 B	14.9 B	119.8 F	116.2 F	13.4 B	108.5 F
2019 Future	AM	Delay Delay Incr. LOS	19.3 0.1 B	17.2 0.6 B	14.4 0.0 B	170.9 2.1 F	108.0 3.3 F	12.9 1.3 B	35.9 0.1 D
	PM	Delay Delay Incr. LOS	24.6 0.7 C	14.2 0.3 B	14.9 0.0 B	121.7 1.9 F	122.1 5.9 F	14.1 0.7 B	108.5 0.0 F

Note: Delay is Average Delay per Vehicle, Measured in Seconds

Analysis – Roadway Segments

Directional roadway segment traffic volumes for Existing (Figure 3), Background (2019, without the site, Figure 5) and Future (2019, with the site, Figure 10) were compared with capacity figures for the roadway segments surrounding the proposed development. The capacities of the roadways were obtained from the FDOT “2013 Quality/Level of Service Handbook”. Table 7 of that document shows Generalized Peak Hour Directional Volumes for Florida’s Urbanized Areas (see Appendix L for a copy of that table,) the appropriate table for use in these roadway link analyses.

Las Olas Boulevard from west of S.E. 6th Avenue to east of S.E. 15th Avenue, a 4-lane divided (functioning as a two lane divided highway, as parking is permitted along both the north and south curblines within the study area) City Collector (according to the MPO’s map entitled “Broward Highway Functional Classifications”), with a posted speed limit of 25 MPH, has, according to the FDOT table, a directional capacity at Level of Service (LOS) “C” and “D” of 657 and 1,467 vph, respectively, west of S.E. 15th Avenue. East of that location, the capacities at LOS “C” and “D” increase to 730 and 1,630 vph, respectively.

Broward Boulevard, west of U.S. 1 is a 6-lane divided highway, with a posted Speed Limit of 35 MPH, has directional capacities at LOS “C” and “D” of 1,170 and 2,520 vph, respectively. East of U.S. 1, Broward Boulevard becomes a 4-lane undivided roadway. The LOS “C” and “D” capacities for this section of the roadway are 657 and 1,467 vph, respectively.

U.S. 1/S.E. 6th Avenue is a 6-lane divided highway with posted speed limit of 35 MPH. This highway has directional capacities of 1,170 and 2,520 vph at LOS “C” and “D”, respectively.

Both S.E. 8th Avenue and S.E. 15th Avenue are north/south oriented roadways between Las Olas Boulevard and Broward Boulevard, with posted speed limits of 25

MPH. Peak hour directional capacities of both of these City roadways are of 333 and 675 vph at LOS “C” and “D”, respectively.

Existing, Background (2019 without the site) and Future with the site AM and PM Peak Hour traffic volumes were compared to the capacities identified above. The results of these comparisons are detailed in “Table 6 – Peak Hour Link Analysis (Directional)”. To be consistent with studies completed for other nearby proposed developments (those included in the background traffic calculations), it was deemed appropriate to use directional capacities for this analysis.

As can be seen from this table, with the exception of southbound U.S. 1, south of Broward Boulevard, at no time will the Level of Service exceed LOS “D”, a Level of Service that is considered acceptable in the City of Ft. Lauderdale. In one instances, S.E. 8th Avenue southbound between S.E. 2nd Street and Broward Boulevard during both the AM & PM Peak Hour, the directional LOS is expected to slightly decrease from a LOS “C” to LOS “D”. The referenced portion of U.S. 1, while experiencing a low LOS in all three scenarios, will only be minimally impacted by the project traffic, not enough to change the LOS on that roadway segment.

As indicated above, the LOS for all Future conditions (w/ site traffic) is within the range that the City of Ft. Lauderdale considers acceptable. These roadway segments where the anticipated LOS will change with the addition of the net site traffic change are highlighted in yellow on Table 6.

Traffic volumes on all but four roadway segments around the development will consume less than 2.86% of each of the roadway segments’ directional capacities. A comparison of the site traffic to the capacities is shown on Table 6. Only three roadway segments within the study area will carry site related traffic that exceeds 3% of those roadways’ directional capacities (highlighted in orange in Table 6). This is important to note, as 3% of a roadway’s capacity is the level of traffic impact that is considered significant by the Broward County Planning Council. It is therefore demonstrated by the data contained within Table 6 that traffic impacts anticipated

from the development of Las Olas Walk project, with the exception of Broward Boulevard between U.S. 1 and two segments of S.E. 8th Avenue between Las Olas Boulevard and Broward Boulevard, are not expected to be significant. However, as noted above, the Level of Service on those roadway segments will remain at an acceptable LOS in 2019, including the net change in site related traffic.

In the recent past, the City of Ft. Lauderdale has conducted a number of traffic studies on portions of S.E. 15th Avenue between Las Olas Boulevard and Broward Boulevard. The most recent of those studies were completed in late 2015 and early 2016. The impacts from the net change in site related traffic is expected to be minimal on the roadways analyzed in those studies. It is anticipated that the following minor changes in traffic volumes will result because of the Las Olas Walk redevelopment project:

	<u>Peak Hour Site Traffic Change</u>			
	<u>AM (vph)</u>		<u>PM (vph)</u>	
	<u>E/N'bnd</u>	<u>W/S'bnd</u>	<u>E/N'bnd</u>	<u>W/S'bnd</u>
Las Olas Blvd.				
West of S.E. 15 th Ave.	5	3	3	8
East of S.E. 15 th Ave.	9	3	5	8
Broward Blvd. West of S.E. 15 th Ave	4	0	2	0
S.E. 15 th Ave. btwn Las Olas/Broward	0	4	0	2

Therefore, the redevelopment of the Las Olas Walk site will not impact the proposed modifications recommended in the previous studies of traffic within the S.E. 15th Avenue corridor.

Roadway	Location	Direction	Capacity @ LOS C/D	Existing Traffic				Background (2019) Traffic (w/o Site)				Future (2019) Traffic (w/ Site)			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
Las Olas Boulevard	West of SE 6 Ave	Eastbound	657/1,467	274	C	485	C	271	C	499	C	275	C	510	C
	Westbound	Westbound	1,467	487	C	510	C	507	C	507	C	529	C	521	C
	SE 6 Ave to SE 8 Ave	Eastbound	1,467	263	C	416	C	266	C	423	C	269	C	433	C
	Westbound	Westbound	1,467	383	C	399	C	396	C	391	C	418	C	405	C
	SE 8 Ave to SE 9 Ave	Eastbound	1,467	414	C	480	C	425	C	490	C	430	C	493	C
	Westbound	Westbound	1,467	319	C	405	C	325	C	416	C	328	C	424	C
	SE 9 Ave to SE 15 Ave	Eastbound	1,467	456	C	516	C	468	C	526	C	473	C	529	C
Broward Boulevard	Westbound	Westbound	1,467	393	C	489	C	400	C	500	C	403	C	508	C
	East of SE 15 Ave	Eastbound	730/1,630	1,028	D	949	D	1,051	D	964	D	1,060	D	969	D
	Westbound	Westbound	1,630	949	D	1,135	D	745	D	1,159	D	748	D	1,167	D
	Eastbound	Eastbound	1,170/2,520	1,330	D	1,794	D	1,352	D	1,840	D	1,355	D	1,878	D
	Westbound	Westbound	2,520	1,289	D	1,336	D	1,330	D	1,353	D	1,359	D	1,370	D
	US 1 to SE 8 Ave	Eastbound	657/1,467	1,200	D	1,274	D	1,213	D	1,319	D	1,237	D	1,387	D
	Westbound	Westbound	1,467	1,140	D	1,360	D	1,195	D	1,374	D	1,237	D	1,399	D
US 1	SE 8 Ave to SE 15 Ave	Eastbound	1,467	917	D	1,055	D	933	D	1,069	D	937	D	1,071	D
	Westbound	Westbound	1,467	978	D	1,084	D	994	D	1,102	D	994	D	1,102	D
	Northbound	Northbound	1,170/2,520	1,930	D	2,244	D	1,951	D	2,257	D	1,988	D	2,295	D
	Southbound	Southbound	2,520	2,615	F	2,465	F	2,672	F	2,499	F	2,694	F	2,512	D
	North of Broward Blvd	Northbound	2,520	1,465	D	2,148	D	1,505	D	2,179	D	1,526	D	2,192	D
	Southbound	Southbound	2,520	2,148	D	1,829	D	2,211	D	1,875	D	2,218	D	1,895	D
	Las Olas to SE 2 St	Northbound	333/675	71	C	156	C	79	C	167	C	85	C	185	C
S.E. 8th Avenue	Southbound	Southbound	675	317	C	233	C	339	C	228	C	366	C	245	C
	Northbound	Northbound	675	188	C	348	D	231	C	346	D	277	C	373	D
	SE 2 St to Broward Blvd	Southbound	675	304	C	287	C	322	C	329	C	346	D	397	D
S.E. 15th Avenue	Las Olas to Broward	Northbound	333/675	443	D	706	F	451	D	720	F	451	D	720	F
	Southbound	Southbound	675	600	D	489	D	611	D	495	D	615	D	497	D

Note: (1) Capacity from "Roadway Capacity and Level of Service", 2013 and 2035, Metropolitan Planning Organization (MPO)

(2) Level of Service (LOS) based on Table 7 from "2013 Quality/Level of Service Handbook", FDOT

(3) Existing Volume = As Counted on June 2 and November 2, 2016, Adjusted to Peak Season (+18% and +13%)

 = Segment where Site Traffic > 3.00% of capacity @ LOS "D"
 = Segment where LOS changes from Background to Future Traffic conditions

Recommendations

As demonstrated in the previous section of this Traffic Impact Study, the roadway system surrounding Las Olas Walk can adequately accommodate the additional traffic from this proposed redevelopment without any significant negative impacts. Therefore, no off-site roadway or signal modifications are necessary or recommended to accommodate the expected site traffic.

Conclusions

Tinter Traffic, LLC has completed a detailed review and traffic analysis of anticipated traffic impacts associated with the redevelopment of the property located east of U.S. 1, between S.E. 2nd Court and S.E. 1st Street. This redevelopment will include the demolition of the existing furniture store and office building on the site and the construction of a 456 unit multi-family residential development. Key points of our analysis are summarized as follows:

- The proposed redevelopment is expected to generate an additional 1,932 vehicles per day, 135 vehicles per hour during the AM Peak Hour and 157 vehicles per hour during the PM Peak Hour. Although the net change in average daily traffic is expected to increase more than the amount of traffic specified in the City Code that requires the completion of this Traffic Impact Study, the actual impact during the Peak Periods will be minimal and will, therefore, have negligible impact on the operating characteristics on the surrounding roadways during those Peak Periods.
- Las Olas Boulevard, Broward Boulevard, U.S. 1 and S.E. 8th Avenue are all operating at acceptable Levels of Service and are expected to do so after the construction of Las Olas Walk project.
- Because of the anticipated change in southbound traffic on a portion of S.E. 8th Avenue, during both the AM & PM Peak Hour, the LOS on this roadway will be reduced from LOS "C" or "D". This change in LOS is, however, within acceptable levels.
- The impacts on the seven closest signalized intersections will be minimal. The average delay per vehicle will increase only minimally, causing no change in LOS at any of these locations
- The impact of the proposed redevelopment project will not affect the Level of Service being experienced at the seven intersections included in this study.
- Certain movements within the intersection of Broward Boulevard and Federal Highway are experiencing and will continue to experience low LOS during Peak Periods. Saturated traffic conditions will continue to exist in the future, with or without the proposed development. This intersection is an expanded

intersection of two Broward County major arterials. As a result, Broward County addresses these conditions through the Transit Oriented Concurrency program, i.e. improvements to operating conditions are developed through improvements to the County's transit system.

- No off-site roadway or signal modifications are required to accommodate the site generated traffic.

Based on the traffic analyses conducted and detailed in this report, it has been determined that the change in traffic expected to be generated by the redevelopment of the Las Olas Walk site will not have a significant effect on the operational performance of the surrounding roadway network.