REEF APARTMENT-HOTEL 1409-1411 WASHINGTON AVENUE, MIAMI BEACH

This three-story building in classic Art Deco style was built in 1935 in the heart of Miami Beach's developing commercial district. A restaurant occupied the entire ground floor, and furnished apartments and hotel rooms were on the upper floors. The building cost \$36,000 and its architect was Victor H. Nellenbogen, misspelled on the Permit Card (see Biography following). It is now a Contributing structure in both the National Register and local historic districts.

The building permit was issued on November 6, 1935, and the building was ready for occupancy on January 15, 1936. Owner and operator was Jack P. Broome, who ran a "curbside" eatery with live music at 1108 Biscayne Boulevard in Miami that was also called The Reef.¹ The restaurant in this Miami Beach building was called "Chicken Jack's," specializing in chicken, steak, and Florida lobster. To announce its opening on January 24, 1936, airplanes dropped 10,000 advertising balloons over the Miami area.

The building at its opening received an extensive writeup in the *Miami Herald*² that includes a rendering, interior photographs of an apartment and the restaurant, and a photo of Mr. Broome and h*is maitre d'*, George Bozarth. In addition, original plans, though of limited legibility, were found on Microfilm #7542 in the Miami Beach Building Department.

This building is now a historic gem, but when it was new the *Herald* hailed it as "the latest type modern architecture." Typical of Art Deco, the front façade is symmetrical and divided into three sections: vertical ribs define the center section, ornamented with bas relief panels, and the side sections have horizontal lines

¹ "Chicken Jack's, New Restaurant in Miami Beach, Opens Service," Miami Herald, Jan. 24, 1936.

² "Apartment Hotel Near Completion," Jan. 7, 1936; "Chicken Jack's..." and "New Restaurant Presents Attractive Scene," Jan. 24, 1936.

incised in the stucco and wrapping around the corners. There are also corner windows that were originally steel casements³ but were replaced with aluminum awning-type windows in 1963.⁴ Dentil molding decorates the parapet.

The building's most notable feature is the stainless steel marquee that extends across almost the entire front at the first story. (Nellenbogen designed a similar marquee on the Savoy Plaza Hotel, 425 Ocean Drive, also in 1935.) This was the grand entrance to the restaurant, "illuminated by neon tubing in colors."⁵ Beneath the marquee, the front façade of the restaurant had glass-paneled double doors at the center, with horizontal push-bars. To either side of the door was a round-ended swath of windows described in the newspaper as a novel feature: "disappearing windows for ventilation, giving the impression of a continental sidewalk café." While it is unclear what "disappearing" windows were, the plans show the front windows ---two on each side – in three horizontal panels. These may be three sashes that could be pushed together, or they may have folded up so as to "disappear."

The newspaper also documents that the first story was faced in "green and walnut colored vitrolite, contrasting against aluminite (sic) metal-covered sash doors and frames," and "two columns of illuminated structural glass adorn each side of the entrance." The plans show a window opening into the restaurant on the north elevation, since the building next door at the time had a large setback.

In addition to signage on the marquee, the rendering and the plans both show a fin sign at the parapet, and the newspaper describes another novel feature: "on the top of the building is a large electrical sign featuring an animated rooster design in multicolors....The animated "rooster" crows periodically." The

³ Miami Herald, Jan. 7, 1936.

⁴ Building Permit Card #1259.

⁵ Miami Herald, Jan. 7, 1936.

Permit Card notes that the neon lights were "reconnected" in November 1945, at the end of the World War II and its blackouts.

The rooster motif was continued on the interior of Chicken Jack's, in a large five-color medallion of a rooster in the terrazzo floor at the entrance, the "pattern as selected by owner," according to the plans.. It still survives, although the \$5 gold piece that was "securely anchored" as the eye⁶ has long ago disappeared.

The restaurant accommodated 164 diners and was described as a "dining patio." Centered at the rear wall was a U-shaped stainless steel counter "where quick service may be had." There was seating in upholstered booths to both sides of the counter, and the front section was filled with free-standing tables, as seen in the newspaper photograph. Plain, hanging light fixtures are also seen in the photo. Chicken Jack's was only here for a year, however. By the end of 1936 it had become "Goldhagen's Roumanian Restaurant," according to the Permit Card, and later the Frank Romano Restaurant (1940-42 City Directories) and Roma Restaurant, but the rooster still remained on the floor.

Above the restaurant, the twelve-unit Reef Apartment Hotel was accessed through a door to the right of the restaurant that led to a stairway. A detail of the decorative stair railing is in the plans. The Reef consisted of four efficiency apartments, four one-bedroom units and four hotel rooms, all "fitted in the modern manner. Furniture harmonizes with the modern construction,"⁷ and the apartment kitchens had electric refrigerators.

> ---Carolyn Klepser, researcher Dec. 6, 2015

⁶ "Chicken Jack's..." Miami Herald, Jan. 24, 1936, p. 15A.

⁷ "New Hotel Houses Unique Restaurant," *Miami Herald*, Jan. 24, 1936, p. 15A.

ARCHITECT BIOGRAPHY

Victor H. Nellenbogen (1888-1959), born in Budapest, immigrated to the U.S. at age two, received a diploma from the Cooper Union in New York City in 1908, and in his early career (1911) designed hotels for the Canadian Pacific Railway. In 1914 he was working as a draftsman for Thomas Lamb in New York.⁸ He came to Miami around 1920 to work with Martin L. Hampton and August Geiger, and opened a private practice here in 1928.⁹ He took a sketching trip to Spain with Martin Hampton in 1923 to study the architecture. He is one of Miami's best transitional architects, who designed notable works in both Mediterranean and Art Deco styles. Some of his best-known buildings in Miami Beach are:

Bowman Hotel (Shep Davis Plaza)	220 23rd Street
Alamac Hotel	1300 Collins Ave.
Savoy Plaza	425 Ocean Drive
Rivoli Apts. (Banana Republic)	800 Collins Ave.
Lord Tarleton Hotel (Crown Apts.)	4041 Collins Ave.
Olsen Hotel	7300 Ocean Terrace
Sterling Bldg. remodeling, 1941	927 Lincoln Road

⁸ 1914 Draft Records, ancestry.com

⁹ AIA records, Coral Gables and Washington DC; and obituary, Miami Herald, Nov. 16 1959.







Chicken

PATTO DINING PLACE IN HOTEL BUILD

Sealishment Offers Attractive Surroundings and Features Many Food Specialties

Chicken Jack's, 1409-11 Washington avenue, Miami Beach, a novel idea in restaurant construction and operation, is now open for business. Jack

Broome is owner and operator. Chicken Jack's will specialize in Bhik-isd chickens, Fiorida lobsters and charcoal-broiled steaks, offered at popular prices. The restaurant consists of a din-

ing patio accommodating 164 dinera. Centering on the entrance at the rear a stainless steel counter where guick service may be had. On either side of this counter attractive booths are arranged for those who desire a note of privacy. These booths were designed and built by the DeMaso Furniture Company, According to Mr. DaMaso, these afford exceptional comfort and use the first uphol-Stered practical hinge seat to be introduced in this field in Florids. The ffloor is laid with terrazzo in

five polors, divided by brans strips. In the center of the patio is a replica-ex a large rooster, inisid with colored marble chips. A \$5 gold piece forms the eye of the fowl, which is securely inchored into the terrazeo.

The restaurant is on the ground floor of the Reef Apartment Hotel building, also owned and operated by Mr. Broome. The exterior of the Mr. Broome. The storiou and building is of the latest type modern Broome. Architecture.

Facing Washington avenue, the front has a stainless steel marques,

upon which Neon lettering and illu-minated decorations, designed and installed by the Plexiume Daniel Neon Compary, are placed.

Jack's,

HERALD TELEPHONE 2-7401

Below the marquee the entire front is faced with green and walnut colvitrolite, contrasting against ored aluminite metal-covered sash doors and frames. Two columns of illumistructural glass, adorn each nated side of the entrance. The ceiling of the manues also is illuminated with Neon troing.

On top of the building is a large electrical sign, featuring an animated rooster siesign in multicolors. The sign was designed and, installed by the Flegume Daniel Neon Company. The animated "rooster" crows periodically.

The pataurant is equipped with disappeding windows for ventilation, giving the impression of a continental aldewall cafe. /Breakpats, luncheons and dinners are served, and a la carte service is available at all hours.

available at all hours. Mr. Bhooms also operates the Herf, a curb service stand, at 1106 Biscayne boulevast, Miami, where a five-piece orchestri entertains nightly. Tea focusand belloons, (caturing the opening of Chicken Jack's, will be grouped from airplanes and scat-tered other the Metronolitan Misse

tered over the Metropolitan Miami area today, Mr. Broome said.

. George, Bozarth has assumed his duties a maire d'hotel of Chicken Jack's, 'ar, Boome announced yesterday. My Bozarth has had wide ex-perience in the culinary art, having been conjugged with the Drake Hoteli been coshected with the Drake Hotel, Chicago; Congress Hotel, Chicago; Knickerspicker Hotel, Chicago; and the Hotel Winton at Cleveland. Frank Mauk, formerly with Hotel Seminols and Windsor Hotel, Jack-sonville, Das joined Chicken Jack's as sciewicd Mar Mauk is well known in

steward Mr. Mauk is well known in Miami, having operated his own res-taurant business here for seven years,



New Restaurant

, Illustrated above, left, fals former of one of the living rooms in the new Reef Apartment Hotel, 1409-11 Washingto, argune, Miami Basch. At the right is a view in the litchenette The living quarters are attrac-tively draped and decoated, and moders farmit re is installed. In each kitchenette is an electrical sefrigerator, built-n sink and drainboard and cabinet. and cabinet.



Against the pdds

IN all of the best books and articles the singleton size of spades, the on Bridge much emphasis has been during would furthan discards for laid on the mathematical aspects of all of the doubtful clubs. The only the game. The opinion is widespread that a "mathematical mind" is required for proficiency at Bridge. | But. as a matter of sober fact, many of the greatest experts of the game are more weird than wonderful in their knowledge of the oldest sciences. This does not prove that imathematics is unimportant, merely that it must not be followed blindly in bridge. Inferences derived, from the blidding and play often reveal situations which the mathematician could never discoter. West, dealer ...

Neither side vulnerable. 011098 AQ54 873 Nàrth Q73 QAK 109 842 Santo KJ10962 01105 The bldding: North **w**t West East 20 30 10 Pass

other change for the contract was the club finence merely a fifty per cent chance. The odds against a specific player deat the singleton Ace of spides was well over 100 to 1. The methematistan would have had no hesitation in discarding a club on the spide lead.

HERALD

REEF APARTMENT HOTEL UN

apide lead. But South, went deeper into the matter. If West, a very fine player, had held 't e King of clubs, he would have record itsed the necessity of ob-taning a tlick in that suit before re-linquishing control of the spade suit. He would have led a club, or a low dismond to enable his partner to lead a club. West had obviously underled at least the Ace and more probably the Ace-King of diamonds with only a singletor in the dummy! This must have been part of his original plan and could be accounted for only must have been part of his original plan and could be accounted for only by a holding of the lone spade Acc. Bouth therefore ruffed the spade with the line, drew the trumps, and took the clip fibrase. TOHORROW'S HAND North, deller. Both side, vulnerable.

A 1095







Traffic Impact Study

1409 Washington Avenue



1409 Washington Avenue Miami Beach, Florida



September 19th, 2016

Engineer's Certification

I, Richard Garcia, P.E. # 54886, certify that I currently hold an active Professional Engineers License in the State of Florida and am competent through education and experience to provide engineering services in the civil and traffic engineering disciplines contained in this report. In addition, the firm Richard Garcia & Associates, Inc. holds a Certificate of Authorization # 9592 in the State of Florida. I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions and recommendations made herein are true and correct to the best of my knowledge and ability.

PROJECT DESCRIPTION:

1409 Washington Avenue - Traffic Impact Study

PROJECT LOCATION:

1409 Washington Avenue Miami Beach, Florida

Florida Registration M



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APPENDICES

Appendix 1: Traffic Impact Study Methodology Appendix 2: Trip Generation Appendix 3: Trip Distribution / Assignment Appendix 4: Signal Timing, Background Growth and Adjustment Factor Appendix 5: Traffic Counts (TMC's) Appendix 6: Level of Service (LOS) Appendix 7: Valet Operations & Mechanical Parking Lift



Executive Summary

This study was prepared to determine the vehicle trips associated with the subject project and to evaluate the traffic impacts to the most impacted intersections. This report follows the traffic impact study methodology discussed with and approved by the City of Miami Beach.

The subject site is located on the east side of Washington Avenue, just north of 14th Street, at the address 1409 Washington Avenue in the City of Miami Beach, Florida. This site has a an existing building to remain and the existing uses included apartments and a convenience store. The proposed redevelopment consists of a *hotel with 30 rooms* and a *restaurant with 70 seats* (maximum). The subject project build-out year is slated for 2018.

Moreover, this project will provide valet services for all patrons and will have mechanical parking lifts within the site. The mechanical parking lifts will be exclusively operated by trained personnel as part of the valet services and vehicular access will be via Collins Court.

The trip generation characteristics for the subject project were obtained from <u>ITE's</u> <u>Trip Generation Manual, 9th Edition</u>. The trip generation analysis was performed for a typical weekday's AM and PM peak hour. The following land uses, as identified by the Institute of Transportation Engineers (ITE), most closely resemble the subject project. These land uses (LU) are as follows:

Existing

- LU 220: Apartment with 12 dwelling units
- LU 852: Convenience Store with 3,212 square feet

Proposed

- LU 310: Hotel with 30 rooms
- LU 931: Quality Restaurant with 70 seats

The trip generation calculations for the proposed project yielded **18 gross vehicle trips** (10 trips-in & 8 trips-out) during the **AM peak hour** and **36 gross vehicle trips** (21 trips-in & 15 trips-out) in the **PM peak hour**. Note, these vehicle trips are likely to be reduced based on the rate and extent of internalization, transit and pedestrian/bicycle, since neither of these adjustments were utilized in the analysis as a conservative approach. Also, since the existing building has not been operating for more than one year, the existing peak hour trips were calculated for comparison only and were not taken into account in the trip generation analysis.



The above peak hour trips were distributed to the most impacted intersections and assigned to the project's driveway. The trip distribution was performed consistent with the trip distribution percentages of TAZ 645 and by interpolating between the 2010 and 2040 TAZ data for the projected design year of 2018.

Manual Turning Movement Counts (TMC's) were taken at the intersections identified below as discussed with and agreed to by the City of Miami Beach during the scoping phase. These turning movement counts were collected on Wednesday, September 7th, 2016 during the typical weekday's AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM. Subsequently, the AM and PM peak hour volumes were determined, adjusted for peak seasonal variations by utilizing the Florida Department of Transportation Seasonal Factor (SF) and utilized in the operational analysis for the existing condition. Traffic counts and operational characteristics were gathered at the following intersections:

- 1. Washington Avenue & 14th Street (Traffic Signal Control)
- 2. Washington Avenue & Espanola Way (Traffic Signal Control)
- 3. Collins Avenue (SR A1A) & Espanola Way (Traffic Signal Control)
- 4. Collins Avenue (SR A1A) & 14th Street (Traffic Signal Control)
- 5. Collins Court & 14th Street (Two-Way Stop Control)
- 6. Collins Court & Espanola Way (Two-Way Stop Control)

Based on the operational analysis, the most impacted intersections are operating at LOS A during the typical roadway's AM and PM peak hour.

Based on historical trends regression analysis, the existing traffic volumes were augmented with a compounded background growth rate of 3.54 percent to develop the volumes for the future condition without project in 2018. Similarly, the volumes for the future condition with project include background growth, the project trips and valet trips. The proposed future traffic volumes with project in 2018 were evaluated and the analysis yielded LOS A for the AM and PM peak hour. Also, the project's driveway was evaluated and resulted in LOS A. The table below summarizes the LOS and delay per approach for the most impacted intersections and project's driveway.

Additionally, a valet operations analysis was performed and revealed that 2 valet attendants will be required during the AM peak and 3 valet attendants during the PM peak to meet the peak demand with the two (2) queuing spaces available along Washington Avenue. Similarly, a mechanical parking lift analysis was performed and found to operate with sufficient queuing and stacking distance as to not impact negatively on Collins Court.



In conclusion, the six (6) most impacted intersections by the subject project are operating at LOS A and will continue to do so in the proposed future condition with the new project traffic during the AM and PM peak hour. Therefore, off-site traffic mitigation measures are not needed or recommended at this time since the subject project will not adversely impact the traffic operations within the study area.

				Existing Condition (2016)				Proposed Future Condition with Project (2018)			
Location		Intersection	Approach	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Control		LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
			EB	С	29.7	С	33.0	С	29.9	С	33.3
	Weshington Avenue	Traffic	WB	С	29.0	С	33.5	С	29.5	С	34.8
	& 14 Stroot	Signal	NB	A	7.1	A	7.8	A	7.3	A	8.0
	a 14 Sueer	Olgridi	SB	A	0.5	A	0.6	A	0.5	A	0.6
			Overall	Α	7.2	Α	7.7	Α	7.8	Α	8.6
			EB	-	-	-	-	-	-	-	-
	Washington Avenue	Traffic	WB	D	48.6	E	58.2	D	49.2	E	58.2
	& Espanola Way	Signal	NB	A	1.5	A	2.5	A	1.6	A	2.8
		- ignai	SB	A	1.4	A	2.4	A	1.5	A	2.7
			Overall	A	5.7	A	8.9	A	5.8	A	8.9
			EB	D	47.3	D	46.2	D	45.4	D	44.1
	Collins Avenue &	Traffic	WB	-	-	-	-	-	-	-	-
s	Espanola Way	Signal	NB	A	1.6	A	1.9	A	2.0	A	2.5
ion			SB	A	2.1	A	2.4	A	2.5	A	3.1
ecti			Overall	A	3.9	A	5.3	A	5.4	A	7.6
ers			EB	C	34.0	C	33.2	С	34.1	C	33.3
Int	Collins Avenue &	Traffic Signal	WB	C	33.4	C	33.7	C	33.5	C	33.9
	14 Street		NB	A	5.3	A	6.4	A	5.4	A	6.6
			SB	A	0.6	A	0.8	A	0.8	A	1.1
			Overall	Â	5.7	Â	8.1	A	5.6	Â	7.9
			EB	A	0.5	A	0.7	A	0.5	A	0.6
	Collins Court &	Two-Way	WB	A	0.0	A	0.0	A	0.0	A	0.0
	14 Street	Stop	NB	A	8.7 *	В	10.7 *	A	8.7 *	В	11.1*
			Overall	-	-	-	- 10	-	-	-	-
			Overall	A	0.3	A	1.2	A	0.4	A	0.9
				A .	0.0	A .	0.0	A	0.0	A .	0.0
	Collins Court &	Two-Way	ND	A	0.0	A	0.0	A	0.0 +	A	0.0
	Espanola Way	Stop	SB	A	9.0 *	A	9.1 "	A	9.0 "	A	9.0 "
			Ovorall	^	0.5	^	0.5	^	-	^	10
_			FR	-	0.0	-	0.5	A	87 *	A	89 *
Š			WB	-	-	-	-	-	-	-	-
ews	Collins Court &	Two-Way	NB	-	-	-	-	А	0.0	Α	0.0
ri	Driveway	Stop	SB	-	-	-	-	-	-	-	-
			Overall	-	-		- 1	Α	2.8	Α	2.9
L											-

Intersection LOS Summary - AM & PM Peak Hour

* TWSC Critical Approach



Introduction

The main objective of this report is to determine the vehicle trips associated with the subject project and to evaluate the traffic impacts to the most impacted intersections. As such, an operational analysis was performed to determine the Level of Service during the typical weekday's AM and PM peak hour. Lastly, this report follows the traffic impact study methodology discussed with and approved by the City of Miami Beach.

Project Location / Description

The subject site is located on the east side of Washington Avenue, just north of 14th Street, at the address 1409 Washington Avenue in the City of Miami Beach, Florida. This site has a an existing building to remain and the existing uses included apartments and a convenience store. The proposed redevelopment consists of a *hotel with 30 rooms* and a *restaurant with 70 seats* (maximum). The subject project build-out year is slated for 2018.

Moreover, this project will provide valet services for all patrons and will have mechanical parking lifts within the site. The mechanical parking lifts will be exclusively operated by trained personnel as part of the valet services and vehicular access will be via Collins Court. The Valet Operations and Mechanical Parking Lift section of this report describes further the traffic operations. Figure 1 depicts the site's location map while Figure 2 is the site plan provided for illustrative purposes only.



Figure 1: Location Map



RICHARD GARCIA & ASSOCIATES, INC.

Figure 2: Site Plan





Existing Condition (2016)

The purpose of this section is to identify the current operational and geometric characteristics of the most impacted intersections by the subject project in order to provide a comparison to future conditions.

Turning Movement Counts (TMC's)

Manual Turning Movement Counts (TMC's) were taken at the intersections identified below as discussed with and agreed to by the City of Miami Beach during the scoping phase. These turning movement counts were collected on Wednesday, September 7th, 2016 during the typical weekday's AM peak period of 7:00 AM to 9:00 AM and PM peak period of 4:00 PM to 6:00 PM. Subsequently, the AM and PM peak hour volumes were determined, adjusted for peak seasonal variations by utilizing the Florida Department of Transportation Seasonal Factor (SF) and utilized in the operational analysis for the existing condition. Traffic counts and operational characteristics were gathered at the following intersections:

- 7. Washington Avenue & 14th Street (Traffic Signal Control)
- 8. Washington Avenue & Espanola Way (Traffic Signal Control)
- 9. Collins Avenue (SR A1A) & Espanola Way (Traffic Signal Control)
- 10. Collins Avenue (SR A1A) & 14th Street (Traffic Signal Control)
- 11. Collins Court & 14th Street (Two-Way Stop Control)
- 12. Collins Court & Espanola Way (Two-Way Stop Control)

Figures 3 and 4 below depict the existing seasonally adjusted AM and PM peak hour TMC's, respectively. Appendix 4 contains the raw data and the tables utilized to develop the seasonally adjusted turning movement counts.

Level of Service (LOS)

The turning movement counts shown in Figures 3 and 4 were utilized to perform an operational analysis during the typical roadway's AM and PM peak hour. This analysis was performed consistent with the traffic operational characteristics (i.e. lane geometry, traffic control, etc.) at the time data collection took place and follows the Highway Capacity Manual (HCM) methodology.

As a result, the most impacted intersections identified above are operating at LOS A during the AM and PM peak hour. Table 2 summarizes the LOS results and vehicle delay. Appendix 6 contains other outputs such as volume to capacity ratio (V/C) and 95th Percentile Queue.



Figure 3: Existing Seasonally Adjusted TMC's - AM Peak Hour





Figure 4: Existing Seasonally Adjusted TMC's - PM Peak Hour





				Existing Condition (2016)					
Location		Control	Approach	AM Pea	ak Hour	PM Pe	ak Hour		
		Control		LOS	Delay (s)	LOS	Delay (s)		
			EB	С	29.7	С	33.0		
	Mashington August	Troffic	WB	С	29.0	С	33.5		
	8 14 Stroot	Signal	NB	A	7.1	A	7.8		
	a 14 Sueer	Olgria	SB	А	0.5	A	0.6		
			Overall	Α	7.2	Α	7.7		
			EB	-	-	-	-		
	Washington Avonuo	Traffic	WB	D	48.6	ш	58.2		
	& Fsnanola Way	Signal	NB	А	1.5	A	2.5		
		orgridi	SB	А	1.4	A	2.4		
			Overall	Α	5.7	Α	8.9		
	Collins Avenue & Espanola Way	Traffic Signal	EB	D	47.3	D	46.2		
			WB	-	-	-	-		
s			NB	A	1.6	A	1.9		
on			SB	A	2.1	A	2.4		
ecti			Overall	Α	3.9	Α	5.3		
srse		Traffic Signal	EB	С	34.0	С	33.2		
nte	Colline Avenue 8		WB	С	33.4	С	33.7		
_	14 Street		NB	A	5.3	A	6.4		
			SB	A	0.6	A	0.8		
			Overall	Α	5.7	А	8.1		
			EB	A	0.5	A	0.7		
	Collins Court &	Two-Way	WB	A	0.0	A	0.0		
	14 Street	Stop	NB	A	8.7 *	В	10.7 *		
			SB	-	-	-	-		
			Overall	Α	0.5	A	1.2		
			EB	A	0.0	A	0.0		
	Collins Court &	Two-Way	WB	A	0.0	A	0.0		
	Espanola Wav	Stop	NB	A	9.0 *	A	9.7 *		
			SB	-	-	-	-		
			Overall	Α	0.5	Α	0.5		

Table 1: Existing Condition LOS & Delay - AM & PM Peak Hour

* TWSC Critical Approach



Project Traffic

This section of the report describes the analysis for estimating the traffic associated with the subject project. The trip generation analysis conforms with the methodology described in the <u>Institute of Transportation Engineers (ITE) Trip</u> <u>Generation Handbook, 3rd Edition</u>.

Trip Generation



The trip generation characteristics for the subject project were obtained from <u>ITE's Trip Generation Manual, 9th Edition</u>. The trip generation analysis was performed for a typical weekday's AM and PM peak hour. The following land uses, as identified by the Institute of Transportation Engineers (ITE), most closely resemble the subject project. These land uses (LU) are as follows:

Existing

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The trip generation calculations for the proposed project yielded **18 gross vehicle trips** (10 trips-in & 8 trips-out) during the **AM peak hour** and **36 gross vehicle trips** (21 trips-in & 15 trips-out) in the **PM peak hour**. Note, these vehicle trips are likely to be reduced based on the rate and extent of internalization, transit and pedestrian/bicycle, since neither of these adjustments were utilized in the analysis as a conservative approach. Also, since the existing building has not been operating for more than one year, the existing peak hour trips were calculated for comparison only and were not taken into account in the trip generation analysis. Tables 2 and 3 summarize the trip generation results for the AM and PM peak hour, respectively. Appendix 2 contains the supporting documentation.



Table 2: Trip Generation - AM Peak Hour

		ITE LU	TRIP	AM PEAK HOUR TRIPS			
LAND USE (LU)	UNITS	CODE GENERATION IN C		OUT	TOTAL		
Existing							
Apartment	12 D.U.	220	0.51	1	5	6	
Convenience Market (7-Eleven)	3.212 Th.Sq.Ft.	852	31.02	50	50	100	
Existing Trips				51	55	106	
Proposed							
Hotel	30 Rooms	310	0.53	9	7	16	
Quality Restaurant	70 Seats	931	0.03	1	1	2	
Proposed External Trips (Gross	10	8	18				

Table 3: Trip Generation - PM Peak Hour

		ITE LU	TRIP	PM PEAK HOUR TRIPS			
LAND USE (LU)	UNITS CODE GENERA		RATE	IN	OUT	TOTAL	
Existing							
Apartment	12 D.U.	220	0.62	5	2	7	
Convenience Market (7-Eleven)	3.212 Th.Sq.Ft.	852	34.57	54	57	111	
Existing Trips		59	59	118			
Proposed							
Hotel	30 Rooms	310	0.60	9	9	18	
Quality Restaurant	70 Seats	931	0.26	12	6	18	
Proposed External Trips (Gross	21	15	36				

Trip Distribution

The subject project is located within the Traffic Analysis Zone (TAZ) 645 as assigned by the Metropolitan Planning Organization's (MPO) on the Miami-Dade Transportation Plan (to the Year 2040) Directional Trips Distribution Report, October 2014. As such, the trip distribution was performed consistent with the trip distribution percentages of TAZ 645 and by interpolating between the 2010 and 2040 TAZ data for the projected design year of 2018. Figure 5 depicts the TAZ map while the directional trip distribution percentages are outlined in Table 4. Appendix 3 contains the supporting documentation.



Figure 5: Traffic Analysis Zone (TAZ) Map



	DISTRIBUTION PERCENTAGES (%)						
DIRECTION	MIAMI-DADE LRT	DESIGN YEAR					
	2010	2040	2018				
NNE	11.40	21.20	14.01				
ENE	0.00	0.00	0.00				
ESE	0.00	0.00	0.00				
SSE	0.00	0.00	0.00				
SSW	7.10	12.50	8.54				
WSW	21.60	21.70	21.63				
WNW	33.50	26.20	31.55				
NNW	26.30	18.40	24.19				
TOTAL	100.00	100.00	100.00				



Trip Assignment

The gross trips generated by the subject project have been distributed into the four quadrants: North, South, East and West. Table 5 includes the trip distribution percentages and the corresponding trip assignments for the AM and PM peak hour. Lastly, Figures 6 and 7 depict the gross vehicle trips assigned to the most impacted intersections for the AM and PM peak hour, respectively.

Lastly, since the subject project will have valet services for all patrons, the valet trips were also distributed to the most impacted intersections. Note, the Valet Operations section further describes the proposed valet services. Figures 8 and 9 depicts the valet trip distribution for the AM and PM peak hour, respectively.

DIRECTION	DISTRIBUTION	Am P	EAK HOUR	TRIPS	PM PEAK HOUR TRIPS			
DIRECTION	DIGITIZED TION	IN	OUT	TOTAL	IN	OUT	TOTAL	
NORTH	38.21%	4	3	7	8	6	14	
EAST	0.00%	0	0	0	0	0	0	
SOUTH	8.54%	1	1	2	2	1	3	
WEST	53.18%	5	4	9	11	8	19	
	100.00%	10	8	18	21	15	36	

Table 5: Directional Trip Assignment



Figure 6: Site Traffic - AM Peak Hour





Figure 7: Site Traffic - PM Peak Hour





Figure 8: Valet Trips - AM Peak Hour





Figure 9: Valet Trips - PM Peak Hour





Proposed Future Condition (2018)

This section of the report describes the traffic parameters utilized to develop and to evaluate the proposed future peak hour volumes with project in 2018.

Background Traffic Growth

Using available roadway traffic data from the Florida Department of Transportation (FDOT Count Stations 5159, 5170 & 8414), a regression analysis was performed in an effort to estimate the background traffic growth within the project's vicinity. As a result, the analysis yielded 0.90 percent for station 5159, negative (-) 0.13 percent for station 5170 and 3.54 percent for station 8414. The most conservative growth rate of 3.54 was compounded over two years and utilized to estimate the background traffic volume for the project build-out year of 2018. Appendix 4 contains the supporting documentation.

Committed Development

A review of the surrounding neighborhood was performed to identify any committed developments. However, this effort did not result in any quantifiable committed development traffic. Therefore, the analysis provided herewith relies solely on the background traffic determined above to represent the committed development traffic.

Future Traffic Volumes - AM & PM Peak Hour

The existing seasonally adjusted turning movement counts were augmented with a compounded background growth rate of 3.54 percent to develop the traffic volumes for the future condition without project in 2018. Similarly, the volumes for the future condition with project include background growth, the project gross trips and valet trips. The calculations for the specific movements are contained in Appendix 4. Figures 10 and 11 depict the future AM and PM peak hour volumes with project, respectively.

Level of Service (LOS)

The future peak hour volumes with project were evaluated to determine the future LOS at the most impacted intersections by the subject project. Based on the operational analysis for the future condition in 2018, the studied intersections will maintain the existing LOS A during the AM and PM peak hour. Lastly, the project's driveway was evaluated and resulted in LOS A. Table 6 summarizes the LOS and vehicle delay per approach for each intersection and project's driveway. Appendix 6 includes the Synchro software sheets with other outputs such as queue lengths and volume to capacity ratios.



Figure 10: Proposed Future Condition with Project - AM Peak Hour





Figure 11: Proposed Future Condition with Project - PM Peak Hour





				Proposed Future Condition with Project (2018)				
Location		Intersection	Approach	AM Pea	ak Hour	PM Peak Hour		
		Control		LOS	Delay (s)	LOS	Delay (s)	
			EB	С	29.9	С	33.3	
	Washington Avonuo	Traffic	WB	С	29.5	С	34.8	
	& 14 Stroot	Signal	NB	A	7.3	A	8.0	
	a 14 Sueer	Olgria	SB	А	0.5	А	0.6	
			Overall	Α	7.8	Α	8.6	
			EB	-	-	-	-	
	Washington Avonuo	Traffic	WB	D	49.2	Ш	58.2	
	& Fenanola Way	Signal	NB	А	1.6	A	2.8	
		orgria	SB	А	1.5	A	2.7	
			Overall	Α	5.8	А	8.9	
			EB	D	45.4	D	44.1	
	Collins Avenue & Espanola Way	Traffic Signal	WB	-	-	-	-	
s			NB	A	2.0	A	2.5	
üo			SB	A	2.5	A	3.1	
ecti			Overall	Α	5.4	Α	7.6	
erse			EB	С	34.1	С	33.3	
Inte	Collins Avenue & 14 Street	Traffic Signal	WB	C	33.5	С	33.9	
_			NB	A	5.4	A	6.6	
			SB	A	0.8	A	1.1	
			Overall	Α	5.6	A	7.9	
			EB	A	0.5	A	0.6	
	Collins Court &	Two-Way Stop	WB	A	0.0	A	0.0	
	14 Street		NB	A	8.7 *	В	11.1 *	
			SB	-	-	-	-	
			Overall	A	0.4	A	0.9	
			EB	A	0.0	A	0.0	
	Collins Court &	Two-Way	WB	A	0.0	A	0.0	
	Espanola Way	Stop	NB	A	9.0 *	A	9.6 *	
			SB O II	-	-	-	-	
			Overall	A	0.9	A	1.0	
Z			EB	A	8.7 *	A	8.9 *	
wa	Collins Court &	Two-Way		-	-	-	-	
ive	Driveway	Stop		A	0.0	A	0.0	
p	-	-	SB Overell	-	-	-	-	
			Overall	A	2.8	A	2.9	

Table 6: Proposed Future LOS & Delay - AM & PM Peak Hour

* TWSC Critical Approach



Valet Operation

The subject project will provide valet services for all patrons. The proposed drop-off / pick-up point will be located on Washington Avenue right in front of the subject site and will be able to accommodate two (2) vehicles. The attendants are expected to drive around the block as shown in Figure 12 and to park the valet vehicles at the proposed mechanical parking lifts provided within the site. As such, this section provides a statistical queue analysis that focuses on the queuing demand of valet vehicles and the number of valet attendants needed to contain all vehicles within the two (2) queuing spaces available.

Based on the Trip Generation analysis, a total of 18 vehicles (10 drop-off & 8 pickup) will require valet services during the AM peak hour and 36 vehicles (21 drop-off & 15 pick-up) during the PM peak hour. Using the above results, a Statistical Queuing Analysis was performed to determine the probability of the number of vehicles using the valet that would exceed the maximum queuing spaces. Again, the proposed drop-off/pick-up point can accommodate two (2) queuing vehicles. Additionally, it was further estimated that each vehicle has a service rate of 90 seconds or less, since multiple vehicles can be serviced at the same time from two queuing spaces.

The queuing analysis utilized a single channel model; this is generally referred to as an M/M/1 model. We find this approach will properly model valet queuing better than a more complex M/M/S model. As such, we found the Valet Operations would require 2 Valet Attendants during the AM peak and 3 Valet Attendants during the PM peak to meet the peak demand. The results during the AM peak found that there is over 95 % probability (98.4% drop-off & 99.1% pick-up) of there being less than 2 vehicles in queue with 2 valet attendants in this area. Likewise, the results during the PM peak found that there is over 95 % probability (98.2% dropoff/pick-up) of there being less than 2 vehicles in queue with 3 valet attendants. As such, it is our opinion that the proposed drop-off / pick-up point is adequate and will not block the right-of-way. Table 7 provides a summary of this above analysis while Appendix 7 provides the detailed Statistical Queuing Analysis.

(M/M/1 Model)					
Drop-Off on Washington Avenue					
Peak	Valet	Valot Trips	Average Queue	Probability Vehicle (n) being less than	
Hour	Operation	valet mps	Length (veh)	Maximum of 2 Vehicles Queuing	
A N A	Drop-Off	10	0.08	98.4%	
AIVI	Pick-Up	8	0.06	99.1%	
PM	Drop-Off	21	0.09	98.2%	
	Pick-Up	15	0.09	98.2%	

Table	7:	Statistical	Queuina	Analysis	Summary -	Valet	Operation
TUDIC	<i>.</i>	Sidiisiicui	Queung	AIIGI 2313	Sommary -	Valei	operation









Mechanical Parking Lift Analysis

As shown in Figure 13, the subject project is proposing mechanical parking lift system that consists of three mechanical rotary/carousel parking lifts designed and manufactured by Parkmatic Car Parking System. Of the three carousels, two will stack 8 vehicles each while the third one will stack 6 vehicles for a total capacity of 22 vehicles.

Based on the manufactory's specifications, a carousel occupies two regular parking spaces and can accommodate up to twelve vehicles. Moreover, each carousel will rotate either clockwise or counterclockwise and will automatically sense which way to rotate by space number for fast retrieval time. The retrieval time varies between 30 seconds and 120 seconds (maximum) depending on the parking slot to be retrieved as shown in Figure 14.

The approach demand for the lifts was determined to be 10 vph in the AM peak hour and 21 vph during the PM peak. A Statistical Queuing Analysis was performed based on the approach demand and 120 second service rate (critical). As a result, the analysis yielded an average queue of less than ½ vehicle (0.17 vehicle queue) during the AM peak and an average queue of 1.44 vehicles during the PM peak. Since the parking area has available queuing space for 4 vehicles (one in front of each carousel and one at the entrance of parking), the probability of exceeding a 4 vehicle queue was found to be 0.4 percent during the AM peak hour and 14.5 % during the PM peak hour. Table 8 provides a summary of this above analysis with Appendix 7 provides the detailed Statistical Queuing Analysis.

	(M/M/1 Model)					
	Mechanical Parking Lift					
Peak	Valet	Valot Trips	Average Queue	Probability Vehicle (n) being less than		
Hour	Operation	valet mps	Length (veh)	Maximum of 4 Vehicles Queuing		
AM	Drop-Off	8	0.17	99.6%		
PM	Drop-Off	15	1.44	85.5%		

 Table 8: Statistical Queuing Analysis Summary - Mechanical Parking Lifts



Figure 13: Mechanical Parking Lifts



Figure 14: Rotary / Carousel Parking







Conclusion

In conclusion, the most impacted intersections by the subject project are operating at LOS A during the peak hours and will continue to do so in the proposed future condition with project in 2018. Therefore, off-site traffic mitigation measures are not needed or recommended at this time since the subject project will not adversely impact the traffic operations within the study area.

Additionally, a valet operations analysis was performed and revealed that 2 valet attendants will be required during the AM peak and 3 valet attendants during the PM peak to meet the peak demand with the two (2) queuing spaces available along Washington Avenue. Similarly, a mechanical parking lift analysis was performed and found to operate with sufficient queuing and stacking distance as to not impact negatively on Collins Court.



Rota	ry / Carous	el Parking		
	5]		
4		6		
3		7		
2		8		
	1]		
Slot	Retrieval	Time (s)		
1	5			
2	30			
3	60			
4	90			
5	120			
6	90			
7	60			
8	30			
Ave.	60	.6		

Estimated Serv	vice Kate		
Drop-Off Vehicle / Parking	Tim	e (s)	
	AM Peak	PM Peak	
Drop-Off Veh. / Get Ticket	10	10	
Travel N on Washington Ave	5	5	
Delay NBR Espanola Way	1.6	2.8	
Travel E on Espanola Way	3	3	
Delay EBR Collins Ave	45.4	44.1	
Travel S on Collins Ave	5	5	
SBR on 14 St	0.8	1.2	
Travel W on 14 St	3	3	
WBR on Collins Ct	0	0	
Travel N on Collins Ct	2	2	
NBL at Parking Driveway	0	0	
Drive-In Car / Activate Carousel	15	15	
Total	90.8	91.1	
Pick-In Vehicle / Retrieval	Time (s)		
Tick-op venicle / Ketheval	AM Peak	PM Peak	
Attendant: Front to Parking	10	10	
Activate Carousel	3	3	
Carousel Retrieval (Average)	60.6	60.6	
Drive-out carousel slot & site	5	5	
Delay EBL Collins Ct	8.7	8.9	
Travel N on Collins Ct	4	4	
Delay NBR Espanola Way	9.0	9.6	
Travel E on Espanola Way	2.0	2.0	
Delay EBR Collins Ave	45.4	44.1	
Travel S on Collins Ave	5.0	5.0	
SBR on 14 St	0.8	1.2	
state states and second states	3.0	3.0	
Travel W on 14 St			
Travel W on 14 St WBR on Washington Ave	29.5	34.8	
Travel W on 14 St WBR on Washington Ave Travel N on Washington Ave	29.5 2.0	34.8 2.0	





Automated Robotic & Mechanical Parking Systems



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Up to 12 vehicles can be accommodated within the space normally taken up by two vehicles..It is not applicable by the regulations of building coverage. There is no need for an attendant because of its simple one-touch operation method. Senses where vehicle is closer and rotates bi-directionally for fast retrieval time. Extremely safe and reliable. Impossible for vehicles to fall with endless chain and pallet drop prevention system.

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MODELS	A	B	C	D	E	
DPF-7LT Sedan	8628MM / 28.3F	1930MM / 6.3F	2800MM / 9.2F	6100MM / 20F	6500MM / 21.3F	
DPF-7UT SUV	10636MM / 34.9F	2375MM / 7.8F	2800MM / 9.2F	6100MM / 20F	6500MM / 21,3F	
DPF-8LT Sedan	9518MM / 31.2F	1930MM / 6.3F	2800MM / 9.2F	6100MM / 20F	6500MM / 21.3F	
DPF-8UT SUV	11748MM / 38.5F	2375MM / 7.8F	2800MM / 9.2F	6100MM / 20F	6500MM / 21.3F	
DPF-10LT Sedan	11303MM / 37.1F	1930MM / 6.3F	2800MM / 9.2F	6100MM / 20F	6500MM/21.3F	
DPF-10UT SUV	13973MM / 45.8F	2375MM/ 7.8F	2800MM / 9.2F	6100MM / 20F	6500MM / 21.3F	
DPF-12LT Sedan	13083MM / 43F	1930MM / 6.3F	2800MM / 9.2F	6100MM / 20F	6500MM / 21.3F	1

MODELS	Lifting Capacity	Rotating Speed	Motor	Shipment Quantity per Container
DPF-7 Sedan	2200KG / 4850LBS	3M/MIN	5.5KW x 4P GEARED	(2) 40' HIGH TOP
DPF-7 SUV	2200KG / 4850LBS	3.5M/MIN	7.5KW x 4P GEARED	(2) 40' HIGH TOP
DPF-8 Sedan	2200KG / 4850LBS	3M/MIN	5.5KW x 4P GEARED	(2) 40' HIGH TOP
DPF-8 SUV	2200KG / 4850LBS	3.5M/MIN	7.5KW x 4P GEARED	(2) 40' HIGH TOP
DPF-10 Sedan	2200KG / 4850LBS	3.5M/MIN	7.5KW x 4P GEARED	(2) 40' HIGH TOP
DPF-10 SUV	2200KG / 4850LBS	3.5M/MIN	7.5KW x 4P GEARED	(2) 40' HIGH TOP
DPF-12 Sedan	2200KG / 4850LBS	3.5M/MIN	7.5KW x 4P GEARED	(2) 40' HIGH TOP

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